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User Guide

CLP Series Two-Way Radio™

User Guide



Model CLP446

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RADIO FREQUENCY (RF) EXPOSURE SAFETY STANDARDS

Product Safety and RF Exposure Compliance



Caution

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

ATTENTION!

This radio is restricted to occupational use only to satisfy FCC RF energy exposure requirements.

Before using this product, read the RF energy awareness information and operating instructions in the RF Energy Exposure and Product Safety booklet enclosed with your radio (Motorola Publication part number 6864117B25) to ensure compliance with RF energy exposure limits.

For downloading the full version of the user guide and for a list of Motorola-approved batteries and other accessories, visit the following website:
www.motorolasolutions.com/CLP446.

BATTERIES AND CHARGERS 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 using the battery
1. To reduce risk of injury, charge only the rechargeable Motorola-authorized batteries. Other batteries may explode, causing personal injury and damage.
 2. Use of accessories not recommended by Motorola may result in risk of fire, electric shock or injury.

3. To reduce risk of damage to the electric plug and cord, pull by the plug rather than the cord when disconnecting the charger.
4. An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in risk of fire and electric shock. If an extension cord must be used, make sure that the cord size is 18 AWG for lengths up to 6.5 feet (2.0 m), and 16 AWG for lengths up to 9.8 feet (3.0 m).
5. To reduce risk of fire, electric shock or injury, do not operate the charger if it has been broken or damaged in any way. Take it to a qualified Motorola service representative.
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 the radio OFF when charging battery.
- The charger is not suitable for outdoor use.
Use only in dry locations/conditions.
- Connect charger only to an appropriately fused and wired supply of the correct voltage (as specified on the product).
- Disconnect charger from line voltage by removing main plug.
- The outlet to which this equipment is connected should be nearby and easily accessible.
- Maximum ambient temperature around the power supply equipment must not exceed 40 °C (104 °F).
- Make sure that the cord is located where it cannot be stepped on, tripped over or subjected to water, damage or stress.

Notes

INTRODUCTION

Thank you for purchasing a Motorola CLP Series Two-Way Radio™. Your radio is a product of Motorola's 80 plus years of experience as a world leader in designing and manufacturing communications equipment. The CLP Series radios provide cost-effective efficient communications for businesses such as retail shops, restaurants, hotels and schools. Motorola professional two-way 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 the radio before use.

This user guide covers the following CLP Series™ models (*):

Model	Frequency Band	Transmit Power	No. of Channels	Bluetooth
CLP0086BHLAA (wired)	UHF	0.5W	8	No
CLP0086BBLAA (Bluetooth wireless technology)	UHF	0.5W	8	Yes

Note: (*) Certain models may or may not be available at the time of purchase.

PACKAGE CONTENTS

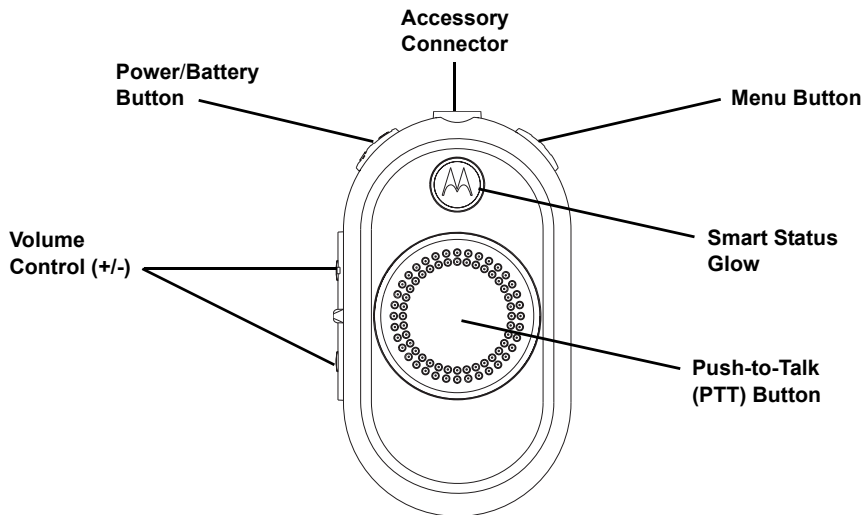
Your product package contains the following products and manuals:

- CLP Series Two-way Radio™
- Swivel Belt Clip Holster
- Lithium Ion Battery and Battery Door
- Drop-In Tray Charger with Transformer
- Audio Accessory
- User Quick Reference, Chargers Instructions Leaflet, RF Safety Booklet

For product information, visit us at:
www.motorolasolutions.com/CLP446.

RADIO OVERVIEW

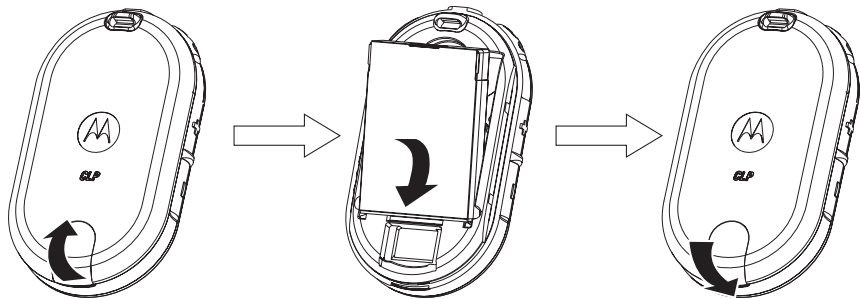
RADIO CONTROLS



GETTING STARTED

INSTALL THE BATTERY

1. Push up the latch at the bottom of the battery door and lift the battery door off the radio.
2. Align the battery contacts with tabs in the battery compartment. Insert the contact side of the battery first, then press the battery down to secure in place.
3. Put the battery door back on the radio. Push down the latch to lock.

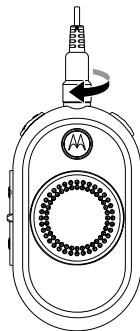
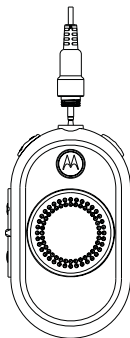


Note: The CLP Series radios' standard packaged models come with standard Lithium Ion battery and the standard Lithium Ion battery door. For option, customers can order

Hi-capacity Lithium Ion battery and the Hi-capacity Lithium Ion battery door.

Connecting a Wired Audio Accessory

Connect the wired audio accessory.



1. Turn the radio OFF.
2. Remove the accessory connector cover (applicable on *Bluetooth* wireless technology enabled models only).
3. Plug the audio accessory straight into the accessory connector on the radio. Screw the audio accessory plug into the connector until it is tight and fully engaged with the connector.

4. Turn the radio ON. Press either the Battery Status, Menu or Volume Control button to check for audio through the audio accessory.

Note: The CLP Series radios offer a variety of audio accessories. For detailed Audio Accessories List, please refer to **www.motorolasolutions.com/CLP446** for information on approved accessories. Lower the radio volume **BEFORE** placing the audio accessory in or near your ear.

CONNECTING A *BLUETOOTH* WIRELESS TECHNOLOGY ACCESSORY (SELECTED MODELS ONLY)

Add *Bluetooth* Headset (Initial Pairing)

1. Turn the radio OFF.
2. Put *Bluetooth* headset in pairing mode. Refer to your *Bluetooth* headset instructions leaflet.
3. Press and hold the PTT button and power button simultaneously until radio shows the blue LED.

LED Configuration		
User Mode	LED Status	Colour
<i>Bluetooth</i> Pairing Mode	• Last connection – Fast blinking blue • Add or erase/add – Solid blue	
Pairing Successfully	Blue/purple blinks for 5 seconds	
<i>Bluetooth</i> Disconnected	Red/purple blinks until the radio reconnects	
Pairing Fail/Timeout	Red/purple blinks until radio reconnects	

Note: The *Bluetooth* feature is disabled when the wired audio accessory is plugged into the accessory connector on the CLP radio.

Reconnect to Last Connected *Bluetooth* Headset

1. Turn the radio OFF.
2. Press the power button to turn the radio ON. (Make sure the *Bluetooth* headset is turned ON.)

Erase *Bluetooth* Headset History and Add *Bluetooth* Headset

1. Turn the radio OFF.
2. Put the *Bluetooth* headset in pairing mode. Refer to your *Bluetooth* headset instructions leaflet.
3. Press and hold the Menu button and power button simultaneously until radio shows the blue LED.

Note: The CLP radio uses proximity pairing. Make sure the headset is close enough to the CLP radio. Pairing process takes about 14 seconds.

Turning the Radio On and Off

- To turn the radio ON, press and hold the Power/Battery button until you hear a short tone and the Smart Status Glow lights up.
- To turn it OFF, press and hold the button until you hear a short tone and the Smart Status Glow (red) indicator blinks once.

Adjusting the Volume

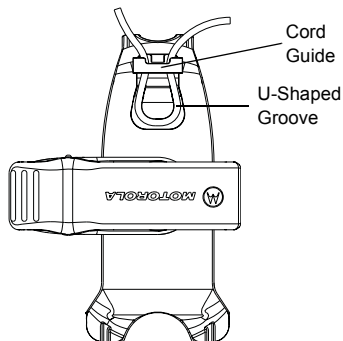
Turn the radio ON and set volume level by pressing volume control (+/- button). A total of 16 volume levels are available.

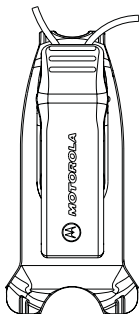
Installing and Removing the Swivel Belt Clip Holster

1. Slide the bottom of the radio into the holster.
2. Snap the top of the holster into the radio around the accessory connector.
3. To remove the holster, pull either the top or bottom tab(s) and pull the radio from the holster.

Note: When using a corded audio accessory, loop the cord into the recess in the rear of the holster for optimal plug retention.

4. Make a small loop in the cord. Pass the cord through the cord guide, nest the cord in the U-shaped groove. Pull tight to lock the cord in place.
5. Turn the belt clip to the position as needed.





Note: The CLP Series radios offer a variety of flexible carrying accessories. For detailed Carrying Accessories List, please refer to www.motorolasolutions.com/CLP446 for information on approved accessories.

TRANSMITTING AND RECEIVING

1. To talk, press and hold the PTT button on the front of the radio (or on select wired audio accessories with an inline PTT). Speak clearly into the microphone on the audio accessory. When finished talking, release the PTT to listen.
2. To receive, listen through the earpiece at the volume level you have set. Press the PTT to respond.

Note: The CLP Series radios always require the use of an audio accessory with microphone and speaker.

Talk Range

Range, Number of floors (*)	Range, Square Feet
6	80, 000

Note: (*) Typical coverage

OPERATION WITH MENU SETTINGS

Press Menu button to navigate through the Menu settings. Voice Assisted Operation feature* (* may not be available on certain previous shipping radios). At any time in Menu mode, short press PTT or wait 3 seconds to exit the menu.

HOW TO...	STEP 1	STEP 2
Change Channel	Press Menu button to navigate to Channel.	Press +/- button to change channel.
Enter Monitor Mode	Press Menu button to navigate to Monitor.	Press +/- button to activate or deactivate Monitor.
Enter Scan Mode	Press Menu button to navigate to Scan.	Press +/- button to activate or deactivate Scan.
Send Call Tone (enabled through CPS)	Press Menu button to navigate to Call Tone.	Press +/- button to send Call Tone.

Quick Tip: It is not necessary to wait for the voice prompt to be completed before continuing with next button press.

Note: For single channel models, Monitor, Scan Mode and Call Tone are supported. Single channel models support Scan mode when the user enables “Dynamic Talkaround Scan” on a repeater channel via the customer programming software.

Selecting a Channel

For CLP multi-channel models only:

1. When powered ON, press the Menu button, you can hear the voice prompt:
2. Select the channel you want. The LED reflects the colour of the new channel. Press PTT button to confirm or it is activated after 3-second hang time.

[Colour] "Channel" – [Channel#] – "To change" – "press +/-"

Default Channel Settings for CPS

CLP0086BHLAA (wired)			CLP0086BBLAA (Bluetooth)		
Channel	LED Status	Colour	Channel	LED Status	Colour
1		Red	1		Red
2		Green	2		Green
3		Yellow	3		Yellow
4		Blue	4		Blue
5		Purple	5		Purple
6		White	6		White
7		Aqua	7		Aqua
8		Orange	8		Orange

Monitoring a Channel

1. To activate, press the Menu button to navigate to Monitor mode.
2. When Monitor is OFF, you can hear the voice prompt: "Monitor" – "To activate" – "press +/-".
3. Press either "+/-" button to activate the Monitor; press either "+/-" button again to deactivate.

Note: When Monitor is ON, you can hear static if no activity is present or audio if channel activity is present.

4. To engage the Monitor mode, enable Monitor via the menu and let the menu time out.
5. To deactivate, press PTT during Monitor Menu mode.

Scanning

For multi-channel models only.

You can scan up to 8 channels. 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 the Menu button to navigate to Scan mode.
2. When Scan is OFF, you can hear the voice prompt: "Scan" – "To activate" – "press +/-".
3. Press either "+/-" button to activate the Scan; press either "+/-" button again to deactivate.
4. When Scan is on, you can hear the voice prompt: "Scan" – "To deactivate" – "press +/-" button.

Sending Call Tone (enabled through CPS)

1. Press the Menu button to navigate to Call Tone.
2. Press either “+/-” button to transmit selected Call Tone.

Note: There are 3 Call Tones available.

Mute Feature (*)

You can quickly lower the headset volume using the Mute feature.

1. Press and hold + or - button while receiving audio to quickly lower the headset volume to “Mute Headset Volume” setting (configurable via CPS). You can hear the voice prompt: “Mute”.
2. To switch back to the previous headset volume setting, press and hold + or - button again. You can hear the voice prompt: “Unmute”.

Note: (*) Enhancement feature on CLP radios. May not be available on previous shipping radios. The enhanced CLP does not support the volume scroll like the previous CLP models.

Talk Permit Tone (*)

In mixed fleet situations, *Bluetooth* users may miss some words due to the *Bluetooth* connection not being established. Talk Permit Tone allocates some time so that the link between the radio and headset gets re-established thus minimising the lost words. (The Talk Permit Tone is disabled by default on CPS on the *Bluetooth* models.)

Note: (*) Enhancement feature on CLP radios may not be available on previous shipping radios.

BATTERY AND CHARGER FEATURES

BATTERY FEATURES

The CLP Series radio provides Lithium-Ion batteries that come in different capacities that define the battery life.

About the Li-Ion Battery

The CLP Series radio comes equipped with a rechargeable Li-Ion battery. This battery should be charged before initial use to ensure optimum capacity and performance.

Battery life is determined by several factors. Among the more critical are the regular overcharge of batteries and the average depth of discharge with each cycle. Typically, the greater the overcharge and the deeper the average discharge, the fewer cycles a battery can last. For example, a battery which is overcharged and discharged 100% several times a day, lasts fewer cycles than a battery that receives less of an overcharge and is discharged to 50% per day. Further, a battery which receives minimal overcharging and averages only 25% discharge, lasts even longer.

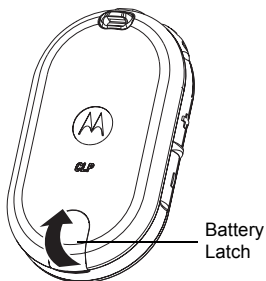
Motorola batteries are designed specifically to be used with a Motorola charger and vice versa. Charging in non-Motorola equipment may lead to battery damage and void the battery warranty. The battery should be at about 77 °F (25 °C) (room temperature), whenever possible. Charging a cold battery (below 50 °F [10 °C]) may result in leakage of electrolyte and ultimately in failure of the battery. Charging a hot battery (above 95 °F [35 °C]) results in reduced discharge capacity, affecting the performance of the radio. Motorola rapid-rate battery chargers contain a temperature-sensing circuit to ensure that batteries are charged within the temperature limits stated above.

Battery Life

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

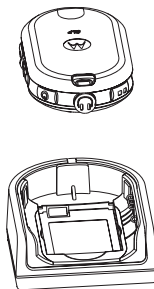
Estimated Battery Life		
Standard Charging Solution	Battery Type	
	Standard Li-Ion Battery	High Capacity Li-Ion Battery
CLP0086BHLAA (wired)	9 hours	14 hours
CLP0086BBLAA (Bluetooth)	8 hours	12 hours

Removing the Lithium-Ion (Li-Ion) Battery



1. Turn OFF the radio.
2. Push up the latch at the bottom of the battery door and lift the battery door off the radio.
3. Pull the battery away from the radio.

Power Supply, Adapter and Drop-in Tray Charger

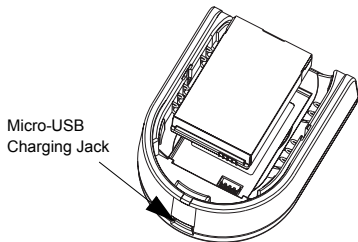


The radio is packaged with one Drop-in Tray Charger with transformer. For details, see “Chargers” Section on page 37.

Charging a Standalone Battery

For your convenience the battery on the CLP radios can be charged as a standalone battery using either a Single Unit Charger (SUC) P/N IXP4028 or a Multi-Unit Charger (MUC) P/N IXP4029.

Note: When acquiring additional chargers or power supplies, make sure you have similar drop-in tray chargers and power supplies sets. For part number details, refer to “Chargers” Section on page 37.



To charge only the battery:

1. Insert the connector of the power supply into the Micro USB port on the front of the drop-in tray charger.

2. Connect the CLP power supply to a proper AC outlet.
3. Insert the battery into the tray, with the inside surface of the battery facing the front of the charger, as shown.
4. Ensure the slots in the battery correctly engage in the charger.

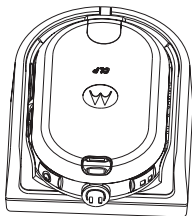
Estimated Charging Time

The following table provides the estimated charging time of the battery.

Estimated Charging Time		
Charging Solution	Battery Type	
	Standard Li-Ion Battery	High Capacity Li-Ion Battery
Single Unit Charger	4 hours	5.5 hours
Multi Unit Charger	2.5 hours	4 hours

For further details, see “Batteries” Section on page 36.

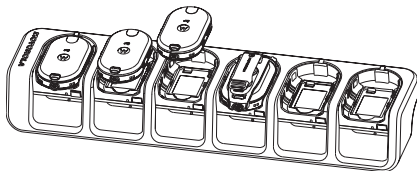
Charging the Radio with the Drop-in Tray Single Unit Charger (SUC)



1. Place the drop-in tray charger on a flat surface.
2. Insert the connector of the power supply into the Micro USB port on the front of the drop-in tray charger.
3. Connect the correct power supply to a proper AC outlet.
4. Insert the radio (with battery installed) into the tray, facing down and making sure the charging contacts on the charger are aligned with the contacts on the radio.

Note: When charging a battery attached to a radio, turn the radio OFF to ensure a full charge. The radio fits in the charger with the holster attached when placed face down in the tray.

Charging with the Drop-In Tray Multi-Unit Charger (Optional Accessory)



The Multi-Unit Charger (MUC) allows drop-in charging of up to 6 radios. Each of the 6 charging pockets can hold a radio (with battery installed). The Multi-Unit Charger provides pockets for headset storage.

1. Place the charger on a flat surface or mount it on the wall.
2. Insert the power cord plug into the jack on the MUC.
3. Plug the cord into an AC outlet and then into charger.
4. Turn the radio OFF.

Note: If the radio is ON while charging, it takes longer to fully charge.

5. Insert the radio facing down (with battery installed) into the charging pocket, making sure the radio contacts are aligned with the MUC contacts.

Note: The battery can be charged by itself using the slot on the flat surface of the charging pocket.

Charging Status LEDs

On the drop-in charger, the radio charging pocket has an LED Charger.

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 red when the battery is charging. It turns to green once the battery is fully charged.

Note: This Multi Unit Charger allows you to clone up to 2 radios (2 Source radios and 2 Target radios). For more details, refer to "Radio Cloning" Section on page 21.

- For part number details, refer to the "Accessories" Section on page 36.

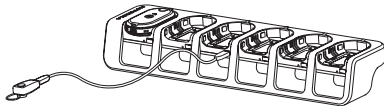
Charger LED Indicator			
Status	LED Status		Comments
Charging	Steady Red Indication		The charger is currently charging.
Charge Complete	Steady Green Indication		Battery is fully charged.
Battery Fault (*)	Blinking Red		Battery was faulty when inserted.
Note: The LED is red when the battery is charging. It turns to green once the battery is fully charged. Note: (*) Re-seating the battery pack likely corrects this issue.			

Charging the *Bluetooth* Headset

Refer to your *Bluetooth* headset leaflet for charging instruction.

Charging Bluetooth Headset with CLP Series Drop-In Tray Multi-Unit Charger and Cloning Cable (Optional Accessory)

You can also charge your *Bluetooth* headset with CLP Series Multi Unit Charger (MUC) P/N IXPN4029 (optional accessory) and Cloning Cable HKKN4026 (optional accessory).



- Plug the other end of the cloning cable to the USB port of the *Bluetooth* headset for charging.
- Note:** Refer to the charging status light on your *Bluetooth* headset leaflet.
- Plug one side of the cloning cable microconnector to the USB port of the Multi-Unit Charger (there are 6 USB ports on top of the accessory pockets).

Checking Battery Status

When powered on, short press and release the Power/Battery button, the Smart Status Glow and Voice Assisted Operation features (*) gives you the battery status of the radio.

Battery Status		
Level	LED Status	Colour
Battery Level High (70 – 100%)		Green
Battery Level Medium (30 – 70%)		Yellow
Battery Level Low (10 – 30%)		Red
Battery Level Critical (0 – 10%)		Blinking Red

After the Smart Status Glow and Voice Assisted Operation features (*) indicate the BATTERY STATUS, it returns to the current channel colour.

Note: (*) May not be available on certain previous shipping radios.

PROGRAMMING THE RADIO THROUGH THE CPS

RADIO PROGRAMMING OVERVIEW

Downloading the (Customer Programming Software) CPS

You can programme or change features on your CLP radios by using the Computer Programming Software (CPS) and the CPS Programming Cable (*). CPS software is available for free as web based downloadable software at:

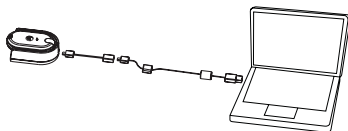
www.motorolasolutions.com/CLP446.

After downloading the CPS, install the software on your computer.

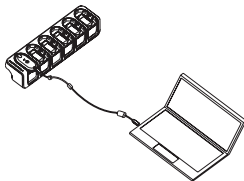
Programming the Radio

To programme the radio:

1. Connect the radio via the Drop-in Charger Tray or the Charging Pocket with "PROG" label on the Multi-Unit Charger and CPS Programming Cable.



Programming the Radio through a Single Unit Charger



Programming the Radio through a Multi-Unit Charger

2. Make sure the radio is turned ON.
3. Once the radio is connected, open the CPS and select "Read" on the toolbar to get the radio profile. The CPS allows the user to change settings, such as General, Audio, Menu, Channels, Scan List, Customised PL/DPL, *Bluetooth* (*) as well as select frequencies, PL/DPL codes on each channel.
4. After you change the settings, press "Write" on the toolbar to save the settings.

For more information on the Computer Programming Software, please refer to Help menu on the CPS.

Note: (*) CPS Programming Cable (P/N HKKN4025) is an accessory sold separately. Please contact your Motorola Point of Purchase for more information.

Note: (*) *Bluetooth* is available on selected models only.

Factory Default Settings

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

CLP0086BHLLAA (wired) and CLP0086BBLAA (<i>Bluetooth</i>)			
Channel #	Frequency Setting	Sub-Codes	Operating Frequency (MHz)
1	446.00625	219 (*)	446.00625 – 446.09375
2	446.01875	219 (*)	446.00625 – 446.09375
3	446.03125	219 (*)	446.00625 – 446.09375
4	446.04375	219 (*)	446.00625 – 446.09375
5	446.05625	219 (*)	446.00625 – 446.09375
6	446.06875	219 (*)	446.00625 – 446.09375
7	446.08125	219 (*)	446.00625 – 446.09375
8	446.09375	219 (*)	446.00625 – 446.09375
(*) 39 standard CTCSS, 6 customised CTCSS, 84 standard DCS and 6 customised DCS codes			

RADIO CLONING

CLONING RADIO SETTINGS

You can copy the CLP Series radio settings from one radio (the source) to a second radio using the CLP Series Single Unit Charger (SUC) Kit P/N IXPN4028 and CLP Series Cloning Cable Kit P/N HKKN4026 (optional accessory) or CLP Series Multi-Unit Charger (MUC) Kit P/N IXPN4029 (optional accessory).

A multi-channel radio can be cloned to a single-channel radio BUT only the first channel is cloned. The Multi-Unit Charger (MUC) does not have to be plugged in for cloning, but both radios require charged batteries.

Note: The enhanced CLP software also uses the LED to indicate “pass” or “fail” status during cloning. Green LED during cloning indicates “pass” status and red LED during cloning indicates “fail” status.

CLONING INSTRUCTIONS

Cloning Radios using the CLP Series Cloning Cable Kit P/N HKKN4026 (optional accessory)



Cloning the Radio through a Single Unit Charger

Source Radio: Radio to be cloned

Target Radio: Radio to which the configuration of the “Source Radio” is to be copied.

Before beginning the cloning process, make sure you have:

- A fully charged battery on each one of the radios
- Two CLP Series Single Unit Charger (SUC) Kits
- Both radios are turned OFF

1. Unplug any cables (power supply or USB cables) from the Single Unit Chargers.

2. Plug one side of the cloning cable microconnector to one Single Unit Charger. Plug the other end to the second Single Unit Charger.

Note: During the cloning process no power is being applied to the Single Unit Charger. The batteries cannot be charged. A data communication is being established between the two radios.

3. Turn ON the “Target Radio” and place it into one of the Single Unit Chargers.
4. On the “Source Radio”, power the radio following the sequence below: • Press and hold the Push-to-Talk (PTT) and the “-“ Button simultaneously while turning the radio ON until you hear the Cloning Tone and Double Blinking Yellow  on the Smart Status Glow.
5. Place the “Source Radio” in its Single Unit Charger with an Audio accessory, then press and release Menu Button to start the cloning process.

6. After cloning is completed, the “Source Radio” sounds either a “pass” tone (cloning was successful) or a “fail” tone (cloning process has failed). The pass tone sounds like a good key “chirp” whereas the “fail” tone sounds similar to a “bonk” tone. (A tone is heard in no more than 5 seconds).
7. Once you have completed the cloning process, you should turn the radios “OFF” and “ON” to bring them to normal user mode (exit “clone” mode).

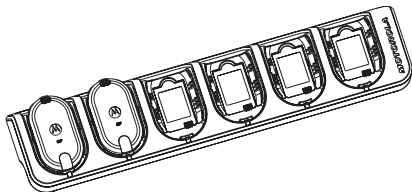
What to do if cloning fails

The radio emits an audible “bonk” indicating that the cloning process has failed. In the event that cloning fails, try performing each of the following before trying to start the cloning process again.

1. Make sure that the radio batteries on both radios are fully charged.
2. Verify the cloning cable connection on both Single Unit Chargers.
3. Make sure that the battery is engaged properly on to the radio.
4. Make sure that there is no debris in the charging tray or on the radio contacts.
5. Verify that the source radio is in cloning mode.
6. Make sure that the radio to be cloned is turned ON.
7. Make sure that radios are both from the same type (same frequency band, same region and same transmission power).

Note: This cloning cable is designed to operate only with compatible Motorola Drop-in Tray Single Unit Charger. When ordering the cloning cable, please refer to CLP Series Cloning Cable Kit P/N HKKN4026. For details about accessories, refer to “Accessories” Section on page 36.

Cloning Radios using the CLP Series Multi-Unit Charger (MUC) Kit P/N IXPN4029 (optional accessory)



Cloning the Radio through a Multi-Unit Charger

1. To put the source radio into clone mode, press and hold PTT and the “-” button while turning the radio ON until you hear the Cloning Tone and Double Blinking Yellow  on the Smart Status Glow.
2. Place the source radio into one of the charging pockets that has the “CLONE” label.
3. Turn the target radio ON and place it in the pairing charging pocket that has the “CLONE” label and start the cloning process.
4. Press the “Menu” button on the source radio to start the cloning process. The source radio generates the start clone tone.
5. Once the cloning is completed, turn the target radio OFF and back ON again in order to activate the radio.
6. To clone another radio, repeat steps 3, 4 and 5.
7. To exit clone mode on the source radio, turn the radio OFF.

ADVANCED RADIO CONFIGURATION (*)

(*) Enhancement feature on CLP radios. May not be available on previous shipping radios.

Advanced Radio Configuration provides you with the ability to configure the following settings from a pre-programmed list without the need to use a computer.

- Channels
- Frequencies
- Codes (CTCSS/DPL)

Frequencies allows the user to select frequencies for each channel. Codes helps minimise interference by providing the user with a choice of code combinations that filter out static, noise and unwanted messages.

Entering Advanced Radio Configuration Mode

Before starting, make sure the device is powered OFF.

Note: For *Bluetooth* models, make sure the wired accessory is connected or the *Bluetooth* headset is paired before entering Advanced Radio Configuration Mode.

1. Press the PTT, “+” button and Power button at the same time and hold for 3 to 5 seconds until you hear a “chirp” sound and the voice prompt “Programming Mode”.

Note: The LED Indicator should start blinking a green heartbeat.

2. Press the Menu button to select the settings you want to change:
 - Channel (for multi-channel models)
 - Frequency
 - Code
3. The voice announcements indicate the menu items and their current settings. To change, press “+/-” buttons; to go to the next menu item, press Menu button.
4. To exit the Advanced Radio Configuration Mode, press and hold the PTT button until you hear a “beep” sound.
5. Resume normal radio operation.

TROUBLESHOOTING

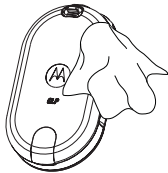
Symptom	Try this
No Power	Recharge or replace Li-Ion battery. Extreme operating temperatures affect battery life. Refer to “About the Li-Ion Battery” Section on page 12.
Hearing other noises or conversation on a channel	Confirm Interference Eliminator Code is set. Frequency or Interference Eliminator Code may be in use. Change settings: either change frequencies or codes on all radios. Make sure radio is at the right frequency and code when transmitting.
Message Scrambled	Scramble Code might be ON, and/or setting does not match other radios' settings. Use CPS to change settings.
Audio quality not good enough	Radio settings might not be matching up correctly. Double-check frequencies, codes and bandwidths to ensure they are identical in all radios.

Symptom	Try this
Limited talk range	Steel and/or concrete structures, heavy foliage, buildings or vehicles decrease range. Check for clear line of sight to improve transmission. Change location of radio. To increase range and coverage, you can either reduce obstructions or increase power. UHF radios provide greater coverage in industrial and commercial buildings. Increasing power provides greater signal range and increased penetration through obstructions.
Message not transmitted/ received	Make sure the PTT button is completely pressed when transmitting. Confirm that the radios have the same Channel, Frequency, Interference Eliminator Code and Scramble Code settings. Refer to “Transmitting and Receiving” Section on page 7. Recharge, replace and/or reposition batteries. Refer to “About the Li-Ion Battery” Section on page 12. Obstructions and operating indoors or in vehicles, may interfere. Change location. Verify that the radio is not in Scan mode. Refer to “Scanning” Section on page 10.

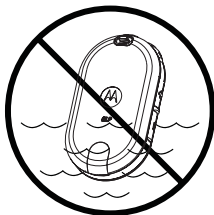
Symptom	Try this
Heavy static or interference	Radios are too close, they must be at least five feet apart. Radios are too far apart or obstacles are interfering with transmission.
Low batteries	Recharge or replace Li-Ion battery. Extreme operating temperatures affect battery life. Refer to “About the Li-Ion Battery” Section on page 12.
Drop-in Charger LED light does not blink	Check radio/battery is properly inserted and check battery/charger contacts to ensure they are clean and the charging pin is inserted correctly. Refer to “Charging a Standalone Battery” Section on page 14 and “Charger LED Indicator” Section on page 16.
Cannot activate VOX	VOX feature might be OFF. Use the CPS to ensure that the VOX Sensitivity Level is not set to “0”. Accessory not working or not compatible.
Battery doesn't charge although it has been placed in the drop-in charger for a while	Check drop-in charger is connected and corresponds to a compatible power supply. Refer to “Charging a Standalone Battery” Section on page 14. Check the charger LEDs indicators to see if battery has a problem. Refer to “Charger LED Indicator” Section on page 16.

Symptom	Try this
Unable to pair a <i>Bluetooth</i> headset	Make sure the target <i>Bluetooth</i> headset is not connected to another device.
Unable to connect to a <i>Bluetooth</i> headset	Make sure the target <i>Bluetooth</i> headset is not connected to another device.
Pairing with wrong <i>Bluetooth</i> headset	Don't perform pairing procedures next to other <i>Bluetooth</i> headset devices. CLP <i>Bluetooth</i> uses proximity pairing. Make sure the headset is placed next to the CLP radio.
Note: Whenever a feature in your radio seems to not correspond to the default or pre-programmed values, check if your radio have been programmed using CPS with a customised profile.	

USE AND CARE



Use a soft damp cloth to clean the exterior.

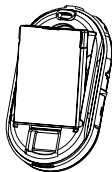


Do not immerse in water.

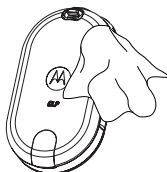


Do not use alcohol or cleaning solutions.

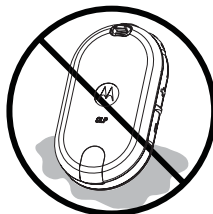
If the portable is submerged in water...



Turn OFF and remove batteries.



Dry with soft cloth.



Do not use until completely dry.

RADIO FREQUENCY AND CODE CHARTS

These charts provide frequency information and are useful when using Motorola CLP Series Two-Way Radios with other business radios. Most of the frequency positions are the same as Spirit M, GT, S, XTN, RDX and CLS Series frequency positions (where applicable), the bandwidths are different.

Channel	Frequency (MHz)	Bandwidth
1	446.00625	12.5 kHz
2	446.01875	12.5 kHz
3	446.03125	12.5 kHz
4	446.04375	12.5 kHz
5	446.05625	12.5 kHz
6	446.06875	12.5 kHz
7	446.08125	12.5 kHz
8	446.09375	12.5 kHz

CTCSS Code (Hz)

CTCSS	Tone Frequency (Hz)	CTCSS	Tone Frequency (Hz)	CTCSS	Tone Frequency (Hz)
0	Off	16	114.8	32	203.5
1	67.0	17	118.8	33	210.7
2	71.9	18	123.0	34	218.1
3	74.4	19	127.3	35	225.7
4	77.0	20	131.8	36	233.6
5	79.7	21	136.5	37	241.8
6	82.5	22	141.3	38	250.3
7	85.4	23	146.2	122(*)	69.3
8	88.5	24	151.4	124	Customised CTCSS
9	91.5	25	156.7	125	Customised CTCSS
10	94.8	26	162.2	126	Customised CTCSS
11	97.4	27	167.9	127	Customised CTCSS
12	100.0	28	173.8	128	Customised CTCSS
13	103.5	29	179.9	129	Customised CTCSS
14	107.2	30	186.2		
15	110.9	31	192.8		

Note: (*) New CTCSS Code

DPL Code

DPL	Code	DPL	Code	DPL	Code	DPL	Code	DPL	Code	DPL	Code
39	023	53	114	67	174	81	315	95	445	109	631
40	025	54	115	68	205	82	331	96	464	110	632
41	026	55	116	69	223	83	343	97	465	111	654
42	031	56	125	70	226	84	346	98	466	112	662
43	032	57	131	71	243	85	351	99	503	113	664
44	043	58	132	72	244	86	364	100	506	114	703
45	047	59	134	73	245	87	365	101	516	115	712
46	051	60	143	74	251	88	371	102	532	116	723
47	054	61	152	75	261	89	411	103	546	117	731
48	055	62	155	76	263	90	412	104	565	118	732
49	071	63	156	77	265	91	413	105	606	119	734
50	072	64	162	78	271	92	423	106	612	120	743
51	073	65	165	79	306	93	431	107	624	121	754
52	074	66	172	80	311	94	432	108	627	123(*)	645

Note: (*) New DPL code

DPL Code (Continued)

DPL	Code	DPL	Code	DPL	Code	DPL	Code
130	Inverted DPL 39	155	Inverted DPL 64	180	Inverted DPL 89	205	Inverted DPL 114
131	Inverted DPL 40	156	Inverted DPL 65	181	Inverted DPL 90	206	Inverted DPL 115
132	Inverted DPL 41	157	Inverted DPL 66	182	Inverted DPL 91	207	Inverted DPL 116
133	Inverted DPL 42	158	Inverted DPL 67	183	Inverted DPL 92	208	Inverted DPL 117
134	Inverted DPL 43	159	Inverted DPL 68	184	Inverted DPL 93	209	Inverted DPL 118
135	Inverted DPL 44	160	Inverted DPL 69	185	Inverted DPL 94	210	Inverted DPL 119
136	Inverted DPL 45	161	Inverted DPL 70	186	Inverted DPL 95	211	Inverted DPL 120
137	Inverted DPL 46	162	Inverted DPL 71	187	Inverted DPL 96	212	Inverted DPL 121
138	Inverted DPL 47	163	Inverted DPL 72	188	Inverted DPL 97	213	Inverted DPL 123
139	Inverted DPL 48	164	Inverted DPL 73	189	Inverted DPL 98	214	Customised DPL
140	Inverted DPL 49	165	Inverted DPL 74	190	Inverted DPL 99	215	Customised DPL
141	Inverted DPL 50	166	Inverted DPL 75	191	Inverted DPL 100	216	Customised DPL
142	Inverted DPL 51	167	Inverted DPL 76	192	Inverted DPL 101	217	Customised DPL
143	Inverted DPL 52	168	Inverted DPL 77	193	Inverted DPL 102	218	Customised DPL
144	Inverted DPL 53	169	Inverted DPL 78	194	Inverted DPL 103	219	Customised DPL
145	Inverted DPL 54	170	Inverted DPL 79	195	Inverted DPL 104		
146	Inverted DPL 55	171	Inverted DPL 80	196	Inverted DPL 105		
147	Inverted DPL 56	172	Inverted DPL 81	197	Inverted DPL 106		
148	Inverted DPL 57	173	Inverted DPL 82	198	Inverted DPL 107		
149	Inverted DPL 58	174	Inverted DPL 83	199	Inverted DPL 108		
150	Inverted DPL 59	175	Inverted DPL 84	200	Inverted DPL 109		
151	Inverted DPL 60	176	Inverted DPL 85	201	Inverted DPL 110		
152	Inverted DPL 61	177	Inverted DPL 86	202	Inverted DPL 111		
153	Inverted DPL 62	178	Inverted DPL 87	203	Inverted DPL 112		
154	Inverted DPL 63	179	Inverted DPL 88	204	Inverted DPL 113		

MOTOROLA LIMITED WARRANTY

WARRANTY INFORMATION

The authorised Motorola dealer or retailer where you purchased your Motorola two-way radio and/or original accessories will honour a warranty claim and/or provide warranty service. Please return your radio to your dealer or retailer to claim your warranty service. Do not return your radio to Motorola. To be eligible to receive warranty service, you must present your receipt of purchase or a comparable substitute proof of purchase bearing the date of purchase. The two-way radio should also clearly display the serial number. The warranty will not apply if the type or serial numbers on the product have been altered, deleted, removed or made illegible.

WHAT IS NOT COVERED BY THE WARRANTY

- Defects or damage resulting from use of the Product in other than its normal and customary manner or by not following the instructions in this user manual.

- Defects or damage from misuse, accident or neglect.
- Defects or damage from improper testing, operation, maintenance, adjustment or any alteration or modification of any kind.
- Breakage or damage to aerials unless caused directly by defects in material or workmanship.
- Products disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection and testing to verify any warranty claim.
- Defects or damage due to range.
- Defects or damage due to moisture, liquid or spills.
- All plastic surfaces and all other externally exposed parts that are scratched or damaged due to normal use.
- Products rented on a temporary basis.
- Periodic maintenance and repair or replacement of parts due to normal usage, wear and tear.

ACCESSORIES

AUDIO ACCESSORIES

Part No.	Description
HKLN4435_	CLP Series Single Pin Adjustable Cord Earpiece
HKLN4437_	CLP Single Pin Short Cord Earpiece
HKLN4455_	CLP Single Pin Non-Adjustable PTT Earpiece
HKLN4487_	CLP Single Pin Surveillance Earpiece
HKLN4492_	CLP Wireless Earpiece Kit

BATTERIES

Part No.	Description
HKNN4013_	CLP Series High Capacity Li-Ion Battery Kit
HKNN4014_	CLP Series Standard Li-Ion Battery Kit
HKLN4440_	CLP High Capacity Li-Ion Battery Door Kit
HKLN4441_	CLP Standard Li-Ion Battery Door Kit

CARRY ACCESSORIES

Part No.	Description
HKLN4438_	CLP Series Swivel Belt Clip Holster

CHARGERS

Part No.	Description
IXPN4029_	CLP Series Multi Unit Charger (MUC) Kit
IXPN4028_	CLP Series Single Unit Charger (SUC) Kit

PROGRAMMING CABLES

Part No.	Description
HKKN4025_	CLP Series CPS Cable Kit
HKKN4026_	CLP Series Cloning Cable Kit

Notes

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