

CHOYONG LC90 M

CHOYONG LC90 Mini Portable Multi-Band Smart Internet Radio

USER MANUAL

Introduction

The CHOYONG LC90 Mini is a versatile, portable multi-band smart internet radio designed for comprehensive audio reception. It offers connectivity via 4G cellular network or Wi-Fi, allowing access to over 40,000 global internet radio stations. Beyond internet capabilities, it supports traditional radio bands including FM, Longwave (LW), Mediumwave (MW), and Shortwave (SW) with Single Side Band (SSB) functionality.

This device also functions as a traditional Bluetooth speaker and supports audio playback from a TF card. Users can add favorite radio websites to local memory and input frequencies or music numbers directly via the keypad. The LC90 Mini provides a rich audio experience with its full-range multimedia speaker system.



Figure 1: Front view of the CHOYONG LC90 Mini radio.

Key Features

- **40,000+ Internet Radio Stations:** Access global stations via 2.4GHz WiFi or SIM card, categorized by region and genre.
- **Multi-band Radio:** Supports FM, Longwave (LW), Mediumwave (MW), and Shortwave (SW) with SSB (Single Side Band) for clearer reception.
- **High-Quality Sound:** Features a bass radiator and full-range multimedia speaker with a two-stage audio amplifier and LNA for enhanced volume and clarity.
- **Voice Search:** Conveniently search for radio stations using voice commands.
- **Bluetooth & TF Card Support:** Connect wirelessly via Bluetooth 5.2 or play audio files directly from a Micro-SD card (up to 32GB, FAT32 format).
- **Portable Design:** Compact and lightweight, ideal for travel.

- **Additional Functions:** Includes clock, alarm, sleep timer, digital sales point, keypad backlight, and a 2500mAh rechargeable battery.

Multi-Band internet LC90M radio



40K+ Global Internet Stations



FM/MW/LW/SW(SSB)



Voice Search Station



High Quality Sound



Portable and Compact



Figure 2: Overview of the CHOYONG LC90 Mini's main features, including global internet stations, multi-band support, voice search, high-quality sound, and portability.



- **Global internet Radios**
- **FM / LW / MW / SW**
- **Supports Single Side Band (SSB)USB/LSB**
- **Voice Search Station**
- **Bluetooth / TF Card**
- **IPS LCD with backlight**
- **Keyboard backlight**
- **Lock button**
- **Direct frequency tuning**
- **Addable internet radio stations**
- **Type-C Charging / USB port**
- **40K internet stations Pre-Stored**

Figure 3: A comprehensive list of features, including IPS LCD, keyboard backlight, lock button, direct frequency tuning, and Type-C charging.

Setup

1. Initial Charging

Before first use, fully charge the CHOYONG LC90 Mini using the provided USB-C cable. Connect the cable to the radio's USB-C port and a compatible USB power adapter (not included). The charging indicator will show the charging status.

2. Powering On/Off

- To power on, press and hold the Power button until the screen illuminates.
- To power off, press and hold the Power button until the screen turns off.

3. Network Connection (Wi-Fi / 4G SIM)

The LC90 Mini can connect to the internet via Wi-Fi or a 4G SIM card.

- **Wi-Fi Connection:**

1. Navigate to the network settings menu on the radio.
2. Select "Wi-Fi" and choose your desired network from the list.
3. Enter the Wi-Fi password using the radio's keypad.
4. Confirm to connect. The radio will automatically sync its clock to your time zone when connected to Wi-Fi.

- **4G SIM Card Connection:**

1. Locate the SIM card slot at the bottom of the radio.
2. Insert an activated 4G SIM card into the slot.
3. The radio will automatically detect and connect to the cellular network for internet access.

Operating Instructions

1. Internet Radio Operation

Once connected to the internet, you can access thousands of online radio stations.

- **Browsing Stations:** Stations are categorized by continent, country, province, city, type (news, music, podcast), and popularity. Use the navigation buttons to browse.
- **Adding Favorites:** You can add your preferred stations to a favorites list for quick access.
- **Adding Custom Stations:** Enter a valid URL directly on the radio to add custom internet radio streams (supports MP3, AAC, m3u8, etc.).
- **Voice Search:** Use the voice search feature to find stations by name or genre.

Naturally fine tuned sound reproduction from one bass radiator and full range multimedia speaker

Integrated with two-stage audio amplifier and LNA,
the regular radio volume became louder and clearer



Figure 4: The voice search function simplifies finding desired radio stations.

2. Traditional Radio (FM/AM/SW/LW)

The LC90 Mini supports traditional radio bands with enhanced reception.

- **Band Selection:** Use the dedicated buttons (FM, MW, SW) to switch between bands. Longwave (LW) can be accessed by long-pressing the tuning knob.
- **Tuning:** Use the tuning knobs or direct frequency entry via the keypad to find stations.
- **SSB (Single Side Band):** The radio integrates a 3rd filter circuit for clearer Shortwave (SW) reception, including SSB.

Support Bluetooth

TF/Micro-SD Card

Compatible with FLAC / WAV/ APE / WMA /MP3/M4A.....formats

Support folder management of TF/Micro-SD

Support direct chapter tuning by keyboard



Figure 5: The radio's display showing signal strength and SNR indication for multi-band performance.

3. Bluetooth Mode

Use the LC90 Mini as a Bluetooth speaker for your mobile devices.

- **Pairing:**

1. Press the "BT" button to enter Bluetooth mode. The radio will become discoverable.
2. On your mobile device, search for "CHOYONG LC90 Mini" in the Bluetooth settings.
3. Select the radio to pair. Once paired, you can stream audio from your device.

- The radio supports Bluetooth 5.2 and automatically connects to previously paired devices within a 9.8m range.

Voice search station, more convenient, simpler



Figure 6: The radio's display indicating Bluetooth connection and TF card slot.

4. TF Card Playback

Play your favorite music or podcasts directly from a Micro-SD card.

- **Insertion:** Insert a Micro-SD card (up to 32GB, FAT32 format) into the TF card slot.
- **Supported Formats:** Compatible with FLAC, WAV, APE, WMA, MP3, M4A, and other audio formats.
- **Navigation:** Use the radio's controls to browse folders and select tracks. Direct chapter tuning by keypad is supported.

Excellent multi-band radio performance

- FM/MW/LW/SW
- ATS & Direct frequency tuning
- Signal strength & SNR indication
- Integrated with a 3rd filter circuit, make the shortwave reception clearer



Figure 7: Illustration of the LC90 Mini's sound reproduction capabilities, highlighting the bass radiator and full-range speaker.

Maintenance

1. Cleaning

To maintain the radio's appearance and functionality:

- Wipe the exterior with a soft, dry cloth.
- Do not use abrasive cleaners, solvents, or strong chemicals, as these may damage the surface.
- Keep the device free from dust and moisture.

2. Battery Care

The LC90 Mini features a built-in 2500mAh Lithium-polymer rechargeable battery that is not user-replaceable. To prolong battery life:

- Avoid extreme temperatures.
- Charge the battery regularly, even if the radio is not in frequent use.
- Do not attempt to open the device or replace the battery yourself.

Troubleshooting

Problem	Possible Cause	Solution
Cannot connect to Wi-Fi.	Incorrect password, weak signal, network issues.	Verify password, move closer to router, restart router, check for firmware updates.
Poor traditional radio reception (FM/AM/SW).	Weak signal, interference, antenna not extended.	Extend the telescopic antenna fully. Try repositioning the radio. Avoid sources of electronic interference.
Voice search not working effectively.	Environmental noise, unclear pronunciation, software limitation.	Speak clearly and directly into the microphone in a quiet environment. Ensure the radio's firmware is up to date.
TF card playback issues.	Unsupported file format, corrupted card, card not inserted correctly.	Ensure files are in supported formats (MP3, WAV, etc.). Reinsert the TF card. Try a different TF card. Ensure card is FAT32 formatted.
Radio does not power on.	Battery depleted.	Connect the radio to a power source and charge it for at least 30 minutes before attempting to power on again.

For persistent issues, check the manufacturer's website for the latest firmware updates, as these often resolve known bugs and improve performance.

Specifications

Feature	Detail
Brand	CHOYONG
Model Number	LC90 M
Color	Black
Dimensions (L x W x H)	16L x 9.5W x 3.9H centimeters
Weight	410 Grams
Connectivity Technology	Bluetooth 5.2, Wi-Fi (2.4GHz), 4G Network

Feature	Detail
Tuning Technology	AM/FM, LW, MW, SW (SSB)
Power Source	Battery Powered
Battery Type	Lithium-polymer (2500mAh, non-replaceable)
Display Technology	IPS LCD Screen
Compatible Devices	Laptop, Tablet, Smartphone, Speaker
Special Features	Portable, Rechargeable, Voice Search, TF Card Slot, Keypad Backlight

The differences between LC90 and Lc90 Mini

	 LC90	 Lc90 Mini
Size	(7.87 x1.57 x4.8) inches	(6.3 x1.53x 3.74) inches
Weight	640g	410g
Radio knobs	3	No fine-tuning knob
EXT ANT	✓	✗
Batteries	TWO 18650 batteries	1 Lithium Polymer battery
Battery capacity	5000mAh	2500mAh
Replaceable battery	✓	✗
Radio speaker	One bass driver One bass radiator One silk dome tweeter	One bass radiator and full range multimedia speaker
E-SIM CARD	✓	✗

Figure 8: A comparison highlighting the differences in size, weight, battery, and speaker between the LC90 and LC90 Mini models.

Warranty and Support

Information regarding spare parts availability and guaranteed software updates for the CHOYONG LC90 Mini is currently unavailable.

For product support, warranty claims, or further inquiries, please refer to the official CHOYONG website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty-related matters.

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