

## Instructions for use

### 1.Getting started

LC90 is powered by 2\*18650 rechargeable lithium battery. A USB-Type-C cable is supplied in the package. Press and hold the ( ) button to power on.To shutdown the radio,press and hold the same button.

### 2.Charging battery

To charge the battery,connect the Type-C cable to 5V power adapter,you can use any mobile phone charger,the mobile quick charge protocol ensures that the output voltage of the charger will adjust to 5V when charging to radio,but **DO NOT USE THE CHARGER OF IPAD OR COMPUTER!** Note:The charging might take much longer to complete if the radio is playing while charging.

### 3.Bluetooth playback

Press the BT( ) Key to make the radio enter Bluetooth mode. Open your device' s Bluetooth setting,and active the pairing mode,the device scans for Bluetooth devices. When the radio is found,your Bluetooth device shows its name "Choyong-LC90" ,select the radio and connect it. Then you can start playback on your Bluetooth device,you can control the playback by the radio

(next,previous,pause...ect).

The connection will be restored automatically when both devices are in range and the radio in Bluetooth mode.

### 4.Software update

There may be software release to upgrade features of the radio from time to time.Check the update regularly to keep your radio up to date with the latest software. **Caution:**Do not do any operation during the upgrade progress!!! Or the radio will be damaged!

### 5.Telescopic antenna assist Middle Wave

An auxiliary middle wave receiving circuit is integrated in the radio,you can try to use telescopic antenna to increase the MW signal strength and to improve the performance of SNR, especially effective outdoors.

### 6.About MW(medium-wave)

1.This radio is equipped with a built-in ferrite bar MW antenna, and also has a telescopic antenna to assist in MW reception. When receiving medium waves, you can try to extend the telescopic antenna to improve the reception capability.  
2.This radio can be connected to an external antenna. You can use a 3.5mm headphone jack and a longer wire to modify it into an external antenna, which helps in

receiving medium and short waves and FM. It is important to note that any pin of the 3.5mm jack can serve as a signal pin, allowing you to design your own external antenna. However, it does not support connecting to active MW antennas.

Q: Why is the medium-wave reception performance relatively weak?

A: Due to the interference of LCD, the medium wave reception performance of this radio is indeed a bit weak. You can pull out the telescopic antenna to enhance the reception performance of MW (we have designed a circuit to enhance the reception of MW with telescopic antenna), or try it outdoors to see if the medium wave reception of this radio is really defective.Indoors, we still recommend connecting to Wi-Fi to listen to online radios.

### 7.How to adjust the meter band and bandwidth

1.The first knob of the radio is used to adjust the meter band. In the SW playback interface, simply press the middle position of the first knob once. When you see the meter band value blinking, you can adjust the meter band by turning the knob.  
2.The second knob of the radio is used to adjust the bandwidth. In the SW/MW playback interface, simply

press the middle position of the second knob once. When you see the bandwidth value blinking, you can adjust the bandwidth by turning the knob.

### Trouble shooting

Problem	Solutions
Connect to the network successfully,but unable to play particular stations	<ul style="list-style-type: none"><li>·The station is not broadcasting at this time of the day,remember it maybe located in a different time zone.</li><li>·The station has too many people trying to attach to.The station server capacity is not large enough.</li><li>·The internet connection between the radio and the radio station server is too slow or unstable to support the date rate of broadcast.</li><li>·The link of the radio is out of the date,please contact us to update the station list.</li><li>· This radio only supports 2.4G Wi-Fi and does not support 5G Wi-Fi.</li><li>· Check the encryption protocol of the router, as this radio only supports WAP/WAP2 and does not support WAP3</li><li>· Currently, The Radio does not support Wi-Fi extenders.</li></ul>
The radio got freeze or no response	<p>Forced restart the radio,Press the ( ) and hold for 5 seconds until the radio restarted (show white screen),then release the button.</p>

Problem	Solutions
The radio screen is black and no response, regardless of any button operation/ charging	<p>Hold down the power button for 30 seconds, release it, then hold down the power button again for 5 seconds until the screen lights up, and then release it. The machine should now be functioning normally.</p> <p>If it still doesn't work, please check if the battery need charging.</p>
Can not connect to Wi-Fi network	<p>Confirm that the Wi-Fi can access the internet (i.e.can browse the web) using the same network.</p> <p>Check the distance to router,see if a computer/mobile phone can connect to the network in this location,if the signal is weak,please optimize the distance of the router's location.</p>
Insufficient Wi-Fi signal strength	

### Product specification

<b>Model:</b>	LC90	<b>Colour:</b>	Space gray
<b>Weight:</b>	640g	<b>Size:</b>	200*122*40mm
<b>FM</b>	Frequency	64-108MHz	
	Step	10KHz/100KHz	
<b>LW</b>	Frequency	153-279KHz	
	Step	1KHz/9KHz	
<b>MW</b>	Frequency	522-1710KHz	
	Step	1KHz/9KHz/10KHz	

<b>SW</b>	Frequency	2300-29999KHz
	Step	1KHz/5KHz
<b>SSB</b>	Frequency	2300-29999KHz
	Step	1KHz/10KHz
<b>Speaker</b> 15W		
<b>Battery:</b> Replaceable and rechargeable 18650*2		
<b>Network:</b> 4G Band supported: FDD Band2/3/4/5; TDD Band38/39/40/41.		
<b>Bluetooth version:</b> 5.2 <b>TF card:</b> Maximum 32 GB		
<b>Earphone:</b> 3.5mm jack <b>External Antenna:</b> 3.5mm jack		

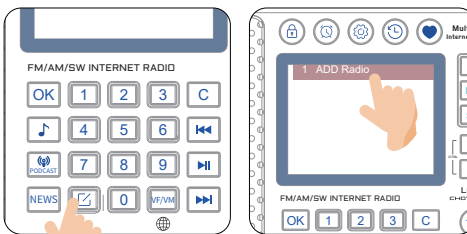
### Important function tips

#### How to connect Wi-Fi?

Press( )button into the Wi-Fi setting page.Choose the Wi-Fi that you want to connect,then input the password.Rotate the Multifunctional knob to select the desired character. Press the knob to input the selected character. until all password characters are entered. Press the OK button to confirm and enter the password.Use ( )to shift input method.(abc/ABC) you need to restart the radio to remember the password.

#### How to add internet radio website?

Press( )'Add radio',will come out a QR Code.Use any QR Scan app on your phone,then type the website you want to listen.



**More details and operation tips,please check our instruction videos on Youtube**  
<https://www.youtube.com/@choyongradio>

**24 hour service Team please contact**  
[choyongradio@gmail.com](mailto:choyongradio@gmail.com)

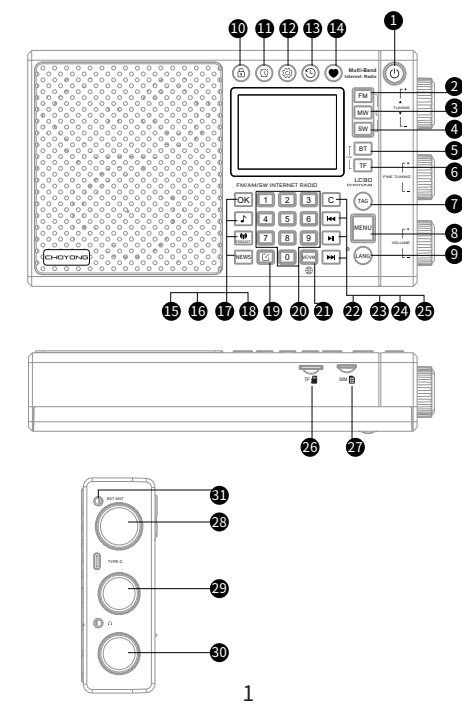
**Official website URL**  
[www.choyongradio.com](http://www.choyongradio.com)



## User Manual

Portable Multi-Band Internet Radio LC90

## Location of Controls



### 1.ON/OFF

Press 2 seconds to turn the radio ON/OFF,press 5 seconds till the white screen appeared to force restart the radio.

### 1.1 Received the radio and found that it had no power, what should you do

To meet the requirements of air transportation, the voltage of the 18650 battery should not exceed 3.65V. I suggest you charge it for a while before using it. Due to the actual capacity of the battery being about 5400mAh, it will require a longer charging time. It's recommended that you charge it before going to bed at night, so that the radio will be fully charged the next morning.

### 2.FM mode

A short press to enter FM mode.Press and hold 2 seconds to turn on FM ATS(Auto Searching and save) function.

### 3.MW mode/LW mode

First short press to enter MW mode.In MW mode,press and hold 2 seconds to turn on MW ATS(Auto Searching and save) function. If the radio is in MW mode,another short press will enter LW(Long Wave)mode,press and hold 2 seconds to turn on LW ATS(Auto Searching and save) function.

### 4.SW mode

A short press to enter SW mode.Press and hold 2 seconds to turn on SW ATS(Auto Searching and save) function.

### 5.Bluetooth mode

A short press to enter Bluetooth mode,the radio will work as a Bluetooth speaker.

### 6.TF card mode

A short press to enter TF card mode.The radio need to restart after the TF-Card inserted.

### 7.Tag button

Press this key to choose different internet radio stations by tag like POP/NEWS/ MUSIC/ ROCK...

### 8.Menu button

Press Menu button to open the main menu.

### 8.1 SSB+SSB-

Press the Menu key to display the menu, find SSB+ (USB) or SSB- (LSB) in the menu, and enter the frequency you want to listen to through the keyboard with a precision of 1KHz (For example, you can enter: 14270, but you cannot enter: 14270.20) ; You can adjust the frequency of SSB through the knob, the main knob has a step value of

1KHz, and the Fine Tuning has a step value of 10Hz.

### 8.2 Voice Search Radio

Press the "Menu" key to display the menu, find the "Search" menu, after entering the "Search" function, long press the "Lang" key according to the prompt, when the Mic icon starts flashing, you can say to the machine: "I want to listen to BBC radio" or "Play VOA radio", then you can choose the stations you want to listen to from the displayed list.You can also activate the voice search function by long pressing the "Lang" button.

### 9.Language mode

Press this key to choose different internet radio stations by language like German, French, English etc...

### 10. Lock button

Press this key to lock the keypad and the knob,press again to unlock the keypad.

### 11. Clock alert

Press this button to set the alarm clock,the scheduled power on/off,and the play time limit.

### 12. Set UP

Press this key to enter the settings menu.

### 13. History

Press this key you will see the record of the radio stations you have listened.

### 14. Favorites

While playing,press this key to bookmark your favorite radio stations,When not playing press this key to view your favorite stations.

### 15.Confirm button

Press this button for confirm what you choose.

### 16. Music stations shortcut key

Press this key will present a list of internet radio stations labeled with music.

### 17.Podcast stations shortcut key

Press this key will present a list of internet radio stations labeled with podcast.

### 18. News stations shortcut key

Press this key will present a list of internet radio stations labeled with NEWS.

### 19. Add / Edit stations

Press this key and follow the instructions you can add or edit the website of internet radio stations to local memory.

### 20.Number

By pressing these buttons, you can input the radio frequency,the password of Wi-Fi,and the numbers of the music in TF-Card for direct tuning.

### 21.VF/VM button

(1) Switch Input Method when inputting Wi-Fi password.  
(2) Switch the function of the tuning knob when working in regular radio mode,VF---Switch frequency, VM---Switch saved frequency.

### 22.Return button

Press this key to return to the previous menu level.

### 23. Previous

Press this key to shift to previous Song/Channel.

### 24. Pause button

Press this key to Pause/Replay.

### 25. Next

Press this key to shift to next Song/Channel.

### 26.TF card slot

After insert a TF-Card and restart the radio,you can play the music that you have prepared in TF-Card.Supports a

maximum of 32 GB TF-Card.

You can copy music to TF-Card or delete music by connecting the radio to a computer.

### 27.SIM card slot

Support Nano Sim Card,you need to restart the radio after insert SIM-Card.

### 28.Multifunctional knob

(1) In regular radio mode use for tuning frequency by steps(FM 100KHz,MW 9/10KHz,SW 5KHz);A short press during playing will turn on the meter-band selection interface.  
(2) In VM Mode use for switching saved frequency.  
(3) In internet radio mode use for switching internet radio stations.  
(4) A short press to confirm.  
(5) In main menu interface use to select and confirm.

### 29.Fine tuning knob

(1) In regular radio mode use for tuning frequency by fine steps(FM 10KHz,MW 1KHz,SW 1KHz);  
(2) In favorite regular radios interface use for switching favorite radios.  
(3) A short press during regular radio playing will adjust the receiving bandwidth.

### 30.Volume control with switch

Tuning to increase or decrease volume.

Rotate counter-clockwise until hear a 'click' sound,the radio will enter sleep mode.turn on the volume switch the machine will continue to play.

### 31.External antenna jack

Support 3.5mm plug external antenna,both active and passive antennas can be used.

### FCC WARNING

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, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. NOTE: 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.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction Specific Absorption Rate (SAR) information: This product meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough

evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. FCC RF Exposure Information and Statement The SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types: LC90 (FCC ID: 2BGNV-LC90) has also been tested against this SAR limit. The highest SAR values for body are 0.81 W/Kg, Hotspot is 1.34 W/Kg. This device was tested for typical body-worn operations with the product kept 0mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain a 0mm separation distance between the user's body and the product. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided. Body-worn Operation This device was tested for typical body-worn operations. To comply with RF exposure requirements, a minimum separation distance of 0mm must be maintained between the user's body and the product,

including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body-worn accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna.