

Instruction Manual

CU560-2

FM Portable Radio

Thank you for purchasing a **COVALUE** two-way radio. This simple to use radio adopts the latest advances in technology, providing reliable communication in today's demanding communication environment.

Notice to the User:

- Please read this instruction manual before operating this radio.
- It's prohibited to use the radio or charge it at any area with a potentially explosive atmosphere (where the air contains gas, dust and smog, etc.), as well as while taking on fuel, or while parking at a gasoline service station; or any area where radio communication is prohibited (such as a hospital or a airport.)
- It's prohibited to operate the radio without permission in areas where the government laws prohibit radio communication.
- Please don't expose the radio to direct sunlight for a long time; don't place the radio near any heating devices, either.
- Please don't put the radio in extremely dusty, moist humid areas or unstable surfaces.
- Only qualified personal, with proper tools and instruments are allowed to service and repair the radios, do not disassemble the radio by yourself to avoid damages.

FCC & IC Warning:

Operation is subject to the following two conditions:

(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that , the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

CONTENTS

- Unpacking and Checking the Equipment -----
 - Supplied Accessories-----
- Preparation -----
 - Charging the Battery
 - Installing/Removing the Battery Pack
 - Installing the Antenna
 - Installing the Optional Speaker/Microphone
 - Installing/Removing the Belt Clip
- Radio Overview
- Basic Operations
- Programmable Button Function
- VOX (Voice Operated Transmission)
- Radio Setting
 - TOT (Time-out Timer)
 - Battery Save
 - Low Power Warning
 - Channel Annunciation
 - CTCSS/DCS
- User Template
 - RX Squelch Mode
 - DTMF
 - 5-Tone Signaling
 - 2-Tone Signaling
 - MDC Signaling
- Troubleshooting
- Major Specifications
- Settings

■ Unpacking and Checking the Equipment

Unpack the radio carefully. We recommend that you identify the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, please contact the carrier or the dealer immediately.

Supplied Accessories

Item	Quantity
Antenna	1
Battery	1
Hand Strap	1
Charger	1
Power Adapter	1
Belt Clip	1
Instruction Manual	1

1、 Open Package Inspection

First, take the radio out of the package box carefully. We recommend checking the radio and the supplied accessories in the following table carefully. If any article is missing or damaged, please contact your reseller without delay.

Package List

	Accessories	Quantity
1	Radio	1
2	Antenna	1
3	Battery	1
4	Hand Strap	1
5	Charger	1
6	Power Adapter	1
7	Belt Clip	1
8	Instruction Manual	1

2、 Getting started

2.1 Charging the Battery

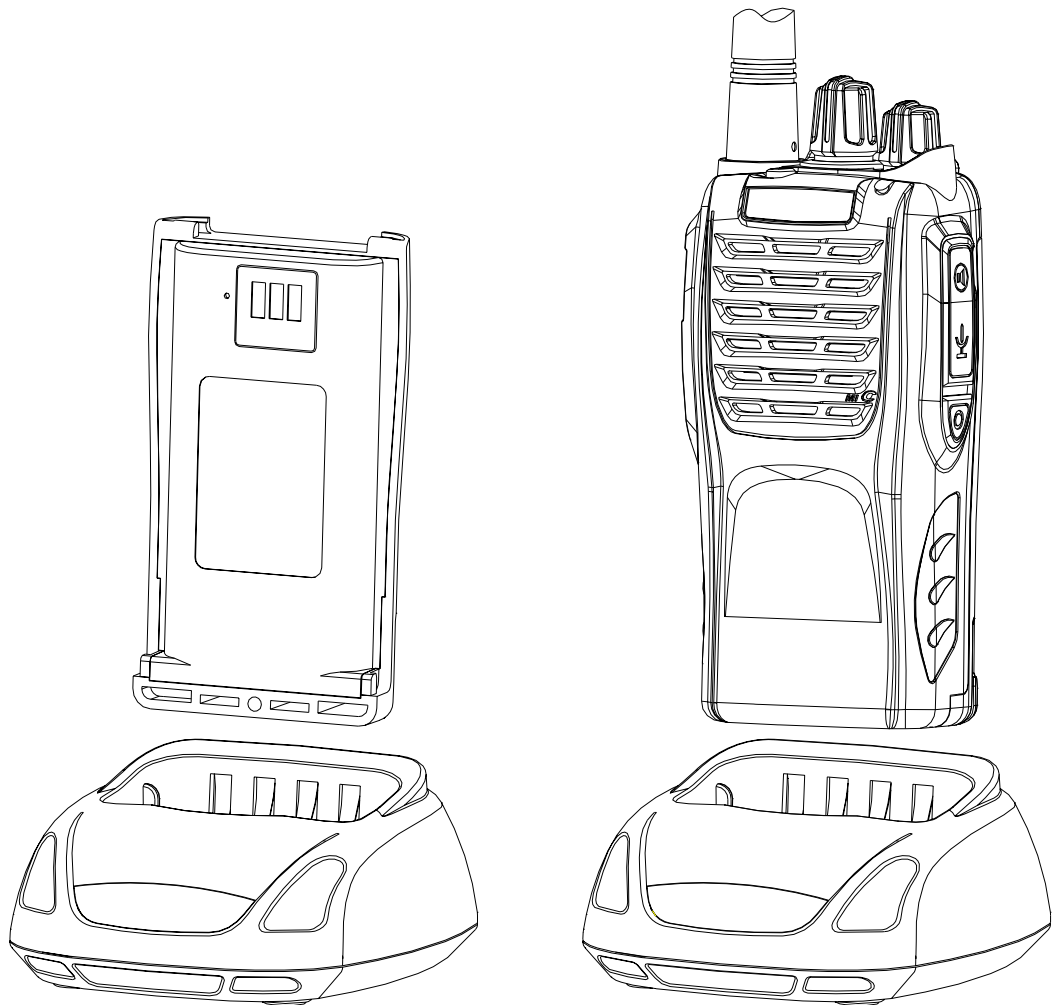
Plug the power adapter into the proper AC wall outlet; and insert the DC plug in the charger coup. The Red LED flashes after it enters normal work. (Red LED lights per 4.5 seconds)

Insert the battery or the radio to be charged into the charger slot. Please turn off the radio before

insert it into the charger.

Make sure the battery is in good contact with the charger terminals. When the red indicator is lighted, the charger begins to charge the battery.

After charging for about 3 hours, the red LED will turn OFF and the green LED will light indicating the battery has been fully charged.



On the first charge, please leave the battery in that state of green indicator for 1~2 hours before you remove it from the charger to achieve the best performance of the battery. Then you can disconnect the power adapter from the AC outlet.

If the Red LED flashes quickly (0.2s on 0.2s off), this means the charging process stopped, This could be because the charging temperature is too high or the battery has a problem, the charger enters a protective state and no more charge is delivered to the battery. Please stop charging in such situation and remove the battery from the charger.

Notice:

- * The new battery is not fully charged in the factory, and needs to be fully charged when you use the radio for the first time.
- * The radio is supplied with a standard battery manufactured by the factory.
- * When you charge the battery for the first time after purchasing or after a long time storage (over 2 months), you should repeat charging it several times to achieve the normal battery capacity.
- * Do not recharge the battery after it has been fully charged or it is partially discharged, otherwise it might affect the battery life or performance. Remove the battery from the charger after charging is finished.
- * If the radio enters low Battery warning state, please recharge the battery. Do not use the radio in low power state, which will affect the battery life and performance.

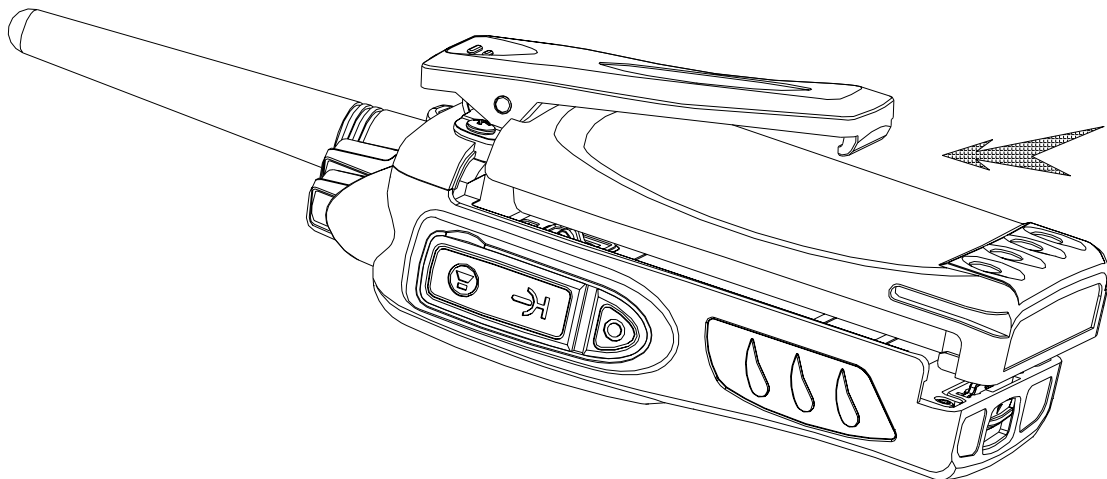
Installing/Removing the Battery Pack

Installing/Removing the Battery Pack

To install the battery, please place it into the groove on the top of the radio chassis about 5mm away from latch.

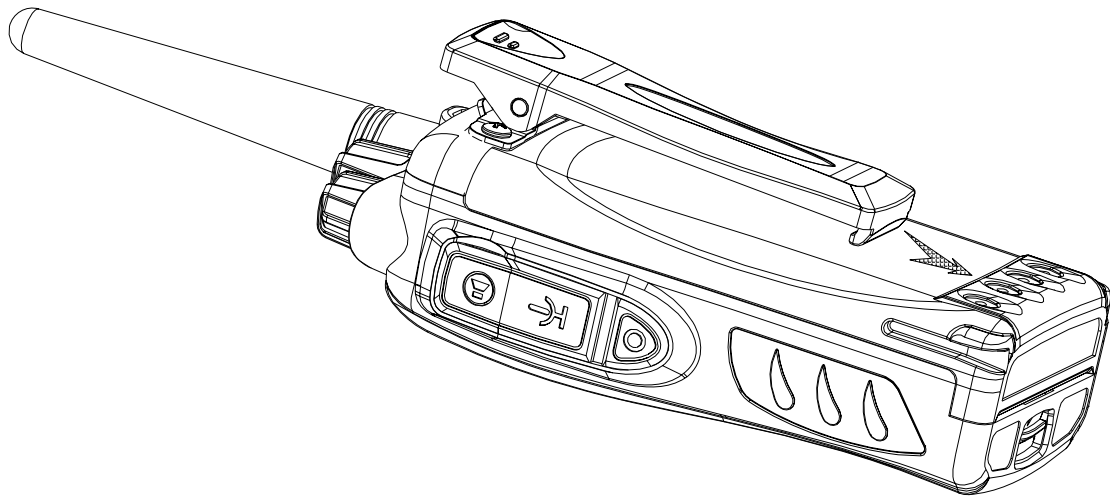
If the radio has the belt clip installed, you will have to press one side of the clip, to raise it and slide the battery in proper position.

Press the battery with your fingers and push the battery until you hear a latch click, the battery is now installed.



Removing the battery pack:

If you want to remove the battery from the radio, first press the battery latch located on the bottom of the radio, and then press down to slide the battery about 5mm to release the latch.

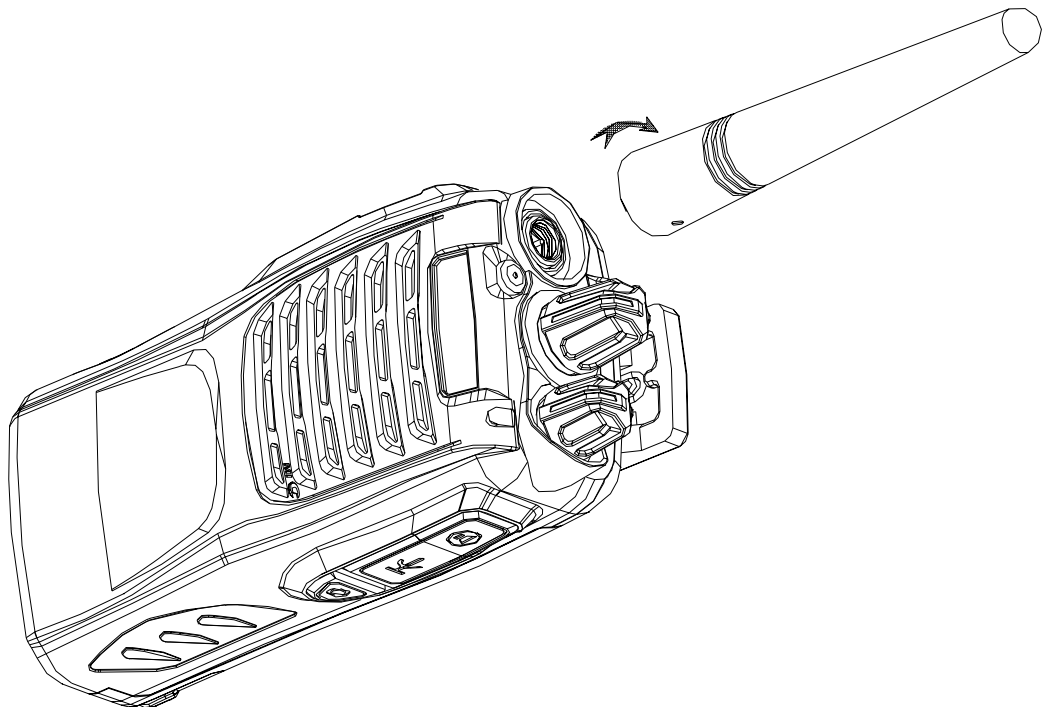


Notice:

- * Do not short-circuit the battery terminals or dispose the battery in fire.
- * Do not disassemble the battery case.

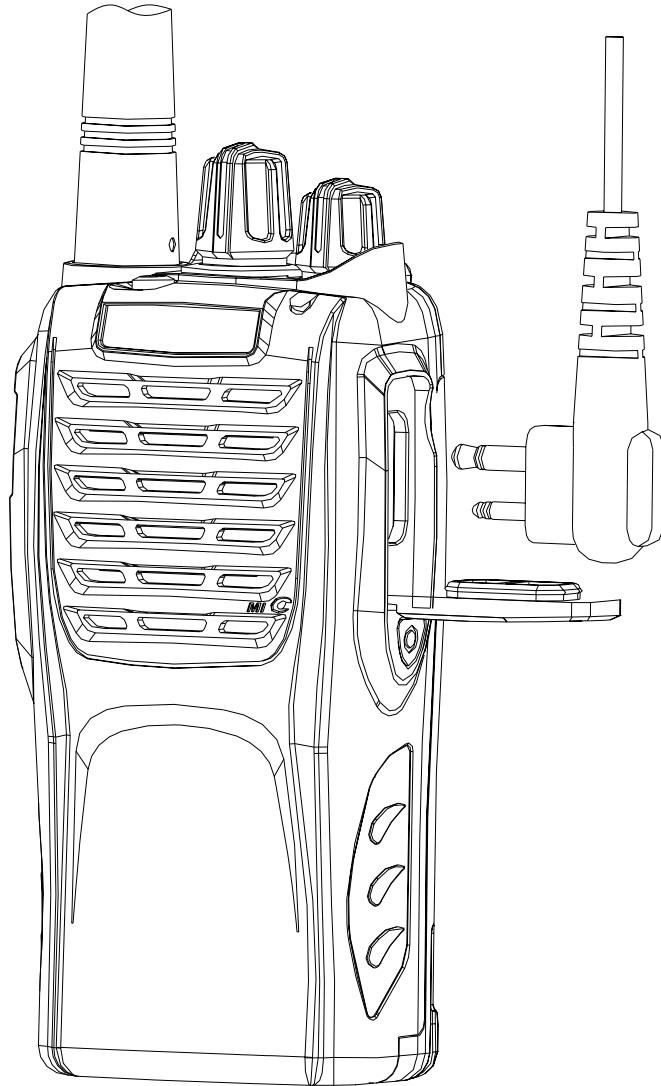
2.3 Installing the Antenna

Screw the antenna into the connector at the top of the radio by holding the bottom of the antenna and turn it clockwise until secure.



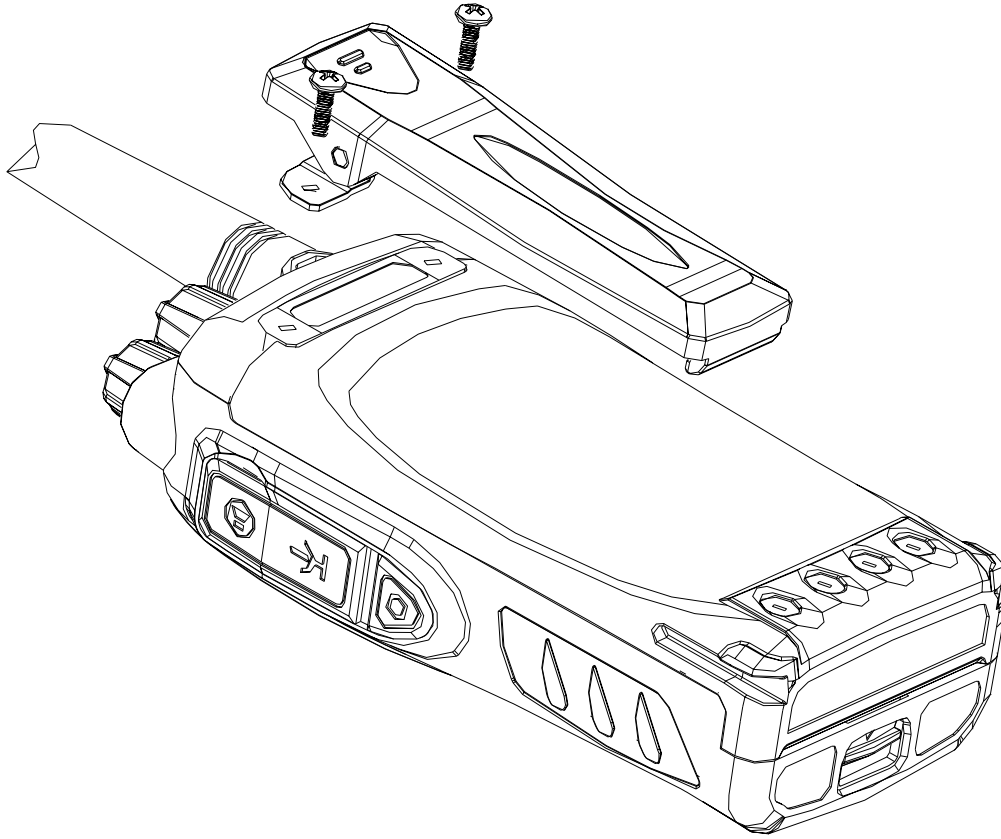
2.4 Install external speaker/MIC

Open the cover of the jack for external speaker/MIC, and then insert the plug of the external speaker or microphone into the jack on the radio. When inserting the accessory plug, make sure it is properly aligned (straight) to avoid internal damage to the connector in the radio.

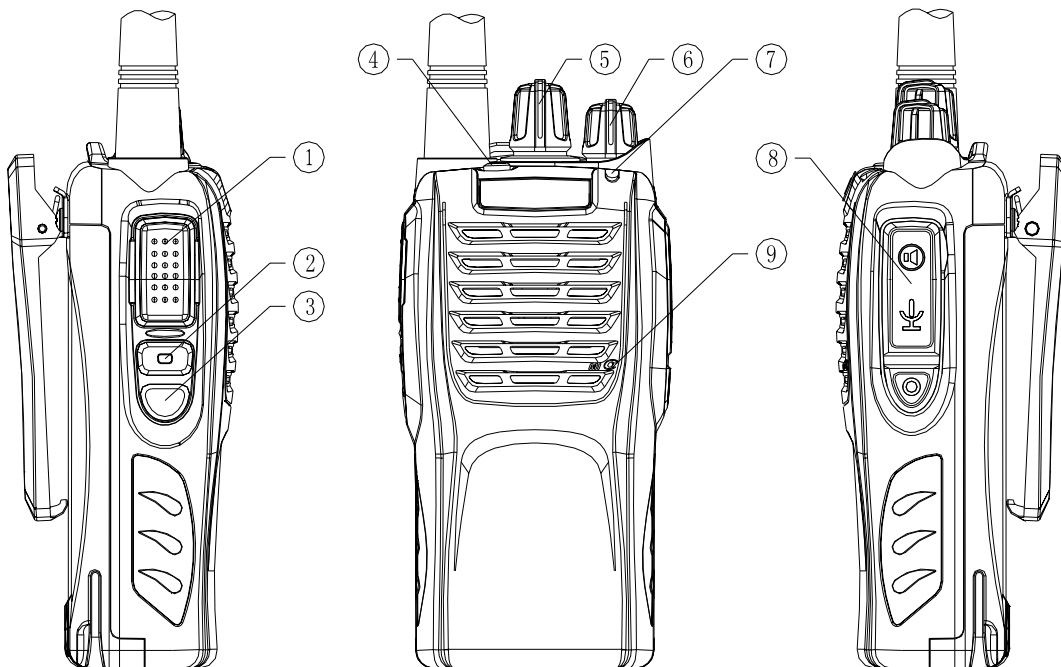


2.5 Installing/Removing the Belt Clip

Use the 2 screws (M2.5x8.0) supplied with the radio and fix these screws on the holes in the radio clip and into the holes in the aluminum case. If you want to remove the clip from the radio, just unscrew them, and remove the clip, you can put the screws back to make sure you do no loose them.



3. Radio Overview



① PTT (PUSH-TO-TALK) Button

To make a call, press and hold the PTT button, then speak into the microphone in normal

voice. Release the PTT button to receive signals.

② **Side Button 1** (Programmable Button)

③ **Side Button 2**(Programmable Button)

④ **Top Button** (Programmable Button)

⑤ **Channel Selector**

Rotate to select channel 1~16.

⑥ **Power/Volume Knob**

Turn clockwise to switch on the radio.

Turn counterclockwise till a click is heard to switch off the radio.

Rotate to adjust the volume after turning on the radio.

⑦ **LED Indicator**

LED Indicator Status/Alert. Green LED lights when a carrier is detected in the current channel. Red LED lights during transmission. Flashes orange when receiving the Radio ID 5-Tone signaling or-2-Tone signaling or MDC signaling. Red led flashes when scanning or low battery.

⑧ **Speaker/Microphone Jacks**

Used to connect the optional speaker/microphone.

⑧ **MIC Input**

Please keep your mouth about 10 cm (3-4 inches) away from the microphone input to achieve the best voice quality. If the distance is too far or too close to the radio, it will affect the voice quality.

4. Basic Operations

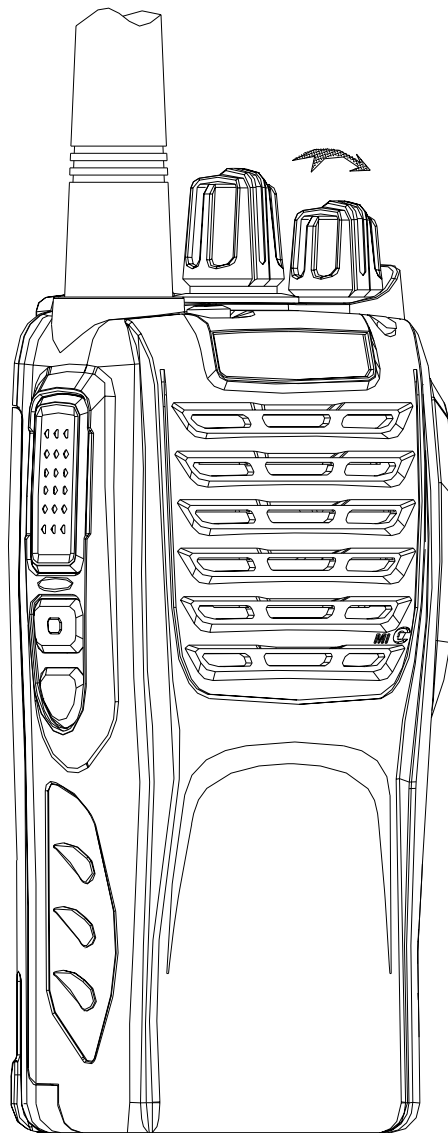
1. Power on the radio

Turn on the radio by turning the Power/Volume switch clockwise till a click is heard, and you will hear a Power up beep if the dealer has set it. If channel annunciation has been set. the current channel number will be announced, the radio is now in Rx mode.

2. **Adjust Volume:**

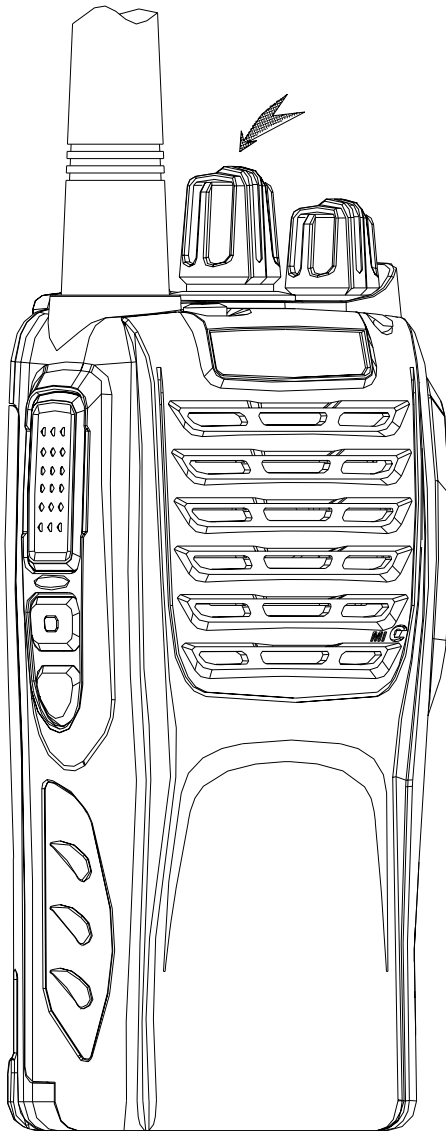
Rotate the Power/Volume knob to adjust the volume with the monitor key pressed.

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



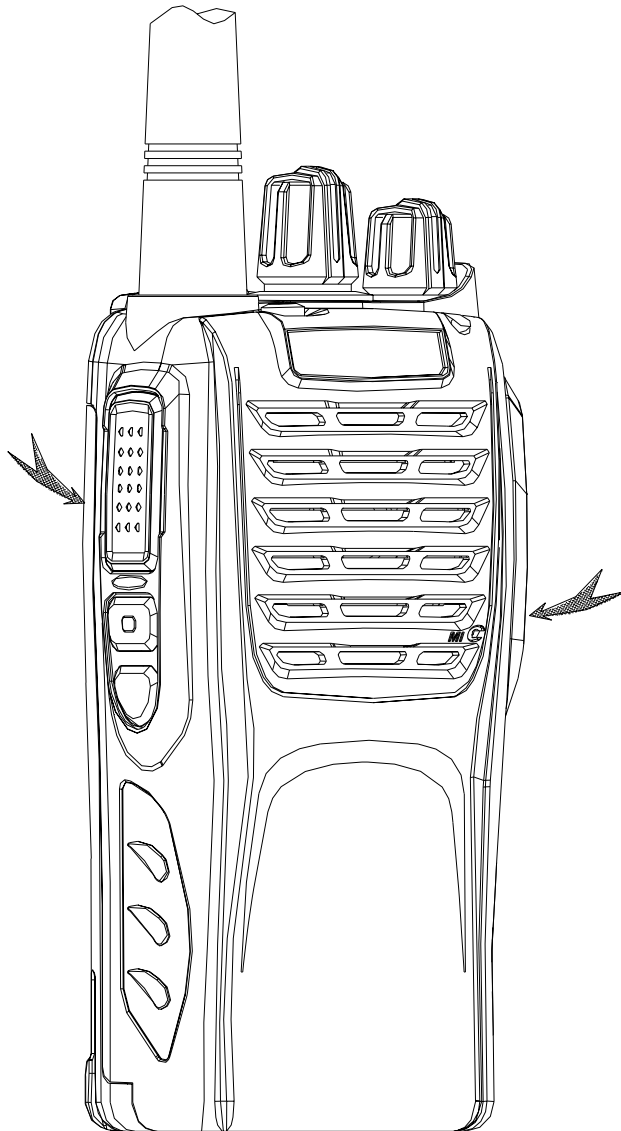
3. Select a Channel:

Rotate the channel selector to the desired channel. If channel annunciation has been set, the current channel number will sound. When a signal is received, it will be heard in the speaker.



4. Make a Call:

To make a call, press the PTT, and speak in normal voice and please keep your mouth about 10 cm (3-4 inches) away from the microphone to achieve optimal voice quality.



5. **Receive a Call:**

Release the PTT button and adjust the volume at the proper position to receive calls.

The dealer can set CTCSS/DCS, 5-Tone or 2-Tone or MDC on your radio. On the channels programmed with Selective Signaling, you will not hear calls except those from the radios in the same group and sending the proper ID.

■ **Programmable Button Function**

The dealer can program the Side Button 1, Side Button 2 and the Top Button with the following Optional functions:

None (No Function)

Annunciation Selection

Talkaround

Call1/Call2/Call3/Call4

Lone Work
Emergency Call
Cancel Emergency Call
Man-Down
Scan
Noise Channel Delete
Call Forward
H/M/L Power Switch
Squelch Adjust
Monitor Momentary/Call Cancel
Monitor/Call Cancel
Squelch Off Momentary/Call Cancel
Squelch Off/Call Cancel
Lock Keyboard
Battery Check
Normal Record/Record Stop
Protected Record/Record Stop
Record play/Play Next/Play Stop
Record Delete
Surveillance

When pressing a Key, notice the different beeps you will hear

No beep, key pressed not acknowledge
one beep, feature enable
two beeps, feature disable
“Error” beep, key pressed invalid
Voice prompt, state after key acknowledge
.

The dealer can program the following functions:

None

No Function is programmed.

Annunciation Selection

Press this key will disable or enable channel annunciation function.

Talk Around

Press this key will disable or enable Talk Around function. In talk around state, the radio will transmit with the RX frequency of the channel.

CALL 1/CALL 2/CALL3/CALL4

Press the button set as “CALL 1/CALL 2/CALL3/CALL4” to transmit the stored code.

Lone Work

When the radio is set in lone work, it will sound pre-alert tones before the Lone Work time expires, and the user should press any key on the radio within the Reset Time, indicating the user is safe, otherwise, the radio will enter emergency state automatically.

Emergency Call

When you press the top button set as “Emergency Call”, the radio will enter emergency state, the radio can sound alarm tone or transmit ID code or background tone to your partners or the system, the detail setting is programmed by your dealer.

Cancel Emergency Call

Press the top button set as “Cancel Emergency Call” to cancel Emergency function.

Man-down

Press this key to enable or disable man-down function, which is an optional function. If being in “man-down status” for a setting time, the radio will sound pre-alert tones. If not being set straight in another setting time, the radio will enter “Emergency state.”

Scan

- a) Press the button set as “Scan” to start or stop scanning. If scan beep tone enabled, 4 high beeps will indicate entering scanning state, or 4 low beeps indicate exiting scanning state. If scan LED enabled, (the RED LED will blink while scanning).
- b) The working channel of the radio will revert to the defined channels automatically when you press PTT button during scanning.

Noise Channel (Temporarily) Delete

When scanning pauses on a channel, press and hold the button programmed as “Temporarily Delete Noise Channel” to delete this channel from the scanning list temporarily.

Note: The priority channel cannot be deleted. And when the number of scanning channels is less than 2, you cannot delete any channel, either.

After exiting scanning mode and entering it again, the temporarily deleted channel will be added in the scanning list again.

Call Forward

This function enters mode whereby an individual call causes the radio to transmit the call forward telegram. This feature is used more on mobile radios and it allows the user to leave the vehicle. If the vehicle receives an individual call, it will transmit a telegram to the forwarding radio. This radio will open. Assuming both radios have the same CTCSS tone, the call will take place. This function is only used in 5-tone mode

H/M/L Power Switch

Press the key set as “H/M/L Power Switch” to switch among high, middle and low power.

Squelch Adjust

You can change the squelch level by pressing “Squelch Adjust” button. But when you power on the radio again, the radio will return to the default squelch level set by your dealer.

Monitor Momentary/Call Cancel

Press the side button set as “Monitor Momentary” to turn off CTCSS, DCS, 5-Tone, 2-Tone and MDC and to hear the signals that cannot be heard when in normal work. Release the Monitor key to return to normal work.

When in selective call state, press this key to exit selective call.

Monitor/ Call Cancel

Press the side button set as “Monitor” to turn off CTCSS, DCS, 5-Tone, 2-Tone and MDC and to hear the signals that cannot be heard when in normal work. Press again the Monitor key to return to normal work.

When in selective call state, press this key to exit selective call.

Squelch Momentary/Call Cancel

Press the button set as “Squelch Momentary” to turn on the squelch; release it to exit.

When in selective call state, press this key to exit selective call

Squelch Off/ Call Cancel

Press the button set as “Squelch off” to turn on the squelch; press it again to exit.

When in selective call state, press this key to exit selective call

Key Lock

Press the button set as “Key Lock” to lock or unlock the following function keys: Channel knob, Annunciation Selection , Talk Around, Lone Worker, Man Down, Scan, Noise Channel Delete, Call Forward, H/M/L Power Switch, Squelch Adjust, FCS, Normal Record/Record Stop, Protected Record/Record Stop, Record Delete, Surveillance , etc.

Battery Power Check

Press the button set as “Battery Power Check” to hear the current power level. If you hear “Very low battery”, you need to recharge the radio as soon as possible.

Normal Record/Record Stop

Press the key to start or stop record. A beep heard mean record start, the radio will record the remote voice if squelch open or local voice include transmitting voice. Two beeps heard, the record stops.

Protected Record/Record Stop

The difference between this key with “Normal Record” is the voice record cannot be deleted by pressing “Record Delete” Key. The amount of protected record information is set by your dealer.

Record Play/Play Next/Play Stop

It is used to play back recorded voice. The latest record will be played when the key pressed. You could press it again to hear next record. When all the records have been played, it will stop. You need to press it again to enter play again

Record Delete

You could delete the record from the radio when the record is playing. But it is not allowed to delete protect record.

Surveillance

Press this key to disable or enable Surveillance function.

When this function is enabled, the beep is not heard and the LED does not light when a signal is received, or a key is pressed.

■ VOX (Voice Operated Transmission)

VOX allows hands-free transmission on the radio when using the appropriate earphone/headset.

Two types of VOX are available: built-in and external.

If VOX has been set, when speaking voice reach the preset volume, VOX will activate the radio to transmit automatically.

■ Radio Setting

TOT (Time-out Timer)

1) TOT dispatch time

The TOT Dispatch Time is the maximum period of time that the radio is allowed to transmit continuously in normal dispatch mode. When the programmed time expires, the radio generates a warning tone and stops transmitting. The range for the TOT Dispatch Time is from 15 seconds to 1200 seconds in step of 5 seconds..

2) TOT Re-key

a) TOT re-key specifies the time when transmission is prohibited after the time-out timer is activated.

b) During the time of transmitting prohibition, if you press the PTT button, warning tone sounds

and transmitting is prohibited.

3) TOT Pre-alert

- a) Before the time-out timer stops transmitting, the radio sounds pre-alert tone.
- b) After the alarm tone, if the transmitting time is longer than the preset time limit, the time-out timer will be activated.

4) TOT Reset

- a) TOT Reset is the delay time between releasing the PTT button and resetting the time-out timer.
- b) If the time of releasing the PTT button is shorter than the TOT Reset, the countdown of transmitting prohibition will continue.

Battery Save

The dealer can program the battery save type.

If the battery save function has been set, 10 seconds after no signals being received or no operations being conducted, the radio enters the battery save mode. It will exit the battery save mode automatically after receiving signals or being conducted.

Battery Save Types: Short, Middle, Long and OFF.

Battery save function can increase battery active time.

Low Battery Warning

Low Battery warning tone sounds and LED flashes when the battery power goes below the preset value and you need to recharge the battery. If the battery voltage is too low, transmission is prohibited.

Channel Annunciation

The dealer can enable or disable this option.

When switching to a channel by rotating the channel knob, the current channel number will be heard.

CTCSS/DCS

The dealer can set CTCSS/DCS on the radio channels to ignore calls on the same channel from irrelevant radios.

If a channel has been set with CTCSS/DCS, the squelch will be activated only when it receives the proper CTCSS/DCS signals. And only the radios set with the same CTCSS/DCS signaling as those on yours can hear your call.

Note: Using a CTCSS/DCS channel doesn't mean your calls are private. If the CTCSS/DCS tones of other radios are identical with those on yours, they can hear your calls.

■ User Template

A user template includes PTT code-transmitting, encoding, decoding, Busy Channel Lockout, Call 1/2/3/4, RX squelch mode, TX conditions and decoding conditions, etc. Maximum 16 user

templates are available on this radio.

RX Squelch Mode

The dealer can set conditions under which the speaker will be activated from the following 4 options:

- 1) CTCSS/DCS and Audio Squelch: The speaker will be activated only when both CTCSS/DCS and the selective signaling matched.
- 2) Audio Squelch: The speaker will be activated when the selective signaling matched.
- 3) CTCSS/DCS Squelch: The speaker will be activated when CTCSS/DCS matched.
- 4) Carrier Squelch: The speaker will be activated when carrier wave presents

Scan

When in scanning, the radio checks signals on each channel; it stops scanning and pauses on the channel on which signals are detected until the signals disappear. If a delay time has been set between the interval of signal disappearing and scanning restarting, the radio will stay on that channel if it receives any signals during the delay time.

The operating channel of the radio will revert to the following channels automatically when you press PTT button during scanning. The dealer can select one among the following six options.:

- 1) Start channel

When pressing PTT button, the radio will transmit from the channel described in the Start.

- 2) Selected channel

When pressing PTT button, the radio will transmit from the channel selected.

- 3) Last called

When pressing PTT button, the radio will transmit from the last channel that received a call.

- 4) Last used

When pressing PTT button during the scanning, the radio will transmit from the last channel you used to talk.

C) Priority Scan

During scanning, if the priority channel has been set on the radio, when the priority channel receives signals the radio will automatically switch to the priority channel even the normal channel is receiving signals at that time. And the radio will stay on the priority channel till the signals disappear. The dealer can set the delay time between signal disappearing and continuing scanning.

Temporarily Delete Noise Channel When scanning pauses on a channel, press and hold the button Programmed as "Temporarily Delete Noise Channel" to delete this channel temporarily from the scanning list.

Note: The priority channel cannot be deleted.

DTMF

The dealer can set DTMF signaling into encoding sequence. If DTMF is set in the encoding template, press the corresponding programmable button "Call 1" , "Call 2", "Call 3", or "Call

4”to transmit the coding.

5-Tone Signaling

The dealer can activate or inactivate this function by programming.

5-Tone has 9 encoding formats: CCIR1, CCIR2, ZVEI1, ZVEI2, SVEI3, EEA, EIA, USER DEFINED 1, and USER DEFINED 2. The last two formats are user defined.

1) 5-Tone Decode

The decoding template is 5-tone decoding. If the decoding template matches the encoding template, decoding succeeds.

When receiving proper 5-tone signaling, squelch will be activated according to the “RX Squelch Mode” defined by the user. You can receive the call and LED flashes orange.

After the radio decoding succeeds, the radio will work according to the decoding call response set by the dealer.

2) 5-Tone Encode

Encoding template consists of at least one and at most three encoding sequences and each decoding sequence can be set with 5-Tone, and DTMF. If it is set with 5-Tone, you need to program its content.

If the PTT ID on the channel you select has been set with 5-Tone, 5-Tone signaling will be transmitted when making a call.

Or transmit 5-Tone signal by pressing the Call 1/2/3/4 button,, which can be set by the dealer.

2-Tone Signaling

This function can be enabled or disabled by dealers through programming software.

2Tone has 4 systems; the single tone continuous time, such as first tone or second tone, could be set by the dealer.

1) 2Tone decode

If the received 2 tone is same as the template chosen then it can decode successfully. After the radio received the correct 2 tone signaling, according to the Receive squelch mode set by the user, the squelch will be ON. Then, the radio can receive the call and the orange LED light flashes.

After decoding successfully, the radio can work according to the decode call response set by the dealer.

2) 2Tone encode

The encoding template is set in the 2 tone call list. The details must be set if encoding is ON. The radio transmits the 2 tone signaling when the programmed call button is pressed. (The side button could be programmed as Call1/2/3/4). This function is programmed by the dealer.

MDC Signaling

This function can be enabled or disabled by the dealers through programming software.

MDC has 4 systems, in which different main ID, group ID, etc., could be set by the dealer.

1) MDC decode

The option MDC system can be set through the RX signaling system in the personal template. If the received MDC code is same as the one set in the system, it can decode successfully. After the radio received the correct MDC signaling, according to the Receive squelch mode set by the user,

the squelch will be ON. Then, the radio can receive the call and the orange LED light flashes.

2) MDC encode

If the PTT ID of the chosen channel is set as MDC, the MDC code will be transmitted when calling.

■ Troubleshooting

No.	Problems	Solutions
1	The radio cannot be switched on or no display after switched on.	<ul style="list-style-type: none"> ● Battery pack may not be installed properly. Remove the battery pack and install it again. ● Battery power may be insufficient. Recharge or replace the battery pack.
2	The battery power consume quickly after charging.	<ul style="list-style-type: none"> ● The battery life is finished; please replace it with a new battery pack.
3	Cannot talk to or hear other members in your group.	<ul style="list-style-type: none"> ● The frequency or CTCSS/DCS signaling are not identical and please reprogram it. ● Make sure the setting of the selective signaling 5-Tone in the RX Squelch Mode is proper. ● Beyond the radio efficient communication range.
4	Other voices from non-group members are heard on the channel.	<ul style="list-style-type: none"> ● Change the CTCSS/DCS tone, and make sure change the tone on all radios in your group. ● Please set 5-Tone selective signaling on the channel.
5	Communication range is too small.	<ul style="list-style-type: none"> ● Make sure the antenna is well connected. ● Make sure the antenna is the originally supplied one. ● Check if the battery power is in the normal state. ● Ask your local dealer to adjust the squelch level.
6	Unable to transmit.	<ul style="list-style-type: none"> ● Make sure the PTT button has been pressed completely. ● Battery power may be insufficient. Recharge or replace the battery pack. ● Transmitting frequency has not been set on the channel and the radio has been remote killed.
7	Noise is too loud.	<ul style="list-style-type: none"> ● Battery power may be insufficient. Recharge or replace the battery pack. ● Beyond the efficient communication range.

■ Settings (by the Dealer)

Model: _____

Serial No.: _____

1) Channels List

Channel	Type	Receiving Frequency	Transmitting Frequency	CTCSS /DCS Decode	CTCSS /DCS Encode	Power	Bandwidth	Scan List
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

2) Optional Functions

Time-out Time (TOT)

15-600s

Squelch Level

0-9

Voice Annunciation

ON OFF

Battery Save

OFF Short

Middle Long

3) Auxiliary Function Button Settings

Top Button

None (No Function)

Annunciation Selection

Talk around

Call1/Call2/Call3/Call4

Lone Work
Emergency Call
Cancel Emergency Call
Man-Down
Scan
Noise Channel Delete
Call Forward
H/M/L Power Switch
Squelch Adjust
Monitor Momentary/Call Cancel
Monitor/Call Cancel
Lock Keyboard
Battery Check
Normal Record/Record Stop
Protected Record/Record Stop
Record play/Play Next/Play Stop
Record Delete
Surveillance

Side Button 1

None (No Function)
Annunciation Selection
Talk around
Call1/Call2/Call3/Call4
Lone Work
Man-Down
Scan
Noise Channel Delete
Call Forward
H/M/L Power Switch
Squelch Adjust
Monitor Momentary/Call Cancel
Monitor/Call Cancel
Lock Keyboard
Battery Check
Normal Record/Record Stop
Protected Record/Record Stop
Record play/Play Next/Play Stop
Record Delete
Surveillance

Side Button 2

None (No Function)
Annunciation Selection
Talk around
Call1/Call2/Call3/Call4
Lone Work
Man-Down
Scan
Noise Channel Delete
Call Forward
H/M/L Power Switch
Squelch Adjust
Monitor Momentary/Call Cancel
Monitor/Call Cancel
Lock Keyboard
Battery Check
Normal Record/Record Stop
Protected Record/Record Stop
Record play/Play Next/Play Stop
Record Delete
Surveillance

Note:
