



## **SHENZHEN EXCERA TECHNOLOGY CO.,LTD.**

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# **EP3120 U1**

## **Digital Portable Radio**

### **User Manual**

## SAFETY TRAINING INFORMATION

### Electromagnetic Interference/Compatibility

During transmissions, our Shenzhen Excera Technology Co., Ltd. radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so. **DO NOT** operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

### Occupational/Controlled Use

The radio transmitter is used in situations in which persons are exposed as consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

#### Attention:

This radio complies with IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% and is authorized by the FCC for occupational use only. An appropriate warning label is affixed to all units. In order to comply with RF exposure requirements, a minimum distance of 2.5cm must be maintained when held-to-face, and body-worn operations are restricted to the approved original accessories (belt clip).

Do not use this device when antenna shows obvious damages

#### RF Exposure Information:

This product is compliance to FCC RF Exposure requirements and refers to FCC website <https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm> search for FCC ID:2AE6CEP3120U1 to gain further information include SAR Values.

## SAFETY TRAINING INFORMATION



Our Shenzhen Excera Technology Co., Ltd. radio generates RF electromagnetic energy during transmit mode. This radio is designed for and classified as “Occupational Use Only”, meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards. This radio is NOT intended for use by the “General Population” in an uncontrolled environment.

This radio has been tested and complies with the FCC RF exposure limits for “Occupational Use Only”. In addition, our Shenzhen Excera Technology Co., Ltd. radio complies with the following Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evaluation of such levels for exposure to humans:

- IEEE Std. 1528:2013 and KDB 447498 Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
- American National Standards Institute (C95.1-1992), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
- American National Standards Institute (C95.3-1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields— RF and Microwave.



The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to assure that this radio operates with the FCC RF exposure limits of this radio.

## SAFETY INFORMATION

**EXCERA** transceivers are designed with advanced technology. Please observe the following precautions to prevent personal injury and ensure the safety of transceiver usage.

1. Keep the transceiver and accessories away from children.
2. Please do not try to open or modify the transceiver.
3. Please use correct battery and charger to avoid damage.
4. Please use correct antenna to ensure the communication distance.
5. Please do not expose the transceiver to long period of direct sunlight, or place it close to heat sources.
6. Please do not put the transceiver in excessively dusty or humid areas.
7. Do not use harsh chemicals or cleaning solvents to clean the transceiver.
8. Do not transmit without an antenna.
9. When using this transceiver, we recommend transmitting for 1 minute then receiving for 4 minutes. Continuous transmitting for long periods on high power will heat the back of the transceiver. Do not place the transceiver's hot back close to any plastic surface.
10. If any abnormal odor or smoke is detected coming from the transceiver, turn off the power and take off the battery pack. Then contact local **EXCERA** dealers.
11. We and our distributors will offer safety/RF exposure trainings to the users after purchasing the devices.

### ATTENTION:

All tips above apply to accessories of your **EXCERA** transceiver. If any device does not work normally, please contact local **EXCERA** dealers.

If you use any accessories made by other companies, **EXCERA** Company does not guarantee the operability and safety of the transceiver.

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## UNPACKING

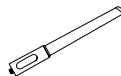
Carefully unpack the transceiver. We recommend you to identify the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, please contact your dealer immediately.

### Supplied Accessories

| Item                | Number             | Quantity |
|---------------------|--------------------|----------|
| Antenna             | QA13U1(400-480MHz) | 1        |
| Li-ion Battery Pack | QB-44L             | 1        |
| Battery Charger     | QBC-44L            | 1        |
| AC Adaptor          | QPS-01             | 1        |
| Belt Clip           | BC09               | 1        |
| Hand Strap          | GS01               | 1        |
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## STANDARD ACCESSORIES

### Standard Accessories



Antenna\*1  
QA13U1 (400-480MHz)



Li-ion Battery Pack  
(2000mAh) QB-44L



Charger  
QBC-44L



AC Adaptor  
(12V/500mA) QPS-01



Belt Clip  
BC09



Hand Strap  
GS01



User Manual

## BATTERY INFORMATION

### ⓘ Charging Operation

The battery pack is not charged at the factory; please charge it before use.

Charging the battery pack for the first time or after extended storage (more than 2 months) may not bring the battery pack to its normal operating capacity. The peak operating capacity of the battery will be reached after two or three charge/discharge cycles. The battery pack life is over when its operating time decreases even though it is fully and correctly charged and should be replaced.

### ⓘ Charger Applied

Please use the specific charger provided by our company. Other chargers may cause explosion and personal injury. After installing the battery pack, if the radio displays low battery with red flashing lamp or voice prompt, please charge the battery.

### ⓘ Notice for Charging Battery

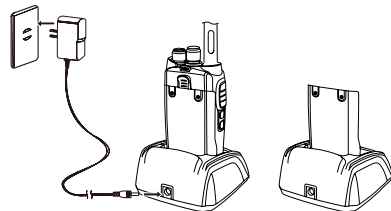
- ▼ Do not short circuit the battery terminals or throw the battery into fire. Never attempt to remove the casing from the battery pack, we show no responsibility for any results caused by modifying freely without permission of our factory.
- ▼ The ambient temperature should be between 5°C and 40°C while charging is in progress. Charging outside this range may not fully charge the battery.
- ▼ Always switch OFF the transceiver before charging, otherwise it will interfere with correct charging.
- ▼ To ensure correct charging, do not cut off the power or take out the battery during charging.
- ▼ Do not recharge the battery pack if it is already fully charged. This may shorten the life of the battery pack or damage the battery pack.
- ▼ Do not charge the battery or transceiver if it is damp. Dry it before charging to avoid danger.

## BATTERY INFORMATION

**WARNING:** If the battery terminals short circuit, it will generate a lot of heat and possibly a fire. When using or storing the radio (or just the battery), keep keys and other metal objects away from the battery terminal contacts.

### ⓘ How to Charge





1. Plug the AC adapter into the AC outlet, and then plug the cable of the AC adapter into the DC jack located on the back of the charger. The indicator lights orange (1s) and then goes out indicating it is ready to charge.
2. Plug the battery or transceiver equipped with battery into the charger. Make sure that the battery terminals in contact with the charging terminals well. The indicator light turns to twinkling red, meaning pre-charging begins.
3. After pre-charging for about 5 minutes, the indicator light will stop twinkling, meaning charging begins.
4. It takes approximately 4 hours to fully charge the battery. When the lamp lights green, the charging is finished. Remove the battery or the transceiver equipped with battery from socket.



## BATTERY INFORMATION

**NOTE:** When charging a power-on transceiver equipped with battery, the indicating lamp will not turn into green to show the fully charged status. Only when the transceiver is switched off, can the lamp indicate normally. The transceiver consumes energy when it is powered on, and the charger can not detect the voltage when the battery has been fully charged. So the charger will charge battery constant voltage and fail to indicate correctly whether the battery has been charged fully.

### 5. Charging Process

| Charging Status  | Indicator Status   |
|--|--|
| Standby (Self-examine lights orange 1second when power on) |  None                                   |
| Pre-charging (Pre-charging stage)                          |  Red light twinkles for about 5 minutes |
| Charging (Charge in a constant current)                    |  Lights red for about 4 hours           |
| Fully charged (Charge in a constant voltage)               |  Lights green                           |

### 6. LED Indicator:

| STATUS | Self-Examine When Power on | No Battery | Pre-charging                     | Charge Normally | Fully Charged | Fault                        |
|--------|----------------------------|------------|----------------------------------|-----------------|---------------|------------------------------|
| LED    | Orange (for 1 second)      | None       | Red light twinkles for 5 minutes | Red             | Green         | Red twinkles for a long time |

**NOTE:** Trouble means battery heating, battery short-circuit or charger short-circuit.

## BATTERY INFORMATION

### Normal Charging Tips

- 1. Self- Examination:** When charging, orange light twinkles for 1 second and goes out, which means the charger has passed its self-examination and it can charge the battery normally. If the light remains orange or the red light twinkles, it means the charger can not pass its self-examination or charge the battery.
- 2. Trickle Pre-Charging:** If red light twinkles when battery is inserted into the charger, it means the remnant voltage is low and the charger is trickle-charging the battery (Pre-Charging Status). The charger will automatically turn into normal charging when the battery reaches a certain electric quantity, and if the red light stops twinkling, it means the remnant voltage meets a certain electric quantity, and the charger will charge the battery normally.

**NOTE:** Trickle charging (Pre-Charging Status) time can not exceed 30 minutes. If the indicating lamp still twinkles after 30-minute trickle-charging, it means that the charger can not charge the battery. Please check whether the battery or charger is damaged.

### How to Store the Battery

1. If the battery needs to be stored, keep it in status of 80% discharged or higher.
2. It should be kept in low temperature and dry environment.
3. Keep it away from hot places and direct sunlight.

## BATTERY INFORMATION

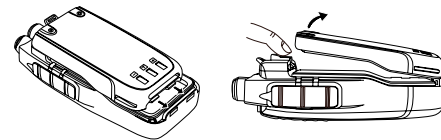
### WARNING:

- ▼ Do not short circuit battery terminals.
- ▼ Never attempt to remove the casing from the battery pack.
- ▼ Never assemble the battery in dangerous surroundings, spark may cause explosion.
- ▼ Do not put the battery in hot environment or throw it into fire, it may cause explosion.

## PREPARATION

### Installing / Removing the Battery

1. Match the two grooves of the battery pack with the corresponding guides on the back of the transceiver, and then push it.
2. Press the battery pack until the release latch on the top of the transceiver locks. After hearing a “click” sound, the battery has been locked.
3. To remove the battery pack, slide up the release latch and remove the pack away from the transceiver.



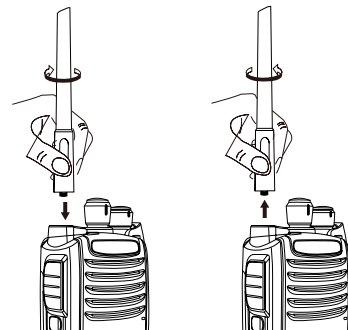
### Installing / Removing the Antenna

#### ■ Installing the Antenna:

Screw the antenna into the connector on the top of the transceiver by holding the antenna at its base and turning it clockwise to secure it.

#### ■ Removing the Antenna:

Turn the antenna anticlockwise to remove it.



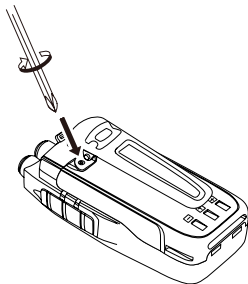


## PREPARATION

### Installing / Removing the Belt Clip

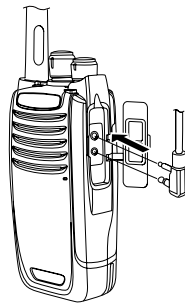
#### ■ Installing the Belt Clip:

Place the belt clip to the corresponding grooves on the back of the transceiver and secure with the provided screws.



### Installing the Additional Speaker/ Microphone

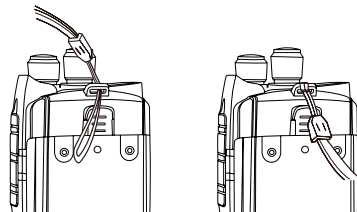
Open the MIC-SP jack cover and then insert the Speaker/Microphone plug into MIC-SP jack.

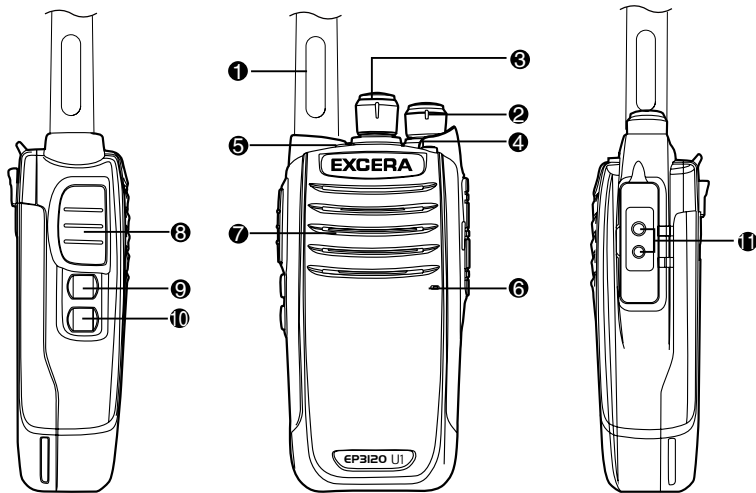


## PREPARATION

### Installing/ Removing the Hand Strap

Slide the loop of the hand strap through the eyelet on the upper rear of the transceiver, then pull the entire hand strap through the loop to secure the hand strap in place and tighten the hand strap.





**1 Antenna**

**2 POWER / VOLUME Switch:**

Turn clockwise to switch on the transceiver, and turn anticlockwise till hearing “click” to switch off the transceiver. After switching on the transceiver, turn clockwise to increase the volume and anticlockwise to decrease the volume.

**3 Channel Selector Knob**

Turn the selector knob to select desired channel. Turn clockwise to increase channel, anticlockwise to decrease channel.

**4 Indicator**

Indicates different working status

**5 Top Key**

Can offer different functions

**6 MIC**

**7 Speaker**

**8 PTT Key**

When you are making a call, please press and hold this key to speak into the microphone. Release the key to receive.

**9 PF1 Key**

Can offer different functions

**10 PF2 Key**

Can offer different functions

**11 External Microphone / Speaker Jack**

**NOTE:** The PF1 and PF2 key's function can be defined the functions as below:

Side key:

- |                           |                           |
|---------------------------|---------------------------|
| 1. Unassigned             | 10. One Touch Access 6    |
| 2. All Alert Tones On/Off | 11. Scan On/Off           |
| 3. Emergency Call         | 12. Tight/ Normal Squelch |
| 4. Monitor                | 13. Privacy On/Off        |
| 5. One Touch Access 1     | 14. VOX On/Off            |
| 6. One Touch Access 2     | 15. Zone Toggle           |
| 7. One Touch Access 3     | 16. Battery Indicator     |
| 8. One Touch Access 4     | 17. Lone Work On/Off      |
| 9. One Touch Access 5     |                           |

### Power on the radio

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. The radio is now in Rx mode.

### Adjust Volume

Rotate the Power/Volume knob to adjust the volume. Turn clockwise to increase the volume and counterclockwise to decrease the volume.

### LED Indicator

LED indicator shows the transceiver work state.

Red LED turns on- Transceiver is transmitting.

Green LED turns on- Transceiver is power on or receiving, or checking the signal.

### Alert Tone

Alert tone indicates the radio state or the data receive response.

Continuous Tone: Continue pronouncing until end.

Cycle Tone: Depend on the radio preset time to pronounce the tone by cycle. The tone will automatic turn on, off and repeat.

Repeat Tone: Repeat the tone until user turn off it.

Moment Tone: pronounce a short tone, the time is defined by the radio itself.

### Receive and make a digital call

#### 1. Selecting a zone

A zone is a group of channels. Your radio supports 2 zones, with a maximum of 16 channels per zone, total 32 channels.

1. Press zone key.
2. You can hear a confirmed alert tone, that means the radio switches from zone 1 to zone 2, or you can hear an unconfirmed alert tone, that means the radio switches from zone 2 to zone 1.

#### 2. Selecting a Radio Channel, Subscriber ID, or Group ID

Once the required zone is preset, turn the channel knob to select the channel, subscriber ID, or group ID.

#### 3. Receiving and Responding to a Radio Call

Once the channel, subscriber ID or group ID is preset, you can proceed to receive and respond to calls.

When the radio in TX, the red LED turns on. When the radio in RX, then green LED turns on.

- Analogue RX: Receive same carrier and matched signalling to turn on the SQ.
- Digital RX: When receive correct call with matched ID, the radio will turn on the speaker to receive and hear the voice from other parties.

#### 4. Receiving and Responding to a Group Call

To receive a Group Call, your radio must be configured as member of that group.

1. The green LED turns on.
2. Hold the radio vertically 1 to 2 inches ( 2.5 to 5.0cm) from your mouth. If the channel Free Indication feature is enabled, you will hear a short alert tone the moment the transmitting radio releases the [PTT] key, indicating the channel is free for you to respond.
3. Press [PTT] key to respond to the call, the red LED turns on.
4. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
5. Release [PTT] key to listen.
6. If there is no voice activity for a predetermined period of time, the call ends.

#### 5. Receiving and Responding to a Private Call

A Private Call is a call from an individual radio to another individual radio. There are two types of Private Calls. The first type is where a radio presence check is performed prior to setting up the call. The other type sets up the call immediately.

Procedure:

1. The green LED turns on.
2. Hold the radio vertically 1 to 2 inches ( 2.5 to 5.0cm) from your mouth. If the channel Free Indication feature is enabled, you will hear a short alert tone the moment the transmitting radio releases the [PTT] key, indicating the channel is free for you to respond.
3. Press [PTT] key to respond to the call, the red LED turns on.
4. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
5. Release [PTT] key to listen.
6. If there is no voice activity for a predetermined period of time, the call ends.

## FUNCTION INTRODUCTION

### 6.Receiving an All Call

An All Call is a call from an individual radio to every radio on the channel. It is used to make important announcements requiring the user's full attention.

When you receive an All Call:

1. A tone sounds and the green LED turns on.
2. If there is no voice activity for predetermined period of time, the call ends. If the Channel Free Indication feature is enabled, you will hear a short alert tone the moment the transmitting radio releases the [PTT] button, indicating the channel is now available for use. You can not respond to an All Call.

**NOTE:** The radio stops receiving the All Call if you switch to a different channel while receiving the call. During an All Call, you will not be able to use any key functions until the call ends.

### 7.Making a Radio Call

You can select a channel, subscriber ID, or group by using:

- The Channel Selector Knob
- One Touch Call key

### 8.Making a Group Call

To make a call to a group of users, your radio must be configured as member of that group.

1. Turn the Channel Selector Knob to select the channel with the active group name or ID.
2. Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.

## FUNCTION INTRODUCTION

3. Press the [PTT] key to make the call. The red LED turns on.
4. Wait for the Talk permit Tone to finish (if enabled) and speak clearly into the microphone.
5. Release the [PTT] key to listen. When the target radio responds, the green LED turns on.
6. If the Channel Free Indication feature is enabled, you will hear a short alert tone the moment the target radio releases the [PTT] key, indicating the channel is free for you to respond. Press the [PTT] key to respond. Or if there is no voice activity for a predetermined period of time, the call ends.

### 9.Making a Private Call

1. Turn the Channel Selector Knob to select the channel with the active subscriber ID.
2. Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
3. Press the [PTT] key to make the call. The red LED turns on.
4. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
5. Release the [PTT] key to listen. When the target radio responds, the green LED turn on.
6. If the Channel Free Indication feature is enabled, you will hear a short alert tone the moment the target radio releases the [PTT] key, indicating the channel is free for you to respond. Press the [PTT] key to respond. Or if there is no voice activity for a predetermined period of time, the call ends.

### 10.Making an All Call

This feature allows you to transmit to all users on the channel.

1. Turn the channel selector Knob to select the channel with the active All Call group ID.

## FUNCTION INTRODUCTION

2. Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
3. Press the [PTT] key to make the call. The red LED turns on.
4. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone. Users on the channel can not respond to an All Call.

### 11. Making a Group or Private Call with the One Touch Call key

The one Touch Call feature allows you to make a Group or Private call to a predefined ID easily. This feature can be assigned to a short or long key press.

You can only have one ID assigned to a One Touch Call key. Your radio can have multiple One Touch Call buttons.

1. Press the One Touch Call key to make a Group or Private Call to the predefined ID.
2. Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
3. Press the [PTT] key to make the call. The red LED turns on.
4. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
5. Release the [PTT] key to listen. When the target radio responds, the green LED turns on.
6. If the channel Free Indication feature is enabled, you will hear a short alert tone the moment the target radio releases the [PTT] key, indicating the channel is free for you to respond. Press the [PTT] key to respond. Or if there is no voice activity for a predetermined period of time, the call ends.

### Text Message setup

#### Sending preset Text Message

## FUNCTION INTRODUCTION

You can send a predefined Text Message by the key. A maximum of 50 Text messages are supported.

1. Press the One Touch Call key to send a predefined Text message to a predefined ID.
2. Red LED turns on.
3. If the message is sent, two "click" sounds. If the message is not sent, a low tone sounds.

### Encryption On/Off

Under standby mode, press "Encryption On/Off" key, and it will switch the transceiver to encryption mode. Other transceivers on the same frequency can not understand the call. Repeat the operation to turn off the encryption function.

**NOTE:** This operation is only valid in digital mode and only transceivers using the same secret key can communicate with each other. The transceiver can support 16 groups of 4-byte secret keys

### Digital Emergency Alarm

#### Alarm type

Disabled: Radio can not transmit an emergency alarm, but it can receive the emergency alarm signal from other radios.

Regular: Radio transmits an alarm signal with audio.

Silent: Radio transmits an alarm signal without any audio, the receiver radio starts an alarm. There

## FUNCTION INTRODUCTION

will be no response (call) from the target radio unless you press the PTT button to initiate the call.  
Silent w/Voice: Radio transmits an alarm signal and is able to receive an incoming call without any audio until you press PTT button to initiate or respond to the call.  
Turn on/off Emergency mode by "Emergency On/Off " key.

### Lone Work

Turn on/off by "Lone Work On/Off" key, in order to make sure the holder is safe when the radio in lone work mode. While transceiver in lone work state, the transceiver will send alert tone to remind the user when the predetermined working time is reached, and you need to press "Lone Work" key to state in a safe condition, otherwise the transceiver will enter automatic alarm mode.

### Scan (Turn on/ off this function by "Scan on/off" key)

#### 1.Scan lists

Scan lists are created and assigned to individual channels/groups. Your radio scans for voice activity by cycling through the channel/group sequence specified in the scan list for the current channel/group.

Your radio can support up to 250 scan lists, with a maximum of 16 members in a list.

### Scan

When you start a scan, your radio cycles through the scan list looking for voice activity. The LED blinks orange while in scan mode.

## FUNCTION INTRODUCTION

There are two ways of initiating scan:

- Main Channel Scan (Manual): Your radio scans all the channels/groups in your scan list. On entering scan, your radio may depending on the settings, automatically start on the last scanned "active" channel/group or on the channel where scan was initiated.
- Auto Scan (Automatic): Your radio automatically starts scanning when you select a channel/group that has Auto Scan enabled.

### 2.Starting and stopping Scan

1. Press the scan key, or turn channel selector knob to select an automatic activity channel.
2. The LED blinks orange when Scan is enabled, you can hear a confirmed sound.  
Or the LED turns off when Scan is disabled, you will hear an unconfirmed sound.

### 3.Priority Scan

When radio set with the priority channels, it allows to enable the priority scan function, the priority scan mode is cycle scan method, it will scan the priority channel each time after scan a common channel.

### 4.Responding to a call during scan

During scan, your radio stays at activity channel/communication group. The radio stays on that channel for a time period known as "hang time".

1. Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth. If the channel Free Indication feature is enabled, you will hear a short alert tone the moment the target radio releases the [PTT] key, indicating the channel is free for you to respond.

## FUNCTION INTRODUCTION

2. Press [PTT] key during hang time, red LED turns on.
3. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
4. Release [PTT] key to listen.
5. If you do not respond within hang time, the radio returns to scanning other channels/Setting group.

### Setting

#### 1. Setting the Squelch Level

You can adjust your radio's squelch level to filter out unwanted calls with low signal strength or signals with high background noise.

Settings: Normal is the default. Tight filters out (unwanted) calls and/ or background noise. However, calls from remote locations may also be filtered out.

1. Press "Tight/Normal squelch" key.
2. The radio is in deep squelch when you hear a short confirmed alert tone, or you will hear an unconfirmed alert tone that means the radio in Normal squelch.

## FUNCTION INTRODUCTION

#### 2. Turning the VOX Feature On or Off

This feature allows you to initiate a hands-free voice activated call on a channel. The radio automatically transmits for a period, whenever the microphone detects voice.

Pressing the PTT key during radio operation will disable VOX. To re-enable VOX, do one of the following:

Turn the radio off and power it on again. Or change the channel via the Channel Selector Knob, or follow the procedure below.

**NOTE: Turn this feature on or off limited to radios with this function enabled. Check with your dealer or system administrator for more information.**

1. Press "VOX On/Off" key, turn on or off this function.
2. If the permission call alert tone is active, you can use the touch key to send the call. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.

#### 3. Turn on/ off radio tune/ alert tone

You can enable or disable all radio's tune and alert tone (except for incoming emergency alert tone)

1. Press "All Alert Tone On/Off" key.
2. You will hear a confirmed alert tone, that means turning on all tune and alert tone function, or you will hear an unconfirmed alert tone, that means turning off all tone and alert tone.



## FUNCTION INTRODUCTION

### 4. Battery Capacity Enquiry

You can check battery capacity.

Setup: The yellow LED turns on means the battery is being charged, the green LED turns on means battery capacity is full.

Press "Battery Indicator" key and check the battery capacity by Beep alert tone.

high power : 3 beeps

medium power: 2 beeps

low power : 1 beep

very low power : low beeps

## TROUBLESHOOTING

| Phenomena   | Solution   |
|---|--|
| No power  | A. The battery may be exhausted. Recharge or replace the battery.<br>B. The battery may not be installed correctly. Remove the battery and install it again.   |
| Battery power dies shortly after charging.                | The battery life is over. Replace the battery pack with a new one.   |
| No sound after using earphone for a while.                | Earphone jack is broken. Please contact local dealers to repair.   |
| Cannot talk to or hear other members in your group.       | <ul style="list-style-type: none"><li>• Make sure the frequency and CTCSS code are the same as those of other members of the group.</li><li>• Check whether your radio is in the communication range.</li><li>• Check whether set as digital mode, frequency is set right.</li><li>• Check whether set right color code and encryption group.</li><li>• Check whether set right transmitting contact list or receiving group list in digital mode.</li></ul> |
| Can receive voice from other parties but cannot transmit. | <ul style="list-style-type: none"><li>• Please change the CTCSS and then change all radios' CTCSS code in the group.</li></ul>   |

## TECHNICAL SPECIFICATIONS

| General               |   |
|-----------------------|---|
| Frequency Range       | Digital: 400-480Mhz<br>Analog: 400-480Mhz |
| Channel Capacity      | 32 channels                               |
| Channel Spacing       | 12.5KHz                                   |
| Phase-locked Step     | 5KHz, 6.25KHz                             |
| Operating Voltage     | 7.4V DC $\pm 20\%$ / (2000mAh)            |
| Frequency Stability   | $\pm 2.5$ ppm                             |
| Operating Temperature | -20°C ~ +55°C                             |
| Size                  | 111×61×40mm (with battery pack)           |
| Weight                | 247g (with battery pack, antenna)         |

| Receiving Part               |  |
|------------------------------|--|
| Sensitivity(12dB SINAD)      | $\leq 0.35\mu V$                                   |
| Digital Sensitivity          | 0.3uV/-117.4dBm (BER 5%)<br>0.7uV/-110dBm (BER 1%) |
| Adjacent Channel Selectivity | $\geq 60$ dB                                       |

|                    |              |
|--------------------|--------------|
| Intermodulation    | $\geq 60$ dB |
| Spurious Rejection | $\geq 70$ dB |
| Blocking           | 84db         |
| Hum & Noise        | $\geq 40$ dB |
| Audio Distortion   | $\leq 5\%$   |
| Audio Power Output | 1000mW/16Ω   |

| Transmitting Part           |  |
|-----------------------------|--|
| Power Output                | Digital: 5W, Analog:5W                                     |
| Modulation                  | $\pm 2.5$ KHz@12.5KHz                                      |
| Adjacent Channel Power      | $\geq 60$ dB   |
| Hum & Noise                 | $\geq 36$ dB   |
| Spurious Emission           | $\leq -36$ dB  |
| Digital Emission Designator | 12.5KHz ( data ) 7K60FXD<br>12.5KHz ( data+voice ) 7K60FXW |
| Analog Emission Designator  | FM 12.5KHz: 11K0F3E  |
| Audio Distortion            | $\leq 5\%$   |
| Error Rate                  | $\leq 3\%$   |
| Digital Data rate           | 9600bps  |

## Limited Warranty

### What This Warranty Covers and for How Long

Shenzhen Excera Technology Co., Ltd. warrants the Excera manufactured products listed below against defects in material and workmanship under normal use and service for a period of time from the date of purchase as scheduled below:

|                        |            |
|------------------------|------------|
| Digital Portable Radio | One Year   |
| Accessories            | Six Months |

### How to Get Warranty Service

You must provide a completely filled warranty card, purchase invoice, and receipt in order to get warranty services. The purchase invoice or receipt should indicate the radio, accessories, radio serial number, purchase date, and purchase amount.

### What This Warranty Does Not Cover

- Defect or damage resulting from use of the product in other than its normal and customary manner
- Defect or damage caused by unauthorized product disassembly, repair, or modification
- Damage due to force majeure, such as flood, lightning strike, earthquake, tsunami, fire, and abnormal voltage
- Product that does not have a valid warranty certificate, such as warranty card, purchase invoice, or receipt
- Product which has had the serial number and the tamper-proof label removed or made illegible
- Normal and customary wear and tear
- Rechargeable batteries if:
  - any of the seals on the battery enclosure of cells is broken or shows evidence of tampering.
  - the damage or defect is caused by charging or using the battery in equipment or service other than the product for which it is specified.

# Warranty Card

## Purchase Information

Customer Name: \_\_\_\_\_

Customer Phone: \_\_\_\_\_

Customer Address: \_\_\_\_\_

Purchase Date: \_\_\_\_\_

## Radio Information

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_



### Note:

- This warranty card applies to after-sale and maintenance services for the product and accessories described above.
- You must provide this warranty card and purchase invoice in order to get warranty services.
- The Company does not assume liability for damages caused by human factors. For more details, contact your local dealer.



Please tear from the Dotted line

