○ **ACCESSORIES**

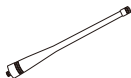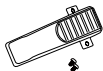### 1. Standard Accessories

Antenna*[1]

Li-ion Battery Pack

Charger

AC Adaptor

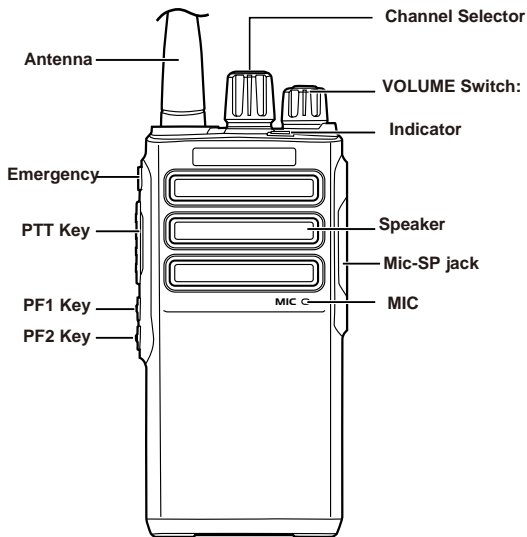Belt Clip

Hand Strap

Instruction Manual

2. Charger Indication

STATUS	Self-Examine When Power on	No Battery	Charge Normally	Fully Charged	Trouble
LED	Red (for 1 second)	Green	Red	Green	Red and green light twinkles

Antenna

Channel Selector

VOLUME Switch:

Indicator

Emergency

PTT Key

Speaker

Mic-SP jack

PF1 Key

PF2 Key

MIC

MIC

Indicator Status:

1. **Red light flashes: battery need charged**
2. **Red llight on: Transmit**
3. **Green light flashes: Scan mode**
4. **Green light on: Receive matched carrier.**
5. **Blue LED on: Receive matching digital signal.**
6. **Purple light on: Programming start.**

◦ **BASIC OPERATION**

1. Power on the radio
Turn the volume knob clockwise to turn on the radio, you will hear a power on beep.

2.Adjust Volume
Turn the volume knob to adjust the volume, clockwise increase volume and counter clockwise
to decreae volume.

3.Selecting a zone
Press programmed zone key to change Zone.

4. Selecting a Channel
Turn the chanel knob to adjust the channel, clockwise increase channel and counter clockwise
to decreae channel.

5.Receiving
When the radio in TX, the blue LED turns on . When the radio in RX, then green LED turns on.
- Analogue RX: Receive same carrier and matched signaling 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 party.

BASIC OPERATION

6. Make A Call

In standby status, turn channel knob to choose pre-programmed channel
Hold PTT, the LED turn red, you can start talk.

7. Mandown Alarm

When Mandown alarm function is turn on, the radio will alarm in case it falling to ground.

Raise the radio can stop alarm

Note: When GPS is on and positioning successfully, the radio will automatically send out GPS information when the radio start alarm.

◦ **PROGRAMMABLE KEY FUNCTION**

The Top , PF1, PF2 key are programmable by PC software, each key able defined with 3 functions.
by short press, 1 second press or long press. Available functions as following.

1. Voltage
In standby , press the key programmed as " Voltage" to check current battery capacity.

2. Power Switch
In standby , press the key programmed as " Power Switchl" to change the power level.

3. Repeater
In standby , press the key programmed as " Repeater" to turn on Repeater function,
press this key again to turn off repeater function.
Note: If current channel is working by repeater frequency, turn off this function,
  the radio will stop repeater communication.

4. Revers
In standby , press the key programmed as " Revers" to turn on frequency revers function,
press this key again to turn off revers function.
Note: This function is only valid in analog mode, when frequency revers function is on.
The TX freqency and RX frequency will reversed, the CTCSS/DCS will also reversed.

◦ **PROGRAMMABLE KEY FUNCTION**

5. Digital Encryption
In standby , press the key programmed as" Digital Encryption" , the radio will announce encryption status or encryption group. repeat press this key again to choose encryption group or turn off encryption.
Note: This function is valid only in DMR mode. only when 2 radios use same encryption code,
The radio users can hear each other.

6. Analog Call
In standby , press the key programmed as" Ana Call" , the radio will transmit the DTMF/2TONE/5TONE code in current channel.
Note: This function is valid only for analog channel.

7.VOX Level
In standby , press the key programmed as" VOX Level" , the radio will announce current VOX level.
Repeat press this key to adjust VOX level or turn off VOX.

8. Scan
In standby , press the key programmed as"Scan" , the radio will start scan the list in which the current channel located, repeat press this key to turn off scan function.

9. Emergency Alarm
In standby , press the key programmed as" Emergency Alarm" , the radio will start alarm by programmed method, repeat press this key to turn of alarm.

◦ **PROGRAMMABLE KEY FUNCTION**

10. Record Switch
In standby , press the key programmed as" Record Switch" , the radio will announce "Record on" and start
voice recording , repeat press this key to turn of recording, the radio will announce "Record off"
Note: The standard version support 30 hours voice recording for DMR channels.

11. Monitor
In standby, press the key programmed as "Monitor" function, the radio will turn off signaling and squelch level
, to direct monitor weak signal or ID not matched signal. Repeat press this key to turn off monitor.
Note: In analog mode, the radio will emit white noise.

12. Send Alarm
In standby, press the key programmed as "Send Alarm" function, the radio will announce "Alarm" and
Alarm Number 1-5 plus alarm sound. Repeat press this key can choose Alarm Number, then press PTT
to send choosed alarm sound to contact list or group members in current DMR channel.
Note: This function only valid for DMR channel.

13. Hot key 1-6
In standby, press the key programmed as "Hot Key X " function send signaling for 2TONE, 5TONE, DTMF,
Remote kill, remote monitor, beep etc.

14. Work Alone

In standby, press the key programmed as "Work Alone " to turn on this function, the radio will announce "work alone on", repeat press this key to turn off work alone function.

Note: After turn on work alone function, the radio will send out alarm after preset time.

15. Phrase Record

In standby, press the key programmed as "Phrase Record" to turn on recording function, he radio will announce" record" and current recording number(1-25), repeat press this key to choose recording number after choose number, Hold PTT key and start speak, release PTT to stop recording.

Note: This function valid only for DMR channels.

16. Phrase Playback/Deletion

In standby, press the key programmed as" Phrase Playback/Deletion", the radio will announce "Phrase playback" and number. and start play the voice recording. during playback, press PTT key will send current recording to the contact lit or group number in current channel.

Hold PTT until hear " Phrase Delete" , current recording will be deleted.

Note: This function valid only for DMR channels.

17. Rx&Tx Record Replay

In standby, press the key programmed as "Rx&Tx Record Replay" to playback last communication recording.

◦ **PROGRAMMABLE KEY FUNCTION**

18. Zone
In standby, press the key programmed as "Next Zone" or "Prev- Zone" to change zone.
Note: This radio has total 16 zone, each zone has 16 channels.

19. Mic Level
In standby, press the key programmed as "Mic Level", the radio will announce choose mic level.
Note: This radio has 5 microphone gain level.

20. Mic Quality
In standby, press the key programmed as "Mic Quality", the radio will announce choose mic status.
Note: Choose the mic quality according to your voice character. to enable the receiver can hear clear.
This function valid only for DMR channels.

21.Scene Mode
During receiving, press the key programmed as "Scene Mode", to choose suitable mode to enable user able hear clear voice.
Note: This function valid only for DMR channels.

22.GPS Report
In standby, press the key programmed as "GPS Report" to turn on or turn off GPS report.
GPS report time, ID, call type, channel must programmed by PC software.
Note: This function valid only for DMR channels.

23. Status Info Report
In standby, press the key programmed as "Status Info Report" to turn on or turn off Status Report.
Status report Character, time, ID, call type, channel must programmed by PC software.
Note: This function valid only for DMR channels.

24. Record Report
In standby, press the key programmed as "Record Report" to turn on or turn off Record Report.
Record report group, time, ID, call type, channel must programmed by PC software.
Note: This function valid only for DMR channels.

25. Resume factory default
Hold PTT and PF1 key while power on radio, release this 2 keys when the light blue LED indicator turn on,
power off and power on radio, the radio already resume default value.

TECHNICAL SPECIFICATIONS

General	
Frequency Range	VHF: 136-174MHz UHF: 400-480MHz
Channel Capacity	256 channels
Channel Spacing	25KHz (Wide Band) 12.5KHz (Narrow Band)
Phase-locked Step	5KHz, 6.25KHz
Operating Voltage	7.4V DC ±20% /(2100mAh)
Frequency Stability	±2.5ppm
Operating Temperature	-20℃~ +55℃
Size	127×57×32mm (with battery pack)
Weight	208g (with battery pack, antenna)

Receiving Part		
	Wide band	Narrow band
Sensitivity(12dB SINAD)	≤0.25μV	≤0.35μV
Digital Sensitivity	0.3uV/-117.4dBm (BER 5%) 0.7uV/-110dBm (BER 1%)	
Adjacent Channel Selectivity	≥70dB	≥60dB
Intermodulation	≥60dB	≥60dB
Spurious Rejection	≥70dB	≥70dB
Blocking	84db	
Hum & Noise	≥45dB	≥40dB
Audio Distortion	≤5%	
Audio Power Output	1000mW/16Ω	

Transmitting Part		
	Wide band	Narrow band
Power Output	5W/1W	
Modulation limit	±5.0KHz@ 25KHz	±2.5KHz@ 12.5KHz
Adjacent Channel Power	≥70dB	≥60dB
Hum & Noise	≥40dB	≥36dB
Spurious Emission	≤-36dB	≤-36dB
4FSK Digital Modulation	12.5KHz（data）7K60FXD 12.5KHz（data+voice）7K60FXE	
Audio Distortion	≤5%	
Error rate	≤3%	