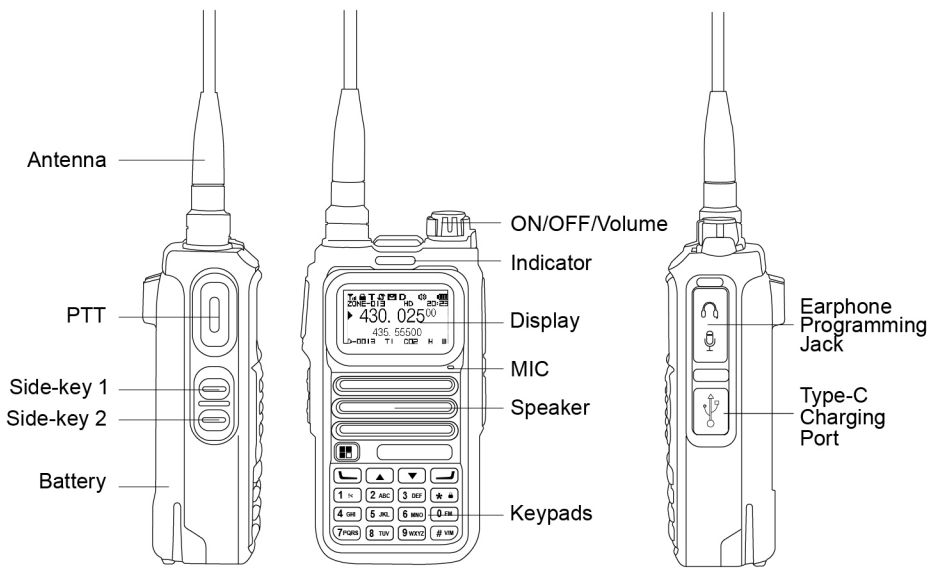




USER'S MANUAL

Familiar with Radio

Radio Diagram



02

Function Description

4.1 Input Frequency

① switch working mode to VFO frequency mode by pressing # key
② input frequency via number keys, input 8 digits and the inputting done.

4.2 Input Repeater Frequency

① Enter into Menu [Channel Set]-[Offset Freq]to input frequency difference via number keypads
② Enter into Menu [Channel Set]-[Offset DIR]to set frequency upwards and downwards

4.3 Transmitting

① Press PTT and will transmit at current frequency, and the indicator lights up red at the same time. If it is digital channel, it will enter into digital calling interface and show up as the called ID, name and the call type (private call, group call or all call).
② Press Menu[Basic Set]-[Main PTT TX]and set up to [Area A], press PTT button and transmit at A frequency always. If set up to [Main Area], it will transmit at main frequency all the time.
③ Turn on [Key Define]-[Slaver PTT], then the shortcut function of side-key 1 is invalid, press side-key 1 to transmit at B frequency.

4.4 Receiving

The indicator lights up green while receiving. If the current channel is digital channel, it will enter into digital calling interface and shows up as caller ID, name and calling type (private call, group call or all call. If it is group call, it shows up as group ID.)

4.5 DMR Encryption

There are 3 types of encryption available: ARC/AES128/AES256. None of the following conditions is indispensable, if two pieces encrypted radios need to communicate with each other: ① same encryption type; ② same encryption serial number; ③ same encryption keys

4.6 Dial Call

① press \leftarrow to enter into dial interface while under digital channel status.
② press \leftarrow to switch calling type;
③ to input called ID via keypad, and delete via \leftarrow
④ Press PTT to call

4.7 DTMF

4.7.1 DTMF Inputting and Sending
① press \leftarrow to enter into DTMF inputting interface while under analog channel.
② input DTMF code via keypads, and delete via \leftarrow .
③ Press PTT to call, the device will send DTMF code to receiver after appointed delay time

4.7.2 While the device enter into receiving status, the display will show up the sender's DTMF code if turn on DTMF decoding.

4.7.3 Press keypads to send relative DTMF code while under analog transmitting status.

4.7.5 DTMF Stun/Kill/Activate

① set up a DTMF code for Stun/Kill/Activate, and turn on [DTMF Control]
② Other radios will do Stun/Kill/Activate to this radio when they send relative DTMF code.
The radio cannot be use until receive activate code once it is in Kill status. The radio can receiving but cannot input anything via keypad or transmitting once it is in Stun status.
Note: should set up Activate code once Stun/Kill code is set up, or the device cannot be activated.

4.8 Text Input

4.8.1 Press # to switch inputting method, press * to delete inputting when under text input status.

4.8.2 Press number keys to input numbers

4.8.3 English Letters Inputting

① Number 2-9 can input relative English letters, press Number 0 to input space, Number 1 to input English symbols.
② Press same button to switch to different letters.

4.9 Function of Definable keys

[Monitor (Analog)] only available at analog channels. Enter into receiving and playing status once trigger this key.
[HL Power] To switch high/low power of current channel.
[Dual Standby] To turn on/off dual standby. The power saving mode is invalid once the dual standby turns on.
[TX Priority] To switch priority RX to [Edit] or [Busy]. Once set up to Busy status, the main frequency will shift to the calling frequency automatically when the calling ends.
[Scanning] Press this button to enter into scanning status, and press arbitrary keys to exit.
[Backlight On-off] Press to turn on/off backlight.
[Roger Beep] To switch the RX end tone types.

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[Initialization] The frequency data will return to the last programming status.

5.2 Definable Key

[Slaver PTT] Set up as [On] and the side-key 1 will be the secondary PTT. The preset functions will be invalid when press side-key 1 to transmit at B band.

5.3 Analog Communication Setting

This data is available only for analog channels.
[SQ Level] The higher the value, the more difficult to turn on receiving.
[TX Start Tone] To use to set up the individual call frequency.
[MIC Gain] To adjust the MIC receiving sensibility. The higher the value, the more sensibility the MIC.
[SPK Gain] To adjust the speaker's volume. The higher the value, the louder the speaker. To avoid audio distortion, please don't turn up the speaker highly.
[DTMF Delay] If DTMF tone is needed, it will be sent out at appointed time.
[DTMF Interval] To set up the interval of two DTMF codes.
[DTMF Duration] To set up the lasting time of individual DTMF code.
[DTMF Mode] To set up sending time of DTMF code. The radio will not send DTMF code while transmitting, when the radio set up as [Off].
[DTMF Select] To send one of 16 preset DTMF codes while transmitting.
[DTMF Display] The received DTMF code will show up on the display once the radio set up as [On].
[DTMF TX Gain] [DTMF RX TH] There are difficulties while decoding DTMF codes of different brands radios. By adjusting the value of these two options, the DTMF codes of different brands radios can be compatible. Encode gain 64 and decode threshold 24 are recommended.
[DTMF Control] Other radios can take charge of this radio by sending same DTMF code of monitor/Stun/Kill/Activate, when the radio set up as [On].

5.4 Digital Communication Setting

This data is available only for digital channels.
[Personal ID] To set up numeric ID, ID ranges from 1-16776415.
[Group Hold (units)] This radio make calls within the appointed time after the end of group call, and the receiving part will be the called one.
[Single Hold (units)] This radio make calls within the appointed time after the end of individual call, and the receiving part will be the called one.
[SQ Level] To set up the squelch of digital communication. The smaller the value, the easier to turn on the squelch. Note that the radio will not be in power saving mode once the squelch level is too small.

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[Contacts Set] To set up Add/Delete/Modify contact list. Note that there is only one all call contact and cannot be changed and deleted. Contact ID ranges from 1-16776415.
[Group List Set] To set up Add/Delete/Modify receiving group contact list. Press \leftarrow to select group call members and the selected members will turn to black background. And press \leftarrow to cancel.
[Encryption Set] To set up DMR encryption of this radio.

5.5 Channel Setting

5.5.1 Analog Channel Setting
[CTC/DCS] [RX CTC/DCS] [TX CTC/DCS] To set up sub-tone of current channel. To switch the types via * key.
[DCS Encrypt] Set up as [Encrypt 1/2/3] to encrypt with standard DCS and only valid for DCS. Set up as [Mute Code], the sub-tone of current channel is invalid and use [Mute Code 1/2/3] as sub-tone of current channel.
[Mute Code 1/2/3] To decode non-standard digital sub-tone via one-click privacy decode function.
[Scan Add] Set up as [Remove], the radio will not scan this channel while scanning.
[Offset Dir] Set up [Offset Freq] before setting up frequency direction. When selects [Upward], the TX frequency = RX frequency + frequency difference. When selects [Downward], the TX frequency = RX frequency - frequency difference.
[Offset Freq] Set up frequency difference as 0, if need to turn off the frequency difference of current channel.

5.5.2 Digital Channel Settings

[DMR Mode] There is no time slot difference when set up as [Dual Slot Off], and can communicate with each other once the frequency and color code are the same. The radios can communicate only with same time slot when set up as [Dual Slot On].
[DMR Slot] The time slot of current channel is valid only when set up as [Dual Slot On].
[TX Polite] The device can make calls whether it is under called or not when set up as [Impolite]. The device cannot make calls whether it is called or not when set up as [Carrier Match] and current frequency is occupied. The device cannot make calls while it is called by others, when set up as [CC Match].

5.6 Zone Setting

It has 256 zones and can be editable. Use \leftarrow key to choose the members of current zone, and press \leftarrow key to delete.

5.7 SMS

[New SMS] Can be edited and press menu key to select [Send] or [Save]. SMS can be sent to the receiver via [Contacts] or [Dial No.] to select ID and sending type. To switch call types to [Individual] or [Group Call] via \leftarrow key while under [Dial No.] status. The editing SMS text will be save to [Drafts], when set up as [Save].

Precautions

Please observe the following precautions when using this product to avoid fire, personal injury, damage to equipment or other accidents:

- Do not use the equipment in inflammable and explosive environment (such as gas, dust, smoke, etc.), please turn off the equipment when refueling or parking at the gas station.
- Do not place the equipment in dusty, wet or splashed places or on uneven surfaces.
- Please use this equipment away from interference sources (such as TV, computer, distribution cabinet, etc.).
- Do not transmit while charging.
- Do not expose the device to direct sunlight for a long time or place it near the heating device.
- If the equipment emits abnormal odor, it must be turned off immediately. After ensuring safety, it should be sent to the nearest maintenance site for inspection.
- Do not modify or adjust this equipment for any reason.
- Please obey the local laws and regulations.

Disclaimer: The customer shall bear all the responsibility for the equipment failure or accident caused by the customer's violation of the above precautions, and the company shall not be responsible for it.

Product Checking

Thanks for choosing our radio, please unbox and check whether the following accessories are included and well-packed. If there's anything missing or damaging after unboxed, please contact your local distributor.

NO.	Item	Quantity
1	Radio	1
2	Antenna	1
3	Li-ion Battery	1
4	Charger	1
5	Belt Clip	1
6	User Manual	1
7	Guarantee Card	1

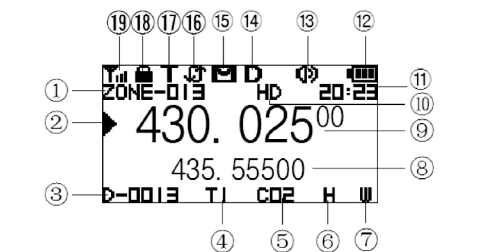
01

Keypads Instruction

	Function Descriptions
PTT	Transmit or Exit
Side key 1	Can be selected as secondary PTT via Menu, definable function is not available.
Side key 2	Definable long press and short press functions
0	Definable long press and short press functions
1	Confirm or Enter in Menu
2	DTMF : A
3	Enter into DTMF inputting mode, under analog channel status.
4	Enter into dial call mode, under digital channel status.
5	DTMF : B
6	Cancel or Exit Menu
7	Switch A/B channel
8	Delete inputting while under DTMF or dial inputting
9	to switch frequencies, channels or menu list upwards
0	DTMF : C
1	to switch frequencies, channels or menu list downwards
2	DTMF : D
3	Short press: input number 0
4	Long press: definable functions
5	DTMF : 0
6	To input Number 0 or Space Bar
7	Short press: input number 1
8	Long press: definable functions
9	DTMF : 1
0	to input Number 1/English Letters/Chinese Characters
1	Short press: input number 2-9
2	Long press: definable functions
3	DTMF : 2-9
4	to input Number 2-9/English Letters/Chinese Pinyin Codes
5	Short press to switch on channel frequency /channel number/channel Alias
6	long press to lock the keypad
7	DTMF : *
8	To Delete
9	Switch working mode from VFO frequency mode/channel mode/zone mode
0	DTMF : #
1	to active inputting status and switch input methods

03

LCD Icon Display



- VFO MODE / CH MODE / ZONE-XXX Mode, XXX means current working zone
- Main frequency icon
- XXXX Digital Channel/A-XXXX Analog Channel, XXXX means Channel number
- T1 or T2 digital Time-slot/ FM Analog RX modulation
- CXX digital channel codes/CTC analog channel with sub-tones/DCS analog channel with digital sub-tones/ENC analog channel with encrypted sub-tone/MUT analog channel with decoded sub-tone
- H/L: High/Low Power
- W/N Wide/Narrow Band
- Sub-display information
- Main Display information
- Digital Call Hold Mode
- System Time
- Battery Power
- Bleep
- Dual standby
- Unread Message
- Scan
- R-Talk around /T-Freq Inverse
- Keypad Lock
- Signal Icon

start to scan NOAA automatically when not any operation for 6S. The followings are NOAA frequencies.

1	162.55000M	2	162.40000M	3	162.47500M
4	162.42500M	5	162.45000M	6	162.50000M
7	162.52500M	8	161.65000M	9	161.77500M
10	161.75000M	11	162.00000M		

Menu Specifications

5.1 Radio Setting

[Radio Name] To change the alias of this radio, can set up as the owner's alias or calling number. When set up as [Send Radio Name] in menu list [Analog Set]-[TX End Tone], the alias of this radio will be sent out to receiver's after analog calling ends.
[Lock Timer] The keypad will lock automatically when there is not any operation of the radio within the appointed time while under standby status. Long press * button to unlock the keypad.
[Light Timer] To set up the shutdown time of backlight. Set up as [Off] then the radio will turn off the timer, the backlight no longer turn off automatically.
[Menu Exit] The radio will exit menu interface automatically once there is no any operation within appointed time.
[Save Mode] To save power consumption while set up the Power Saving function. But there is delay for RX, omitting or missing messages under power saving status. Otherwise, the radio cannot set up as power saving while under dual standby status.
[Scan Mode] Set up as [CO], the radio will resume scanning once the received signal ends. Set up as [TO], the radio will resume scanning after it receives signal and stay for a while. Set up as [SE], the radio stops scanning once it receives signals.
[Scan Direction] Scanning upwards and downwards.
[Scan Dwell] To set up the signal stay time while under [TO] status.
[Scan Return] Set up as [Original CH] to return to original status after scanning done. Set up as [Current CH] to stay at current channel after scanning done.
[Alarm Type] Set up as [Local Alarm] to make an alarm sound once trigger alarm. Set up as [Remote Alarm] to send alarm signals to remote radio and this radio doesn't make any sound itself. Set up as [Local+Remote] this radio makes an alarm sound and send alarm signals to remote radios while trigger this function.
[Main PTT TX] Set up as [Area A], press PTT to transmit at A band. Set up as [Main Area], press PTT to transmit at main band.
[Save CH] Copy current channel to appointed channel and save it.
[Delete CH] Delete the data of selected channel.
[LCD Contrast] The higher the value, the deeper the contrast. And need to restart the radio to complete the setting.

05

Specification

General	
Frequency Range	RX: FM: 64-108MHz AM Aviation Frequency Band: 108-136MHz Analog Frequency: 136-520MHz Digital Frequency: 136-174MHz 400-470MHz TX: Analog Frequency: 136-174MHz 400-470MHz Digital Frequency: 136-174MHz 400-470MHz
Channel Capacity	1024*2 VFO Channel
Channel Spacing (kHz)	Analog: 25kHz/12.5kHz Digital: 12.5K
Voltage	7.4V DC
Working Mode	Same frequency simplex, different frequency simplex
Antenna	Removable Antenna
Frequency Stability	±2.5ppm
Working Temperature	-20 ~ +60°C
Dimension	112 X 61 X 38MM about 198g
Transmitting	
Modulation Mode	Analog: F3E Digital: 4FSK
Maximum deviation (kHz)	≤5KHz / ≤2.5KHz
SNR (W/N)	-45dB/ -40dB
TX Current	≤1500mA
Receiving	
Sensitivity (μV)	0.22μV/ 0.25μV 12dB SINAD
Inter modulation (dB)	65dB/ 60dB
Audio Distortion	<5%
Audio Output Power	≤1W (16Ω)
RX Current	≤350mA
Standby Current	≤70mA

Note: The above parameters are subject to change without prior notice!

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