

BAOFENG[®]

Amateur Radio

UV-29 Pro
SERIES

Please read this manual carefully before using
the product and retain it for future reference.

USER'S MANUAL

PREFACE

Thank you for purchasing this product. which is a dual band/dual display/dual watch. This easy-to-use radio will deliver you secure, instant and reliable communications at peak efficiency. Please read this manual carefully before use. The information presented herein will help you to derive maximum performance from your radio.



WARNING! European Users should note that operation of this unit in Transmit mode requires the operator to have a valid Amateur Radio License from their respective Countries Amateur Radio Licensing Authority for the Frequencies and Transmitter Power levels that this Radio transmits on. Failure to comply may be unlawful and liable for prosecution. At this subject, refer to the “EU” specification guide 2014/53/EU.



ATTENTION! When programming the radio, start by reading the factory software data, and then rewrite this data with your frequency etc., to a new saved code plug, otherwise errors may occur. You can use the programming cable with a PC to program the authorized frequency, bandwidth, power, etc. your programming must comply with your FCC (or EU other country) license certification.



ATTENTION! *Before using this product, read the RF Energy Exposure and Product Safety Guide that ship with the radio which contains instructions for safe usage and RF energy awareness and control for compliance with applicable standards and regulation.*



PMR446, FRS, GMRS, MURS

You may be tempted to use PMR446 (in Europe) or FRS, GMRS, MURS (in the USA) frequencies. Do note however that there are restrictions on these bands that make this transceiver illegal for use.

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Chapter1. Getting Started

1.1 Regulations and Safety Warnings

■Precautions for Portable Terminals

Operating Prohibitions

To protect you against any property loss, bodily injury or even death, be sure to observe the following safety instructions:

1. Do not operate the product in a location containing fuels, chemicals, explosive atmospheres and other flammable or explosive materials. In such location, only an approved Ex-protection model is allowed for use, but any attempt to assemble or disassemble it is strictly prohibited.
2. Do not operate the product near or in any blasting area.
3. Do not operate the product near any medical or electronic equipment that is vulnerable to RF signals.
4. Do not hold the product while driving.
5. Do not operate the product in any area where use of wireless communication equipment is completely prohibited.

Important Tips

To help you make better use of the product, be sure to observe the following instructions:

1. Do not use any unauthorized or damaged accessory.
2. Keep the product at least 2.5 centimeters away from your body during transmission.
3. Do not keep the product receiving at high volume for a long time.
4. For vehicles with an air bag, do not place the product in the area over the air bag or in the air bag deployment area.
5. Keep the product and its accessories out of reach of children and pets.
6. Please operate the product within the specified temperature range.
7. Continuous transmission for a long time may lead to heat accumulation within the product. In this case, please keep it at a proper location for cooling.
8. Handle the product with care.
9. Do not disassemble, modify or repair the product and its accessories without authorization.

■Precautions for Batteries

Charging Prohibitions

To protect you against any property loss, bodily injury or even death, be sure to observe the following safety instructions:

1. Do not charge or replace your battery in a location containing fuels, chemicals, explosive atmospheres and other flammable or explosive materials.
2. Do not charge your battery that is wet. Please dry it with a soft and clean cloth prior to charge.
3. Do not charge your battery suffering deformation, leakage and overheat.
4. Do not charge your battery with an unauthorized charger.

5. Do not charge your battery in a location where strong radiation is present.
6. Overcharge shall always be prohibited for it may shorten the life of your battery.

Maintenance Instructions

To help your battery work normally or prolong its life, be sure to observe the following instructions:

1. Accumulated dust on charging connector may affect normal charging. Please use a clean and dry cloth to wipe it on a regular basis.
2. It is recommended to charge the battery under 5°C~40°C. Violation of the said limit may cause battery life reduction or even battery leakage.
3. To charge a battery attached to the product, turn it off to ensure a full charge.
4. Do not remove the battery or unplug the power cord during charging to ensure a smooth charging process.
5. Do not dispose of the battery in fire.
6. Do not expose the battery to direct sunlight for a long time nor place it close to other heating sources.
7. Do not squeeze and penetrate the battery, nor remove its housing.

Transportation Instructions

1. Damaged batteries must not be transported.
2. To avoid short circuit, separate the battery from metal parts or from each other if two or more batteries are transported in one packaging.
3. The radio must be switched off and secured against switch-on, if the battery is attached.

The content of the shipment must be declared in the shipping documents and by a Battery Shipping Label on the packaging. Contact your hauler for the local regulations and further information.

Maintenance

Your Two Way Radio is an electronic product of exact design and should be treated with care.

The suggestions below will help you to fulfill any warranty obligations and to enjoy this product for many years.

- Do not attempt to open the radio for any reason! The radio's precision mechanics and electronics require experience and specialized equipment; for the same reason, the radio should under no circumstances be realigned as it has already been calibrated for maximum performance. Unauthorized opening of the transceiver will void the warranty.
- Do not store the Radio under the sunshine or in hot areas.
- High temperatures can shorten the life of electronic devices, and warp or melt certain plastics.
- Do not store the radio in dusty and dirty areas.
- Keep the Radio dry. Rainwater or damp will corrode electronic circuits.
- If it appears that the Radio diffuses peculiar smell or smoke, please shut off its power immediately and take off the charger or battery from the radio.
- Do not transmit without antenna.

1.2 Content of the packaging

- 1 Radio
- 1 Fast desktop charger
- 1 Antenna
- 1 Li-Ion battery pack
- 1 Belt clip

If any item is missing, please verify with your dealer.

1.3 Main features

- Bluetooth voice and Bluetooth program radio
- UHF-VHF band cross-band repeater
- Man down alarm
- Dual watch / Dual reception/ Dual-band handheld transceiver
- Built-in input method, support local editing channel name, receive frequency, transmit frequency
- 10W/5W/2W RF output, high, medium and low power adjustable.
- Frequency range: FM radio 76-108 MHz; AM aviation frequency band: 108-136MHz (RX)
VHF1: 136-174MHz (RX&TX) ; UHF1: 400-520MHz (RX&TX)
- One touch search frequency, easy pairing and grouping (copying channel configuration parameters)
- Frequency step, selectable between 2.5K | 5.0K | 6.25K | 10.0K | 12.5K | 20.0K | 25.0K | 50.0K
- 1.77" TFT large screen, full keyboard, fully open menu operation
- Channel scan, frequency scan, and three scan and recovery methods: TO, CO, and SE
- Up to 1000 memory channels (10 zones)
- DTMF encoder and DTMF manual dial
- VOX (voice activated transmit).
- Programmable repeater offset.
- Transmission time-out timer.
- LED flashlight.
- End of transmission tone, aka "Roger Beep"
- Broadcast FM radio receiver 76-108 MHz
- High Capacity Lithium-Ion battery.
- Alarm function.
- Battery save function.
- Busy channel lock out.
- Ten (10) levels of Squelch adjustment.
- Two (2) pins for Kenwood accessory port

Chapter2. Charging the Battery

2.1 Charging the Battery Pack

The Li-ion battery pack is not charged at the factory; please charge it before use. Charging the battery pack for the first time after purchase or extended storage (more than 2 months) may not bring the battery pack to its normal maximum operating capacity. Best operation will require fully charging/ discharging the battery two or three times before the operating capacity will reach its best performance. The battery pack life may be depleted when it's operating time decreases even though it has been fully and correctly charged. If this is the case, replace the battery pack.

2.2 Charger Supplied

Please use the specified charger provided by our company. Other models may cause explosion and personal injury. After installing the battery pack, and if the radio displays low battery with a voice prompt, please charge the battery.

2.3 Use Caution with the Li-ion Battery

- a. Do not short the battery terminals or throw the battery into a fire. Never attempt to remove the casing from the battery pack, as our company cannot be held responsible for any accident caused by modifying the battery.
- b. The ambient temperature should be between 5°C-40°C (40°F - 105°F) while charging the battery. Charging outside this range may not fully charge the battery.
- c. Please turn off the radio before inserting it into the charger. It may otherwise interfere with correct charging.
- d. To avoid interfering with the charging cycle, please do not cut off the power or remove the battery during charging until the green light is on.
- e. Do not recharge the battery pack if it is fully charged. This may shorten the life of the battery pack or damage the battery pack.
- f. Do not charge the battery or the radio if it is damp. Dry it before charging to avoid damage.



WARNING !

When keys, ornamental chain or other electric metals contact the battery terminal, the battery may become damage or injure a human. If the battery terminals are short circuited it will generate a lot of heat. Take care when carrying and using the battery. Remember to put the battery or radio into an insulated container. Do not put it into a metal container.

2.4 How to Charge

- a. Plug the AC adaptor into the AC outlet, and then plug the cable of the AC adaptor into the DC jack located on the back of the charger. The indicator light blinks orange and is then ready to charge a battery.
- b. Plug the battery or the radio into the charger. Make sure the battery terminals are good in contact with charging terminals. The indicator light turns to red---charging begins.

- c. It takes approximately 2-5 hours to fully charge the battery. When the lamp lights green, the charging is completed. Remove the battery or the radio unit with its battery from socket.

When charging a radio (with battery) the indicating lamp will not turn into green to show the fully charged status if the radio is powered on. Only when the radio is switched off will the lamp indicate normal operation. The radio consumes energy when it is power-on, and the charger cannot detect the correct battery voltage when the battery has been fully charged. So the charger will charge the battery in constant voltage mode and fail to indicate correctly when the battery has been fully charged.

2.5 LED Indicator

STATUS	LED
No Battery	Green and red alternately flashing
Charge Normally	Red
Fully Charged	Green
Trouble	Red blinks fast for a long time

NOTE: *Trouble means battery too warm, battery short-circuited or charger short-circuited.*

2.6 How to Store the Battery

- If the battery needs to be stored, keep it in status of 80% discharged.
- It should be kept in low temperature and dry environment.
- Keep it away from hot places and direct sunlight.
 - » Do not short circuit the battery terminals.
 - » Never attempt to remove the casing from the battery pack.
 - » Never store the battery in unsafe surroundings, as a short may cause an explosion.
 - » Do not put the battery in a hot environment or throw it into a fire, as it may cause an explosion.

2.7 Using the Type-C USB Charger

The micro-USB charger is a handy port that allows you to conveniently charge your Li-ion battery pack.

- Make sure your radio is turned OFF.
- Plug the Type-C USB cable into the Type-C USB charging port on your battery. Connect the other end of the micro-USB charger to wall power outlet.
- An empty battery will be fully charged in 4 hours.
- The battery meter on LCD will move to indicate the battery is charging.

Note:

- It is recommended to power OFF your radio while charging. However, if power is turned on while charging, you may not be able to transmit a*

message if the battery is completely empty. Allow time for the battery to charge to 1 bar before attempting to transmit a message.

- For optimal battery life, remove the radio from the charger within 6 hours. Do not store the radio while connected to the charger.

Chapter3. Installation of Accessories

Before the radio is ready for use we need to attach the battery pack, as well as charge the battery.

3.1 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 until secure.
- Removing the Antenna: Turn the antenna counter-clockwise to remove it.

3.2 Installing the belt clip

- At the back of the radio there are two parallel screws mounted above the battery, remove these and thread them through the holes on the belt clip as you screw them back into the radio body.
- Removing the Belt Clip: Unscrew counter-clockwise to remove the belt clip.

3.3 Installing the battery pack

Before attaching or removing the battery make sure your radio is turned off by turning the power/volume knob all the way counter-clockwise.

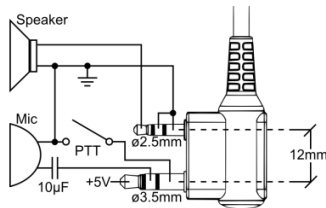
- Make sure the battery is aligned in parallel with the radio body with the lower edge of the battery about 1-2cm below the edge of the radio.
- Once aligned with the guide-rails, slide the battery upward until you hear a click as the battery locks in place.

Remove the battery pack

To remove the battery, press the battery release above the battery pack, as you slide the battery downward.

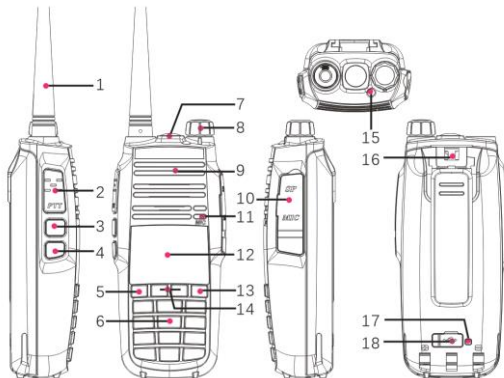
3.4 Installing the Additional Speaker/Microphone (Optional)

Pry open the rubber MIC-Headset jack cover and then insert the Speaker / Microphone plug into the double jack.



Chapter4. Radio Overview

4.1 Buttons and controls of the radio



- 1. Antenna
- 4. **SK1**-Customized key, defaults to radio/alarm key
- 7. LED flashlight
- 10. Accessory jack
- 13. EXIT Key
- 16. Battery release latch

- 2. PTT key
- 5. MENU Key
- 8. Power/Volume knob
- 11. MIC Input
- 14. ▲ or ▼ navigation keys
- 17. Type-C charging indicator

- 3. **SK2** - Flashlight/Monitor Key
- 6. Numeric keypad
- 9. Speaker
- 12. Color LCD
- 15. TX/RX Status LED
- 18. Type-C charging port

Side Key [SK1] Customization Function

The function of the "SideKey SK1" allows the setting of shortcut functions via the CPS programming software or via the menu - Radio settings - "SideKey SK1".

-FM Radio: Quickly turns the radio function on or off.

-Scan: Quickly turns the scanning function on or off. The scan function can also be turned on or off by long pressing the # key.

-SEARCH: Quickly turn on or off the one-touch sweep function.

-VOX: Quickly turn on or off the VOX function.

-LAMP: Quickly turn on or off the flashlight.

-SOS: Quickly turn on or off the alarm function.

• MENU key

It is used for activating the MENU, choose each MENU selection and confirm the parameter.

In standby mode, press and hold the key to switch between frequency (VFO) mode and channel (MR) mode.

To save frequencies to channel memory you must be in Frequency (VFO) mode. Memory mode is sometimes also referred to as Channel mode.

- ▲ key: Press it for more than 2 seconds, the channel and frequency will move upwards rapidly; in SCAN mode, press this control to move the scanning upwards.

- ▼ key: Keep it pressed it for more than 2 seconds, the channel and frequency will move downwards rapidly; in SCAN mode, press this control to move the scanning downwards.

• EXIT key

Press to exit the Menu and functions. A/B (appears on the display): press to select the desired frequency (VHF or UHF) in the main or secondary display.

• Numeric keypad

With these keys you can input the information or your selections on the radio. In tx mode, press the number keys to send a corresponding DTMF code.

• Star * Key

A short momentary press of the key enables the reverse function.

If you press this key for more than 2 seconds you will lock/unlock the keypad.

• Pound # Key

Press the  key to activate the DTMF dial function.

Press and hold the  key to activate the channel scan or frequency scan function.

In FM radio mode, press the  key to automatically search for broadcast programs.

4.2 LCD Display

Icon	Description
	Squelch Open/ Close Indicator
H/M/L	Transmit power level indicator, According to Power (High/Middle/Low)
	Make sure you can hear the DTMF side tone from the radio speaker, set to DT-ST, ANI-ST, DT+ANI.
	DCS enabled
	CTCSS enabled
+	Enables access of repeaters in VFO/Frequency Mode. TX will be shifted higher in frequency than RX.
-	Enables access of repeaters in VFO/Frequency Mode. TX will be shifted lower in frequency than RX
D	Dual watch enabled
	Keypad lock enabled
V	VOX enabled
	The confidential calling feature is activated
N	Narrowband enabled
	Battery level indicator
R	Reverse function enabled
►	Indicates active band or channel
SCR	The voice scramble function has been activated
	Indication of the zones where the current channel is located. Working in memory mode
	Currently working in VFO mode. Allows manual frequency input
	A band (upper screen) and transmit level indication
	B band (lower screen) and transmit level indication
	UHF-VHF cross-band repeater turn-on

4.3 Status Indications

The status LED has a very simple and traditional design.

LED Indicator	Radio Status
Constant Red	Transmitting.
Constant Green	Receiving.

Chapter 5. Basic Operations

5.1 Power on the radio

• Turning the unit on

To turn the unit on, simply rotate the **Volume/Power** knob clockwise until you hear a "click". If your radio powers on correctly there should be an audible double beep after about one second and the display will show a message or flash the LCD depending on settings for about one second. Then it will display a frequency or channel. If the Voice prompt is enabled, the voice will announce "frequency mode" or "channel mode".

• Turning the unit off

Turn the **Volume/Power** knob counter-clock wise all the way until you hear a "click". The unit is now off.

5.2 Adjusting the volume

To turn up the volume, turn the **volume/power** knob clock-wise. To turn the volume down, turn the **Volume/Power** knob counter-clock-wise. Be careful not to turn it too far, as you may inadvertently turn your radio off.

5.3 Main Band/Sub Band Select

In standby mode, press the **[EXIT]** key to switch between A (upper) and B (lower) displays.

The main band is the highlighted band. The darker displayed band is the sub-band.

5.4 VFO/Channel Switch

Press and hold the **[MENU]** key to switch between VFO and channel display.

- In channel mode (MR), channel sequence and zones sequence will be displayed.
- In frequency mode (VFO), the "VFO" icon will be displayed.

5.5 Frequency (VFO) mode

In Frequency (VFO) mode you can navigate up and down the band by using the **▲** or **▼** keys. Each press will increment or decrement your frequency according to the frequency step you've set your transceiver to.

You can also input frequencies directly on your numeric keypad with kilohertz accuracy.

The following example assumes the use of a 12.5 kHz frequency step.

Example. Entering the frequency 436.61250 MHz on display A

(1) In standby mode, press and hold the **[MENU]** key to switch to the frequency (VFO) mode.

(2) Enter **[4][3][6][6][1][2][5][0]** on the numeric keypad.

WARNING!

Just because you can program in a channel does not mean you're automatically authorized to use that frequency. Transmitting on frequencies you're not authorized to operate on is illegal, and in most jurisdictions a serious offence. However, it is legal in most jurisdictions to listen. Contact your local regulatory body for further information on what laws, rules and regulations apply to your area.

5.6 Select a BANK

Your radio memory up to 1,000 channels, divide these 1,000 channels into 10 banks, each zone manages to hold 100 channels, make it easy for you to manage channels and groups.

Through the CPS program software, add a zone, name the bank.

In standby mode, press **[MENU]** key to enter main menu >> **BANK** >> select a BANK.

5.7 Select a Channel

In channel mode, with a bank selected, press the ▲ or ▼ key to select a channel down or up. Press and hold the ▲ or ▼ key to quickly switch channels down or up.

Input the channel numbers by the keyboard. For example, if you want switch to channel 12, input **[0][1][2]** a total of 3 digits, and it will switch to channel 12. When the voice announcement function is turned on, it will be accompanied by a voice announcement of the corresponding channel.

5.8 Making a call

NOTE: Press the **[EXIT]** key to switch the main channel to the other channel if there are 2 channels shown on the display. In standby mode, press and hold the **[MENU]** key to switch between frequency (VFO) mode and channel (MR) mode.

- **Channel mode call:** After selecting a channel, hold down the **[PTT]** key to make a call to the current channel. Speak into the microphone with normal tone. Making a call, the red LED is on.
- **Frequency mode call:** Press and hold the **[MENU]** key to switch to the frequency mode, input the working frequency within the allowable frequency range, and press and hold the **[PTT]** key to transmit on the current frequency. Speak into the microphone with normal tone. Making a call, the red LED is on.
- **Receive a call:** When you release the **[PTT]** key, you can answer it without any action.

When receiving a call, the green LED is on.

NOTE: To ensure the best reception volume, keep the distance between the microphone and the mouth at the time of transmission from 2.5 cm to 5 cm.

5.9 FM Radio (FM)

The frequency ranges to listen to the radio is **65-108MHz**. When listening to broadcast FM, press **[MENU]** key switches between 65-75 MHz and 76-108 MHz band.

(1) In frequency or channel mode, Press **[SK1]** key to turn on the radio.

(2) Select the desired radio frequency with the **▲** or **▼** keys or input the frequency. Or

- Press **[#Z]** to automatically search a radio station.

(3) Press **[SK1]** key to exit FM radio.

5.10 Emergency Alert

The Emergency Alert feature can be used to signal members in your group for help.

To activate the emergency alert function, press and hold the **[SK1]** key for 3 seconds. The radio will send out a loud siren sound and the flashlight will flash.

Press the **[SK1]** key to exit the emergency alert function.

WARNING: The Emergency Alert feature should only be used in the even of an actual emergency.

5.11 Using the Flashlight

You can use this radio in an emergency. If you press **[SK2]** key, the radio turns on the high-intensity LED flashlight on your radio.

- Your radio operates normally when the emergency strobe is activated.

(1) Press **[SK2]** key once, it will turn on continuously (Always On mode).

(2) And then, press **[SK2]** key once, the Strobe Light emits the emergency signal (Strobe emergency mode).

(3) And then, press **[SK2]** key once, the light will be turned off.

5.12 Monitor

In standby, press and hold the **[SK2]** key to enter Monitor. When receiving matched carrier but the signaling or the signal is too weak, this function allows monitor the weak signal.

Release the **[SK2]** key to turn off the speakers and return to standby mode.

» *If no signal, it will emit noise when press the [SK2] Key.*

5.13 Keypad lock

The radio features a keypad lock that locks out all keys except for the three side keys.

To enable or disable the keypad lock, press and hold **[*E]** the key for about two seconds.

You can also enable so that the radio automatically locks the keypad after ten seconds from the menu.

5.14 Frequency reversal

A short momentary press of the key enables the reverse function

If you for some reason want to listen to the repeater's input frequency instead, press  key momentarily and you'll reverse your transmit and receive frequencies.

» After activating the frequency reversal function, the first line of the screen displays "R"

5.15 TX Repeaters tone

Press [PTT] + [SK1] key to send 1750Hz repeaters tone. This function is useful for communications through repeaters.

If you have the keypad lock enabled on your radio, you can still send a 1750Hz tone the regular way without having to unlock your radio.

Chapter 6. Advanced Features

6.1 Scanner

The radios features a built in scanner for the VHF and UHF bands. When in Frequency (VFO) mode it will scan in steps according to your set frequency step. In Channel (MR) mode it will scan your channels.

To enable the scanner, press and hold the  key for about two seconds. You can change the scanning direction with the ▲ or ▼ keys. Press and hold the  key to exit scanning mode.

6.1.1 Frequency Ranger

In frequency mode, the frequency sweep range can be precisely set. Input the start value and end value of the sweep frequency through the keyboard.

EX: Enter 144146, in frequency mode, scan in the range of 144.000-146.000MHZ. Enter 430440, in frequency mode, scan in the range of 430.000-440.000MHZ.

Note: for VFO frequency Ranger, see Menu>SCAN>Freq Ranger.

6.1.2 Scan modes

The scanner is configurable to one of three ways of operation: Time, carrier or search, each of which is explained in further details in their respective section below.

Time operation

In Time Operation (TO) mode, the scanner stops when it detects a signal, and after a factory preset time out, it resumes scanning.

Carrier operation

In Carrier Operation (CO) mode, the scanner stops when it detects a signal, and after a factory preset time with no signal it resumes scanning.

Search operation

In Search Operation (SE) mode, the scanner stops when it detects a signal.

To resume scanning you must press and hold the  key again.

Note: for Scan mode, see Menu>SCAN>Scan Mode.

6.1.3 Scan CTCSS/DCS

To search for a CTCSS code, do the following:

- (1) In VFO mode, enter a known frequency, such as 144.525.
- (2) Press **[MENU]** key to enter menu>>Scan>>**3 Scan SubCode**.
- (3) Press **▲** or **▼** to select CTCSS;
- (4) Press the **[MENU]** key to enter the CTCSS code, and scan the CTCSS code in sequence. When a valid CTCSS code is scanned, it stays on the CTCSS code and the speaker is turned on.
- (5) Press the **[MENU]** key to store the scanned CTCSS code and exit the scan to return to the previous menu. In standby mode, the  icon will be displayed on the top line of the screen. Press and hold the **PTT** key to make a callback.

To search for a DCS code, do the following:

- (1) In VFO mode, enter a known frequency, such as 144.525.
- (1) Press **[MENU]** key to enter menu>>Scan>>**3 Scan SubCode**.
- (2) Press **▲** or **▼** to select DCS;
- (3) Press the **[MENU]** key to enter the DCS code scanning, and scan the DCS code in turn. When a valid DCS code is scanned, it stays on the DCS code and the speaker is turned on.
- (4) Press the **[MENU]** key to store the scanned DCS code and exit the scan to return to the previous menu. In standby mode, the  icon will be displayed on the top line of the screen. Press and hold the **PTT** key to make a callback.

6.1.4 Sub-Code scan storage

In MR mode or VFO mode, the scanned CTCSS/DCS code can be stored as only TX CTCSS/DCS code, RX CTCSS/DCS code only, TX and RX CTCSS/DCS code to replace the CTCSS/DCS code setting of the current channel or frequency mode of the radio.

To save the settings of CTCSS/DCS code scan, the operation is as follows:

- (1) Press **[MENU]** key to enter menu >> SCAN >> **4 Scan Memory**.
- (2) Press the **[MENU]** key to enter the Scan Memory setting, and press the **▲** or **▼** key to select:
 - **ALL**: The scanned CTCSS/DCS code will be stored as the received and transmitted CTCSS/DCS code of the current channel or frequency mode (at the same time as the received and transmitted Sub-Code).
 - **DECODER**: The scanned CTCSS/DCS code will be stored as the receiver CTCSS/DCS code of the current channel or frequency mode (only replace its receiver RX CTC/DCS).
 - **ENCODER**: The scanned CTCSS/DCS code will be stored as the transmitted CTCSS/DCS code of the current channel or frequency mode (only replace its transmitted TX CTC/DCS).

(3) Press the **[MENU]** key to save the settings and return to the previous menu;

*Note: Only when a valid CTCSS/DCS code is scanned and stopped, press the **[MENU]** key to store the CTCSS/DCS code and replace the corresponding CTCSS/DCS code of the current channel or frequency.*

6.2 DTMF

DTMF is an in-band signaling method using dual sinusoidal signals for any given code. Originally developed for telephony systems, it has proved a very versatile tool in many other areas.

In two-way radio systems, DTMF is most commonly used for automation systems and remote control. A common example would be in amateur radio repeaters where some repeaters are activated by sending out a DTMF sequence (usually a simple single-digit sequence).

DTMF frequencies and corresponding codes

	1209Hz	1336Hz	1477Hz	1633Hz
697Hz	1	2	3	A
770Hz	4	5	6	B
852Hz	7	8	9	C
941Hz	*	0	#	D

The radios has a full implementation of DTMF, including the A, B, C and D codes. The numerical keys, as well as the  and  keys correspond to the matching DTMF codes. The A, B, C and D codes are located in the **[MENU]**, **▲**, **▼** and **[EXIT]** keys respectively.

To send DTMF codes, press the key(s) corresponding to the message you want to send while holding down the **PTT** key.

In general, there are two forms of selective calling in two-way radio systems: Group call, and Private call.

Group call, as the name suggest, is a one-to-many form of communication. Every radio in your working group is configured the same way and any radio will make contact with every other radio in the group.

Private call, some times also known as paging, is a one-to-one form of communication.

Every radio is programmed with a unique ID code. And only by sending out a matching code can you get that radio to open up to your transmissions.

6.3 Dual Watch

In certain situations, the ability to monitor two channels at once can be a valuable asset. This can be achieved in one of two ways. You can either have one receiver in your radio and flip-flop between two frequencies at a fixed interval (known as Dual Watch), or you can equip a radio with two receivers (known as Dual Receive or Dual VFO). The former method is cheaper to implement and far more common than the latter.

The radio features Dual Watch functionality (single receiver) with the ability to lock the transmit frequency to one of the two channels it monitors.

Enabling or disabling Dual Watch mode

(1) Press the **[MENU]** key to enter the main menu.

(2) Enter **[4]** on the numeric keypad to get to **Radio Settings**.

- (3) Press the **[MENU]** key to confirm, enter 15 on the numeric keypad to get to **15 Dual Watch**.
- (4) Press the **[MENU]** key to select.
- (5) Use the **▲** or **▼** keys to enable or disable.
- (6) Press the **[MENU]** key to confirm.
- (7) Press **[EXIT]** to return to the previous menu.

The dual watch function is turned on, and the icon 'D' is displayed on the top line of the screen.

·Repeat the above operation, select "OFF", the dual watch function is disabled, and the icon 'D' on the top line of the screen disappears.

Note: When the dual watch function is turned on, the icon 'D' is displayed on the screen, and the "Singal Mode" submenu is automatically shielded in the radio setting menu.

After the dual watch is turned off, the radio setting menu will automatically add "Singal Mode". After turning on the single display mode, the radio will display the channel name, frequency and channel sequence on the same screen.

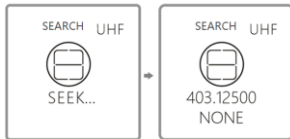
6.4 Voice-activated transmit (VOX)

Enable VOX function, you don't need to press **PTT** key to transmit, through the voice of normal speech automatically transmit, after the speech stops, it will stop transmitting automatically and wait for receiving. VOX function is enabled:

- (1) Standby status, enter **[MENU][4][MENU][4]** to enter Vox Switch;
- (2) Enter **[MENU][4][MENU][5]** to enter Vox Level, press **▲/▼** to select VOX level (level 1-9);
 - Open VOX,select VOX level 1 level-9, the smaller the value, the higher the sensitivity, the **'V'** icon is displayed at the top of the screen. Default is off.
 - Turn off VOX, select OFF OFF, V icon disappears.
- (3) Press **[MENU]** key to save the setting and return to the upper menu.
 - Repeat the above operation and select OFF to turn off the VOX function.

6.5 One touch frequency Search

- (1) Through the CPS program software or the radio menu >> Radio Setting >> Press SK1 to define the SK1 side key as a Search function.
- (2) The radio will act as a receiver. Briefly press the preset **[SEARCH]** key, and the screen will display "SEARCH SEEK..."
- (3) If the transmitter continues to transmit and the unit receives an effective frequency (the strongest and stable signal), the received frequency will be displayed. If there is a CTCSS or DCS, the CTCSS or DCS value is displayed, and if there is no CTCSS or DCS, NONE is displayed
- (4) You can press the **[MENU]** key to save the Search frequency and CTCSS or DCS to the channel.



Note: During frequency Search, press the [#] key on the radio to switch between UHF or VHF bands.

6.6 Manual Programming (Channels Memory)

Memory channels are an easy way to store commonly used frequencies so that they can easily be retrieved at a later date.

The radios features 10 zones /1000 memory channels that each can hold: Receive and transmit frequencies, transmit power, group signaling information, bandwidth, ANI/ PTT-ID settings and a six character alphanumeric identifier or channel name ¹.

Frequency Mode vs. Channel Mode

In standby mode, press and hold the [MENU] key to switch between frequency (VFO) mode and channel (MR) mode.

These two modes have different functions and are often confused.

Frequency Mode (VFO): Used for a temporary frequency assignment, such as a test frequency or quick field programming if permitted.

Channel Mode (MR): Used for selecting preprogrammed channels.

Ex. Programming a Simplex Channel with CTCSS tone

EXAMPLE New memory in Channel 100:

RX = 432.6500 MHz

R-CTCSS 123.0

(1) Change from Menu to Menu by pressing the [EXIT] button.

(2) Press and hold the [MENU] key to set the radio to VFO mode, and the VFO icon is displayed on the right.

(3) [MENU] [5] [MENU] [1][6] [MENU] [9] [9] [MENU] [EXIT]

Deletes Prior Data in channel (Ex. 100)

(4) [MENU] [5] [MENU] [4] [MENU] 123.0[MENU] [EXIT]

Selects desired TX encode tone (Ex 123 CTCSS)

(5) Enter RX frequency (Ex. 43265000)

Enter RX frequency (Ex. 43265000)

(6) [MENU] [5] [MENU] [1][5] [MENU] [9] [9] [MENU]

Enter the same channel (Ex 100)

-->> [EXIT]

channel has been added

(7) Press and hold [MENU] key to return to the MR mode and the channel number will reappear.

Chapter 7. MAIN MENU FUNCTIONS

The menu function allows you to perform operations such as selecting Banks, SCAN, Radio Settings, Program Channels, and viewing Radio Information.

7.1 Basic use

Use menus with arrow keys

(1) Press the [MENU] key to enter the main menu.

(2) Use the ▲ or ▼ keys to navigate between menu items.

(3) After finding the desired next menu item, press the [MENU] key again to select the menu item.

- (4) Use the ▲ or ▼ keys to navigate between the next menu items.
- (5) After finding the desired next menu item, press the **[MENU]** key again to select the menu item.
- (6) Use the ▲ or ▼ keys to select the desired parameter.
- (7) When you have selected the parameter to be set for a given menu item;
- (8) To confirm your selection, press **[MENU]** and it will save your setting and bring you back to the main menu.
- (9) To cancel your changes, press **[EXIT]** and it will reset that menu item and bring you out of the menu entirely.
- (10) To exit out of the menu at any time, press the **PTT** key.

7.2 Using short-cuts

Using the menu with short-cuts

- (1) Press the **[MENU]** key to enter the menu.
- (2) Use the numerical keypad to enter the number of the menu item.
- (3) To enter the menu item, press **[MENU]** the key.
- (4) For entering the desired parameter you have two options:
 - a) Use the arrow keys as we did in the previous section; or
 - b) Use the numerical keypad to enter the numerical short-cut code.
- (5) And just as in the previous section;
 - a) To confirm your selection, press and it will save your setting and bring you back to the main menu.
 - b) To cancel your changes, press and it will reset that menu item and bring you out of the menu entirely.
- (6) To exit out of the menu at any time, press the key.
- (7) All further examples and procedures in this manual will use the numerical menu short-cuts.

[MENU] + 1: Quick access to Banks selection, up to 10 banks are stored, each bank stores 100 channels;

[MENU] + 2: Quickly enter the Scan Settings. You will be able to set the VFO frequency range, Scan mode, Scan Sub-Code, Scan Memory;

[MENU] + 3: Quick access to Bluetooth settings. you will be able to set Bluetooth switch, Bluetooth data, Bluetooth audio mode;

[MENU] + 4: Quickly enter the Radio settings (general settings of the radio);

[MENU] + 5: Quick access to Program Channel (Alias, TX and RX Frequency, TX Power, Bandwidth, Display mode, Channel Memory and Channel delete);

[MENU] + 6: Quickly enter the Fall Down setting (set the trigger mode, Tilt angle, cur delay Time, Pre cue Time).

[MENU] + 7: Quickly query the radio information (ANI-ID, Firmware version, Hardware version);

7.3 Radio Info

Show the Radio ID, firmware version, Hardware version.

Chapter 8. Man Down

8.1 Man Down Trigger Method

This parameter determines the method used to trigger Man Down mode of the radio.

The radio will have real-time detections of its tilt gradient and movement. When it satisfies the conditions of Man Down Trigger Method over the preset Trig Entry Delay Time, it will enter the Man Down mode automatically. Option:

- Tilt Only: When the radio tilts at or over the preset Trig Tilt Gradient over the Trig Entry Delay Time, it will enter the Man Down mode automatically.
- No Movement Only: When the radio is motionless or takes uniform rectilinear motion (reference object: the ground) over Trig Entry Delay Time, the radio will enter the Man Down mode automatically.
- Tilt or No Movement: When the radio tilts at or more than Trig Tilt Gradient or is motionless over Trig Entry Delay Time, it will enter the Man Down mode automatically.

Default: Tilt Only

8.2 Trig Tilt Gradient

This parameter decides the tilt gradient to trigger Man Down mode of the radio.

The radio will have real-time detections of its tilt degrees off the vertical. When the radio's degree off the vertical exceeds Tilt Gradient, the radio will enter Man Down mode automatically.

Option: 75°, 60°, 45°, 30°. Default: 60°

8.3 Man Down Delay Time

This parameter allows you to set the amount of time before the radio sends emergency alarm. The radio will not send emergency alarm if it is placed vertically within the preset duration.

Range :10–255s (0 indicates that the Man Down feature will be enabled immediately when the radio falls down).

Step:1s; Default:10s

Note: This parameter is available only when Man Down is selected.

8.4 Man Down Pre-Alert Time

After you Man Down the radio and within Trig Entry Delay Time before the emergency mode is activated, the radio will pre-alert you to the situation. This parameter is to set the alert time.

Range: 10 – 254seconds (0= the emergency mode would be activated without any pre-alert.). Step :1 second. Default :5 seconds

Note:

- This parameter is available only when Man Down is selected.
- The Man Down Pre-Alert Time must be shorter than or equal to Man Down Delay Time.

Chapter 9. UHF/VHF Cross-Band Repeater

Caution:

The UHF/VHF cross-band repeater is an A/B screen transmitter, i.e., screen A receives and screen B transmits, or screen B receives and screen A transmits. That is, screen A receives and screen B transmits, or screen B receives and screen A transmits. The working frequency band of screen A/B cannot be UHF or VHF at the same time, and screen A/B cannot be the same channel. That is:

A screen receiving frequency is UHF band, B screen transmitting frequency is VHF band. Or when the A screen receives VHF frequency, the B screen transmits UHF frequency.

The radio must enable dual watch function (**MENU-4-MENU-15**, enable **dual watch** function)

When the repeater speaker is turned on, you can monitor to the sound from the speaker during cross-band repeater.

When using the cross-band repeater function, it is recommended to adjust the transmit power to medium power.

9.1 Cross-Band Repeater Settings in Channel Mode

Example:	Channel 1	RX 435.12500MHz	TX 145.12500MHz	Assume A screen (upper sideband);
	Channel 2	RX145.12500MHz	TX 435.12500MHz	Assumed to be screen B (lower sideband).

Select the zone and switch the channel to 001 (i.e. channel 1)

1. Press **[MENU]** + **[5]** to enter channel configuration.
2. Press **[MENU]** + **▲** or **▼** to select "**RX Frequency**", enter 43512500, confirm and save.
3. Press **[MENU]** + **▲** or **▼** to select "**TX Frequency**", enter 14512500, confirm and save.

Press **[EXIT]** to return to the standby interface.

4. Press **▲** or **▼** to switch the channel to 002 (i.e. channel 2).
5. Press **[MENU]** + **[5]** to enter channel configuration.
6. Press **[MENU]** + **▲** or **▼** to select "**RX Frequency**", enter 14512500 and confirm.
7. Press **[MENU]** + **▲** or **▼** to select "**TX Frequency**", enter 43512500 to confirm.

Press **[EXIT]** to return to the standby screen.

8. Press **[EXIT]** to set screen A (upper sideband) to channel 1 (001).

Press **[EXIT]** key to set screen B (lower sideband) as channel 2 (002), i.e. screen A transmits and screen B receives.

9.2 Cross-band repeater setting in VFO mode

Example:	Upper band VFO A	Rx frequency 435.12500MHz	Tx frequency 145.12500MHz;
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Lower band VFO B Rx frequency 145.12500MHz Tx frequency 435.12500MHz.

Press **[EXIT]** key to switch to screen A (upper sideband), press and hold **[MENU]** key to switch to VFO mode

1. Press **[MENU] + [5]** to enter Program Channel .
2. Press **[MENU] + ▲** or **▼** to select **"1 Frequency"**, enter 43512500, confirm and save.
3. Press **[MENU] + ▲** or **▼** to select **"12 Offset"**, enter 2900000, confirm to save.
4. Press **[MENU] + ▲** or **▼** to select **"13 Direction"**, select **'Minus'**, confirm to save.

Press EXIT key to return to standby interface;

Press EXIT key to switch to B screen (lower sideband), press and hold down **[MENU]** key to switch to VFO mode.

5. Press **[MENU] + [5]** to enter channel configuration.
6. Press **[MENU] + ▲** or **▼** to select **"1 Frequency"**, input 14512500, confirm and save.
7. Press **[MENU] + ▲** or **▼** to select **"12 Offset"**, input 2900000, confirm and save.
8. Press **[MENU] + ▲** or **▼** to select **"13 Direction"**, select **"Plus"**, confirm to save.

Press **[EXIT]** to return to the standby interface.

Press the **[EXIT]** key to set the A screen (upper sideband) to VFO A, and press the **[EXIT]** key to set the B screen (lower sideband) to VFO B.

9.3 To turn on the repeater function

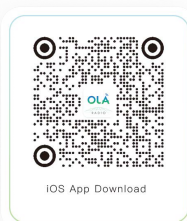
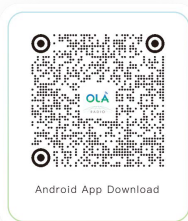
1. Press **[MENU] + [4]** to enter the radio setting.
 2. Press **[MENU] + ▲** or **▼** to select **"25 RPT-Mode"**;
 3. Press **[MENU]** to enter the transit mode setting, press **▲** or **▼** to select "On".
 4. Press **[MENU]** key to save and return to the upper menu. The repeater function is turned on and the icon  is displayed on the first line of the screen.
- Repeat the above operation and select "OFF" to turn off the repeater function.

9.4 Speaker Switch in Repeater Mode

1. Press **[MENU] + [4]** to enter intercom setting.
 2. Press **[MENU] + ▲** or **▼** to select **"26 RPT-Speaker"**;
 3. Press **[MENU]** to enter the repeater speaker setting, press **▲** or **▼** to select "On".
 4. Press **[MENU]** key to save and return to the upper menu.
- Repeat the above operation and select "Off" to disable the repeater speaker function.

Wireless Program Radio

You can program the radio wirelessly. Before programming the radio wirelessly, you need to install the APP program. Scan the QR code below to download the APP.



The radio operates as follows:

1. Press [MENU] + [4] to enter Wireless CPS .
2. Press [MENU] + ▲/▼ to select "On";

The 📶 icon will be displayed on the first line of the screen.

Download Radio APP

You can program the terminal through the Radio APP. Download and install Radio APP on your Android or ISO phone.

After the APP is opened, allow the Bluetooth of the cell phone and open the location function, select the walkie-talkie model 5Rmini Series, connect the radio, click Walkie-talkie. prompt the connection success and return to the home page.

Read the radio data: After finishing the frequency reading, click the program to enter the program details. In the program details interface you can program channel information, frequency mode, optional functions.

Save Profile: The programmed profile allows you to save the profile as a new profile and name the new profile.

If you select Replace Program, click Replace Program and save.

Write data to radio: click home page, select program, click 'Write' to enter write frequency, the radio will restart automatically when finish writing frequency.

Appendix A. – Trouble shooting guide

Phenomena	Analysis	Solution
You cannot turn on the radio.	The battery may be installed improperly.	Remove and reattach the battery.
	The battery power may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirty or damaged battery contacts.	Clean the battery contacts or replace the battery.
During receiving, the voice is weak or intermittent.	The battery voltage maybe low.	Recharge or replace the battery.
	The volume level may be low.	Increase the volume.
	The antenna maybe loose or maybe installed incorrectly.	Turnoff the radio, and then remove and reattach the antenna.
	The speaker maybe blocked.	Clean the surface of the speaker.
You cannot communicate with other group members.	The frequency or signaling type maybe inconsistent with that of other members.	Verify that your TX/RX frequency and signaling type are correct.
	You may be too far away from other members.	Move towards other members.
You hear unknown voices or noise.	You may be interrupted by radios using the same frequency.	Change the frequency, or adjust the squelch level.
	The radio in analog mode maybe set with no signaling.	Request your dealer to set signaling for the current channel to avoid interference
You are unable to hear anyone because of too much noise and hiss.	You may be too far away from other members.	Move towards other members.
	You may be in an unfavorable position. For example, your communication may be blocked by high buildings or blocked in an underground area.	Move to an open and flat area, restart the radio, and try again.
	It may be the result of external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.
The radio keeps transmitting.	VOX may be turned on or the headset is not installed in place	Turn off the VOX function. Check that the headphones are in place.

NOTE: *If the above solutions cannot fix your problems, or you may have some other queries, please contact your dealer for more technical support.*

Appendix B. – Shortcut Menu operations

Menu		Name		Setting	Description
1	BANK	1	BANK 1	Channel1-Channel100	A Bank is a group of channels grouped together. The radio has 10 Banks. A Bank can have the maximum of 100 channels.
2	SCAN	1	Freq Ranger	NNNNnnn	Input VFO range lower and upper frequency
				Time	Time Operation - scanning will resume after a fixed time has passed
		2	Scan Mode	Carrier	Carrier Operation -scanning will resume after the signal disappears
				Search	Search Operation -scanning will not resume
				CTCSS	Search within CTCSS Tone (Rang 67-254.1, A total of 50 groups)
		3	Scan SubCode	DCS	Search within DCS Code (Rang 023N-754I, A total of 210 groups)
				ALL	RX_TX are saved (default is all, encoding and decoding are the same)
				DECODER	Save only in Transmitter CTCSS/DCS
3	Bluetooth	1	BT Mode	ENCODER	Save only in Receiver CTCSS/DCS
				OFF	Turn off the Bluetooth function
				Bluetooth Data	Turns on the Bluetooth programming radio feature. The status bar displays the Bluetooth icon
		2*	BT device	Bluetooth Audio	Turn on Bluetooth audio (BLE) mode, press and hold the Bluetooth PTT button to control transmit and receive, send and receive calls via Bluetooth headset
					Search for Bluetooth devices. <i>*This option is not available when Bluetooth mode is set to OFF or Bluetooth data function.</i>
					Set the volume of Bluetooth reception, adjust it to a comfortable level, 1-5 levels can be selected. <i>*This option is not available when Bluetooth mode is set to OFF or Bluetooth data function.</i>
		3*	BT Voice	1~5	Set the microphone sensitivity of the Bluetooth device, adjust to a comfortable level, 1-5 levels selectable. <i>*This option is not available when Bluetooth mode is set to OFF or Bluetooth data function.</i>
				1~5	
4	Radio Setting	1	Step	2.5-100K	Selects the amount of frequency change in VFO/Frequency mode when scanning or pressing the ▲ or ▼ keys.
		2	Squelch	OFF,LEVEL1-LEVEL5	Squelch silences the receiver when there is no signal. Setting the squelch to 0 will open up the squelch entirely.
		3	Power Save	OFF	Turn off radio sleep. The battery consumption is large, and the standby time may be shortened

		ON	Turn on radio sleep. Turning on is more power efficient, but you might miss the first few syllables before the RX turns on.
4	VOX Switch	OFF	Turn off the radio VOX.
		ON	Turn on the radio VOX.
5	VOX Level	LEVEL1-LEVEL9	When enabled it is not necessary to push the [PTT] button on the transceiver. Adjust the gain level to an appropriate sensitivity to allow smooth transmission.
6	VOX Delay	0.5.....2.0s	When the VOX is enabled, set up the VOX delay to help to extend the transmission time to avoid stopping a transmission too early. 0.5s-2s, Step 0.1 second. a total of 16 times offered.
7	TOT	OFF	Allow continuous launch, launch time is not limited
		15;30;45...180	Maximum allowed time for transmission while holding down the PTT key.
8	TOA	OFF	Disable TOA function
		1.....10	Activate TOA function. Range 0 – 10 seconds, Step 1 second.
9	Voice	OFF	Disable voice prompts
		ON	Activate voice prompts
10	Language	Chinese	Display menus and voice prompts in Chinese language
		English	Display menus and voice prompts in English language
11	ROGER	OFF	Disable ROGER function. Release PTT key without ROGER audio.
		BEEP	Activate the ROGER function. Sends an end-of-transmission tone to indicate to other stations that the transmission has ended.
		TONE 1200	Similar to MDC1200 signaling end tone
12	Beep	OFF	Disable key confirmation tone.
		ON	Activation key to confirm tone. Allows audible confirmation of a key press
13	BackLight	ALWAYS ON	The backlight is always on.
		5.....20	Set the backlight off time in no-operation delay time. 5-20, step value is 5.
14	Power on Display	PICTURE	Show preset picture when radio is on
		VOLTAGE	Display battery voltage when radio is on
15	Dual Watch	OFF	Disable dual table, dual receive.
		ON	Monitor [A] and [B] at the same time. The display with the most recent activity ([A] or [B]) becomes the selected display.
16	AutoLock	OFF	Disable automatic keypad lock. Allow manual keypad lock (press and hold the  key to lock/unlock the keypad)

		ON	When ON, the keypad will be locked if not used in 8 seconds. Pressing the  key for 2 seconds will unlock the keypad.
17	Alarm Mode	On Site	Sounds alarm through your radio speaker only
		Send Sound	Transmits a cycling tone over-the-air
		Send Code	Transmits '119' (911 in reverse) followed by the ANI code over-the-air
18	Alarm Tone	OFF	The radio speaker blocks the alarm sound.
		ON	The radio speaker sounds an alarm
19	ANI-Edit	100	View the ANI ID, and if necessary, will allow to change the ANI ID
20	DTMF-ST	OFF	No DTMF Side Tones are heard
		DT-ST	Side Tones are heard only from manually keyed DTMF codes
		ANI-ST	Side Tones are heard only from automatically keyed DTMF codes
		DT+ANI	All DTMF Side Tones are heard
21	PTT-ID	OFF	No ID is sent.
		BOT	The selected S-CODE is sent at the beginning
		EOT	The selected S-CODE is sent at the ending
		BOTH	The selected S-CODE is sent at the beginning and ending
22	PTT-DLY	100-3000ms	Signal code sending delay. PTT-ID Delay (milliseconds)
23	ALERT	1000Hz	The following configurations will transmit accordingly: PTT + SK1 = Transmits 1000Hz Tone Burst
		1450Hz	PTT + SK1 = Transmits 1450Hz Tone Burst
		1750Hz	PTT + SK1 = Transmits 1750Hz Tone Burst
		2100Hz	PTT + SK1 = Transmits 2100Hz Tone Burst
24	TAIL	OFF	Disable Squelch Tail Elimination.
		ON	Enable Squelch tail elimination. to prevent any squelch tails from being heard.
25	Press SK1	FM Radio	FM radio on/off
		SCAN	Scan on/off
		SEARCH	Search on/off
		VOX	VOX on/off
		LAMP	Flashlight on/off
		SOS	Alarm on/off
26	Reset	VFO MODE	Reset the radio's VFO menu to factory defaults (no reset for bank, scan settings)
		RESET ALL	Resets the radio to factory defaults, with some exceptions.

1	CH.NAME	Channel 1	View channel name, allows to rename the current channel. Press the  key to switch the input method, allowing the input of letters, numbers and symbols.
2	RX Frequency		View the current channel Receiver frequency.
3	TX Frequency		View the current channel Transmitter frequency.
4	Trans Power	High	Selects between HIGH transmitter power when in VFO/Frequency mode.
		Low	Selects between LOW transmitter power when in VFO/Frequency mode.
5	Bandwidth	Wide	Wideband (25 kHz bandwidth)
		Narrow	Narrowband (12.5 kHz bandwidth)
6	RX CTCSS	OFF;67-254.1	Mutes the speaker of the transceiver in the absence of a specific and continuous sub-audible signal. If the station you are listening to does not transmit this specific and continuous signal, you will not hear anything.
7	RX DCS	OFF;023N-754I	Mutes the speaker of the transceiver in the absence of a specific low-level digital signal. If the station you are listening to does not transmit this specific signal, you will not hear anything.
8	TX CTCSS	OFF;67-254	Transmits a specific and continuous sub audible signal to unlock the squelch of a distant receiver (usually a repeater).
9	TX DCS	OFF;023N-754I	Transmits a specific low-level digital signal to unlock the squelch of a distant receiver (usually a repeater).
10	Encryption	OFF	Disable encrypted mode, your conversations are not private.
		ON	Activating encryption mode ensures the privacy of your conversations. To use the Encryption function, the other part of the radio must also have Encryption activated and must be tuned on the same DCS code.
11	Signaling	1-20	Selects 1 of 20 DTMF codes. The DTMF codes are programmed with software and are up to 3 digits each.
12	CH-MDF	NAME	MR/Channel mode is displayed in NAME format. Note: NAME allows CPS program or edit in the channel name (Menu 1) .
		FREQ	MR/Channel mode is displayed in frequency format.
		CH	MR/Channel mode is displayed in CH format.
13	SP-Mute	QT	when radios is set in this mode, the monitor feature is activated only when the radio receives the correct CTCSS/DCS.
		QT*DTMF	QT*DTMF: the monitor is activated when the radio receives the correct CTCSS/DCS or the correct DTMF code.
14	SCAN ADD	OFF	Forbid the current channel to join the scan group.
		ON	Add the current channel to the scan group.
15	Busy Lockout	OFF	The [PTT] button on the channel is always allowed.

				ON	Disables the [PTT] button on a channel that is already in use. The transceiver will sound a beep tone and will not transmit if the [PTT] button is pressed when a channel is already in use.
		*13	OffSet		Specifies the difference between the TX and RX frequencies
		*14	Direction	None	TX = RX (simplex). Disable access to repeaters in VFO/Frequency mode
				Plus	Plus frequency shift direction. TX will be shifted higher in frequency than RX
				Minus	Minus frequency shift direction. TX will be shifted lower in frequency than RX
		16	CH_Memory	CH001-CH100	This menu is used to either create new or modify existing channels (1 through 100) so that they can be accessed from MR/Channel Mode.
		17	CH_Delete	CH001-CH100	This menu is used to delete the programmed information from the specified channel (1 through 100) so that it can either be programmed again or be left empty.
6	Fall Down	1	Trigger Mode	Off	Disable Man Down Function
				Tilt	When the radio tilts at or over the preset Trig Tilt Gradient over the Trig Entry Delay Time, it will enter the Man Down mode automatically.
				Motionless	When the radio is motionless or takes uniform rectilinear motion (reference object: the ground) over Trig Entry Delay Time, the radio will enter the Man Down mode automatically.
				Tilt or Motionless	When the radio tilts at or more than Trig Tilt Gradient or is motionless over Trig Entry Delay Time, it will enter the Man Down mode automatically.
		2	Tilt Angle	75°, 60°, 45°, 30°	The radio will have real-time detections of its tilt degrees off the vertical. When the radio's degree off the vertical exceeds Tilt Gradient, the radio will enter Man Down mode automatically.
		3	Cur dly time	10 – 255s	This option allows users to set the interval between radio falling down and alarm activation. The alarm will not be activated if users place the radio upright within the interval.
		4	Pre cue time	10 – 254s	After you Man Down the radio and within Trig Entry Delay Time before the emergency mode is activated, the radio will pre-alert you to the situation.
7	Radio Info	Radio ID\Firmware\Hardware			Displays radio ID, firmware version, hardware version. to check the radio information.

Appendix C. - Technical Specifications

GENERAL	
Channel Capacity	1000
Channel Spacing	25.0 KHz/12.5 KHz
Input Voltage	7.4 VDC
Battery Life: 5% TX, 5% RX, 90% Standby	Li-on: 15 hours @ 5 watts
Operating temperature	-10°C to 60°C
Antenna Impedance	50Ω
Radio Dimensions	68(W)*154(H)*42(D)mm (not including antenna)
Radio Weight	320g
TRANSMITTER	
Frequency Range (TX)	144 to 148 MHz, 420 to 450 MHz (America version) 144 to 148 MHz, 430 to 450 MHz (Canadian version) *144 to 146 MHz, 430 to 440 MHz (EU CE version)
Modulation	16K0F3E/11K0F3E
Spurious Emission	-16 dBm<1GHz, -16 dBm>1GHz
Frequency Stability	±2.5 ppm
Audio Distortion	≤5%
FM Hum & Noise	40 dB
RECEIVER	
Frequency Range	108-136, 136-174, 400 to 520 MHz (Scan Receiver) *144 to 146 MHz, 430 to 440 MHz (EU CE version)
Sensitivity: 12 dB SINAD	-120 dBm
Adjacent Channel Selectivity	-60 dBm
Intermodulation and Rejection	-70 dBm
Rated Audio Power Output	1.0 Watts @ 16 Ω
Rated Audio Distortion	≤5%

NOTE: All specifications may be modified without prior notice or liability. Thank you.

Disclaimer

The Company endeavors to achieve the accuracy and completeness of this manual, but no warranty of accuracy or reliability is given. All the specifications and designs are subject to change without notice due to continuous technological development. No part of this manual may be copied, modified, translated, or distributed in any manner without the prior written consent of the Company.

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