

Clock

Clock settings are divided into:

- Time
- Date
- Time Zone

Time

1. Press [] key to enter the menu mode.
2. Press [ or ] key to utilities, and then press [] key to select.
3. Press [ or ] key to radio settings, and then press [] key to select.
4. Press [ or ] key to clock, and then press [] key.
5. Press [ or ] key to time, and then press [] key to display the current time.
6. Press [] key to enter time setting interface.
7. Press [ or ] key to move left and right to select the desired number, the selected number will reverse video display, then enter the corresponding numbers to change the time via the numeric keypad.
8. Press [] key to save, the screen displays the time has been saved.

Date

1. Press [] key to enter the menu mode.
2. Press [ or ] key to utilities, and then press [] key to select.
3. Press [ or ] key to radio settings, and then press [] key to select.
4. Press [ or ] key to clock, and then press [] key.

5. Press [ or ] key to date, and then press [] key to display the current date.
6. Press [] key to enter the time setting interface.
7. Press [ or ] key to move left and right to select the desired numbers, the selected numbers will reverse video display, then enter the corresponding number to change the date via the numeric keypad.
8. Press [] key to save, the screen displays the date has been saved.

Time Zone

1. Press [] to enter the menu.
2. Press [ or ] to Utilities, and then press [] to select.
3. Press [ or ] to Radio Settings, then press [] to select.
4. Press [ or ] to Clock, then press [] to select Timezone.
5. Press [ or ] to choose the timezone you need.
6. Press [ or ] save timezone you selected.

Mode

Mode settings are divided into:

- CH Mode
- MR Mode

1. Press [] key to enter the menu mode.
2. Press [ or ] key to utilities, and then press [] key to select.
3. Press [ or ] key to radio settings, and then press [] key to select.
4. Press [ or ] key to mode and then press [] key.

5. Press [ or ] key to select CH mode or MR mode, then press [] key to select the corresponding mode, the screen displays this mode is selected.
6. The main screen will show channel name or frequency (receiving frequency) according to the selected mode.

Private Call Match

1. Press [] to enter the menu.
2. Press [ or ] to Utilities, and then press [] to select.
3. Press [ or ] to Radio Settings, then press [] to select.
4. Press [ or ] to Private Call Match.
5. Press [] to save Private Call Match you selected.

Group Call Match

1. Press [] to enter the menu.
2. Press [ or ] to Utilities, and then press [] to select.
3. Press [ or ] to Radio Settings, then press [] to select.
4. Press [ or ] to Group Call Match.
5. Press [] to save Group Call Match you selected.

Note: After Group Call Match turned off, the radio will not match with all groups' ID.

Call Interrupt

1. On the software, choose "Allow Interrupt" on the submenu of "Chanel information".
2. If some radios are on TX, when the receiving channel parameter is set, the call interrupt is allowed to transmit the transmitter to another transmitter signal, then it will automatically enter the receiving state.

Menu Hang Time

1. Press [] to enter the menu.
2. Press [ or ] to Utilities, and then press [] to select.
3. Press [ or ] to Radio Settings, then press [] to select.
4. Press [ or ] to Menu Hang Time.
5. Press [ or ] to select the Hang time you need, then press [] to save.
6. The screen will confirm you the hang time selected.

TX Mode

The TX mode is set to;

- The final active channel is that any situation is TX on the last call channel and is not hung up.
- The last active channel + hang up is normally TX on the last call channel and TX on a hanged channel.
- The selected channel is always TX according to the main channel.
- Selected channels + hang up under the main channel under normal circumstances and TX on a hanged channel.

Last CH

1. Press [] to enter the menu.
2. Press [ or ] to Utilities, and then press [] to select.
3. Press [ or ] to Radio Settings, then press [] to select.
4. Press [ or ] to Tx Mode, then press [] .

5. Press [↶ or ↷] to select from Last CH, Last CH+H, Designed CH, Designed CH+H, press [↵] to select.
6. The screen will confirm Tx Mode selected.

Radio Info

Radio contains the following information:

- My Number
- Versions

Note: At any time you can return to the previous screen by pressing the [↶] key.

My Number

1. Press [↵] key to enter the menu mode.
2. Press [↶ or ↷] key to utilities, and then press [↵] key to select.
3. Press [↶ or ↷] key to radio information, and press [↵] key to select.
4. Press [↶ or ↷] key to my number, then press [↵] key.
5. The display shows radio ID and name.

If you need to change the radio ID, you get two ways:

- Changing by ID number
- Changing by Radio Num List

Changing by ID number(On software Edit Radio ID should be choosed)

1. Press [↵] to enter the menu.
2. Press [↶ or ↷] to Utilities, and then press [↵] to select.

3. Press [↶ or ↷] to Radio Info, then press [↵] to select.
4. Press [↶ or ↷] to My number then press [↵] .
5. Press [↶ or ↷] to select Edit Radio ID, press [↵] .
6. Press ID you need, then press [↵] , the screen will confirm ID has been changed.

Changing by Radio Num List

1. Press [↵] to enter the menu.
2. Press [↶ or ↷] to Utilities, and then press [↵] to select.
3. Press [↶ or ↷] to Radio Info, then press [↵] to select.
4. Press [↶ or ↷] to My number then press [↵] .
5. Press [↶ or ↷] to Radio Num List, press [↵] .
6. Press [↶ or ↷] to the radio number you need, press [↵] .
7. The screen will confirm ID has been selected.

Versions

Display radio firmware version.

1. Press [↵] key to enter the menu mode.
2. Press [↶ or ↷] key to utilities, and then press [↵] key to select.
3. Press [↶ or ↷] key to radio information, and press [↵] key to select.
4. Press [↶ or ↷] key to radio versions, and then press [↵] key.
5. The screen will display the current firmware version, Codeplug version.

Program Radio

Program radio mainly includes editing the channel contents

Channel contents can be edited include:

- RX Frequency
- Tx Frequency
- Channel Name
- Time Out Timer
- CTC/DCS
- Add CH
- Color Code
- Time Slot
- VOX
- TxContact
- GroupList
- Mic Level

Rx Frequency

1. Press [] key to enter the menu mode.
2. Press [ or ] key to utilities, and then press [] key to select.
3. Press [ or ] key to program radio, and then press [] key to select.
4. Use the keypad to enter the correct Program radio password (programmed by software), and then press [] key to select.

5. Press [ or ] key to receiving frequency, and then press [] key to select.
6. The screen displays receiving frequency of the current channel, and then press [] key to select.
7. Press the number keys to enter the corresponding number, press [] key to delete the last number, press [] to return to the previous menu.
8. After finish the change, press [] key, the screen displays receiving frequency has been saved.

Note: Editing frequency will be limited within the frequency range setted by programming software, if less than the write frequency range setted by software, the final change result will be the minimum frequency of frequency range setted on software, otherwise it is maximum.

Tx Frequency

1. Press [] key to enter the menu mode.
2. Press [ or ] key to utilities, and then press [] key to select.
3. Press [ or ] key to program radio, and then press [] key to select.
4. Use the keypad to enter the correct Program radio password (programmed by software), and then press [] key to select.
5. Press [ or ] key to transmitting frequency, and then press [] key to select.
6. The screen displays transmitting frequency of the current channel, and then press [] key to select.
7. Press the number keys to enter the corresponding number, press [] key to delete the last number, press [] to return to the previous menu.

8. After finish the change, press [] key, the screen displays transmitting frequency has been saved.

Note: Editing frequency will be limited within the frequency range setted by programming software, if less than the write frequency range setted by software, the final change result will be the minimum frequency of frequency range setted on software, otherwise it is maximum.

Channel Name

1. Press [] key to enter the menu mode.
2. Press [ or ] key to utilities, and then press [] key to select.
3. Press [ or ] key to program radio, and then press [] key to select.
4. Use the keypad to enter the correct Program radio password (programmed by software), and then press [] key to select.
5. Press [ or ] key to the channel name and press [] key to select.
6. The screen displays the current channel name, press the [] key to switch the input method to enter the relevant letters, numbers or characters, the same as the input method and text editing.
7. After the change is complete, press [] key, the screen displays channel name has been saved.

TOT

1. Press [] key to enter the menu mode.
2. Press [ or ] key to utilities, and then press [] key to select.
3. Press [ or ] key to program radio, and then press [] key to select.
4. Use the keypad to enter the correct Program radio password (programmed by software), and then press [] key to select.
5. Press [ or ] key to TOT, and then press [] key to select.
6. The screen displays infinite, 15S, 30S ... 555S and other options (increasing 15S each time), press [ or ] key to the corresponding option, then press [] key to select; if you choose infinite, the screen displays transmit time close, if you select others, the screen display corresponding time selected.

CTC/DCS

CTCSS/DCS can only be set on analog mode, including:

- CTCSS/DCS encoding
- CTCSS/DCS decoding

Encode

1. Press [] key to enter the menu mode.
2. Press [ or ] key to utilities, and then press [] key to select.
3. Press [ or ] key to program radio, and then press [] key to select.

4. Use the keypad to enter the correct Program radio password (programmed by software), and then press [] key to select.
5. Press [ or ] key to CTCSS/DCS, and then press [] key to select.
6. Press [ or ] key to CTCSS/DCS encoding, and then press [] key to select.
7. Screen display off and a set of CTCSS/DCS encoding value, press [ or ] key to off, and then press [] key to select, and there will be no CTCSS/DCS encoding value, screen displays CTCSS/DCS encoding value off; press [ or ] key to CTCSS/DCS encoding value, and then press [] key to select, then set the corresponding value, screen displays the corresponding CTCSS/DCS encoding value.

Decode

1. Press [] key to enter the menu mode.
2. Press [ or ] key to utilities, and then press [] key to select.
3. Press [ or ] key to program radio, and then press [] key to select.
4. Use the keypad to enter the correct Program radio password (programmed by software), and then press [] key to select.
5. Press [ or ] key to CTCSS/DCS, and then press [] key to select.
6. Press [ or ] key to CTCSS/DCS decoding, and then press [] key to select.
7. Screen display off and a set of CTCSS/DCS decoding value, press [ or ] key to off, and then press [] key to select, and there will be no CTCSS/DCS decoding value, screen displays CTCSS/DCS decoding value off; press [ or ] key to CTCSS/DCS

decoding value, and then press [] key to select, then set the corresponding value, screen displays the corresponding CTCSS/DCS decoding value.

Color Code

Color code only can be set on digital channels.

1. Press [] key to enter the menu mode.
2. Press [ or ] key to utilities, and then press [] key to select.
3. Press [ or ] key to program radio, and then press [] key to select.
4. Use the keypad to enter the correct Program radio password (programmed by software), and then press [] key to select.
5. Press [ or ] key to color code, then press [] key to select.
6. Press [ or ] key to select color code values, and then press [] key to select.
Screen shows X(the selected color code value) is selected.

Repeater Slot

Repeater slot only can be set on digital channels.

1. Press [] key to enter the menu mode.
2. Press [ or ] key to utilities, and then press [] key to select.
3. Press [ or ] key to program radio, and then press [] key to select.
4. Use the keypad to enter the correct Program radio password (programmed by software), and then press [] key to select.

5. Press [ or ] key to repeater slot, and then press [] key to select.
6. Press [ or ] key to select repeater slot values, and then press [] key to select.
Screen shows X(the selected repeater slot value) is selected.

VOX level

1. Press [] to enter menu mode.
2. Press [ or ] to Utilities, then press the [] key.
3. Press [ or ] to radio Programming Radio, then press [] .
4. Input the correct password of radio (set by software), press [] .
5. Press [ or ] to VOX, then press [] .
6. Press [ or ] to set the VOX level you need, there are level 1-10 to be selected.

Tx Contact

1. Press [] to enter menu mode.
2. Press [ or ] to Utilities, then press the [] key.
3. Press [ or ] to radio Programming Radio, then press [] .
4. Input the correct password of radio (set by software), press [] .
5. Press [ or ] to TxContact, then press [] .
6. Press [ or ] to select the Contacts you need, radio will show the info “TxContact Selected”.

GroupList

1. Press [] to enter menu mode.
2. Press [ or ] to Utilities, then press the [] key.
3. Press [ or ] to radio Programming Radio, then press [] .
4. Input the correct password of radio (set by software), press [] .
5. Press [ or ] to GroupList, then press [] .
6. Press [ or ] to GroupList, you will be able to add and delete group members from the selected group list. Or you can press [ or ] to select to add group list.

Mic Level

1. Press [] to enter the menu.
2. Press [ or ] to Utilities, and then press [] to select.
3. Press [ or ] to Program Radio, then press [] to select.
4. Input the password, press [] to enter.
5. Press [ or ] to Mic Level, press to select the Mic Level you need ,then the screen will confirm the Mic Level Selected.

Export/Import the Digital Contact

- 1 Click the Digital Contact on the programming software
- 2 If you click “Export” after read the radio's digital contact, you can export the corresponding digital contact from radio.
If you want to import the digital contacts which have been edited in advance, just click “Import” to select the pre established digital contacts into radio. Additional functions

GPS system

1. Press [] to enter menu mode.
2. Press [ or ] to GPS/BeiDou Info, then press [] to select.
3. If the current channel already has been selected Gps system, then it will show three submenus.
 - (1) GPS/BeiDou Info
Check current GPS info of radio
 - (2) RX GPSInfo
Receive the GPS info of Tx radio
 - (3) GPS Set
Turn On/Off GPS function or select a specific GPS system.
Every channel has the options of “Send GPS Info”and “Receive GPS Info”.
 1. After you tick “Send GPS Info”, radio will send the GPS info every time after you finish a digital call (Make sure GPS function has been connected)
 2. After you tick “Receive GPS Info”, radio will receive GPS Info from the radio which is sending GPS info.

Record(Be able to record for more than 8 hours when it's 3000 channels &10000 contacts)

Record On/ Off

Note: Record function is only available on digital mode.

1. You can set one of the Buttons Definitions to turn on/off the record.

2. Menu operations

- (1) Press [] to enter menu mode.
- (2) Press [ or ] to Utilities, then press [] to select.
- (3) Press [ or ] to select Radio Settings.
- (4) Press [ or ] to Record.
- (5) Press [ or ] to Turn On/ Turn Off.
- (6) Press [] to select.

When the record function is turned on, each digital call will be recorded and stored in the Call Log submenu.

Record Check/Playback

1. Press [] to enter menu mode.
2. Press [ or ] to Call Log, press [] to select.
3. Press [ or ] to Record, press [] to select.
4. Press [ or ] to record Directory (records will be stored each day), press []
5. Press [ or ] to select the record you need.
6. Press [] to choose from: Play, Destination ID, Source ID, Date, Time, Tx/Rx, RecordTime.
7. Press [] to select.

*****CSV Contacts(Optional function)*****

This feature adds 120 thousand CSV contacts, but this version has no record function.

CSV Contacts On/Off

1. Press [] to enter menu mode.
2. Press [ or ] to Utilities, press [] to select.
3. Press [ or ] to Radio Settings, press [] to select.
4. Press [ or ] to CSV contacts, press [] to select.
5. Press [ or ] to select CSV On/Off.

When CSV contacts function is selected, if the receiving call is in the CSV contact list, the corresponding information will be displayed.

Check and send CSV contacts

1. Press [] to enter menu mode.
2. Press [ or ] to Contacts, press [] to select.
3. Press [ or ] to CSV contacts, press [] to select.
4. Press [ or ] to CSV contacts list, press [] to select.

Or press [ or ] to the enter number, you can enter a known number to view the corresponding CSV contact information.

5. The CSV contact list function is similar to the private call in the contact.

Import the CSV contacts

1. Open the computer software of radio
2. Click: Program->Write contacts
3. Import contacts file(format: *.csv)
4. Write the CSV contacts

Export the CSV contacts

1. Open the computer software of radio
2. Click: Program->Write contacts
3. Read the contacts
4. Export the contacts

Specifications

General Specifications

Frequency	136-174/400-480MHz (USA Version) 144-146/430-440MHz (EU Version)
Channel	3000 Channels
Operating Temperature	-10°C~+40°C
Operating Voltage	7.4V DC
Dimension(Hxwxd	131*61*36
Weight	258g(with battery)
Battery Type	Li-in
Battery Capacity	3600mAh TYPE C battery
Antenna Impedence	50Ω
Audio Output Power	≤1000mW @ 16 Ω
Channel Spacing	12.5KHz

Transmitter

Output power	VHF: 10W/5W/1W; UHF: 8.5W/4W/1W
Frequency Stability	VHF: ±5PPM; UHF: ±2.5PPM
Adjacent Channel Power	≤ -60dB
Free Time Slot Power	TDMA: ≤ 57dBm
Hum and Noise	-40dB@12.5KHz
Spurious Radiation	Antenna: 9KHz-1GHz ≤ -36dBm 1GHz-12.75GHz ≤ -30dBm
FM Modulation Mode	7K80F3E
4FSK Digital Mode	8K10K1D
Modulation Maximum Deviation	2.5KHz@12.5KHz
Nonactive Slot Power	-57dBm
Digital Protocol	ETSI TS 102 361-1 -2 -3
Vocoder Type	AMBE+2TM
Audio Response	+1dB~-3dB
Modulation BER(Bit Error Rate)	≤ 5%

Receiver

Analog Sensibility	0.2μV @ 12dB SINAD
Digital Sensibility	0.25μV(BER:5%)
Adjacent Channel Selectivity	≤ -60dB @ 12.5KHz
Intermodulation	≤ 60dB
Spurious response	≥ 70dB
Audio response	+1~-3dB
Rated audio power	1W
Rated audio distortion	<5%
FM Noise	≥ 45dB @ 25KHz/ ≥ 40dB @ 12.5KHz

Note: Specifications will be revised without notice due to technical improvement. Thank you.

Guarantee

Model Number: _____

Serial Number: _____

Purchasing Date: _____

Dealer: _____ Telephone: _____

User's Name: _____ Telephone: _____

Address: _____ Post Code: _____

Remarks:

- 1 This guarantee card to be kept by the user, no replenishment if lost.
- 2 This guarantee card to be filled & chopped by the dealer, or it is invalid.
- 3 Don't alter the guarantee card, please confirm the serial number on the guarantee card is same as that on the machine.
- 4 One-year guarantee, charger, battery, ear-phone, antenna and cable are not under guarantee.
- 5 The user can get repairing service from the following ways:
 - Go to the shop where you buy the machine.
 - Our local repairing agents.
 - Send back to our company.

Please cut along with this line

