

the scan direction, rotate the [Tuning control] clockwise (upward scan) or counterclockwise (downward scan). You can also press microphone [UP]/ [DWN].

VFO scan monitors all frequencies tunable on the band, using the current frequency step size.

### Program scan

Program Scan is identical to VFO Scan except that you select a frequency range for the scan.

Setting scan frequency limit range

You can store 2 scan ranges in memory channels L1/U1 and L2/U2

- 1.Press [VFO] to enter VFO mode
- 2.Rotate the [Tuning control] to select your desired frequency for the lower limit.
- 3.Press [F], a memory channel number appears and blinks.
- 4.Rotate the [Tuning control] to channel from L1 or L2
- 5.Press [MR] to set the channel number, the lower limit is stored in the channel.
- 6.Back to the VFO mode, and rotate [Tuning control] to select your desired frequency for upper limit.
- 7.Press [F], a memory channel number appears and blinks.
- 8.Rotate the [Tuning control] to select a matching channel number form U1 or U2, if your selected channel L1 in step 4, select U1 here.


### Operation

- 1.Select your desired limit channel, for example L1.
- 2.Press [MR] and hold on, scan starts at the current frequency, the scan range is from L1 to U1.

### Cross Band Repeater Function

This radio can receive signals on one band and retransmit this signals on another band at the same time.

#### Operation

- 1.Press [F] then press [Turning control] to enter the menu.
- 2.Rotate the [Turning control] to PRI.MOD and press [Turning control] to enter
- 3.Rotate [Turning control] to select the value **CROSS/A-Tx/B-Tx**
- 4.Press [Turning control] to choose the value you need, and press [F] to exit the menu
- 5.Turn off the radio, long press [TONE] and hold on then turn on the radio again to enter the Cross Band Repeater mode, the  icon would be showed on display.
- 6.Repeat the step 5 to exit the Cross Band Repeater mode

#### CROSS

Both A band and B band can receive and transmit; that's mean the radio can receive a signals from A band and retransmit the signals from B band or receive a signals from B band and retransmit the signals from A band.

#### A-Tx

The radio only can transmit the signals from A band; for example: the radio can receive a signal from B band and retransmit the signals from A band; but the radio can not retransmit the sigansl from B band when radio receive a signal from A band.

#### B-Tx

The radio only can transmit the signals from B band; for example: the radio can receive a signal from A band and retransmit the signals from B band; but the radio can not retransmit the sigansl from A band when radio receive a signal from B band.

## Note

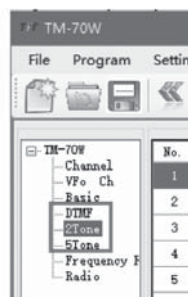
When you use this function, please do not make transmitting frequency as 3 times of receiving frequency, or vice versa, eg. TX=145.025MHz and RX=435.075MHz or RX=145.025MHz and TX=435.075MHz

A band= Right side band

B band= Left side band

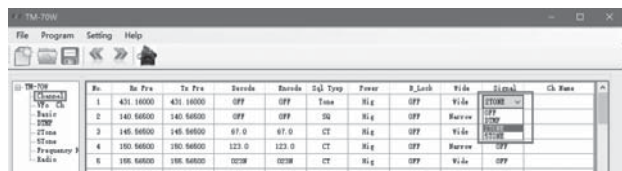
## Signal

You can set the signal code by the programming software:

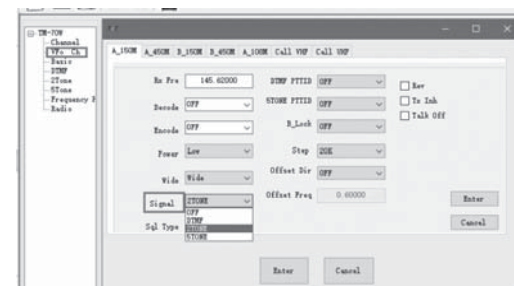


You can choose the signal type by the programming software by programming software or Radio menu.

Programming software (Channel):



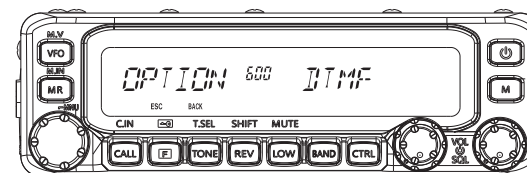
## Programming software (VFO)



## Radio Menu:

Press [F] at first, then press [Turning control] to enter the menu.

Rotate [Turning control] to select the menu: [OPTION]



Press [Turning control] to enter the [OPTION] menu

Rotate [Turning control] to select the signal: OFF/DTMF/2TONE/5TONE

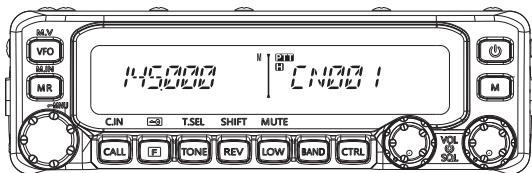
Press [Turning control] to confirm

Press [F] to exit.

You can set the DTMF code by the programming software.  
Press PTT+ UP key to transmit DTMF code.

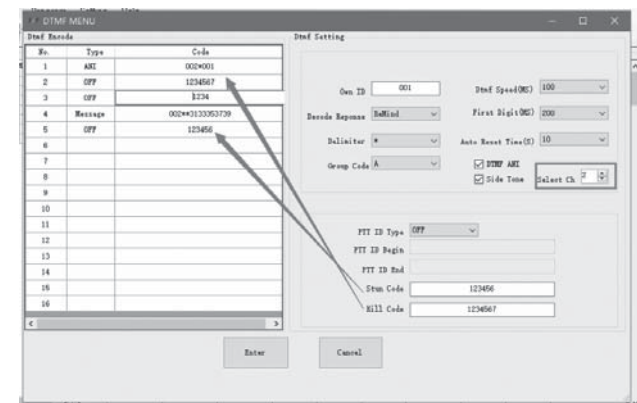
DTMF MENU		
No.	Type	Code
1	AXI	000*001
2	OFF	1234567
3	OFF	12345678
4	Message	002**4806060208313233
5	OFF	123456
6	OFF	1234568
7		
8		
9		

The TX radio ID would be shown on the RX radio display.

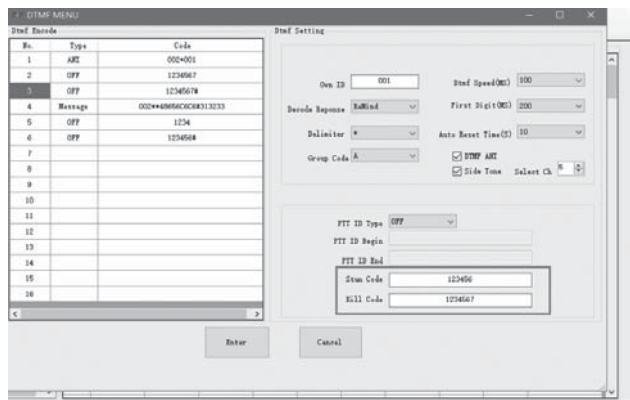


For example:

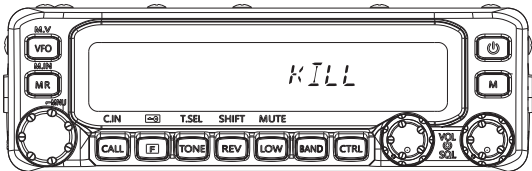
TX setting: The Kill code is 1234567, and the Ch 2 code is same as Kill code, when the TX radio wants to kill the RX radio, the "Select Ch" needs choose "2".



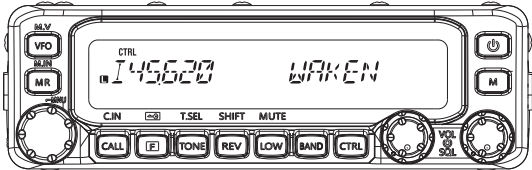
RX setting:  
The both TX radio and RX radio should be same ID, then the TX radio can transmit the corresponding code to RX radio successfully.



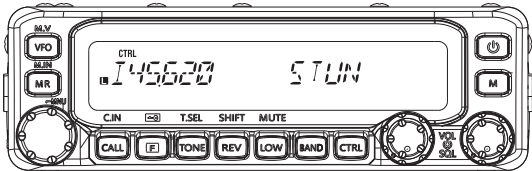
a.The RX radio is Killed:



b.The RX radio is stunned:



c.The RX radio is waked:

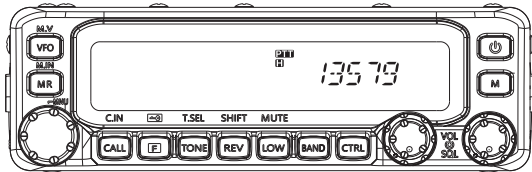


3)Message: You can set the message in the “Message type”, the Call ID is the RX radio ID, the message would be shown on the RX radio screen when the DTMF signal is transmitted successfully.  
TX radio setting:

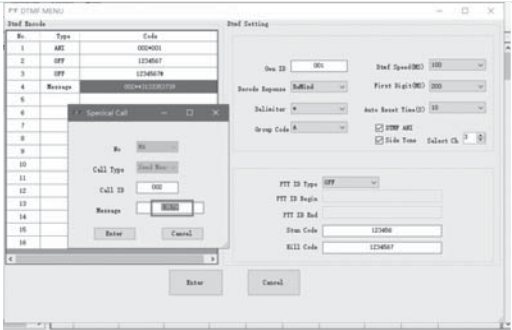


Select Ch: please check the “Message” No.  
Call ID: please enter the RX radio ID.  
Message: please input the details which you want to show in the RX radio screen

The RX radio receives the DTMF signal:

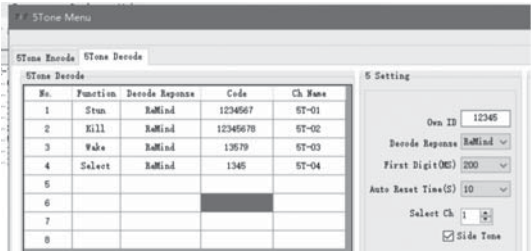


## 2TONE

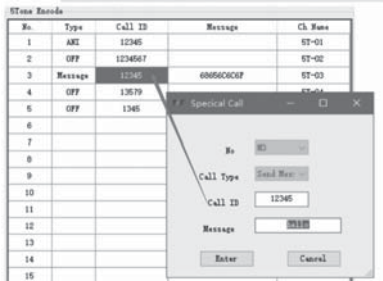


## 5 TONE

The TX radio information refers to encode, RX radio information refers to decode  
When the TX radio transmits the 5 TONE, if the call ID is the one of the RX radio decode's code; the RX radio can receive the 5 TONE signal successful.  
RX radio:



TX radio:  
ANI Call ID: it should be same as RX radio own ID  
Message: Call ID should be same as RX radio own ID, and input the content on the message line which can be shown on the RX radio screen  
OFF: if the call ID same as the RX radio code of Stun function, the RX radio would be stunned once it receive this signal from TX radio; Kill and wake functions are same as stunned



FM radio

- 1.Press [BAND] and hold on to enter or exit FM radio mode.
- 2.Press [VFO] to enter the VFO mode of FM, you can input the FM frequency by microphone or programming software
- 3.Press [MR] to enter the memory channel mode of FM, there has 32 channels for FM

FM radio channel storage

- 1.Enter the FM radio mode
- 2.Press [VFO] to enter the VFO mode, input the frequency you need by microphone or rotate [Turning control].
- 3.Press [F] and rotate [Turning control] to select the channel No.
- 4.Press [MR] to storage the channel
- 5.You can press [MR] again to enter the MR mode to check the channels.

Programming keys assignment:

FRBAND/CTRL/MONI/MENU/MUTE/SHIFT/DUAL/M>V/VFO/MR/CALL/Confirm/TONE/REV/LOW/LOCK/A/B/Enter/1750

Name	Function
FRBAND	Frequency band switch
CTRL	Operation A/B band switch
MONI	Monitor function on/off
MENU	Enter the Menu mode
MUTE	Speaker is in mute mode
SHIFT	Offset direction switch
DUAL	Single/dual band operation switch
M>V	The frequency of the current MR channel copy to VFO mode
VFO	VFO
MR	Memory channel
CALL	CALL channel
MHz	VFO mode, press the key at first to change the frequency mode, and rotate [Turn control] to change the frequency by MHz. MR mode, press the key to switch between frequency and channel No.
TONE	TONE (CTCSS/DCS)
REV	Reverse offset direction
LOW	Output power switch
LOCK	Front panel keys lock
A/B	A/B band switch, transmit band and main band switch together
ENTER	VFO frequency input or Channel No. input
1750Hz	Transmit 1750Hz tone

PREPARATION

General	Frequencyrange: FM 144~146MHz;430~440 MHz EU / FM 144~148MHz;420~450 MHz US
	Channel capacity:999
	Channel spacing:5/6.25/10/12.5/15/20/25/30/50/100KHz
	Modulation type:F3E
	Antennaimpedance:50Q
	Frequency stability:±5ppm @(-10°C~+60°C)
	Working voltage:Dc: 13.8V (±15%)
	Receiving current:<0.5A
	Transmission current:< 10A (VHF 70W);<9A (UHF 55W)
	Working temperature:-20°C~+60°C
Receiver	Dimension:140 x 43 x 215mm
	Weight:1100g
	Sensitivity:0.8uV for 12dB SN ( 108MHz~ 134MHz,AM )(Left band)
	0.2uV for 12dB SN(136MHz~174MHz,FM )
	0.2uV for 12dB SN(400MHz~480MHZ,FM )
	Selectivity:60dB@12.5KHz
	Audio output:80,3W
Transmitter	Audio distortion:<5%
	S/N ratio:40dB
	Output power:70W/25W/10W/HF;60W/25W/10W/UHF
	Modulation type:11K0F3E @ 12.5KHz 14K0F3E @ 20KHZ16K0F3E @ 25KHz
	Max. modulation deviation:<5KHz/2.5KHz
	Spurious emission:<-60dB (144MHz/440MHz)
	Microphoneimpedance:2KQ
	Modulation distortion:<5%/1kHz
	S/N ratio:40dB
	Adjacent channels power:<-60dB

Warranty card

Note:

1. This guarantee card to be kept by the user, no replenishment if lost.
2. This warranty card is only applicable to Mobile radio of the above-listed model and serial number.
3. The warranty card shall be filled and chopped by the dealer, or it is invalid.
4. One-year guarantee, Charger, ear-phone,antenna and cable are not under guarantee.
5. The user can get repairing service from the followingways:
  - Go to the shop where you buy the machine.
  - Our local repairing agents.
  - Send back to our company.

Customer's name: Gender:

Add and postal code:

Customer's Tel:

Model:

Serial number:

Purchasing date:

Invoice No.:

Dealer: Stamp:

Add and postal code of the dealer:

Contact Tel:

Handling people:

EU Warning Statement

Use the Mobile Radio in the environment with the temperature between -10 C and 60 C , otherwise, it may damage your Mobile Radio. It can be operating under 2000m.

Hereby, We, declare that the radio equipment type Mobile Radio is compliance with RED Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [www.XXXXX.com](#)



RF Exposure Warning Statements:

This equipment complies radiation exposure limits set forth for an uncontrolled environment. This equipment shall be installed and operated with minimum distance 217 cm between the radiator & body.

Caution:

To prevent possible hearing damage, do not listen at high volume levels for long periods.



Technology <sup>ⓘ</sup>	Frequency MHz <sup>ⓘ</sup>		RF Power <sup>ⓘ</sup>
	From <sup>ⓘ</sup>	To <sup>ⓘ</sup>	
VHF <sup>ⓘ</sup>	144 <sup>ⓘ</sup>	146 <sup>ⓘ</sup>	47.87dBm <sup>ⓘ</sup>
UHF <sup>ⓘ</sup>	430 <sup>ⓘ</sup>	440 <sup>ⓘ</sup>	47.13dBm <sup>ⓘ</sup>
FM <sup>ⓘ</sup>	87.5 <sup>ⓘ</sup>	108 <sup>ⓘ</sup>	— <sup>ⓘ</sup>

FCC Warning Statement

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference including received interference that may cause undesired operation.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF Exposure and Separation Distance

This radio transmitter has been approved by FCC to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.