Content

- 1 CT 790 transceiver
- 1 high gain antenna
- 1 Li-ion battery pack
- 1 desktop charger
- 1 belt clip
- 1 hand strap

If any item is missing or have been damaged during the shipment, please notify your MIDLAND dealer.

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 unit. Non-expert handling of the unit may damage it.
- 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.

Main functions

- Dual Band, Dual Frequency, Dual Display and Dual Standby
- Frequency Range: 144-146MHz & 430-440MHz (Rx / Tx).
- Working mode: U-V, V-V or U-U available
- Same channel: VHF T x & UHF Rx or UHF T x & VHF Rx available
- DTMF Encoding
- Digital FM Radio (76-108MHz)
- CTCSS/DCS Frequency Scan
- Output power: 5W VHF /4W UHF
- Memory Channel: 128 channels
- VOX Function
- Stopwatch Function
- 105 groups DCS and 50 groups CTCSS
- Voice Prompt
- SOS Function
- Wide/Narrow Bandwidth selection (25KHz / 12.5KHz)
- Channel number, Channel + Frequency or Channel name display mode available
- Multi-functional Scan
- Bright Flashlight illumination
- Step (5/6.25/10/12.5/25KHz/50KHz/100KHz)
- High/Low Power selection (5W/1W)
- High Capacity Li-ion Battery
- Intelligent Charger
- Offset Frequency setting (0-69.950MHz)
- Frequency shift Direction Setting

- Busy Channel Lockout
- Power on Display (Battery-V/Full Screen/Other Characters)
- Low-battery Voice Prompt
- Start and/or End Transmitting Beep Prompt
- Transmit overtime Prompt
- Keypad Locked (Auto / Manual)
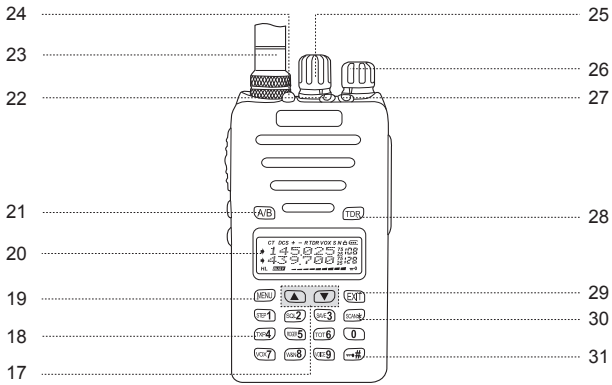- High/Low power switchable when transmitting
- Menu/Channel Reset

DESCRIPTION OF THE DEVICE
LCD display
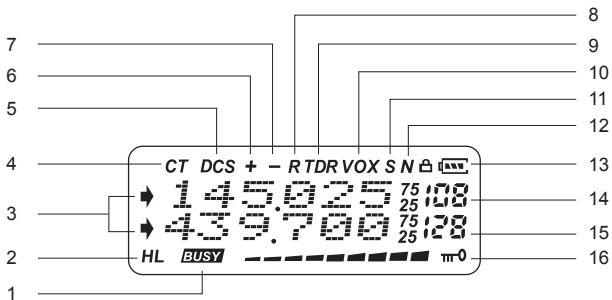
1. Busy channel locked
2. High/low power transmitting
3. Frequency selected
4. CTCSS
5. DCS
6. Split positive
7. Split negative
8. Reverse frequency
9. Dual band
10. VOX function
11. Received signal on Vice-frequency
12. Bandwidth indicator
13. Battery level indicator
14. Menu/channel number
15. Menu/channel number
16. Keypad lock

Transcceiver

17. ▲/▼ keys
18. Keypad
19. Function key
20. LCD display
21. **A/B** key for Master Frequency
22. Reception led
23. Antenna
24. Lamp

25. Encoder Knob
26. Power switch/volume control
27. Transmission led
28. Single/dual band switch key
29. **Exit** key
30. Reverse frequency/Scan key
31. Lock key/Stopwatch timer key
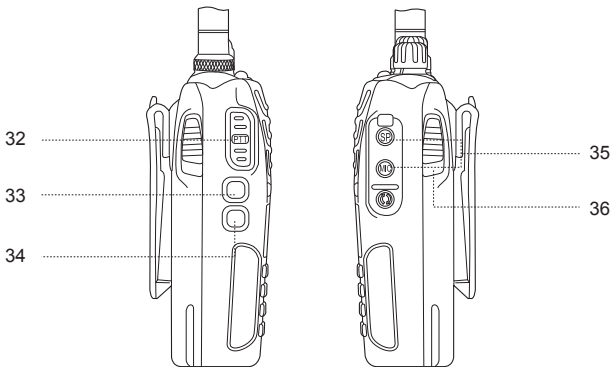
32. **PTT** (push to talk)key
33. Side key1: Scan/Lamp/SOS-CH/Radio
34. Side key2: monitor (long press)/flashlight (short press)

35. Ext. speaker/microphone jack
36. Battery latches

Quick Search
Press ▲ or ▼ key to set Functions or Parameters.

To select the working mode (Channel mode or Frequency mode)
With the radio turned on, keep the Menu button pressed

Single/Dual Band Switch
Press the **TDR** key

Quick Re-start of the transceiver
In standby Mode, press **MENU + the A/B key**. The LCD will display "**Step**" .
Press the **MENU** key to confirm.

A/B Switch
Press the **A/B** key to select the master frequency. The frequency pointed with the arrow is the master frequency;
the frequency without arrow is the vice frequency.
The master frequency can be used for transmitting and receiving, and the vice frequency is only for receiving. When the vice frequency receives a signal, the screen displays " **S** ".

SCAN key
Press slightly the Scan key to set the Reverse Frequency (ON/OFF) . Keep it pressed for 2 seconds to activate the Scan function.

Side key 2
Press slightly the Side key 2 to turn ON/OFF the flashlight. Keep it pressed for 2 seconds to enable the Squelch function.

1750Hz Burst Tone
Sometimes, a 1750Hz Burst tone is required to carry out some other specific functions.
This transceiver has a 1750Hz Burst tone to help you.
In transmitting mode, press the side key **PF1** and a 1750Hz Burst tone will be emitted. The lenght of the 1750Hz Burst tone is established in base of how long you keep the PF1 key pressed.
Release the **PF1** key to end emitting the 1750Hz Burst tone.

DESCRIPTION OF THE FUNCTIONS

CT790 displays at the same time 2 frequency bands. The frequency band pointed with the arrow is the master frequency and it is used to transmit; the other one is the vice frequency and only can be used to receive.

To choose the desired frequency, press the **A/B** key.

Under Frequency mode:

the following Nine functions can be set on both Bands: frequency step, output power, squelch level, channel bandwidth, CTCSS, DCS, Frequency shift direction, Offset frequency, and Channel displaying mode.

Under Channel mode:

the following seven functions can be set on both Bands: invalid-Stepping transmit output power, CTCSS, DCS, channel bandwidth, frequency step, frequency shift direction and Offset frequency.

FREQUENCY STEP (STEP) ----- MENU 1

In standby mode, press **MENU + 1**; the screen displays "**Step**"

Press **MENU** to enter the function. Press the ▲/▼ buttons to select the desired frequency step, then press the **MENU** button to confirm. To return to the standby mode press **EXIT**.

This transceiver has seven available frequency steps: 5.00KHz, 10.00KHz, 12.50KHz, 25.00KHz, 50.00KHz and 100KHz.

SQUELCH LEVEL (SQL-LE) ----- MENU 2

This function turns on the Squelch when the signal is strong; the Squelch will stay off when the signal is weak. Set the same DCS codes of your group and turn on the squelch.

By setting the level too high, you may not receive the weak signals; while by setting it too low you may receive noises or undesired signals.

NOTE:

This transceiver has ten (0~9) available levels: 0 means that the Squelch is turned on. From level 1 to level 9 you will have different levels of noises reduction. The higher is the level, the louder will be the Squelch.

In standby mode, press **MENU + 2**. The screen displays "**SQUELCH**".

Press **MENU** to enter to function. Press the ▲/▼ buttons to select the desired Squelch level, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

Keep pressed the side Key 2 to enable the Squelch function.

POWER SAVE(SAVE) --- MENU 3

To save battery power, this function can turn off the transceiver when no signal is received.

In standby mode, press **MENU + 3**. The screen displays "**SAVE** ".

Press **MENU** to enter the function. Press the ▲/▼ buttons to select **ON or OFF**, then press **MENU** to confirm.

To return to the standby mode press **EXIT**.

HIGH/LOW POWER SELECTION (TXP) --- MENU 4

In frequency mode, press **MENU + 4**. The screen will display "**TXP** ".

Press **MENU** to enter the function. Press the ▲/▼ buttons to select HIGH or LOW power, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

You can choose between 5W (HIGH) or 1W (LOW) output power. By pressing the **TDR** key you can switch the output power (from high to low and viceversa).

BEGIN/END TRANSMISSION TONE (ROGER) --- MENU 5

Thanks to this function you can select the Roger Beep tone among:
OFF: Roger Beep turned off (no tones).
BOT: Roger Beep tone heard when the **PTT** button is pressed (when transmission begins)
EOT: Roger Beep tone heard when the **PTT** button is release (when transmission ends)
BOTH: Roger Beep tone heard when you press and release the **PTT** button
In standby mode, press **MENU** + 5. The screen will display "**ROGER** ".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **OFF/BOT/EOT/BOTH**, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

TIME OUT TIMER (TOT) --- MENU 6

The TOT function is used to prevent a too long transmission. This function temporarily blocks transmissions if the radio has been used beyond the maximum time permitted. Once reached the preset timer, the radio will be forced in reception mode. When a transmission exceed the pre-set time, the radio will stop transmitting and a warning sound will be heard.
The transmission time can be set in 40 levels with 15 seconds each (between 15 and 600 seconds).
In standby mode, press **MENU + 6**; the screen will display "**TOT** ".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select the desired transmitting level, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

VOX (VOX) --- MENU 7

This function allows hands-free conversations: just speak in the direction of the microphone and the communication will be automatically activated.
As the VOX should check the voice, transmission will be a little delayed, and the beginning voice may not be transmitted.
In standby mode, press **MENU** + 7. The screen will display "**VOX**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to turn OFF the VOX function or to select the VOX level (1~10), then press **MENU** to confirm.
To return to the standby mode press **EXIT**.
NOTE:
The higher is the VOX level, the higher will be the volume required.

WIDE/NARROW BANDWIDTH (WN) --- MENU 8

In standby mode, press **MENU + 8**. The screen will display "**WN**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **WIDE or NARROW** bandwidth, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

VOICE PROMPT (VOICE) --- MENU 9

In standby mode, press **MENU + 9**; the screen will display "**VOICE**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **OFF** or to choose the desired voice language, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

TRANSMISSION OVERTIME ALARM (TOA) --- MENU 10

With the TOA function enabled, if the TOT function (Time Out Timer) has been turned on and your transmission reachs the pre-set end-transmission time, the transceiver will alarm you and the TX red indicator starts blinking.
You can set from 1 to 10 TOA levels. Level 1 means that the transceiver prompt 1 second before

the transmission reaches the TOT; level 2 prompt 2 seconds before the TOT and so on...
In standby mode, press **MENU + 10**. The screen will display **"TOA"**.
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **OFF or 1 of the 10 levels**, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

BEEP TONE (BEEP) --- MENU 11

If you enable this function, every time a button is pressed, you will hear a Beep tone.
We kindly suggest you to turn on this function to avoid any possible malfunctions.
In standby mode, press **MENU + 11**. The screen will display "**BEEP**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to turn **ON/OFF** the beep prompting function, then press **MENU** to confirm. To return to the standby mode press **EXIT**.
NOTE:
VOICE function turned on (MENU+9),will have a higher priority than the Beep tone function.

POWER-ON DISPLAY (PONMSG) --- MENU 12

The power on display of this transceiver can be set as following:
OFF: all parameters fully displayed
BATT-V: only the current battery level is displayed
MSG: the screen displays "**WELCOME**"
In standby mode, press **MENU + 12**. The screen displays "**PONMSG**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **OFF/BATT-V/MSG**, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

BUSY CHANNEL LOCKED (BCL) --- MENU 13

This function prevents the interference of other communicating channels. If the selected channel has been occupied, by pressing the **PTT** button, the transceiver will not transmit.
In standby mode, press **MENU + 13**. The screen will display "**BCL**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **ON/OFF**, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

KEYPAD LOCK (AUTOLK) --- MENU 14

This transceiver has 2 types of Keypad lock available: Auto-lock and Manual-lock.
In standby mode, press **MENU + 14**. The screen will display "**AUTOLK**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **ON/OFF**, then press **MENU** to confirm.
To return to the standby mode press **EXIT**.
If you choose:
ON: the keypad lock function will be turned on. With this function enabled, the transceiver will lock automatically if there is no operations within 15 seconds. Keep pressed **π⁻0** for 2 seconds to unlock the keypad.
OFF: the keypad lock function will be turned off.
NOTE:
Manually lock: in standby mode keep pressed **π⁻0** for 2 seconds to lock the keypad. To unlock the keypad keep pressed again **π⁻0** for about 2 seconds.

RECEIVE WITH CTCSS (R-CTCSS) --- MENU 15

Set the CTCSS tones to ignore unwanted signals from other users of the same frequency.
CTCSS tones enable the radio to communicate with the users that are tuned on the same channel

and have set the same CTCSS tone.

In frequency mode, press **MENU + 15**. The screen displays "**R-CTC**".

Press **MENU** to enter the function. Press the ▲/▼ buttons to turn **OFF** this function or to select a CTCSS tone from 67.0Hz to 254.1Hz, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

NOTE:

This transceiver has 50 CTCSS groups.

TRANSMIT WITH CTCSS (T-CTCSS) --- MENU 16

In standby mode, press **MENU + 16**. The screen displays "**T-CTC**".

Press **MENU** to enter the function. Press the ▲/▼ buttons to turn **OFF** this function or to select a CTCSS tone from 67.0Hz to 254.1Hz, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

NOTE:

This transceiver has 50 CTCSS groups.

RECEIVE WITH DCS (R-DCS) --- MENU 17

In frequency mode, press **MENU + 17**. The screen displays "**R-DCS**".

Press **MENU** to enter the function. Press the ▲/▼ buttons to turn **OFF** this function or to select a DCS code from D023N to D754I, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

NOTE:

This transceiver has 105 DCS groups.

TRANSMIT WITH DCS (T-DCS) --- MENU 18

In standby mode, press **MENU + 18**. The screen displays "**T-DCS**".

Press **MENU** to enter the function. Press the ▲/▼ buttons to turn **OFF** this function or to select a DCS code from D023N to D754I, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

NOTE:

This transceiver has 105 DCS groups.

SCAN FUNCTION (SC-REV) --- MENU 19

This transceiver has three Scan modes:

TO - Time-operated Scan

Whenever a signal is detected, the radio will suspend the scan for 5 seconds, and then will continue to scan even if the signal is still present.

CO: Carrier-operated Scan

Whenever a signal is detected, the radio will stop scanning. It will resume to scan once the signal will be no more present.

SE: Search Scan

The radio will stop scanning and exit the Scan mode once detected a signal.

In standby mode, press **MENU + 19**. The screen displays "**SC-REV"**.

Press **MENU** to enter the function. Press the ▲/▼ buttons to select the desired Scan mode, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

SCAN/LAMP/SOS-CH/RADIO FUNCTION on Side key 1 (PF1) --- MENU 20

There are four functions available with the side key 1 of this transceiver:
SCAN: Scan function
LAMP: Display illumination
SOS-CH: SOS function
RADIO: FM radio
OFF: Functions turned off

1. Scan function:

In standby mode, press **MENU + 20**. The screen displays "**PF1**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **SCAN**, then press **MENU** to confirm.
To return to the standby mode press **EXIT**.
Once have enabled the function, press the **Side key 1** to enter the Scan mode (Scan mode can be set through MENU + 19 – Scan Mode Setting). To stop scanning, press any key.

2. Display illumination:

In standby mode, press **MENU + 20**. The screen displays "**PF1**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **LAMP**, then press **MENU** to confirm.
To return to the standby mode press **EXIT**.
Once have enabled the function, press the **Side key 1** to light on the display; press again this button to turn it off.

3. SOS-CH (SOS function):

In emergency situations, the SOS function transmits an SOS signal. The white led starts blinking.
The emergency signal will be transmitted every 5 minutes, lasting for 10 seconds each time.
To stop transmitting, press any key.
If a carrier signal appears during the transmission interval, the radio starts receiving.
After the carrier signal disappears, the transceiver will resume transmitting the SOS signal automatically.
Press any key to stop transmitting the SOS signal.
NOTE:
This function can be used only after have set the channel/frequency band.

In standby mode, press **MENU + 20**. The screen displays "**PF1**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to choose the **SOS-CH** submenu; the screen will display "**PF1 SOS-CH**". Press **MENU** again to confirm. With the ▲/▼ buttons choose **BAND A** or **BAND B**, then press **MENU** to confirm. You will hear an acustic sound and the led will blink red and green. Now the SOS-CH function is set.

Once have enabled the SOS-CH function, if you press the PF1 side key, the transceiver will transmit the SOS signal.

4. FM RADIO:

Turn on the Radio: In standby mode, press the side key 1 to turn on the function. The screen displays the frequency in use and the FM radio frequency.
The green led starts flashing, and it will stop blinking once found the radio station.
Tune the radio stations: In Radio mode, press **SCAN**, the radio will tune the stations automatically. The green led starts blinking. It will stop tuning once has found the station. You can also
Manually search the FM station by pressing the ▲/▼ buttons.

Store the radio stations: While the radio is searching the station, press **MENU**. The screen will display "**SAVE?**", then you can enter any number key between 1 and 9 key. The station will be stored into the transceiver's chip.

The transceiver has two radio-channels storable groups. As default, the group used for storing the channels is the group 1.

E.g. if you want to store 88.1MHz into Channel 8 of the 1st group, just press **MENU +8**. If you want to store this frequency into Channel 8 of the 2nd group, firstly, you should select the 2nd storage group, and then press **ππ0**. The screen displays "**TEAM 2**", then press **MENU + 8**.

To listen a stored station, under Radio mode, press the desired number key (from 1 to 9) to listen it. Use **ππ0** to choose between group 1 and 2.

Exit the Radio: Press the **Side key 1** again to exit the radio mode.

NOTE:

When you are listening the radio, the current frequency/channel is still on use.

While you are listening the radio, press **EXIT** to visualize the frequency band. To transmit, press the **PTT** button. Once the transmission ends, after 5 seconds, it will return on Radio mode automatically.

WORKING MODE (CH-MDF) --- MENU 21

This transceiver has two working modes available:

1. Frequency mode (FREQ)

2. Channel mode

There are three kinds of channel mode settable:

a. Channel (CH)

b. Frequency + Channel number (CH FREQ)

c. Channel name (NAME)

To shift between Frequency mode (FREQ) and Channel mode:

In standby mode, press **MENU +21**, then press the ▲/▼ buttons to choose the working mode. Press **MENU** to confirm.

You can shift between Channel mode and Channel Name mode only after have stored at least one channel and one named channel.

AUTOBACKLIGHT (ABR) --- MENU 22

In standby mode, press **MENU + 22**. The screen will display "**ABR** ".

Press **MENU** to enter the function. Press the ▲/▼ buttons to enable/disable (ON/OFF) the auto backlight of the display, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

OFFSET FREQUENCY (OFF-SET) --- MENU 23

In standby mode, press **MENU + 23**. The screen will display "**OFFSET** ".

Press **MENU** to enter the function. Press the ▲/▼ buttons to select the offset frequency or digit the offset frequency directly through the key pad. Press **MENU** to confirm.

To return to the standby mode press **EXIT**.

It is possible to set the frequency shift direction and the offset frequency only in Frequency mode. It is possible to transmit and receive in two different frequencies.

To set the offset frequency, in frequency mode, you have to set first the frequency shift direction.

E.g.: if you want to receive on 430.025MHz frequency and transmit on 435.026MHz frequency: in Frequency mode, digit 4 3 0 0 2 5 then press **MENU + 24+ MENU** to enter and set the frequency shift direction. Select +(positive direction) and press **MENU** to confirm. Press **EXIT** to exit the function. Press **MENU + 23 + MENU** to enter the offset frequency function and then digit the frequency deviation (5000). Press **MENU** and then **EXIT** to exit the function. Now the frequency shift direction and offset frequency have been set.

FREQUENCY SHIFT DIRECTION (SFT-D) ---- MENU24

In standby mode, press **MENU + 24**. The screen will display "**SFT-D**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **+/-/OFF**, then press **MENU** to confirm.
To return to the standby mode press **EXIT**.
+ (positive offset): If the transmitting frequency is higher than the receive one.
- (negative offset): If the transmitting frequency is lower than the receive one.
OFF: frequency shift turned off.

STOPWATCH TIMER (SECOND) --- MENU 25

In standby mode, press **MENU + 25**. The screen displays "**SECOND**".
Press **MENU** to enter. Press the ▲/▼ buttons to enable/disable (ON/OFF) the function, then press **MENU** to confirm. To return to the standby mode press **EXIT**.
Using the stopwatch timer:
When this function is ON, press π̅0 to start counting, to stop counting you can press any key. Press π̅0 again to re-start counting.
To exit the function, stop the counting first, and then press the **EXIT** button.

CHANNEL NAME (CHNAME) --- MENU 26

To set the channel name, you have at your disposal 26 letters (A to Z) and 10 numbers (0 to 9).
You can choose only 6 characters to create the channel name.
To edit the channel name:
At least one channel should have been stored.
To display the name of the channels, press **MENU + 21**.
Select the desired channel, then press **MENU+ 26 + MENU**. The screen displays six '_' symbols.
Press ▲ to select the character and ▼ to confirm and go on, then press ▲ again to select the second character. and ▼ to confirm and go on. After have selected the sixth characters press **MENU** to confirm. To exit the function press **EXIT**. The screen displays the channel name and also the channel number on the right corner of the display.

STORED CHANNELS (MEM-CH) --- MENU 27

In Frequency and in Standby mode, you can store frequencies and parameters.
Press **MENU + 27**; the screen will display "**MEM-CH**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select the channel, then press **MENU** to store it.
A vocal sound will confirm the storing success. Press **EXIT** to exit the current channel
E.g.: to set 430.025MHz as receiving frequency and 435.025MHz as transmitting frequency in CH-20, follow these steps:
1. On Frequency mode, digit **430025**, then **MENU+ 27 + MENU**, to enter the function. Digit 20 or use the ▲/▼ buttons to select **CH-20**. Press **MENU** to confirm. A vocal sound will confirm the storage success, then press the **EXIT** button.
2. Digit **435025** and then **MENU+ 27 + MENU + MENU**. A vocal sound will confirm the storage success, then press the **EXIT** button.
NOTE:
If the stored channel needs a CTCSS/DCS code, you should set it before storing the channel.
It is possible to transmit on the stored channel only if you have stored its frequency first.
Manual storage is possible only on empty channels, after have deleted all the previous parameters.

CHANNEL DELETION (DEL-CH) ------ MENU 28

In standby mode, press **MENU + 28**; the screen will display "**DEL-CH**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select the channel you want to delete, then press **MENU** to confirm. To return to the standby mode press **EXIT**.

RESET ---- MENU 29

This transceiver has two Reset modes available: **VFO** and **ALL**.
RESET VFO: all the parameters of the functions will return on the default set.
RESET ALL: all settings of the transceiver return on the default set.
1. Reset (VFO):
In standby mode, press **MENU + 29**; the screen will display "**RESET**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **VFO**, then press **MENU** to confirm. The display will show "**RESET SOURE?**". Press **MENU** again to confirm and the screen will display "**RESET WAIT**". After have set the Reset, the transceiver will auto power off and reboot again.
2. Reset (ALL)
In standby mode, press **MENU + 29**. The screen displays "**RESET**".
Press **MENU** to enter the function. Press the ▲/▼ buttons to select **ALL**, then press **MENU** to confirm. The display will show "**RESET SOURE?**". Press **MENU** again to confirm; the screen will display "**RESET WAIT**". After have set the Reset, the transceiver will auto power off and reboot again.

CTCSS/DCS FREQUENCY SCAN (SCN CD) ------ MENU 30

This function enable the scan of all CTCSS or DCS frequency codes.
When the transceiver is in receiving mode, press **MENU + 30**, the screen displays "**SCN CD**"
Press **MENU** to enter the function. Press the ▲/▼ buttons to select to scan CTCSS or DCS, then press **MENU** to confirm. The transceiver starts scanning CTCSS/DCS frequencies.
NOTES:
This function cannot work under channel mode.
The function cannot start up without detecting signals.
Press the ▲/▼ buttons to reverse the scanning direction.
Only when the band pointed by the arrow receives signals, the transceiver can enter the CTCSS/DCS frequency scan function.

DTMF ENCODING

MENU,▲,▼, **EXIT** correspond to **A, B, C, D** on **DTMF**
To dial up manually: press **PTT** to transmit, then press the corresponding key. The DTMF tone is sent out.

REVERSE FREQUENCY FUNCTION

Using the Reverse frequency function, the transmitting and receiving frequencies can be interchanged, and the CTCSS and DCS codes will interchange either.
In standby mode, press SCAN to turn on the Reverse frequency function; press **SCAN** again to turn off.
NOTE:
Ensure to set the frequency shift direction first

LOW- POWER BATTERY VOICE PROMPT

When the battery pack has low power, the transceiver will sound "**low battery pack**", and the LED will blink every 5 seconds.

TRANSMISSION OVERTIME PROMPT

When a transmission exceed the pre-set time, there will be a sound warning "**transmit overtime**" and the transmission will stop. Press **PTT** to transmit again.

BATTERY CHARGE

Insert the AC plug into the outlet (AC: 90-240V). The charger indicator start blinking, indicating that it is in charging standby .
Insert the transceiver (with the battery pack) into the charger; the RED indicator turns on, indicating that the recharging begins. Once the led indicator become green, the battery pack will be fully charged.
NOTE:
If the battery pack is totally discharged, the red led will blink for 10-20 minutes. Once the battery pack is fully charged the led indicator will become green.

TABLE OF SOLUTIONS

PROBLEM	SOLUTION
The radio doesn't switch on	The battery may be exhausted. Recharge it.
	Uncorrected installation. Re-install it.
Battery recharge doesn't last long	The battery pack is over. Change it with a new one.
	Battery pack is not completely charged.
Reception led turns on but no sound heard	Make sure the volume is not too low
	Make sure to have the same CTCSS and DCS codes of your group
The keypad doesn't work	keypad lock function hasn't been enabled.
In standby, the radio transmit without pressing PTT	VOX level has been set too low. Adjust it.
Some functions cannot be stored	Ensure to be on Channel mode. In Channel mode some functions can be set only through the programming software.
Reception of other group signal while transmitting	Change another CTCSS/DCS for your group

TECHNICAL SPECIFICATIONS

Frequency Range .... 144-146MHz & 430-440MHz (Rx / Tx)

Memory channels .... 128 channels

Operating Voltage.. 7.4V

Operating Temperature.. -30°C to + 60°C

Working Mode .... monoband/dualband

Output Power... VHF: 5W / UHF:4W

Modulation ....F3E(FM)

Max. Frequency Deviation...≤ ±5KHz

Spurious Radiation .... < -60dB

Frequency Stability...±2.5 ppm

Receive Sensitivity .... < 0.2uV

Audio Output power.. ≥ 500mW

Dimension...58 X 105 X 39 (mm)

Weight 250g

Specifications are subject to change without notice.