and press [Select] key to enter.

2. Rotate the [ENC] knob to **DailedNumbs**, and press [Select] key to make the following options:

①. **DialedNumbs List** → press [Select] key to enter and choose the number rotate the [ENC] knob → press [Select] key to make the following options and processes:

◇ **View** → Press [Select] key to check the dialed number → Press [Back] key to return to the previous level;

◇ **TimeOfCall** → press [Select] key to display the call time and duration information → press [back] key to return to previous level;

◇ **SendMsg** → Press [Select] key to edit the message → Press [OK] key to choose operation of **SendMsg, InsertComMsg, ExitEditer** rotate the [ENC] knob → Press [Select] key to confirm the operation → Return to the previous level;

◇ **Delete** → "Are you sure?" characters pops up on the screen → press [OK] key to confirm deletion or press [Back] key to cancel deletion → return back to previous level;

②. **Delete All** → "Are you sure?" characters pops up on the screen → press [OK] key to confirm deletion or press [Back] key to cancel deletion → return back to previous level;

📖 Received Calls

Processes:

1. Access the menu and rotate the [ENC] knob to select **CallLog**, and press [Select] key to enter.

2. Rotate the [ENC] knob to **ReceiveCalls**, and press [Select] key to make the following options:

①. **ReceiveCalls List** → press [Select] key to enter and choose the number rotate the [ENC] knob → press [Select] key to make the following options and processes:

◇ **View** → Press [Select] key to check the received call number → Press [Back] key to return to the previous level;

◇ **TimeOfCall** → press [Select] key to display the call time and duration information → press [back] key to return to previous level;

◇ **SendMsg** → Press [Select] key to edit the message → Press [OK] key to choose operation of **SendMsg, InsertComMsg, ExitEditer** rotate the [ENC] knob → Press [Select] key to confirm the operation → Return to the previous level;

◇ **Delete** → "Are you sure?" characters pops up on the screen → press [OK] key to confirm deletion or press [Back] key to cancel deletion → return back to previous level;

②. **Delete All** → "Are you sure?" characters pops up on the screen→ press [OK] key to confirm deletion or press [Back] key to cancel deletion→ return back to previous level;

📖 Missed Calls

Processes:

1. Access the menu and rotate the [ENC] knob to select **CallLog**, and press [Select] key to enter.

2. Rotate the [ENC] knob to **MissedCalls**, and press [Select] key to make the following options:

①. **MiissedCalls List**→ press [Select] key to enter and choose

the number rotate the [ENC] knob → press [Select] key to make the following options and processes:

◇ **View** → Press [Select] key to check the missed call number → Press [Back] key to return to the previous level;

◇ **TimeOfCall** → press [Select] key to display the call time and duration information → press [back] key to return to previous level;

◇ **SendMsg** → Press [Select] key to edit the message → Press [OK] key to choose operation of **SendMsg, InsertComMsg, ExitEditer** rotate the [ENC] knob → Press [Select] key to confirm the operation → Return to the previous level;

◇ **Delete** → "Are you sure?" characters pops up on the screen → press [OK] key to confirm deletion or press [Back] key to cancel deletion → return back to previous level;

②. **Delete All** → "Are you sure?" characters pops up on the screen → press [OK] key to confirm deletion or press [Back] key to cancel deletion → return back to previous level;

📚 Scan

Scan, Scan list, Scan Mode and Roaming of the radio can be enabled or disabled by following ways.

📖 Scan (On/Off)

Processes:

1.Press the preset [Scan On/Off] key to turn on/off the scan

2.Hold and long rotate the [ENC] knob to turn on scan, and press any key to turn if off.

OR

1. Access the menu and rotate the [ENC] knob to select Scan, and press [Select] key to enter.

2. Rotate the [ENC] knob to Scan and press [Select] key to enter.

①. **Select List** →press [Select] key to enter and choose the list rotate the [ENC] knob →press [Select] key to confirm the selection and return to the previous level.

②. **Scan On/Off** →press [Select] key to turn it on or off.

③. **RoamScan On/Off** →press [Select] key to turn it on or off.

📖 Scan List

Processes:

1. Access the menu and rotate the [ENC] knob to select **Scan** and press [Select] key to enter.

2. Rotate the [ENC] knob to **Scan list** and press [Select] key to enter.

3. Rotate the [ENC] knob to the desired scan list and press [Select] key to enter the list.

4. Choose the channel rotate the [ENC] knob to make following options:

①. **Set Prior** →press [Select] key to set the channel to be priority → "Prior is set" pops up on the screen →Return to the channel list, where the current channel displays "P" letter;

◇ **Cancel Prior** →press [Select] key to cancel the priority channel →"Cancelled" pops up on the screen →Return to the channel list, where the "P" letter disappears on current channel;

◇ **Channel Del** →press [Select] key to delete the channel from the scan list →Return to the channel list;

②. **Channel Add** →press [Select] key to make below options:

Zone lis →press [Select] key to choose the Zone rotate the [ENC] knob →press [Select] key to choose the desired channel rotate the [ENC] knob → press [Select] key to add the selected channel and return to the scan list.

📖 Scan Mode

Processes:

1. Press the preset [Scan Mode] key to choose the scan mode.

OR

1. Access the menu and rotate the [ENC] knob to select **Scan** and press [Select] key to enter.

2. Rotate the [ENC] knob to **Scan Mode** and press [Select] key to enter.

①. **Carrier** → when the radio receives an air carrier signal in scanning, it will stay at the current channel for a short time until the carrier signal disappears and continue to scanning.

②. **Time** → when the radio receives an air carrier signal in scanning, it will stay at the current channel for a preset short period (time range is 5S-20S) and continue to scanning once the preset period is up.

③. **Search** → when the radio receives an air carrier signal in scanning, it will stay at the current channel and exit the scanning. Unless you restart it.

✏️ **Notes:**
◇ Before any scan mode is selected, please make sure the "Scan List" preset in advance, otherwise the scan feature is unable to activate.
◇ When the scan is ON, the radio will start to scan all the receivable channels in the list.

📖 Roaming

Roaming and Roam Mode can be enabled or disabled by following two ways:
Processes:
1. Press the preset [Roaming On/Off] key to turn on/off the roaming.
OR
1. Access the menu and rotate the [ENC] knob to select **Scan**, and press [Select] key to enter.
2. Rotate the [ENC] knob to **Scan** and press [Select] key to enter.
①. **Select List** → press [Select] key → rotate the [ENC] knob to choose the list → press [Select] key to confirm the selection and return to the previous level.
②. **Scan On/Off** → press [Select] key to turn it on or off.
③. **RoamScan On/Off** → press [Select] key to turn it on or off.

Roam Setting
Processes:
1. Access the menu and rotate the [ENC] knob to select Scan and press [Select] key to enter.

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2. Rotate the [ENC] knob to **RoamSetting** and press [Select] key to make following options:

①. **Roam Mode** → press [Select] key to choose the modes of **Auto, Manual and RSSI** rotate the [ENC] knob → press [Select] key to confirm the selection and return to the previous level.

Annexed table 1: Roam Mode description

Roaming Mode	Description
Auto	Once searching an available repeater from the scan list, the radio will lock to the current available repeater and pause auto roaming. Then, it will connect with the available repeater according to the preset Connect Check Timer. If the connection fails after the preset Connect Time is used up, it will restart the strong signal Auto roaming search.
Manual	Users can manually roam to the next available repeater. Once it is on, all repeater channels in the scan list will be waken up to search the nearest available repeaters until finds an available one. Every time the nearest available repeater is found, a Connect Re-check Timer (Repeater Check Timer) will be enabled. Users can also lock the repeater by short pressing the [OK/Select] key. The next available repeater is not necessarily the one with the largest RSSI value in the channels of the scan list.

Roaming Mode	Description
RSSI (Strong Signal Roaming)	Once a repeater in the channels of the scan list with RSSI more than preset RSSI threshold value is searched by RSSI mode, the radio will lock to the current channel and pause the strong signal auto roaming. Then it will connect with the current repeater according to the preset Connect Check Timer. If the connection fails after the preset Connect Time is used up, it will restart the strong signal Auto roaming search.

②. **RSSI Set** → press [Select] key to display the current RSSI threshold value → Rotate the [ENC] knob to adjust the desired value → press [OK] key to confirm the modification → "Set Ok!" pops up on the screen and return to the previous level.

Annexed table 2: RSSI threshold value set

Range (Unit: dBm)	
Maximum	-90dBm
Minimum	-125dBm
Increment	-1dBm

✍ **Notes:**
◇ The received signal strength (RSSI threshold value) is settable. If the RSSI mode is enabled and the searched repeater RSSI value is more than the preset threshold, the repeater's

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transmitting signal coverage will be automatically recognized as good, and then the radio will suspend RSSI roaming.
◇ The stopped repeater is not necessarily the one with the largest RSSI value in the channels of the scan list.

③. **Connect Check Timer** → press [Select] key to display the current time value(second) → Rotate the [ENC] knob to adjust the desired connect check time → press [OK] key to confirm the modification → "Set Ok!" pops up on the screen and return to the previous level.

Annexed table 3: Connect Check Time set

Range (Unit: second)	
Maximum	255
Minimum	0
Increment	1

📝 **Notes:**
◇ When the nearest available repeater is searched by Manual Roaming, the radio will immediately start timing according to the preset dwell time value. If the available repeater is not confirmed by pressing the [OK] key within the preset time, once the timer reaches the preset time, the radio will stop roaming; or restart roaming to find the next available repeater.

④. **Connect ReCheck Timer** → press [Select] key to display the current time value(second) → Rotate the [ENC] knob to adjust the desired recheck time → press [OK] key to confirm the modification → "Set Ok!" pops up on the screen and return to the previous level.

Annexed table 4: Connect ReCheck Timer set

Range (Unit: second)	
Maximum	255
Minimum	0
Increment	1

📝 **Notes:**
◇ When the available repeaters are searched by Auto roaming or RSSI roaming, the radio is confirmed to lock at the currently available repeater and the roaming is paused. Then, the radio will transmit signals at regular intervals based on the preset Connect ReCheck Timer to connect with the current repeater. If fails to connect with the currently available repeater in preset Connect Timer of transmission (set on the Connect Timer table), the radio will restart Auto Roaming or RSSI Roaming to search any nearest available repeater.

⑤. **Connect Times** → press [Select] key to display the current connect time → Rotate the [ENC] knob to adjust the desired connect times → press [OK] key to confirm the modification → "Set Ok!" pops up on the screen and return to the previous level.

Annexed table 5: Connect Times Set

Range (Unit: time)	
Maximum	10
Minimum	1
Increment	1

📝 **Notes:**

◇ No matter which roaming mode is selected, in searching, each repeater channel in the scan list will try to connect with nearby available repeaters based on the preset Connect Times. If the pause channel fails to find the available repeaters within the preset Connect Times, it will continue to scan the next repeater channel from the list till find an available one.

Precautions for roaming

1. Before any scan mode is selected, please make sure the "Scan List" preset in advance, otherwise the scan feature is unable to activate.

2. When the roaming is activated, the radio will scan all repeater channels (TX/RX inter-frequency) only; will not scan channels with same TX/RX frequency.

3. When the roaming is activated, if there is no TX/RX inter-frequency channel (repeater channels) in the scan list, after scanning the current selected scan list, it will exit the roaming function.

4. In roaming searching, if PTT button is pressed, the radio will stop roaming and return back to preset Scan reply/transmit Mode to initiate a call. It will continue to roam after PTT is released.

5. When roaming is on, the radio is default to scan in the main band (Band A). When the main band (Band A) is in roaming, channel selection is prohibited. However, menu accessing and setting of main band (Band A) still can be made by selecting the "CTRL" icon, or initiate a call by selecting the "PTT" icon display.

6. When the main band (Band A) is in roaming, channel and VFO operation and menu accessing & setting of Band B still can be made by selecting the "CTRL" icon display. And band B can remain in standby or normal receiving mode, and can initiate a call by selecting the "PTT" icon display.

📖 **Zones & Channel**

The following two ways can be used to select and switch in Zones and channels.

Processes:

1. Press the preset [Zone & Channel] key to switch in zones and channels.

OR

1. Access the menu and rotate the [ENC] knob to select **Zone & Channel** and then press [Select] key to enter.

2. Rotate the [ENC] knob to desired zone and press [Select] key to enter.

3. Rotate the [ENC] knob to desired channel and press [Select]

key to make following options:

①. **Select** → press [Select] key → change the zone and channel → return to the standby interface;

②. **Modify Name** → press [Select] key → modify the channel name → press the [OK] key to confirm and return to the previous level.

Local Set

If the basic operation and functions of the menu are allowed by software to set and check, below functions are operational thru accessing **Local Set** menu.

Language

Processes:

1. Access the menu and rotate the [ENC] knob to choose **Local Set**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose the **Language** and press [Select] key to enter.

3. Rotate the [ENC] knob to choose the desired Language and press [Select] key to change.

4. "Lang is set" pops up on the screen and return back to the previous level.

Keypad Lock

Processes:

1. Access the menu and rotate the [ENC] knob to choose Local Set, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **Keypad Lock** and press [Select] key to enter.

3. Choose operation of **AutoLock SW and ManualLock SW** rotate the [ENC] knob and press [Select] key to switch it on / off.

4. Press [Back] key to return to the previous level.

Backlight

Processes:

1. Press the preset [Backlight on / off] key.

OR

1. Access the menu, rotate the [ENC] knob to choose **Local Set**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **Backlight** and press [Select] key to make the following options and procedures:

①. **BL switch** → press [Select] key → choose operation of **BL on, BL off, Auto** rotate the [ENC] knob → press [Select] key to confirm → return to the previous level.

②. **Brightness** → press [Select] key → Rotate the [ENC] knob to select desired brightness → press [OK] key to confirm → return to the previous level;

③. **DelayTime** → press [Select] key → Rotate the [ENC] knob to select → press [OK] key to confirm → return to the previous level;

Display Mode

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Local Set**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **DisplayMode** and press

[Select] key to enter.

3. Rotate the [ENC] knob to choose operation of **CHN+Name, CHN+FREQ, CHN**, and press [Select] key to confirm.

4. "DispMode is Set" pops up on the screen and return to the previous level.

📖 VOX

Processes:

1. Press the preset [VOX] key to turn it on / off.

OR

1. Access the menu, rotate the [ENC] knob to choose **Local Set**,and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **VOX** and press [Select] key to make the following options and processes:

①. **Vox Switch** → press [Select] key to turn it On or Off;

②. **Vox Level** → press [Select] key → rotate the [ENC] knob to choose desired level → press [Select] key to confirm → return to the previous level;

③. **Vox delay** → press [Select] key → choose operation of **OFF, Tran_Rx, Tran_Tx, Tran_RxTx** rotate the [ENC] knob → press [Select] key to confirm → return to the previous level;

📝 **Notes:**

◇ If VOX is on, when the audio amplitude is detected to reach the preset level, the radio will automatically initiate a call without pressing the [PTT] key

◇ The higher sensitivity level, the smaller audio amplitude is required. The smaller sensitivity level, the greater audio amplitude is required.

📖 Channel Switch (Channel Sw)

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Local Set**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **Channel Sw** and press [Select] key to enter.

3. Press [Select] key to turn it on / off.

4. Press [Back] key to return to the previous level.

📝 **Notes:**

◇ If the channel switch is OFF, the radio can't rotate the channel selector to choose the frequency or channel.

📖 Factory Reset

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Local Set**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **Factory Reset** and the display shows "Are you sure restore factory settings" by pressing [Select] key.

3. Press [OK] key to confirm factory reset, or press [Back] key to cancel.

📖 Single Frequency Repeater (SFR) Setting

Processes:

1. Access the menu and rotate the [ENC] knob to select Radio setting, and press [MENU] key to enter.

2. Rotate the [ENC] knob key to select the Single Frequency Repeater (SFR) setting, and press [MENU] key to enter.

3. Rotate the [ENC] knob to select the desired item, and press [MENU] key to enter the following options and procedures:

①.**SFR ON OFF set** → Press (Menu)key, On or off the SFR.

②.**Voice landing** → Press (Menu)key, On or off the SFR.

◇ **On:** When the Voice landing switch is on and the intercom transfer function is enabled, the speaker of the hand-microphone can hear the voice of the intercom to be transferred

◇ **Off**: When the Voice landing switch is off and the intercom is enabled with the transfer function, the local device only plays the transfer function, and the hand-microphone speaker cannot hear the voice of the intercom to be transferred.

③.**Receiving RSSI Thresholds** → Press (MENU) key → Rotate (ENC) knob to set desired Receiving RSSI thresholds:-125dBm,-123dBm,-121dBm,-119dBm.......-90dBm. → Press (Menu) → follows the remind from screen to complete the setting → Back to previous menu.

④.**Transfer power** → Press (MENU) key → Rotate (ENC) knob to set desired transfer power: 1.0W,2.0W,3.0W,4.0W.....40.0W → Press (menu) key → screen shows the setting is complete → Return to the previous menu

Note: The greater the transfer power setting, the longer the transmission distance.

📑 Parameters

If it is allowed by software, set and check TOT, High / Low Power, Time Slot / Repeat setting, Power Saving mode, Encryption Level and etc. can be made thru **Parameters** menu.

📖 TOT

Processes:

1. Access the menu, rotate the [ENC] knob to choose Parameters, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose TOT and press [Select] key to enter.

3. Rotate the [ENC] knob to choose the Call Time(S) and press the [OK] key to confirm.

4."Calltime is set" pops up on the screen and the radio returns to the previous level.

Power

Processes:

1. Press the preset [Power] key to switch the power between high and low.

OR

1. Access the menu, rotate the [ENC] knob to choose **Parameters**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **Power** and press [Select] key to choose High or Low Power and press [Select] to confirm.

3. "Power is set" pops up on the screen and the radio returns to the previous level.

Slot / Repeat Setting

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Parameters**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **Slot/Repeat Setting**, and then press [Select] key make following options and processes:

①. **RX DirectSlot** → press [Select] key → choose operation of **OFF, Slot 1, Slot 2** rotate the [ENC] knob → press [Select] key to confirm → "Set OK!" pops up on the screen → return to the previous level;

②. **TX DirectSlot** → press [Select] key → choose operation of **OFF, Slot 1, Slot 2** rotate the [ENC] knob → press [Select] key to confirm → "Set OK!" pops up on the screen → return to the previous level;

Sleep Mode

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Parameters**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **SleepMode** and press [Select] key to make the following options and procedures:

①. **SlpMode SW** → press [Select] key to turn Sleep mode on/off;

②. **Delay Time** → press [Select] key → rotate the [ENC] knob to select the time → press [OK] key to confirm → "Set Ok!" pops up on the screen → return to the previous level;

③. **Duty cycle** → press [Select] key → choose operation of **1: 1, 1: 2, 1: 4** rotate the [ENC] knob → press [Select] key to confirm → "Set Ok!" pops up on the screen → return to the previous level;

📝 **Notes:**

◇ If it is allowed by the CPS software, set a reasonable sleep ratio according to the actual use requirements. The larger ratio, the more power is saved, but it may cause slower access.

📖 **Squelch Level (SQ level)** 🔘

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Parameters**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **SQ Level** and press [Select] key to enter.

3. Rotate the [ENC] knob to select the desired level or normally open(Level 0), and press [Select] key to confirm.

4. "Sq level is set" pops up on the screen and the radio returns to the previous level.

📖 **Wide/ Narrow Band** 🔘

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Parameters Setting**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **Band** and press [Select] key to enter.

3. Rotate the [ENC] knob to select the desired narrow /wide band and press [Select] key to confirm.

4. "Set Ok" pops up on the screen and the radio returns to the previous level.

📖 **Busy Channel Lockout (BCLO)** 🔘

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Parameters Setting**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **BCLO** and press [Select] key to turn Busy On or OFF

3. Press [Back] key to return to the previous level.

📖 **Signaling** 🔘

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Parameters**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **Signaling** and press [Select] key to enter.

3. Rotate the [ENC] knob to select the desired item and press [Select] key to make the following options and procedures:

①. **RX Subaudio** → press [Select] key to make the following options and processes:

◇ **Signaling off** → press [Select] key to turn off the CTCSS/DCS code → "Set Ok" pops up on the screen and returns to the previous level;

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◇ **CTCSS** → press [Select] key → choose the CTCSS code rotate the [ENC] knob → press [Select] key to confirm → "Set Ok" pops up on the screen and returns to the previous level;

◇ **DCS** → press [Select] key → choose the DCS code rotate the [ENC] knob → press [Select] key to confirm → "Set Ok" pops up on the screen and returns to the previous level;

◇ **DCS Reverse** → press [Select] key → choose the DCS Reverse code rotate the [ENC] knob → press [Select] key to confirm → "Set Ok" pops up on the screen and returns to the previous level;

②. **TX Subaudio** → Press [Select] key to make the following options and procedures:

◇ **Signaling off** → press [Select] key to turn off the CTCSS/DCS code → "Set is ok" pops up on the screen and returns to the previous level;

◇ **CTCSS** → press [Select] key → choose the CTCSS code rotate the [ENC] knob → press [Select] key to confirm → "Set Ok" pops up on the screen and returns to the previous level;

◇ **DCS** → press [Select] key → choose the DCS code rotate the [ENC] knob → press [Select] key to confirm → "Set Ok" pops up on the screen and returns to the previous level;

◇ **DCS Reverse** → press [Select] key → choose the DCS Reverse code rotate the [ENC] knob → press [Select] key to confirm → "Set Ok" pops up on the screen and returns to the previous level;

📖 **ENC Level (Encryption)** 🔵

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Parameters**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **EncLevel** and press [Select] key to enter.

3. Rotate the [ENC] knob to choose the desired encryption level or turn it off and press [Select] key to confirm.

4. "Set Ok!" pops up on the screen and returns to the previous level;

📝 **Notes:**

◇ If it is allowed by CPS software, enable this function will help to prevent other users from eavesdropping without authorization.

◇ Although encryption is not a necessary requirement for receiving and transmitting. But the receiver radio must have same encryption method, level, alias and value as the transmitter radio to decrypt the encrypted voices from each other.

📖 **CTCSS Phase Reverse (CTCSSTail)** 🔴

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Parameters**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **CTCSSTail** and press [Select] key to enter.

3. Choose operation of **55HZ, 120, 180, 240** rotate the [ENC] knob and press [Select] key to confirm.

4. "Set Ok" pops up on the screen and returns to the previous level;

📖 Tone Set

If it is allowed by CPS software, set and check the prompt tones by accessing the Tone Set menu.

📖 Profiles

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Tone Set**, and then press [Select] key to enter.
2. Rotate the [ENC] knob to choose **Profiles** and press [Select] key to enter.
3. Rotate the [ENC] knob to choose **General** or **Silent**, and press [Select] key to confirm the selection.
4. "Profile is set" pops up on the screen and returns to the previous level.

📖 Key Tone

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Tone Set**, and then press [Select] key to enter.
2. Rotate the [ENC] knob to choose **KeyTone** and press [Select] key to make following options and procedures:

①. **KeyRingSW** → press [Select] key to turn it on / off;

②. **KeyRingStat** → press [Select] key → rotate the [ENC] knob to choose the keytone level → press [Ok key to confirm → "Keytone is set" pops up on the screen and returns to the previous level.

📖 Power tone

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Tone Set**, and then press [Select] key to enter.
2. Rotate the [ENC] knob to choose **Power tone** and press [Select] key to make following options and procedures:

①. **CouloToneSW** → press [Select] key to turn the power tone on / off;

②. **CouloToneStat** → press [Select] key → rotate the [ENC] knob to select desired volume → press [Ok] key to confirm → "Tone is set" pops up on the screen and returns to the previous level.

📖 Message Tone (Msg Tone)

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Tone Set**, and then press [Select] key to enter.
2. Rotate the [ENC] knob to choose **Msg tone** and press [Select] key to enter.
3. Rotate the [ENC] knob to choose the desired ringtone type or turn it off and press [Select] key to confirm.
4. "RingTone is set" pops up on the screen and returns to the previous level.

📖 Private Call Tone (PCallTone)

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Tone Set**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **PCallTone** and press [Select] key to make following options and procedures:

①. **PCallSW** → press [Select] key → choose operation of **Rx Begin Tone, Rx End Tone, Tx Begin Tone, Tx End Tone** rotate the [ENC] knob → press [Select] key to tick or cancel it → press [Back] key to return to the previous level;

②. **PCallTone** → press [Select] key → choose the desired ringtone type or turn it Off rotate the [ENC] knob → press [Select] key to confirm → "Tone is set" pops up on the screen and returns to the previous level.

📖 Group Call Tone(GCallTone)

Processes:

1. Access the menu, Rotate the [ENC] knob to choose **Tone Set,** and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose GCallTone and press [Select] key to make following options and procedures:

①. **GCallSW**→ Press [Select] key → choose operation of **Rx Begin Tone, Rx End Tone, Tx Begin Tone, Tx End Tone** rotate the [ENC] knob → press [Select] key to tick or cancel it → press [Back] key to return to the previous level;

②. **GCallTone** → press [Select] key → choose the desired ringtone type or turn it Off rotate the [ENC] knob → press [Select] key to confirm → "Tone is set" pops up on the screen and returns to the previous level.

📖 Alert Tone

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Tone Set**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **Call Alert tone** and press [Select] key to enter.

3. Rotate the [ENC] knob to select the desired ringtone type or turn it off and press [Select] key to confirm.

4. "Tone is set" pops up on the screen and returns to the previous level.

📖 Power On Tone

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Tone Set**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **Poweron tone SW** and press [Select] key turn it on or off.

3. Press [Back] key to return to the previous level.

📚 Appendix

If it is allowed by CPS software, set and check GPS, FM radio, time, DTMF, HeadSet+Speaker etc. by accessing the **Appendix** menu.

📖 GPS (Optional)

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Appendix**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **GPS** and press [Select] key to make following options and procedures:

①. **GPS switch** → press [Select] key to turn GPS On or Off;

②. **Upload SW** → press [Select] key → choose operation of **GPGGA, GPGSA, GPGSV, GPRMC** rotate the [ENC] knob → press [Select] key to tick or cancel → press [Back] key to return to the previous level;

③. **Group Info** → press [Select] key to enter the following options and procedures:

◇ **GPS map** → press [Select] key to display the rough distance between the radio and other members → Rotate the [ENC] knob to choose the calculation unit → press [Back] key to return to the previous level;

◇ **GPS RXMsgs** → press [Select] key to display the received message list from others → Rotate the [ENC] knob to check the location information of others → press [Back] key to exit → press [Back] key to return to the previous level;

◇ **GPS location** → press [Select] key to display the location information of the radio → Rotate the [ENC] knob to check GPS / GL received satellites information and signal strength (white: empty signal, red: weak signal, light blue: available signal) → Press [Select] key to return to the previous level;

◇ **Clear RXMsg** → press [Select] key to delete the received messages and return to the previous level;

④. **GPS Report Chn** → press [Select] key to check **Zone, Chn, Send interval on / off** information → press [Back] key to return to the previous level;

⑤. **Calibrator** → press [Select] key to make following options and processes:

◇ **Auto** → press [Select] key to confirm;

◇ **Manual** → Press [Select] key → Display Time zone and difference list → rotate the [ENC] knob to choose the desired time zone → Press [Select] key to confirm → return to the previous level;

 Note:

◇ GPS is allowed by software;

◇ Some GPS functions must be pre-set by software before use;

◇ Some GPS functions must be positioned successfully before use normally;

◇ Some GPS functions require other users to have GPS function and successfully positioned also before use normally;

◇ The GPS Distance Calculation or the use of some functions is for reference only, which may cause errors due to some unexpected or environmental reasons;

◇ GPS function is optional.

FM Radio

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Appendix**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **FM radio** and press [Select] key to display the FM radio frequency information.

3. Rotate the [ENC] knob to manually select the FM radio frequency

or seek the FM radio frequency automatically.

4. Press the [Back] key to exit the FM radio mode and return to the previous level. Or press [OK] key to make the following options and procedures:

①. **Save** → press [Select] key to save the current FM radio channel;

②. **FM List** → press [Select] key to display the list of saved FM radio frequencies → choose the desired frequency rotate the [ENC] knob → press [Select] key to Delete or Play the frequency

③. **TuneMode** → press [Select] key → choose operation of **Manual, Auto** rotate the [ENC] knob → press [Select] key to confirm and return to the previous level.

📖 Time

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Appendix**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **Time** and press [Select] key to make following options and procedures:

①. **Date** → Press [Select] key to display the date and year → rotate the [ENC] knob or input the desired date and year via numeric keyboard → press [Ok] key to confirm → "Date is set" pops up on the screen and returns to the previous level;

②. **Time** → Press [Select] key to display the time → rotate the [ENC] knob or input the desired time via numeric keyboard → press [Ok] key to confirm → "Time is set" pops up on the screen and returns to the previous level;

③. **DateForm** → press [Select] key → choose the desired date form rotate the [ENC] knob → press [Select] key to confirm → "Date is set" pops up on the screen and returns to the previous level;→ Use GPS Datetime → press [Select] key to turn it on or off;

📝 **Note:**
◇ **Use GPS Datetime** is effective only when GPS function is on and successfully positioned.

📖 DTMF

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Appendix**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to choose **DTMF** and press [Select] key to make following options and procedures:

①. **DTMF Switch** → press [Select] key to turn it on or off;

②. **DTMF LocVolume** → press [Select] key to display current local volume → rotate the [ENC] knob to adjust the volume → press [OK] key to confirm → "Save Ok" pops up screen and returns to the previous level;

📝 **Note:**
◇ DTMF code Tone is only used as a alert tone to the local radio and remind the recipient user to receive the call;
◇ DTMF code must be preset by CPS software.

📖 Speaker, Hand-microphone

The process:

1. Access the MENU, rotate the (ENC) knob, select to , and press the Menu key to enter

2. Rotate (ENC) knob, select to Speaker or Hand-microphone and press MENU

3. A message is displayed indicating that the Settings are complete, Return to the previous menu

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📝 Remarks:

Hand microphone is one of the audio output mode of the intercom. When you select Hand microphone Mode, there is no audio output from the speaker of the radio. when the hand microphone plug in radio, there is audio output. When you select "horn" mode, the speaker of the radio has audio output, but there is no audio output when you plug in the hand microphone.

📖 APRS

Processes

①. Access the MENU, rotate the ENC knob, select to Accessories, press the Menu key to enter

Turn ENC knob, select to APRS, press MENU key to enter the following options and procedures

◇ Report type-Press Menu and go to the following options and procedures

◇ Back: Press Menu-message is displayed indicating that the Settings are completed-back to the front Menu.

◇ APRS: Analog Aprs-Press Menu-message is displayed indicating that the Settings are completed-back to the front Menu.

◇ APRS: Digital Aprs-Press Menu-message is displayed indicating that the Settings are completed-back to the front Menu.

None: None-Press Menu-message is displayed indicating that the Settings are completed-back to the front Menu.

② Analog Aprs-Press Menu and go to the following options and procedures:

◇ PTT -Press Menu-rotate the ENC knob and choose OFF,Start Launch,Off Launch-Press Menu for confirmation-message is displayed indicating that the Settings are completed-back to the front Menu.

◇ Choose the Launching wattage-Press Menu-rotate the ENC knob -Low wattage/high wattage -Press Menu for confirmation-message is displayed indicating that the Settings are completed-back to the front Menu.

◇ Choose the Launching frequency-Press Menu-input the frequency which you want for launching -Press Menu for confirmation-message is displayed indicating that the Settings are completed-back to the front Menu.

◇ Choose the Launching path-Press Menu-input the path which you want for launching -Press Menu for confirmation-message is displayed indicating that the Settings are completed-back to the front Menu.

◇ Launching Text-Press Menu-input the text which you want for launching by keypad -Press Menu for confirmation-message is displayed indicating that the Settings are completed-back to the front Menu.

③ APRS:Digital Aprs-Press Menu and go to the following options and procedures:
◇ Digital Aprs Text -Press Menu-rotate the ENC knob and choose text that you want to Launch- press the Menu to confirm
◇ Delete the Digital Aprs Text -Press Menu-"Delete confirmed"message is displayed indicating -press the Menu to Confirm the Delete or back.
◇ Periodic reporting-Press Menu-rotate the ENC knob and choose the time you would like to periodic as: Off, 30s,60s, 90s,120s....7650s-Press Menu to confirm-message is displayed indicating the setting done -back to the front Menu.
◇ Reporting beacon-Press Menu-rotate the ENC knob and choose
Fixed beacon or GPS beacon -Press Menu to confirm-message is displayed indicating the setting done -back to the front Menu.

▉ Record

If it is allowed by CPS software, set and check record set, recording list, clear record, space info about recording by accessing Record menu.

Processes:

1. Press the preset [Record On/Off] key to turn it on / off.

OR

1. Access the menu, Rotate the [ENC] knob to choose **Record**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to make following options and processes:

①. **Record Set** → press [Select] key → **RX record SW, TX record SW** → Rotate the [ENC] knob to select desired operation → press [Select] key to turn it on or off → press [Back] key to return to the previous level;

②. **Record List** → press [Select] key to display the recording list → Rotate the [ENC] knob to choose the desired record and press [Select] key to make following options and processes:
◇ **Play** → press [Select] to play the selected recording *return to the previous level after finishing playing;
◇ **Delete** → press [Select] key → "Are you sure?" pops up on the screen → press [Ok] key to confirm deletion or press [Back] key to cancel deletion and return to the previous level;
◇ **Information** → press [Select] key to display the detailed information of the recording.

③. **Clear record** → press [Select] key → "Are you sure?" pops up on the screen → press [Ok] key to confirm deletion or press [Back] key to cancel deletion and return to the previous level;

④. **Space Info** → press [Select] key to display the recorded time and total recordable time information → press [Back] key to return to the previous level

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✎ **Notes**

◇ The total recording time supported is more than 50 hours. It is supported to purchase additional recording time according to the actual requirement.

▉ Device Info

If it is allowed by CPS software, set and check Radio ID, Rx Group List, CH Contact (channel contact), Version and other information by accessing **Device Info** menu.

Processes:

1. Access the menu, rotate the [ENC] knob to choose **Record**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to make following options and processes:

①. **Radio ID** → press [Select] key to display the Radio ID → press [Back] key or any number key to modify the desired number → press [OK] key to save → "Set ok" pops up on the screen and returns to the previous level.

②. **RXGroupList** → press [Select] key to display the receiving group list → rotate the [ENC] knob to check details → press [back] key to return to the previous level;

③. **CH contact** → press [Select] key to display the default channel contact information → press [Back] key to return to the previous level;

④. **Version** → press [Select] key to display the local version information → press [Back] key to return to the previous level;

📚 User_defined Mode

If it is allowed by CPS software, it is supported to check and modify the parameters of Channel or VFO mode by accessing User_defined Mode menu.

Processes:

1. In standby mode, press and hold the [A / B] key for 3 seconds to enter the User-defined mode.

OR

1. Access the menu, rotate the [ENC] knob to choose **Record**, and then press [Select] key to enter.

2. Rotate the [ENC] knob to select the following options (refer to **User_defined table**).

3. Press [Select] key to light up the cursor and enter to the editing mode.

4. Rotate the [ENC] knob to choose the desired value and press [Select] to confirm and save.

5. Press [Back] key to return to the previous level.

User-defined table

In order	Operation	Options	Confirm	Remarks
Channel Attribution (Working Mode)		Digital/Analog/RX:D/A-TX:A/TX:D/A-RX:D		For both Analog and Digital mode
Steps		5/6.25/10/12.5/25/50/100kHz		
RX Frequency		In the available range of the radio		
TX Frequency		In the available range of the radio		
Power		High/Low		
RX BS (Slot)		Off / Slot 1/Slot 2		For Digital Mode
TX BS (Slot)		Off / Slot 1/Slot 2		
RX Color Code		0~15		
TX Color Code		0~15		
Alarm		On/Off		Not available for digital VFO mode
Call Alert		On/Off		
Private Call Type		PATCS /OACSU		
Meg Type	Press [Select] key	PATCS /OACSU	Press [Select] key	For Digital Mode
Permission (TX Policy)		Impolite/ Polite to CC/ Polite to All		
RX Group List		Off / Self-defined		
Encryption		Off / Defined by software		
Default Contacts		Off / Contact List		
Emergency		Off / self-defined		Not available for digital VFO mode
Scan List		Off / self-defined		
Save2SelChn (Save to current channel)				
Save2SelChn (Save to selected channel)		All available channels		For Digital Mode
Save VFO				For Digital VFO Mode
Bandwidth		Narrow/Wide		For Analog Mode only
TX Subtone Type		Signaling Off/CTCSS/DCS/ DCS Reverse		
TX Subtone(TX Sub Item)		The signal codes of DCS/CTCSS		
RX Subtone Type		Signaling Off/CTCSS/DCS/ DCS Reverse		
RX Subtone (TX Sub Item)		The signal codes of DCS/CTCSS		
Scan List				Not available for analog VFO mode

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User-defined table

In order	Operation	Options	Confirm	Remarks
Save VFO	Press [Select] key		Press [Select] key	For Analog Mode only
Save to specified channel		All available channels		

✎ Notes

◇ When accessing any sub menu, press the [Back] key to return to the previous level.

Function Applications

📖 Modes of TX and RX in scanning

Set TX and RX call modes in scan list by CPS software.

📖 Scan TX Mode

In scanning, when there is detected active channel or talk group, the radio will stay at the channel for a period of time, which is called "idle time".

◎ The scan TX modes of the scan list can be set as below:

● **Talkback**

①. If it is "On", when a carrier signal of any channel in the scan list is received in scanning, press the [PTT] key to transmit to the channel within 3S after the received signal disappears.

②. If it is "OFF", the reply is based on the "Scan TX Mode" preset by the programming software.

✍ Notes:

Scan TX Mode:

◇ **Current Channel** — reply on the channel that starts the scanning.

◇ **Last Operated Channel** — reply on the channel where the radio stays at last time.

◇ **Appointed Channel** — specify the only channel to reply.

Appointed Channel:

After selecting the channel for replying, if there is carrier signal of any channel in the scan list received in scanning, after the received signal disappears, press the [PTT] key, it will reply on the preset appointed channel.

Maintenance and Clean

To ensure the best performance and prolong working life, please acquaint yourself with the following for maintenance and cleaning.

Maintenance

◎ Please do not scratch or puncture the device with hard or sharp object.

◎ Please do not place the device in an environment which can corrode electronic circuits or under direct solar radiation.

◎ Please do not carry the device by its antenna or headset.

◎ Please make sure the SP-MIC plug is covered when not in use.

Clean

◎ Please clean your device regularly by using a dry clean cloth or soft brush to wipe the dust on the surface and on the charger contacts;

◎ The keypads, control knob and housing of the device may be dirty from use. Please use nonwoven wipes to clean them. Do not use chemicals to clean it such as detergent, alcohol, spray or petroleum products, on the device surface or printed labels. Chemicals can damage the housing, display and remove the printing on the labels. Before power on the radio, please make sure the device is dry completely.

General guide for fault handling

Malfunction	Analysis of causes	Handling method
Fail to turn ON radio, when connected to 13.8V DC power and press power key[⏻]. There is no display on screen.	1.Power cable is installed incorrectly. 2.One or more power fuse wire was/ were blew out.	1.Make sure the power cable is installed correctly. (Red wire links to positive pole "+" black wire links to negative pole"-") 2. Check the reason why fuse blew out. And then replace the fuse with same rated value.
Fail to change frequency via encoder knob or [Up] and [Down]key on microphone.	No data was found in the memory channels.	Save some data in the memory channels.
Fail to transmit even when pressing PTT key.	1. Microphone jack did not be well connected to the radio. 2. You may set the TX frequency under suitable offset value.	1. Turn off radio, and then push the microphone jack in to radio until a lock sound heard. 2. Turn off the offset function.
Fail to talk with members in the same group.	The current working channel frequency or signaling setting is different with the other members in the group.	Change channel or reset signaling and frequency to be same as the other members in the group.
	The setting of Digital or analogue channel is incorrect.	Reprogram the current digital or analogue channel.
	Far away with that group members.	Get closer to the group members.
There is an irrelevant voice or noise on the current channel.	1. To be interfered by other users on same frequency. 2. Did not program with relevant signaling.	1. To change frequency or channel. 2. To program signaling for all group members to prevent same frequency interference.

Malfunction	Analysis of causes	Handling method
There is loud noise when talking.	1. The communication distance is too far between the other members. 2. To be blocked by high building, or be on lower landform or basement etc working environment. 3. To be interfered strongly by external environment or others.	1.Get closer to other members 2.Go for open air area, and turn on radio again for a try. 3.Try to keep away with instruments or equipments which may cause interference.
GPS fail to positioning	Radio without GPS feature; Or is working under poor working environment that fails to receive GPS signal.	To add GPS features or move to work in the open air.

✎ **Note:**

If the above methods fail to solve your problem, or you confront different malfunctions, please contact your local dealer or appointed maintenance station.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC

Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates and can radiate radio frequency energy. If not installed and used in accordance with the instructions,

it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in

a particular installation. Verification of harmful interference by this equipment to radio or television reception can be determined

by turning it off and then 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 different circuit to that of the receiver's outlet.

- Consult the dealer or an experienced radio/TV technician for help.

Operation is subject to the following two conditions:

- This device may not cause harmful interference.

- This device must accept any interference received, including interference that may cause undesired operation.

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

FCC Regulations

Federal Communication Commission (FCC) requires that all radio communication products should meet the requirements set

forth in the above standards before they can be marketed in the U.S, and the manufacturer shall post a RF label on the product

to inform users of operational instructions, so as to enhance their occupational health against exposure to RF energy.

Operational Instructions and Training Guidelines

To ensure optimal performance and compliance with the occupational/controlled environment RF energy exposure limits

in the above standards and guidelines, users should always adhere to the followings:

Gain of antenna must not exceed 0dBi(UHF)

Antenna Installation: install the antenna at least 40cm away from your body, in accordance with the requirements of

the antenna manufacturer/supplier.

This radio complies with IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at

operating duty factors of up to 50% and is authorized by the FCC for occupational use only.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an controlled environment . This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with minimum distance 40cm between the radiator &you body.

ISEDC Radiation Exposure Statement:

This equipment complies with ISEDC RF radiation exposure limits set forth for an controlled environment . This transmitter must not be co‐located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with minimum distance 40cm between the radiator &you body.
IC exposition aux radiations:
Cet équipement est conforme avec ISEDC les limites d'exposition aux rayonnements définies pour contrôlé environnement.
Cet émetteur ne doit pas être co-localisés ou fonctionner en conjonction avec une autre antenne ou émetteur. Cet équipement doit être installé et utiliséavec une distance minimale de 40cm entre leradiateur & votre corps.

For Antenna:

Accord to that antenna length in different regions, only below type antenna was authorized use in the product.

Antenna Model: DMR 8000s
Antenna Type: Helical antenna
Antenna Gain: 0dBi