Function operation

■ Enter the scan (MENU +6)

1,Press the [MENU] key, then press the number keys 6, the transceiver will enter the scan.

2, scanning, press the [MENU] key, the transceiver will save the current channel or frequency is swept, and then exit the scan. Press any other key, will not save the channels direct exit scan.

3, During scanning, press [▲] [▼] keys to change the scanning direction.

4, VFO mode: radio will scan whole frequency band.

5, Channel mode: non-group mode will scan all 128 channels with a data channel scan added; the group mode, the scanning of the group (each group up to 16 channels) scans with data adding channels.

6, If there are currently less than two channels have not been set frequency information to add, you can not

■ Set receive and transmit signaling (MENU +7)

1, Press the [MENU] key, then press the numeric key 7 to enter the setting to receive and transmit signaling.

2, press the [*] key to switch the signaling type, as follows:

   OFF ———▶ CTCSS ———▶ DCS N

3, press the [#] key to switch to the digital sub-audio pros and cons, as follows:

   DCS N ———▶ DCS I

4, using the [▲] [▼] keys to select your desired category, the choice of OFF, turn off CTCSS.

Function operation

5, Press MENU to save and leave. Other key is invalid exit.

(NOTE: When the display mode is CHXXX, it can not set receive and transmit signaling)

■ Set transmit signaling (MENU +8)

1 Press the MENU key, then press the number keys 8, enter the setting emission signaling.

2, press the * key to switch the signaling type, as follows:

OFF ⟶ CTCSS ⟶ DCS N ⟶ OFF

3, press the # key to switch digital CTCSS positive direction, as follows:

DCS N ⟶ DCS I

4, using the ▲ ▼ keys to select the group you want, when you select OFF, close the sub-audio.

5 Press MENU to save and leave. Other key is invalid exit.

(NOTE: When the screen display CHXXX, it can not set the transmitter signaling)

■ Enter menu option (MENU +9)

Press MENU key, then press the number keys 9, enter MENU option. Specific operations can refer to the following < MENU operation>.

Function operation

■ Select Workgroup operation (MENU +0)

1, Press MENU key, then press the number keys 0, enter the selected working groups operate.

2, Using the ▲ ▼ keys to select the group you want. A-H total 8 groups available. Only the group which store channel can be selected. Or can not be selected.

3, Press other key to leave this operation, return to standby. (NOTE: This operation only can be carried out in Channel mode and open the group function.)

■ Store new channel (MENU + *)

1, Intercom must be in full frequency mode to store channel operation.

2, Press the MENU key, then press the * key to enter the storage channel operation, a small channel number and F symbol flashes.

3, By pressing the ▲ ▼ keys to select a channel to be stored, or choose to enter a number directly into the channel.

4 Press MENU to exit the store to confirm. Other key is invalid exit.

■ Enter Numeric keys

1, In channel mode, inputs (001-128) to switch the current channel. If the input channel exist frequency,

Function operation

then switch to your input channel. If not then return to the original channel.
For example: CH 1: (input 001) CH 98:(input 098 or 98) CH 123:(input 123)
2, In FR mode, when Standby, Input 6 digits to change the current frequency. If the digit out of range, radio will return to the original operating frequency.

■ Wire cloning

Press [MONI] key and [▼] key and turn on the radio to enter cloning mode, LCD "CLonE" prompt, press the side buttons [MONI] key to start clone. At hte point, the host shows "CLOU", vice radio shows "CLIN". When finish clone, if success, host radio will show "End" then return to the initial state; If that fails, host radio will show "Err" and then return to original state. A successful clone needs about 8 seconds.

■ Delete channel

1, Radio is in Channel mode.
2, Press [*] key to turn on the radio to enter channels delete mode, in this point "DEL" indication show in the screen, while a small channel number flashes.
3, You can press [▲] [▼]   keys to select the channel you want to delete, or select a channel by entering the corresponding number channel, press the [MENU] key to enter. Screen will show "YES".
4, Finally, press the [MENU] button to confirm. The radio will cut back to the next channel to delete a channel frequency, ready to be deleted. When all the channels are not frequency, the radio will exit the delete channel state cuts to full-range state.

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Channel programming settings

■ Memory channel setting

Long press `MONI` key and `▲` key and boot. Enter the programming mode, LCD "SELF" prompt. Then press the `MENU` button, LCD becomes "CH-1".

1, Select a channel number

Using `▲` `▼` Key to select your channel number you want to edit, selectable channel range 001 to 128.

2, Set the receive frequency

Press the `MENU` button to enter the setup receive frequency. You can press the `*` key to select whether to set the receiving frequency channel. If you want to delete this channel. You can press the `*` key to make the LCD as "_____", then press `MENU` button to confirm, so the channel information will be deleted. Walkie - talkie set to enter the next channel. Walkie talkei enter setting a next channel.

Through the keyboard by six numeric keys, enter your desired frequency, output after press `MENU` button to enter the receiving signaling programming.

You can also change the current frequency by pressing the `▲` `▼` keys to subtraction step approach. By pressing the `#` key to switch the current step frequency (5K, 6.25K, 10K, 12.5K, 20K, 25K, 30K, 50K). Press the `MENU` button to enter the receiving signaling programming.

3, Receier signaling setting

When you enter the item, LCD shows (3 OFF). Press `*` key to select the type of signaling to be set. Press the `▲` `▼` Select your desired receive signaling group, after press the `MENU` button and select OK.

$$OFF \xrightarrow{\quad * \quad} 67.0 \xrightarrow{\quad * \quad} d\ 023N \xrightarrow{\quad * \quad} OFF$$

Channel programming settings

When the choice is DQT signaling, you can press the [#] key to switch forward and backward.

[#]
DCS N →DCS I

4, Set the transmit frequency

Set methods and procedures "set the receiver frequency" with the same content.

5, Set the transmit signaling

Set methods and procedures "set the receive signaling" with the same content.

6, Set Busy Lock

Use [▲] & [▼] key to select OFF (off), or WAVE (carrier lock) or CALL (signaling locked), after press the [MENU] key to select OK.

7, Set Add Scan / delete scan function.

Use [▲] & [▼] key to select Add (add scan) or Del (delete scan) function, then press the [MENU] button and select OK.

8, Set the level of power

Use [▲] & [▼] key to select High (high power) or Low (low power) function, then press the [MENU] button and select OK.

Channel programming settings

9 , Set channel name

You can set 6-character channel name. Press [▲] & [▼] key to select a character, press the [*] key cut to the next character, press [#] to delete previous character, press the [MENU] button to confirm. At this point, the channel programming is completed, walkie-talkie enter to program next channel.

Low-power detection and indication

This transceiver provides four low-power testing. Each level and corresponding voltage value indicates the following:

One Low: 7.4V when the voltage drops below this value, a grid will be less when the battery voltage value, and the remaining two cells.

Two low:6.8V when the voltage drops below this value, the value will be less when the battery voltage is second grid, leaving a grid.

Three low: 6.4V when the voltage drops below this value, battery voltage indicator does not show all possessive, only the battery box. At this time the red light flashes once every two seconds, and every 10 seconds a loud low voice prompts. But allows the transmitter.

Four low: 6.0V when the voltage drops below this value, the entire battery voltage indication possessive does not display only shows the battery box and the battery box flashes. At this time the red light flashes once every two seconds, and every 10 seconds a loud low voice prompts. Four low-power transmitter is not allowed.

Walkie - talkie shutdown voltage: 4.5V. When the voltage drops below this value, the transceiver will enter the off state. LCD shows: LOVOLT.

FM Radio Function

The function of radio must be written "Radio" is set to "open " when connect to pc programming.
1, Open/Close FM radio function
The transceiver is in standby mode, press MENU enter options, press the MONI key to toggle on or off the FM radio.
When the FM is on, the LCD shows "FM". In the radio full frequency mode, you can enter the frequency directly listen to the radio.
Or by pressing the ▲ & ▼ keys to change the radio frequency in steps of 100K; in the radio channel mode, you can press ▲ & ▼ keys or enter the two-digit channel number (01-25) to change the current radio channel.
2, Switch FR Mode/ Channel mode for FM Radio
In FM radio mode, press the # key to switch the radio FR Mode or Channel mod.
(When walkie-talkie FM radio channel is not stored , you can not switch.)
3, Search Radio station
In the radio state, if you want to quickly find the desired station, use station search operation.
In FR mode, press MENU key to enter the options, then click the 6 key to enter the radio station search.
LCD sets the current progress of the search. By pressing the ▲ & ▼ keys to change the direction of the radio station search.
When the search has sets, radio frequency automatic stay on that point.
When want to continue to station search, then you can press ▲ & ▼ to determine the direction of the search platform to continue the search units.
In the radio station search, press other than ▲ & ▼ keys, or transmit by PTT, the radio will exit the search condition.

FM Radio Function

4, Monitor function in FM Radio mode

Click MENU Key, then click 9 key to enter the setting, select the 16 th item DW, use ▲ & ▼ key to select, click MENU to save.

ON: in FM radio made, can monitor the intercom signal, when radio receive any signal will exit the FM mode into intercom state, after the communication finished return to FM radio mode.

OFF: just keep in FM radio mode.

5, Set Radio SQ rating

In FM radio mode, click MENU key, then click 1 key to enter squelch setting, use ▲ & ▼ select ON or OFF mode, other key to save and leave.

6, Store radio station channel

In FM radio mode, press MENU key, then press * key to enter radio station store operation, use ▲ & ▼ key to select the channel you want, press the MENU key to save.

7, Delete radio station channel

First, turn radio to FM radio channel mode, and close the radio, then keep pressing the * key and open the radio, in this point, screen show "xxDEL", use ▲ & ▼ key to select the channel you want to delete, then press MENU key to confirm to delete.

Menu operation

Click ⬚MENU key, LCD function key symbol ⬚F , Press the number keys 9, walkie - talkie enter to menu mode. Press ⬚▲ & ⬚▼ to select a menu item, pre ⬚MENU button to enter the item. Then Press ⬚▲ & ⬚▼ In operation, press the ⬚* key to exit and return to standby.

■ Specific each menu item as follows:

1, Ring settings

Off: Ringer off. On: Ringtones open.

2, Backlight setting

On: backlight lit. Off: backlight is off.

Auot: button is pressed, the backlight is lit, when the backlight is turned on for 10 seconds, if there is no operation, the backlight will turn itself off.

3, Set Emission limit

Limited time there: OFF (no limit), 30S, 60, 90, 120, 150, 180, 210, 240, 270.

4, Set frequency offset

FR mode can be set. You can enter 5 digits through the key frequency offset in the range of (00.000M ~ 99.995M)

5, Open the closed group

On: group open. Off: group off. Group only valid in channel mode.

The Machine has 128 channels, divided into eight groups. Each group has 16 channels.

Wherein the channel 1 to channel 16 is group A; Channel 17 to channel 32 is a group B; so, the last set of channels 113 to the channel 128, the group H.

DSR Pro®

Menu operation

6, Display current battery voltage
After entering the walkie - talkie, displays the current battery voltage, automatically return to standby mode after 10 seconds.
7, VOX grade setting
Can be set to: 1 ~ 9 Level.
8, VOX delay time set
Delay time there: 0.3S, 0.5S, 1.0S, 1.5S, 2.0S, 3.0S.
9, Set receiver power-saving
On: power-saving features turned on. Off: power-saving features turned off.
10, Set the scan mode
CO: Carrier scan. TO: Time scan. SE: single scan. Scan to a signal, immediately stop scanning.
11, Scan the Add / Remove settings
ADD: Add   DEL: Delete
12, Key lock settings
Manu: manually set the key lock   AUTo: automatic lock button locks. 30 seconds no keys, key lock is automatically locked.
13, Set the boot display
OFF: Boot does not show DC: display the current power voltage   MSG: Boot Display Greeting

Menu operation

14, Set the boot display information
You can set 6 characters in boot information. Press [▲] & [▼] to select a character, press the [*] key cut to the next character, press the [#] key before deleting a character, press the [MENU] button to confirm exit.
15, Set the channel display name
On: Channel mode displays the channel name. Off: Channel mode does not display the channel name.
16, Set FM Radio listening mode
When DW is ON, In FM radio mode, you can monitor walkie - talkie signals. When the walkie - talkie signal is received, it will temporarily exit FM radio state, enter to intercom state. When Intercom state ends, it will automatically enter the FM Radio state.
17, Set the width/narrow-band
WIDE: Broadband   NARROW: Narrowband
18, English voice reporting function
CHI: Chinese voice reporting open.   ENG: English voice reporting open.   OFF: voice reporting off.

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Menu operation

19, Set the Power-on Password
The walkie - talkie with a Power On Password function, Open radio power required to enter five passwords, walkie - talkie function is activated; If the password is wrong, prohibit the use of walkie - talkie function.
■ Set Password
Entering 19 item displays.“————”Enter 5 digit password, press ⌷MENU⌷ button to confirm exit.
■ Change password
Entering 19 item displays “————”put power-on password, LCD display “————”*Enter 5 digits new password, press the ⌷MENU⌷ button to confirm exit.
■ Cancel password
Entering 19 item displays“————”put power-on password, LCD display.“————”Press⌷MENU⌷ to exit, Power On Password canceled.

20, The transmitter end sound settings (with optional)
Launch party at the end tone is emitted after the launch end, intercom will emit a tone prompts the recipient, then the transmitting side has finished, the receiver can Intercom. This calls for a continuous function have a good effect.
On: turn on the transmitter end tone.
Off: Turn off the transmitter end tone.

Technical Specifications (Schedule I)

General	
Frequency Range	136-174MHz
Memory channel	128
Channel spacing	12.5KHz
Antenna Impedance	50
Working Voltage	7.4V DC
Frequency Stability	$\pm 2.5 \times 10{-6}$
Dimension	56mm×105mm×34mm (including battery)
Weight	177(including battery and antenna)

DSR Pro®

Technical Specifications (Schedule II)

Transmitter	
Carrier Frequency Tolerance	$\pm 2 \times 10^{-6}$
Output Powe	2 W
Modulation Sensitivity	<20mV
Modulation Distortion	≤5%
Maximum Frequency Deviation	≤5kHz
Occupy broadband	≤16Khz
Spurious radiation	≤7.5
Adjacent Channel Power	−60dB
Transmitting Current	≤1.5A

Technical Specifications (Schedule Ⅲ)

Receiver	
Sensitivity	≥ 0.18
Squelch Sensitivity	$\leq 0.4V$
Audio Output Power	500mW
Audio Distortion	$\leq 7\%$
Modulation receive broadband	$\geq \mid \pm 7.5kHz \mid$
Total Channel Inhibition	$\geq -8dB$
Obstruction	$\geq 85dB$
Spurious Response Rejection	$\geq 60dB$
Spurious Response	$\geq 60dB$
Inter-modulation Rejection	$\geq 60dB$
Receive Current	$\leq 200mA$
Squelch System standby Current	20mA

Care and Maintenance

Commen fault and Troubleshooting

Commen fault	Troubleshooting
No sound comes from the speaker	1, Volume is too low 2,The squelch level is set too tight 3, Different tone is selected with tone squelch
the battery cannot be used long time after charged	1, The batteries are exhausted. 2, The battery polarity is reversed
Can not have dialogues with other members	1,Out of talkie range 2, Frequency of CTCSS/DCS is different
Others's sound in the channel	The CTCSS/DCS is changed, please reset the channels.

WARNING

WARNING! Read this information before using the radio. In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters.

Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of the radio complies with the FCC guidelines and these international standards.

Never allow children to operate the radio without adult supervision and the knowledge of the following guidelines.

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

For a transmitter that can only be operated with an FCC license,warningss concerning compliance with applicable licensing requirements and information concerning license applianction procedures.

Our radio generators RF electromagnetic energy during transmit mode.

This radio is designed for and classified as "Occupational Use Only",meaning it must be used only during the course of employment by individuals aware of the hazards,and the ways To Minimize Such hazards.

This radio is NOT intended for use by the "General Population" in an uncontrolled environment. This radio has been tested and complies with the FCC RF exposure limits for "Occupational Use Only". Inaddition, our radio complies with the following Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evaluation of such levels for exposure to humans:

---IEEE Std. 1528:2013 and KDB447498, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.

---American National Standards Institute (C95.1-1992), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

---American National Standards Institute (C95.3-1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields-RF and Microwave.

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to as-sure that this radio operates with the FCC RF exposure limits of this radio.

WARNING

Electromagnetic Interference/Compatibility

During transmissions, Our radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so. DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

Occupational/Controlled Use

The radio transmitter is used in situations in which persons are exposed as consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

Attention:

This radio complieswith IEEE and ICNIRP exposure limits for occupational/controlled RF exposure emvironment at operating duty factors of up to 50% and is authorized by the FCC for occupational use only. An appropriate warning lable is affixed to all units. In order to comply with RF exposure requirements, a minimum distance of 2.5cm must be maintained when held-to-face, and body-worn operations are restricted to the approved original acessories (belt clip)a minimum distance of 0 mm. Do not use this device when antenna shows obvious damages.

This product is compliance to FCC RF Exposure requirements and refers to FCC website
https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm search for FCC ID: 2ACNN-DSR-590 to gain further information include SAR Values.

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

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

WARNING

WARNING! It is up to the user to properly operate this radio transmitter to insure safe operation. Please adhere to the following:

Use only the supplied or an approved antenna(max gain 2.15dBi) Unauthorized antennas, modifications, or attachments could impair call quality, damage the radio, or result in violation of FCC regulations.

If a damaged antenna comes into contact with the skin, a minor burn may result. Please contact your local dealer for a replacement antenna.

■FCC Compliance Statements:

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 received, including 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.

WARNING

— 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.

■Licensing Information

Use our radio in USA is subject to the rules & regulations of FCC. Changes or modifications not expressly approved by our may void the user authority granted by the FCC to operate this radio and should not be made. To comply with FCC requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter maintenance and repairs in the private land mobile and fixed services as certified by an organization representative of the user of those services. Replacement of any transmitter component (crystal, semiconductor, etc) not authorized by the FCC equipment authorization for this radio could violate FCC rules.

Note: Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

Important: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device. Your radio is set up to transmit a regulated signal on an assigned frequency. It is against the law to alter or adjust the settings inside the radio to exceed those limitations. Any adjustments to your radio must be made by qualified technicians.