◆ **Using DCS**

1. Press【MENU】and then turn channel selector to select Menu No. 3 (CT.DCS).
2. Press【MENU】and then turn channel selector to select "DCS".

$$dCS \qquad 3$$
Ⓕ

■ As you turn channel selector , the selection cycles as follows:
   "OFF" ——►"CTCSS" ——►"DCS" ——►"OFF"

3. Press【MENU】key to store new setting and continue set other function. Or press【FUNC】key to store new setting and exit Menu mode.

■ "DQT" appears on the upper part of display, indicating that the DCS function is activated.

Note: When DCS is ON, you will hear calls only when the selected DCS tone is received. To answer the call, press and hold【PTT】, then speak into the microphone.

Note: You cannot use the CTCSS and DCS functions simultaneously. Switching the CTCSS function ON after having activated the DCS functions deactivates the DCS functions.

◆ **Selecting a RX/TX DCS Frequency**

1. Press【MENU】and turn channel selector to select Menu No. 9 (DC). The current DCS code appears.

$$dC.OFF \qquad 9$$
Ⓕ
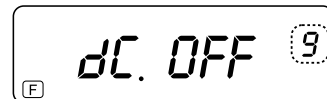
2. Press【MENU】and Turn channel selector to select your desired DCS code.

■ The selectable DCS code, refer to the DCS code table* Normal"N"/Reverse"I"）.

The available DCS code（Normal"N"）

OFF	053N	131N	205 N	261 N	343 N	432 N	516 N	645 N
017N	054N	132N	212 N	263 N	346 N	445 N	523 N	654 N
023N	065N	134 N	223 N	265 N	351 N	446 N	526 N	662 N
025N	071N	143 N	225 N	266 N	356 N	452 N	532 N	664 N
026N	072N	145 N	226 N	271 N	364 N	454 N	546 N	703 N
031N	073N	152 N	243 N	274 N	365 N	455 N	565 N	712 N
032N	074N	155 N	244 N	306 N	371 N	462 N	606 N	723 N
036N	114N	156 N	245 N	311 N	411 N	464 N	612 N	731 N
043N	115N	162 N	246 N	315 N	412 N	465 N	624 N	732 N
047N	116N	165 N	251 N	325 N	413 N	466 N	627 N	734 N
050N	122N	172 N	252 N	331 N	423 N	503 N	631 N	743 N
051N	125N	174 N	255 N	332 N	431 N	506 N	632 N	754 N

The available DCS code（Reverse"I"

OFF	053 I	131 I	205 I	261 I	343 I	432 I	516 I	645 I
017 I	054 I	132 I	212 I	263 I	346 I	445 I	523 I	654 I
023 I	065 I	134 I	223 I	265 I	351 I	446 I	526 I	662 I
025 I	071 I	143 I	225 I	266 I	356 I	452 I	532 I	664 I
026 I	072 I	145 I	226 I	271 I	364 I	454 I	546 I	703 I
031 I	073 I	152 I	243 I	274 I	365 I	455 I	565 I	712 I
032 I	074 I	155 I	244 I	306 I	371 I	462 I	606 I	723 I
036 I	114 I	156 I	245 I	311 I	411 I	464 I	612 I	731 I
043 I	115 I	162 I	246 I	315 I	412 I	465 I	624 I	732 I
047 I	116 I	165 I	251 I	325 I	413 I	466 I	627 I	734 I
050 I	122 I	172 I	252 I	331 I	423 I	503 I	631 I	743 I
051 I	125 I	174 I	255 I	332 I	431 I	506 I	632 I	754 I

3. Press【MENU】to store the new setting and continue to set other function. Or press【FUNC】key to store new setting and exit Menu Mode.

◆ **Selecting RX DCS code**

1. Press【MENU】key, and then turn channel selector to select Menu No. 7（Rd）.
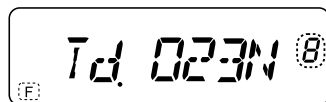
   The current DCS code appears on the display.
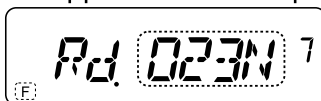
   Rd 023N 7

2. Press【MENU】key.
3. Turn channel selector to select desired DCS code.
■ The selectable DCS code, refer to the DCS code table （Normal"N"/Reverse"I"）.
4. Press【MENU】to store the new setting and continue to set other function. Or press【FUNC】key to store new setting and exit Menu Mode.

◆ **Selecting TX DCS code**

1. Press【MENU】key, and then turn channel selector to select Menu No. 8（Td）

   The current DCS code appears on the display.

   Td 023N 8

2. Press【MENU】key.
3. Turn channel selector to select desired DCS code
■ The selectable DCS code, refer to the DCS code table （Normal"N"/Reverse"I"）

   Td 023N 8

4. Press【MENU】to store the new setting and continue to set other function. Or press【FUNC】key to store new setting and exit Menu Mode.
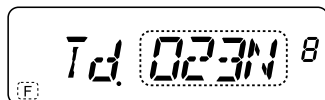
LAMP

To illuminate the display and keys:

Press【LAMP】.

■ If no other key is pressed, the light turns OFF approximately 5 seconds after releasing【LAMP】.
■ Press any key other than 【LAMP】while the display and keys are lit to restart the 5-second timer.
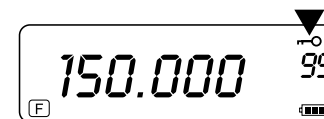■ Press 【LAMP】while the display and keys are lit to immediately turn the light OFF.

Note: LAMP setting, refer to " additional function setting ".

KEY LOCK FUNCTION

The key lock function disables most of the keys to prevent you from accidentally activating a function.

1. Press【FUNC】**(3 s)**.

   " ⊶ "appears when this function is ON.

   150.000 99   450.000 99

■ The following keys cannot be locked: 【PTT】、【FUNC】（3s）、 【MONI】、PWR/VOL control、【LAMP】
2. Press【FUNC】 （3s）to unlock keys.

Note: Manual/Auto key lock function setting, refer to Operator Conveniences. (manual lock:default)

MONITOR

1. When you are receiving as the squelch function is ON, weak signals may become intermittent.
2. If the CTCSS or DCS function is ON, you may want to disable the squelch function temporarily to monitor the current channel activities.
3. In both of these cases, use the Monitor function to temporarily disable the squelch function.

Activate the Monitor function:

1. Press and hold【MON】key for 3s
■ The speaker is un-muted and you can monitor the signals.
2. Release【MON】key to return to normal operation.

REMAINING BATTERY CAPACITY

Before you operate the transceiver outside using a battery pack, it is important to know how long the battery pack will last.
The battery remaining indicator shows the remaining capacity.
▬ High battery power
▬ Medium battery power
▬ Low battery power
▭ Recharge or replace the batteries.

CHANNEL STEP

When turn channel selector to select a receiving frequency, you must select correct frequency step. You can select a desired frequency step from following value.
5KHz, 6.25KHz, 10KHz, 12.5KHz, 25KHz.
◆ **To Change the Frequency Step**
1. Press【MENU】key, and then turn channel selector to select Menu No.2（STP）.
■ The currently frequency step appears on the display.

```
 STP. 12.5   ②
(F)
```
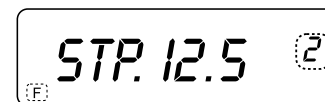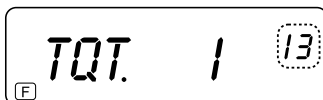
2. Press【MENU】key and then turn channel selector to select a desired frequency step.
3. press【MENU】key to store new setting and continue to set other function. Or press【FUNC】key to store new setting and exit Menu mode.
Note: If you change a frequency step does not match the current frequency step size, the transceiver is automatically adjust the frequency to match the new frequency step size.

TIME-OUT TIMER

The Time-out Timer limits the time of each transmission. The built-in Time-out Timer limits each transmission time to a maximum of 1 （default）, 3 or 10 minutes. Just before the transceiver stops the transmission, a warning beep sounds. This function is necessary to protect the transceiver from thermal damage due to overheat and therefore is recommended not to be turned OFF.

1. Press【MENU】, and then turn channel selector to select Menu NO.13（TOT）.

```
 TOT.    1    13
F
```

2. Press【MENU】,and then turn channel selector to select 1（default）, 3 or 10 minutes.
3. Press【MENU】 key to store the new setting and continue to set other function. Or press【FUNC】 key to store new setting and exit Menu mode.

VOX (VOICE-OPERATED TRANSMISSION)

VOX eliminates the necessity of manually switching to the Transmission Mode each time you want to transmit. The transceiver automatically switches to Transmission Mode when the VOX circuitry senses that you have begun speaking into the microphone.

◆ **To turn the VOX function ON:**

1. Press【MENU】 then turn channel selector to select Menu No. 14 (VOX).

2. Press【MENU】then turn channel selector to select the desired VOX gain level from 1 (least sensitive) to 16 (most sensitive).

```
 VOX    5    14
F
```
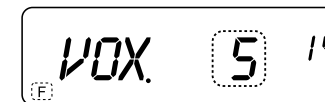
3. To turn OFF the VOX function, select "OFF" in step 2.

Note:

■ While in Menu Mode, the VOX function is temporarily disabled.
■ Since the VOX circuit must detect the presence of your voice, you may notice a slight delay in transmission; the very first part of your message may not be transmitted.
■ VOX cannot be used with an unmatched earphone.

VOX Gain

To enjoy the VOX function, take the time to properly adjust the VOX Gain level. This level controls the VOX circuit to detect the presence or absence of your voice.

◆ **While the VOX function is ON:**

1. Speak into the headset microphone using your normal tone of voice to transmit.
■ If the transmission does not begin, you must readjust the VOX Gain so that transceiver transmits while you are speaking. To select a more sensitive gain level.
2. Adjust the VOX Gain, the transceiver reliably switches to transmission mode each time you speak while the transceiver is transmitting.

From the Menu:

1. Continue VOX (Voice-Operated Transmission) by step 1 and 2

2. Press【MENU】to store the net setting and continue to set other function. Or press【FUNC】key to store new setting and exit Menu mode.
■ "VOX" appears on the top right of the display when the VOX function is ON.
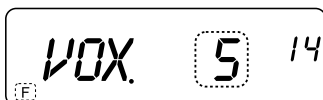
```
 VOX    5  14
(F)
```

3. Press【MENU】to store the net setting and continue to set other function. Or press【FUNC】key to store the new setting and exit Menu mode.
4. Adjust the VOX Gain, performing steps 1 to 3 until the transceiver reliably switches between transmission and reception each time you speak.
**Note:** The setting should not allow background noise to switch the transceiver to Transmission Mode.

BEEP FUNCTION
The Beep function provides confirmation of entry, error status, and malfunctions of the transceiver. We recommend you leave this function ON in order to detect erroneous operations and malfunctions.
However, to turn the beep function OFF:
1. Press【MENU】.
2. Turn channel selector to select Menu No. 15 (BP).
3. Press【MENU】.
4. Turn channel selector to select "OFF".
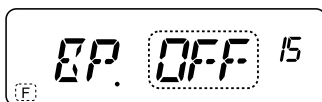
```
 BP. OFF  15
(F)
```

5. Press【MENU】to store the net setting and continue to set other function. Or press【FUNC】key to store new setting and exit Menu mode.
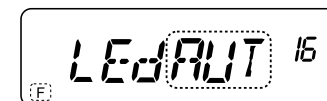**Note:** The beep output level is linked to the VOL control position.

LAMP
To illuminate the display and keys:
1. Press【MENU】.
2. Turn channel selector to select Menu No.16（LED）
3. Press【MENU】.
■ The currently parameter appears on the display.

```
 LEdAUT  16
(F)
```

4. Turn channel selector to select a desired parameter.
■ AUT: The light turns OFF approximately 5S automatically without any input
■ OFF: To keep the light OFF continuously
■ ON: To keep the light ON continuously
5. Press【MENU】to store the net setting and continue to set other function. Or press【FUNC】key to store new setting and exit Menu mode.

SELECTING CALL TONE
1. Press【MENU】.
2. Turn channel selector to select Menu No.18 (CK).
3. Press【MENU】.

4. Turn channel selector to select a desired call tone（1-8 or 1750Hz）.
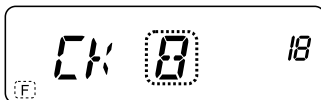
```
CK 8        18
F
```
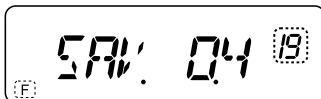
5. Press【MENU】to store the net setting and continue to set other function. Or press【FUNC】key to store new setting and exit Menu mode

BATTERY SAVER

The Battery Saver extends the operating time of the transceiver. It automatically activates when the squelch is closed and no key is pressed for more than 10 seconds. To reduce battery consumption, this function shuts the receiver circuit OFF for the programmed time, then momentarily turn it back ON to detect a signal.

To program the receiver shut-off period for the battery saver:

1. Press【MENU】
2. Turn channel selector to select Menu No. 19（SAV）.
■ The currently parameter appears on the display.

```
SAV. 04    19
F
```

3. Press【MENU】.
4. Turn channel selector to select the receiver shutoff period from OFF, 0.2, 0.4（default）, 0.6, 0.8 and 1.0 seconds.
5. Press【MENU】to store the net setting and continue to set other function. Or press【FUNC】key to store new setting and exit Menu mode.
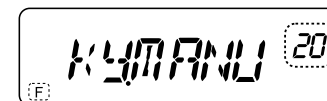
Note:

The longer the shut-off period, the more you can save on battery consumption. However, there is a greater chance of missing a signal.

KEYPAD LOCK（MANU/AUTO）

1. Press【MENU】then turn channel selector to select Menu No. 20（KY）.
   The currently parameter appears on the display.

```
KYMANU    20
F
```

2. Press【MENU】then turn channel selector to select a desired lock mode.
■ MANU: manual mode（press【FUNC】key 3 seconds）
■ AUTO: auto mode（auto lock the keypad while you didn't press any keys approximately 60 seconds）

BUSY CHANNEL LOCK-OUT (BCL)

This function is used in order to prevent transmitting on a channel or frequency that somebody else is currently using. When turned ON, an error beep sounds and you cannot transmit even if you press【PTT】.

1. Press【MENU】then turn channel selector to select Menu No. 21
   The currently parameter appears on the display.

```
BCL.OFF    21
F
```
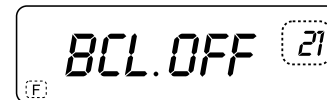
2. Press【MENU】then turn channel selector to select a desired mode.
■ OFF: radio can normally transmit while in the receive mode.
■ ON: radio cannot transmit while in the receive mode.

POWER ON MESSGER

You can change the Power-ON Message (a maximum of 6 characters) when the transceiver is turned ON.

1. Press【MENU】then turn channel selector to select Menu No. 22 (PON.MSG)
2. Press【MENU】key.
   The current message and entry cursor appear.
   Press【MENU】keyto move the cursor to the next digit.

3. Turn channel selector select a character.
   You can enter the following alphanumeric characters:
   0 ~ 9, A ~ Z, – (hyphen), / (slash) and a space.
4. press【MENU】key.
   The cursor moves to the next digit.
5. Repeat steps 3 and 5 to enter up to 6 digits
   Press【MONI】to delete the character at the current cursor position.
6. To complete the entry, press 【MENU】without selecting a character and continue to set other function. Or press【PTT】key to store new setting and exit Menu mode. Otherwise, press any key other than【MENU, PTT, MONI】key to cancel the entry.

NAMING A MEMORY CHANNEL

You can name memory channels using up to 6 alphanumeric characters. When you recall a named memory channel, its name appears on the display in place of the stored frequency. Names can be call signs, repeater names, cities, names of people, etc.

1. Press【MONI】to recall your desired memory channel, and then turn channel selector to select a desired memory channel.

2. Press【MENU】key to enter select mode, and then turn channel selector to select MENU number 23（M.NAME）
3. Press【MENU】key.
   A blinking cursor or channel alpha appear.
4. Turn channel selector to select a character.
   You can enter the following alphanumeric characters:
   0 ~ 9, A ~ Z, – (hyphen), / (slash) and a space
   press【MONI】key to delete the character at current cursor position.
5. Press【MENU】key
   The cursor moves to the next digit.
6. Repeat steps 4 and 5 to enter up to 6 digits
7. Press any key other than【MENU, PTT, MONI】to cancel the entry.
   After storing a Memory name, the Memory name appears in place of the operating frequency. However, you can still display the operating frequency, if desired. To display the frequency rather than Memory name, access Menu No. 24 (MDF) and select "FRQ". This menu toggles the display mode between the Memory name ("MN") and frequency display ("FRQ").

Note:
■ You cannot assign a Memory name to a channel that does not contain data.
■ You can overwrite stored names by repeating steps 1 to 7 .
■ The stored name is erased when you clear the Memory channel data.

TUNING CONTROL UNLOCK(OPTIONAL)

While the Lock function is ON, you sometimes may want to turn the Tuning control to change the frequency. In this case, turn the Tuning control unlock function ON.

1. Press【MENU】then turn channel selector to select Menu No. 25 （ENC, OFF）

2. Press【MENU】then turn channel selector to select "ON" or "OFF". "ON" means can normally use, "OFF" means turn OFF Tuning control.

3. Press【MENU】key to store new setting or press【PTT】key to store and exit MENU mode.

MEMORY CHANNEL LOCKOUT

1. Press【MONI】key to recall a stored channel, and then turn channel selector to select a desired channel number.

2. Press【MENU】key then turn channel selector to select Menu No. 26

3. Press【MENU】key then turn channel selector to select "ON" or "OFF". "ON" means channel lockout, "OFF" means unlock channel.

4. Press【MENU】key to store new setting or press【PTT】key to store and exit MENU mode.

PROGRAMMING PRIORITY SCAN (OPTIONAL)

1. Turn channel selector to select your desired priority channel frequency. (You can enter the desired frequency by manual directly).

2. If it's necessary, select the desired selective calling function (CTCSS/DCS).

3. Press【FUNC】key and then press【MONI】key to store channel no. and blight on the screen.

4. Turn channel selector to select the symbol of "Pr".

5. Press【MONI】key to store the data into the priority channel.

USING PRIORITY SCAN (OPTIONAL)

You may sometimes want to check your favorite frequency activities while monitoring other frequencies. In this case, use the Priority Scan function. Priority Scan checks the activities of the Priority Channel every 3 seconds. If the transceiver detects a signal on the Priority Channel, it recalls the frequency.

1. Press【MENU】key then turn channel selector to select Menu No. 27（PRI）

2. Press【MENU】key then turn channel selector to check time of priority scan (3,5,8,10 seconds)

3. Press【PTT】to start priority scan,"PRI" appears in the left bottom of the display

■ The transceiver checks for a signal on the Priority Channel every 3 seconds.

■ When the transceiver detects a signal on the Priority Channel, "Pr" blinks and the frequency changes to the Priority Channel.

■ If you do not operate any control or key for 3 seconds after the signal drops, the transceiver returns to the original frequency and resumes Priority Scan.

4. To quit Priority Scan, select "OFF" in step 2.

Key	Functions
【FUNC】	Function
【MENU】	Menu Access
【CALL】	Emergency Call
【MONI】	Recall stored data and related functions
【LAMP】	Light key LCD
【0~9】	Number input and related functions

Item	Shortcut Operation
Adjust Squelch	Press 【FUNC】 then press 【1】 key
Selecting CTCSS/DCS	Press 【FUNC】 then press 【2】 key
Start to scan	Press 【FUNC】 then press 【3】 key
RX CTCSS setting	Press 【FUNC】 then press 【4】 key
TX CTCSS setting	Press 【FUNC】 then press 【5】 key
RX/TX CTCSS setting	Press 【FUNC】 then press 【6】 key
RX DCS setting	Press 【FUNC】 then press 【7】 key
TX DCS setting	Press 【FUNC】 then press 【8】 key
RX/TX DCS setting	Press 【FUNC】 then press 【9】 key
Channel lock	Press 【FUNC】 then press 【0】 key
Storing Channel	Press 【FUNC】 then press【MONI】key
Selecting TX power	Press 【FUNC】 then press【 CALL 】key

Frequency Range		UHF
		400-480MHz
Channel	199	
Workshop	7.4V（Li-ion） DC ±15%	
Antenna Resistance	50Ω	
Frequency Step	12.5 KHz	
Workable Temp	－30˚C＋60˚C	
Frequency Stability	± 2.5PPM	
Dimension	97X58X40mm	
Weight	270g	
Battery	2300mAh（Li-ion）	

Transmit Part

Power Output	5/4W
Modulation	FM
Max. Frequency Deviation	W ≤ ±5KHz / N ≤ ±2.5KHz
Spurious Radiation	<－60d
Enhanced property	BIncreased by 6dB increment
Transmitting Current	1300mA

Receiver Part

Sensitivity	W<0.14uV N<0.2uV (12dB SINAD)
Squelch Sensitivity	0.15u
Inter-modulation Rejection	＞60dB
Audio Power	450mW

Item	Quantity
Antenna	1
Twin Charger	1
Adaptor	1
Li-ion Battery Pack(2300mAh)	1
Belt clip	1
User manual	1
Hand Strap	1

Note: this product belongs to rated IP65 item, we will not take any compensation or warranty responsibility for watering or demage caused by using special accessories not sold by us (including related accessories like battery pack, earpieces and so on)