Package and Product Designed in U.S.A.

MADE IN CHINA

AnyToneTech.com

NSTIG-8R

THE INSTIGATOR

USER'S MANUAL

THANK YOU FOR TRUSTING US WITH YOUR RADIO NEEDS !

*AnyTone*tech transceivers provide you with reliable, clear, and precise communications. This transceiver includes innovative DSP (digital signal processing) technology - allowing for easy integration into all environments. We encourage you to read through the manual to understand the various functions to get the most from your handset.

The transceiver includes 200 programmable channels, as well as UU, VV, UV, VU, Mono U or Mono V standby modes. The transceiver also allows for Dual PTT functions, 51 groups of CTCSS encode/decode, 1 group of user-defined CTCSS encode/decode, 1024 groups of DCS encode/decode, DTMF encode/decode, built-in FM radio, and many more features.

This radio is a meticulously built and a functional hand-held intended for every radio operator.

MODELS APPLY TO THIS MANUAL
NSTIG-8R FM Transceiver
Programming software: NSTIG-8R

USB PROGRAMMING PRECAUTION
When programming the transceiver, first read from the radio, before modifying the frequencies data and settings. This will prevent errors caused from incompatible files.

WARNINGS

AnyTone tech transceivers are intelligently designed with advanced technologies. The following tips are required to prevent voiding warranty and understanding the safety of transceiver usage.

1. Keep the transceiver and all accessories away from children.

2. Do not try to open or modify the transceiver without permission. Irresponsible operation of the transceiver may also cause damage.

3. Use only *AnyTone tech* approved batteries and chargers.

4. Use the provided antenna for communication.

5. Avoid exposing the radio to excess heat (such as direct sunlight) for extended periods or storing your transceiver in a hot location. High temperatures do shorten the life of electronic devices.

6. Do not store the radio in dusty, dirty, or damp areas.

7. Keep the radio dry. Do not wash radio with chemicals or detergents.

8. Do not transmit without the provided antenna.

9. When using this transceiver, we recommend transmitting for 1 minute then receiving for 1 minute. Continuous transmissions for a long time may over–heat the transceiver. If the transceiver is warm to the touch; do not set it by objects (such as plastic) that could melt.

10. If any abnormal smell or smoke comes from the transceiver, immediately shut off the power and remove the battery from the radio body. Then contact your local *AnyTone tech* dealer.

> **NOTE：**
> The above tips apply to your *AnyTone tech* transceiver's accessories as well. If your accessories don't operate normally, please contact your local *AnyTone tech* dealer for assistance.
> Use of third–party/ after–market accessories are not guaranteed by *AnyTone tech* and may void the warranty and/or safety of the transceiver

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○ UNPACKING

Carefully unpack the transceiver. We recommend that you identify the items listed in the following table before discarding the packaging.

If any items are missing or have been damaged during shipment, please contact your dealer immediately.

))) Supplied Accessories

Item	Number	Quantity
Antenna	QA11UV	1
Li-ion Battery	QB-43HL	1
Battery Charger	QBC-42L	1
AC Adaptor	QPS-01	1
Earpiece	HS03	1
Belt Clip	BC06	1
Instruction Manual		1

(((Standard Accessories

Antenna*¹
QA11UV
155/435MHz

Li-ion Battery
QB−43HL(1800mAh)

Battery Charger
QBC−42L

AC Adaptor
QPS-01

Earpiece
HS03

Belt Clip
BC06

Instruction
Manual

*1.Note: For frequency band of antenna, please refer to label indicated in the bottom of the antenna.

(((Additional Accessories

USB Programming
Cable PC03

Programming Software
NSTIG−8R
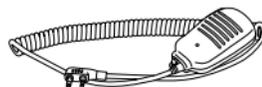
Handheld Microphone
QHM22

Battery Pack for Car
Charger

Telescopic antenna
QA10UV

Li-ion Battery
1300mAh

The transceiver is a high performance amateur and professional radio with dual band, dual standby, dual display and other advanced features. According to your specific application, you can set the radio to operate as an Amateur Transceiver or as a Professional (Commercial) Transceiver. There are 3 operating modes - and you can pick the mode best suited for your needs at anytime.

1. **Modes of Operation**

A.By programming software: In the PC software's "General Setting (Function Setup)" menu, choose the "Display Mode" drop down menu.Frequency and Name modes will display the channels by frequency or name accordingly and still allow amateur usage and access. Channel mode will restrict access to amateur options (such as VFO).

(Pic 1)

B.By manual setup: Please refer to "Display Mode" in Page 56.

2. **Amateur Transceiver Mode:** Unless your setting is Channel mode, Frequency and Name are considered as Amateur transceiver modes. Under these modes, you can press the " $\boxed{\frac{D}{ESM}}$ " key to switch between Channel mode and VFO.

(Pic 2)

A.Frequency + Channel mode: When you set the operating mode as "FREQ", it enters into Frequency+Channel mode. This mode allows editing settings of channels and the shortcut operation can also be used. Once the radio is turned off or switched to another channel, the temporary settings will be erased and changed back to the initial settings.(As pic 1)

(Pic 3)

B.Name Tag + Channel Mode: When you set the operating mode as
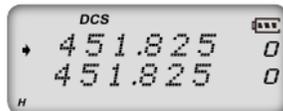
(Pic 4)
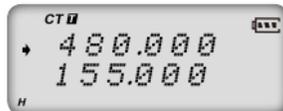
"NAME", it enters into Name Tag + Channel Mode. In this mode, it will display the corresponding channel name (if you have given a Channel name in the memory). If no name is given, it will display the frequency + channel number. Channel operations are the same as described in frequency + channel mode. (As pic 2)

C. VFO Mode(Frequency mode): This mode shows only frequency on the display. You can enter this mode by simple pressing the " (D) ESC/M " key, while you are in both FREQ and NAME Channel Modes. Shortcut operations and Channel settings are able to changed & stored as the latest values. Even if the radio is turned off, the settings remain the same until the next VFO change. (or if it is changed to a new VFO frequency).(As pic 3)

3. **Professional Transceiver Mode:** When setting the display mode as "CH" (Channel), it will enter into the Professional Transceiver mode. In this mode all functions (except scan, DTMF encode or editing, and keypad lock) should be set by PC software (As pic 4).

NOTE:
If the transceiver is PC programmed to channel mode and locked,you can not return it to the amateur transceiver modes manually .

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4. Under every mode, background operations still can be changed and saved.

(((**Charging Operation**

The battery is not charged at the factory, please charge it before your initial use. Charging the battery for the first time or charging it after extended storage (more than 2 months) may not bring the battery to its maximum operating capacity after the first charge.It may take repeating a full charge/discharge cycle for two or three times before the operating capacity reaches its maximum performance. It is recommended that you replace the battery pack when the battery can no longer hold a charge (even when you have it fully and correctly charged). Properly dispose of the expired battery pack.

(((**Battery Charger Type**

Please use our company's designated charger, after-market chargers could cause battery damage and in some cases could even explode the battery.

(((**Notice for Charging Battery**

▲ Do not short-circuit the charger. Never attempt to remove the casing from the battery. Tampering or modifying the battery and charger is not allowed and we are not responsible for anything that occurs from modification.

▲ The ambient temperature should be between 40°F and 100°F during charging.

▲ Always switch off the transceiver equipped with a battery before charging. A transceiver left on, will interfere with correct charging.

▲ To avoid interfering the charging procedure, do not cut off the power or take out the battery during a charge.

▲ Do not recharge the battery if it is already fully charged. This could shorten the life of the battery or

damage the battery.

▲ Do not charge the battery or transceiver if it is damp or wet. Dry it before charging to avoid any danger.

WARNING:
When keys, ornamental chains, or other metals contact or short the battery terminals, the battery could cause a shock or injury. If the battery terminals are allowed to short circuit, they will generate a lot of heat. Be careful when you bring or use a spare battery. Put the battery or radio into an insulated container. Do not put them into metal containers.

(((How to Charge

1. Plug the AC adapter into the AC outlet(100V-240V), then plug the cable of AC adapter into the DC jack, the indicator will light and alternate from RED and GREEN--- this means it is waiting to charge.

2. Slide the battery or transceiver with battery into the charger; make sure the battery terminals are securely in contact with the charging terminals. The LED turns into a solid (or flashing) RED---charging.

3. It takes about 5.5 hours to fully charge the battery.

AC input
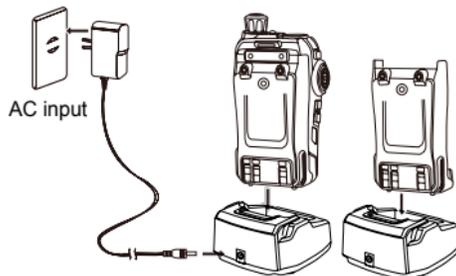
○ BATTERY INFORMATION

NOTE:
When charging a powered on transceiver equipped with battery, the LED will not turn to green to show the full charge status. Only when you turn off the transceiver, will the LED indicate normally. If the transceiver is powered on, it will continually consume energy. The charger cannot detect when the battery has been fully charged and will fail to indicate correctly.

4.Charging Process:

Status	LED
Standby (self-examine orange lights 1second when power on)	Red and Green light Alternate
Pre-charging (pre-charging stage)	Red light flashes for about 5 minutes
Charging	RED light for about 5.5 hours
Full charged (charge in constant voltage)	Green light

5.LED Indicator:

STATUS	self-examine when power on	(No battery)	Pre-charging	Charge normally	Full Charged	Error
LED	Orange (for 1 second)	Red and Green light Alternate	Red light flashes for 5 minutes	Red	Green	Red flashes for a long time

NOTE: An Error means the battery is too hot or cold, the battery has short−circuited, or the charger has short−circuited.

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(((Charging Prompts Explained

1. Self- examination: When plugging in your charger, the ORANGE light may flash for 1 second and go out. This means that the charger has passed its self-examination and it can charge the battery normally. If the light remains orange or the red light flashes this means the charger cannot pass its self-examination test and it will not charge the battery.

2. Trickle pre-charging: When the battery has been inserted into the charger and the RED light begins flashing, this means that the remaining voltage is very low. The charger will trickle charge the battery (pre-charging status), until the battery reaches a minimum charge. The charger will then automatically start the normal charging cycle. If the red light stops flashing immediately, this means that the remaining voltage is high enough to allow the charger to charge the battery normally.

NOTE:

The time for Trickle pre–charging should not exceed 30 minutes. After 30 minutes, if the red indicator is still flashing, it means it is unable to charge battery. Check both the battery and charger for any issues.

(((How to Store the Battery

1. If the battery needs to be stored, the battery should be kept in the status of 50% discharge.
2. It should be kept in a cool and dry environment.
3. Keep away from hot places and direct sunlight.

WARNING

▲ Do not short circuit battery terminals.
▲ Never attempt to remove the casing from the battery pack.
▲ Never attach the battery to the radio in dangerous surroundings (such as areas with natural gas), there could be a spark that would cause explosion.
▲ Do not put the battery in a hot environment or throw it into fire.

(((Installing / Removing the Battery

■ **Installing the Battery**
1. Lay the battery to face the back of the radio.
2. Press the bottom of the battery, the latch in the bottom of the transceiver lock will release. After hearing a "click", the battery has been locked.

■ **Removing the Battery**

According to " ▼ " on the battery release, push the battery lock release tab to remove the battery.
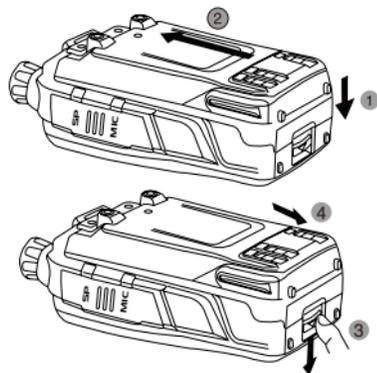
(((Installing / Removing the Antenna

■ **Installing the Antenna:**
Screw the antenna into the connector on the top of the transceiver by holding the antenna at its base and turning it clockwise until secure.

■ **Removing the Antenna:**
To remove it: Turn the antenna counterclockwise until the antenna has been removed from the threads of the transceiver
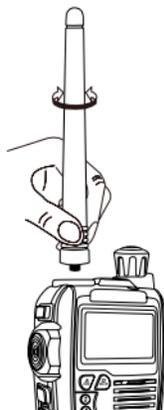
(((Installing / Removing the Belt Clip

■ Installing the Belt Clip:
Place the belt clip to the grooves on the back of the transceiver, and then install the screws, turning clockwise.

■ Removing the Belt Clip:

Remove the screws turning counterclockwise, allowing you to remove the belt clip.

(((Installing the Additional Speaker/ Microphone (Optional)

Unveil the MIC-SP jack cover and then insert the Speaker/Microphone plug into MIC-SP jack.

> **NOTE:**
> **The transceiver is not completely waterproof while using the Speaker/Microphone.**

LCD Display

On the LCD display screen, you will see various icons appear which stand for the functions you may have enabled. In order to thoroughly understand the icons and their meanings an overview is provided below:

Frequency Reverse

Offset Frequency

DCS

Optional Signaling

CTCSS

FUNC Icon

VOX Function

Scan Skip

Narrow band

Battery Capacity

☑ CT **Ⅱ** DCS +−R PRI VOX S N⌀ ▥

TDR

The arrow points to main channel

FM radio

TX Power

Busy Channel

➡
➡

FM

HL BUSY

75
25
75
25

188

188

— — — — — — ◢ ◢ ◢ ◢ ◢ 🔒

Function Menu Number, Channel Number

FM Channel Number channel Number

Keypad Lock

NOTE:
▥ **Battery capacity indicator(full)**   ▭ **No power, replace battery pack or charge battery**
▥ ▭ **Remaining battery capacity**   — — — — — — ◢ ◢ ◢ **Real time display receiving signal strength/Power Indicator**

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○ GETTING ACQUAINTED

❶ Antenna

❷ Lamp (Flashlight)

❸ Power / Volume Switch

Rotate it clockwise to turn on the transceiver, rotate it counterclockwise until you hear the "click" to turn off the transceiver.

When the transceiver is powered on, turn the knob clockwise to increase volume, or turn the knob counterclockwise to reduce the volume.

❹ LCD display

Displays current frequency/channel and operations

❺ Speaker

❻ Keypad

Enters desired frequency/channel or operations by keypad

❼ Mic

❽ PF1 key

❾ PTT key

Press PTT key to talk, release this key to receive.

❿ PF2 key

⓫ MONI key

⓬ Speaker/Microphone jack, programming software jack

⓭ Belt Clip

((. Turn the Radio On & OFF

When the radio is off, turn the **[POWER]/[VOLUME]** knob clockwise to turn on the transceiver. The transceiver will play a prompt tone and displays the current channel on screen once it has fully powered on.

When the radio is on, turn the **[POWER]/[VOLUME]** knob counterclockwise until you hear a "Click". The transceiver display will shut off once it has been turned off.

((. Adjusting Volume

When the radio is on, turn the **[POWER] /[VOLUME]** knob to adjust the volume. The volume increases when you turn the knob clockwise and decreases when you turn the knob counterclockwise.

NOTE:

Press the [MONI] key to bypass the squelch. You can turn the [POWER]/[VOLUME] knob to control the volume. For best results the volume may need to be adjusted during a live received transmission.

((. Switch between Main band and Sub band

While in standby, press [★ MAIN] key to switch between the Main band and Sub band. The Display Arrow will point to the current operating channel.

```
  461.725   2
◆ 155.000
H
```
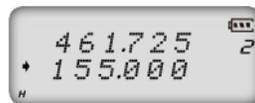
((. Switch between Channel mode and VFO mode

While in standby, press [D/ESC/M] key to set the selected band into channel mode or frequency mode(VFO).

```
◆ 156.000
  155.000
H
```
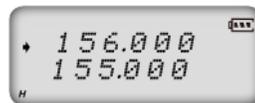
NOTE:

When the transceiver is in channel mode the right side of the frequency will display the channel number.

(((Channel Adjusting

1. Input channel number by scrolling

When the transceiver is in Channel mode or in the FM radio channel mode, press (⬆/B) / (⬇/C) to go through the channels. Press (⬆/B) to scroll upward through the channels, Press (⬇/C) to scroll downward through the channels. If there is a blank channel between two channels, the radio will automatically skip the blank channel and go onto the next channel.

2. Input channel number by keypad

When the transceiver is in Channel mode or in the FM radio channel mode, the user can input any number (000-199) to switch to the desired channel. If the channel number entered is an un-programmed channel, the radio will audibly let you know an empty channel has been selected and return to the previously tuned channel. Example Channel Entry: 001 is channel 1, 030 is channel 30, 125 is channel 125.

(((Frequency Adjusting

When the transceiver is in VFO frequency mode or is in FM radio frequency mode, press (⬆/B) / (⬇/C) to adjust the frequency or you can input frequency by keypad.

1. Enter the desired frequency by increments.

Press (🔘B) to increase by frequency step, Press (🔘C) to decrease frequency step. Every button press will add or reduce the frequency by one stepping value.

NOTE: Channel step increments:2.5K, 5K, 6.25K, 10K, 12.5K, 20K, 25K, 30K and 50KHz. The FM radio step increment is 50K.

2. Enter the desired frequency by keypad.

VFO mode: if you want input frequency145.150MHz, please press [1], [4], [5], [1], [5], [0] on the keypad.

FM mode: if you want input frequency 101.50MHz, please press [1], [0], [1], [5] on the keypad.

NOTE: The frequency input of the main channel or FM radio is relevant to the channel step and frequency range. If the frequency entered is beyond range – the frequency entered will not be accepted. In FM mode, the keypad input frequency channel step is 100K.

(((FM Channel Searching

When the transceiver is in FM radio mode, press (🔘A) key, then the LCD displays " ☑ " icon, press [5 SCAN] Key to start FM scanning. When a station is found, the LCD displays the current station frequency momentarily, and will continue scanning until you stop the scan function.

```
          🔋
 ↓  F M   O N
FM  1 0 0 . 7 0
H
```

(((Receiving

When your transceiver receives a transmission, the LED light will light up (it will light green if the main band is receiving and will light blue if the sub band is receiving) and the arrow icon will flash, and if the volume is up high enough you will also hear the transmission.

◦ BASIC OPERATIONS

NOTE:
You may not receive the call if your transceiver is set at a high squelch level. If the current channel is programmed with a mandatory decode (RX) tone (CTCSS, DCS, etc), the selected tone also must be present for the call to be heard.

(((Transmitting

According to how the [MONI] key is setup in programming software, hold the [MONI] key to monitor the channel to ensure it is not in use, Then press the [PTT] key and talk into the microphone.

Keep the distance between your mouth and the microphone about 1-2 inches. Speak in your normal voice (don't whisper and don't yell into the mic) for the best audio clarity.

NOTE:
When pressing and holding the PTT key, the radio will transmit (and will be indicated by the red LED light). Release the [PTT] key to receive calls.

(((Emergency Alarm

When the transceiver is in standby, press and hold the [PF1] or [PF2] key (according to how you have the side-keys on the transceiver set up) until the LCD displays "ALARM". The emergency alarm has now started. This transceiver has 4 Alarm modes. You can set up which mode works best for you in the programming software. Power off the transceiver to exit Alarm.

Keypad reference chart

KEY	Entering a Frequency or Recalling a Memory Channel (Or FM Mode)	Inputting an Alpha Tag Inputting CTCSS / DCS Tone	When Pressed and Held over 1 second	The Key is Pressed after "A" is Pressed	The Key is Pressed and held when power on
		When Pressed			
(A FUN)	Enters Function Mode	Previous Menu	--	--	--
(B ▲)	Scrolls Upward through Channels or Frequencies	Scroll through Character Options Scroll through Tones	Fast Scrolling	Add / Remove Channel See Explanation in Guide	--
(C ▼)	Scrolls Downward through Channels or Frequencies	Scroll through Character Options Scroll through Tones	Fast Scrolling	Add / Remove Channel See Explanation in Guide	--
(D ESC)	Switch from Frequency to Channel Mode on selected Channel (FM Mode Too)	Exit Menu	--	Exit Function Mode	Reset Factory Default
(1 FM)	Number "1"	**Alpha Tag:** Next Character **CTCSS / DCS:** Select Mode (CTCSS, DCS, OFF)	--	Enable / Disable: FM Mode	--
(2 TONE)	Number "2"	--	--	Enable / Disable: CTCSS / DCS	--

$3_{T.SCA}$	Number "3"	--	--	Enable / Disable: CTCSS / DCS Tone Scan (on active selected tone mode)	--
$4_{+/-}$	Number "4"	**Alpha Tag:** Previous Character	--	Enable / Disable: Offset Direction	Cloning Cable See Explanation in Guide
5_{SCAN}	Number "5"	--	--	Enable Scan	--
6_{SKIP}	Number "6"	--	--	Enable / Disable: Channel Skip	--
7_{REV}	Number "7"	--	--	Enable / Disable: Frequency Reverse	--
8_{SET}	Number "8"	--	--	Enter Function Menu / Background Menu	--
$9_{HI/LO}$	Number "9"	--	--	Set Transmit Power	--
0_{DTMF}	Number "0"	--	--	DTMF Memory Bank	--
$*_{MAIN}$	Switch Indicator between Main and Sub Band **FM Mode:** On / Off	--	--	Single Band Switching	--
$\#_{\underset{\circ}{ENT}}$	--	Exit Menu	--	Exit Function Mode **Long Press:** Keypad Lock	--

PF1	Programmed PF 1 Function	Exit Menu	--	--	--
PTT	PTT (if TX is enabled) **FM Mode:** Listen to FM in Background	Exit Menu	--	--	--
PF2	Programmed PF 2 Function	Exit Menu	--	--	--
[MONI]	Programmed MONI (Monitor) Function See Explanation in Guide	Exit Menu	--	--	Enters Advanced Function Mode See Explanation in Guide

(((Side Key [PF1]/[PF2] function instruction

1. **VOLT:** Battery capacity inquiry: Under standby, press [PF1]/[PF2] key, the LCD displays the current battery capacity, press the key again to exit.
2. **CALL:** Transmit the pre-stored DTMF Encode signal
3. **ALARM:** Activated by a long press of the [PF1]/[PF2] key. The LCD will display "ALARM" and the transceiver will enable the preset alarm function.
4. **SUBPTT:** Press [PF1]/[PF2] key, transceiver will transmit on the sub-band frequency (use this function to enable "Dual PTT").
5. **LAMP:** Press [PF1]/[PF2] to turn on/off the flashlight.
6. **Transmit tone pulse frequency:** Press and hold [PTT] key, then press [PF1]/[PF2] key to transmit the selected tone pulse frequency. The tone pulse frequency can be set to 1750Hz / 2100Hz / 1000Hz / 1450Hz.

(((MONI Key Function

1. **Squelch off:** Press [MONI] key, which will open the squelch, you will hear any noise on the frequency. Press [MONI] again, to close the squelch.
2. **Monetary Squelch off:** By holding the [MONI] key, the squelch will open, you will hear any noise on the frequency, By releasing [MONI] you will close the squelch.
3. **Transmit DTMF:** Press [PTT] and [MONI] to transmit DTMF signaling.
4. **Press and hold [MONI]** while turning on the radio until the radio emits a responsive beep. This allows you to enter into the advanced function operations.

((. Add a channel

1. Under frequency mode (VFO), after you have set up your desired frequency and settings (read through the Function Menu Setup in order to understand how to set your desired frequency settings), Press the 🔘 key, the top left corner of LCD will display the " ☑ " icon, then press the 🔘 key to enter the manual channel programming mode, the channel number will begin flashing.

2. Press the 🔘 / 🔘 buttons until the Channel number displays the channel you would like to program (000-199)

3. Press the 🔘 key, the top left corner of LCD displays " ☑ " icon, and hold the 🔘 key until the transceiver emits confirmation beep. Your new channel has been programmed successfully.

((. Delete a channel

1. While your radio is in standby, Press the 🔘 key, the top left corner of LCD will display the " ☑ " icon, then press the 🔘 key to enter the manual channel programming mode, the channel number will begin flashing.

2. Press the 🔘 / 🔘 buttons until the Channel number displays the channel you would like to program (000-199).

3. Press the 🔘 key, the top left corner of LCD displays " ☑ " icon, and hold the 🔘 key until the transceiver emits confirmation beep. Your channel has been successfully deleted.

((. Limit VFO frequency scanning range

Setting the frequency of L1 channel, U1 channel, L2 channel, and U2 channel will set a VFO frequency scanning border (channels are found before channel 0 and after channel 199). L1 and U1 must be used

○ BASIC OPERATIONS

on the same frequency band. L2 and U2 must also be used on the same frequency band, When the VFO frequency is between L1 and U1 or L2 and U2, the radio will scan between them when scanning is activated. When the VFO frequency is outside of L1 and U1 or L2 and U2, the radio will scan the whole frequency range of the radio .

1. In VFO mode, enter your frequency range "lower border limit". Press the $\widehat{(A_{FUN})}$ key, the top left corner of LCD will display the " ☑ " icon, then press the $\widehat{(C)}$ key to enter the manual channel programming mode, the channel number will begin flashing.

2. Press the $\widehat{(B)}$ / $\widehat{(C)}$ buttons until the Channel number displays the "lower border limit" channels (either L1 or L2) (They are found in the channel menu after Channel 199 and Before Channel 001)

3. Press the $\widehat{(A_{FUN})}$ key, the top left corner of LCD displays " ☑ " icon, and hold the $\widehat{(C)}$ key until the transceiver emits confirmation beep. Your "lower border limit" channel has been programmed successfully.

4. Repeat the above steps to enter the "upper border limit" channel (either U1 or U2) .

NOTE:
In order for the borders to operate correctly, L1 and U1 must in same band (VHF or UHF) and L2 and U2 must in same band (VHF or UHF). You can set both borders in the same band and when you start scanning from a frequency that is within the current border the scanning will stay within that border. When you start scanning outside of either border the scanning will go through the entire radio frequency range.

(((Turn On/ Off FM Radio

When in standby, press $\widehat{(A_{FUN})}$ key, the top left corner of the LCD will display " ☑ " icon, then press $\boxed{1_{FM}}$ key. The LCD will displays **"FM ON"** and the current FM

```
• FM ON
  100.70
```

radio frequency, The FM radio is now on. When the FM radio is on, press $\boxed{\text{\textasteriskcentered} \textit{MAIN}}$ key, LCD displays **"FM OFF"**,The FM radio is now muted.

♦ FM OFF
100.70

When FM radio is on, press $\boxed{\substack{A\\ \textit{FUN}}}$ key, the top left corner of LCD displays " ✉ " icon.

Press $\boxed{\textit{1 FM}}$ key to turn off the FM radio and to return to the transceiver state.

Powering the transceiver off and back on will also exit the FM radio function.You can listen to the FM radio in the background (any incoming call will silence the FM radio) - and can return to the the Amateur or Professional Screen by pressing the PTT button.

NOTE:
When the Keypad is locked, you are still able to Turn the FM Radio ON and OFF. Along with scrolling through the FM Stations with "B" and "C".

(((**CTCSS/DCS Setup**

When in standby, press $\boxed{\substack{A\\ \textit{FUN}}}$ key, the top left corner of the LCD will display " ✉ " icon, then press $\boxed{\textit{2 TONE}}$ key. The LCD displays "CT" icon, meaning that the current channel has now added the CTCSS tone function. By repeating the above procedure, the LCD will now displays **"DCS"** icon, meaning that the current channel has now added the DCS tone function. By repeating the above procedure, the **"DCS"** icon disappears, meaning that the current channel has now removed CTCSS/DCS signals.

CT
♦ 156.000
155.000

DCS
♦ 156.000
155.000

(((**CTCSS/DCS Scan**

Press $\boxed{\substack{A\\ \textit{FUN}}}$ key, the top left corner of the LCD will display " ✉ " icon, then press

CT
♦ 165.5HZ
155.000

$\boxed{3\,\text{\tiny{TSCA}}}$ key to enter into CTCSS/DCS scan. Under this state, press $\textcircled{\tiny A}$ / $\textcircled{\tiny C}$ to change the scanning direction. When the scan receives CTCSS/DCS signaling, it will stay 5seconds and then continue scanning. Press any other keys except $\textcircled{\tiny{FUN}}$ $\boxed{\text{\tiny ★ MAIN}}$, $\boxed{\text{\tiny \# ENT}}$, key to exit.

```
                              DCS
                         066.N
                         155.000
```
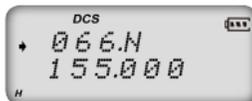
NOTE:
This function is will not work when the transceiver is set up in professional mode or the current selected channel does not have any CTCSS/DCS signal first set up.
If your current channel has its tone signaling set as CTCSS, it will scan CTCSS, if its tone signaling is set as DCS, it will scan DCS.

(((Offset Frequency Direction Setup

When in standby, press $\textcircled{\tiny{FUN}}$ key, the top left corner of the LCD will display " $\square$ " icon, then press $\boxed{4\,+/-}$ key to choose offset frequency direction. There are 3 options, Plus offset, Minus offset, remove offset.

1. (+) Plus offset: Indicates that the TX frequency is higher than the RX frequency.
   If the reverse function is enabled, the RX frequency is higher than TX frequency.

```
                            +
                         156.000
                         155.000
```

2. (-) Minus offset: Indicates that the TX frequency is lower than the RX frequency.
   If the reverse function is enabled, the RX frequency is lower than TX frequency.

```
                            -
                         156.000
                         155.000
```

3. None: Indicates that the offset is off.
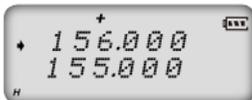
Under frequency mode (VFO) or channel mode, press $\textcircled{\tiny{FUN}}$ key then press $\boxed{4\,+/-}$ key to choose: plus offset direction(+), minus offset direction (-), or remove offset (Please refer to offset frequency setup).

(((Frequency/Channel Scan

Under the corresponding mode, press $\left(\frac{A}{PCN}\right)$ key, the top left corner of the LCD will display " ☑ " icon, then press $\boxed{5scAN}$ key to start frequency scan or channel scan.

```
 ◆ 156435
   155.000
H
```
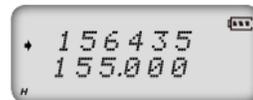
1. Frequency Scan

Under VFO mode, frequency scanning is available. The frequencies will be scanned by the transceiver's 'step' setup, press any numeric $\left(\frac{D}{ESC/M}\right)$ key or key to exit.

```
      DCS
 ◆ 445725    7
   155.000
H
```
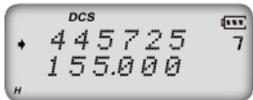
2. Channel Scan

Under channel mode, channel scanning is available. The channels will be scanned in order of the channel setup as long as they are not programmed to "Skip" during scanning, Press numeric key or $\left(\frac{D}{ESC/M}\right)$ key to exit.

NOTE:

▼ **Frequency scan will go through all bands, it will scan upwards in increments that you have set the STEP setting to.**

▼ **In channel scan, skipped channels will not be scanned. It will scan upwards through channels. (please refer to channel scan skip).**

▼ **Frequency/channel scan can change the scanning direction by pressing $\left(\frac{\blacktriangle}{B}\right)$ / $\left(\frac{\blacktriangledown}{C}\right)$, If a signal is found the transceiver will stay 5 seconds then continue scanning. (Please refer to scan setup)**

▼ **Frequency scan can be limited to UHF / VHF if you have the single band mode enabled (See: Function Menu – Single Band Mode (VHF/UHF)**

▼ **Frequency Scan can also be limited to your pre–set scanning border limits (See: Limit VFO frequency scanning range)**

BASIC OPERATIONS

((. Channel Scan Skip

Under channel mode, press $\left(\frac{A}{FUN}\right)$ key, the top left corner of LCD displays " ✉ " icon, then press $\boxed{6\,SKIP}$ key to set the current selected channel as Channel scan skip.Repeat above operation to cancel channel scan skip.

1. LCD displayed "**S**" means the current channel will not be scanned.

2. "**S**" icon disappeared means the current channel will be scanned.

461.725
155.000
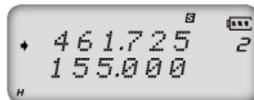
((. Frequency Reverse

When in standby, press $\left(\frac{A}{FUN}\right)$ key, the top left corner of the LCD will display " ✉ " icon, then press $\boxed{7\,REV}$ key to set the selected channel frequency reverse, repeat above operation to turn off frequency reverse.

156.985
155.000

1. When LCD displays " **R** " icon, it means current selected channel has the frequency reverse function enabled, the TX frequency and RX frequency are reversed, if CTCSS/DCS signaling is set, they will also interchange.

2. If no " **R** " icon disappears, it means that the channel is normal and is not reversed.
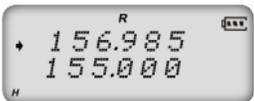
((. TX Power selection

When in standby, press $\left(\frac{A}{FUN}\right)$ key, the top left corner of the LCD will display " ✉ " icon, then press $\boxed{9\,HI/LO}$ key to choose High or Low power for the current selected channel.

156.985
155.000
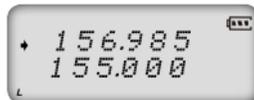
1. When LCD displays "**L**" icon, it means low power has been chosen.
2. When LCD displays "**H**" icon, it means high power has been chosen.

```
• 156.985
  155.000
H
```

(((DTMF code Transmit and Enquiry

1. Press $\boxed{A_{FUN}}$ key, the top left corner of the LCD will display " ☑ " icon, then press key Press $\boxed{O_{DTMF}}$ key, The LCD will display the DTMF data and group number (total 16 groups)

```
EMPTY       01
```

2. Press $\boxed{B}$ / $\boxed{C}$ to choose desired group and DTMF data, press [PTT] key to transmit selected DTMF signaling. If the current group has no entered DTMF data, the LCD will display the current group number and **"EMPTY"**.

```
_ _ _ _ _ _   01
_ _ _ _ _ _
```

3. When the current group displays **"EMPTY"**, Press $\boxed{A_{FUN}}$ key, the top left corner of the LCD will display " ☑ " icon, then press and hold $\boxed{O_{DTMF}}$ key until you hear

```
_ _ _ _ _ _   01
_ _ _ 1 2 3
```

a responsive beep to get the transceiver to enter into the DTMF edit state. The LCD now displays "_____", now you can enter desired DTMF data by keypad.

4. When you have finished editing, press the side key [PF2] to save DTMF signaling.

○ BASIC OPERATIONS

((• Keypad lock

In order to prevent accidental operation, the user can make use of the keypad lock function.

```
  156.985
  155.000
```

When in standby, press ⒜ key, the top left corner of the LCD will display " ☑ " icon, then press and hold (# ᴱᴺᵀ) key until you hear a responsive beep and the LCD displays " ☍O " icon. This means the keypad is now locked. Repeat the above procedure and the " ☍O " icon will disappears. The keypad lock function is now off and the keypad is responsive again.

((• Single-band Switching

To avoid interference from the sub channels when the main channel is in use, you can use the single band function to turn off the sub channel band quickly.

```
  435.150
```

1. When in standby, press ⒜ key, the top left corner of the LCD will display " ☑ " icon, then press (★ ᴹᴬᴵᴺ) key, the radio will display only the upper band, and the lower band will be turned off.

```
  145.000
```

2. Repeat the above procedure and the radio will display only the lower band, and the upper band will be turned off.

```
  435.150
  145.000
```

3. Repeat above operation to return to the normal dual band display.

○ FUNCTION MENU SETUP

AnyTone tech

Menu 1-13 of this transceiver are channel operations. Channel operations will temporarily change the functions of the current channel. When the power is off or the channel has been changed, the relevant setup will be erased. Only under VFO mode, will the channel operations will be saved until your next change. Menu 14-32 are background operations, and they are valid for all channels, the relevant setup will be saved until next change.

The operating methods are as follows:

1. Press (A/FUN) key, the top left corner of the LCD will display " ☒ " icon, then press (8 SET) key to enter function menu.

2. Press (▲/B) / (▼/C) key to choose desired function.

3. Press (A/FUN) to select the menu option, press (▲/B) / (▼/C) to select desired setting.

   Note: When setting a CTCSS/DCS setting, Press (1 FM) to select CTCSS, DCS or OFF. When select DCS press (★ MAIN) to switch between positive and inverse code. When you edit a alpha−numeric name, press (1 FM) to move to the next character, press (4 +/-) to move to the previous character.

4. Press (A/FUN) to return last menu or press (D/ESC), (# ENT) to confirm and exit.

(((CTCSS/DCS Encode Setup

1. Press (A/FUN) key, the top left corner of the LCD will display " ☒ " icon, then press (8 SET) key to enter into function menu.

2. Press (▲/B) / (▼/C) key to choose NO. 01 function item, which shows "T-CDC" on LCD.

3. Press (1 FM) key to choose CTCSS, DCS or OFF, when DCS signaling is selected, press (★ MAIN) key to choose a DCS positive or inverse code.

4. Press (A/FUN) key to enter next menu, press (▲/B) / (▼/C) key to choose desired CTCSS/DCS code.

```
          T-CDC    01
            OFF
```

```
          T-CDC    01
          127.3HZ
```

```
       DCS
          T-CDC    01
           000N
```

○ FUNCTION MENU SETUP

CTCSS: 62.5Hz-254.1Hz, 51groups in total, and 1 group user-defined code.
DCS: 000N-777I, 1024 groups in total. "N" stands for positive code, "I" stands for inverse code.

```
T-CDC    01
0 0 0 I
```

Note: User−defined CTCSS encode must be setup by programming software.

(((CTCSS/DCS Decode Setup

If this function is enabled, you can ignore (can not hear) other unrelated call on the same frequency.

1. Press 🔄 key, the top left corner of the LCD will display " ☑ " icon, then press
   8 SET key to enter into function menu.

```
R-CDC    02
    OFF
```

2. Press (🅱) / (🅲) key to choose NO. 02 function item, it shows "R-CDC" on LCD.

3. Press **1 FM** key to choose CTCSS, DCS or OFF, when DCS signaling is
   selected, press **★ MAIN** key to choose a DCS positive or inverse code.

```
CT
R-CDC    02
127.3HZ
```

4. Press 🔄 key to enter next menu, press (🅱) / (🅲) key to choose desired
   CTCSS/ DCS code.

```
DCS
R-CDC    02
005N
```

   CTCSS: 62.5Hz~254.1Hz, 51 groups in total, and 1 group user-defined code.
   DCS: 000N-777I, 1024 groups in total. **"N"** stands for positive code, **"I"** stands for inverse code.

```
DCS
R-CDC    02
005I
```

5. Press (D ESC/M) or (# ENT) key to confirm and exit.

Note: User−defined CTCSS decode must be setup by programming software.

((. CTCSS/DCS Encode / Decode Synchronous Setup

This function is for adjusting CTCSS/DCS encode/decode as a synchronous set up (simultaneous changes Menu NO 01 and 02)

1. Press $\left(\frac{A}{FUN}\right)$ key, the top left corner of the LCD will display " ☑ " icon, then press $\boxed{8\,\text{SET}}$ key to enter into function menu.

2. Press $\left(\frac{A}{B}\right)$ / $\left(\frac{V}{C}\right)$ key to choose NO. 03 function item, it shows **"RT-CDC"** on LCD.

3. Press $\boxed{1\,FM}$ key to choose CTCSS, DCS or OFF, when DCS signaling is selected, press $\boxed{\text{★MAIN}}$ key to choose a DCS positive or inverse code.

4. Press $\left(\frac{A}{FUN}\right)$ key to enter next menu, press $\left(\frac{A}{B}\right)$ / $\left(\frac{V}{C}\right)$ key to choose desired CTCSS/ DCS code.

   CTCSS:62.5Hz~254.1Hz, 51 groups in total, and 1 group user-defined code.

   DCS: 000N-777I, 1024 groups in total. "N" stands for positive code, "I" stands for inverse code.

5. Press $\left(\frac{D}{ESC/M}\right)$ or $\boxed{\#\,\underline{ENT}}$ key to confirm and exit.

```
RT-CDC    03
    OFF
```

```
 CT
RT-CDC    03
  127.3HZ
```

```
 DCS
RT-CDC    03
   005N
```

```
 DCS
RT-CDC    03
   005I
```
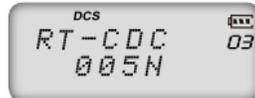
Note: User-defined CTCSS encode and decode must be setup by programming software.

(((Optional signaling setup

DTMF is similar to CTCSS/DCS, it has a special call functions, such as ANI, PTT ID, All call, Alarm, remotely kill, remotely stun and remotely waken, etc..

```
                                    TONDEC  04
                                     DTMF
```

1. Press (A/FUN) key, the top left corner of the LCD will display " ☑ " icon, then press (8 SET) key to enter into function menu.

2. Press (▲/B) / (▼/C) key to choose NO. 04 function item, it shows "**TONDEC**" on LCD.

```
                                    TONDEC  04
                                     OFF
```

3. Press (A/FUN) key to enter next menu, press (▲/B) / (▼/C) key to choose desired optional signaling.

   DTMF: current optional signaling is DTMF

   OFF: close optional signaling

4. Press (D/ESC/M) key or (# ENT/O) key to confirm and exit.

(((Squelch mode setup

This function is used for setting squelch mode to prevent receiving unrelated singals.

1. Press (A/FUN) key, the top left corner of the LCD will display " ☑ " icon, then press (8 SET) key to enter into function menu.

2. Press (▲/B) / (▼/C) key to choose NO. 05 function item, it shows "**SIGNAL**" on LCD.

3. Press (A/FUN) to enter next menu, press (▲/B) / (▼/C) to choose desired squelch mode.

- **SQ:** When current channel received matching RF signals, transceiver can hear the talking from the other party.

SIGNAL
SQ

- **CT/DCS:** When current channel received matching RF signals and matching CTCSS/ DCS signaling, transceiver can hear the talking from the other party.

SIGNAL
CT/DCS

- **TONE:** When current channel received matching RF signals and matching optional signaling, transceiver can hear the talking from the other party.

SIGNAL
TONE

- **CT&TO:** When current channel received matching RF signals + matching optional signaling + matching CTCSS/DCS signaling, transceiver can hear the talking from the other party.

SIGNAL
CT&TO

- **CT/TO:** When current channel received matching RF signals, or matching optional signaling, or matching CTCSS/DCS signaling, transceiver can hear the talking from the other party.

SIGNAL
CT/TO

4. Press $\boxed{\frac{D}{ESC/M}}$ key or $\boxed{\# \frac{ENT}{}}$ key to confirm and exit.

(((Frequency step size setup

1. Press $\boxed{\frac{A}{FUN}}$ key, the top left corner of the LCD will display "✉" icon, then press $\boxed{8\,SET}$ key to enter into function menu.

STEP
5K

2. Press $\boxed{\frac{B}{A}}$ / $\boxed{\frac{V}{C}}$ key to choose NO. 06 function item, it shows "**STEP**" on LCD.
3. Press $\boxed{\frac{A}{FUN}}$ to enter next menu, press $\boxed{\frac{B}{A}}$ / $\boxed{\frac{V}{C}}$ to choose desired frequency step. Stepping: 2.5K,5K, 6.25K, 10K, 12.5K, 20K, 25K, 30K, 50K, 9 options in total.

STEP
6.25K

4. Press $\boxed{\frac{D}{ESC/M}}$ key or $\boxed{\# \frac{ENT}{}}$ key to confirm and exit.

○ FUNCTION MENU SETUP

> **NOTE: This function item will hide automatically when main band and sub main band are under channel mode.**

((• Wide / Narrow Band Selection

According to the laws of various countries on frequency spectrum, you can set communication for (25k) wide band or (12.5k) narrow band.

1. Press $\left(\frac{A}{FUN}\right)$ key, the top left corner of the LCD will display " ✉ " icon, then press $\boxed{8\,SET}$ key to enter into function menu.

2. Press $\left(\frac{A}{B}\right)$ /$\left(\frac{Y}{C}\right)$ key to choose NO. 07 function item, it shows "W/N" on LCD.

3. Press $\left(\frac{A}{FUN}\right)$ to enter next menu, press $\left(\frac{A}{B}\right)$ /$\left(\frac{Y}{C}\right)$ to choose desired setting.

   WIDE: Wide band, NARROW: Narrow band

4. Press $\left(\frac{D}{ESC/M}\right)$ key or $\boxed{\#\,ENT}$ key to confirm and exit.

```
                        W/N    07
                        WIDE
```
```
                      N
                        W/N    07
                        NARROW
```

((• Frequency Reverse

1. Press $\left(\frac{A}{FUN}\right)$ key, the top left corner of the LCD will display " ✉ " icon, then press $\boxed{8\,SET}$ key to enter into function menu.

2. Press $\left(\frac{A}{B}\right)$ /$\left(\frac{Y}{C}\right)$ key to choose NO. 08 function item, it shows "REV" on LCD.

3. Press $\left(\frac{A}{FUN}\right)$ to enter next menu, press $\left(\frac{A}{B}\right)$ /$\left(\frac{Y}{C}\right)$ to choose desired setting.

```
                        REV    08
                        ON
```
```
                        REV    08
                        OFF
```

ON: This will turn on the Frequency reverse function, TX and RX frequency of the current channel will be switched. If there is a CTCSS/DCS signaling set, they will also be interchanged.

OFF: This will turn off Frequency reverse function.

4. Press (D/ESC/M) key or (# ENT) key to confirm and exit.

(((Talk Around ON/OFF

When this function is is turned on, the transceiver will stop communication with a repeater (it will remove the Offset).

```
TALKAR    09
TX=RX
```

1. Press (A/FUN) key, the top left corner of the LCD will display " ☑ " icon, then press (8 SET) key to enter into function menu.

2. Press (B▲) / (C▼) key to choose NO. 09 function item, it shows "**TALKAR**" on LCD.

3. Press (A/FUN) to enter next menu, press (B▲) / (C▼) to choose desired setting.

TX=RX: Turn on Talk Around function, current channel will transmit at RX frequency, if CTCSS/DCS signaling is set, it will set the encoding to be the same as the CTCSS DCS decoding

OFF: Close Talk Around function.

4. Press (D/ESC/M) key or (# ENT) key to confirm and exit.

(((Offset Frequency setup

This function will allow your radio to communicate through a repeater. When the repeater receives signals at one frequency, it will transmit them on another frequency. The difference between these two frequencies is called the offset frequency.

○ FUNCTION MENU SETUP

1. Press $\overset{A}{\cancel{A}}$ key, the top left corner of the LCD will display " ☑ " icon, then press $\boxed{B\,\mathit{SET}}$ key to enter into function menu.

2. Press $\overset{\triangle}{(\mathit{B})}$ / $(\mathbf{\ddot{c}})$ key to choose NO. 10 function item, it shows "**OFFSET**" on LCD.

3. Press $\overset{A}{\cancel{A}}$ key to enter next menu, press $\overset{\triangle}{(\mathit{B})}$ / $(\mathbf{\ddot{c}})$ key to press choose desired offset frequency.Frequency range is 00-70MHz.

```
        +-       📶
 OFFSET  10
   0.115
```

4. Press $\overset{D}{\cancel{E\!S\!C\!M}}$ key or $\boxed{\# \overset{ENT}{=0}}$ key to confirm and exit.

(((Editing Channel name

1. Press $\overset{A}{\cancel{A}}$ key, the top left corner of the LCD will display " ☑ " icon, then press $\boxed{B\,\mathit{SET}}$ key to enter into function menu.

```
        NAME   📶
 X-             11
```

2. Press $\overset{\triangle}{(\mathit{B})}$ / $(\mathbf{\ddot{c}})$ key to choose NO. 11 function item, it shows "-" on LCD.

3. Press $\overset{A}{\cancel{A}}$ key to enter next menu, press $\overset{\triangle}{(\mathit{B})}$ / $(\mathbf{\ddot{c}})$ key to choose desired character, by press $\boxed{1\,\mathit{FM}}$ key to confirm the current character and move onto the next character. Press $\boxed{4\,\text{+/-}}$ key to go back and edit a previous character.

4. Press $\overset{D}{\cancel{E\!S\!C\!M}}$ key or $\boxed{\# \overset{ENT}{=0}}$ key to confirm and exit.

(((Busy Channel Lockout

BCLO function is used to prohibit transmitting on a busy channel, it can prevent disturbing other transceivers operating on the same frequency. If you press PTT, the radio will beep as warning and go back to a receiving state.

```
          📶
 RPLOCK  12
   BUSY
```

1. Press (A/FUN) key, the top left corner of the LCD will display " ☑ " icon, then press (8 SET) key to enter into function menu.

2. Press (B↑) / (C↓) key to choose NO. 12 function item, it shows **"RPLOCK"** on LCD.

```
RPLOCK  12
REPEAT
```

3. Press (A/FUN) key to enter next menu, press (B↑) / (C↓) key to choose desired setting.

   BUSY: Carrier wave lock, transmitting is prohibited when received matching frequency and tone wave.

```
RPLOCK  12
OFF
```

   REPEAT: Signal lock, transmitting is prohibited when received matching carrier (frequency) (CTCSS and DCS tones are ignored in this setting).

   OFF: No BCLO function.

4. Press (D/ESC/M) key or (# ENT) key to confirm and exit.

(((**TX OFF**

When this function is on, the [PTT] key is not allowed on the current channel. Current channel of transceiver only works as a receiver and not a transmitter.

1. Press (A/FUN) key, the top left corner of the LCD will display " ☑ " icon, then press (8 SET) key to enter into function menu.

2. Press (B↑) / (C↓) key to choose NO. 13 function item, it shows "**TX**" on LCD.

```
TX      13
ON
```

3. Press (A/FUN) key to enter next menu, press (B↑) / (C↓) key to choose desired setting.
   ON: TX is enabled.

   OFF: TX is disabled.

```
TX      13
OFF
```

4. Press (D/ESC/M) key or (# ENT) key to confirm and exit.

))) Single Band Mode (VHF/UHF)

When this function is on, the input frequency and scanning of frequencies under VFO is limited to the current active VFO frequency band (VHF or UHF).

1. Press $\boxed{\text{A}_{FUN}}$ key, the top left corner of the LCD will display " ☑ " icon, then press $\boxed{\text{8}_{SET}}$ key to enter into function menu.

   BAND
   ON

2. Press $\boxed{\text{A}_{B}}$ / $\boxed{\text{C}}$ key to choose NO. 14 function item, it shows "**BAND**" on LCD.

3. Press $\boxed{\text{A}_{FUN}}$ key to enter next menu, press $\boxed{\text{A}_{B}}$ / $\boxed{\text{C}}$ key to choose desired setting.

   ON: Band limit is enabled.

   BAND
   OFF

   OFF: Band limit is disabled.

4. Press $\boxed{\text{D}_{ESC/M}}$ key or $\boxed{\text{#}_{ENT}}$ key to confirm and exit.

))) Sub Band Display Setup

1. Press $\boxed{\text{A}_{FUN}}$ key, the top left corner of the LCD will display " ☑ " icon, then press $\boxed{\text{8}_{SET}}$ key to enter into function menu.

   DSPSUB
   FREQ

2. Press $\boxed{\text{A}_{B}}$ / $\boxed{\text{C}}$ key to choose NO. 15 function item, it shows "**DSPSUB**" on LCD.

3. Press $\boxed{\text{A}_{FUN}}$ key to enter next menu, press $\boxed{\text{A}_{B}}$ / $\boxed{\text{C}}$ key to choose desired setting.

   FREQ: Display sub band frequency or channel.

   DSPSUB
   VOLT

   VOLT: Display current battery voltage.

   OFF: Sub band display is disabled.

   DSPSUB
   OFF

4. Press $\boxed{\text{D}_{ESC/M}}$ key or $\boxed{\text{#}_{ENT}}$ key to confirm and exit.

(((Keypad Voice Prompt Setup

1. Press $\left(\underset{FUN}{A}\right)$ key, the top left corner of the LCD will display " ✉ " icon, then press $\boxed{8 set}$ key to enter into function menu.
2. Press $\left(\underset{B}{\blacktriangle}\right)$ / $\left(\underset{C}{\blacktriangledown}\right)$ key to choose NO. 16 function item, it shows "**BEEP**" on LCD.
3. Press $\left(\underset{FUN}{A}\right)$ key to enter next menu, and press $\left(\underset{B}{\blacktriangle}\right)$ / $\left(\underset{C}{\blacktriangledown}\right)$ key to choose desired setting.

   ON: Keypad Beep Prompt is enabled.

   OFF: Keypad Beep Prompt is disabled.

```
        BEEP    16
         ON
```

```
        BEEP    16
         OFF
```

4. Press $\left(\underset{ESCAN}{D}\right)$ key or $\boxed{\# \; ENT}$ key to confirm and exit.

(((Time-Out-Timer (TOT)

The purpose of Time-out-Timer is to restrict the transceiver from accidental long-term transmissions. If the transmission time goes beyond the preset time limit, the transceiver is forced to stop transmitting and warn the user and make a beep sound.

1. Press $\left(\underset{FUN}{A}\right)$ key, the top left corner of the LCD will display " ✉ " icon, then press $\boxed{8 set}$ key to enter into function menu.

```
        TOT     17
         305
```

2. Press $\left(\underset{B}{\blacktriangle}\right)$ / $\left(\underset{C}{\blacktriangledown}\right)$ key to choose NO. 17 function item, it shows "**TOT**" on LCD.
3. Press $\left(\underset{FUN}{A}\right)$ key to enter next menu, and press $\left(\underset{B}{\blacktriangle}\right)$ / $\left(\underset{C}{\blacktriangledown}\right)$ key to choose desired setting.
   The settings are:

   OFF: No Transmission Time Out Enabled10~270 seconds, with the maximum setting allowed being 270 seconds of TOT. Each interval is 10 seconds.
4. Press $\left(\underset{ESCAN}{D}\right)$ key or $\boxed{\# \; ENT}$ key to confirm and exit.

((• Voice Operated Transmission (VOX) Setup

When this function is enabled, the transmitting can be started by your voice (generally used with an ear-piece), When it is enabled there is no need to press the [PTT] key.

1. Press (A/FUN) key, the top left corner of the LCD will display " ✉ " icon, then press
   [8 SET] key to enter into function menu.

```
         VOX  vox  🔋
              02   18
```

2. Press (B/▲) / (C/▼) key to choose NO. 18 function item, it shows "**VOX**" on LCD.
3. Press (A/FUN) key to next menu, and press (B/▲) / (C/▼) key to choose desired Vox level.

   1~10 : 10 VOX levels. Each setting will require a louder/ more 'volume' to active the VOX transmission

```
         VOX       🔋
         OFF       18
```

   OFF: VOX function is disabled.
4. Press (D/ESC) key or [# ENT] key to confirm and exit.

((• VOX Delay Setup

In order to prevent the transceiver from returning back to the receive mode during a VOX initiated call, (which may cause some of the transmission to be missed) the user can set a suitable delay time before the VOX transmission is ended.

1. Press (A/FUN) key, the top left corner of the LCD will display " ✉ " icon, then press
   [8 SET] key to enter into function menu.

```
      VDELAY       🔋
      1.0SEC       19
```

2. Press (B/▲) / (C/▼) key to choose NO. 19 function item, it shows **"VDELAY"** on LCD.
3. Press (A/FUN) key to enter next menu, and press (B/▲) / (C/▼) key to choose desired setting.

   0.5S-3S: There are 27 options, with each interval being 0.1Second

4. Press (D/ESC) key or [# ENT] key to confirm and exit.

(((Automatic Power Off Time setup

When this function is on, transceiver will automatically power off after it reaches the preset time allowance.

1. Press (A) key, the top left corner of the LCD will display " ☒ " icon, then press (8 SET) key to enter into function menu.

2. Press (▲) / (▼) key to choose NO. 20 function item, it shows "**APO**" on LCD.

```
APO        20
30MIN
```

3. Press (A) key to enter next menu, and press (▲) / (▼) key to choose desired setting.
   30minutes ~ 2hours: 3 options
   OFF: Automatic Power Off Time is disabled.

4. Press (D) key or (# ENT) key to confirm and exit.

(((DTMF Transmitting Time Setup

1. Press (A) key, the top left corner of the LCD will display " ☒ " icon, then press (8 SET) key to enter into function menu.

```
DTMF       21
100MS
```

2. Press (▲) / (▼) key to choose NO. 21 function item, it shows "**DTMF**" on LCD.

3. Press (A) key to enter next menu, and press (▲) / (▼) key to choose desired setting.
   50MS: Each DTMF signal transmits 50ms, interval 50ms
   100MS: Each DTMF signal transmits 100ms, interval 100ms
   200MS: Each DTMF signal transmits 200ms, interval 200ms
   300MS: Each DTMF signal transmits 300ms, interval 300ms
   500MS: Each DTMF signal transmits 500ms, interval 500ms

4. Press (D) key or (# ENT) key to confirm and exit.

(((**Squelch level setup**

This function is used to setup open the squelch of receiving signals, the transceiver will only allow calls when the receiving signal strength hits a minimum strength clarity, otherwise, the transceiver will remain muted.

```
SQL        🔋
  05       22
```

1. Press (A) key, the top left corner of the LCD will display " ✉ " icon, then press (8 SET) key to enter into function menu.
2. Press (▲/B) / (▼/C) key to choose NO. 22 function item, it shows "**SQL**" on LCD.
3. Press (A) key to enter next menu, and press (▲/B) / (▼/C) key to choose desired setting.

   00~09 : There are 10 levels of squelch in total, "00" is the minimum setup value (normally open)
4. Press (D) key or (# ENT) key to confirm and exit.

(((**Scanning Resume Time Setup**

There are four kinds of scanning dwell time.

1. Press (A) key, the top left corner of the LCD will display " ✉ " icon, then press (8 SET) key to enter into function menu.

```
SCAN       🔋
 5ST       23
```

2. Press (▲/B) / (▼/C) key to choose NO. 23 function item, it shows "**SCAN**" on LCD.
3. Press (A) key to enter next menu, press (▲/B) / (▼/C) key to choose desired setting.

   5ST: When scanning matched signal, transceiver will stop scanning for 5seconds then resume.

   10ST: When scanning matched signal, transceiver will stop scanning for 10seconds then resume.

   15ST: When scanning matched signal, transceiver will stop scanning for 15seconds then resume.

2SP: When scanning matched signal, transceiver will stop scanning, 2 seconds after the signal has completed it will resume scanning.

4. Press 🔘 key or [# ᴱᴺᵀ] key to confirm and exit.

(((Function Icon Stay Time Setup

1. Press (ₐ) key, the top left corner of the LCD will display " ☑ " icon, then press [8ₛₑₜ] key to enter into function menu.

```
FTIME    📟
FUNCT    24
```

2. Press (🔼)/(🔽) key to choose NO. 24 function item, it shows "**FTIME**" on LCD.

3. Press (ₐ) to enter next menu, press (🔼)/(🔽) key to choose desired setting.

FUNCT: After you finish your function setting or enter into function menu, the icon will disappear.

```
FTIME    📟
1SEC     24
```

1SEC: After you finish your function setting or enter into function menu, the icon stay on the display for 1 second and then will disappear.

2SEC: After you finish your function setting or enter into function menu, the icon stay on the display for 2 seconds and then will disappear.

```
FTIME    📟
ALWAYS   24
```

3SEC: After you finish your function setting or enter into function menu, the icon stay on the display for 3 seconds and then will disappear.

ALWAYS: The function icon will always display, only when you press the function key again, will the icon will disappear.

4. Press 🔘 key or [# ᴱᴺᵀ] key to confirm and exit.

NOTE: When the function icon is set to stay, the user can set the desired functions continuously, without a need to press the function key every time.

(((**LCD Backlight Setup**

1. Press $\left(\frac{A}{PON}\right)$ key, the top left corner of the LCD will display " ☑ " icon, then press $\boxed{\textbf{8}\text{set}}$ key to enter into function menu.

   LIGHT   25
   AUTO

2. Press $\left(\frac{\triangle}{B}\right)$ / $\left(\frac{Y}{C}\right)$ key to choose NO. 25 function item, it shows "**LIGHT**" on LCD.

3. Press $\left(\frac{A}{PON}\right)$ key to enter next menu, press $\left(\frac{\triangle}{B}\right)$ / $\left(\frac{Y}{C}\right)$ key to choose desired setting.

   AUTO: Back-light will automatically turn off after a preset period.

   LIGHT   25
   ON

   OFF: Always off.

   ON: Always on.

   LIGHT   25
   OFF

4. Press $\left(\frac{D}{ESCN}\right)$ key or $\boxed{\textbf{\#}\ \text{ENT}}$ key to confirm and exit.

(((**LCD Backlight Color Setup**

There are three backlight colors that you can choose from to be the default color.

1. Press $\left(\frac{A}{PON}\right)$ key, the top left corner of the LCD will display " ☑ " icon, then press $\boxed{\textbf{8}\text{set}}$ key to enter into function menu.

   COLOR   26
   BLUE

2. Press $\left(\frac{\triangle}{B}\right)$ / $\left(\frac{Y}{C}\right)$ key to choose NO. 26 function item, it shows "**COLOR**" on LCD.

3. Press $\left(\frac{A}{PON}\right)$ key to enter next menu, press $\left(\frac{\triangle}{B}\right)$ / $\left(\frac{Y}{C}\right)$ key to choose desired setup.

   COLOR   26
   ORG

BLUE: Blue backlight

ORG: Orange backlight

PUR: Purple backlight

```
COLOR    26
  PUR
```

4. Press $\widehat{\frac{D}{ESC/M}}$ key or $\boxed{\#\ \frac{ENT}{\circ}}$ key to confirm and exit.

(((Self ID inquiry

1. Press $\widehat{\frac{A}{FUN}}$ key, the top left corner of the LCD will display " ✉ " icon, then press $\boxed{8\ SET}$ key to enter into function menu.

```
ID       27
123
```

2. Press $\widehat{\frac{A}{B}}$ / $\widehat{\frac{V}{C}}$ key to choose NO. 27 function item, it shows "**ID**" on LCD.

The ID code displaying on LCD is transceiver self ID code.

3. Press $\widehat{\frac{D}{ESC/M}}$ key or $\boxed{\#\ \frac{ENT}{\circ}}$ key to confirm and exit.

NOTE: The ID can only be set by programming software.

(((Tone Pulse Frequency Selection

This function is used for waking up a repeater that requires a tone burst. You will need to know if your repeater requires a tone burst and the tone required. In general, as long as the repeater has been activated, there is no need to transmit the Tone Pulse again until a preset time has expired.

1. Press $\widehat{\frac{A}{FUN}}$ key, the top left corner of the LCD will display " ✉ " icon, then press $\boxed{8\ SET}$ key to enter into function menu.

```
TBST     28
1750HZ
```

2. Press $\widehat{\frac{A}{B}}$ / $\widehat{\frac{V}{C}}$ key to choose NO. 28 function item, it shows "**TBST**" on LCD.

3. Press $\widehat{\frac{A}{FUN}}$ key to enter next menu, press $\widehat{\frac{A}{B}}$ / $\widehat{\frac{V}{C}}$ key to choose desired setting.

1750HZ, **2100HZ**, **1450HZ**, **1000HZ** - These are the 4 settings you can set as required by your local

repeater.

4. Press $\overset{D}{_{ESCM}}$ key or $\boxed{\# \overset{ENT}{\text{ }}}$ key to confirm and exit.

((• Battery Save Setup

You can set a battery save ratio according to your requirements. The standby time can be extended if you enable the battery save function, but if you set the ratio setting too high, it may cause you to miss the beginning of a transmission. When the transceiver receives a matching signal or make start an operation it will automatically exit this function.

1. Press $\overset{A}{_{AM}}$ key, the top left corner of the LCD will display " ☑ " icon, then press $\boxed{B \text{ SET}}$ key to enter into function menu.

2. Press $\overset{\bullet}{_{B}}$ / $\overset{\bullet}{_{C}}$ key to choose NO. 29 function item, it shows "**SAVE**" on LCD.

3. Press $\overset{A}{_{AM}}$ key to enter next menu, press $\overset{\bullet}{_{B}}$ / $\overset{\bullet}{_{C}}$ key to choose desired setting.

```
          SAVE    [29]
          OFF

          SAVE    [29]
          1:2

          SAVE    [29]
          AUTO
```

OFF: Battery Save is disabled.

1:2 The standby time between the normal working state and battery saving mode is 1:2

1:3 The standby time between the normal working state and battery saving mode is 1:3

1:5 The standby time between the normal working state and battery saving mode is 1:5

1:8 The standby time between the normal working state and battery saving mode is 1:8

AUTO: The battery save ratio is adjusted automatically.

4. Press $\overset{D}{_{ESCM}}$ key or $\boxed{\# \overset{ENT}{\text{ }}}$ key to confirm and exit.

Suggestion: If you use your radio in a single band set−up (UHF or VHF), the recommended setup is 1:8. If you use your radio in a dual band set−up (UHF and VHF), the recommended setup is 1:2.

FM radio

1. Press $\left(\overset{A}{\underset{FUN}{}}\right)$ key, the top left corner of the LCD will display " ☒ " icon, then press $\boxed{8_{SET}}$ key to enter into function menu.

```
                                              📠
                                 R A D I O    30
                                     O N
```

2. Press $\left(\overset{\blacktriangle}{\underset{B}{}}\right)$ / $\left(\overset{\blacktriangledown}{\underset{C}{}}\right)$ key to choose NO. 30 function item, it shows "**RADIO**" on LCD.

3. Press $\left(\overset{A}{\underset{FUN}{}}\right)$ key to next menu, press $\left(\overset{\blacktriangle}{\underset{B}{}}\right)$ / $\left(\overset{\blacktriangledown}{\underset{C}{}}\right)$ key to choose desired setup.

   ON: FM radio function is turned on.

   OFF: FM radio function is turned off.

4. Press $\left(\overset{D}{\underset{ESC}{}}\right)$ key or $\boxed{\#\overset{ENT}{\underset{0}{}}}$ key to confirm and exit.

NOTE: Only when this function is setting ON, can the FM radio be used.

PF1 key Function Setup

You, can program the PF1 key to best suit your requirements.

1. Press $\left(\overset{A}{\underset{FUN}{}}\right)$ key, the top left corner of the LCD will display " ☒ " icon, then press $\boxed{8_{SET}}$ key to enter into function menu.

```
                                              📠
                                  P F 1      31
                                  V O L T
```

2. Press $\left(\overset{\blacktriangle}{\underset{B}{}}\right)$ / $\left(\overset{\blacktriangledown}{\underset{C}{}}\right)$ to choose No.31 function item, it shows "**PF1**" on LCD.

3. Press $\left(\overset{A}{\underset{FUN}{}}\right)$ key to enter next new menu, press $\left(\overset{\blacktriangle}{\underset{B}{}}\right)$ / $\left(\overset{\blacktriangledown}{\underset{C}{}}\right)$ key to choose desired setting.

   VOLT: Display current Voltage.

   CALL: Call function.

```
                                              📠
                                  P F 1      31
                                  C A L L
```

```
                                              📠
                                  P F 1      31
                                  A L A R M
```

○ FUNCTION MENU SETUP

ALARM: Emergency call function.

SUBPTT: Sub band PTT.

LAMP: Flashlight.

OFF: No function.

4. Press ⟨🔘⟩ key or ⟨# 🔘⟩ key to confirm and exit.

PF1	🔋 31
LAMP	

PF1	🔋 31
SUBPTT	

(((PF2 key Function Setup

You, can program the PF2 key to best suit your requirements.

1. Press ⟨🔘⟩ key, the top left corner of the LCD will display " ☑ " icon, then press ⟨8 SET⟩ key to enter into function menu.

2. Press ⟨🔘⟩/⟨🔘⟩ to choose No.32 function item, it shows "**PF2**" on LCD.

3. Press ⟨🔘⟩ key to enter next new menu, press ⟨🔘⟩/⟨🔘⟩ key to choose desired setting.

VOLT: Display current Voltage.

CALL: Call function.

ALARM: Emergency call function.

SUBPTT: Sub band PTT.

LAMP: Flashlight.

OFF: No function.

4. Press ⟨🔘⟩ key or ⟨# 🔘⟩ key to confirm and exit.

PF2	🔋 32
VOLT	

PF2	🔋 32
CALL	

PF2	🔋 32
ALARM	

PF2	🔋 32
LAMP	

PF2	🔋 32
SUBPTT	

Menu No.	LCD Display	Function	Options	Description
1	T-CDC	CTCSS/DCS Encode	OFF	No CTCSS/DCS Encode
			62.5HZ-254.1Hz+Self defined	51 groups fixed CTCSS encode+1 group self-defined CTCSS encode
			000N-777I	1024 groups DCS Encode
2	R-CDC	CTCSS/DCS Decode	OFF	No CTCSS/DCS Decode
			62.5HZ-254.1Hz+Self defined	51 groups fixed CTCSS decode+1 group self-defined CTCSS decode
			000N-777I	1024 groups DCS decode
3	RT-CDC	CTCSS/DCS Encode/Decode Synchronous	OFF	No CTCSS/DCS encode/decode
			62.5HZ-254.1Hz+Self defined	51 groups fixed CTCSS encode/decode + 1 group self-defined CTCSS encode/decode
			000N-777I	1024 group DCS encode/decode
4	TONDEC	Optional signaling setup	DTMF	Current optional signal is DTMF
5	SIGNAL	Squelch mode setup	SQ	When current channel received matching RF signals, transceiver can hear the talking from the other party.
			CTCSS/DCS	When current channel received matching RF signals and matching CTCSS/DCS signaling, transceiver can hear the talking from the other party.
			TONE	When current channel received matching RF signals and matching optional signaling, transceiver can hear the talking from the other party.

5	SIGNAL	Squelch mode setup	CT&TO	When current channel received matching RF signals + matching optional signaling + matching CTCSS/DCS signaling, transceiver can hear the talking from the other party.
			CT/TO	When current channel received matching RF signals, or matching optional signaling, or matching CTCSS/DCS signaling, transceiver can hear the talking from the other party.
6	STEP	Frequency step size setup	2.5K-50K	9 options in total
7	W/N	Wide / Narrow Band Selection	WIDE/NARROW	Wide band/Narrow band
8	REV	Frequency Reverse	ON	Turn on Frequency reverse function, TX and RX frequency of current channel will be interchanged.
			OFF	Close Frequency reverse function.
9	TALKAR	Talk Around	TX=RX	Turn on Talk Around function, current channel will transmit at RX frequency, if CTCSS/DCS signaling is set, it will interchange decoding CTCSS/DCS as encoding.
			OFF	Close Talk Around function.
10	OFFSET	Offset Frequency setup	0-70MHz	Frequency range is 00-70MHz.
11	NAME	Editing Channel name	a-Z	In channel name display mode, will display the edited channel name.

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12	RPLOCK	Busy Channel Lockout	BUSY	Carrier wave lock, transmitting is prohibited when received matching carrier wave.
			REPEAT	Signaling lock, transmitting is prohibited when received matching carrier but with mismatching CTCSS/DCS
			OFF	Close B CLO function.
13	TX	TX OFF	ON	TX function is enabled in current channel
			OFF	TX function is disabled in current channel
14	BAND	Single Band Mode (VHF/UHF)	ON/OFF	Turn on/off band limit function
15	DSPSUB	Sub band display setup	FREQ	Display sub band frequency or channel
			VOLT	Display current battery voltage
			OFF	Sub band display is disabled
16	BEEP	Keypad Voice prompt setup	ON/OFF	Turn on/off keypad voice prompt function
17	TOT	Time-Out-Timer	OFF	Turn off time-out timer
			10-270 S	Total 27 levels for optional, each interval is 10 S
18	VOX	Voice Operated Transmission (VOX) Setup	OFF	Turn off VOX function
			1-10	Total 10 VOX levels for optional
19	VDELAY	VOX Delay Setup	0.5S-3S	Total 27 levels for optional, each interval is 0.1S

20	APO	Automatic Power Off Setup	OFF	Disable the Automatic power off function
			30MIN-2HOUR	30minutes ~ 2hours: Total 3 levels for optional
21	DTMF	DTMF Transmitting Time	50MS-500MS	Total 5 kinds of DTMF transmitting time for optional
22	SQL	Squelch level Setup	00-09	10 levels of squelch in total for optional, "00" is minimum setup value (normally open)
23	SCAN	Scanning Resume Time Setup	5ST-15ST	When scanning matched signal, transceiver will stop scanning for 5-15seconds then resume.
			2SP	When scanning matched signal, transceiver will stop scanning, 2seconds after signal disappeared, then resume.
24	FTIME	Function Icon Stay Time	FUNCT	When finished function setting or enter into function menu, icon disappeared.
			1SEC-3SEC	When finished function setting or enter into function menu, icon stay 1-3seconds then disappeared.
			ALWAYS	Function icon is always display, only when pressing function key again, the icon will disappear.
25	LIGHT	LCD Backlight	ON/OFF	Always on/off
			AUTO	Backlight will automatic closed after a period.
26	COLOR	LCD Backlight Color	BLUE/ORG/PUR	Blue/Orange/Purple
27	ID	Self ID inquiry	***	LCD displays radio self ID, DTMF ID is 3 digits.

28	TBST	Tone Pulse Frequency Selection	1750Hz/2100Hz/1450Hz/1000Hz	Tone plus frequency is 1750Hz/2100HZ/1450Hz/1000Hz
29	SAVE	Battery Save Setup	OFF	Turn off battery save function.
			1:2-1:8	Battery save time is 1:2-1:8
			AUTO	Battery save ratio is adjusting automatically.
30	RADIO	FM radio	ON/OFF	Allow/Prohibit using FM radio.
31	PF1	Self define PF1/PF2 key function	VOLT	Displays current battery capacity.
			CALL	Call function.
			ALARM	Emergency alarm function.
32	PF2		SUBPTT	Sub band PTT.
			LAMP	Lamp
			OFF	No function.

(((**Programming a Duplex Channel Example**

This example is for: 146.700MHz 600kHz minus offset into channel 99 CTCSS tone 123.0 (optional).

1. Set radio to VFO Mode (Frequency Mode)

   a.) Press 🔲 button switch VFO/MR

2. Select Display A (select the Upper Display)

   a.) Press ✱MAIN button and select the Upper Display.

3. Disable TDR (Dual Watch/Dual RX) which toggles between A and B

   a.) Press 🔲 button and then press ✱MAIN button switch between A and B

4. Enter RX frequency

   a.) Enter 1/4/6/7/0/0 or enter 1/4/6/7/#

5. Set 600kHz offset

   a.) Press 🔲 button and then press 8SET button

   b.) Press 🔲 / 🔲 button select Menu 10 OFFSET

   c.) Press 🔲 button

   d.) Press 🔲 / 🔲 button to set 600kHz offset

   e.) Press 🔲 exit Menu

6. Offset Frequency Direction Setup

   a.) Press 🔲 button and then press 4+/- button

   b.) LCD display "-" icon. Minus offset is settled.

7. Set CTCSS or DCS codes for Transmit. (if needed) (example = CTCSS TX tone 123.0 Hz)

a.) Press (A/FUN) button and then press (8 SET) button

b.) Press (B↑) / (C↓) button select Menu 03

c.) Press (A/FUN) button

d.) Press (1 FM) button to choose CTCSS, DCS or OFF, when DCS signaling is selected, press (* MAIN) button to choose DCS positive or inverse code

e.) Press (B↑) / (C↓) button select 123.0HZ,when CTCSS display 88.5HZ(default)

f.) Press (D/ESC/M) exit menu

8. Store Memory Channel 99

a.) Press (A/FUN) button and then press (C↓) button

b.) Press (B↑) / (C↓) button select Channel 99

c.) Press (A/FUN) button and then press and hold (C↓) button

d.) Press (D/ESC/M) to MR mode and check Channel 99 (enter 0/9/9 to select Channel 99)

9. The split is now programmed.

(((Display Mode Setup

There are three kinds of display (user) modes.

1. Press [MONI] key as you turn on the radio, continue holding the [MONI] key until the transceiver emits a beep.

2. Press (B↑) / (C↓) key to choose No. 01 function item, it will show **"DSP"** on the LCD.

```
CT 🔋        🔋
    DSP      01
  FREQ
H
```

3. Press $\overset{A}{\underset{FCN}{}}$ enter into next menu, then press $\overset{\blacktriangle}{\underset{B}{}}$ / $\overset{\blacktriangledown}{\underset{C}{}}$ to select desired setting.

   FREQ: Frequency + Channel mode, transceiver displays current channel number + frequency, press $\overset{B}{\underset{ESC/M}{}}$ key to switch into VFO mode.

```
CT▣                    📶
      DSP
         CH
H
```

   CH: Channel mode (for commercial use), 1~21 items of function menu will be disabled, the user can only operate some functions. The VFO Mode is disabled. With this mode, radio can be used as commercial radio.

```
CT▣                    📶
      DSP             01
      NAME
H
```

   NAME: Channel + Name Tag mode, transceiver displays current channel number + channel name, press $\overset{B}{\underset{ESC/M}{}}$ key to switch into VFO mode.

4. Press $\overset{D}{\underset{ESC/M}{}}$ key or $\boxed{\# \underset{o}{ENT}}$ key to confirm and exit.

(((Resume Factory Default

You can make all the settings of transceiver return back to the factory default settings when the transceiver does not work normally (possible due to bad settings)

1. Press [MONI] key as you turn on the radio, continue holding the [MONI] key until the transceiver emits a beep.

2. Press $\overset{\blacktriangle}{\underset{B}{}}$ / $\overset{\blacktriangledown}{\underset{C}{}}$ key to choose No. 02 function item, it shows **"RESTOR"** on LCD.

3. Turn Power/Volume knob to select desired setting.

   OFF: No operations.

   FACT: Resume all items to factory default, including channel and background settings.

```
CT▣                    📶
   RESTOR           02
      OFF
H
```

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```
CT🔋                    📶
  RESTOR            02
• FACT?
H
```

INIT: Resume background settings to factory default, channel operations are keeping.

4. Press 🔘 key to exit current selection.

5. Press 🔘 key to confirm current selection.

```
CT🔋                    📶
  RESTOR            02
• INIT?
H
```

Note: In power off state, hold 🔘 key to power on radio, the radio will resume to factory default.

((•)) **Optional Signaling (DTMF)**

Users can enable or disable the "Optional Signaling" in each channel by programming software. DTMF tones are similar to CTCSS/DCS tones and can be used in conjunction with them. You can set the squelch level to require DTMF and/or CTCSS/DCS. DTMF tones can also allow for Selective Calling, Group Calling, All Call, PTT ID, Remotely Stun, Remote Kill and Remote Waking.

1. PTT ID (ANI): If you set your current channel to transmit your PTT ID, the transceiver will send its transmitting ID by pressing or releasing the PTT key according to how you set it up.

2. If you decide to assign radios to groups with DTMF tones - You can set a group call "wildcard" for each group by programming software. (DTMF character A, B, C, D, "*" or "#").

a. The caller can call different groups by sending different group call codes. When the receiving party receives a valid ID code, wildcard characters can replace one or all of the characters and the receiving party can: call all, group call, or selectively call. It is easy and flexible to utilize DTMF tones.
For example:
Group code: "C"

	Radio A	Radio B	Radio C	Radio D
ID Code	123	223	235	355

If the calling party uses "C23" to call, Radio A and Radio B will receive the call.
If the calling party uses "CC5" to call, Radio C and Radio D will receive the call.
If the calling party uses "CCC" to call, All Radios will receive the call.

3. This transceiver is set with 16 groups of DTMF codes (you can individually set what the programmed "CALL" (PF1/PF2) does for each channel)

4. Remote Stun, Remote Kill and Remote Wake.

   a. Remote Stun: When the radio receives the DTMF that will "Remote Stun" it - it can no longer transmit and will receive only.

   b. Remote Kill: When the radio receives the DTMF that will "Remote Kill" it - it can no longer transmit or receive.

   c. Remote Wake: The only way to bring a radio out of `Remote Kill' or `Remote Stun' is by special dealer programming software --- or you can wake it by sending the `Remote Wake' DTMF tone. The `Remote Wake' DTMF tone is activated by: sending the original DTMF `Kill/Stun' Code + the `#' Tone.

NOTE:
**Radios must be set up to 'Decode' optional signaling (DTMF), otherwise they will ignore the DTMF tones being received.**

(((Cloning Cable

This feature will copy the programmed data and parameters from the master unit to slave units. It copies the parameters and memory program settings.

Connection: Use optional CP04 cloning cable, connect Read / write frequency port on both master and slave, setting and programing as the requirement below.
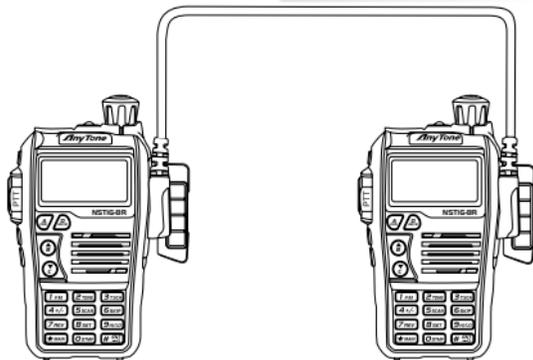
[Settings: Master side]

1. Press the `4+/-` key to Power on, the display shows "**CLONE**", the master unit enters into copy mode.

```
CLONE
```

2. Press [PF1] key, the display appears "**CLONE XX**" XX stands for the data amount being cloned.

```
CLONE
  A5
```

3. When the data transfer is completed, slave unit restarts, the master unit displays "**CLONE 04**".

```
CLONE
  04
```

4. Master unit will remain in the cloning mode to prepare for the next cloning session,

if you reboot the master radio - it will exit the cloning mode and return back to the normal mode.

○ ADVANCED FUNCTION OPERATIONS

[Settings: Slave side]

1. In the standby mode, when the slave receives the data, the display shows "**CLONE XX**" XX stands for the data being cloned.

```
CLONE
  A5
```

2. When data reception is complete, the slave unit returns to normal mode and restarts automatically.

3. Turn off the slave's power, remove the cable, insert another slave that you want to copy.

If the data is not successfully transmitted, turn off the master and slave, check if the cable connections are correct, and then repeat the whole process again.
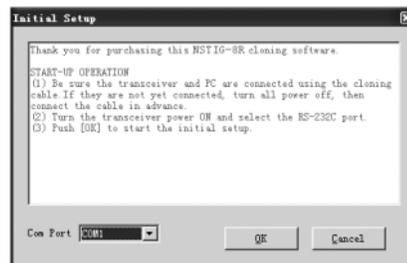
Programming software starting
(Uses the Windows Operating system)

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1. Double Click "NSTIG-8R setup.exe", then follow through with the installation.
2. Please plug the programming cable into the USB port of the PC device, then connect to transceiver. (A Genuine FTDI cable from **AnyTone** tech is recommended)
3. Double click "NSTIG-8R" shortcut icon, or click NSTIG-8R item in "START" menu to open programming software interface.
4. Choose your "COM Port", then click "OK" to start programming software. (the COM Port number can be found under device manager, it will display by the cable driver).

NOTE: When moving the programming cable to a different USB port, the COM port assignment will change.

Before programming, insure that your transceiver is powered on.

Do not turn on or turn off the transceiver when it is connecting with computer, otherwise it may cause the transceiver not to properly read or write data. If this situation has happened, please shut down the programming software, remove programming cable from the computer. Then re-plug the cable into the computer, re-start the programming software, re-choose the COM Port, and the programming should work normally.

(picture 1)
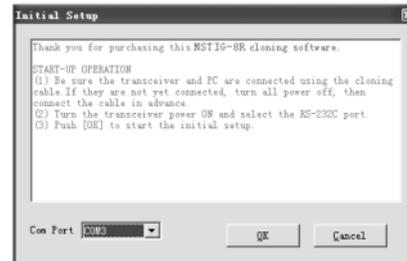
(picture 2)

NOTE:
The programming software has an automatic product identifying system. In order to run it for the first time, the transceiver should be connected to computer, otherwise the software can not run.

TECHNICAL SPECIFICATION

General	
Frequency Range	VHF：136~174MHz UHF：400~480MHz （EX：400~520MHz ）
Channel Capacity	200 channels
Channel Spacing	25KHz (wide band) 12.5KHz (narrow band)
Phase−locked Step	0.1KHz
Operation Voltage	7.4V DC ±20%
Battery Life	More than 16 Hours(1800mAh), by 5−5−90 working cycle
Frequency Stability	±2.5ppm
Operation Temperature	−20℃~ +55℃
Size	113x62x40mm (with battery)
Weight	220g(with battery)

Receiving Part		
	Wide band	Narrow band
Sensitivity (12dB SINAD)	≤0.25μV	≤0.35μV
Adjacent Channel Selecitvity	≥65dB	≥60dB
Intermodulation	≥60dB	≥60dB
Spurious Rejection	≥70dB	≥70dB
Hum & Noise	≥45dB	≥40dB
Audio Distortion	≤5%	
Audio Power Output	1000mW/10%	

Transimitting Part		
	Wide band	Narrow band
Power Output	4W/1W (UHF) 5W/1W (VHF)	
Modulation	16KΦF3E	11KΦF3E
Adjacent Channel Power	≥65dB	≥60dB
Hum & Noise	≥40dB	≥40dB
Spurious Emission	≤−36dB	≤−36dB
Audio Distortion	≤5%	

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Problem	Corrective Action
No power	A. The battery may be depleted. Recharge or replace the battery. B. The battery may not be installed correctly. Remove the battery and install it again. C. The power switch is broken; Contact local dealer for repair. D. Battery tabs or the connection is broken; Contact local dealer for repair.
Battery power dies shortly after charging.	The battery life is finished. Replace the battery pack with a new one.
Transceiver cannot scan	The channels are not in scan list.
All bands pick up static and are noisy	Adjust the squelch settings during programming. Non−professionals are advised not to adjust this function.
No sound after removing earphone	Contact local dealer for repair.
Communication distance becomes short, and Low sensitivity	A. Check whether the antenna is making good contact and the antenna base and has not come loose. B. Antenna connector is broken. (this can happen if you carry the radio by the antenna) (Contact local dealer for repair)
Cannot talk or hear other members in your group	A. Different frequency or channel, please change it. B. Different CTCSS / DCS /DTMF, please reset it. C. Out of communication range.

Can not power on or frequent power off	Check if the battery is making good contact and is locked in place.
The transmitting audio gets low or intermittent	Check if the MIC hole is plugged. If you cannot diagnose the issue –contact local dealer for repair.
Receiving is intermittent with too much noise	A. Out of communication range or obstructed by tall buildings. B. The 450 filter is broken, Contact local dealer for repair.
Loudspeaker is quieter or has crackling sound	Check whether the loudspeaker is broken, or if there is powder or dust in the loudspeaker. Contact local dealer for repair.
Receive voice from the other party but can not transmit	Check [PTT] key.
Receiving indicator with green light but no sound	A. Low volume, please turn the VOLUME knob clockwise. B.Loudspeaker is broken, Contact local dealer for repair. C.Earphone jack is broken, Contact local dealer for repair D.Volume switch is broken.

CTCSS Frequency Chart

1	62.5	12	94.8	23	136.5	34	177.3	45	218.1
2	67.0	13	97.4	24	141.3	35	179.9	46	225.7
3	69.3	14	100.0	25	146.2	36	183.5	47	229.1
4	71.9	15	103.5	26	151.4	37	186.2	48	233.6
5	74.4	16	107.2	27	156.7	38	189.9	49	241.8
6	77.0	17	110.9	28	159.8	39	192.8	50	250.3
7	79.7	18	114.8	29	162.2	40	196.6	51	254.1
8	82.5	19	118.8	30	165.5	41	199.5	52	user-defined
9	85.4	20	123.0	31	167.9	42	203.5		
10	88.5	21	127.3	32	171.3	43	206.5		
11	91.5	22	131.8	33	173.8	44	210.7		

((•1024 groups DCS frequency chart

000	001	002	003	004	005	006	007
010	011	012	013	014	015	016	017
020	021	022	023	024	025	026	027
030	031	032	033	034	035	036	037
040	041	042	043	044	045	046	047
050	051	052	053	054	055	056	057
060	061	062	063	064	065	066	067
070	071	072	073	074	075	076	077
100	101	102	103	104	105	106	107
110	111	112	113	114	115	116	117
120	121	122	123	124	125	126	127
130	131	132	133	134	135	136	137
140	141	142	143	144	145	146	147
150	151	152	153	154	155	156	157
160	161	162	163	164	165	166	167
170	171	172	173	174	175	176	177
200	201	202	203	204	205	206	207
210	211	212	213	214	215	216	217
220	221	222	223	224	225	226	227
230	231	232	233	234	235	236	237
240	241	242	243	244	245	246	247
250	251	252	253	254	255	256	257

260	261	262	263	264	265	266	267
270	271	272	273	274	275	276	277
300	301	302	303	304	305	306	307
310	311	312	313	314	315	316	317
320	321	322	323	324	325	326	327
330	331	332	333	334	335	336	337
340	341	342	343	344	345	346	347
350	351	352	353	354	355	356	357
360	361	362	363	364	365	366	367
370	371	372	373	374	375	376	377
400	401	402	403	404	405	406	407
410	411	412	413	414	415	416	417
420	421	422	423	424	425	426	427
430	431	432	433	434	435	436	437
440	441	442	443	444	445	446	447
450	451	452	453	454	455	456	457
460	461	462	463	464	465	466	467
470	471	472	473	474	475	476	477
500	501	502	503	504	505	506	507
510	511	512	513	514	515	516	517
520	521	522	523	524	525	526	527
530	531	532	533	534	535	536	537

540	541	542	543	544	545	546	547
550	551	552	553	554	555	556	557
560	561	562	563	564	565	566	567
570	571	572	573	574	575	576	577
600	601	602	603	604	605	606	607
610	611	612	613	614	615	616	617
620	621	622	623	624	625	626	627
630	631	632	633	634	635	636	637
640	641	642	643	644	645	646	647
650	651	652	653	654	655	656	657
660	661	662	663	664	665	666	667
670	671	672	673	674	675	676	677
700	701	702	703	704	705	706	707
710	711	712	713	714	715	716	717
720	721	722	723	724	725	726	727
730	731	732	733	734	735	736	737
740	741	742	743	744	745	746	747
750	751	752	753	754	755	756	757
760	761	762	763	764	765	766	767
770	771	772	773	774	775	776	777

NOTE: N stands for positive code. I stands for inverted code. 1024 groups of DCS in total.

((⋅ **Usage of Your Transceiver on Part 90 (Commercial) and Part 97 (Amateur) Frequencies**

1. Changes or modifications to this device not expressly approved by ANYTONE could void the user's authorization to operate this device.

2. This device complies with part 90 of the FCC Rules. Operation is subject to the following two conditions:(1)This device may not cause harmful interference, and (2) this device must accept any interference including received, interference that may cause undesired operation.

Changes or modifications to this device not expressly approved by ANYTONE could void the user's authorization to operate this device.

FC C€ ① √ RoHS COMPLIANT

LIMITED WARRANTY (UNITED STATES)

You MUST file your warranty information online at: AnyToneTech.com within 45 days of purchase.

AnyTone tech will repair or replace, at its option without charge, subject to the exclusions set forth below, any *AnyTone tech* Two-Way -Radio transceiver which fails due to a defect in material or workmanship within ONE year following the initial consumer purchase.

This warranty does not apply to water damage, battery leak or misuse, use of unauthorized accessories, unauthorized service or modification or altered products. Accessories have a 90 day warranty from date of purchase, including antennas, batteries, chargers, and earphones.

ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PUPOSE, SHALL BE LIMITED AS SET FORTH HERIN AND TO THE DURATION OF THIS LIMITED WARRANTY, OTHERWISE THE REPAIR OR REPLACEMENT AS AND IS PROVIDED UNDER THIS EXPRESS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER AND IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. IN NO EVENT SHALL *AnyTone tech* BE LIABLE, WHETHER IN CONTRACT OR TORT (INCLUDING BUT NOT LIMITED TO NEGLIGENCE, BODILY INJURY, PROPERTY DAMAGE AND DEATH) FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT OR ACCESSORY, OR FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR LOSS OF REVENUE OF PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE ABILITY OR INABILITY TO USE THE PRODUCTS OR ACCESSORIES TO THE FULL EXTENT THESE DAMAGES MAY BE DISCLAIMED BY LAW.

AnyTone *tech* specializes in communication equipment, but even more important than communication with others - is your communication with God.

To become a Christian and receive salvation is the greatest step you can take with God. To be real it must be a personal commitment from the heart. Here are three steps to eternal salvation.

1. Admit you are a sinner. "All have sinned and come short of the glory of God" (Roman 3:23).
2. Receive Jesus Christ as Savior. "But as many as received him, to them gave he power to become the sons of God" (John 1:12).
3. Confess your faith. "That if thou shalt confess with thy mouth the Lord Jesus, and shalt believe in thine heart that God hath raised him from the dead, thou shalt be saved." (Romans 10:9).

To believe on Jesus Christ as Savior means to believe that He died for you, believe that He paid the price for your sin, and believe that He is the only way to Heaven. You can express your belief on Jesus by calling on Him in prayer.

Trusting God as your savior is the most important item we promote at *AnyTone* *tech* . We would like to help you learn more if you have accepted Christ as your personal Savior - contact us today at: AnyToneTech.com to let us know and we will send you a one time package of literature.