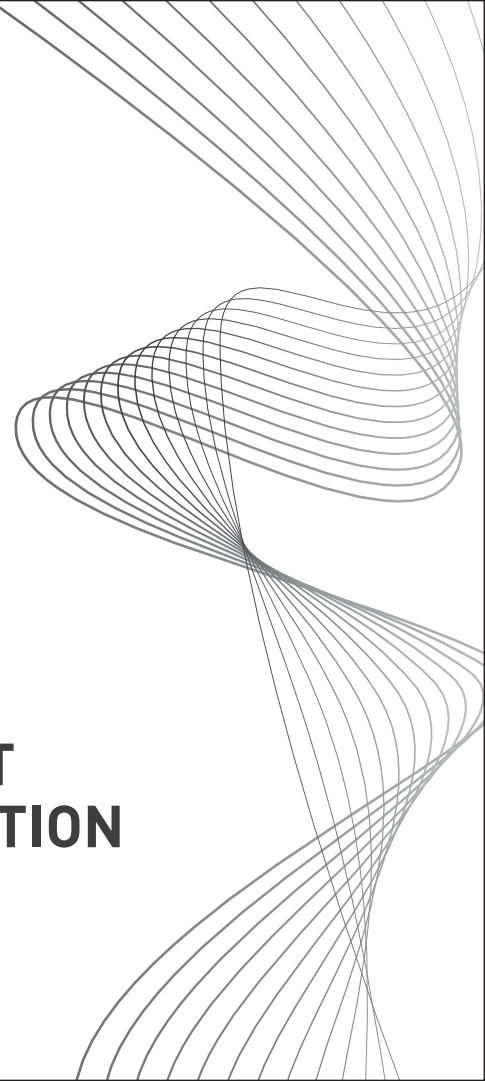RECYCLED PACKAGING

PRODUCT
DESCRIPTION

PRECAUTIONS

Observe the following precautions to prevent fire, personal injury, and transceiver damage.

- Refer service to qualified technicians only.
- Do not modify or attempt to adjust this transceiver for any reason.
- Do not expose the transceiver to long periods of direct sunlight, nor place it close to heating appliances.
- Do not place the transceiver in excessively dusty, humid, and/or wet areas, nor on unstable surfaces.
- Do not operate the transceiver or charge a battery pack in an explosive atmosphere(gases, dust, fumes, etc.)

CONTENTS

CONTENTS

Unpacking and Checking Equipment

Carefully unpack the transceiver. We recommend that you identify the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, please contact the carrier or the dealers immediately.

Supplied Accessories

Item	Quantity
Antenna	1
Charger	1
Li-Ion Battery	1
Belt Clip	1
Hand Strap	1
User Manual	1

Preparation

Charging the Battery Pack

The battery pack is not charged at the factory, charge it before use. Initially charging the battery pack after purchase or extended storage(greater than 2 months) will not bring the battery pack to its normal operating capacity. After repeating the charger/discharge cycle two or three times. the operating capacity will increase to normal.

⚠ CAUTION

- Do not recharge the battery pack if it is already fully charged. Doing so may cause the life of the battery pack to shorting or the battery pack may be damaged.
- After recharging the battery pack, disconnect it from the charger. Charging the battery pack for more than 5 days may reduce the battery pack life due to overcharging.

Note:

- The ambient temperature should be between 5 and 40 ℃ while charging is in progress. Charging outside this range may not fully charge the battery.
- Always switch OFF the transceiver equipped with a battery pack before charging. Using the transceiver while charging its battery pack will interfere with correct charging.
- The battery pack life is over when its operating time decreases even though it is fully and correctly charged. Replace the battery pack.

Plug the AC adaptor into an AC outlet.

Slide the battery pack or transceiver with a battery pack into the charger.

- Make sure the battery pack contacts are in contact with the charging terminals.
- The charger LED lights and charging begins.

After fully charged the supplied battery pack, remove it or the transceiver equipped with it from the charger.

- The charger LED light turns green after fully charged.

Unplug the AC adaptor from the AC outlet.

Installing/Removing the Battery

⚠ CAUTION

◆ Do not short circuit the battery terminals or dispose of the battery by fire.
◆ Never attempt to remove the casing from the battery pack.

Match the bottom of the battery pack with the corresponding grooves on the radio.

Push the battery pack on the back of the radio.

To remove the battery pack, slide the release latch at the top away from the battery and remove the pack away from the transceiver.

Installing/Removing 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.
Turn the antenna counter-clockwise to remove it.

Note:
The antenna is neither an handle, a key ring retainer, not a speaker/microphone attachment point. Using the antenna in these ways may damage the antenna and degrade your transceiver's performance.

Installing/Removing the Belt Clip

If necessary, attach the belt clip using the two supplied screws at the back of battery pack.
Note:
If the belt clip is not installed, its mounting location may get hot during continuous transmission or when left sitting in a hot environment.

> ⚠ **CAUTION**
>
> ● Do not use glue which is designed to prevent screw loosening when installing the belt clip, as it may cause damage to the transceiver. Acrylic ester, which is contained in these glues, may crack the transceiver's back panel.

Installing the Optional Speaker/Microphone

Insert the speaker/microphone plugs into the speaker/microphone jack.

Note:
The transceiver is not fully water resistant while using the speaker/microphone.

Installing the Cover over the Speaker/Microphone Jacks

If you are not using a speaker/microphone, install the cover over the speaker/microphone jacks using the supplied screw.

Note:
To keep the transceiver water resistant, you must cover the speaker/microphone jacks with the supplied cover.

Product Overview

1. Speaker/Microphone jacks

2. Antenna

3. LED Indicator
Lights red while transmitting.
Lights green while receiving a signal.

4. Speaker

5. Noise Cancelling Button

6. Channel Selector

Product Overview

7. Power switch /Volume control
Turn clockwise to switch ON the transceiver. To switch OFF the transceiver, turn counter-clockwise until a click sounds.
Rotate to adjust the volume level.

8. Microphone

9. PTT Switch(Push-To-Talk)
Press, then speak into the microphone to make a call.
Release to receive.

10. Side 2 Key
Press to activate its programmable function.

Functions and Operations

Powering On/Off
Turn the Power/Volume Knob clockwise to switch the transceiver power ON till a click is heard.

Adjusting the Volume
Rotate the Power/Volume Knob to adjust the volume. Turn clockwise to increase the volume and counter-clockwise to decrease the volume.

Selecting a Channel
Rotate the Channel Selector Knob to select a desired channel. Turn clockwise to increase the channel and counter-clockwise to decrease the channel. If a channel is unavailable, an alarm sounds.

Push To Talk
To make a call, press and hold the PTT switch, then speak into the microphone using your normal speaking voice. Release PTT switch to receive.

Squelch Level
Squelch level is an analogue level used to set the interior squelch threshold in the CPU of transceiver. You can preprogam the squelch level. When transceiver is in use, the squelch level is adjustable: 10 levels: from 0 (switch on) to 9 (deep). Default: 3

Noise Cancelling (Noise Reduction)
Long press Noise Cancelling Button for 2 seconds to turn on noise cancelling function until a beep heard and the key lights blue when transmitting. This function can also be turned on/off even during a call.

Functions and Operations

Side Key Function
Its function can be defined by programmable software.
None: No function
Monitor: Monitor the weak signal or the signal with unmatched ID.
Scan: When scanning, the transceiver checks for a signal on each channel and only stops if a signal is present.
Scrambler: The transceiver scrambles your voice so that anybody listening to your conversation will not be able to understand what you are saying.
Emergency Alarm: To active emergency alarm function, the transceiver will transmit the alarm ring for 20 seconds, and receiving for 10 seconds, continuously. Press PTT to exit the Alarm.

Time-out Timer(TOT)
The purpose of the Time-out Timer is to prevent any caller from using a channel for an extended period of time. If you continuously transmit for a period of time that exceeds the programmed time set by programming software, the transceiver will stop transmitting and an alert tone will sound. To stop the tone, release the PTT key.

Scan
When a transceiver is set by programmable software as scannable, rotate the channel select knob to channel 16, the transceiver will automatically detect the activities of scannable channels from 1 to 16, (programmable software can define different channels to be scannable or unscannable). When a scanned channel has signals, transceiver will automatically stay in this channel for talking.

Functions and Operations

Note:
Transceiver will stay in a channel having signals, 5 seconds after the signals disappear, it will continue scanning next channels.
When there are less than 2 scannable channels, it can not scan.

Battery Save

Battery Save function will decrease the amount of power used when a signal is not being received and no operations are being performed(no keys are being pressed, and no switches are being turned).
While the channel is not busy and no operation is performed for 5 seconds, battery save turns ON. When a signal is received or an operation is performed, battery save turns OFF.

Low Battery Warning

Low Battery Warning alerts you when the battery needs to be recharged or replaced.
While operating the transceiver, if the battery power becomes low, an alert tone will sound every 15 seconds. Replace or recharge the battery pack.

Busy Channel Lockout(BCL)

When activated, BCL prevents you from interfering with other parties who may be using the same channel that you selected. Pressing the PTT switch while the channel is in use will cause your transceiver to emit an alert tone and transmission will be inhibited(you cannot transmit). Release the PTT switch to stop the tone and return to receive mode.
Note: Busy Channel Lockout shall be setup in PC software.

Functions and Operations

High/Low Power Output

Switch the power output between high and low in PC software. Default: High Power

Wide/Narrow Band (25KHz/12.5KHz)

You can select wide band and narrow band in PC software. Default: Wide Band

VOX

VOX operation allows you to transmit hands-free. VOX function shall be setup in PC software.

When operating VOX, you must set a VOX Gain level. This setting allows the transceiver to recognize sound levels. If the microphone is too sensitive, it will begin transmitting when there is noise in the background. If it is not sensitive enough, it will not pick up your voice when you begin speaking. Be sure to adjust the VOX Gain level to an appropriate sensitivity to allow smooth transmission.
Note: If a speaker/microphone is connected to the transceiver while the VOX function is switch ON and the VOX Gain level is configured to a higher, more sensitive level, louder received signals may cause the transceiver to start transmission.

Functions and Operations

Scrambler

Scrambler allows you to hold a conversation in complete privacy. When activated, any other party listening in on your channel will be unable to understand your conversation. The transceiver scrambles your voice so that anybody listening to your conversation will not be able to understand what you are saying.

In order for members of your own group to understand your call while you are using the scrambler, all other members must also activate the scrambler on their transceivers. This scrambles everybody's voice while transmitting and descrambles the voice message on your own transceiver when you receive the message.

Note: There are 8 groups of scrambler, you can be setup on each channel in PC software.

DCS Mode

You can setup DCS mode on each channel in PC software. There are two options: Normal and Special. When you choose special one, even you have the same DCS with other radio, you cannot hear others and others also cannot hear you, this function will guarantee privacy of your talk.

Default: Normal.

QT/DQT

A QT tone/DQT code is a sub-audible tone/code which allows you to ignore （not hear） calls from other parties who are using the same channel.

Functions and Operations

When a channel is set up with a QT tone or DQT code, squelch will only open when a call containing a matching tone or code is received. Likewise, signals that you transmit will only be heard by parties whose QT/DQT signaling matches your transceiver.

If a call containing a different tone or code is made on the same channel you are using, squelch will not open and you will not hear the call. This allows you to ignore(not hear) these calls. Although it may seem like you have your own private channel while using QT/DQT, other parties can still hear your calls if they set up their transceiver with the same tone or code.

Frequency Table

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

DCS								
023	072	143	226	306	411	503	631	734
025	073	152	243	311	412	506	632	743
026	074	155	244	315	413	516	654	754
031	114	156	245	331	423	532	662	
032	115	162	251	343	431	546	664	
043	116	165	255	346	432	565	703	
047	125	172	261	351	445	606	712	
051	131	174	263	364	464	612	723	
054	132	205	265	365	465	624	731	
071	134	223	271	371	466	627	732	

Troubleshooting Guide

Problem	Solution
No Power.	• The battery pack may be dead. Recharge or replace the battery pack. • The battery pack may not be installed correctly. Remove the battery pack and install it again.
Battery power dies shortly after charging.	• The battery pack life is finished. Replace the battery pack with a new one.
Cannot talk to or hear other members in your group.	• Make sure you are using the same frequency and QT tone as the other members in your group. • Other group members may be too far away. Make sure you are within range of the other transceivers.
Other voices(besides group members) are present on the channel.	• Change the QT tone. Be sure to change the tone on all transceivers in your group.

Care and Cleaning

To guarantee optimal performance as well as a long service life of the product, please follow the tips below.

- Do not puncture or scratch the product with hard objects.

- Do not place the product in corrosive agents, solutions or water.

- Do not handle the radio by its antenna or external microphone directly.

- When not in use, keep the accessory jacks covered with the protective caps.

⚠

Power off the product, and remove the battery before cleaning.

- Clean up the dust and fine particles on the product parts with a clean and dry lint-free cloth or a brush regularly.

- Use a non-woven fabric with neutral cleanser to clean the keys, control knobs, and shell after long-time use. Do not use chemical preparations such as stain removers, alcohol, sprays or oil preparations.

- Make sure the product is completely dry before use.