

To Customers

We are grateful for your purchase of this transceiver.

We believe this easy-to-use transceiver will provide you with dependable and reliable communications.

We employed advanced technology & workmanship for this transceiver and trust that our design will make it user-friendly.

For correct use, please read this manual first.





PRECAUTIONS

- ◆ Refer service to qualified technicians only.
- ◆ Do not operate the transceiver nor charge a battery pack in an explosive atmosphere (gases, dust, fumes, etc.).
- ◆ Turn OFF the transceiver while taking on fuel or while parked in a gasoline service station.
- ◆ Do not modify nor 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.

SAFETY: It is important that the operator be aware of and understand and hazards common to the operation of any transceiver.



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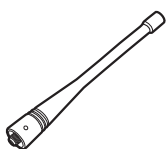
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UNPACKING AND CHECKING EQUIPMENT

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, file a claim with the carrier immediately.

Supplied Accessories

ITEM	QUANTITY
Antenna	1
Battery charger	1
AC adaptor	1
Battery pack	1
Belt clip	1
Instruction manual	1



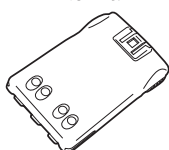
Antenna



Battery charger



AC adaptor



Battery pack



Belt clip



Instruction manual

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 charge/discharge cycle two or three times, the operating capacity will increase to normal.



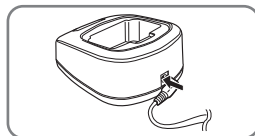
CAUTION

- ◆ DO NOT RECHARGE THE BATTERY PACK IF IT IS ALREADY FULLY CHARGED. DOING SO MAY CAUSE THE LIFE OF THE BATTERY PACK TO SHORTEN 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.

Note

- ◆ The ambient temperature should be between 41 and 104° F (5 and 40°C) 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.

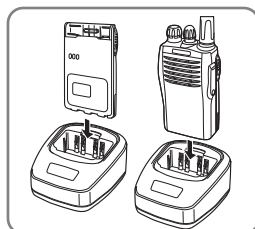
Plug the AC adaptor cable into the adaptor jack located on the rear of the charger.



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 charging the supplied battery pack for 4 hours, remove it or the transceiver equipped with it from the charger.

- ◆ The charger turn to green automatically after charging is completed.

Unplug the AC adaptor from the AC outlet.

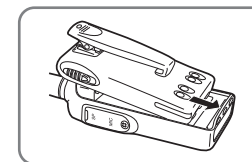
Installing / Removing the Battery Pack

The average life of the supplied battery pack is 12 hours.
Average times are calculated using 5% transmit time, 5% receive time, and 90% standby time.

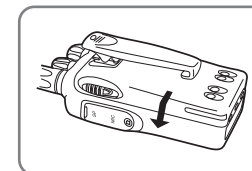
CAUTION

- ◆ DO NOT TAMPER WITH THE BATTERY TERMINALS NOR DISPOSE OF THE BATTERY BY FIRE.
- ◆ NEVER ATTEMPT TO REMOVE THE CASING FROM THE BATTERY PACK.

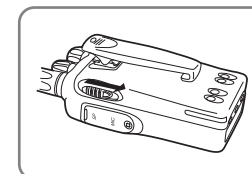
Match the bottom of the battery pack with the corresponding grooves on the back of the transceiver.



Slide the battery pack along the back of the transceiver.



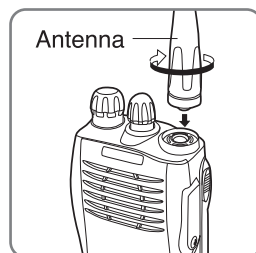
To remove the battery pack, pull back on the release latch and slide the pack away from the transceiver.



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.

Note: The antenna is neither a handle, a key ring retainer, nor a speaker/microphone attachment point. Using the antenna in these ways may damage the antenna and degrade your transceiver's performance.

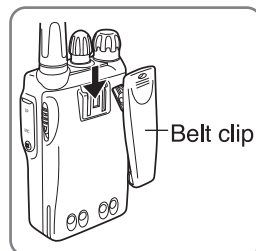


Installing the Belt Clip

If necessary, buckle the belt clip to the back of the battery pack.

Note:

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



CAUTION

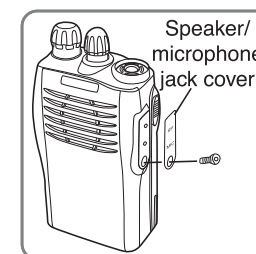
- ◆ DO NOT USE GLUE WHICH IS DESIGNED TO PREVENT SCREW LOOSENING WHEN INSTALLING THE BELT CLIP, AS IT MAY CAUSE DAMAGE TO THE TRANSCEIVER. ACRYLIC ESTER, WHICH IS CONTAINED IN THESE GLUES, MAY CRACK THE TRANSCEIVER'S BACK PANEL.

Installing the 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.

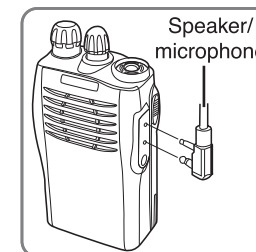


Installing the Speaker/ Microphone

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

Note:

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



GETTING ACQUAINTED

Channel selector

Rotate to select channels 1-16.

Power switch/volume control

Turn clockwise to switch ON the transceiver. To switch OFF the transceiver, turn counterclockwise until a click sounds. Rotate to adjust the volume level.

Microphone

Antenna

LED indicator

Lights red while transmitting. Lights green while receiving a signal. Flashes red when the battery voltage is low while transmitting.

Speaker

PTT (Push-To-Talk) switch

Press, then speak into the microphone to call a station. Release to receive.

Side button 2/ Side button 3

Speaker/ Microphone jacks

Battery pack

Notices:

Side button 2 and side button 3 can be programmable by PC software to these functions: Monitor, Squelch on/off, Scan on/off, Scan temporary delete, High/Low power, Talk about, Reverse frequency, VOX on/off, Scrambler on/off.

Above functions can be programmable through short press or long press at side button 2 and side button 3.

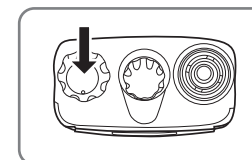
Those functions can be programmable through PC software:

Tx total time (s), Squelch, Voice announcement, VOX gain level, Band width, Tx power rank, Beep, scrambler.

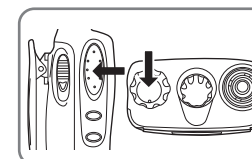
OPERATION

Switch ON the transceiver by turning the **Power switch / Volume** control clockwise.

◆ A beep sounds

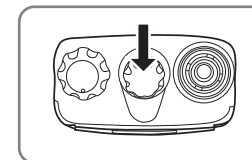


Adjust the volume by pressing and holding the **Monitor** key, then rotating the **Power switch / Volume** control.



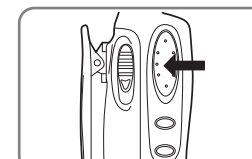
Rotate the **Channel** selector to select your desired channel.

◆ When you receive an appropriate signal, you will hear audio from the speaker.



To make a call, press and hold the **PTT** switch; then, speak into the microphone using your normal speaking voice.

◆ Hold the microphone approximately 1.5 inches (3 to 4 cm) from your lips.



Release the **PTT** switch to receive.

Note: When the battery pack voltage becomes too low, transmission will stop and the LED will blink red. See "Low Battery Warning" on page 9.

AUXILIARY FUNCTIONS

Time-out Timer

The purpose of the Time-out Timer is to prevent any single person from using a channel for an extended period of time.

If you continuously transmit for 300 seconds, the transceiver will stop transmitting and a tone will sound.

To stop the tone, release the **PTT** switch. You can press the **PTT** switch again to resume transmitting.

Battery Saver

The Battery Saver function decreases the amount of power used when a signal is not being received and no operations are being performed (no keys nor switches are being pressed). While the channel is not busy and no operation is performed for 10 seconds, Battery Saver turns ON. When a signal is received or an operation is performed, Battery Saver turns OFF.

Low Battery Warning

Low Battery Warning alerts you when the battery needs to be recharged. While transmitting, if the battery power goes below a predetermined value, the LED will blink red. When a tone sounds, the transceiver stops transmitting.

Replace or recharge the battery pack.

Monitor

When no signals are present, the squelch on the transceiver automatically mutes the speaker so you will not hear background noise.

To manually deactivate the squelch, press and hold the Monitor key.

This is useful when you want to adjust the volume level or when you need to hear a weak signal.

- ◆ The LED indicator lights green while the Monitor key is pressed.

CTCSS/DCS CODES

50 CTCSS frequency codes (Hz)

67.0	85.4	107.2	136.5	165.5	186.2	210.7	254.1
69.3	88.5	110.9	141.3	167.9	189.9	218.1	
71.9	91.5	114.8	146.2	171.3	192.8	225.7	
74.4	94.8	118.8	151.4	173.8	196.6	229.1	
77.0	97.4	123.0	156.7	177.3	199.5	233.6	
79.7	100.0	127.3	159.8	179.9	203.5	241.8	
82.5	103.5	131.8	162.2	183.5	206.5	250.3	

104+1 DCS codes

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

TROUBLESHOOTING GUIDE

PROBLEM	SOLUTION
No power.	<ul style="list-style-type: none"> ◆ 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.	<ul style="list-style-type: none"> ◆ The battery pack life is finished. Replace the battery pack with a new one.
Cannot talk to nor hear other members in your group.	<ul style="list-style-type: none"> ◆ Make sure you are using the same frequency and Quiet Talk 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.	<ul style="list-style-type: none"> ◆ Change the Quiet Talk tone. Be sure to change the tone on all transceivers in your group.

FREQUENCY CHART

Model Name: - _____

Serial Number: _____

Channel	Transmit Frequency	Receive Frequency	CTCSS/DCS
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

ADVANCED OPERATIONS

Safety Training Information

WARNING

Your radio generates RF electromagnetic energy while in transmit mode. This radio is designed for and classified as "Occupational Use Only", meaning it must be used only by individuals aware of the hazards and the ways to minimize such hazards. This radio is NOT intended for use by the "General Population".

Caution

To ensure that your exposure to RF electromagnetic energy is within the allowable limits for occupational use, always adhere to the following guidelines:

- ◆ DO NOT operate the radio without a proper antenna attached, as this may damage the radio and may also cause you to exceed RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.
- ◆ DO NOT transmit for more than 50% of total radio use time ("50% duty cycle"). Transmitting more than 50% of the time can cause RF exposure compliance requirements to be exceeded. The radio is transmitting when the "TX indicator" lights red. You transmit by pressing the "PTT" switch.
- ◆ ALWAYS use authorized accessories (antennas, batteries, belt clips, speaker/mics, etc). Use of unauthorized accessories can cause the RF exposure compliance requirements to be exceeded.
- ◆ ALWAYS keep the antenna at least 2.5cm (1 inch) away from the body when transmitting and use only the provided clips when attaching the radio.



Electromagnetic interference / Compatibility

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

Please cut along this line



WARRANTY CARD

Model Number: _____

Serial Number: _____

Purchase Date: _____

Dealer: _____ Telephone: _____

User's Name: _____ Telephone: _____

Address: _____

Remarks:

1. This warranty card to be filled in by purchaser.
2. One year warranty
3. The user can get service in the following ways:
 - a. Go back to the shop where you purchased the equipment.
 - b. Our local service centers.