TO CUSTOMERS

Thank you very much for choosing our FM VHF/UHF Two-Way Radio. It is designed to meet our customers' need for excellent quality combined with ease of operation, at a reasonable price.

This manual is for use with the model PX-777.

CONTENTS

UNPACKING AND CHECKING EQUIPMENT

Carefully unpack the radio. 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
Radio	1
Antenna	1
Battery	1
Rapid Charger	1
Belt Clip	1
User Manual	1

Optional Accessories

ITEM
Earphone
Microphone
Connecting cable
Programmable software

MAINTENANCE

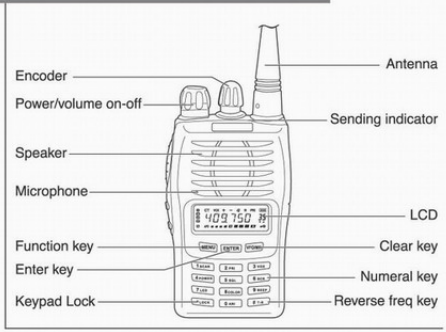
Your Two-Way Radio is an electronic product and should be treated with care. The suggestions below will help you enjoy this product for many years.

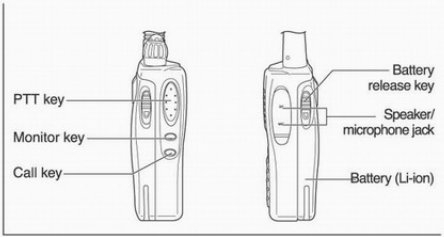
- Do not attempt to open the unit. Non-expert handling of the unit may damage it.
- When using regulated power supply, power voltage must be between 6V and 8V to avoid damaging the unit.
- Do not store the radio in the sun nor in hot areas.
  High temperatures can shorten the life of electronic devices and warp or melt certain plastics.
- Do not store the radio in dusty, dirty areas.
- Keep the radio dry. Rainwater or dampness will corrode electronic circuits.
- If it appears that the radio is emitting a peculiar smell or smoke, please shut off power immediately. Remove charger and/or battery. Then, contact your supplier.
- Do not transmit without antenna.

FEATURE

- VHF 5W / UHF 4W Output power
- 128 channels
- 25kHz / 12.5kHz Channel Spacing
- Automatic Numeral Identification (ANI)
- Built-in Voice Operate Transmit (VOX) function
- All channels scan and priority channel scan
- Scrambler
- Three color LCD backlight adjustable
- Emergency alarm
- PC Programmable
- 50 CTCSS and 104 DCS Normal/Inverted Selectable
- Time-out Timer (TOT)
- Busy channel lockout

ACCESSORIES AND OPTIONS





Key, Knob, Switch, Indicator

■ Power/Volume On-off	For turning power on and off, and for controlling volume.
■ Sending indicator	Press PTT switch and it glows, which indicates talk is in sending mode.
■ Busy indicator	When monitor key and squelch are opened, S 9 shows on the LCD, which means the radio is busy.
■ PTT key	Switch used to send and receive signal.
■ MON (monitor) Key	Hold down this key when receiving and it can monitor the working channel. Busy indicator lights after holding down monitor key.
■ Call key	Call your partner
■ VFO/MR	For returning key and other functions.

Socket and connector

■ SMA Connector	For connecting attached antenna
■ Speaker/microphone jack	If you want to use speaker microphone or programming cable, connect it to this socket.

You will see various icons on the screen when power is on.
The following table can help you identify the icons.

	Battery power display
+	Higher TX frequency than RX frequency
−	Lower TX frequency than RX frequency
S	Frequency scanning indicator
	Keypad locked
DT	DCS turned on
CT	CTCSS turned on
VOX	VOX turned on
	Bell Function
R	Reverse frequency
PRI	Priority scan active
S 9	Received signal strength and power display
	Shows the working frequency
	Function menu
★	Channel is in priority scan
▲	Squelch open

Connecting antenna

Insert the base of the antenna into SMA connector and rotate antenna clockwise. Make sure antenna is firmly attached. Remove antenna from the base by rotating it counterclockwise.

Turning on and off the power

If you want to turn on the power, rotate PWR/VOL knob clockwise until beep sound is heard. All icons and frequencies appear on the screen. You can adjust volume by turning the button. To shut the power, turn PWR/VOL knob counterclockwise until beep sound is heard. All displays will disappear and the radio is off.

Adjusting volume

After turning on the power, hold down [MONI] key and turn PWR/VOL knob clockwise to increase the volume. To decrease the volume, rotate knob counterclockwise.

Monitoring function

If you hold down [**MONI**] key and adjust your desired volume with PWR/VOL knob, you can hear sound without waiting to receive a signal first.

BASIC OPERATION

Transmitting

Hold down [**MONI**] to make sure that the channel is not busy.
Press [**PTT**] key and then speak into the radio in your normal tone of voice.
Transmit indicator lights when holding down [**PTT**] key.
If you are too close to the microphone or your voice is too loud, it will not be received clearly. Release [**PTT**] key to hear response from your partner.

Emergency Alarm

Hold down [**CALL**] key for 1 second and press [**MONI**] key.
The emergency alarm will sound.

Calling receiver

Press and hold the [**CALL**] key for 2 seconds. The receiver will ring.

Keypad Lock

In Channel/Frequency mode, press and hold down *LOCK key for two seconds. Keypad will lock. Press and hold down *LOCK key for two seconds to unlock the keypad.

Setting Reverse Frequency Function

In Channel / Frequency mode, to select reverse Frequency function, hold down [# T-A] for two seconds until "R" appears on LCD. The TX and RX frequencies are reversed. To cancel, hold down [# T-A] for two seconds.

Scanning

Scanning is used to monitor your frequency automatically.

Scanning entire channel

In Channel/Frequency mode, press [MENU] and [1 SCAN] keys. The radio will scan from current channel through all the channels. Whenever any activity is detected, the radio will suspend the scan for 5 seconds. It will then continue to scan unless you press [**PTT**] key or [ENTER] key to end scanning.

Priority channel scan

In Frequency mode, press [MENU] and [2 PRI] keys. The radio will scan from current frequency through rest of frequency range within 1MHz. Whenever any activity is detected, the radio will suspend the scan for 5 seconds. It will then continue to scan unless you press [**PTT**] key or [ENTER] key to end scanning.

In Channel mode, press [MENU] and [2 PRI] keys. The radio will scan from current channel through rest of channels. Whenever any activity is detected, the radio will suspend the scan for 5 seconds. It will then continue to scan unless you press PTT key or [ENTER] key to end scanning.

Selecting scan type

In Frequency mode press [MENU] key until LCD displays "SCAN 13" and then press [ENTER] . Turn encoder to select TO/CO/SE.

TO: Time-operated scan

After radio locks on a busy channel for a period of time preset by dealer, it will begin scanning other channels even if the channel is still busy.

CO: Carrier-operated scan

Radio will lock on one busy channel until there is no activity. Then, radio begins scanning other channels.

SE: Search scan

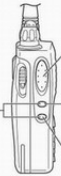
Radio will lock on one busy channel until you turn on the encoder.

DTMF Code

In Channel / Frequency mode, press [**PTT**] and input the number on keypad. MENU stands for A; ENTER stands for B; VFO/MR stands for C; CALL stands for D.

[MENU]	A	[VFO/MR]	C
[ENTER]	B	CALL	D

Flank Keys



Moni + CALL :
Press Moni and Call key.
Emergency Alarm on.

PTT : Press PTT to send signal and release it to receive

Moni : Press Moni key to monitor working frequency

CALL : Press CALL to call your partner

Select Mode

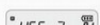
Hold down ENTER and turn on the power. The radio can switch between Channel and Frequency modes.
In Frequency mode, press VFO/MR key to switch between Frequency mode and "CHANNEL+FREQUENCY"(VFO) mode.

Store

In Frequency mode, select desired frequency or any other items such as CTCSS and DCS. Press MENU and then press VFO/MR key when the channel to be stored is blinking. Turn on encoder or input into keypad channel numbers to be stored. Press VFO/MR to confirm and exit.

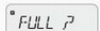
Delete

1. Deleting stored channel:
   In VFO mode turn off power.
   Hold down VFO/MR key and turn on power.
   "DEL?" and stored channel number will display on LCD. Turn on encoder or input into keypad numbers which need to be deleted. Press ENTER until "YES ?" displays, and press ENTER to delete the channel.



2. Deleting all settings in Frequency mode:
   Hold down MENU and turn on power until LCD displays "RESET?". Press ENTER until LCD displays "VFO?". Press ENTER to confirm and delete all settings in Frequency mode.

3. Deleting all settings:
   Hold down MENU and turn on power until LCD displays "RESET?". Press ENTER until LCD displays "VFO?". Turn the encoder to select "FULL?". Press ENTER to confirm and delete all settings in Frequency & VFO modes.



Selecting VOX sensitivity level

In Channel/Frequency mode, if you want to turn on VOX, press MENU and 3 VOX . Then, press ENTER until "VOX OFF" displays. Input the number on keypad (0-9) or turn the encoder to select the sensitivity level. Press enter. Press VFO/MR key to exit. "VOX OFF" is factory default setting.

Setting transmit power

In Channel/Frequency mode, hold down MENU and 4 POWER key. Press ENTER until "POW L" displays, which means Low Power. Turn the encoder until "POW H" appears, meaning High Power. Transmit power level is programmable using programming software.

Setting squelch

In Channel/Frequency mode, hold down MENU and 5 SQL . Press ENTER until "SQL 5" displays. Input the number on keypad (0-9) or turn on the encoder. Press ENTER . Press VFO/MR to exit. "SQL 5" is default factory setting.

Scrambler on / off

Hold down MENU and 6 SCR . Press ENTER so that "ON" displays. Turn the encoder to select ON/OFF and then press ENTER . Press VFO/MR to exit.

Backlight on/off

To turn backlight on: Hold down MENU and 7 LED . Press ENTER so that "ON" displays. Turn the encoder to select from ON, OFF, AUTO, and press ENTER . Press VFO/MR to exit.

Selecting backlight color

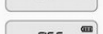
Hold down MENU and 8 COLOR . Press ENTER so that "LIGHT2" displays. Turn the encoder to select one color and then press ENTER . Press VFO/MR to exit. Three colors are selectable.

Beep on/off

To turn beep on, hold down MENU and 9 BEEP . Press ENTER so that "ON" displays. To shut beep turn the encoder until "OFF" displays. Press ENTER . Press VFO/MR to exit.

Automatic Numeral Identification (ANI) on/off

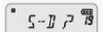
To show caller ID on display while the caller presses [PTT] switch: Hold down MENU and 0 ANI . Press ENTER so that "ON" displays. To turn off ANI turn the encoder until "OFF" displays. Press ENTER . Press VFO/MR to exit.

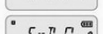


Plus / Minus difference between TX frequency and RX frequency

In Frequency mode, press MENU + *LOCK and then press ENTER. Turn encoder to select S-D 0(same), S-D +(plus), S-D-(minus).

Simplex → + → −





Selecting difference between TX frequency and RX frequency

This function is used to determine the difference between transmitting frequency and receiving frequency.
Press ENTER key and turn the encoder until "DIFFR ?" displays. Press ENTER key and input desired frequency. (Range from 00.000 to 70.995MHz). Press ENTER key to confirm.

Selecting frequency stepping

Press MENU key and turn the encoder until "STEP ?" displays. Press ENTER key and turn the encoder to select frequency stepping from 5k, 10k, 6.25k, 12.5k, 25k. Press ENTER to confirm. Press VFO/MR twice to exit.

Selecting CTCSS and DCS

In Frequency mode, press MENU and then press # T-A and ENTER. Turn encoder to select desired CTCSS or DCS. Press ENTER to confirm. (Press *LOCK key to switch CTCSS and DCS)

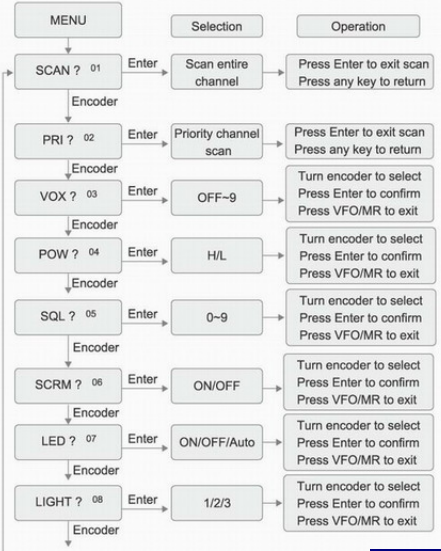
Operation voice

Press MENU key and turn encoder to "VOICE?14". Press ENTER to select open or closed voice. Press ENTER to confirm. Press VFO/MR to exit optional features in PC software.

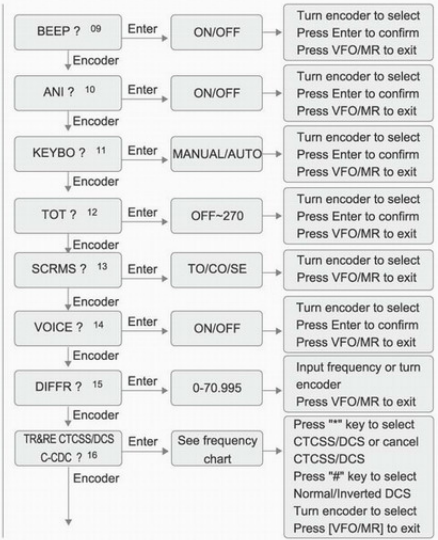
Menu Operation

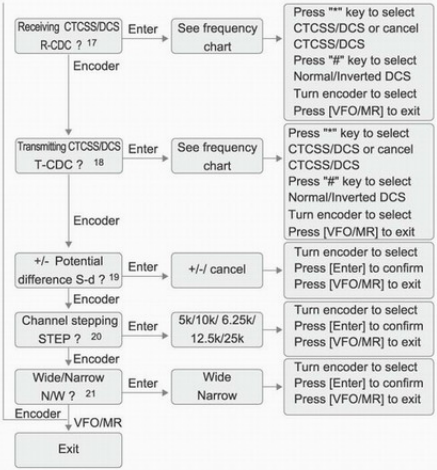
1. Press MENU in Menu mode.
2. Turn the encoder to selected menu.
3. Press ENTER and turn the encoder to set. Press ENTER key to confirm.
4. Press VFO/MR twice to exit Menu mode.

MENU OPERATION LIST



MENU OPERATION LIST





Note:

1. Items 16-21 available only in Frequency mode.
2. Item 15 pertains to Channel mode.

You can set the radio through self-programming.

Operation

1. To access self-programming mode, hold down (MONI) and MENU keys while turning on the VOL/POWER switch until "SELF" displays.

2. Press Enter key to start.
3. Press [ENTER] to store the data and continue to next function.

Items	Display (example)	Contents
Channels Items below are not available without setting "Channels"	CH-001 1	Channels from 1 to 128
Receiving frequency Items below are not available without setting "Receiving Frequency" It will return to "Channels" if "blank" is selected	 2	Blank. (Press VFO/MR)
	450000 2	67.0000MHz~549.9875MHz Press [CALL] key to select from 5k/10k/6.25k/12.5k/25k stepping
Receiving CTCSS/DCS (This item will be skipped without setting "Channels")	CT OFF 3	OFF
	CT 670 3	CTCSS (see CTCSS Frequency chart) 67.0Hz-250.3Hz {Notice: (1)}
	DCS d132N 3	DCS (see DCS Normal/Inverted chart) 023-754 Normal {Notice: (2)}
	DCS d132I 3	DCS (see DCS Normal/Inverted chart) 023-754 Inverted {Notice: (2)}

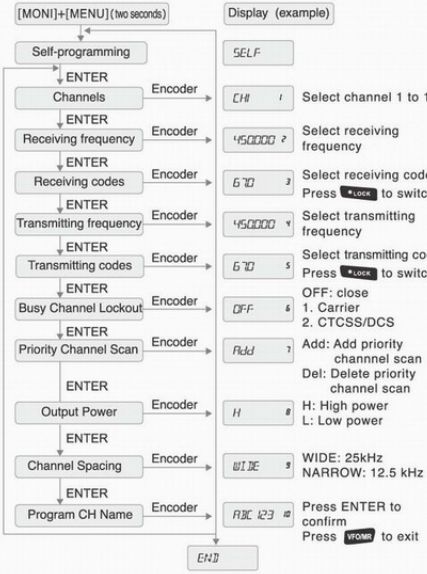
Transmitting Frequency	450000 4	Same as Receiving Frequency
Transmitting CTCSS/DCS (This item will be skipped without setting "Transmitting Frequency")	OFF 5	Press LOCK to select CTCSS/DCS. Turn encoder to select
Busy Channel Lockout	OFF 6	OFF：Close；1：Carrier 2：CTCSS/DCS
Add/Del Priority Channel Scan	Add 7	Del: Delete priority channel scan Add: Add priority channel scan
Output Power	H 8	H: High power L: Low power
Wide/Narrow	N W 9	Turn encoder to select Press [ENTER] to confirm Press [VFO/MR] to exit
Program Channel Name	ABC 123 10	Turn encoder to select Press T-A to confirm Press Enter to exit

Note:

1. Set Receiving/Transmitting codes
   Press LOCK key to select from OFF/CTCSS/DCS

2. Press T-A to set DCS Normal/Inverted

Self-Programming Chart



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	

TECHNICAL SPECIFICATIONS

General

Frequency Range	136-174MHz 400-470MHz 450-512MHz
Working Temperature	-20℃ ~ +50℃
Operating Voltage	DC 7.2V
Operating Mode	Simplex or Semi-duplex
Dimensions	100mm X 55mm X 32mm (Not including antenna)
Weight	220g (Including battery)
Antenna Impedance	50Ω

Transmitter

Frequency Stability	±2.5ppm
Output Power	≤5W
Max Frequency Deviation	≤5kHz
Audio Distortion	≤3%
Modulation Character	+3dB~-3dB
Adjacent Channel Power	≥65dB
Spurious Radiation	≤7.5μW
Occupied Bandwidth	≤16kHz

Receiver

RF Sensitivity	<0.2μV
Audio Distortion	≤3%
Audio Response	+2dB~-10dB
Adjacent Channel Selectivity	≥60dB
Intermodulation Rejection	≥60dB
Spurious Response	≥60dB
Blocking	≥85dB

* **Above technical specifications are for reference only.**

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 transmit nor receive	• Make sure you are using the same frequency and CTCSS/DCS 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 radios.
Other voices (besides group members') are present on the channel.	• Change the CTCSS/DCS tone. Be sure to change the tone on all radios in your group.

Safety Training Information

WARNING

Your PUXING 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 FCC 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 FCC 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 FCC 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 PUXING authorized accessories (antennas, batteries, belt clips, speaker/mics, etc). Use of unauthorized accessories can cause the FCC 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 PUXING 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.