GENERAL SERIES

User's Manual

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PRECAUTIONS BEFORE USING

Please read the User's Manual before using. It gives you important information about how to operate the portable radio.

Please put the radio and accessories where the children can not touch.

Maintenance can only be performed by professional technicians.

Please use the standard battery pack and charger in order not to destroy the radio.

Please use the standard antenna, in order not to shorten the distance.

Do not expose the radio to sunlight for a long period of time, nor put it near the heat,nor use it in a high temperature environment.

Do not put it in extreme dust nor wet or on unsteady surfaces.

Keep it dry. (Rain or moisture will erode the electronic board).

Do not transmit when the antenna is not installed.

If you find bad smell or smog, please turn off the radio immediately. And take the battery off the radio, then contact with QS agent.

FEATURES

- CTCSS
- DCS
- Scan function
- Dual-watch operation
- Reminder after transmitting
- H/L output power selective
- 200 channels
- PC programmable
- Channel name edit
- Busy channel lock (BCLO)
- VOX function
- Receiving signal indicator
- Battery capacity indicator
- 1750Hz call tone
- Voice prompt (Chinese and English)
- FM radio
- Cable clone
- Alarm function
- LCD backlight adjustable
- Squelch level adjustable
- Channel lock mode
- Channel scan list edit

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CHARGING NOTES(1)(2) ---- 02-03
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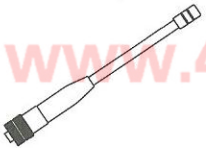
SUPPLIED ACCESSORIES

Carefully unpack the portable radio. We suggest that you check the following items before you throw away the packing materials.

STANDARD SUPPLIED ACCESSORIES

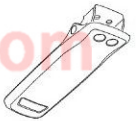
ITEM	QTY
Portable radio	1
Antenna	1
Belt clip	1
Battery charger	1
Adapter	1
Li-ion battery pack	1
User's manual	1

STANDARD SUPPLIED ACCESSORIES



Antenna

Li-ion battery pack



Belt clip

Battery charger

Adapter

User's manual

CHARGING NOTES(1)

Charging the battery pack:

- Battery packs are not charged when they are shipped. Charge them before use.
- Initially charging the battery pack after purchase or extended storage (longer than 2 months) will not bring the battery pack to its greatest capacity or its normal charge, which can be done only after repeated charging and discharging two or three times.
- The average use time of battery pack is 10 hours

1.After the battery is charged to its highest capacity, and then used on the radio. If the radio still shows low power, please change a new battery pack.

2.Do not short-circuit the battery terminals or throw the battery into fire.

3.Never attempt to remove the casing from the battery pack.

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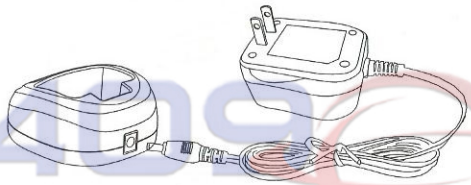
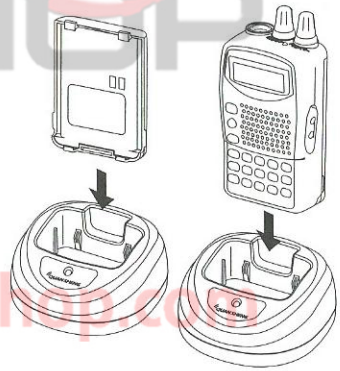
CHARGING NOTES(2)

- Plug the AC adapter into the back of the charger.Then plug the power cable of the charger into 220V power.



- Slide the Li-ion battery pack or radio with a Li-ion battery pack into the charger.

1 Make sure the battery pack is in connected with the charging terminals.
2 When charging begins, the RED LED light displays. When the battery pack is charged to its greatest capacity, GREEN LED light displays.



- After the GREEN LED light displays, take the battery pack or the portable radio out of the charger.

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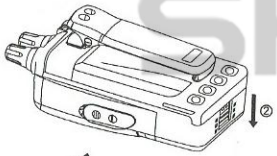
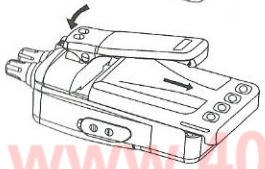
ATTACHING/RELEASING BATTERY PACK

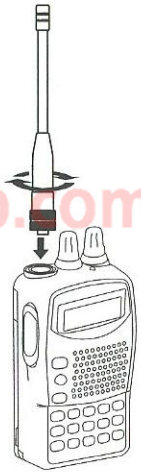
Slide the battery pack into the back of the radio in the direction of the arrow(①),then lock it with the battery release button.
Slide the battery pack until the battery release button makes a "clicking" sound.

Turn off the radio before releasing the battery pack.

- Push the battery release button in the direction of the arrow(②) as shown below.
- The battery pack is then released.







INSTALLING ANTENNA

- Attach the antenna to the radio as illustrated on the right.

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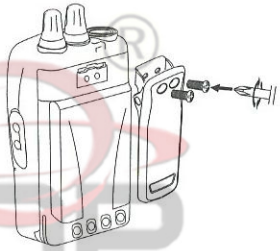
INSTALLING BELT CLIP

- Attach the belt clip with the supplied screws using a phillips screw driver.



To attach the belt clip

INSTALLING EXTERNAL SPEAKER/MICROPHONE

- Insert the speaker/microphone plugs into the speaker/microphone jacks.

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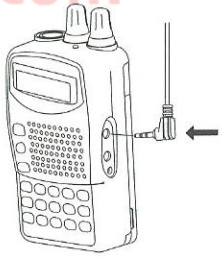
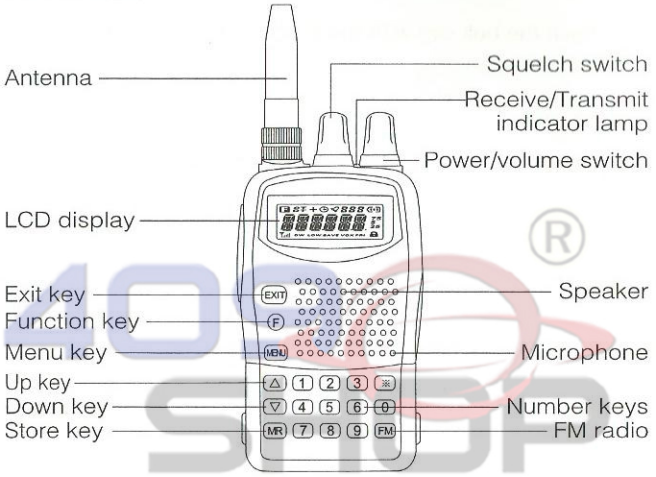
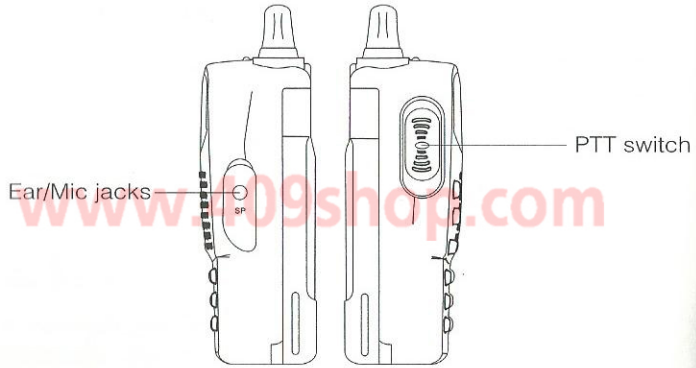
The radio is not fully rain-resistant while using the external speaker/microphone.



DIAGRAM





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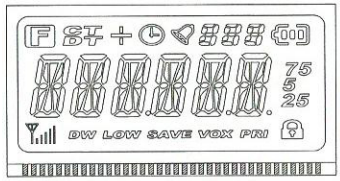
LCD DISPLAY



	Keypad lock
CT	CTCSS
DT	DCS
	Different frequency working modes
	Keypad tone
	Channel display
	Battery capacity
	Frequency display
F	Function
	Signal indicator
DW	Dual-watch operation
LOW	Low power
SAVE	Battery saving
VOX	VOX
PRI	Priority scan

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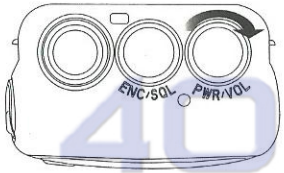
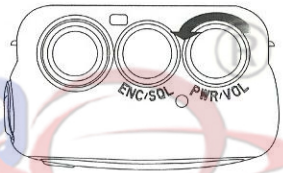
BASIC OPERATION

- Turn the Power/Volume knob clockwise to turn the power on. (As P-1)
- Turn the Power/Volume knob counter-clockwise to turn off the radio. (As P-2)

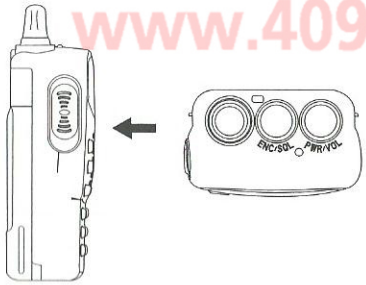


P-1



P-2

- To make a call, press and hold the"PTT" switch, then speak into the microphone in normal speaking tone. Hold the microphone approximately 1.5 inches (3-4cm) from your lips.
- Release"PTT"to receive signals.



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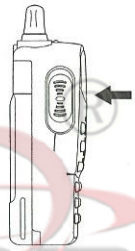
TRANSMITTING

- Press and hold the (PTT) key to make a transmitting.

Notice: If the frequency you set is over the range,the radio will "beep" when you press (PTT) key.



Transmitting indicator lighting during holding down (PTT) key. If you are too close to the microphone or your voice is too loud, it is not clear in receiving.

Setting output power

- Press (F) + (I) ,to choose the output power between "H" and "L"

- "H": High power

- "L": Low power

- PIs set low power to keep steady work and save battery.

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CHANNEL STORE

- Input frequency

  If the new frequency is hundreds of KHz or more from the current frequency, and you don't have the new frequency stored in any memory channels, pls input frequency directly by numeric keypad.

1 Press (MR);Inputting frequency only available in full frequency mode.

2 Pressing keys (0) ~ (9) to enter the desired frequency.

For example: Enter 409.750MHz

Press			Display
(4)	(0)	(9)	409.----
(7)	(5)	(0)	409.750

NOTICE: If you can not input the frequency accurately. Pls check whether you set the correct step frequency or not.

- In frequency mode, press (MR) for more than 2s ,then press (▲) or (▼) to choose the channel, press (MR) to confim.

Channel 0~199 are available.

CHANNEL STORE

- Choose store channel

1. In frequency mode,press (MR) for more than 2s to channel mode, then press (▲) or (▼) to choose the desired channel .
2. Press (MR) to confirm.

- Clear store channels

1. Choose the channel you want to delete, press (MENU) , then press (▲) or (▼) to enter MENU No.15 "DEL".
2. Press (F) ,then press (▲) or (▼) to choose "YES" then press (F) to confirm.
3. Press (EXIT) to return to channel mode.

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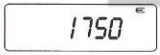
FAST MODE

All operations must be in frequency mode.

- Scan:
  Press (F) + (MR) to start scan function.

- TX Power:
  Press (F) + (1) to choose TX Power level at "H"and"L".

- 1750Hz Call Tone:
  Press (F) ,then press (PTT) to transmit 1750Hz call tone.



- FM Radio:
  Press (F) + (FM) , then press (▲) or (▼) to choose the FM frequency.

- Check RX CTCSS/DCS:
  Press (F) + (2) .

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FAST MODE

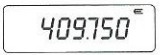
- Check TX CTCSS/DCS:
  Press (F) + (3) .

- Reverse Function:
  Press (F) + (5) , the RX and TX frequency will be exchanged.

- Dual-Watch Operation:
  Press (F) + (8), it displays " DW " to open the dual-watch function on channel 0 and the current channel . Press (EXIT) to exit.

- Alarm Function:
  Press (F) + (9) to send alarming, perss (PTT) to exit.

- Keylock Function:
  Press (F) more then 2s, keypad lock. the LCD display " ⊓⊓o ".Operate it again,the keypad unlock.



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WHAT IS A MENU?

- You can reset all the functions of this radio by MENU.

MENU SET UP

- Press (MENU) to enter Menu Set up.
- Press (▲) or (▼) to select the menu item.

1. Press (▲) or (▼) to select the menu item,the LCD displays the brief description and current parameter.
2. Press (F) to set the parameter of current menu.
3. Press (▲) or (▼) to choose your desired parameter.
4. Press (F) to store new set.

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MENU FEATURES LIST

NO.	MENU	SELECTIONS	DESCRIPTION	REMARK
1	STEP	5/6.25/10/ 12.5/25/50		*
2	sql	0-9	Squelch level	
3	vox	OFF,1-9	VOX function,9 is the highest	
4	rxcode	OFF,CT,DT		*
5	TXCODE	OFF,CT,DT		*
6	RPT	+/-_OFF		*
7	RPTSHF	0-70MHz		*
8	TXPOW	HI/LOW	High power / Low power	
9	display	FR/CH/NAME	FR:Frequency display CH:Channel number display NAME:Channel name display	
10	tot	OFF,1-10	Time-out-timer from1-10minutes, OFF is turning off	
11	blco	ON/OFF	ON:Busy channel lock	
12	W/n	W/N	W: Wide bandwidth(25KHz) N: Narrow bandwidth(12.5KHz)	*
13	beep	OFF/ON/VOICE	Keypad beep switch	
14	br	OFF/ON	Reminder after transmitting	
15	del	YES/NO	Channel delete	*
16	scan	OFF/ON	Scan switch	
17	bled	0-10	Display light adjustable, 10 is highest light	
18	reset	VFO/ALL	Reset	*

NOTICE: It's better to rotate the squelch potentionmeter to the end clockwise for avoiding the noise when you use the radio.

ASSISTANT FUNCTION

Busy Channel Lock Function

- This funtion is to avoid transmitting at the current used channels .

  When this function on, press (PTT) , the radio will beep, and LCD displays "BUSY" , it will not transmit.

Vox Function

- When this function on , the system will inspect your talking to the microphone and then it will automatically shift to transmitting mode without manual operation.
- Press (MENU) , then press (▲) or (▼) to choose Menu No.3 "VOX" .Press (F) ,then press (▲) or (▼) to choose from "off " / "1~9" levels.Press (F) to confirm.

1 "OFF" is turning off VOX function.

2 "1~9" is the VOX levels.

Time-Out-Timer (TOT)

- This feature allows more efficient use of channels by limiting the time of each transmission

1 Press (MENU),then press (▲) or (▼) to choose Menu No.10 "TOT".

2 Press (F), then press (▲) or (▼) to choose 1~10 levels.

Level "1" is 30s, and it will stop transmitiing after 30s.

3 Press (F) to confirm.

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ASSISTANT FUNCTION

Reset Function

- In frequency mode, press (MENU), then press (▲) or (▼) to choose Menu No.18 "RESET".
- Press (F) to choose "VFO".
- Press (F) to choose "YES", Reset is done.
- Choose "FULL" to reset completely .

Pc Programmable Function

Cable Cloning

- Connect master radio and sub-master radio with cable
- Press (MENU) and (PTT) , then turn the power on at the same time, it displays "COPY" .
- Press (PTT) of master radio , it begins to copy, the LED of submaster radio glitters.
- When clone finished, turn the power off .

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OPERATING THROUGH REPEATERS

- Most repeaters use an offset frequency between the reception and transmission.

  Some repeaters can ONLY receive the signal with correct tone of the radio.

  For details,consult your local repeater reference.

OFFSET PROGRAMMING FLOW

- Select a receive frequency.

- Select an offset direction

Firstly,confirm the transmission frequency is higher(+) or lower(-) than the reception frequency.

1 Press (MENU) ; then press (▲) or (▼) , select Menu No.6 "PRT" ;

2 Press (F) ; then press (▲) or (▼) , select "OFF" / "-" / "+" ;

3 Press (F) to confirm.

- Select an offset frequency

1 Press (MENU) ; then press (▲) or (▼) , select Menu No.7 "PRTSHF"

2 Press (F) , then keypad frequency input directly. The selectable range is from 0-70MHz

3 Press (F) to confirm.

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- Activating/Receiving CTCSS or DCS

1 Press (MENU) , then press (▲) or (▼) to Menu No.4;

2 Press (F) , it displays OFF , then press (MR) , it displays CT code, then press (▲) or (▼) to choose CT code;

3 Press (F) to confirm.

- DCS

1 Press (F) + (MR) , it displays DCS code , then press (▲) or (▼) to choose DCS code .

2 Press (F) to confirm.

- Activating/Transmitiing CTCSS or DCS

1 Press (MENU),then press (▲) or (▼) to Menu No.5.

2 The following is the same opreation of Receiving CTCSS/DCS.

REVERSE FUNCTION

- Setting this function, the receive frequency is exchanged with the transmit frequency.

When used a repeater, it's possible to check the signal strength of a station accessing the repeater. If the signal of the station is strong, it's best to move to a simplex frequency to continue the contact and free-up the repeater.

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In frequency mode, press (F) + (5) to turn NO/OFF the reverse fuction.

CTCSS

01	67.0	18	118.8	35	183.5
02	69.3	19	123.0	36	186.2
03	71.9	20	127.3	37	189.9
04	74.4	21	131.8	38	192.8
05	77.0	22	136.5	39	196.6
06	79.7	23	141.3	40	199.5
07	82.5	24	146.2	41	203.5
08	85.4	25	151.4	42	206.5
09	88.5	26	156.7	43	210.7
10	91.5	27	159.8	44	218.1
11	94.8	28	162.2	45	225.7
12	97.4	29	165.5	46	229.1
13	100.0	30	167.9	47	233.6
14	103.5	31	171.3	48	241.8
15	107.2	32	173.8	49	250.3
16	110.9	33	177.3	50	254.1
17	114.8	34	179.9		

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DCS

1	D023N	19	D116N	37	D225N	55	D325N
2	D025N	20	D122N	38	D226N	56	D331N
3	D026N	21	D125N	39	D243N	57	D332N
4	D031N	22	D131N	40	D244N	58	D343N
5	D032N	23	D132N	41	D245N	59	D346N
6	D036N	24	D134N	42	D246N	60	D351N
7	D043N	25	D143N	43	D251N	61	D356N
8	D047N	26	D145N	44	D252N	62	D364N
9	D051N	27	D152N	45	D255N	63	D365N
10	D053N	28	D155N	46	D261N	64	D371N
11	D054N	29	D156N	47	D263N	65	D411N
12	D065N	30	D162N	48	D265N	66	D412N
13	D071N	31	D165N	49	D266N	67	D413N
14	D072N	32	D172N	50	D271N	68	D423N
15	D073N	33	D174N	51	D274N	69	D431N
16	D074N	34	D205N	52	D306N	70	D432N
17	D114N	35	D212N	53	D311N	71	D445N
18	D115N	36	D223N	54	D315N	72	D446N

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73 D452N	91 D627N	109 D032I	127 D132I
74 D454N	92 D631N	110 D036I	128 D134I
75 D455N	93 D632N	111 D043I	129 D143I
76 D462N	94 D654N	112 D047I	130 D145I
77 D464N	95 D662N	113 D051I	131 D152I
78 D465N	96 D664N	114 D053I	132 D155I
79 D466N	97 D703N	115 D054I	133 D156I
80 D503N	98 D712N	116 D065I	134 D162I
81 D506N	99 D723N	117 D071I	135 D165I
82 D516N	100 D731N	118 D072I	136 D172I
83 D523N	101 D732N	119 D073I	137 D174I
84 D526N	102 D734N	120 D074I	138 D205I
85 D532N	103 D743N	121 D114I	139 D212I
86 D546N	104 D754N	122 D115I	140 D223I
87 D565N	105 D023I	123 D116I	141 D225I
88 D606N	106 D025I	124 D122I	142 D226I
89 D612N	107 D026I	125 D125I	143 D243I
90 D624N	108 D031I	126 D131I	144 D244I

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145 D245I	163 D346I	181 D464I	199 D662I
146 D246I	164 D351I	182 D465I	200 D664I
147 D251I	165 D356I	183 D466I	201 D703I
148 D252I	166 D364I	184 D503I	202 D712I
149 D255I	167 D365I	185 D506I	203 D723I
150 D261I	168 D371I	186 D516I	204 D731I
151 D263I	169 D411I	187 D523I	205 D732I
152 D265I	170 D412I	188 D526I	206 D734I
153 D266I	171 D413I	189 D532I	207 D743I
154 D271I	172 D423I	190 D546I	208 D754I
155 D274I	173 D431I	191 D565I	
156 D306I	174 D432I	192 D606I	
157 D311I	175 D445I	193 D612I	
158 D315I	176 D446I	194 D624I	
159 D325I	177 D452I	195 D627I	
160 D331I	178 D454I	196 D631I	
161 D332I	179 D455I	197 D632I	
162 D343I	180 D462I	198 D654I	

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SPECIFICATIONS

GENERAL

Frequency Range	VHF:136~174MHz or UHF:400~470MHz
Frequency Sensitivity	5ppm
Memory Channel	200
Antenna Impedance	50Ω
Loudspeaker Impedance	4Ω
Dimensions	80mmX50mmX30mm

TRANSMITTER

Output Power	5W
Modulation Mode	16KΦF3E
Max Frequency Deviation	5KHz
Remanent Radiation	≤7μW
Audio Characteristics	6dB/per fold
Adjacent Channel Function	65dB
Emission Current	≤1.4A (H)
CTCSS/DCS Frequency Deviation	0.75KHz
Modulation Sensitivity	12mV
Modulation Distortion	≤5%

RECEIVER

RF Sensitivity	-121dB (12dB SINAD)
Receiver Bandwidth	5KHz (W)
Audio Frequency Power	0.25W
Audio Distortion	≤10
Blocking	85dB

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All stated specifications are subject to change without notice or obligation.