

Thanks for buying the series transceiver.

This transceiver offers novel design, enhanced features, solid performances and easy accessibility. We believe you will be pleased with the high quality and dependable features for all your communication needs.

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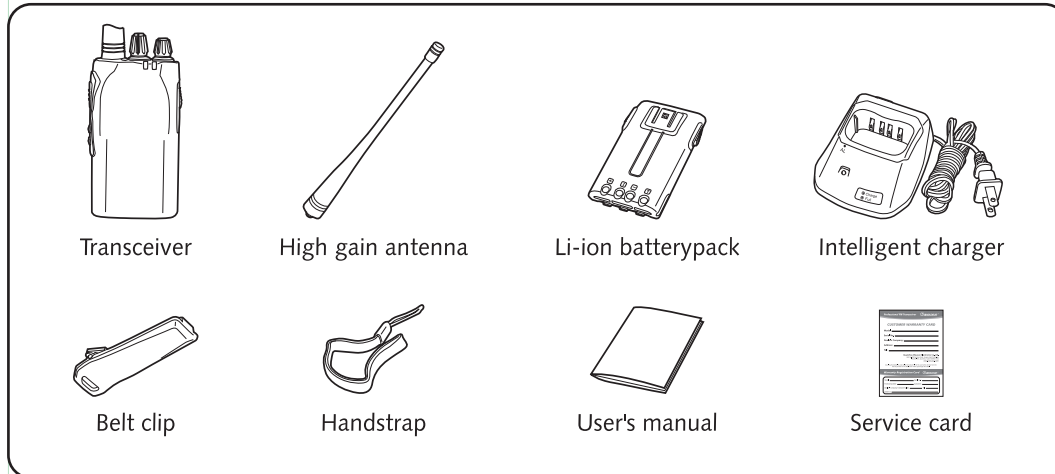
Professional FM Transceiver

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Unpacking and checking of your equipment

Carefully unpack the transceiver. We recommend that you identify the items in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, please notify your dealer.

Supplied accessories



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Description of functions

Professional FM Transceiver

1. VHF: 136-174MHz
UHF: 350-390MHz
UHF:400-470.9875MHz
2. Output power: 5W(VHF)/4W(UHF)
3. Transmit voice prompt
4. 16 memory channels
5. Distant urgency alarm function
6. DTMF encoding and decoding
7. VOX
8. Priority scan
9. CTCSS/D.C.S
10. Voiceguide (Chinese/English)
11. Wide/Narrow bandwidth selection (25KHz/12.5KHz)
12. Digital FM radio
13. High/Low power changeable
14. High capacity Li-ion battery pack
15. Intelligent charger
16. Wire clone
17. Multi scan modes
18. Busy channel lockout
19. Low voltage voice prompt
20. Transmit overtime prompt
21. Adding scanning channel
22. Computer programmable

02

Getting started

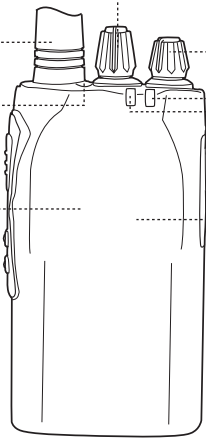
Description of transceiver

Channel selector

Antenna

Distant urgency alarm key

Speaker



Power / Volume switch

Receiving light

Transmitting light

Mic

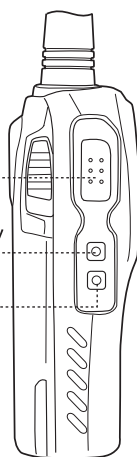
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Professional FM Transceiver

PTT (Push-To-Talk) key

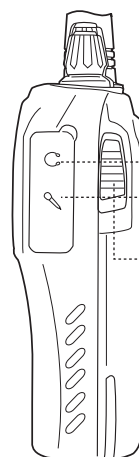
Side key 1: FM radio/Scan key

Side key 2: Monitor key



Speaker/Microphonejacks

Battery pack latch



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Programming assistant functions

It is able to program below miscellaneous functions on the sidekey PF1/topkey via programming software as needed.

- Turn on/off FM radio
- Turn on/off scan function
- Turn on/off alarm function

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Basic operations

Professional FM Transceiver

Adjust volume

Turn the Power / Volume switch clockwise to switch the transceiver power ON, and rotate this knob to adjust the volume. While counterclockwise rotating is to turn off the power.

Selecting channel

Rotate the channel selector to select your desired channel. Clockwise rotating is to increase channel number, while counterclockwise rotating is to reduce channel number and you will hear an announcement of current channel number.

Monitor key

The transceiver will announce the current channel number when pressing PF2 to activate the monitor function, and it will activate the squelch function when long pressing PF2 for 2 seconds.

NOTE

» All functions ONLY can be edited via the matching programming software.

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How to operate

CTCSS and DCS

This transceiver has CTCSS (Continuous Tone Controlled Squelch System) and DCS (Digitally Coded Squelch) functions. It means the transceiver can ignore the needless calling from other transceiver even though they operate on the same frequency via using CTCSS or DCS. ONLY the same CTCSS tone or DCS code signals are received, the transceiver squelch can be released.

NOTE

» CTCSS or DCS can not make the voice concealed or encrypted, but only keeps the transceiver from other needless callings.

Digital FM radio

Turn on the Radio: Press side key PF1 (The default value of the radio key set is the radio mode.), the receiving light flickers green and it will search the radio station automatically. When it accomplishes the search and starts up the radio listening, the green light stops.

Operate the radio: Press SQL button, it means the transceiver is tuning the radio station (The radio can be tuned to the listening station automatically) and the receiving light flickers green

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during the station turning.

Turn off the radio: Press PF1 key to turn off the FM radio function in radio mode.

NOTE

- » The transceiver is still in Transmitting/Receiving standby when the radio is on. It goes back to the Transmitting/Receiving mode when receiving the signals, and return back to the radio mode after the signal disappears.
- » Pressing PTT key to transmit or changing channels after 5 seconds, the transceiver will automatically return to FM radio mode.

Transmit voice prompt

This function is to choose the options of voice prompt for transmitting.

OFF: No voice prompt for the beginning/ending transmitting.

BOT: Press PTT, voice prompt for the beginning transmitting.

EOT: Press PTT, voice prompt for the ending transmitting.

BOTH: Press and release PTT, voice prompt for the beginning/ending transmitting.

Setting battery pack save mode (SAVE)

The SAVE function is chosen, if there are no receiving signals or any other operations for 10 seconds on

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How to operate

the transceiver, the transceiver will activate the SAVE function automatically. In order to reduce the power consumption, this function can make the transceiver cut off the receiver circuit for the moment, then re-open to detect signals for a while. If there are any receiving signals or operations, the transceiver will be activated immediately and exit from the SAVE mode.

Battery capacity prompt

There are 4 situations to estimate the battery capacity, when you re-start the transceiver, the green light for receiving flashes four times, it means the capacity is very full.
the green light for receiving flashes three times, it means the capacity is full.
the green light for receiving flashes two times, it means the capacity is not full.
the green light for receiving flashes one times, it means the capacity is low.
the red light for receiving flashes four times, it means the capacity is empty and the battery need to be charged or recharged.

Selecting transmitting power

Press PTT and topkey at the same time, to switch the transmitting power between High and Low power.

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NOTE

- » If the transmitting light flashes red once, it means the transceiver is working in LOW power.
- » If the transmitting light flashes red twice, it means the transceiver is working in HIGH power.
- » This function is temporarily for the current power switching operation.

Transmit over timer

This function is to prevent any transmitter from being busy line or transmitting over time. Meanwhile, it protects the transceiver from being damaged because of the overtime transmitting. If the transceiver continually transmits over the set time, the transmitting will be interrupted with the voice prompt. This transceiver can be set in 40 levels with 15 seconds each, between 15 and 600 seconds.

Setting scan function

This function is a mode for receiving all communicating channels without missing. Press PF1 (in scan mode), the transceiver starts scanning one by one according to the scan order. Once the transceiver detects signals, it will switch to the detected channel for receiving.

This transceiver has the adding channel scan function, to enable to be defined into the desired channels.

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How to operate

How to scan

The transceiver stops scanning when detecting the signals on the frequency or memory channel. It will continue or stop scanning according to the three options as below:

TO: After searching the signals, the transceiver continues scanning if there are no operations within 5 seconds. Press PTT, it transmits the channel specified by encoder. After transmitting, the scanning stops too.

CO: The transceiver stops scanning when detecting signal, and continues scanning 3 seconds after the signal disappears. Press PTT, it transmits the channel specified by encoder. After the transmission, it stops scanning.

SE: The transceiver stops scanning when detecting signal. Press PTT, it transmits the scanned channel. If there are still no operations in 10 seconds after the transmission, it will be back to transmit the channel specified by encoder.

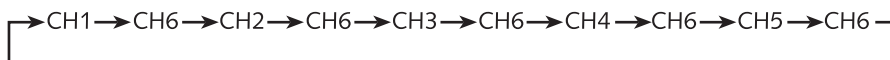
Setting priority scan function

If you want to monitor the other frequency and check the certain preferred frequency at the same time, you can set priority scan function.

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E.G.: Scan six common channels CH1, CH2, CH3, CH4, CH5, CH6 and set CH6 as the priority scanned channel.

Scanning sequence as following chart:



If the transceiver detects signal on Priority Channel, it will call out its frequency.

Select the priority channel via programming software.

Adding scanning function

NOTE

- » Only the added scanning channel can be listed to scan.
- » Edit method: Strictly via programming software.

Busy Channel lockout

The function is to prevent the interference from other communicating channels. If the channel is in busy line and pressing PTT, the transceiver will not transmit signal but sound the alarm prompt.

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How to operate

VOX function (VOX)

This transceiver will switch to the transmitting mode when detecting the voice signal.

The transmitting operation will somewhat be delayed, and the voice signal information may be not transmitted at the first beginning, since there needs some time for the VOX circuit to detect the voice signal.

There are 10 levels for the VOX of this transceiver. The higher level VOX is set, the less sensitive the transmitting is.

Setting voice guide (VOICE)

This transceiver has Chinese and English selectable for the voice guide.

Receiving/Transmitting frequency programable

The receiving/transmitting frequencies can be editable accordingly within the original frequency range.

Low voltage voice prompt

When the battery pack is on low voltage, the transceiver will sound voice prompt to remind of being charged timely.

Wire clone function

Using wire clone	a. Installing battery packs on source radio and target radio and connect them via wireclone cable. b. And then power target radio on c. Power on the source radio and hold on the MONI key at the same time. d. Red LED on the source radio flashes, while the green LED on the target radio flashes, it shows the wire cloning is completely starts up.	Transmitting red LED flashing means transmitting data when wire cloning. Transmitting red LED distinguishes after completing wireclone, and the transceiver returns to standby. Transmitting red LED lasting flashing means the wireclone is failed and the transceiver returns to standby mode.
	Target radio	Receiving green LED flashing means receiving data when wire cloning. Receiving green LED extinguishes after completing wireclone, and the transceiver returns to standby.

How to use the intelligent charger

1. Insert the AC plug into the electric fence outlet (AC: 90-240W), the indicator flashes, it means the charger enters charging standby.
2. Insert the battery into the charger, the RED LED lasts flashing, it means charging is on the progress. While GREEN LED lasts flashing, it means the charging completes.

How to operate

NOTE

- » When inserting the exhausted battery pack into the charger, it will pre-charge the battery pack in trickling. Meanwhile the RED LED flashes, and the process will last 10-20 minutes. And then the charging is normal. RED LED will last flashing till the charging is full. And GREEN LED will flash.
- » Trickling charging the exhausted battery pack can protect the lithium battery pack better.

Trouble shooting

Professional FM Transceiver

Please check your transceiver carefully according to the below chart before making sure that the transceiver is faulty. If the problems continuously exist, please reset your transceiver to correct your wrong operation sometimes.

Problem	Solution
Cannot power on, no power supply	<ol style="list-style-type: none">1. The battery may be exhausted, please charge or recharge.2. The battery is installed wrongly, please remove the battery and reinstall.
Battery pack can't work too long	<ol style="list-style-type: none">1. The battery life is over, please change battery.2. Not charging completely, please make sure the battery pack is fully charged before removing.
Receiving light continually flashes, but no sound from speaker	<ol style="list-style-type: none">1. Make sure the volume is maximum.2. Make sure if the CTCSS/DCS is the same with the other members, please recheck and reset.

Trouble shooting

Problem	Solution
In standby, the transceiver transmits automatically without pressing PTT key.	Check if the VOX function is on and its level setting is too low.
Some functions cannot be memorized	Check if the transceiver work in channel mode. Some functions only can be memorized via programming software in channel mode.
Receiving signals from other groups while communicating	Please change the CTCSS/DCS frequencies for all group members.

Technology parameter

Professional FM Transceiver

Appendix 1

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

Appendix 2

DCS									
1	D023N	16	D074N	31	D165N	46	D261N	61	D356N
2	D025N	17	D114N	32	D172N	47	D263N	62	D364N
3	D026N	18	D115N	33	D174N	48	D265N	63	D365N
4	D031N	19	D116N	34	D205N	49	D266N	64	D371N
5	D032N	20	D122N	35	D212N	50	D271N	65	D411N
6	D036N	21	D125N	36	D223N	51	D274N	66	D412N
7	D043N	22	D131N	37	D225N	52	D306N	67	D413N
8	D047N	23	D132N	38	D226N	53	D311N	68	D423N
9	D051N	24	D134N	39	D243N	54	D315N	69	D431N
10	D053N	25	D143N	40	D244N	55	D325N	70	D432N
11	D054N	26	D145N	41	D245N	56	D331N	71	D445N
12	D065N	27	D152N	42	D246N	57	D332N	72	D446N
13	D071N	28	D155N	43	D251N	58	D343N	73	D452N
14	D072N	29	D156N	44	D252N	59	D346N	74	D454N
15	D073N	30	D162N	45	D255N	60	D351N	75	D455N

DCS									
76	D462N	82	D516N	88	D606N	94	D645N	100	D723N
77	D464N	83	D523N	89	D612N	95	D654N	101	D731N
78	D465N	84	D526N	90	D624N	96	D662N	102	D732N
79	D466N	85	D532N	91	D627N	97	D664N	103	D734N
80	D503N	86	D546N	92	D631N	98	D703N	104	D743N
81	D506N	87	D565N	93	D632N	99	D712N	105	D754N

Technology parameter

Frequency range	VHF: 136-174MHz
	UHF: 350-390 MHz
	UHF: 400-470.9875 MHz
Memory channels	16 channels
Operating voltage	7.4V
Operating temperature	-30°C to 60°C
Working mode	Co-channel or Dis-channel Simplex
Output power	VHF: 5W/UHF: 4W
Mode modulation	FM (F3E)
Maximum frqueency deviation	< ±5KHz
Spurious radiation	< -60dB
Frequency stability	±5 ppm
Reveive sensitivity	<0.2 μV
Audio output power	> 500mW
Weight	242g
Dimension	62 X 103 X 39 (mm)

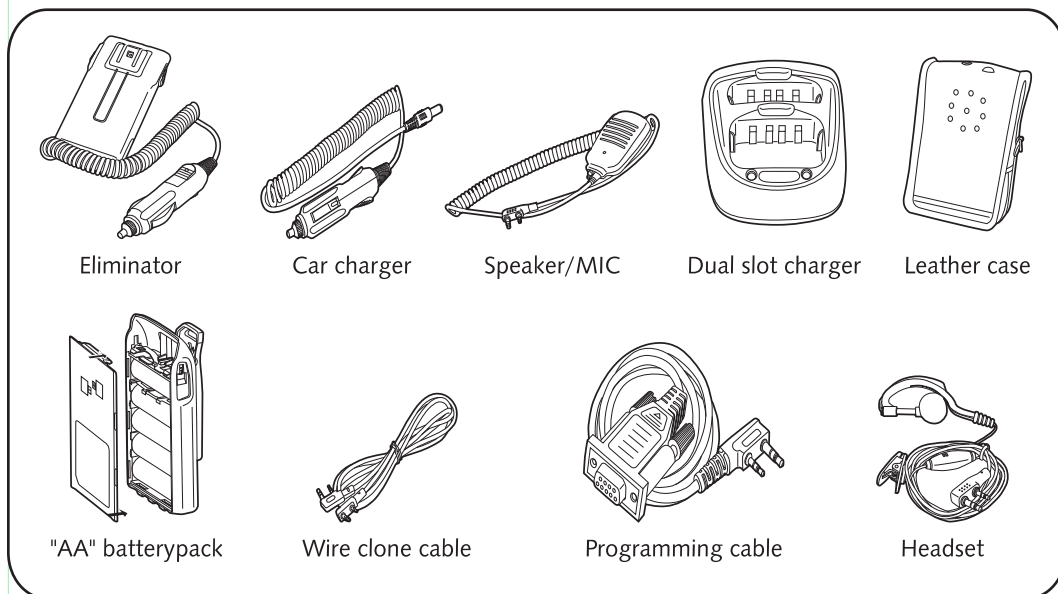
NOTE

» Specifications are subjected to be revised without prior notice.

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Technology specification

Professional FM Transceiver



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Announcement

We endeavor to achieve the accuracy and completeness of this manual, but is still not perfect for any possible omission or printing errors. All the above specifications are subject to be revised without prior notice.

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