User Manual

UHF FM TRANSCEIVER
SC1000

SAFETY AND GENERAL INFORMATION

Important Information for Safe and Efficient Operation
Please read this information before using your radio.

Safety and General

1. Do not transmit more than 50% of time. It is important as the radio generates measurable RF energy exposure only when transmitting.
2. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.
3. Radio frequency signals transmitted may cause interference to hearing aids.
4. Turn off the radio when near medical equipment.
5. This product should not be used by people with pacemakers.
6. Do not use the radio when driving a vehicle or operating machinery.
7. Do not use the radio when on board aircraft.
8. Do not hold the antenna when transmitting.
9. Do not use the radio when the antenna has damaged.
10. Turn off the radio and remove the batteries if you are not going to use it for a long time.

Two-way Radio Operation

The device was tested for typical body-worn operations using the supplied belt-clip. To maintain compliance with FCC RF exposure requirements, body-worn operations are restricted to the supplied belt-clip.For hand-held operation, the radio should be held at least 1 inch (2.5cm) from the user's face. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements and should be avoided. For more information about RF exposure, please visit the FCC web site at www.fcc.gov.

OPERATIONAL CAUTIONS

1. Never dispose of batteries in a fire. There is a serious risk of explosion and /or the release of highly toxic chemicals.
2. Do not expose your product to direct sunlight, extreme cold or place it near heating appliances.
3. Do not submerge any part of your product in water and do not use it in damp, humid or wet conditions.
4. Do not expose your product to fire, explosive or other hazardous conditions. For example, at petrol stations or areas where explosive products are used.

FCC LICENSING INFORMATION

This two-way radio operates on FRS (Family Radio Service) frequencies which require an FCC (Federal Communications Commission) license. A user must be licensed prior to operating on any FRS channels. Serious penalties could result for unlicensed use of FRS channels, in violation of FCC rules, as stipulated in the Communications Act's Sections 501 and 502 (amended).

Licensed users will be issued a call sign by the FCC, which should be used for station identification when operating this radio. FRS users should also cooperate by engaging in permissible transmissions only, avoiding channel interference with other FRS users, and being prudent with the length of their transmission time.

Application for a FRS system license can be made on FCC Form 605. You can call **the FCC Forms Hotline** 1-800-418-FORM (3676). If You Have Questions about the **FCC License: Call the FCC** 1-888-CALL-FCC (225-5322).

Note: Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

Warning: Any adjustment to this equipment is recommended to be performed by or under the immediate supervision and responsibility of a person certified as technically qualified to perform transmitter maintenance and repair duties in the private land mobile services and fixed services by an organization or committee representative of users of those services.

Warning: Replacement of any transmitter component (crystal, semiconductor, etc.) for this equipment could result in violation of FCC rules.

Use only the supplied antenna. Unauthorized antennas, modifications, or attachments could damage the transmitter and may violate FCC regulations.

FCC STATEMENTS:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are

designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
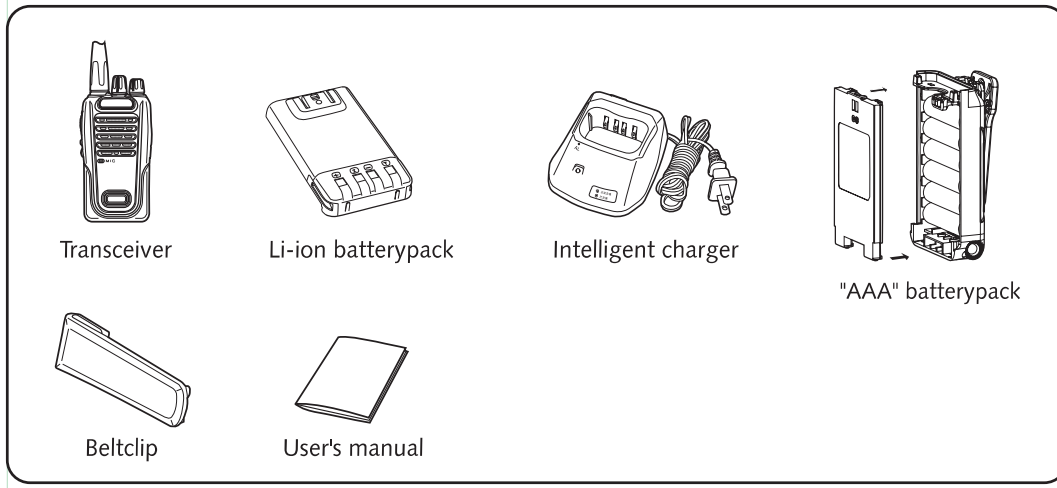
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.
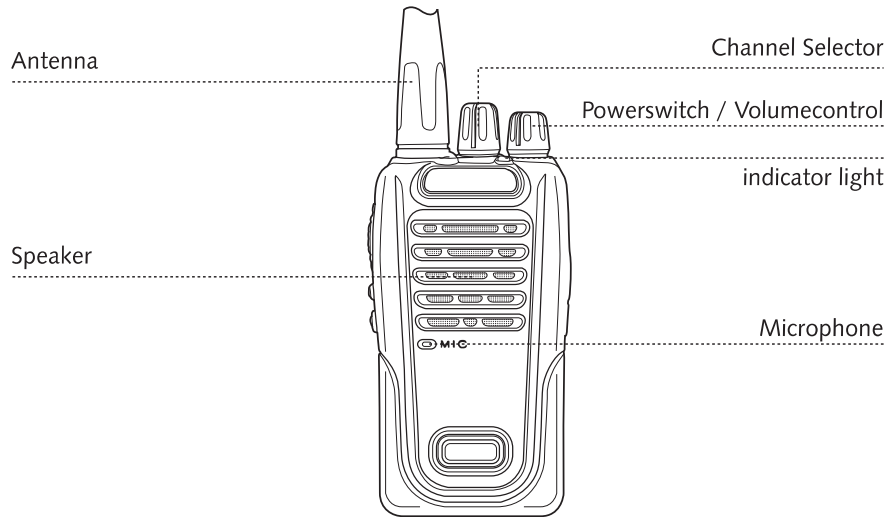
Unpacking and checking of your equipment

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 scrambler dealer.
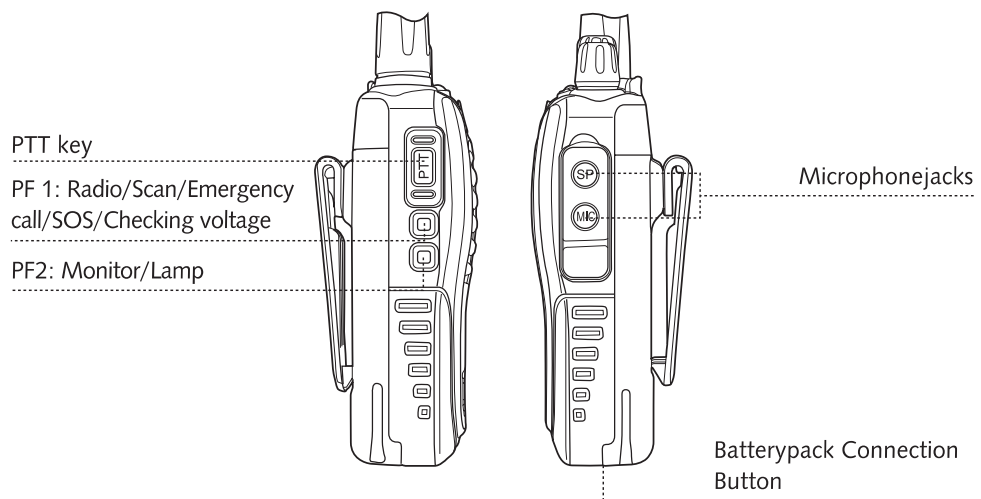
Supplied accessories

Transceiver   Li-ion batterypack   Intelligent charger

"AAA" batterypack

Beltclip   User's manual

Description of transceiver

Antenna

Channel Selector

Powerswitch / Volumecontrol

indicator light

Speaker

Microphone

PTT key

PF 1: Radio/Scan/Emergency call/SOS/Checking voltage

PF2: Monitor/Lamp

Microphonejacks

Batterypack Connection Button

Low-voltage alarm	Two toots, a toot every 5 seconds
transmit	Red light flash

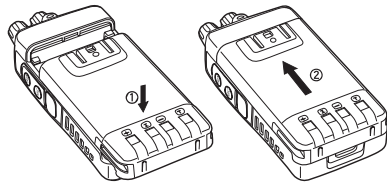| receive	Green light flash

■ **Install/Remove Batterypack**

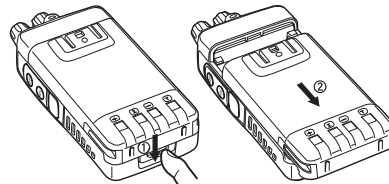The batterypack was not fully charged before leaving factory. Please charge it before use.

NOTE ⚠

≫ Don't shortcircuit of the terminals or put the batterypack into fire.

≫ Don't try to remove the case from the battery pack.

1. Please aim the batterypack at the back of the transceiver, and then push up the batterypack and the transceiver till the connection button on the bottom of the transceiver locked. (PIC1)

2. If you want to remove the batterypack, psh down the connection button on the bottom of the transceiver, and push the batterypack up the transceiver. (PIC2)

PIC1   PIC2

Professional FM Transceiver

User can, as required, set the following assistance functions for side key 1 through SC1000 programming software:

■ No definition

|
|
|

■ Checking voltage

1. Rotate the power switch / volume control knob Clockwise, connecting the radio power. Then adjust the volume by the rotation. Power off if counter-clockwise.
2. Rotating the encoder knob to select the desired channel. Clockwise rotation can raise the channel number while counter-clockwise rotation lowers the number. The encoder also can hear the trumpet of the current channel.

Function operation and specification

NOTE ⚠

>> All the function operation is set by SC1000 programming software.

CTCSS & D.C.S

This radio is equipped with CTCSS (Continuous Tone Controlled Squelch System) and D.C.S (Digital Controlled Squelch) functions. Only receiving the same CTCSS tone or D.C.S code, the radio will remove mute ignoring other unnecessary calling from the same frequency.

NOTE ⚠

>> CTCSS or D.C.S cannot be a scrambler but just help you out of the redundant voice.

Transmit overtime Timer

Transmit overtime timer is the setting to limit the continued long-term Tx of the two-way radio. The Tx will be forced to break off when the transmitting time is preset. This function can protect the radio from over-heating. The maximum time limit is 10 minutes, and the factory set is 1 minute.

Transmit Overtime Alarm

Transmit overtime alarm is the setting to alarm the user that he/she has reached the preset time.

The radio has 10 levels, each level is 1 second.

Red light will flicker during transmit.

Battery Save Mode

To save battery, this function can turn off the receiver a certain time then turn on to check the signal.

Without having received the signal or to operation, this feature can reduce the battery consumption.

Power-on Message

1. If you need to know the power on message of this transceiver, resume it. When the green light:

    Flashes 4 times-----means the power is full display;

    Flashes 3 times-----means the power is less than full;

    Flashes 2 times-----means the power is not full display;

    Flashes 1 times------means the power is a little low.

    When the red light flashes 4 times----means the power is very low, you'd better to change the
    battery or recharge the transceiver.

2. When press the side key 1 to program View Power, it shows the current power capacity.

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VOX

When the voice shows, the transceiver will switch to transmit mode automatically.

As the VOX should check the voice, transmitting will be a little delaying, and the beginning of the voice may not be transmitted.

The VOX of this transceiver has 10 levels. The higher the level is, the less sensitive the VOX is.

Manual setting:
Tuning channel number at 16, press and hold PF1 and turn ON power to enter the VOX level setting. Red light flashing, it shows you can select your desired VOX level at OFF, 1—10 (OFF: a double beep sounds, 1-10: the current level voice prompt)
Press PTT key to store and exit this setting.

Begin/End transmitting Voice Prompt

This function means to select transmitting voice prompt way.

OFF: turn off this function, without any voice prompting.

BOT: press PTT, voice prompt when begin transmitting

EOT: release PTT, voice prompt when end transmitting.

BOTH: press and release PTT, voice prompt.

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Busy Channel Locked

This function is to prevent the interference of other communicating channels. If the selected channel was occupied, press PTT, the transceiver can not transmit.

Low-voltage battery Voice Prompt

When the battery pack has low voltage, the transceiver will sound" low battery pack", and the LED will flash every 5 seconds and a "click" sounds.

Voice scrambler

Voice scrambler means encrypt the content of communication, switch on encrypt function, and make the transceiver who do not set voice encrypt compress can not hear clear what you are talking, meanwhile you also cannot hear clear others, who do not set voice encrypt compress, what they are talking.

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Wireclone cable

	Switch sourceradio on, after you have connected the targetradio to the sourceradio via the cloningcable, push the [MONI] key and the sourceradio starts cloning.	LED is flashing red during cloning. LED goes out in case of successful cloning. LED glows continuous red in case of Cloning failure.
Using Wireclone		
	Targetradio	LED is flashing green during cloning LED will switch OFF when cloning complete.

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How to Use the Intelligent Charger

1. Insert the AC plug into the outlet (AC: 90-240V), the charger indicator flashes, it means enter charging standby.
2. Insert the battery into the charger, the RED indicator turns on, it means charging, while GREEN indicator turns on, it means fully charged.

NOTE ⚠

≫ When insert the exhausted battery pack into the charger, it pre-charger the battery pack in trickling charge, meanwhile, the RED light flashing and lasts 10 to 20 minutes, then enter normally charging with RED light on, it will turn to GREEN when fully charged.

≫ Trickling charge the exhausted battery pack in case to protect the Li-ion battery.

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Trouble shooting

Please check carefully if your transceiver has problems by following this chart.
If you maintain to have trouble you can reset your transceiver and very often this will eliminate your problem.

Problem	Possible Cause	Possible Solution
Transceiver will not switch on.	1. The batterypack is not installed properly. 2. The batterpack maybe exhausted. 3. The batterypack is getting too old	1. Re-install the batterypack. 2. Charge the batterypack. 3. Change the batterypack.
The receiver light is on and there is no sound from the speaker.	1. The powerswitch is not adjusted well. 2. Confirm if you use the right mutemode.	1. Turn the volume control again. 2. Reset the mutermode.
There is no reception	1. Check if you have installed your antenna right. 2. The signal you are receiving is very weak.	1. Install the supplied antenna. 2. Move the radio around till you receive the desired signal.

Problem	Possible Cause	Possible Solution
The RX light is on, but no transmitting	1. Check whether you set the forbidden transmitting function.	1. Turn off the forbidden transmitting function.
Transmit automatically when it is in standby.	1. Check whether the VOX level is too low.	1. Turn off the VOX function, or set the VOX level to high state.

CTCSS

CTCSS							
1	67.0	11	97.4	21	136.5	31	192.8
2	71.9	12	100.0	22	141.3	32	203.5
3	74.4	13	103.5	23	146.2	33	210.7
4	77.0	14	107.2	24	151.4	34	218.1
5	79.7	15	110.9	25	156.7	35	225.7
6	82.5	16	114.8	26	162.2	36	233.6
7	85.4	17	118.8	27	167.7	37	241.8
8	88.5	18	123.0	28	173.8	38	250.3
9	91.5	19	127.3	29	179.9		
10	94.8	20	131.8	30	186.2		

Appendix 2

DCS

DCS													
1	D023N	16	D074N	31	D165N	46	D261N	61	D356N	76	D462N	91	D627N
2	D025N	17	D114N	32	D172N	47	D263N	62	D364N	77	D464N	92	D631N
3	D026N	18	D115N	33	D174N	48	D265N	63	D365N	78	D465N	93	D632N
4	D031N	19	D116N	34	D205N	49	D266N	64	D371N	79	D466N	94	D645N
5	D032N	20	D122N	35	D212N	50	D271N	65	D411N	80	D503N	95	D654N
6	D036N	21	D125N	36	D223N	51	D274N	66	D412N	81	D506N	96	D662N
7	D043N	22	D131N	37	D225N	52	D306N	67	D413N	82	D516N	97	D664N
8	D047N	23	D132N	38	D226N	53	D311N	68	D423N	83	D523N	98	D703N
9	D051N	24	D134N	39	D243N	54	D315N	69	D431N	84	D526N	99	D712N
10	D053N	25	D143N	40	D244N	55	D325N	70	D432N	85	D532N	100	D723N
11	D054N	26	D145N	41	D245N	56	D331N	71	D445N	86	D546N	101	D731N
12	D065N	27	D152N	42	D246N	57	D332N	72	D446N	87	D565N	102	D732N
13	D071N	28	D155N	43	D251N	58	D343N	73	D452N	88	D606N	103	D734N
14	D072N	29	D156N	44	D252N	59	D346N	74	D454N	89	D612N	104	D743N
15	D073N	30	D162N	45	D255N	60	D351N	75	D455N	90	D624N	105	D754N

Technology specification

Frequency ranges	UHF: 462-467.7125MHZ
Channel numbers	16 channels
Operating voltage	7.2V
Operating temperature	-30°C to 60°C
Operating mode	Co-channel or Dis-channel simplex
Output power	0.5W
Modulation	FM (F3E)
Maximum Deviation	≤±5KHz
Spurious Radiation	< -60dB
Frequency stability	±5ppm
Receiving stability	< 0.2μV
Audio output power	≥500mW
Weight	242g
Size	62 x 103x 39 (mm)

Note: Specifications are subject to change without notice.