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100% recyclable



QUANSHENG



USER'S MANUAL





Thank you for purchasing this **QUANSHENG** Radio. We believe this radio is new, powerful, stable and easy-to-use. As a result, we know that you will be pleased with the quality and features of this product.

Conventional functional features

- QT/DQT
- High/Low power select
- Power save/Low battery alarm
- Emergency call
- Tail Tone Elimination
- N band
- Time display
- Recording function
- Multiple scan modes
- Busy lock
- TOT
- ANI code
- DTMF signal setting
- Battery save
- Message function
- Encryption



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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.
- ▶ 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 NUT agent.

⚠ Warning

- Easily exploded environment (gas,dust and mist,etc)
- Cut off the power supply while refueling or parking at the gas station.

IMPORTANT INSTRUCTIONS

Please be sure to comply with the specifications and notes as follows when using battery. Please pay attention that the battery overheat may cause fire or explosion by misuse.

- ▶ Read battery labels and manual before use.
- ▶ Use battery at room temperature between -25 and 35 degrees, Humidity: 65±20%.
- ▶ Do not expose battery pack to direct sunlight (heat) for extended periods.
- ▶ Do not knock the battery.
- ▶ Charge battery with Quansheng charger, DO NOT charge over 24 Hours.
- ▶ Never make wrong polarity connection when charging and discharging battery packs.
- ▶ Charging the battery every 2 months to keep it fresh if you don't use it.
- ▶ Keep the battery away from metal in case of any damage.
- ▶ The storage area should be clean, cool, dry,and ventilated.
- ▶ Do not abandon battery in water or fire.
- ▶ Do not keep the battery in washing machine, cooking utensils, pressure vessel.
- ▶ Charge battery with good quality battery charger. A poor quality charger can be dangerous.
- ▶ Stop charging battery if NOT fully charged in stated time.
- ▶ Do not use the battery when it is deformed, odorous, allochroic etc.
- ▶ If electrolyte drip to your skin or clothes, please wash with water immediately.
- ▶ If electrolyte drip to your eye, do not rub your eye, go see doctor immedi.

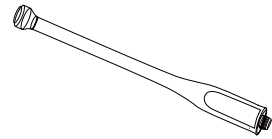
WARNINGS

- ▶ Store or use the battery away from places with electrostatic electricity
- ▶ Must keep battery pack away from children.
- ▶ Guardian should explain instructions to children before they use.
- ▶ Read instructions carefully before charging and discharging batteries.
- ▶ Change the battery when it works shorter time than normal.
- ▶ Take battery out when it is over cycle life
- ▶ Get the battery out of radio if not use it for long time, and keep it in clean, cool, dry, and ventilated place.

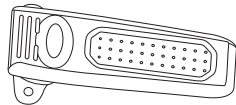
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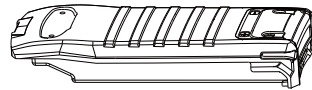
⚠ Carefully unpack the portable radio. We suggest that you check the following items before you throw away the packing materials.



Antenna



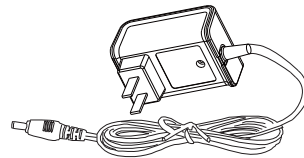
Belt Clip



Polymer Li-ion
battery pack



Battery Charger



Adapter

User`s Manual

CHARGING NOTES (1)

- Battery packs are not charged when they are shipped. Charge them before use.
- Initially charging the battery pack after purchased 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 repeatedly charging and discharging for two or three times.

【CAUTIONS】

1. After the battery is charged to its highest capacity, don`t charge anymore.
2. Otherwise it will effect the life of the battery , please take it out from the charger.
3. Do not short-circuit the battery terminals or throw the battery into fire.
4. Never attempt to remove the casing from the battery pack.

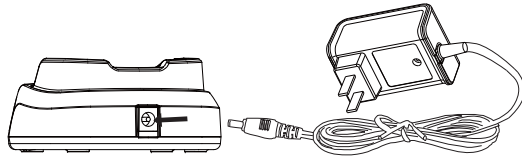
➤ Please turn the power off before charging .

➤ If the radio still shows low power after the normal charge, please change a new battery.

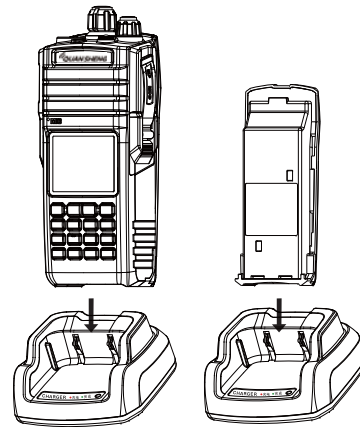
➤ The average usage time of battery pack is 20 hours. Average usage time is 5% for transmitting, 5% for receiving and 90% for standby.

CHARGING NOTES (2)

- ▶ Put the output plug of the adaptor into the charger base, and put the plug of the adaptor into the electrical power (as showed in the picture).



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



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

03

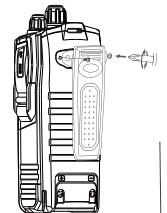
INSTALLING ANTENNA

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



INSTALLING BELT CLIP

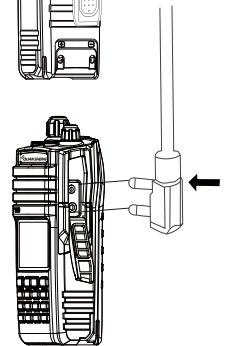
- ▶ Attach the belt clip with the supplied screws by using a Phillips screw driver.



INSTALLING EXTERNAL SPEAKER/MICROPHONE

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

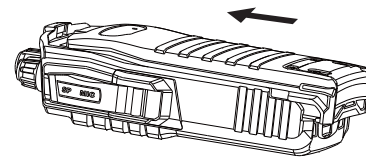
○ NOTE: The radio is not fully water-resistant while using the external speaker/microphone.



04

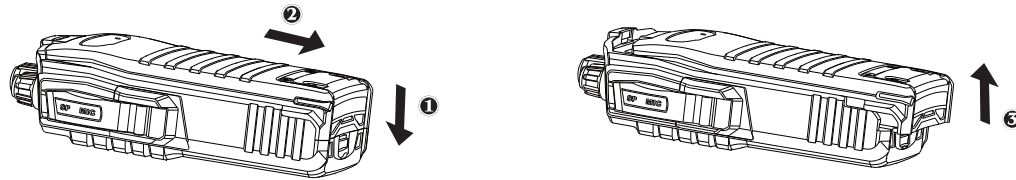
ATTACHING THE BATTERY PACK

- ▶ Slide the battery pack into the back of the radio in the direction of the arrow. Slide the battery pack until the battery releasing button makes a “clicking” sound.

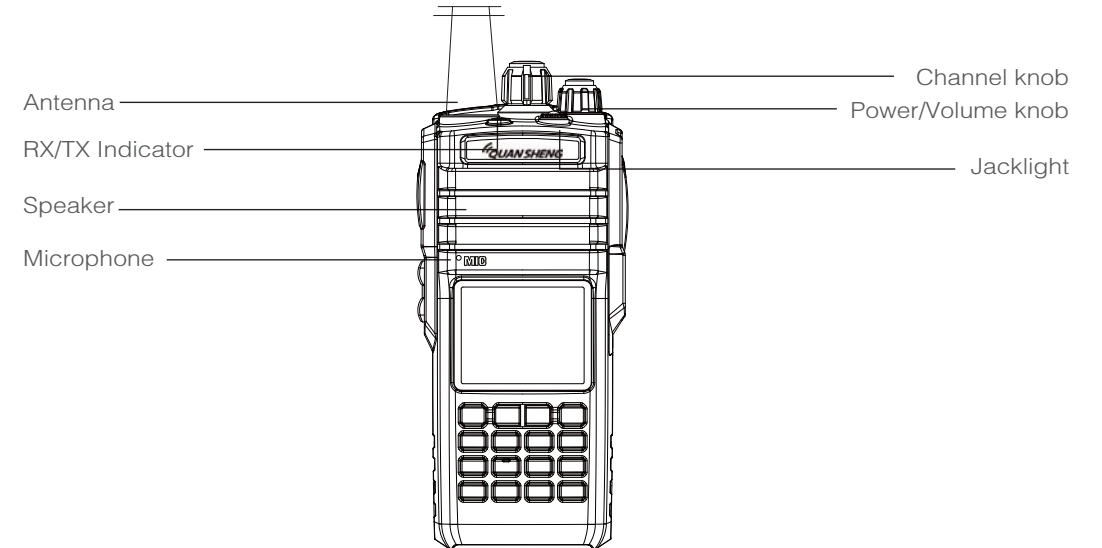


RELEASING THE BATTERY PACK

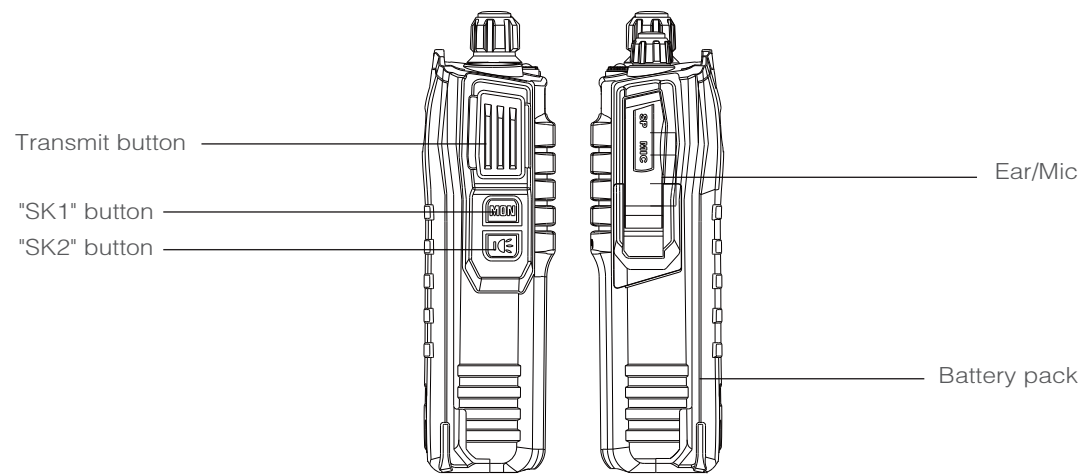
- ▶ Turn off the radio before releasing the battery pack.
Press the battery releasing button in the direction of arrow as showed below.
Then push the battery in the direction of arrow.
And then release the battery pack.



DIAGRAM

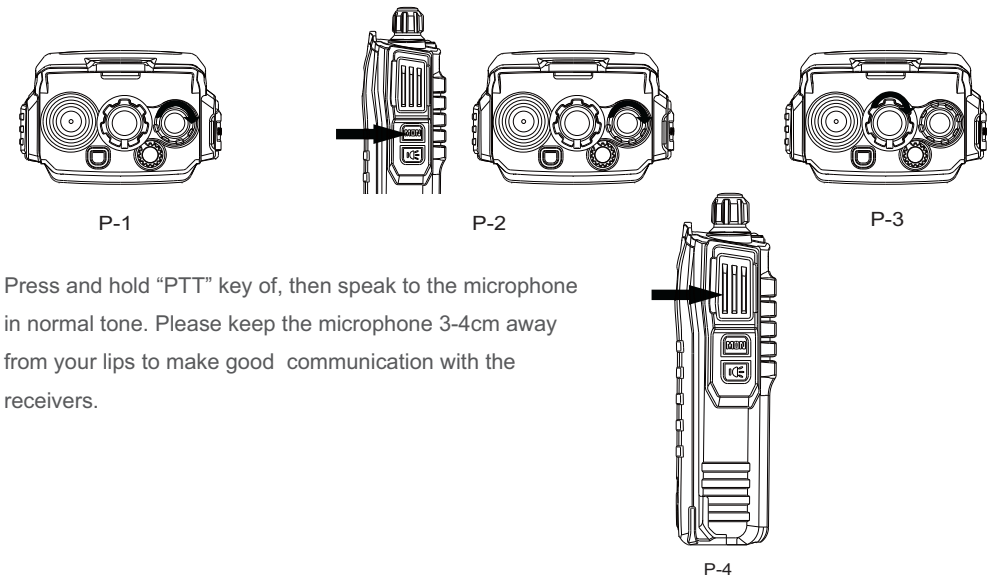


DIAGRAM



BASIC OPERATION

- ▶ Turn the Power/Volume knob clockwise to turn the power on, the radio will beep and remind you the current channel. (As P-1)
- ▶ Pressing the "Monitor" key, turn the Power/Volume knob at the same time to adjust the volume. (As P-2)
- ▶ Turn the channel knob to choose the channel you want. (As P-3)
 - When you receive signal, the speaker will make a sound.



- ▶ Press and hold "PTT" key of, then speak to the microphone in normal tone. Please keep the microphone 3-4cm away from your lips to make good communication with the receivers.

BASIC OPERATION

Channel Select

- This radio consists of 1024 channels and is divided into 64 zones, every zone consists of up to 16 channels.
- Zone select: Press **[MENU]** → Settings → Zone → **[Select]** the zone number → Press **[MENU]** to save & back to main page
- After zone selection, choose the channel you need through channel knob.

Digital channel edit

1. Press any number key into edit mode.
2. Press **[SK1]** or **[SK2]** button to choose the edit items (RX/TX frequency, color code).
3. Press number key to input TX frequency.
4. Press number key to input RX frequency.
5. Press **[▲]** or **[▼]** to change color code.
6. Press **[MENU]** key to save and exit.
7. Press **[EXIT]** key to exit while editing, it will not save any data you change or edit.
8. Time slot select: Press **[MENU]** → Settings → Parameter → Slot → Slot 1 or Slot 2 → Press **[MENU]** to save
9. Change Contact person:
Press **[MENU]** key
Press **[▲]** or **[▼]** to choose CONTACTS and press **[MENU]**

Press **[▲]** or **[▼]** to select the Call number and press **[MENU]**

Press **[▲]** or **[▼]** to to choose SELECT

Press **[MENU]** to save

You can press **[EXIT]** while editing, it will not save any data you change or edit and will be back to the previous menu.

Analog channel edit

1. Press any number key into edit mode.
2. Press **[SK1]** or **[SK2]** button to choose the edit items (RX/TX frequency, N band, CTCSS/DCS)
3. Press number key to input TX frequency
4. Press number key to input RX frequency
5. Press **[▲]** or **[▼]** to choose N band
6. Press **[▲]** or **[▼]** to choose CTCSS/DCS
7. Press **[MENU]** key to save and exit
8. Press **[EXIT]** key to exit while editing, it will not save any data you change or edit.

Message edit

1. Press **[MENU]** & choose MSG.
2. Press **[MENU]** & CREATMSG to write message.
3. Press **[MENU]** into message editing.
4. Press **[#]** key to choose input method: PY(Chinese)/12(Number)/ab(English)/AB(English, Capital)
5. Press number key, **[▲]** or **[▼]**, **[MENU]** for message editing.

6. Press **[*]** key to clear the contents you write.

7. Press **[MENU]** to save after finishing editing.

Menu Setting

Press **[MENU]** to choose the items you want to set in the menu. While setting, press **[MENU]** to save and and press **[EXIT]** to exit and back to the previous menu.

FUNCTION INSTRUCTION

Message

This function can be used to send messages or common messages set in the radio to designated ID.

The sub-menu of MSG (message) consists of:

1. INBOX (the received messages sent by other ID users)
2. CREATMSG (for message editing)
3. OUTBOX (the messages the radio sent to other ID users)
4. COMMMSG (the common messages the radio edit and save before, which can be edited/added/deleted)
5. DELMSG (fast delete the messages in INBOX/OUTBOX/COMMMSG)

[Note] This function is not available in analog channel mode.

Contacts

This function can be used to check the contact information the radio save before, which can be edited/added/deleted.

The sub-menu of CONTACTS consists of:

1. DISP (description: name/number/type)
2. ADD (adding contact information, note: the upper limit of contact number is 1024, you need to delete some contact information if you want to save more information when it is full)
3. EDIT (editing contact name/number, note: type can not be changed, you need to delete this contact person`s information and re-edit if you want to change “type”)
4. SENDMSG (fast sending message to this contact person)
5. SELECT (select the contact person and back to the main page)

[Note] This function is not available in analog channel mode.

Call Log

This function can be used to check the missed/received/call out calls.

The sub-menu of CALLLOG consists of:

1. MISSCALL (the missed calls called by other ID users)
2. RECECALL (the received calls called by other ID users)
3. CALLNUMB (the calls the radio made to other ID users)
4. DELLOGS (delete the call history you want: missed/received/call out calls)

[Note] This function is not available in analog channel mode.

Settings

This function can be used for setting operations.

Setting items:

-
1. LOCAL (check the radio`s serial/group number)
 2. PARAMETER (choose the call time, H/L power, slot)
 3. ZONE (choose the zone)
 4. DATA/TIME (change the date/time/week/data form)
 5. TONE (change the reminding voice of profiles/keypad/power/message)
 6. OTHERS (change the language/lock key/led light and time and check the version)
 7. SIDE KEY (change the functions of long/short pressing of side key 1 & side key 2)
 8. DEFAULT (back to factory settings)

Record

This function can be used to record the radio`s conversation contents for checking.

The sub-menu of RECORD consists of:

1. RECORD SET (change the record mode)
2. RECORD LIST (check the saved record contents)

Programmable side key functions

Set sidekey 1, sidekey 2 (long press or short press) for the following functions

Monitor Scan Kill Revive H/L power Jacklight VOX Emergency mode (open) Emergency mode (close) Repeat/talk around Zone optional
Direct call 1, Direct call 2, Direct call 3, Direct call 4, Direct call 5, bit error ratio single work switch.

bit error ratio single work switch

Revive

Press the sidekey which is set as Radio revive, emit revive code, it is used to revive the radio.

[Note] This function is not available in analog channel mode.

Detect

Press the side key to make sure if there are other active radios that will not affect the radio in the system. No voice or visual notice will show on target radios.

Kill

Press the sidekey which is set as Radio kill, emit kill code, it is used to kill radio.

[Note] This function is not available in analog channel mode.

High/Low power

Press the sidekey to change HIGH/LOW POWER.

Monitor

Press the sidekey which is set as monitor, will hear noise. This function is used to check if the current channel is occupied before starting communication, it can temporarily clear all anti-interference code (CTCSS / DCS), and also help to receive weak signals.

[Note] This function is not available in analog channel mode.

Emergency mode open

Press the sidekey which is set as EMERGENCY MODE OPEN, it is used for emergency call.

[Note] This function is not available in analog channel mode.

Emergency mode close

Press the sidekey which is set as EMERGENCY MODE CLOSE to stop emergency call.

[Note] This function is not available in analog channel mode.

Zone optional

Press the sidekey which is set as ZONE OPTIONAL, it is used to select different zones set in the programming software.

Scan ON/OFF

Scan On: Press the sidekey, scan from the present channel, when one channel gets signals, LED green light will be on. Scan will be stopped.

Scan Off: press the sidekey again to quit from scan.

VOX

Press the sidekey which is set as VOX to turn on the VOX function, then you can turn off the VOX function by pressing the PTT key.

One button call

This function can help key1,2,3,4,5 to fulfill the calling function.

One button call

Press the sidekey to turn on the bit error ratio (BER).

Repeat/Talk around

Press the sidekey to open the REPEAT/TALK AROUND function. Apart from the repeater, the radio will communicate with related groups. RX/TX frequency are the same, and RX/TX code are the same.

Jacklight

Press the sidekey which is set as JACKLIGHT, it is used as torchlight in the dark and other occasions.

Single work mode

Press the sidekey which is set as SINGLE WORK mode, then the radio can work singly until the designated time (the designated time could be set in the programming software).

Low battery alarm

When the radio power is lower than 6.2V, the radio will be in low power alert: the red light flashes and voice reminding every 2s to remind the users to get charged or change the battery.

CTCSS									
01	62.5	12	94.8	23	136.5	34	177.3	45	218.1
02	67.0	13	97.4	24	141.3	35	179.9	46	225.7
03	69.3	14	100.0	25	146.2	36	183.6	47	229.1
04	71.9	15	103.5	26	151.4	37	186.2	48	233.6
05	74.4	16	107.2	27	156.7	39	189.9	49	241.8
06	77.0	17	110.9	28	159.8	39	192.8	50	250.3
07	79.7	18	114.8	29	162.2	40	196.6	51	254.1
08	82.5	19	118.8	30	165.5	41	199.5		
09	85.4	20	123.0	31	167.9	42	203.5		
10	88.5	21	127.3	32	171.3	43	206.5		
11	91.5	22	131.8	33	173.8	44	210.7		

DCS											
01	D023N	15	D114N	29	D174N	43	D315N	57	D464N	71	D632N
02	D025N	16	D115N	30	D205N	44	D331N	58	D465N	72	D654N
03	D026N	17	D116N	31	D223N	45	D343N	59	D466N	73	D662N
04	D031N	18	D125N	32	D226N	46	D346N	60	D503N	74	D664N
05	D032N	19	D131N	33	D243N	47	D351N	61	D506N	75	D703N
06	D043N	20	D132N	34	D244N	48	D365N	62	D516N	76	D712N
07	D047N	21	D134N	35	D245N	49	D371N	63	D532N	77	D723N
08	D051N	22	D143N	36	D251N	50	D411N	64	D546N	78	D731N
09	D054N	23	D152N	37	D261N	51	D412N	65	D565N	79	D732N
10	D065N	24	D155N	38	D263N	52	D413N	66	D606N	80	D734N
11	D071N	25	D156N	39	D265N	53	D423N	67	D612N	81	D743N
12	D072N	26	D162N	40	D271N	54	D431N	68	D624N	82	D754N
13	D073N	27	D165N	41	D306N	55	D432N	69	D627N	83	D023I
14	D074N	28	D172N	42	D311N	56	D445N	70	D631N	84	D025I

DCS											
85	D026I	99	D116I	113	D223I	127	D343I	141	D466I	155	D662I
86	D031I	100	D125I	114	D226I	128	D346I	142	D503I	156	D664I
87	D032I	101	D131I	115	D243I	129	D351I	143	D506I	157	D703I
88	D043I	102	D132I	116	D244I	130	D365I	144	D516I	158	D712I
89	D047I	103	D134I	117	D245I	131	D371I	145	D532I	159	D723I
90	D051I	104	D143I	118	D251I	132	D411I	146	D546I	160	D731I
91	D054I	105	D152I	119	D261I	133	D412I	147	D565I	161	D732I
92	D065I	106	D155I	120	D263I	134	D413I	148	D606I	162	D734I
93	D071I	107	D156I	121	D265I	135	D423I	149	D612I	163	D743I
94	D072I	108	D162I	122	D271I	136	D431I	150	D624I	164	D754I
95	D073I	109	D165I	123	D306I	137	D432I	151	D627I		
96	D074I	110	D172I	124	D311I	138	D445I	152	D631I		
97	D114I	111	D174I	125	D315I	139	D464I	153	D632I		
98	D115I	112	D205I	126	D331I	140	D465I	154	D654I		

SPECIFICATIONS			
GENERAL			
Frequency range	400-470MHz		
Rated voltage	DC7.2V		
Antenna impedance	50Ω		
Dimensions	14.0cm(L)x6.1cm(W)x4.0cm(H)		
Working manner	Same frequency single operation or different frequency single operation		
TRANSMITTER		RECEIVER	
Output Power	High/Low High:5W Low:1.5W	Audio Response	+1--3dB
Modulation	11KΦF3E, 4FSK	Audio Distortion	≤10%
Digital Modulation	12.5kHz Only data: 7K60F1D	Audio Output Power	1W
	12.5kHz Data & Language: 7K60F1E	Blocking	≥85dB
Spurious Emission	-36dBm<1GHz;-30dBm>1GHz	Analog Sensitivity	-122dBm(12dB SINAD)
Digital Protocol	ETSI-TS102 361-1-2-3	Digital Sensitivity	-121dBm (BER5%)
CTCSS/DCS	0.5±0.1kHz/0.375±0.1kHz	Inter-modulation	≥60dB ≥55dB
Audio Response	+1--3dB	Clutter Rejection	≥65dB
Audio Distortion	≤10%	Adjacent Channel Selectivity	≥65dB ≥60dB

⊙All stated specifications are subject to changes without notice or obligation.

FCC Statements:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user' s authority to operate the equipment.

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.

RF Exposure Compliance and Control Guidelines and Operating Instructions

To control your exposure and ensure compliance with the occupational/controlled environment exposure limits always adhere to the following procedures.

Guidelines:

Do not remove the RF Exposure Label from the device.

User awareness instructions should accompany device when transferred to other users.

Do not use this device if the operational requirements described herein are not met.

An appropriate warning lable is affixed to all units. In order to comply with RF exposure requirements, a minimum distance of 2.5cm must be maintained when held-to-face, and body-worn operations are restricted to the approved original accessories (belt clip).

Do not use this device when antenna shows obvious damages

NOTICE: This radio is intended for use in occupational/controlled conditions, where users have full knowledge of their exposure and can exercise control over their exposure to meet FCC limits. This radio device is NOT authorized for general population, consumer, or any other use.

Transmit no more than the rated duty factor of 50% of the time. To transmit (talk), push the Push-To-Talk (PTT) key. To receive calls, release the PTT key. Transmitting 50% of the time, or less, is important because the radio generates measurable RF energy only when transmitting (in terms of measuring for standards compliance).