

QUANSHENG

INSTRUCTION MANUAL



VHF/UHF TRANSEIVER
TG-6A

Fujian Nanan City QUANSHENG Electronics Co. , Ltd

THANK YOU

We are grateful you chose QS for your land mobile radio QS applications. We believe this easy-to-use radio will provide dependable communications to keep personal operating at peak efficiency.

QS radios incorporate the latest in advanced technology. As a result, we feel strongly that you will be pleased with the quality and features of this product.

www.409shop.com

CAUTIONS BEFORE USING

- Pls read the user's manual before using, It gives us important information about how to operate the portable radio.
- The user's except those permitted are strictly prohibited to use the battery packs in coal (gas) mine; oil (gas) tank, dust and aerostat.
- Maintenance can be only undertook by professional technicians.
- Do not turn on the radio while refueling or parking at the gas station in case of danger and accident.
- By any reason should you refit or revise the radio.
- Do not expose the radio in the sunlight for a long time, or put it near the heater or high temperature environment.
- Do not put it in the extreme dusty, wet or splashed places or on the unsteady surfaces.
- Keep it dry. (Raindrops or moisture will erode the electronic board.)
- If you find smelling or mist giving off from the radio, pls turn off the radio, take off the battery pack and contact with **QS** agents.

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SUPPLIED ACCESSORIES

Carefully unpack the portable radio. We suggest you check the following items listed before you throw away the packing materials. If any items is missing or damaged during shipment, pls file a claim to the carrier asap.

STANDARD SUPPLIED ACCESSORIES

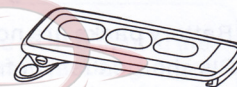
ITEM	QTY
Portable radio	1
Antenna	1
Belt clip	1
Battery Charger	1
Adapter	1
Li-ion battery pack	1
User's manual	1

- In order to convenient the customer, we will present a QST-2 antenna(the shorter one)in UHF band. The antenna is delicate and beautiful, but its FM radio function was not very good. When you are using the FM radio function, we suggest you to use the original QST-1 antenna(the longer one).

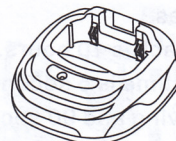
STANDARD SUPPLIED ACCESSORY



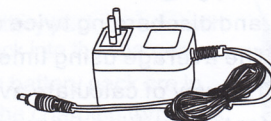
Antenna



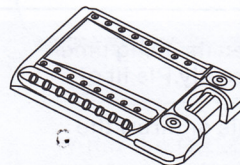
Belt clip



Battery Charger



Adapter



Li-ion Battery pack



User's Manual

CHARGING NOTICES(1)

Notices for charging Li-ion battery pack:

- Battery packs are not charged when they are made. Pls 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 charging, which can be done after repeated charging and discharging twice or three times.
- The average using time of battery pack is 10 hours. The way of calculate average using time is 5 seconds for transmitting, 5 seconds for receiving and 90 seconds for awaiting order.



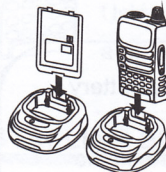
CAUTION

- The battery pack life is over when its using time decreases even though it is correctly. Pls fit or buy a new one.
- Do not short the battery terminals or throw the battery into fire.
- Never attempt to remove the casing from the battery pack.

CHARGING NOTICES (2)



First, plug the ADP output in the back connected jack of charger, Then, plug the electric cable of alternating power in 220V.



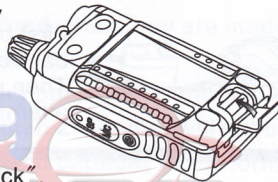
Slide the Li-ion battery pack or radio with a Li-ion battery pack into the charger.

- Make sure the battery pack are in connect with the charging terminals.
- When charging begins, the RED LED light display, when the battery pack is charged to its greatest capacity, GREEN LED light display.

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

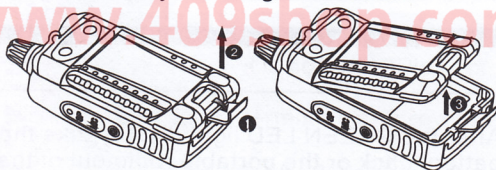
INSTALLING/REMOVING BATTERY PACK

When installing the battery pack, Put the battery on the relevant place of aluminium board which on the back of radio, then push it upwardly until sounded "click".



Pls turn off the radio before removing the battery pack.

1. First, Press the releasing button down.
2. Push the battery backwardly to make it off the radio.
3. Take the battery out along the direction.



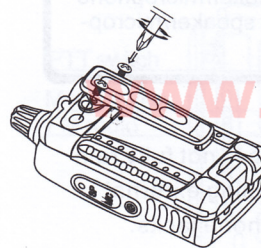
INSTALLING ANTENNA



Screw the antenna into the connector on the top of the radio by holding the antenna at its base and turning it clockwise.

NOTE: Do not take the antenna as a handle, a key ringer, nor a speaker/microphone attachment point. Using them in this way may damage the antenna and degrade the radio's performance.

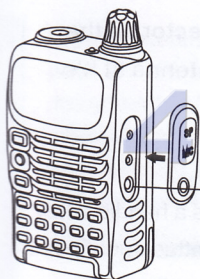
INSTALLING BELT CLIP



NOTE: Do not use the glue designed to prevent screw from loosening when installing belt clip otherwise it would damage the machine's base.

The acrylic acid of the glue may harm the shell (ABS) of the radio.

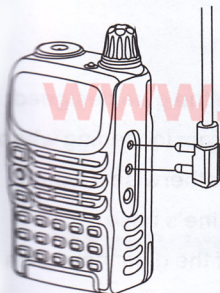
INSTALLING SPEAKER/MICROPHONE COVER



If you are not using a speaker/microphone, install the speaker/microphone cover. (The cover has been fitted when the radio is made.)

NOTE: To keep the radio rain resistant, you must install waterproof speaker/microphone cover.

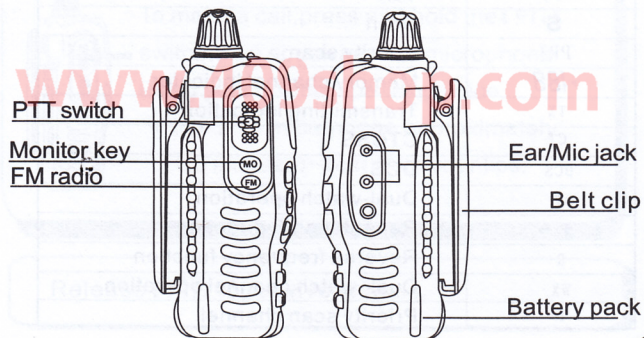
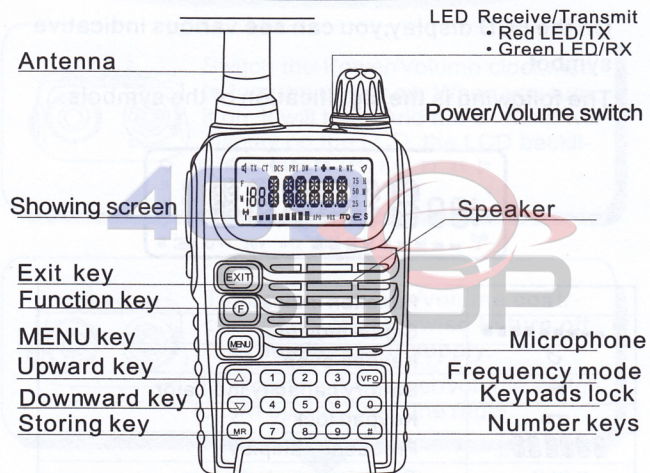
INSTALLING EXTERNAL SPEAKER/MICROPHONE



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

NOTE: The radio is not fully rain resistant while using external speaker/microphone jacks.

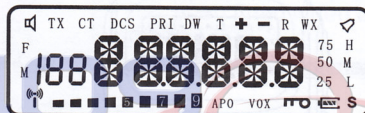
SKETCH MAP



SCREEN

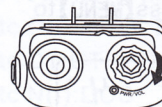
On the LCD display, you can see various indicative symbol.

The following is the signification of the symbols.

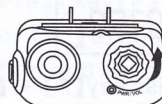


F	Function indicator
Signal indicator	
Keypad beep	
Battery capacity indicator	
Keypad lock	
Frequency display	
H/M/L	Output power indicator
VOX	Vox
S	Scan
PRI	Priority scan
188	Memory channel indicator
TX	Transmitting indication
CT	CTCSS
DCS	DCS
DW	Dual-watch operation
+ -	Repeater shift direction
R	Reverse frequency function
WX	Dual-watch channel operation
T	Priority scan channel

BASIC OPERATIONS

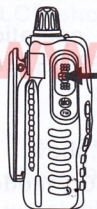


Switch the Power/Volume clockwise to turn the power on. When you turn it on, it will beep and the channel will display on the LCD, the LCD backlight shows.



Turn power switch/volume controller counter-clockwise to turn off the radio's power supply.

PS: Rotating the power/volume switch to turn up and down the radio.



To make a call, press and hold the **PTT** switch, then speak into the microphone using your normal speaking voice.

- Hold the microphone approximately 1.5 inches (3~4cm) from your lips.

Release **PTT** to receive signals.

FAST MODE

- Press key **[F]** + **[1]**, set the squelch level, press key **[△]** or **[▽]** to choose it from 0~9, press **[MENU]** to confirm and save, press **[EXIT]** to exit.

LCD display as picture:



- Press key **[F]** + **[2]**, set the High/Medium/Low power operation each time, choose it from H/M/L (LCD display)

LCD display as picture:



- Press key **[MR]** into channel mode, then press key **[F]** + **[3]** to switch the channel mode and Channel+Frequency mode.

LCD display as picture:



- Press key **[F]** + **[4]**, set repeater shift direction, operation repeat, press key **[△]** or **[▽]**, choose it from OFF/+/-, press **[MENU]** to confirm and save, press **[EXIT]** to exit.

- Press key **[F]** + **[5]**, set CTCSS/DCS receive, show "rc OFF", press **[FM]** to change the CTCSS/DCS mode:
rc OFF: no CTCSS/DCS
rc CT: CTCSS
rc N(I): DCS
press key **[△]** or **[▽]** to choose CTCSS code or DCS code, and then press **[MENU]** to save.

- Press key **[F]** + **[6]**, Set CTCSS/DCS Transmit, show "tc OFF".

Press key **[FM]** to choose the CTCSS/DCS Transmit mode:

tc OFF: NO CTCSS/DCS

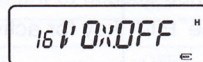
tc CT: CTCSS

tc N(I): DCS

(Press key **[△]** or **[▽]**, choose CTCSS code or DCS code and then press **[MENU]** to save.)

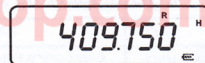
- Press key **[F]** + **[7]**, Set the VOX grade, press key **[△]** or **[▽]** to choose the grade from 1~9. Press **[MENU]** confirm and save, press **[EXIT]** to exit.

LCD display as picture:



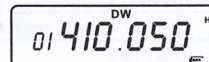
- Press key **[F]** + **[8]**, use the reverse frequency function, LCD show "R", operation again to exit.

LCD display as picture:



- Press key **[F]** + **[9]**, use the dual-watch operation, LCD show "DW", the radio awaits the using channel and dual-watch channel at the same time, Press **[EXIT]** to exit.

LCD display as picture:



Note: It needs to set the dual-watch channel first. Choose Menu 4 "DCH" as "ON", LCD shows "WX", then the dual-watch channel is set.

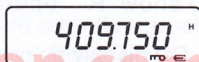
- Press key【F】+【#】, use the alarm function, LCD shows "WARN", press "PTT" to exit.

LCD display as picture:



- Press the【F】+ "PTT" key: Send tone calling (1750Hz). Press【F】key, then press and hold the "PTT" key for the amount of time specified by the repeater owner/operator. Once access to the repeater has been gained, you can use the "PTT" key for activating the transmitter.

LCD display as picture:



- Press key【7】more than 2 seconds, LCD shows "SEARCH", search CTCSS or DCS, LCD shows the CTCSS/DCS when searched, on the mode of frequency, press key【MR】to save, press key【EXIT】to end the search.

LCD display as picture:



MENU MODE SETTING

• The using method of menu

- Press key【MENU】into the menu mode.
- Press key【△】or【▽】to choose your need menu option.
- Then press key【MENU】again into menu content.
- Press【△】or【▽】to choose the parameter of menu option.
- After choosing the needed parameter, Press key【MENU】to save and exit, Press key【EXIT】to exit.

MENU	MENU NO	DESCRIPTION	SELECTIONS	DEFAULT
STP.	1	Step-in frequency	5/6.25/10/12.5/15/20/25/30/50/100KHz	5
R#.CODE	2	RX CTCSS/DCS	OFF/CTCSS/DCS	OFF
T#.CODE	3	TX CTCSS/DCS	OFF/CTCSS/DCS	OFF
DCH	4	DCH	ON/OFF	OFF
SQ.L.	5	Squelch level	0~9	4
RPT.	6	Repeater	+/-/OFF	OFF
OFFSET	7	Shift	0~69.995MHz	0
POW.	8	Power	H/M/L	LO
TOT.	9	Time-Out-Timer	0~9	3
W.N.	10	Channel spacing	W(25KHz)/N(12.5KHz)	W
BEEP	11	Beep	ON/OFF	ON
COLOR	12	LCD backlight	COLOR1/COLOR2	COLOR1
SCR.	13	Voice scrambler	ON/OFF	OFF
PCH	14	Priority scan	ON/OFF	OFF
BCL.	15	Busy channel lock	ON/OFF	OFF
VOX.	16	VOX function	OFF/1~9	OFF
CH.PLAY	17	Channel display switch	ON/OFF	ON
BAT.SEL	18	Battery	Li-ion/NICD	Li-ion
DEL.	19	Channel delete	YES/NO	NO
RESET	20	Reset	VFO/FULL	VFO

● PC Programmable Function

This radio can be programmed by computer, the operation details see **QS** PC software.

● Frequency Mode

Press key **【VF0】** into frequency mode, change the frequency according channel step by pressing key **【△】** or **【▽】**, or input the frequency directly by press key **【#】**.

Example: #+450000 → 450.000MHz

If you want to set different frequency, it needs to set the RPT, then set the CTCSS/DCS (if necessary) and then to talk.

● Channel store

On the frequency mode, set the receiving frequency first, if you want to set different frequency, it needs to set the RPT, then set the CTCSS/DCS (if necessary), press key **【F】** + **【MR】**, choose the storing channel by pressing key **【△】** or **【▽】**, or input the channel number directly by press key **【#】** then press key **【MR】** to save.

This radio can store "0~99" total 100 channels.

● Choose stored channel

Press key **【MR】** into channel mode, then press key **【△】** or **【▽】** to choose the channel you need, or press key **【#】** to input the channel you need directly, then you can talk.

● Delete the stored channel

Press key **【MR】** into channel mode, choose the channel need to delete. Press key **【MENU】** then press **【△】** or **【▽】** to choose menu "19", and then press **【MENU】** to choose "YES" (delete) or "NO" (undelete) then press key **【MENU】** to confirm and exit.

● Busy channel lock

The busy lock feature disables the transmitter if another signal is present, if the function open, the radio alarm by pressing PTT, shows "Busy" on the display and stop transmitting.

● VOX

VOX function can't switch to transmit mode manually each time. Once the vox circuit check you speak to microphone, the radio switch to transmit mode automatically.

● VOX PLUS

You must adjust the VOX PLUS level correctly and then can use VOX function effectly. "OFF/1~9", "1" denote the VOX PLUS lowest, "9" denote the VOX PLUS highest.

The user needs to choose the proper level according to the environment.

● Reset

The radio has two kinds reset function, "VFO" shows frequency mode reset, press **[MENU]** and then press **[△]** or **[▽]** switch to No.20 menu, then press **[MENU]** to choose "VFO", press key **[MENU]** to choose "YES", "FULL" means reset completely, delete all of the channels.

● Time-out-timer

To avoid someone transmit without permission or transmit careless, it can be set to forbid transmitting choose from "0~9", "0" means that it can't be open this function, "1~9" means transmit 1~9 minutes.

● Cable cloning function

Press the key "monitor" of master radio, turn the power on, LCD shows "COPY" into cable clone, turn the power on of sub-master, connect the cloning cable, Press key "Monitor" of master radio to copy, LCD show "WAIT". The receiving indicator glitter of sub-master radio. After copying turn the power off.

● Scan Function

Press key **[VFO]** into the frequency mode, press key **[VFO]** more than 2 seconds, then it can scan frequency according to the channel step.

It can change the scan direction by pressing **[△]** or **[▽]**, press key **[EXIT]** to exit, press key **[MR]** into channel mode, press key **[MR]** more than 2 seconds then it can scan channel, press key **[△]** or **[▽]** to change the scan direction, press **[EXIT]** to exit.

● Priority Scan

When monitor other frequency need to check the priority frequency, you can use "Priority Scan" Function. Setting a priority scan channel before use this function.

Priority scan channel:

Choose Menu NO. 14 PCH as "ON", LCD shows "T" when set.

Press key **[F]** into priority scan when channel scan, LCD shows "PRI", press key **[F]** again to exit.

● The annunciation of no transmitting

1. If busy channel lock, LCD shows "BUSY".
2. If PLL unlock, LCD shows "LOST".
3. If the battery voltage higher than normal, LCD shows "HIGH".
4. If the battery voltage lower than normal, LCD shows "LOW".
5. If time out timer, LCD shows "OVER".

● SELECT LCD BACKLIGHT COLOR

- ① Press key **[MENU]**, and then press key **[△]** or **[▽]** to select menu NO. 12 "COLOR".
- ② Press key **[MENU]**, and then press key **[△]** or **[▽]** to choose "COLOR1" "COLOR2".
- ③ Press **[MENU]** to confirm and save.

● FM RADIO

Press key **[F]**+**[FM]** into FM radio function, operation again to exit.

Press key **[△]** or **[▽]** to choose (0~9) as the channel of the FM radio, press key **[F]**, then press key **[△]** or **[▽]** more than 2 seconds, auto search the frequency, when search one channel, the search stop.

Then press key **[MR]** to store the channel of FM radio. Press key **[F]**+**[△]** or **[▽]**, change the frequency of FM radio channel.

When FM radio has stored channel, press key **[△]** or **[▽]** to choose the stored channel.

In FM radio mode, if press PTT or received the signal, the radio will auto exit the FM radio mode to transceiver mode.

CTCSS

1	67.0	18	118.8	35	183.5
2	69.3	19	123.0	36	186.2
3	71.9	20	127.3	37	189.9
4	74.4	21	131.8	38	192.8
5	77.0	22	136.5	39	196.6
6	79.7	23	141.3	40	199.5
7	82.5	24	146.2	41	203.5
8	85.4	25	151.4	42	206.5
9	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		

DCS

1	D023N	43	D251N	85	D532N	127	D132I	169	D411I
2	D025N	44	D252N	86	D546N	128	D134I	170	D412I
3	D026N	45	D255N	87	D565N	129	D143I	171	D413I
4	D031N	46	D261N	88	D606N	130	D145I	172	D423I
5	D032N	47	D263N	89	D612N	131	D152I	173	D431I
6	D036N	48	D265N	90	D624N	132	D155I	174	D432I
7	D043N	49	D266N	91	D627N	133	D156I	175	D445I
8	D047N	50	D271N	92	D631N	134	D162I	176	D461I
9	D051N	51	D274N	93	D632N	135	D165I	177	D452I
10	D053N	52	D306N	94	D654N	136	D172I	178	D454I
11	D054N	53	D311N	95	D662N	137	D174I	179	D455I
12	D065N	54	D315N	96	D664N	138	D205I	180	D462I
13	D071N	55	D325N	97	D703N	139	D212I	181	D464I
14	D072N	56	D331N	98	D712N	140	D223I	182	D465I
15	D073N	57	D332N	99	D723N	141	D225I	183	D466I
16	D074N	58	D343N	100	D731N	142	D226I	184	D503I
17	D114N	59	D346N	101	D732N	143	D243I	185	D506I
18	D115N	60	D351N	102	D734N	144	D144I	186	D516I
19	D116N	61	D356N	103	D743N	145	D245I	187	D523I
20	D122N	62	D364N	104	D754N	146	D246I	188	D526I
21	D125N	63	D365N	105	D023I	147	D251I	189	D532I
22	D131N	64	D371N	106	D025I	148	D252I	190	D546I
23	D132N	65	D411N	107	D026I	149	D255I	191	D565I
24	D134N	66	D412N	108	D031I	150	D261I	192	D606I
25	D143N	67	D413N	109	D032I	151	D263I	193	D612I
26	D145N	68	D423N	110	D036I	152	D265I	194	D624I
27	D152N	69	D431N	111	D043I	153	D266I	195	D627I
28	D155N	70	D432N	112	D047I	154	D271I	196	D631I
29	D156N	71	D445N	113	D051I	155	D274I	197	D632I
30	D162N	72	D446N	114	D053I	156	D306I	198	D654I
31	D165N	73	D452N	115	D054I	157	D311I	199	D662I
32	D172N	74	D454N	116	D065I	158	D315I	200	D664I
33	D174N	75	D455N	117	D071I	159	D325I	201	D703I
34	D205N	76	D462N	118	D072I	160	D331I	202	D712I
35	D212N	77	D464N	119	D073I	161	D332I	203	D723I
36	D223N	78	D465N	120	D074I	162	D343I	204	D731I
37	D225N	79	D466N	121	D114I	163	D346I	205	D732I
38	D226N	80	D503N	122	D115I	164	D351I	206	D734I
39	D243N	81	D506N	123	D116I	165	D356I	207	D743I
40	D244N	82	D516N	124	D122I	166	D364I	208	D754I
41	D245N	83	D523N	125	D125I	167	D365I		
42	D246N	84	D526N	126	D131I	168	D371I		

SPECIFICATIONS

GENERAL	
Frequency Range	VHF:136~174MHz,UHF:400~470MHz
Memory Channel	100 Channels
Channel Spacing	Wide:25KHz,Narrow:12.5KHz
Channel Step	5, 6.25, 10, 12.5, 25KHz
Rated Voltage	DC 7.2V \pm 20%
Working Temperature Range	-20°C ~ +60°C
Frequency Sensitivity	5ppm
Antenna Impedance	50 Ω
Dimension(except antenna)	90mm \times 55mm \times 32mm
TRANSMITTER	
Output Power	5W(High)/2W(Medium)/1W(Low)
Modulation Mode	Wide:16K Φ F3E,Narrow:11K Φ F3E
Max Frequency Deviation	Wide<5KHz,Narrow<2.5KHz
Remanent Radiation	<7 μ W
Modulation Deviation	<5%
Current	<1.4A(5W)
Modulation Sensitivity	12mV
RECEIVER	
RF Sensitivity	-122dBm(12dB SINAD)
Modulation Receiver Bandwidth	5KHz
Audio Frequency Power	<0.5W
Audio Distortion	<10%
Intermodulation(Wide/narrow)	Wide \geq 60dB, Narrow \geq 55dB
Selectivity(Wide/narrow)	Wide \geq 65dB, Narrow \geq 60dB
Blocking	\geq 65dB

■ Specifications are subject to change for improvements without notice.