



QUANSHENG TG-A1 Two Way Radio User Manual

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TG-A1 Two Way Radio

Note: Please read in detail before installing and using the product, and keep it properly.

FCC WARNING

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 including received interference that may cause undesired operation.

The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

Replacement of any transmitter component (crystal, semiconductor, etc) not authorized by the FCC equipment authorization for this radio could violate FCC rules.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

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.

FCC/CE WARNING:

- This device complies with RF radiation exposure limits set forth for an uncontrolled environment. Do not use this device when the antenna shows obvious damages. Hold this transmitter approximately 25 mm away from your face and speak normal with the antenna pointed up and away. Use the supplied belt clip for body-worn configuration as other accessories may not comply to the limits.

CE WARNING:

The grantee is not responsible for any changes or modifications not expressly. We declare that the radio is compliance with Radio equipment Directive (RED) 2014/53/EU. The device in the environment with the temperature between 0-40°C and operating under 2000m, otherwise, it may damage your radio.

For this device, Head SAR and Body SAR was performed with the device configured in the positions according to EN 50366:2017 & EN IEC/IEEE 62209- 1528:2021, and face-up SAR was performed with the device 25mm from the phantom, and Body SAR was performed with the device 0mm from the phantom. Body SAR was also performed with the headset and belt clip attached and without.

The maximum results of SAR (50% duty cycle) as follows:

Face up (25mm): 0.277W/Kg (PMR446 0.176W/Kg)

Body back (0mm): 4.061W/Kg (PMR446 0.272W/Kg)

Hand (0mm): 4.270W/Kg (PMR446 0.372W/Kg)

CAUTION:

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Radio accessories

Please take out the walkie-talkie from the packaging box. We recommend that you confirm whether the following items are present in the box before discarding the packaging material. If any items are lost or damaged during transportation, please file a claim with the delivery person immediately.

Included accessories list

Item	Unit	Qty
Radio	piece	1
Battery	piece	1
Charger	piece	1
Back clip	piece	1
Lanyard	piece	1
User's manual	piece	1

Product introduction

PTT button

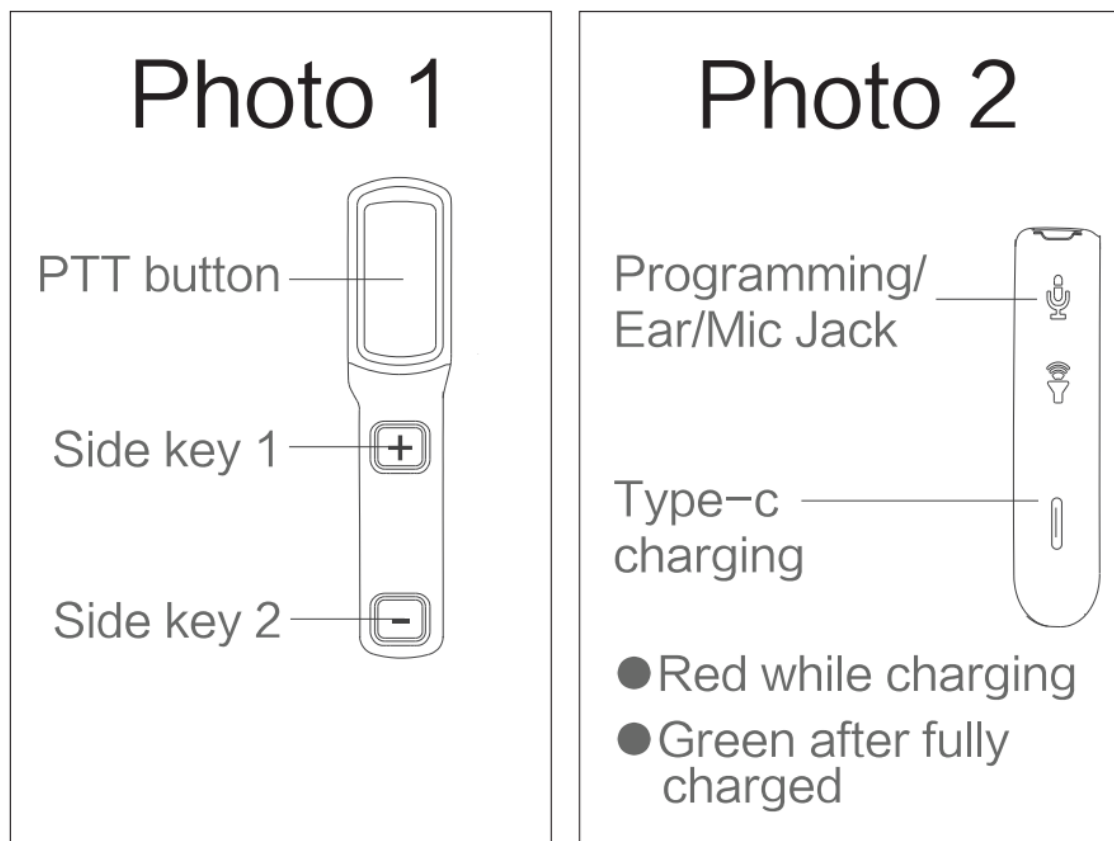
- Conversion key for transmitting and receiving: When transmitting, press this key and speak into the microphone.
- When receiving, release this key.

Side key 1

- Short press side key 1 to increase the channel by one
- Long press side key 1 to customize button function Side key 2
- Short press side key 2 to decrease the channel by one
- Long press side key 2 to customize button function

Power on/off knob/volume knob

- In the power-off state, turn clockwise to turn on, and turn counterclockwise to the end to turn off.
- Turn clockwise to increase the volume, turn counterclockwise to decrease the volume.



Charging instructions

- The battery pack is not charged when leaving the factory, please charge it before use.
- After purchase or after long-term storage (more than two months), charging the battery pack for the first time cannot make the battery pack reach its saturated usage capacity. After repeated charging/discharging two or three times, normal charging effect and battery energy can be achieved.
- It is strictly prohibited to use the walkie-talkie to transmit while charging. This will affect the normal charging of

the battery pack and avoid damage to the radio and accidental hazards.

- After the battery pack is fully charged, please remove it from the charger. Do not recharge until the battery energy (electricity) is fully used. Otherwise, the battery will be damaged due to memory effect.
- If the usage time of the battery pack does not increase even after charging completely and correctly, it means that the life of the battery pack has expired. Please replace or purchase a new battery pack.
- Please use original lithium batteries and battery chargers which can be purchased from local dealers.
- If you have any questions about non-original batteries and accessories, please do not charge or use them to avoid accidents and dangers.

Base-charger charging instructions

- Plug the lithium battery pack or the walkie-talkie equipped with the lithium battery pack into the base charger, and confirm that the battery pack and the charging terminal of the base charger are in normal contact.
- When the charger is empty, the green light is always on; when charging, the red light is on to indicate charging starts; when fully charged, the green light is always on.
- After the lithium battery pack is fully charged, please remove it from the charger.

The series of products are available with or without a cradle charger, depending on the configuration of the product you choose to purchase.

Type-C charging instructions

- The indicator light shows red during Type-C charging. (Shutdown does not affect Type-C charging)
- After Type-C charging is completed, the indicator light turns green.
- When using the Type-C charging device, it is prohibited to disassemble the battery.

The series of products are equipped with Type-C charging and without Type-C charging, depending on the configuration of the product you choose to purchase.

[Note]

1. It is prohibited to transmit when the radio is charging (base charger/Type-C charger) to avoid damage to the radio and accidental hazards.
2. When the radio is charging (base charger/Type-C charger), the reception effect will be affected.
3. Do not short-circuit battery terminals or discard batteries in fire.
4. Never disassemble the battery pack without authorization.

Function operation

1. PC programming

- First use the program software to read the frequency in the walkie-talkie, and then set the channel. The following functions can be set: read and write frequency encryption, squelch level, transmission limit time, busy lock, power saving function, low battery prompt, VOX, code matching function, scrambling function, wireless copy, wide and narrow band selection, high/low power selection, scanning function, voice prompt, frequency hopping function.
2. Set “side key 1” and “side key 2” through the programming software
 - In the programming software interface, set the long press function of side key 1 or side key 2 to enable it.

- The function of short pressing the side button is fixed to increase the channel of side button one and decrease the channel of side button two.

3. Squelch level

- Adjust the squelch level to make the reception in a better state without noise interference. It is divided into 0-9 levels.

If the squelch level is too high, the signal may be weak and the reception cannot be effective. If the squelch level is too low, it may be interfered by irrelevant signals.

4. Transmit timing

- Prevent any call from another party from taking too long.

If the connected transmission exceeds the set programming time, the intercom will stop transmitting and sound a warning sound. The transmission time can be set in the programming software to a timing limit of 30s~300s.

5. Busy Channel Lock

- Prevent interference with other radio terminals in communication. If the selected channel (frequency) is occupied by other radio terminals and press the transmit button at this time, the radio terminal you are using will not be able to transmit and will sound a warning sound, It will only work normally when no signal is received.

6. Power saving function

- Turn on "Battery Saving" function: If there is no operation for 10 seconds, it will automatically enter the power saving state.
- Turn off "Battery Saving" function: the radio does not save power,

7. Low battery reminder

- When the battery is low, the voice prompts "Please charge". (Users are requested to charge in time)

8. VOX

- This function is opened by the program software settings, when the radio receives the signal, the system detects that you speak to the microphone, it will switch automatically to the transmit mode without manual operation. This feature is more convenient for headset users,
 - VOX function, only effective when the VOX function is turned on.
 - VOX gain level: When the sound level is higher than the gain level, VOX is automatically transmit. The gain level can be adjusted from level 1 to 9.
 - When a signal is received, even if the sound level is higher than the set gain level, VOX will not transmit.
 - Program software can define the side key as VOX switch, voice sound prompt when long press.

9. Code Copy function (US FRS/EU PMR446 version do not support)

- This function can crack the frequency and CTCSS of the transmitter. Choose channel 1, press PTT key and the side keys at the same time, then turn on the radio. At this time, the indicator green light flashes into the code copy mode.

The transmitter radio transmit , the receiver receiving signal and have a dripping sound. Then it successfully cracked the frequency.Channel 2 can continue crack the new signal. After finish the frequency crack, shut down and restart to save the frequency.

10. Scramble function

- Open this function on the programming software, and the signal is encrypted during call. It can talk normally only when the TX and RX channels both open scramble function.

11. Copy function (US FRS/EU PMR446 version do not support)

- It can assist the channel frequency and channel function of the radio.Hold both PTT key and side key 1 to turn on 2 radios while on channel 2, the green light flashes into the copy mode. Press the PTT key of the copied radio, wait for the red light to become a green light flash. Shutdown the 2 radios and replication is completed.

And the frequency and functions of the 2 radios are exactly the same.

12. Width/narrowband selection

- Frequency space > 25kHz, choose wide band, frequency space <25kHz, choose narrow band.

13. High/low power selection

- The transmitting power can be set during channel programming, divided into high/low levels.

14. Scan switch

- Program software can define the side key function of the radio. Long press, have a voice switch prompt. After turning on the scan, the radio is defined automatically as a scanned channel in the 1 to 16 channel (program software can define the channels that can be scanned or not scanned). When the scanned channel have signal, the radio will automatically stop on the channel for calling, and resume scan after 3 seconds.

15. Voice prompt (Chinese/English)

- There are two types of voice reports, can set it in channel programming. Press the side key, select the required channel, and have voice prompts. (If you buy the standard version or the European PMR446 version, the number of channels is 16. If you buy the US FRS version, the number of channels is 22).

16. Frequency skipping function

- DCS DOT signaling can be set on the channel by program software. When the channel sets the DCS, turn on the frequency jump function, only to receive same DCS and turn on same frequency skipping function, then the squelch level can be opened. If the DQT does not open the frequency jump function on the same channel, then the squelch level can not open, only the green light.

17. Channel-lock function

- Hold down the PTT key and side key 2 at the same time, then turn on the radio to lock the current channel. Press PTT key and side key 2 at the same time and power on again to unlock.

18. CTCSS QT/ DCS DQT

- CTCSS /DCS Settings can avoid signal interference with the same settings. 50 groups of CTCSS, 208 groups of DCS.

Abnormal treatment

- If this product is found abnormal when using, please check this table first.

Abnormal Situation	Possible Causes	
Can not turn on	Insufficient battery capacity	Charging or replacing the battery pack, and then turn on again
	Poor battery contact	Clean the electrode contact or reinstall the battery
Unable to charge	The battery voltage is too low	After inserting the charger, you need to wait for a few minutes to turn on the red light, and the charging is returned to normal
	Use non-standard accessories	Use the standard adapter (Note: non – standard charger may cause the radio damage)
	Battery failure	Change battery
Abnormal short distance	Antenna damage	Change antenna
	Environmental factor	If there are “high -power transmission base stations electromagnetic wave interference” or “weather factors” nearby, radio signals depend on air as the communication medium. For example, strong winds will cause radio to be disturbed by wind and sand electrical, and atmospheric reflection and scattering will also disturb the radio communication.
Low volume	The volume knob is not adjusted to the maximum volume	Rotate the volume knob and increase the volume
	The environment is harsh, the intercom is blocked	Clean up the speakers

Technical Parameters

General Specification

Frequency range:	PMR446 (EU Version) FRS (US Version) VHF/UHF (Professional Version)
Frequency stability:	± 2.5ppm
Operating temperature:	-20°C~+50°C
Way of working:	Same – frequency single or different frequency single work
Antenna impedance:	50Ω

Transmit

Transmit current:	≤1300 mA
Maximum deviation (wideband):	≤4.55KHz
Stray power:	≤ 7.5uW
Adjacent channel power:	≤- 65dB
Signal to noise ratio (wideband):	≤-45dB
CTCSS/DCS bias (wideband):	0.7±0.1KHz
Modulation sensitivity:	8~12mV

Receive

Sensitivity:	-122dBm (12dB SINAD)
Audio power:	≥350mW
Audio distortion:	<10%
Intermodulation (wideband):	≥65dB
Adjacent channel selectivity (wideband):	≥65dB
Clutter rejection:	≥65dB
Receive current:	≥350mA

[Note] If the specifications have changed due to technological improvement, it will not be notified separately.

FRS Frequency

Channel	Frequency	Channel	Frequency
1	462.5625	12	467.6625
2	462.5875	13	467.6875
3	462.6125	14	467.7125
4	462.6375	15	462.5500
5	462.6625	16	462.5750
6	462.6875	17	462.6000
7	462.7125	18	462.6250
8	467.5625	19	462.6500
9	467.5875	20	462.6750
10	467.6125	21	462.7000
11	467.6375	22	462.7250


PMR446 Frequency

Channel	Frequency	Channel	Frequency
1	446.00625	9	446.10625
2	446.01875	10	446.11875
3	446.03125	11	446.13125
4	446.04375	12	446.14375
5	446.05625	13	446.15625
6	446.06875	14	446.16875
7	446.08125	15	446.18125
8	446.09375	16	446.19375



This package is 100% recyclable.

Documents / Resources

	QUANSHENG TG-A1 Two Way Radio [pdf] User Manual TG-A1 Two Way Radio, TG-A1, Two Way Radio, Way Radio, Radio
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References

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