Welcome to use two-way radio

Main Functions

- Monitor
- Battery save/low battery alarm
- Lone worker
- End-tone elimination
- Battery Indicator
- Side key programmable
- Talk around
- 16 channels
- Digital/analog double modes
- Read and write by computer
- TX High/low power selection
- Time out timer
- Chinese and English audio prompt
- Busy channel lockout
- Online update
- QT(analog mode)
- DQT (digital mode)
- Wide band/narrow band selection
- Encryption
- Single call,group call



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03 *Charging the battery*
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Using tips
Unpacking and checking equipments.

Using tips

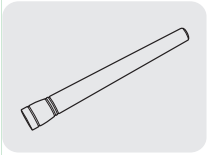
Please read the following brief instructions, non–compliance with these rules may cause danger or violate the law.

- Obey the local government regulation before using this radio, improper use may violate the law and be published.
- Turn off the radio before entering flammable or explosive areas
- Do not use radio whose antenna is damaged, touching of damaged antenna will cause heat injury
- Do not attempt to disassemble this radio; the maintenance work should be done by technical expert only
- To avoid troubles caused by electromagnetic interference of electromagnetic compatibility, please turn off the radio in places where have the banner "Do not use wireless equipment", such as hospital and other healthcare places.
- In the car with an airbag, do not put the radio under the direct sunshine or in hot areas.
- When you transmit with the radio, do keep away from its antenna for 5cm at least.
- If the radio appears smelly or smoke, please shut off its power immediately and contact with your local dealer
- Do not transmit too long, for the radio may heat and hurt the user.

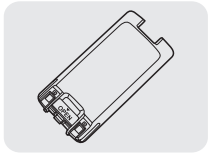
Unpacking and checking equipments

Carefully unpack the radio. We recommend you check the items listed in the following table before discarding the package. If any item is missing or has been damaged during shipment, please contact us immediately.

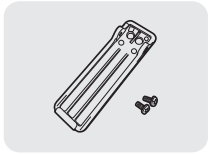
Supplied accessories:



Antenna (1)



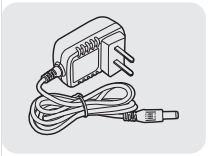
Li–ion battery (1)



Belt Clip (1)



Charger (1)



Charger Adapter (1)



User's Manual (1)

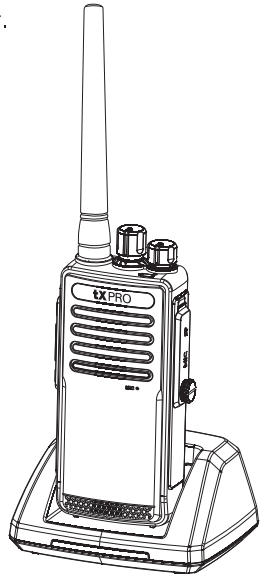
Note: The antenna frequency range please refers to the annular label at the bottom of antenna.

Charging the battery

- Insert the AC adaptor plug in the AC power output socket
- Insert the battery or radio with battery vertically in a charger.
- Make sure the battery and charger terminal is in good contact, when the charging indicator light turns red, it starts charging.

Note:

- Before inserting the battery, it is abnormal if the charging indicator blinks
- To change the battery for charging, please wait until the indicator is stable
- When te battery is well inserted, the indicator turns red and the charging is on the process, if the indicator blinks, then the battery is damaged or the temperature is too high or too low.



Charging precautions:

The battery is not fully charged in factory, please charge before using it. Charge and discharge the battery for 2–3 times, the battery capacity will reach the best condition. When the battery capacity is low, please charge or change the battery.

Applicable battery types

Please use the battery supplied by factory, it might cause the explosion or harm to human body.

Notice:

Do not short–circuit the battery terminal or drop the battery in the fire. Do not dissemble the battery by yourself.

Charge the battery between tempTerature 0℃ and 45℃. The battery can not be fully charged beyond this temperature range.

Do not unplug the power or battery when it is charged. The operating time becomes short even the battery is fully charged, the battery is exhausted, please replace the battery.

Please do not charge when the battery of the radio is wet. Please dry it with a cloth before charging to avoid any danger.

Warning

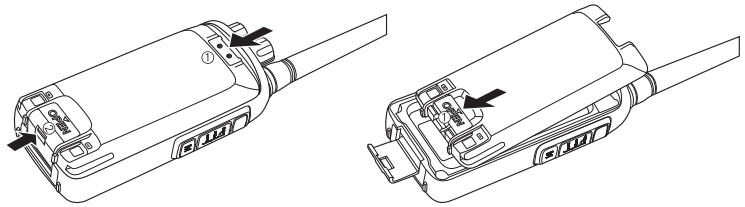
When the conductive metals such as jewellery, key or decorative chains touch the battery terminals, all the batteries are likely to cause damage to the items or personal injury. These conductive metals may from a short circuit and generates much heat. Do deal with any battery carefully, especially when put it into pocket, wallet or other metallic containers.

Assembling/disassembling the accessories
Get familiar with this two way radio

Assemble/disassemble accessories

Assemble/disassemble battery

To install the battery into the battery positioning hole of radio bettom, the press the battery, make the button completely to lock battery. Toremove the battery,please turn off the radio, and then push up the battery button of radio top, finally take off the battery.



Assemble/disassemble antenna

Assemble: Hold the end of antenna and rotate the antenna clockwise to the antenna hole until it's tight

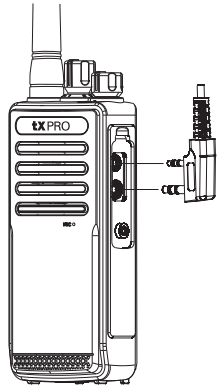
Disassemble: Rotate the antenna anticlockwise from the antenna hole.



Earpiece jack/Programming cable jack

Open the earpiece cover, insert the earpiece into the earpiece jack.

User can use the software to program the radio by this jack, too.



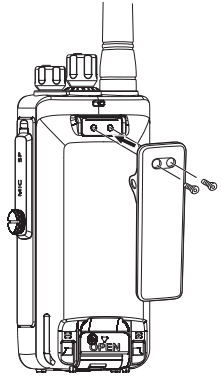
Assemble/disassemble the belt clip

Assemble the belt clip

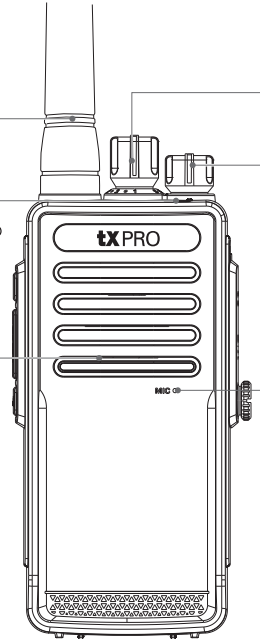
1. Remove the battery from the radio
2. Align the clamping slot of the belt clip to the mounting slot on the back of the battery, press the belt clip until it's tight.

Disassemble the belt clip

1. Remove the battery from the radio
2. Pull out the belt clip



Get familiar with this two way radio



Antenna

Channel knob

Power/Volume knob

Rotate the Power knob clockwise to turn on the radio; Rotate the Power knob anticlockwise to turn off the radio; Rotate the Volume knob to adjust the volume

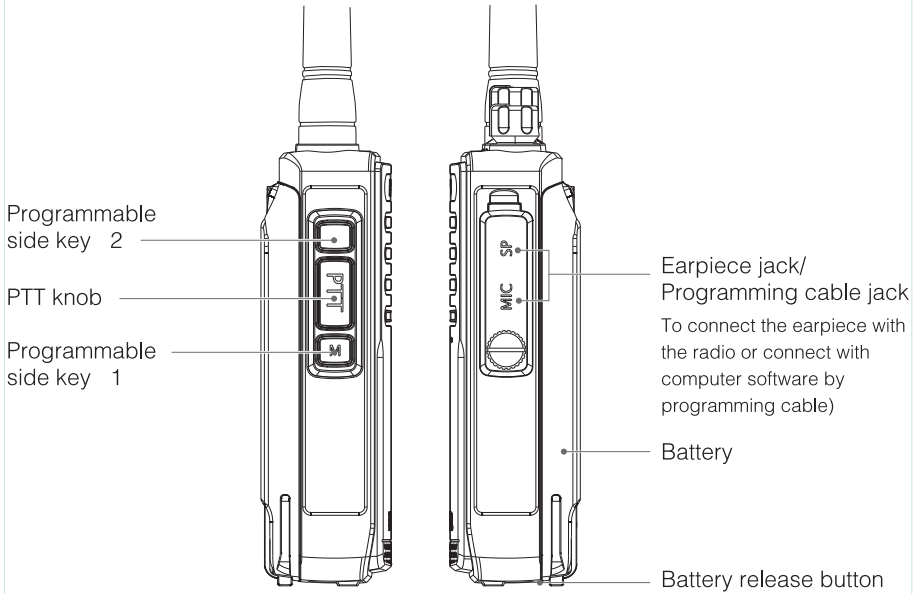
Indicator light

Indicator light turns red when radio is transmitting

Indicator light turns green when radio is receiving

Speaker

Microphone



Notice: In an emergency, users can press Programming side key 1 or 2 to activate the emergency call. Before using this radio, user should program the radio by matched software supplied by dealer.

Programmable side key function Setting

Programmable side key function

User can set side key P1 and P2 as the programmable function key as following functions: Monitor (Analog) Permanent Monitor (Analog) Encryption On/Off(Digital) Zone Selection BER Test (Digital) High/low Power Repeater/Talk around.

Monitor

Once user activates programmable side key as "Monitor", radio will make a squelch. This function is used to check if the current channel is occupied before communication. Monitor can release CTCSS/DCS temporarily. Also this function is used to receive the weak signal. Release side key to exit function

Permanent Monitor (Analog only)

Once user activates programmable function key as "Permanent Monitor", radio will monitor the chosen channel whether there someone is talking at the same channel. If not radio will make rustle.

Encryption

Digital only.

Only set the same encryption type of TX and RX can user communication with each other.

Zone Selection

Once user activates programmable function key as "Zone Selection" ,user can press this side key to select different zones programmed by software. Enter Zone2 when radio make the sound "Di" exit Zone2 when radio make the sound "DiDi".

BER Test(Digital)

User can activate programmable function key as "BER Test "to transmit the inspection code, inspection code is used to test radios which can decode by inspection code.

High/low Power

User can activate programmable function key as "High/low Power" to switch to high or low power.

Repeater/Talk around

User can activate programmable function key as "Repeater/Talk around" to switch to Repeater or Talk around .

Talk around: Two way radio's TX frequency and RX frequency become the same, TX signaling and RX signaling become the same.

Setting

QT/DQT

1) If user set the QT/DQT on one channel, user is able to ignore other calls on the same channel.
2) When users set QT/DQT on one channel, only receive the same QT/DQT can radio open the squelch. In the same way, only other people set QT/DQT the same as yours can they receive your call.
3) This radio has 50 groups of analog QT/DQT, 105 groups of digital QT/DQT available.

Battery save

In a period of time if user do not have any operation and not receiving data or measured effective carrier wave, radio will enter battery save mode, receiving circuit and DSP enter a low power state in cycle , which prolongs the use time of radio. Every time the radio is transmitting, according to the battery save mode settings, will send some pre carrier wave or voice head, in order to ensure that the sleep mode of the radio can be normally received. We call this time "Battery save mode delay time" ,which can be programmed by the programming software, ranging from 1S to 600S, the default value is 50S. Users can choose whether to open the battery save mod.e

Low battery alarm

When the voltage is lower than 5.8V, the radio is always in a low battery state, the red light flashes every 2 seconds, and the radio makes the "low power" alarm, remind the end user to charge or replace the battery in time

Communication setting

Analog communication

Right click Zone1 to add the analog channel (Open software–Zone setting–Zone1)
Enter the channel setting
Select channel bandwidth:12.5K or 25K
Set TX Frequency and TX Frequency
Set TX Enc QT/DQT and RX Dec QT/DQT
Set RX squelch mode
Set the TX power
Set the TX authority

Right click Zone1 to add the digital channel (Open software–Zone setting–Zone1)
Enter the channel setting, to set the Colour Code, only the same Colour Code can call on digital channel
Set TX Frequency and TX Frequency
Set the RX Group Lists (Correspond to TX Contacts)
Set the TX Contacts (Use can set the Call Type : Individual Call/Group Call /All Call)
Set the Tx Authority: Impolite
Set the In Call Creiteria: Allow TX

Contacts

Contacts only support digital mode

Write click【Digital Contacts】, and set the Call Type

Edit the corresponding ID

TX radio is able to select call the corresponding contacts

RX Group Lists

RX Group Lists only support digital mode

Select the contacts from RX Group Lists for group call(For the communication with TX radio)

Encryption

Select encryption type : Enhanced Mode0 /Enhanced Mode1

Set the Key No. and corresponding Key Value

Enter 【Zone1】,select digital channel, enter 【RX Setting】,tick the Encryption

Select one encryption key

Only the same encryption key can communicate

Frequency table
Technical specifications
Troubleshooting guide
Warranty card

CTCSS standard frequency table

CTCSS			
1–67.0	14–103.5	27–159.8	40–199.5
2–69.3	15–107.2	28–162.2	41–203.5
3–71.9	16–110.9	29–165.5	42–206.5
4–74.4	17–114.8	30–167.9	43–210.7
6–79.7	19–123.0	32–173.8	45–225.7
7–82.5	20–127.3	33–177.3	46–229.1
8–85.4	21–131.8	34–179.9	47–233.6
9–88.5	22–136.5	35–183.5	48–241.8
10–91.5	23–141.5	36–186.2	49–250.3
11–94.8	24–146.5	37–189.9	50–245.1
12–97.4	25–151.4	38–192.8	
13–100.0	26–156.7	39–196.6	

DCS standard group number

DCS							
023	071	143	266	355	452	532	664
025	072	145	271	364	454	546	703
026	073	152	274	365	455	565	712
031	074	155	306	374	462	606	723
032	114	156	311	411	464	612	731
036	115	162	315	412	465	624	732
043	116	165	325	413	466	627	734
047	122	172	331	423	503	631	743
051	125	174	332	431	506	632	754
053	131	205	343	432	516	645	
054	132	212	346	445	523	654	
065	134	223	351	446	526	662	

Specifications

General

Frequency range	400–512MHz
More frequency avallable	450–520MHz 136–174MHz 220–260MHz 245–245.9875MHz
More frequency avallable	256
Working voltage	7.2V
Working temperature	–30℃–+60℃
Storage temperature	–40℃–+80℃
Continuous working time	Analog:15 hours; Digital:25 hours
Battery capacity	2200Mah

Reveiver

Frequency range	400–512MHz
Channel spacking	12.5KHz
Frequency stability	+/–1.0ppm
Analog sensibility	0.35uV/–116dB m(20dB SINAD) 0.22uV/–120dB m(Typical)
Digital sensibility	0.3uV/–117.4dB m(BER5%) 0.7uV/–110dB m(BER1%)
Spurious response	TIA03C:65dB ETSI:65dB
Adjacent channel selectivity	TIA603C:60dB@12.5KHz ETSI:60dB@12.5KHz
Spurious response suppression	TIA603C:70dB ETSI:70dB
Receiving spurious emissions	< –57dBm@1GHZ, > –47dBm@
Blocking	84dB
Rated audio power	1W
Audio response	+1dB~–3dB
Rated audio distortion	⩽3%

Transmitter

Frequency range	400–512MHz
Channel spacking	12.5KHz
Frequency stability	+/–1.5ppm
TX power	Low: 1W High: 5W
FM noise	–40dB@12.5KHz
Spurious emission	< –36dBm@1GHZ, > –30dBm@
Adjacent channel selectivity	–60dB@12.5KHz
FM modulation mode	12.5KHz:11F0F3E
4FSK digital modulation mode	12.5KHz(data only)7K60FX 12.5KHz(data+voice)7K60FX
Modulation limit	2.5KHz@12.5KHz
Audio response	+1dB~–3dB
Reted audio distortion	≤3%
Digital protocol	ETSITSI02361–1,–1,–3
Vocoder type	AMBE+2TM

Note: Specifications will be revised without notice due to technical improvement.
Thank you !

Trouble shooting guide

Troubles	*Solution*
No Electrical Source	● The battery has been exhausted. Replace or recharge the battery. ● The battery is installed incorrectly. Remove it and install again.
The operating time becomes short, even the battery is fully charged.	● Replace the battery.
Not able to communicate with the transceivers of the same group.	● Confirm the QT/DQT is the same. ● The distance is outside of range.
The voice of another group can be heard.	● Change all QT/DQT of the group.
Other radios can not receive the TX signals or receive signals in a low volume.	● Switch the volume knob to the highest level ● The microphone may be damaged, send it to the local dealer for check.
Noise is always heard.	● The distance is outside of range. Turn on the radio in nearer range and try again.

txPRO

Warranty card

Note:

1. This warranty card is only applicable to two-way radio of the above-listed model and serial number.
2. The warranty card is an important document for the end-user to enjoy warranty service, please keep it well.
3. The warranty card shall be filled and chopped by the dealer, or it is invalid.

Customer's name: Gender:

Add and postal code:

Customer's Tel:

Model:

Serial number:

Purchasing date:

Invoice No.:

Dealer: Stamp:

Add and postal code of the dealer:

Contact Tel:

Handling people: