

KONGTOP

KT220

PROFESSIONAL HANDY VHF TRANSCEIVER

- Scramble for secret talks
- 128 memory channels
- 4 watts max output power
- VOX (voice operated system)
- DTMF
- Full scan&priority scan
- 50 CTCSS tone +105 DCS codes
- TOT (Time-out timer)

v 1.0

For users

Thank you for choosing our KT220 transceiver. It is designed to be cost-effective communication equipment in all commercial premises and for majority of amateurs, provide a perfect communications program to current fast-paced industries.

In order to fully understand your machine's performance, please read the manual carefully.

KONGTOP

INDEX

User Security Information	4
Specifications and parameters	12
Features	12
Products Inspection	13
Get Familiar with the Transceiver	14
Battery Information	15
Charging Operation	17
Disassembly and Reassembly	18
Basic Function	20
Shortcut Function Setting	25
Menu Function Setting	32
Advanced Function	37
Troubleshooting Guide.....	40
Maintenance and Cleaning.....	41

User Security Information

Handheld transceiver product safety and RF radiation



Warning: Please read the manual carefully before using. It contains the important safety using operation instruction, and RF energy and control information contributing to meet the PF radiation limitation requirement of national and international standards

Information provided in this manual may replace the general safety information of the editions before.

Handheld transceiver Safety Guidelines and Instruction

To control the transceiver radiation, ensure to meet the general or non-controlled environment radiation limitation standard, please operate following bellow procedures.

- Press PTT key when talking; and release PTT key when receiving. Because measured RF energy radiation will be generated when transmitting, so transmitting time should not exceed 50% of the using time.
- Place the transceiver vertically on the front, make sure the microphone (and other parts including the antenna) is no less than 1 to 2 inches (ie 2.5 to 5cm) away from your lips when transmitting signals. It is very important to keep the correct distance from the transceiver, since the farther away the less radiation.
- If you do not use any accessories, not place the transceiver on the front specified location, please make sure that it is no less than 1 inch (about 2.5cm) away from your body when transmitting signals. It is very important to keep the correct distance from the transceiver, since the farther away the less radiation.

Electromagnetic Interference/Electromagnetic Compatibility

Remark: Electromagnetic Interference (EMI) occurs in nearly every electronic equipment, by not enough shielding, improper design or incorrect equipment, by not enough shielding, improper design or incorrect electromagnetic compatibility configuration.

- Not allowed to change the transmitting frequency, to increase the transmission power (including the installation of additional RF power amplifier).
- Not allowed to use an external antenna or other transmitting antenna.
- Shall not cause harmful interference to a variety of legitimate radio services while using, if found harmful interference, should immediately stop using, and to take measures to eliminate the interference before continuing.
- Prohibition of interconnection with the public telephone network, public mobile communication network and other telecommunication networks.

Place

- To avoid electromagnetic interference and other problems caused by electromagnetic incompatibility, please turn off the transceiver in the place where there is a sign showing "NO transceiver". Hospitals or medical institutions may use external RF energy very sensitive equipment.
- Prohibit the use of airports and aircraft radio.

Medical devices

Pacemaker

Advanced Medical Technology Association of the United States proposes holding the handheld transceiver with pacemakers should be kept the distance of at least (15cm). These proposals are consistent with the provisions by the U.S. Food and Drug Administration.

With pacemakers should observe the following items:

- When the transceiver is turned on, the distance between the pacemaker and the transceiver at least 6 inches(15cm);
- Do not put the transceiver in a breast;
- Please use the pacemaker the other side of the ear to listen, to minimize potential interference;
- If you suspect transceiver interference with the pacemaker, immediately turn off it.

Hearing Aids

Some transceivers may interfere with some hearing aids. When there is such interference, you can consult the hearing aid manufacturer to discuss alternatives.

Other Medical Equipments

If you use other personal medical device, consult the device manufacturer to determine whether these devices can effectively shield radio frequency energy. Your doctor can provide you with such help.

Safe Driving

Check your car seat using the transceiver the relevant laws and regulations, and comply with the regulations.

If you use the transceiver while driving, please note the following:

- Concentrate on driving, pay attention to the situation of the road.
- If possible, try to use the walkie-talkie-free function operation.
- If the provision of using the transceiver while driving is prohibited, please drive the car to the roadside stop, and then make a call.

Operation warning**Car with airbag**

In the car with an airbag, do not put the transceiver within the reach of the expansion of the airbag, because the airbag inflates with great force. When the airbag inflates, the transceiver may be driven by the tremendous force generated, resulting in severe injuries inside the vehicle.

Possible gas explosion

Some places have potentially explosive gas, if your handheld transceiver can not be safely used in these places (such as factory, CSA, UL or ENELEC), please power off it before entering the places. Shall not remove off before entering the battery in these areas. Because of such gases in the spark will cause an explosion or fire resulting in casualties.



Mentioned above with a potentially explosive gas areas include:

Fuel zone, like the area below deck on boats, and the transmission or storage sites for fuel or chemical agents; places where air contains, like chemicals or such as straw, dust or metal powders. Areas contain potentially explosive gases will have general warning, but not all areas have this warning.

Fuse and blasting areas

To avoid possible interference with blasting operations, please switch off your transceiver when get close to blasting areas where deployed some detonators. Those pasted with the words to switch off wireless radio, you have to turn it off. Please observe all signs and instructions.

To prevent the magnetization

With weak external magnetic of transceiver speakers, to avoid being magnetized, please keep your transceiver far in 10cm away from TV sets, computer monitors etc.

**Notes**
Antenna

Not use the handheld transceiver with damaged antenna. It will cause skin mild burns if touch the damaged antenna.

Battery

If some of your body exposed conductive material contact the battery outside terminals, it will cause damage to property, or burns on human body. These conductive materials include jewelry, keys, or beaded necklace, they will form a loop with the battery (causes short circuit), generate considerable heat. Rechargeable battery storage must be very careful, especially been put in the pocket, purse or other container with metal objects. Waste batteries should not be thrown in the fire.

Earphone

Please turn down the volume first before using the earphone so as to avoid excessive hearing damage.

Speaker

When the volume setting is loud, the transceiver can not be too close to your ear, otherwise it would strain your ears.

Charging Equipment Notes

1. Do not expose the charger to rain or snow.
2. Do not use chargers by severe impact, or has been dropped, or subject to any damaged again.
3. Can not disassemble the chargers by severe impact, or has been dropped, or subject to any damaged.
4. Can not replace the original power cord and plug provided.
If plugs and sockets do not match, please ask for a qualified electrician to install an outlet to avoid electric shock.
5. To avoid damage to the power cord or outlet, holding and pull out the plug from the wall socket, do not pull the power cord to pull the plug.
6. To avoid electric shock, pulling out the charger plug from the wall socket prior to maintenance or cleaning.
7. The use of non **KONGTOP** proposed or supply attachments may cause fire, electric shock or personal injury.
8. Take care the power cord location, it should not be trampled, do not stumble, will not suffer damage or compression.
9. Do not use extension cords until it is absolutely required.
Improper use an extension cord, make sure:
 - Use the same extension cord plug pins.
 - Use specifications same as the charger plug.
 - Length of 30 meters or less using 18AWG wire, the length of 45 meters or less using 16AWG wire.
10. Can not replace the charger power cord. When the power cord is damaged, please stop using the charger immediately.

Specifications and parameters

General Specifications	
Device number	KT220
Frequency range	400-470MHz
RF power output	4W
Channel capacity	128 groups of memory channels
Channel step	narrow:12.5KHz
CTCSS/DCS	50CTCSS/105DCS
Frequency stability	±2.5PPM
Antenna Impedance	50 Ω
Operating Temperature	-20℃~+50℃
Power supply	7.4V
Battery type	1600mAh(Li-ion)
Dimensions	114 x 59 x 39 mm
Weight	213g

Features

- LCD display/white backlight
- VOX:Sensitive and delay settings
- Multi-function scan mode
- Voice compander/scrambler
- FM radio function
- PC programming
- Cable clone
- 9 SET squelch levels
- ANI(PTT ID Display)
- DTMF(PC or manual encode)
- Frequency reverse/offset
- Selectable Power H/L
- Busy channel lockout
- Time out timer
- Squelch tail elimination
- 4 display mode

Products Inspection

Welcome to use KT220 transceiver, and before using, we suggest:

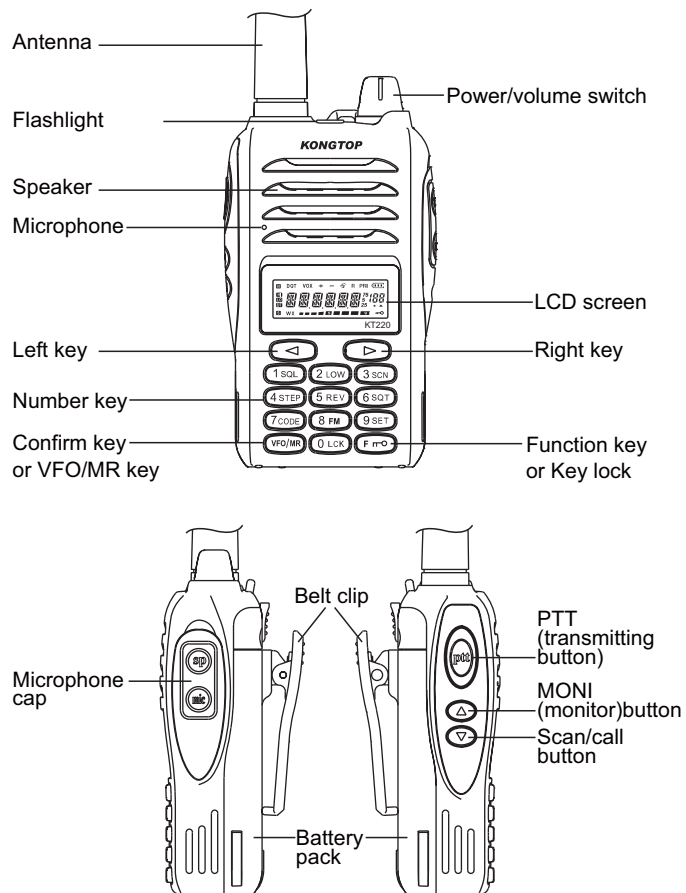
Please open the giftbox carefully to confirm whether the items as following table are all included; if you find any things lost or damaged, please contact with the dealer immediately.

Standard Accessorie

Items	Numbers
Transceiver	1
Antenna	2
Li-polymer battery	1
Battery charger	1
Adapter	1
Belt clip	1
Screws for belt clip	1
Hand Strape	1
User manual	1

Note:Please refer to the color-ring label at the bottom of the antenna for the antenna frequency band. If the label dose not indicate frequency band, you can turn to the label on the body of the transceiver.

Get Familiar with the transceiver



Battery Information

Battery on First Use

Since batteries leave factory without a fully charging, please charge the new battery before using. Under normal circumstances, the battery on first use needs 5 hours of charging. The first three times of fully charging and discharging provides batteries the best capacity. When you find electricity shortage, need to recharge or replace it.

Types of Compatible Battery

Please use the **KONGTOP** specific battery, it may cause explosion using other batteries, resulting in bodily injury.

Safety Precautions

1. Do not throw the battery into the fire.
2. Do not dispose the batteries as household wastes, and it must be collected and treated properly.
3. Do not rip off shell from the battery without permission.

Notes:

1. When charging, the temperature should be between 5°C~40°C, otherwise it may cause the leakage or even damage the battery.
2. Please shut down the transceiver while charging is ongoing will affect the normal battery charging.
3. Do not put back and charge the battery that is already full, for it will significantly reduce battery life cycle.
4. Since continuous charging will shorten the life of the battery, it is unwise to place the transceiver or battery on the charger, or take the charger as a placement seat for the transceiver.
5. Do not charge the battery when it is wet. In order to avoid any danger please dry it first.

6. If the battery's usage time is very short even when it has been charged in completely correct way, it means the battery reached the end of life and should be replaced by a new one.

Extension of Battery life

1. The performance of the battery will be reduced when the temperature drops below 0°C. In cold weather, it is advised to spare another battery for emergency. Please do not dispose the cold batteries that can not work at low temperature but may be usable at room temperature.
2. It may affect the normal use or charge of the battery, if it is covered with dust. Please clean the battery with dry cloth before loading or charging it.

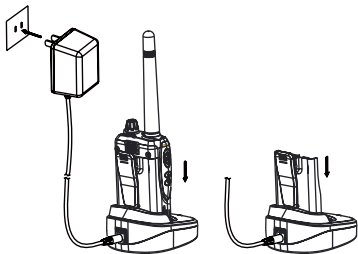
Knowledge about Battery Storage

1. Please do charge it fully before putting it aside so as to prevent damages caused by overdischarge, since the battery will self-discharge.
2. Please take out the battery after storage for some time to fill it, in order to avoid the reduction of battery capacity resulting from overdischarge. It is proposed for lithium-ion/lithium-polymer batteries to be filled in every 6 months of storage.
3. Please pay attention to the humidity of the battery storage environment. Batteries are supposed to be stored in the environment of room temperature, cool and dry air, to reduce the self-discharge.

Charging Operation

Charging Operation

Please use **KONGTOP** specified charger to charge the battery; the indicator light of the charger shows the completion.



Indicator Light	State
Red light	Be charging
Green light	Charging completion
Green light and Red light flash	No battery

Please do the following steps to charge:

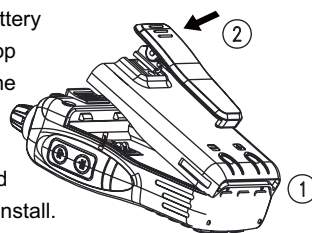
1. Insert the AC plug of the power adapter into the AC power outlet.
2. Insert the AC plug of the power adapter into the DC jack on the back of the charger, and the indicator will flash for a short time.
3. Place the battery or the transceiver with battery on the charger.
4. Confirm that the battery contacts are well connected with the charger contacts, and the charge indicator light turns red, which represent the beginning of the charging operation.
5. The indicator light turns green, it shows the completion of the charging operation.

Disassembly and Reassembly

Installation/Removal of the Battery

1.Installation of the battery

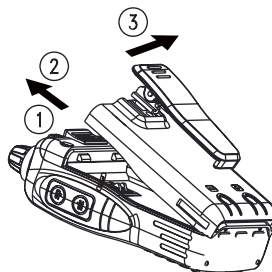
Remove the bottom of the battery into the ① thold. Press the top of the battery arrow ② until the "ka -ta" sound is heard.



Note: If the battery is not fixed well, please remove it and reinstall.

2.Removal of the the battery

To remove the battery, please make sure the transceiver is powered off, and then press ① button along ② direction. Pull the battery out according to the arrow ③ after the battery is detached.



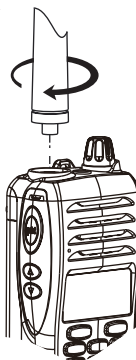
Note: When pulling out, the tilt angle of the battery with the transceiver can not be too large, so as to avoid heavy wear and tear between the bump at top of the battery and the groove at the top of the main body.

Installation/Removal of Antenna

1. Installation of the antenna

(1) Plug the screw-thread end of the antenna into the socket at the top of the transceiver.

(2) Rotate the antenna clockwise until tightening up, as shown below.



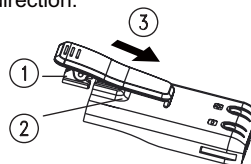
2. Removal of the antenna

Rotate the antenna counterclockwise to remove it.

Installation/Removal of Belt clip

1. Installation of the belt clip

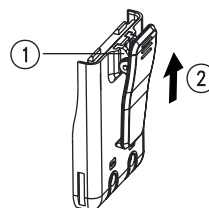
Remove ① aligning ② slot on the back of the battery case, and then pushed into ② slot along ③ direction.



Note: Do not install the belt clip unless the battery is off.

2. Removal of the belt clip

Press and hold ① button with the index finger, and then remove belt clip along ② direction.



Basic Function

Operation Guide

Buttons, Control knobs, Switches and Indicators

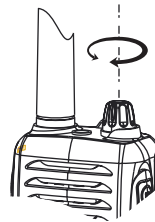
■ PWR/VOL (power / volume) control knob	For turning on or off the power of the transceiver and adjust the volume tone.
■ Transmitting indicator	When pressing PTT switch, the indicator flashes red light, indicating that the call is in transmission status.
■ Busy indicator	When in monitoring status and the squelch is turned on, the indicator displays ■■■■3■■■9, showing the phone is in busy status.
■ PTT (push-to-talk) key	Switch of the transmission and receiving status of the transceiver.
■ MONI (monitoring) key	When in receiving status, press this key and you can monitor the situation on the working channel; when you press the MONI key, the busy indicator light.
■ "F Key" key	For access into function menu.
■ Number keys	For frequency input and related functions setting.
■ ENT key	To confirm the functions chosen.
■ VFO / MR key	To display mode trigger and exit.
■ FM key	To enter or exit FM function.

Jack and connector

■ SMA connection	For connecting the antenna equipped with the transceiver.
■ Externally connected microphone and speaker jack.	If you are using externally connected microphone, speaker or both, please connect to this jack; when the jack is not in use, please don't let the water flow into the jack.

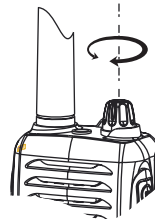
Power On/Off

Rotate the PWR/VOL control knob clockwise until a “ka-ta” sound is heard to turn on the power. Then you can see the indicators and frequency showing on the display (this machine has the auto-squelch function, no any sound heard until you receive a call). When you receive calls, the knob provides you the ability to change the volume for your listening habits. When shutting down the machine, you need to rotate it counterclockwise until a “ka-ta” sound is heard.



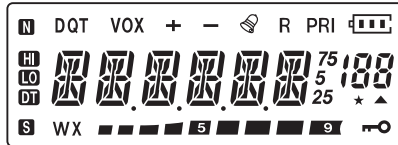
Volume Adjustment

As this type of machine has an auto-squelch function, you will hear nothing when the power is turned on and no call is received. You can hold down the MONI button, and then turn the PWR/VOL knob clockwise to increase the volume, or counterclockwise to decrease it.



Display

On the display, you can see all the indications indicating the selected content; sometimes, you may be unable to memorize the meaning indicated by the indicator light or the method to set, and now you will find the following table very useful.



■	Battery capacity indication
■ +	Dispersion higher than the receiving frequency
■ -	Dispersion lower than the receiving frequency
■ N	Narrowband indication
■	High power
■	Low power
■ S	Battery save
■	Key lock
■ DQT	DCS
■ QT	CTCSS
■ VOX	Voice operated transmission
■	Key tone
■ WX	FM function start
■ R	Display reverse frequency
■ PRI	Priority scan
■	Receiving signal strength, power indication
■	Frequency display
■	Function menu
■ *	When the channel selected can be opened through scanning, the symbol appears on the display.

Frequency Setting

Press the **(VFO/MR)** key to switch over the frequency mode, channel+frequency mode, channel mode and channel name mode.

1. Frequency Mode(VFO)

Frequency mode is the basic mode of altering the working frequency. Press the “►” key to increase the frequency and “◄” decrease it (step frequency adjustable to 5, 6.25, 10, 12.5, 25KHz). You could use the number keyboard to edit the frequency directly if the required operation frequency is far from the current one. (Note: You need enter the full 6 figures to finish the frequency alteration when you edit it.).

2. Channel+Frequency mode (MR)

Channel+frequency mode is the selected mode of altering transceiver channel, you could choose the required channel by press the “◄” or “►” key.

3. Channel Mode (CHANNEL)

The operation of channel mode is the same as channel+frequency mode, just the content displayed on the LCD is different.

4. Channel name Mode (NAME)

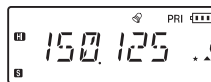
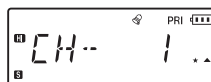
The operation of channel name mode is the same as channel+frequency mode, just the content displayed on the LCD is different.

For example: The first channel set the frequency as 150.125MHz, set the channel name as ABC, it will be

displayed on the LCD as the right picture in the channel mode.

In the channel + frequency mode, it will be displayed on the LCD as right picture.

In the channel name mode. it will be displayed on the LCD as right picture.



Transmitting

First of all, hold down the [MONI] button for while to confirm the channel you wanted is not busy, and then speak normally to the microphone at the front of the transceiver, while holding down the [PTT] button.

You speak too loud or too close with the microphone, it may distort the sound and reduce the signal clarity on the receiving side.

Release the PTT button to listen to the partner's voices.

Receiving

Release PTT key, transceiver enter the receiving mode.

Please adjust the volume appropriately to achieve the best listening effect.

Shortcut Function Setting

Squelch threshold setting

Press **F.M.O** + **9 SET** keys, press the “◀” or “▶” key to select menu 01, and the LCD displays “SQL 01”, press **VFO/MR** and it displays “SQL1”, then press the “◀” or “▶” key to select the squelch level you need, and there are (0~9 SET) for your choosing.

Press **VFO/MR** to save and exit.

The starting of ANI function

Press **F.M.O** + **9 SET** keys, press the “◀” or “▶” key to select 02, the LCD displays “ANI 02”. Press **VFO/MR**, the LCD will be display “ON/OFF”, then press the “◀” or “▶” key to select “ON/OFF”.

Press **VFO/MR** to save and exit.

Note: The ANI content should be programmed by PC software.

Transmission power setting

Press **F.M.O** + **9 SET** keys, press the “◀” or “▶” key to select 03, and the LCD displays “POWER 03”, Press **VFO/MR** to display “HIGH”, then press the “◀” or “▶” key to select the “HIGH” or “LOW” power.

Press **VFO/MR** to save and exit.

Scrambling switch setting

Press **F.M.O** + **9 SET** keys, press the “◀” or “▶” key to select 04, the LCD displays “SCRM 04”, Press **VFO/MR** and it displays “OFF”, indicating that the scrambler is off, then press the “◀” or “▶” key to select, it displays “ON”, indicating that the scrambler is on.

This function will make your talking content safer.

Press **VFO/MR** to save and exit.

Voice compander functions

Press **[F T-O]** + **[9 SET]** keys, press the “◀” or “▶” key to select 05, the LCD displays “COMP 05”. Press **[VFO/MR]**, it displays “OFF” indicating compressor+expander function has been off, When the function is on, received signal-to-noise will be highly improved to achieve a better and pleasant sound. Then press the “◀” or “▶” key to select.
Press **[VFO/MR]** to save and exit.

Tone on and off

Press **[F T-O]** + **[9 SET]** keys, press the “◀” or “▶” key to select 06, the LCD display “BEEP 06”. Press **[VFO/MR]**, it displays “ON” indicating that the tone is on, then press the “◀” or “▶” key to select, it displays “OFF” indicating that the tone is off.
Press **[VFO/MR]** to save and exit.

ROGER Tone

Press **[F T-O]** + **[9 SET]** keys, press the “◀” or “▶” key to select 07, the LCD display “ROGER 07”. Press **[VFO/MR]**, it displays “OFF” indicating it is off, then press the “◀” or “▶” key to select, it displays “ON” indicating it is on.
Press **[VFO/MR]** to save and exit.

Transmission time limit setting

Press **[F T-O]** + **[9 SET]** keys, press the “◀” or “▶” key to select 08, the LCD displays “TOT 08”. Press **[VFO/MR]** enter into setting, then press the “◀” or “▶” key to select “OFF~7M” step.
Press **[VFO/MR]** to save and exit.

TXSTOP setting

Press **[F T-O]** + **[9 SET]** keys, press the “◀” or “▶” key to select 09, the LCD displays “TXSTOP 09”. Press **[VFO/MR]** for setting, then press the “◀” or “▶” key to select “ON/OFF”.
Press **[VFO/MR]** to save and exit.

PRI setting (MR mode only)

Press **F m O** + **9 SET** keys, press the “◀” or “▶” key to select 10, the LCD displays “PRI 10”. Press **VFO/MR** enter into setting, then press the “◀” or “▶” key to select “OFF~001” step. Press **VFO/MR** to save and exit.

REV setting (MR mode only)

Press **F m O** + **9 SET** keys, press the “◀” or “▶” key to select 11, the LCD displays “REV 11”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “ON/OFF”. Press **VFO/MR** to save and exit.

VOX setting

Press **F m O** + **9 SET** keys, press the “◀” or “▶” key to select 12, the LCD displays “VOX 12”. Press **VFO/MR** it displays “VOX OFF”, then press the “◀” or “▶” key to select “OFF~9 SET” step. Press **VFO/MR** to save and exit.

VOX-T setting

Press **F m O** + **9 SET** keys, press the “◀” or “▶” key to select 13, the LCD displays “VOX T 13”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “1s~4s” step. Press **VFO/MR** to save and exit.

Light setting

Press **F m O** + **9 SET** keys, press the “◀” or “▶” key to select 14, the LCD displays “LIGHT 14”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “ON/OFF”. Press **VFO/MR** to save and exit.

STEP setting (VFO mode only)

Press **F F O** + **9 SET** keys, press the “◀” or “▶” key to select 15, the LCD displays “STEP 15”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select 5、6.25、10、12.5、20、25. Press **VFO/MR** to save and exit.

S-D setting (VFO mode only)

Press **F F O** + **9 SET** keys, press the “◀” or “▶” key to select 16, the LCD displays “S-D 16”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “-” / “+” / “OFF”. Press **VFO/MR** to save and exit.

DIFFR setting (VFO mode only)

Press **F F O** + **9 SET** keys, press the “◀” or “▶” key to select 17, the LCD displays “DIFFR 17”. Press **VFO/MR** for setting, then press the number on keyboard, select range is “0-37.9MHz”. Press **VFO/MR** to save and exit.

SQT setting

Press **F F O** + **9 SET** keys, press the “◀” or “▶” key to select 18, the LCD displays “SQT 18”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “ON/OFF”. Press **VFO/MR** to save and exit.

R-CDC setting

Press **F F O** + **9 SET** keys, press the “◀” or “▶” key to select 19, the LCD displays “R-CDC 19”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select 50 groups CTCSS or 104 groups CDCSS or “OFF”. Press **VFO/MR** to save and exit.

T-CDC setting

Press **F.mO** + **9 SET** keys, press the “◀” or “▶” key to select 20, the LCD displays “T-CDC 20 SET”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select 50 groups CTCSS or 104 groups CDCSS or “OFF”.

Press **VFO/MR** to save and exit.

SMODE setting

Press **F.mO** + **9 SET** keys, press the “◀” or “▶” key to select 21, the LCD displays “SMODE 21”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “TO/CO/SE”.

Press **VFO/MR** to save and exit.

SCAND setting

Press **F.mO** + **9 SET** keys, press the “◀” or “▶” key to select 22, the LCD displays “SCAND 22”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “0.5S-9.5S”.

Press **VFO/MR** to save and exit.

W/N setting

Press **F.mO** + **9 SET** keys, press the “◀” or “▶” key to select 23, the LCD displays “W/N 23”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “WIDE/NARROW”.

Press **VFO/MR** to save and exit.

SAVE setting

Press **F.mO** + **9 SET** keys, press the “◀” or “▶” key to select 24, the LCD displays “SAVE 24”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “ON/OFF”.

Press **VFO/MR** to save and exit.

LOCK setting

Press **F.mO** + **9 SET** keys, press the “◀” or “▶” key to select 25, the LCD displays “LOCK 25”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “KB+DL/KB”.

Press **VFO/MR** to save and exit.

DISP setting

Press **[F R/O]** + **[9 SET]** keys, press the “◀” or “▶” key to select 26, the LCD displays “DISP 26”. Press **[VFO/MR]** for setting, then press the “◀” or “▶” key to select “FREQ/NAME/CHANM”. Press **[VFO/MR]** to save and exit.

APO setting

Press **[F R/O]** + **[9 SET]** keys, press the “◀” or “▶” key to select 27, the LCD displays “APO 27”. Press **[VFO/MR]** for setting, then press the “◀” or “▶” key to select “APO OFF/1-10H”. Press **[VFO/MR]** to save and exit.

DC VLT setting

Press **[F R/O]** + **[9 SET]** keys, press the “◀” or “▶” key to select 28, the LCD displays “DC VLT 28”. Press **[VFO/MR]** to display the current voltage. Press **[VFO/MR]** to save and exit.

NM SET setting (MR mode only)

Press **[F R/O]** + **[9 SET]** keys, press the “◀” or “▶” key to select 29, the LCD displays “NM SET 29”. Press **[VFO/MR]** for setting, then press the “◀” or “▶” key to select the characters you wanted, then press the “F key” key to enter into next editing. Press **[VFO/MR]** to save and exit.

PTT ID setting

Press **[F R/O]** + **[9 SET]** keys, press the “◀” or “▶” key to select 30, the LCD displays “PTT ID 30”. Press **[VFO/MR]** for setting, then press the “◀” or “▶” key to select “ON/OFF”. Press **[VFO/MR]** to save and exit.

OPNMSG setting

Press **F.M.O** + **9 SET** keys, press the “◀” or “▶” key to select 31, the LCD displays “OPNMSG 31”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “OFF/DC/MSG”. Press **VFO/MR** to save and exit.

STE setting

Press **F.M.O** + **9 SET** keys, press the “◀” or “▶” key to select 32, the LCD displays “STE 32”. Press **VFO/MR** for setting, then press the “◀” or “▶” key to select “ON/OFF”. Press **VFO/MR** to save and exit.

RX Frequency setting (MR mode only)

Press **F.M.O** + **9 SET** keys, press the “◀” or “▶” key to select 33, the LCD displays “RX FRE 33”. Press **VFO/MR** for setting, then press 0-9 key to input the desired frequency range “136.000MHz-174.000MHz”. Press **F.M.O** to save and exit.

TX Frequency setting (MR mode only)

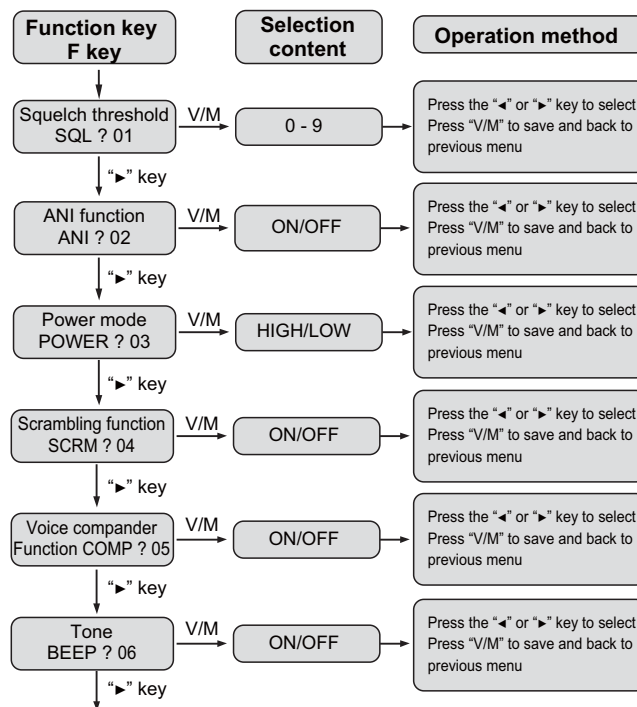
Press **F.M.O** + **9 SET** keys, press the “◀” or “▶” key to select 34, the LCD displays “TX FRE 34”. Press **VFO/MR** for setting, then press 0-9 key to input the desired frequency range “136.000MHz-174.000MHz”. Press **F.M.O** to save and exit.

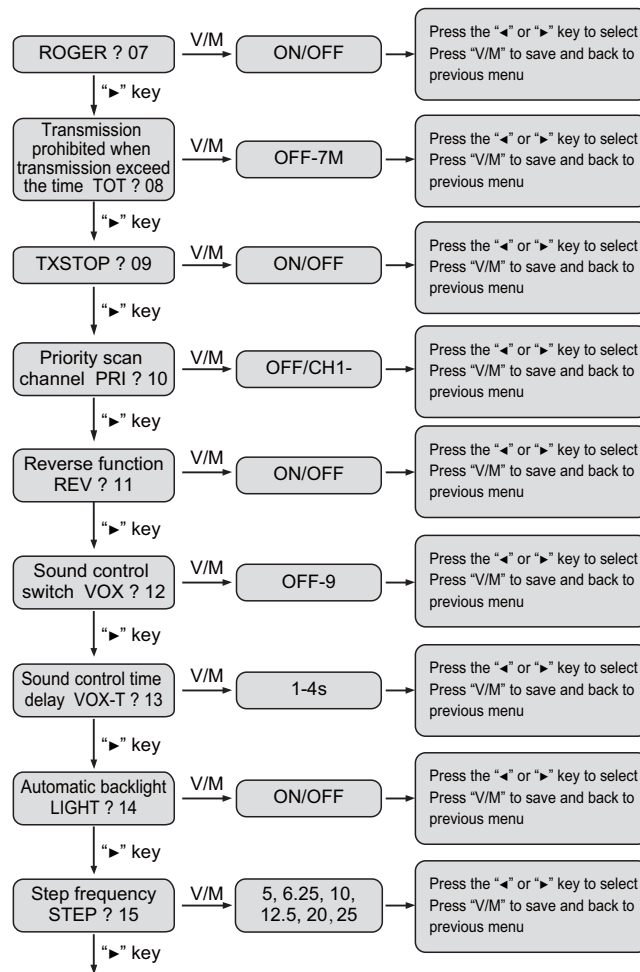
DEL CH setting (MR mode only)

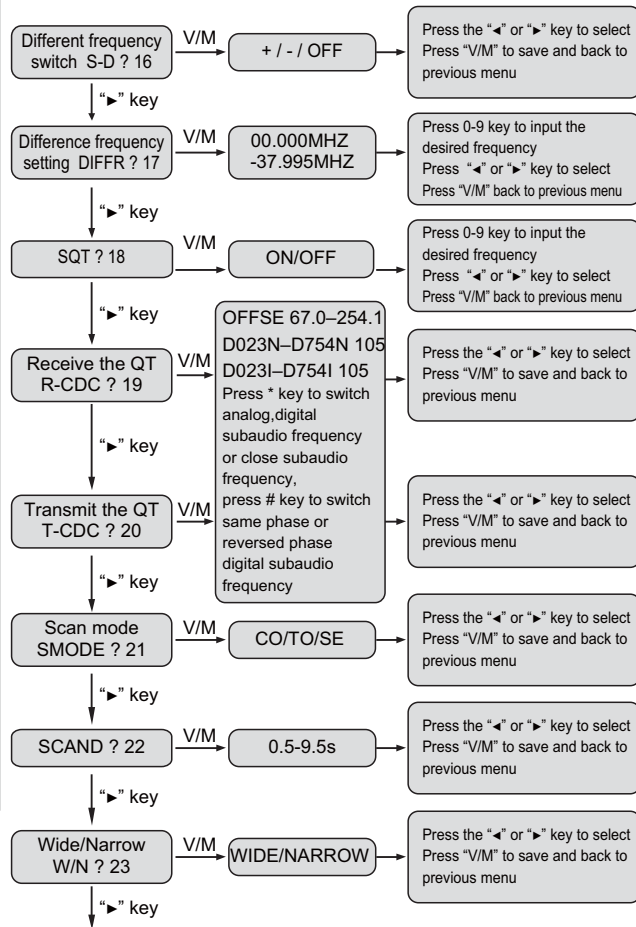
Press **F.M.O** + **9 SET** keys, press the “◀” or “▶” key to select 35, the LCD displays “DEL CH 35”. Press **VFO/MR** to select MR channel for deleting. Press **VFO/MR** to delete and exit.

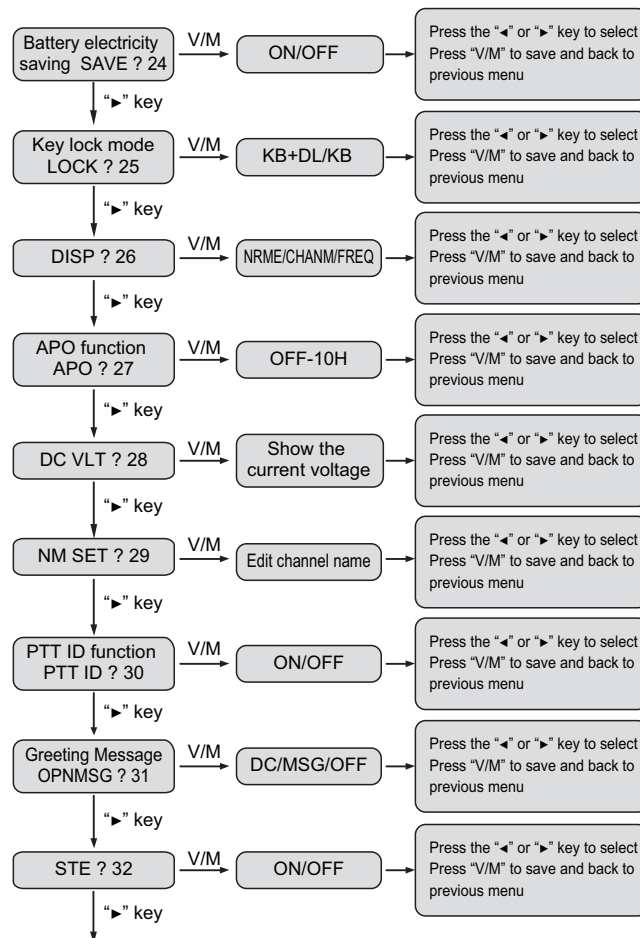
Menu Function Setting

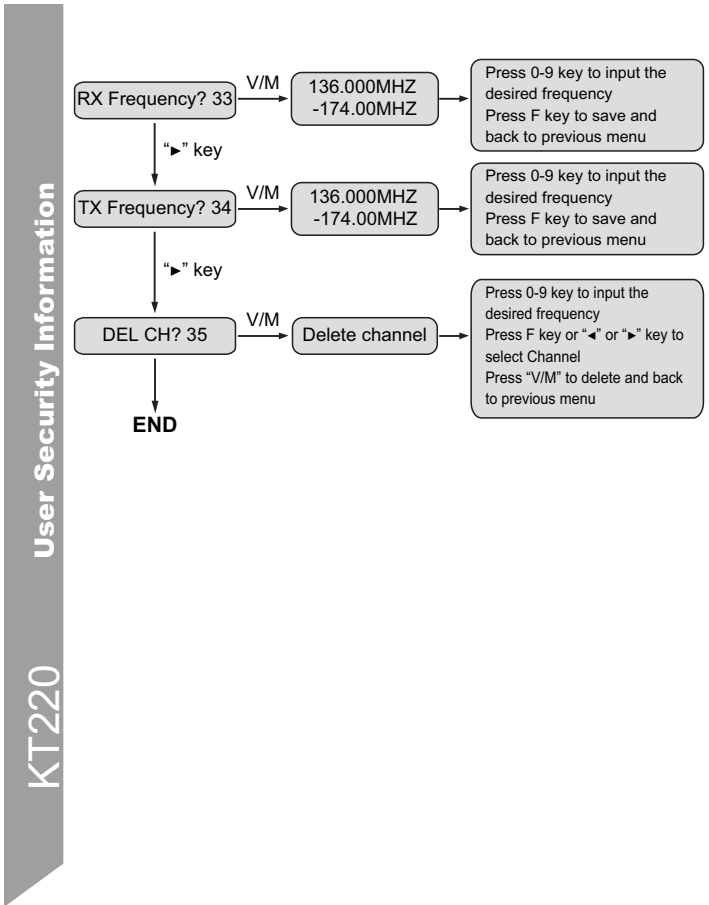
Menu operation mode











Advanced Function

Monitor function

Press and hold the MONI key, there should have the background noise. This function is used to determine the current is busy or not before the communication. It could relieve all the CTCSS/DCS, and also received the weak signal.

Channel name function

You could set the name of each channel by PC software so that you could find the calling channel more convenient.

ANI (PTT ID) function

The ANI code of receiving party will display on the LCD if you have received it, so that you could distinguish the calling directly.

Key lock function

Press the **F.M.O** for 3 second, the keyboard will be locked, and press this key again, it will be unlocked.

Channel scan

The scan is convenient for monitoring the frequency that you want without hand operation.

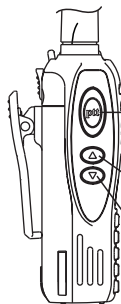
Store Memory Channel

Press **F.M.O**, enter memory mode. Press “◀” or “▶” key to choose ARFCN(Numbers below are triangles, it shows that have the data, or not). Press **VFO/MR**, memory set successfully.

Scan mode selection

Press the **F.M.O** and press **S.SET** to 20 item, displaying “SMODE 20”; press **VFO/MR** to confirm, and press the “◀” or “▶” key: select TO indicating time-operated scan, the transceiver will lock in a busy channel, then continue scanning other channel after 3 seconds; select CO indicating carrier-operated scan, then begins scanning other channels; select SE indicating search scan, the transceiver will lock in one busy channel all the time.

Side key operation



PTT: transmit key, pressing down indicates transmitting, and when released, the transmission is closed.

MONI: monitor key, pressing down indicates monitor the working condition of the frequency in.

CALL: press for 2 seconds, receiver radio will ring.

Squelch threshold setting

Press **F M-O** + **1 SQL** keys, enter into SQL level setting, then press the “◀” or “▶” key to select the squelch level you need, and there are (0~9 SET) for your choosing.

Press **VFO/MR** to save and exit.

HI/LO Power setting

Press **F M-O** + **2 LOW** keys, enter into HI/LO power setting, then press the “◀” or “▶” key to select “HI/LO”.

Press **VFO/MR** to save and exit.

Scan Mode

Press **F M-O** + **3 SCN** keys, enter into scan mode.

Press the “◀” or “▶” key to select scan direction, press the other key to stop Scan Mode.

Reverse setting

Press **F M-O** + **5 REV** keys, enter into reverse setting, then press the “◀” or “▶” key to select “ON/OFF”.

Press **VFO/MR** to save and exit.

SQT setting

Press **[F.M.O.]** + **[6 SQT]** keys, enter into SQT setting, then press the “◀” or “▶” key to select “ON/OFF”. Press **[VFO/MR]** to save and exit.

R-CDC and T-CDC setting

Press **[F.M.O.]** + **[7 CODE]** keys, enter into R-CDC, press **[VFO/MR]** for setting, then press **[VFO/MR]** to confirm and enter into T-CDC, press **[VFO/MR]** for setting, then press **[VFO/MR]** to confirm, and press **[F.M.O.]** to exit.

FM Radio Mode

Press **[F.M.O.]** + **[8 FM]** keys, enter into FM radio mode. Press again to exit. When entering FM radio mode, you can press “◀” or “▶” to choose, or press **[F.M.O.]** + **[3 SCN]** to scan the FM frequency, the transceiver will stay for reception and the frequency will be displayed on LCD. Press the **[F.M.O.]** + **[3 SCN]** again, the transceiver will continue scanning or you can input number keys 1-9 SET to select the FM frequency. You need to input 0 as the first digit if the frequency under 100.00MHz. The frequency reception range is 76~108MHz.

Set Mode

Press **[F.M.O.]** + **[9 SET]** keys, enter into set mode.

Light Control Key setting

Press **[F.M.O.]** + **[0 LOK]** keys, opening the light and press again to closing the light.

Troubleshooting Guide

Problems	Solutions
No Power	<ul style="list-style-type: none"> ● Battery may have been exhausted. Please update or recharging the battery. ● Battery may not be installed correctly. Please remove the battery and reload it.
Battery lasts no long after charging	<ul style="list-style-type: none"> ● Battery's lifetime is due. Please update the battery. ● Battery is not charged fully, so please ensure that the battery indicator is green when removing it.
It can not reach others of a group	<ul style="list-style-type: none"> ● Make sure you are using the same frequency and "sub-audio frequency/sub-audio digital settings" as other members of the group. ● Confirm whether you are in the valid range of transceiver since other members of the group may be too far away.
There are voices from other people rather than group members in the channel.	<ul style="list-style-type: none"> ● Please change the sub-audio frequency/sub-audio digital settings. At this time, be sure to change all the walkie-talkies of the group at the same time. (Need dealers to rechange.)
When transmitting voices, only a small or even no sound can be heard on the other side.	<ul style="list-style-type: none"> ● Confirm whether the rotary volume knob is to the appropriate volume. ● Send the machine to dealers to check the microphone.
Consistent noises	<ul style="list-style-type: none"> ● Other members of the group may be too far away and can not receive the voices you send, please get close and try again.

Maintenance and Cleaning

1. Do not lift the transceiver directly by its antenna or external microphone.
2. Dust the transceiver with an anti-pilling cloth to prevent bad contact.
3. When the transceiver is off work, please cover the microphone cap.
4. The buttons, control knob and the casing of transceiver are easy to become dirty after long usage, you can use a neutral detergent (do not use strong corrosive chemicals) and wrung damp cloth to clean it.

* The company reserves the right to change product design and specifications, and takes no responsibility for printing errors and omissions that may occur at the public division.

* Since technologies are developing continuously, the corresponding changes of product design and specifications will go without notice.

* The reproduction of this manual in part or entirety without permission is strictly prohibited.

* Our company reserves the right of final explanation to these commitments above.

User Safety Information



READ THIS IMPORTANT INFORMATION ON SAFE AND
EFFICIENT OPERATION BEFORE USING YOUR
KONGTOP PORTABLE TRANSCEIVER

Compliance with RF Energy Exposure Standards

Your KONGTOP TRANSCEIVER is designed and tested to comply with a number of national and international standards and guidelines (listed below) regarding human exposure to radio frequency electromagnetic energy. This radio complies with the IEEE (FCC) and ICNIRP exposure limits for occupational/controlled RF exposure environment at duty cycles of up to 50% talk-50% listen and should be used for occupational use only. In terms of measuring RF energy for compliance with the FCC exposure guidelines, your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode.

Note: The approved batteries supplied with this radio are rated for a 5-5-90 duty cycle (5% talk-5% listen-90% standby), even though this radio complies with the FCC occupational RF exposure limits at duty cycles of up to 50% talk.

Your KONGTOP TRANSCEIVER complies with the following of RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J
- American National Standards Institute (ANSI)/Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1999 Edition
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6. Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3KHz to 300GHz, 1999