

*Thanks for buying the **Wouxun** KG-659E series transceiver. This transceiver offers latest in design, multi-functionality, stable behaviour and easy operation. We believe you will be pleased with the high quality and dependable features for all your communication needs.*

**Wouxun**

Professional FM Transceiver

## User Safety, Training, and General Information

READ THIS IMPORTANT INFORMATION ON SAFE AND EFFICIENT OPERATION BEFORE USING YOUR **Wouxun** PORTABLE TWO-WAY RADIO.

### Compliance with RF Energy Exposure Standards

Your **Wouxun** two-way radio 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 **Wouxun** two-way radio 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

### Operational Instructions and Training Guidelines

To ensure optimal performance and compliance with the occupational/controlled environment RF energy exposure limits in the above standards and guidelines, users should transmit no more than 50% of the time and always adhere to the following procedures:

#### Transmit and Receive

To transmit (talk), push the Push-To-Talk (PTT) button; to receive, release the PTT button.

#### Hand-held radio operation

Hold the radio in a vertical position with the microphone 5 cm away from the lips and let the antenna

farther away from your head.

#### Body-worn operation

Always place the radio in an **Wouxun** approved clip, holder, holster, case, or body harness for this product. Use of non-**Wouxun** -approved accessories may exceed FCC RF exposure guidelines.

#### Antennas & Batteries

- Use only **Wouxun** approved, supplied antenna or **Wouxun** approved replacement antenna.
- Unauthorized antennas, modifications, or attachments could damage the radio and may violate FCC regulations.
- Use only **Wouxun** approved, supplied batteries or **Wouxun** approved replacement batteries.
- Use of non-**Wouxun** -approved batteries may exceed FCC RF exposure guidelines.



#### Approved Accessories

For a list of **Wouxun** approved accessories, see the accessories page of this user manual or visit the following website which lists approved accessories: <http://www.wouxun.com>

## Notices to the User

- Government law prohibits the operation of unlicensed radio transmitters within the territories under government control.
- Illegal operation is punishable by fine or imprisonment or both.
- Refer service to qualified technicians only.

**WARNING:** It is important that the operator is aware of and understand hazards common to the operation of any transceiver. Explosive environment(such as gases, dust, fumes, etc). Turn off your transceiver while talking on fuel, or while parked in gasoline service stations.

If you require this machine to be developed or some changed, pleased connect with  **Wouxun** or your  dealer.

## FCC Caution:

This equipment has been tested and found to comply with the part 90 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

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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 Licensing Requirements

Your radio must be properly licensed Federal Communications Commission prior to use. Your  **Wouxun** Wireless dealer can assist you in meeting these requirements. Your dealer will program each radio with your authorized frequencies, signaling codes, etc., and will be there to meet your communications needs as your system expands.

## Precautions

Only qualified technicians are allowed to maintain this product.

Do not use the radio or charge a battery in explosive areas such as coal gas, dust, steam, etc.

## Switch OFF the radio while refueling or parking at gas station.


Do not modify or adjust this radio without permission.

Do not expose the radio to direct sunlight over a long time, nor place it close to heating source.

Do not place the radio in excessively dusty, humid areas, nor on unstable surfaces.

Safety: It is important that the operator is aware of and understands hazards common to the operation of any radio.

### CE Caution:

Hereby,  **Wouxun** declares that this Two-way radio is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

A copy of the DOC may be obtained through the following address.

Address: No.928 Nanhuan Road, Jiangan High Technology Industrial Park, Quanzhou, Fujian 362000, China

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## Unpacking and checking of your equipment

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Carefully unpack the transceiver. We recommend that you identify the items in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, please notify your **Wouxun** dealer.

### Supplied accessories



Transceiver



High gain antenna



Li-ion batterypack



Intelligent charger



Adapter



Beltclip



Handstrap



User's manual



Service card

## Description of functions

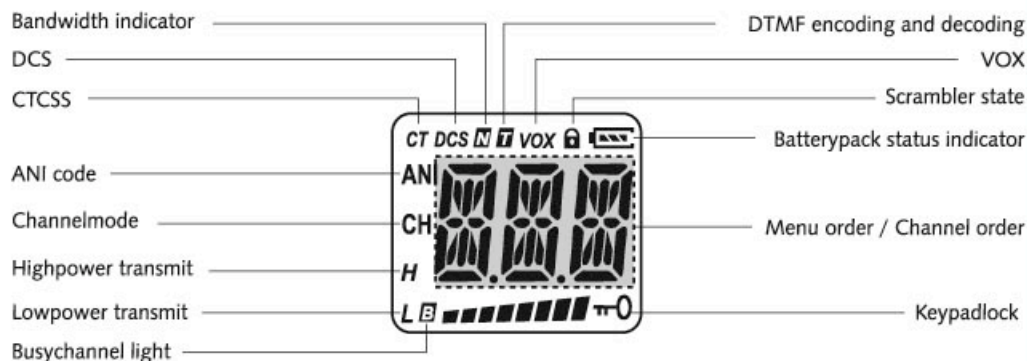
1. VHF: 66-88MHz      136-174MHz      245-246MHz  
UHF: 300-350MHz      350-390MHz      400-470.9875MHz      450-520MHz
  2. Output power: VHF: 5W/UHF: 4W
  3. DTMF encoding and decoding
  4. 5 tones (including 15 kinds standard)
  5. 2 tones
  6. 1750Hz burst tone
  7. Priority scan
  8. Digital FM radio with frequency display
  9. DCS/CTCSS of RX and TX can be set respectively.
  10. ANI (caller ID)
  11. VOX
  12. All calls, group calls and selective calls
  13. Calling ring function
  14. Scrambler available
  15. 105 groups DCS/50 groups CTCSS
  16. Voiceguide (English/Chinese)
  17. Wide/Narrow bandwidth selection (25KHz/12.5KHz)
  18. Three color backlight display
- 02

19. Channel order, channel name display method
20. Channel name edit available
21. Distant urgency alarm function
22. Multi scan function
23. Channel steps (5/6.25/10/12.5/25KHz)
24. High/Low power can changeable when on transmitting.
25. Intelligentcharger (Warning sound and dualcolor light)
26. Busy channel lockout
27. Multi display modes when power on (full screen/Batt-V/others)
28. Lowvoltage battery pack voiceprompt
29. Transmit overtime prompt
30. Keyboard lock (auto/manual)
31. Adding channelscan function
32. Programmable by computer
33. Menu/Channel reset
34. Wireclone function
35. Powersaving function
36. voice compress function

## Getting started

### LCD display

On the display you will see various indicators that show what function you have selected. Sometimes you may not recall what those indicators mean, or how to select them, in such a case, you can refer to the table below.



### Note:

- Battery pack capacity indicator (full)
- Battery pack capacity is exhausted
- Battery pack capacity spare indicator
- Receive signal meter

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### Description of transceiver

Topkey: Distant urgency alarm and emergency calling

Antenna

Receivelight

Upkey

Screen-/LCDdisplay

Downkey

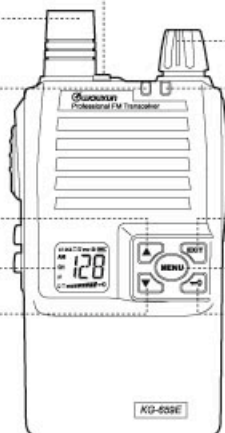
Powerswitch/Volumecontrol

Transmitlight

Exitkey/Scankey

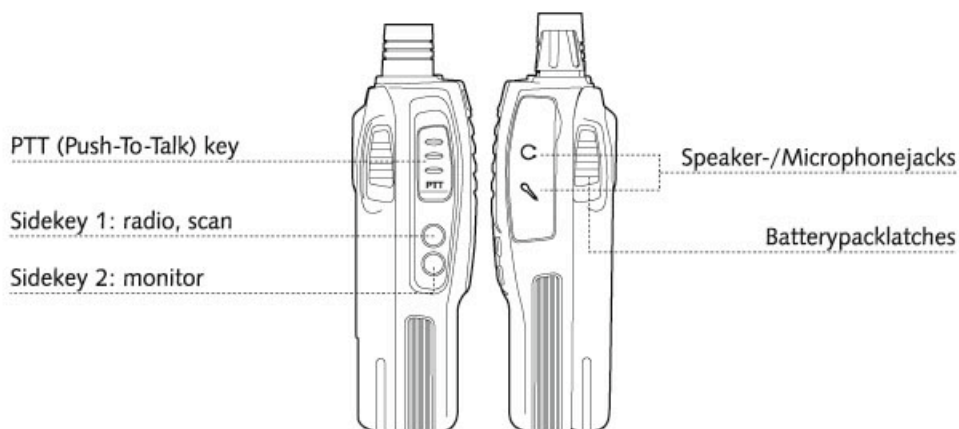
Functionkey

Lockkey



05





06

### ■ **Speed search**

When setting each function or parameter, press the ▲ or ▼ key one time can speed search the function or parameter.

- If you want to transmit the 1750Hz burst tone, you just press PTT and sidekey 1 at the same time.

# Shortcut operation sheet


















































































Function name	Enter function set	Screen display	Select parameter	Selectable parameter-explanation	Confirm	Back	See page
Setting squelch level	MENU → ▲/▼	SQL	MENU → Press ▲/▼ key Select parameter	Squelchlevel from 0-9	MENU	EXIT	P13
Setting battery pack savemode	MENU → ▲/▼	SPV	MENU → Press ▲/▼ key Select parameter	ON: Turn on save function 1:1/1.2/1.3/1.4 OFF: Turn off save function	MENU	EXIT	P13
Setting voice encrypt compress	MENU → ▲/▼	SCR	MENU → Press ▲/▼ key Select parameter	ON: Turn on scrambler. OFF: Turn off scrambler.	MENU	EXIT	P14
Transmit over timer	MENU → ▲/▼	TOT	MENU → Press ▲/▼ key Select parameter	TOT has 40 levels in steps of 15 seconds. OFF: Turn off TOT.	MENU	EXIT	P15
Setting VOX	MENU → ▲/▼	VOX	MENU → Press ▲/▼ key Select parameter	VOX has levels from 1 to 10. OFF: Turn off VOX.	MENU	EXIT	P15
Setting auto back light	MENU → ▲/▼	ABL	MENU → Press ▲/▼ key Select parameter	ON: Turn on auto back light OFF: Turn off auto back light	MENU	EXIT	P16
Setting voiceguide	MENU → ▲/▼	VOI	MENU → Press ▲/▼ key Select parameter	CHINES: Chinese ENGLISH: English OFF: Turn off voiceguide	MENU	EXIT	P18
Setting beeprompt	MENU → ▲/▼	BEP	MENU → Press ▲/▼ key Select parameter	ON: Turn on beeprompt OFF: Turn off beeprompt	MENU	EXIT	P19

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		Wouxun Professional FM Transceiver					
Setting DTMF sidetone	MENU → ▲/▼	STI	MENU → Press ▲/▼ key Select parameter	KEY: Turn on sidekey ANI: Turn on ANI sidetone BOH: Turn on both sidekey and ANI sidetone OFF: Turn off all	MENU	EXIT	P19 -20
Transmit overtime alarm	MENU → ▲/▼	TOA	MENU → Press ▲/▼ key Select parameter	ON: Turn on transmit overtime alarm. OFF: Turn off transmit overtime alarm	MENU	EXIT	P20
Setting priority scan function	MENU → ▲/▼	PSF	MENU → Press ▲/▼ key Select parameter	ON: Turn on priority scan function. OFF: Turn off priority scan function.	MENU	EXIT	P21
Setting priority channel scan function	MENU → ▲/▼	PCH	MENU → Press ▲/▼ key Select parameter	Have 200 groups channel can select	MENU	EXIT	P21 -22
Setting scanmode	MENU → ▲/▼	SCM	MENU → Press ▲/▼ key Select parameter	TO: Scan with time CO: Scan with carrier wave SE: Does not scan with carrier wave	MENU	EXIT	P23
Setting option signal	MENU → ▲/▼	SIG	MENU → Press ▲/▼ key Select parameter	4 kinds of signals WDS/DTMF: Double tone signal 2TONES: 2TONES signal 5TONES: 5TONES signal	MENU	EXIT	P24 -25
Setting mutemode	MENU → ▲/▼	SPM	MENU → Press ▲/▼ key Select parameter	3 kinds of mutemode QT/AND/OR	MENU	EXIT	P25 -26
Transmit PTT ID	MENU → ▲/▼	PTI	MENU → Press ▲/▼ key Select parameter	4 kinds of PTT ID BOT/EOT/BOH/OFF	MENU	EXIT	P26
Setting ANI ID CODE transmit	MENU → ▲/▼	PLI	MENU → Press ▲/▼ key Select parameter	Permit transmit ANI delay time from 1-30, unit:100ms 0: Turn off manual transmit	MENU	EXIT	P27


















































































09

# Shortcut operation sheet



Setting signal information	 →  /  →  →  → Press  /  key	Select parameter	15 groups signal information	→  →  P28
Emergency calling type	 →  /  →  →  → Press  /  key	Select parameter	3 kinds of emergency alarm ALARM: Field alarm ENI: Distant alarm BOH: Field + distant alarm	→  →  P28
Emergency calling channel	 →  /  →  →  → Press  /  key	Select parameter	200 groups calling channel	→  →  P29
Select ringmode	 →  /  →  →  → Press  /  key	Select parameter	4 kinds of ringmode SOUND/BIV/BOH/OFF	→  →  P29
Setting runtime	 →  /  →  →  → Press  /  key	Select parameter	10 levels, 1 second different 0 means turn off ringtime prompt	→  →  P30
Setting working mode	 →  /  →  →  → Press  /  key	Select parameter	CH: Channel order display FREQ: channel frequency + channel order display. NAME: channel name + channel order display	→  →  P30 -31
Setting keyboard lock	 →  /  →  →  → Press  /  key	Select parameter	ON: Turn on autolock OFF: Turn off autolock	→  →  P31
Setting power on message	 →  /  →  →  → Press  /  key	Select parameter	FULL: Full screen display MSG: WELCOME. BATT-V: Battery voltage display	→  →  P32
Setting sidekey1(PF1)	 →  /  →  →  → Press  /  key	Select parameter	FM: FM radio key. CALL: Signal calling at present DIS: Delete receive JP-PRI: Switch to priority scan channel. JP-EMC: Switch to emergency calling mode.	→  →  P32 -33

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Setting topkey(PF2)	 →  /  →  →  → Press  /  key	Select parameter	EMCALL: Turn on alarm function. CALL01-CALL15: Signal calling key.	→  →  P34 -35
Define MONI key	 →  /  →  →  → Press  /  key	Select parameter	CONTIN: Continual turn off squelch diagram via keep press MONI key one time. PRESS: Continual turn off squelch diagram via just press MONI key one time.	→  →  P35
Selecting standby display-color	 →  /  →  →  → Press  /  key	Select parameter	BLUE: Blue backlight ORANGE: Orange backlight PURPLE: Purple backlight OFF: Turn off backlight	→  →  P36
Selecting receive display-color	 →  /  →  →  → Press  /  key	Select parameter	BLUE: Blue backlight ORANGE: Orange backlight PURPLE: Purple backlight OFF: Turn off backlight	→  →  P36
Selecting transmit display-color	 →  /  →  →  → Press  /  key	Select parameter	BLUE: Blue backlight ORANGE: Orange backlight PURPLE: Purple backlight OFF: Turn off backlight	→  →  P37
Delete channel	 →  /  →  →  → Press  /  key	Select parameter	200 channels	→  →  P38
Setting VOX-T	 →  /  →  →  → Press  /  key	Select parameter	Total has 20 levels Unit: 100ms	→  →  P38 -39
Setting Companding	 →  /  →  →  → Press  /  key	Select parameter	ON: Turn on COMP OFF: Turn off COMP	→  →  P39
Setting reset	 →  /  →  →  → Press  /  key	Select parameter	VFO: Menu reset ALL: All message reset	→  →  P40

## Shortcut operation sheet

- Speed search  /  (See page 7)
- High/Low power changeable when on transmitting(See page 14)
- Setting transmit overtime prompt (See page 41 )
- Lowvoltage batterypack voiceprompt (See page 41)
- Adding channelscan (See page 41)
- Wireclone function(See page 41)

## How to operate

### Setting squelch level (SQL)










Select the level of squelch so that you will have no difficulty receiving the desired signal. When you set the level too high you will loose communication in a fringe area, and if too low you will affect by the noise or other needless signal.

#### NOTE

» This transceiver has steps from 0-9, which step 0 is always open squelch. From 1 to 9 gives different levels of noise reduction.

In standby, press  +  /  till the screen display   
Press  enter, press  /  to select the desired squelchlevel.  
Press  to confirm, then press  to return to standby.

### Setting batterypack savemode (SAV)

In standby, press  +  /  till the screen display   
Press  enter, press  /  to select one of 1:1/ 1:2/1:3/1:4/OFF.  
Press  to confirm, then press  to return to standby.  
1:1/1:2/1:3/1:4 means the radio receive circuit turn on and off pulse ratio.



## How to operate

### Selecting transmitpower (TXP)

#### NOTE



- » This transmitpower has 10 levels can be selected, this means it will higher and higher from 1 to 10.
- » High/Low power can be changed during transmit. Press PTT key and topkey at the same time, this will change High/Low power.
- » This function only can be edited by KG-659E programming software.

### Setting voice encrypt compress (SCR)

SCR: Use the scrambler, it can encrypt the communication and make the transceiver who do not use the scrambler can't hear clear what you are talking, meanwhile you also can't hear clear others, who do not use the scrambler, what they are talking.

In standby, press  +  /  till the screen display 

Press  enter, press  /  to select OFF to switch off this function or turn on SCR.

Press  to confirm, then press  to return to standby.

#### NOTE

- » To ensure effective communications the radio's must be set to the same voice encrypt.
- » This function only can be edited via KG-659E programming software.


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### Transmit over timer (TOT)

The TOT is designed to prevent your radio to transmit too long. When the transceiver is exceeding the preset time limit it will stop transmitting and give you a warning signal.

This transceiver can be set in 40 steps of 15 seconds, between 15 and 600 seconds.






In standby, press  +  /  till the screen display 

Press  enter, press  /  to select the level you need when on transmit.

Press  to confirm, then press  to return to standby.

### Setting VOX (VOX)

In standby, press  +  /  till the screen display 

Press  enter, press  /  to select VOX OFF or to switch on the 1 to 10 different sensitivity-levels. Press  to confirm, then press  to return to standby.

#### NOTE

- » When level is too high the VOX needs more volume to get activated.
- » When scan or radio is in using, you can not use VOX.

## How to operate






### Setting wide and narrow bandwidth (WN)

#### NOTE

» This function only can be edited by KG-659E programming software.

### Setting auto backlight (ABR)

In standby, press  +  /  till the screen display 

Press  enter, press  /  to select 1 to 5 to turn on auto backlight or when you want to switch OFF backlight. Press  to confirm, then press  to return to standby.

#### NOTE

» Time of auto backlight of this transceiver has 5 levels of which 1 second difference.

### Setting receive CTCSS (RCT)

Sometimes may be you only want to hear the calling which comes from the specific individual or group, then you can ignore some (can not hear from others who using the same frequency) calling through CTCSS/DCS. Only receive the same signal of CTCSS/DCS, the radio will release the mutemode.

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#### NOTE

- » This transceiver has 50 groups different CTCSS tones, see appendix (1) CTCSS frequency sheet.
- » This function only can be edited by KG-659E programming software.

### Setting receive DCS (RDC)

#### NOTE

- » This transceiver has 105 groups different DCS codes, see appendix (2) DCS frequency sheet. And DxxxN means positive code, DxxxI means negative code. The range of positive code is between D023N and D754N, negative code is between D023I and D754I.
- » This function only can be edited by KG-659E programming software.

### Setting transmit CTCSS (TCT)

#### NOTE

- » This transceiver has 50 groups different CTCSS tones, see appendix (1) CTCSS frequency sheet.
- » This function only can be edited by KG-659E programming software.

## How to operate

### Setting transmit DCS (TDC)




#### NOTE



» This transceiver has 105 groups different DCS codes, see appendix (2) DCS frequency sheet. And DxxxN means positive code, DxxxI means negative code. The range of positive code is between D023N and D754N, negative code is between D023I and D754I.

» This function only can be edited by KG-659E programming software.

### Setting voiceguide (VOI)

In standby, press  +  /  till the screen display 

Press  enter, press  /  to either select English or OFF to switch off the voiceguide.

Press  to confirm, then press  to return to standby.

#### NOTE

» If want turn off all keypad voiceguide should turn off BEEP and voiceguide at the same time.




### Setting beeprompt function (BEE)



Beeprompt is to tell you if the transceiver is operating well or has a malfunction.

We kindly suggest you to switch on this function.

This function will inform you for any possible malfunction.

In standby, press  +  /  till the screen display 

Press  enter, press  /  to switch on the beep or OFF when you want to switch off the beep.

Press  to confirm, then press  to return to standby.

#### NOTE

» When voiceguide is switched on, the voice guide gets priority.

### Setting DTMF sidetone (STD)

DTMF sidetone gives you the opportunity to switch on or off the speaker when transmit DTMF.

The transceiver has 4 different options.

**KEY:** Switch on sidekey when transmitting.

**ANI:** Switch on the ANI sidetone when transmitting.

**BOH:** Sidekey and ANI are both on.

**OFF:** Turn off all.

## How to operate

In standby, press **MENU** + / till the screen display

Press **MENU** enter, press / to select one function of KEY/ANI/BOH/OFF.

Press **MENU** to confirm, then press to return to standby.

### Setting transmit overtime alarm (TOA)

Transmit overtime alarm is the setting to alarm the user that he/she has reached the preset time and there will a voiceprompt and light will flicker during transmit.

The transceiver can be set from 1 to 10 TOA in steps of 1 second.

In standby, press **MENU** + / till the screen display

Press **MENU** enter, press / to select OFF or to set 1 to 10 for the overtime alarm.

Press **MENU** to confirm, then press to return to standby.

### Busy channel lockout (BCL)

This function is to prevent that interfere others who is on communicating. If the channel you have selected which is using by other radio, at this time press PTT key, you can not transmit.

#### NOTE

» This function only can be edited by KG-659E programming software.

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### Adding channelscan (SC-ADD)

This function ensure that whether the chnnel which stored in the channel be added to scan list or not.

#### NOTE

» This function only can be edited by KG-659E programming software.

### Priority scan function (PSC)

When the transceiver is in non-priority frequencymode, it still check activity of the priority channel, once there has an action at priority channel, the transceiver will auto work in the priority channel.

In channel mode, press **MENU** + / till the screen display

Press **MENU** enter, press / to turn on or turn off.

Press **MENU** to confirm, then press to return to standby.

### Setting priority channel scan function (PCH)

This function means any channel which has been programmed can be set as priority scan channel.

In channel mode, press **MENU** + / till the screen display

Press **MENU** enter, press / to select the desired channel.

Press **MENU** to confirm, then press to return to standby.



### NOTE

- » This transceiver priority scan channel from 0 to 199 can selectable.
- » There is only display a "CH" on LCD screen, that means radio has startup priority channel scan.
- » Startup priority channel scan function needs two conditions: 1. Do priority channel scan switch on.  
2. This function scan the channel which has been stored.
- » In frequency mode, channel mode or scanning, when transceiver detects a signal, it will transfer the priority channel, after the signal disappeared 3 seconds if you don't do any operation, transceiver will back to frequency and go on priority scan.
- » The speed of startup or resume priority scan is relative to the setting backlight. When if the backlight be set as "1", then the speed of startup or resume priority scan will be the fastest.
- » When the priority channel which has been set parameter receive signal, if with the same frequency, then radio can transfer the priority channel.
- » The transferred priority channel only be used to communication, you can't do any other operation until radio resumes frequency.

### Setting scanmode (SCN)

The transceiver will stop scanning when detect the frequency (or memory channel) of signal. According to the method of the restoring that you selected, the transceiver will resume or stop scanning.

The transceiver has three scanmodes.



**TO:** After signal in channel disappears the transceiver will start scanning if without any operation within 5 seconds.

**CO:** After the transceiver stopped on a signal it will resume scanning again in 3 seconds when signal disappears.

**SE:** Scanning will stop when receives a signal.

In standby, press  +  /  till the screen display 

Press  enter, press  /  to select TO, CO or SE.

Press  to confirm, then press  to return to standby.

### NOTE

- » Switch on scanning: Press the sidekey 1.

## How to operate

### Setting option signal (SIG)

In channelmode, press + / till the screen display

Press enter, press / to select one kind of WDTM/DTMF/2-TONES/5-TONES.

Press to confirm, then press to return to standby.

### NOTE

» This function only can be edited via KG-659E programming software.

### DTMF, 2-TONES, 5-TONES.

1. When DTMF/2-TONES/5-TONES signaling is programmed in a channel. Press PTT key to transmit DTMF/2-TONES/5-TONES signal.
2. When DTMF/2-TONES/5-TONES is set in a channel, the preset functions will be activated only when the matching DTMF/2-TONES/5-TONES signals are received.
3. Likewise, your signals will be received only by parties using the same DTMF/2-TONES/5-TONES.
4. Setting signal

### NOTE

» Every transceiver in the group must be set DTMF/2-TONES/5-TONES option signal, the details see to the setting option signal function.

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5. Setting DTMF sidetone according your requirement to select.
6. Mutemode must have set as AND.
7. Setting PTT transmit  
Depend on your requirement to select one of the BOT/EOT/BOTH.
8. Setting S-INFO  
The receiver's and the transmitter's signaling must be set the same.
9. Setting PTT-LT  
In fact, the signal can delay before transmitted.

### Setting mutemode (SPM)

The mutemode is to turn on/off the speaker audio according to your optional signal setting. This transceiver has three kinds of mode which can be selected.

1. **QT:** When the transceiver receives a signal and suited CTCSS tone it will switch on the speaker. When transceiver has not be set a CTCSS tone, then receives a signal which can switch on squelch it also can switch on speaker.
2. **AND:** When the transceiver receives a suited QT and DTMF signal it will switch on the speaker.
3. **OR:** When the transceiver receives a suited QT or QT+DT signal it will switch on the speaker.

In standby, press + / till the screen display

## How to operate

Press **MENU** enter, press / to select one of QT or AND or OR.

Press **MENU** to confirm, then press to return to standby.

### NOTE

» This function only can be edited via KG-659E programming software.

### PTT ID (PTT)

PTT ID means that the method of transmitting the ID CODE.

1. **BOT**: When press PTT key, the ID code was transmitted.
2. **EOT**: When release the PTT key, the ID code was transmitted.
3. **BOH**: When press or release the PTT key, the ID code was transmitted.
4. **OFF**: The radio can't transmit the ID code when turn off all.

In frequency mode, press **MENU** + / till the screen display

Press **MENU** enter, press / to select one of BOT/EOT/BOH/OFF.

Press **MENU** to confirm, then press to return to standby.

### NOTE

» This function only can be edited via KG-659E programming software.

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### Setting ANI ID CODE transmit (PLT)

Setting ANI ID CODE on transmit is needed to send ANI everytime when you press your PTT key.

**1-30**: Permit transmit ANI delayed time from 1 to 30. Unit: 100ms

**0**: Do not delay to transmit ANI ID CODE

In standby, press **MENU** + / till the screen display

Press **MENU** enter, press / to select 1 to 30 for delay transmit ANI or OFF to switch off ANI delay transmit.

Press **MENU** to confirm, then press to return to standby.

### NOTE

» When alarming, if this menu does not be set as "0", but be set one of the number between 1 and 30, then the setting delayed time will be delayed to transmit signalcode and alarmcode.

» When the frequency has set WDTS/DTMF/2-TONES/5-TONES signals, if this menu does not be set as "0", but be set one of the number between 1 and 30, then the setting delayed time will be delayed to transmit signalcode.

## How to operate

### Setting signal information (SIN)

This function means selects channelcode which be used to program channelsignal.

In standby, press **MENU** + / till the screen display

Press **MENU** enter, press / to select from 1 to 15.

Press **MENU** to confirm, then press **EXIT** to return to standby.

This function only can be edited via KG-659E programming software.

### Emergency calling type (ETP)

This transceiver has 3 kinds functions.

1. **ALARM:** Field alarm

2. **ENI:** Distant alarm

3. **BOH:** Field + distant alarm

In standby, press **MENU** + / till the screen display

Press **MENU** enter, press / to select ALARM/ENI/BOH.

Press **MENU** to confirm, then press **EXIT** to return to standby.

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### Emergency calling channel (ECH)

Select one of the channel which had been programmed use for emergency calling.

In standby, press **MENU** + / till the screen display

Press **MENU** enter, press / to select the desired channel.

Press **MENU** to confirm, then press **EXIT** to return to standby.

In channelmode, this function can work only when the emergency calling type be set as ENI and BOH.

In channelmode, this function only work in the present channel if do not set emergency calling type.

### Select ringmode (RIN)

Setting calling ring means after the transceiver receive the matching signal, it will be announced from the speaker.

This transceiver has 4 kinds of ringmode can be selectable.

**SOUND:** Turn on ring

**BIV:** Turn on libration

**BOH:** Turn on ring and libration

**OFF:** Turn off all

In standby, press **MENU** + / till the screen display

Press **MENU** enter, press / to select one of SOUND/BIV/BOH/OFF.

Press **MENU** to confirm, then press **EXIT** to return to standby.



## How to operate

### Setting ringtime(RIT)

It will switch on the speaker when it is over the preset ring time.

In standby, press **MENU** + / till the screen display

Press **MENU** enter, press / to select the time of the ring between 0 and 10.

Press **MENU** to confirm, then press **EXIT** to return to standby.

### NOTE

» This transceiver has 10 different steps of ringtime of which every step is 1 second difference, this means that 0 will switch off the ring.

### Setting working mode (CAM)

This transceiver has two selectable display modes: channelorder display, channelname + channelorder display .

In standby, press **MENU** + / till the screen display

#### 1. Channelorder display mode

Press **MENU** enter, press / select CH and the screen will display

Press **MENU** to confirm, then press **EXIT** to exit.

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## 2. Channelname + Channelorder display mode

Press **MENU** enter, press / select NAME and the screen will display

Press **MENU** to confirm, then press **EXIT** to exit.

Channelname display mode: To operate this function you need to edit the channelname first.

This function only can be edited via KG-659E program software.

### Setting keyboard lock (ALK)

The transceiver has two options, auto lock and manual lock.

**AUTOLK:** When you set autolock the keyboard will be locked within 15 seconds if you don't do any operation.

To release keyboard press for more than 2 seconds.

**OFF:** Turn off auto lock.

In standby, press **MENU** + / till the screen display

Press **MENU** enter, press / to select ON for autolock or OFF to switch off autolock.

Press **MENU** to confirm, then press **EXIT** to return to standby.

### NOTE

» Manual lock: In standby, press for more than 2 seconds will lock keyboard, release keyboard press for more than 2 seconds.

## How to operate

### Setting power on message (PON)

Transceiver power on message:

**FULL:** Full display      **BATT-V:** Display the current voltage of battery pack      **MSG:** OK

In standby, press + / till the screen display

Press enter, press / to select FULL/BAT/MSG,

Press to confirm, then press to return to standby.

### Setting sidekey 1(PF1)

This transceiver sidekey 1 has 5 kinds function can be selected:

1. **FM:** FM radio key
2. **CALL:** Signal calling at present.
3. **DIS:** Delete receive DCS
4. **JP-PRI:** Switch to priority scan channel.
5. **JP-EMC:** Switch to emergency calling mode.

1. Select FM radio function.

In standby, press the sidekey 1 to switch on FM radio, this FM radio is frequency modulation, frequency range is 87-108MHz, and the screen will display

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Wouxun

Professional FM Transceiver

a. In FM radio, press / or channel knob to select program.

b. Press , you can check the working frequency and channel, after 2 seconds the screen will resume , when you are on operation, the radio works in normally.

c. Press PTT, sidekey 2 and topkey, it will into the relevant operation.

When you want to turn off radio, press sidekey 1 again.

When you turn on the FM radio, you should install supplied antenna.

In channelmode, press + / till the screen display

Press enter, press / to select one of the FM/CALL/DIS/PRI/EMC.

Press to confirm, then press to return to standby.

### NOTE

» When in FM radio, the present frequency or channel are still in standby, if transceiver receives a signal, it will return to radio. After signal disappeared 5 seconds, it will auto return to FM radio. If you want to turn off radio, press the sidekey 1 again.

» You can use the software to edit the channel of FM radio, when you have succeed in programming, press the sidekey 1 to turn on FMradio, now you not only can use the channel knob to switch channel, but can use / to switch; if the transceiver don't have the channel knob, you can use menu / to switch.

## How to operate

### Setting topkey (PF2)

The topkey offers two kinds of function:


**EMCALL:** Start up alarm function

**CALL01-CALL15:** Signal calling key

#### Select EMCALL function

In standby, press **MENU** +  /  till the screen display 

Press **MENU** enter, press  /  to select EMCALL.


Press **MENU** to confirm, then press  to return to standby.

When you have selected EMCALL, in standby press topkey and from your speaker an alarm will sound and the red and green lamp will flicker at the same time. Press the topkey again to exit.

#### Signal calling key

In standby, press **MENU** +  /  till the screen display 

Press **MENU** enter, press  /  to select one of function from CALL01 to CALL15.

Press **MENU** to confirm, then press  to return to standby.

### NOTE

» CALL01-CALL15: Means the information code which has been set as calling signal, when PF2 has been set as one kind of CALL01-CALL15, then press PF2 one time, meanwhile the LED A and B flicker each other.

When the information code of signal has been set as the same as others and other functions are also the same, then press PTT key you can communicate each other, also you can communicate when the LED is flickering.

### Define MONI key (MON)

This function is defined for squelch diagram.


Total have 2 kinds function can be selected.

**CONTIN:** Should always press side key 2 to persist turn off squelch diagram.

**PRESS:** Just need press side key 2 one time to persist turn off squelch diagram.

In standby, press **MENU** +  /  till the screen display 

Press **MENU** enter, press  /  to select CONTIN/PRESS.



Press **MENU** to confirm, then press  to return to standby.

### Selecting standby display color (WTL)

The transceiver has two colors available:

#### BLUE /OFF

In standby, press **MENU** +  /  till the screen display 

Press **MENU** enter, press  /  to select the desired color of BLUE /OFF.



Press **MENU** to confirm, then press **EXIT** to return to standby.

### Selecting receive display color (RXL)

The transceiver has two colors available:

#### BLUE /OFF

In standby, press **MENU** +  /  till the screen display 

Press **MENU** enter, press  /  to select the desired color of BLUE /OFF.



Press **MENU** to confirm, then press **EXIT** to return to standby.

### Selecting transmit display color (TXL)

The transceiver has two colors available:

#### BLUE /OFF

In standby, press **MENU** +  /  till the screen display 






Press **MENU** enter, press  /  to select the desired color of BLUE/OFF.



Press **MENU** to confirm, then press **EXIT** to return to standby.

### Setting memory channel (MEM)

Because this transceiver only works in channelmode, all frequency and parameter can be selected in the channel which have been edited by programming software.

For example: Store CH001 in CH020 channel, the step as following:

In channelmode, input  /  to select CH001 channel, then press **MENU** +  / , the screen display 

Press **MENU** enter, press  /  to select channel serial number CH020,




press **MENU** again, and you will hear a voiceprompt if it is stored.



## How to operate

### Delete channel (DEL)

In standby, press **MENU** +  /  till the screen display 

Press **MENU** enter, press  /  to select the channel what you want to delete, press **MENU** to confirm. The select channel and message are deleted, press  to return to standby.

### ANI CODE edit (ANI)

Every transceiver using in the group must edit different ANI code.

#### NOTE

- » Because this transceiver has different of 3 bits, 4 bits and 5 bits, so the length of ANI ID CODE must keep the same as which used in group.
- » ANI ID CODE only can be programmed via programming software.




### Setting VOX-T (VOT)

The purpose of setting VOX-T is to avoid the problem: When after transmitted, transceiver will return to received mode immediately, but you can't ensure whether last part of calling can be transmitted or not, so you can set a proper VOX-T then makes calling can be transmitted exactly. Be careful, don't set VOX-T to a long time.

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This transceiver total has 20 levels, unit: 100ms

In standby, press **MENU** +  /  till the screen display 


Press **MENU** enter, press  /  to select one of level between 1 and 20 or 0 not allow delay transmit. Press **MENU** to confirm, then press  to return to standby.

### Companding (COMP)

**COMP:** Use voice compress technology to reduce the noise when on talking, make the voice clear.

In standby, press **MENU** +  /  till the screen display 

Press **MENU** enter, press  /  to select ON or OFF.

Press **MENU** to confirm, then press  to return to standby.

#### NOTE

- » This function only can be edited via KG-659E programming software.

## How to operate

### Setting reset (RES)




The transceiver has a menu which resets VFO and ALL messages.


When you use RESET VFO all parameters of menu will return to factory set.

When you use RESET ALL all menu and channel parameters will return to factory set.

#### 1. MENU reset (VFO):

In standby, press **MENU** +  /  till the screen display 

Press **MENU** enter, press  /  select VFO, press **MENU** key and the screen will display 


Press **MENU** again and the screen will display 

When the reset has worked well the transceiver will auto power off and auto switch on again.

#### 2. All message reset (ALL):

In standby, press **MENU** +  /  till the screen display 

Press **MENU** enter, press  /  and select ALL, press **MENU** and the screen will display 

Press **MENU** again and the screen will display 

When reset has worked well, the transceiver will auto power off and auto switch on again.

### Edit channelname:

Edit by KG-659E programming software.

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 Wouxun

Professional FM Transceiver

### Lowvoltage batterypack voiceprompt

When the batterypack has lowvoltage, the transceiver will sound "low batterypack"voice prompt.

### Setting transmit overtime prompt

When transmitter works longer than preset time, the transceiver will announce "transmit overtime" by voice and stops transmitting. If you want to transmit again, please press **PTT**. (Setting overtime prompt please see P15.)

### Adding channelscan

Edit method: Strictly via KG-659E programming software.

Only scan according programming list which had added channel scan on programming software.

### Wireclone function

Using wireclone	Switch sourceradio on,after you have connected the targetradio to the sourceradio via the cloningcable,push the [MONI] key and the sourceradio starts cloning.	LED is flashing red during cloning. LED goes out in case of successful cloning. Glow continuous red in case of cloning failure.
	Targetradio	LED is flashing green during cloning. LED will switch OFF when cloning complete.

## How to operate



### How to use your intelligent charger

1. When the poweradapter is connected the intelligentcharger, the poweradapter should be plugged into the matchingvoltage . The intelligentcharger will flicker green/red/orange LED and you will hear one sound "Di", then the flicker become orange.
2. When you plug in the batterypack,the intelligentcharger will switch to red LED and you will hear one sound "Di". The intelligentcharger has entered quickcharging.
3. When the light turns green and you hear 10 times "Di" the batterypack is fully charged.
4. When you plug in the batterypack,the red LED flickers and you hear "Di Di"twice,the batterypack is not plugged in right.

## Trouble shooting

Please check carefully if your transceiver has problems by following this chart.

If you maintain to have trouble you can reset your transceiver and very often this will eliminate your problem.

<b>Problem</b>	<b>Possible Cause</b>	<b>Possible Solution</b>
Transceiver will not switch on.	<ol style="list-style-type: none"><li>1. The batterypack is not installed properly.</li><li>2. The batterpack maybe exhausted.</li><li>3. The batterypack is getting too old.</li></ol>	<ol style="list-style-type: none"><li>1. Re-install the batterypack.</li><li>2. Charge the batterypack.</li><li>3. Change the batterypack.</li></ol>
The receiverlight is on and there is no sound from the speaker.	<ol style="list-style-type: none"><li>1. The powerswitch is not adjusted well.</li><li>2. Confirm if you use the right mutemode.</li></ol>	<ol style="list-style-type: none"><li>1. Turn the volumecontrol again.</li><li>2. Reset the mutemode.</li></ol>
There is no reception	<ol style="list-style-type: none"><li>1. Check if you have installed your antenna right.</li><li>2. The signal you are receiving is very weak.</li></ol>	<ol style="list-style-type: none"><li>1. Install the supplied antenna.</li><li>2. Move the radio around till you receive the desired signal or press  to reset the radio, then press the  go to the right channel.</li></ol>

## Trouble shooting

<b>Problem</b>	<b>Possible Cause</b>	<b>Possible Solution</b>
Keyboard and PTT switch do not work.	<ol style="list-style-type: none"> <li>1. The keyboard is locked.</li> <li>2. RADIO "mode" is switched on, see display FM.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set keyboard to free.</li> <li>2. Please exit RADIO mode.</li> </ol>
The receive light is on and you can not transmit.	If you have set transceiver to busy channel lockout.	Switch off busy channel lockout.
Autotransmit when you are in standby.	The VOX level too LOW.	Switch off VOX or set VOX to a HIGHER level.

## Technology parameter

### Appendix 1

#### CTCSS

1	67.0	11	94.8	21	131.8	31	171.3	41	203.5
2	69.3	12	97.4	22	136.5	32	173.8	42	206.5
3	71.9	13	100.0	23	141.3	33	177.3	43	210.7
4	74.4	14	103.5	24	146.2	34	179.9	44	218.1
5	77.0	15	107.2	25	151.4	35	183.5	45	225.7
6	79.7	16	110.9	26	156.7	36	186.2	46	229.1
7	82.5	17	114.8	27	159.8	37	189.9	47	233.6
8	85.4	18	118.8	28	162.2	38	192.8	48	241.8
9	88.5	19	123.0	29	165.5	39	196.6	49	250.3
10	91.5	20	127.3	30	167.9	40	199.5	50	254.1



## Appendix 2

## DCS

1	D023N	16	D074N	31	D165N	46	D261N	61	D356N
2	D025N	17	D114N	32	D172N	47	D263N	62	D364N
3	D026N	18	D115N	33	D174N	48	D265N	63	D365N
4	D031N	19	D116N	34	D205N	49	D266N	64	D371N
5	D032N	20	D122N	35	D212N	50	D271N	65	D411N
6	D036N	21	D125N	36	D223N	51	D274N	66	D412N
7	D043N	22	D131N	37	D225N	52	D306N	67	D413N
8	D047N	23	D132N	38	D226N	53	D311N	68	D423N
9	D051N	24	D134N	39	D243N	54	D315N	69	D431N
10	D053N	25	D143N	40	D244N	55	D325N	70	D432N
11	D054N	26	D145N	41	D245N	56	D331N	71	D445N
12	D065N	27	D152N	42	D246N	57	D332N	72	D446N
13	D071N	28	D155N	43	D251N	58	D343N	73	D452N
14	D072N	29	D156N	44	D252N	59	D346N	74	D454N
15	D073N	30	D162N	45	D255N	60	D351N	75	D455N

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## DCS

76	D462N	82	D516N	88	D606N	94	D645N	100	D723N
77	D464N	83	D523N	89	D612N	95	D654N	101	D731N
78	D465N	84	D526N	90	D624N	96	D662N	102	D732N
79	D466N	85	D532N	91	D627N	97	D664N	103	D734N
80	D503N	86	D546N	92	D631N	98	D703N	104	D743N
81	D506N	87	D565N	93	D632N	99	D712N	105	D754N

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## Technology specification

Frequencyrange	VHF: 66-88MHz	
	VHF: 136-174MHz	VHF: 245-246MHz
	UHF: 300-350MHz	UHF: 350-390 MHz
	UHF: 400-470.9875 MHz	UHF: 450-520 MHz
Memorychannels	200 channels	
Voltage	7.4V DC	
Working temperature	-30C(-22F) to +60C(140F)	
Channels	Co-channel or Dis-channel simplex	
Poweroutput	VHF: 5W / UHF:4W	
Mode	F3E(FM)	
Maximum deviation	≤ ±5KHz	
Adjacent channel power	< -60dB	
Stability	±5 ppm	
Sensitivity	< 0.2 μV	
Audio output power	≥700mW	
Weight	242g	
Size	62 X 103 X 39 (mm)	2.44x4.06x1.54(inch)

### NOTE

» Specifications are subject to change without notice.

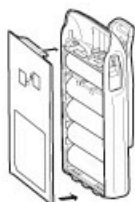
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## Optional accessories

**wouxun**  
Professional FM Transceiver



Dual slot charger



"AA" battery pack



Eliminator



Programming cable



Car charger



Wireless cable



Headset



Speaker/MIC



Switching adapter



1700mAh Li-ion battery pack



Programming Software

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## Announce

*Wouxun* endeavors to achieve the accuracy and completeness of this manual, but is not liable for any possible omission and printing errors. All the above specifications are subject to change by *Wouxun* without prior notice.

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