

*Thanks for buying the **Wouxun** KG-689E 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

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farther away from your head.

Body-worn operation

Always place the radio in a **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, please connect with  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 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

 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

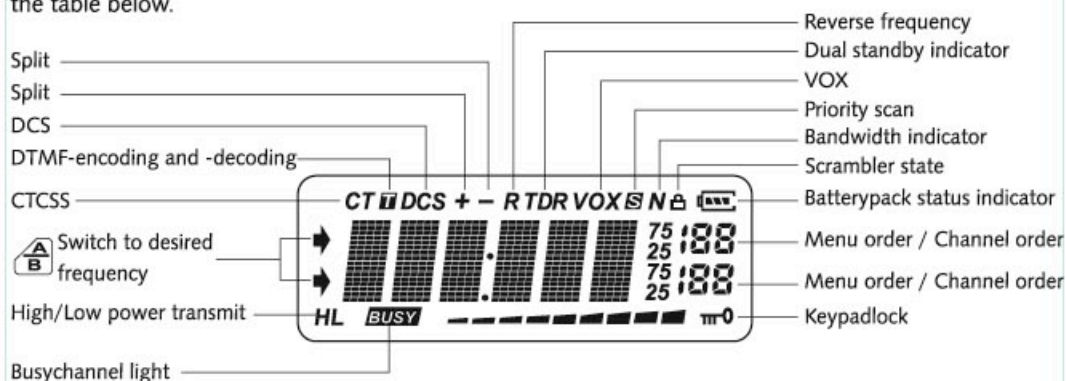
1. VHF: 66-88MHz VHF: 136-174MHz VHF: 245-246MHz
UHF: 300-350MHz UHF: 350-390MHz UHF: 400-470.9875MHz UHF: 450-520MHz
 2. Output power: VHF: 5W/1W UHF: 4W/1W
 3. 200 memory channels
 4. In frequency mode, VHF Dual frequencies or UHF Dual frequencies display and standby.
 5. In channel mode, VHF Dual channels or UHF Dual channels display and standby.
 6. DTMF encoding and decoding
 7. 5 tones (including 15 kinds standard)
 8. 2 tones
 9. 1750Hz burst tone
 10. Priority scan
 11. FM radio with frequency display
 12. DCS/CTCSS of RX and TX can be set respectively
 13. ANI (caller ID)
 14. VOX
 15. All calls, group calls and selective calls function
 16. Calling ring function
 17. Scrambler available
 18. 105 groups DCS / 50 groups CTCSS
 19. Voiceguide (English/Chinese)
 20. Wide/Narrow bandwidth selection (25KHz/12.5KHz)
 21. Three color back light display.
- 02

20. Channel name edit available.
21. Channel order, channel frequency, channel name multi-display method
22. Reverse frequency function
23. Distant urgency alarm function
24. Multi scan function
25. Channel steps (5/6.25/10/12.5/25KHz)
26. High/Low power changeable when on transmitting.
27. Intelligentcharger (Warning sound and dualcolor light)
28. TX/RX splitselection (0-99.950MHz)
29. Set frequencyshift direction
30. Stopwatchtimer function
31. Busy channel lockout
32. Multi display modes when power on (full screen / Batt-V / others)
33. Lowvoltage batterypack voiceprompt
34. Transmit overtime prompt
35. Keyboard lock (auto / manual)
36. Adding channelscan function
37. Programmable by computer
38. Menu / Channel reset
39. Wireclone function
40. Powersaving function
41. 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

Antenna

A channel receive and transmit light

A or B channel switchkey

Screen / LCD display

Functionkey

Numberkey

Up / Downkey

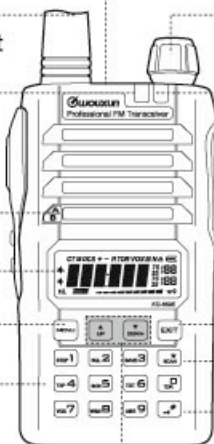
Powerswitch / Volumecontrol

B channel receive and transmit light

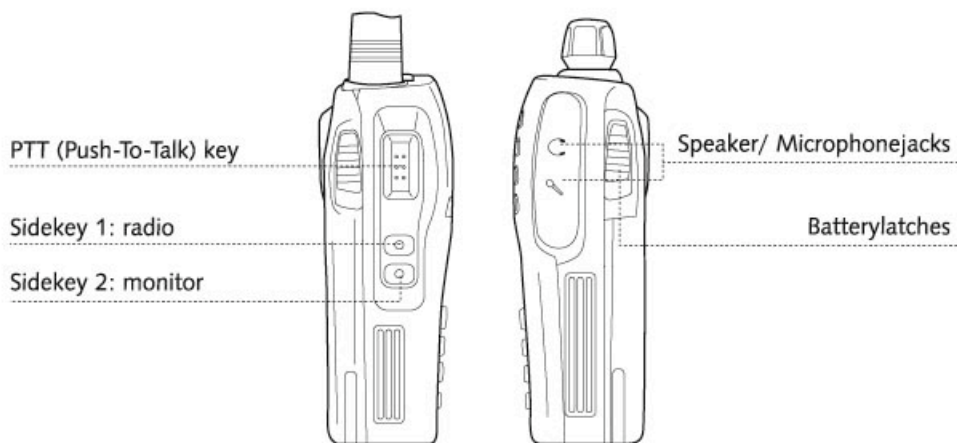
Exitkey

Reverse frequency / Scankey

Lockkey





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■ **Speed search**

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

■ **DTMF encoding**

This transceiver has DTMF encoding. By pressing the right number key on transmit you can choose the right DTMF tone which you want to TX.



■ **Switch working mode**



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

Shortcut operation sheet

Function order	Function name	Enter function set	Screen display	Select parameter	Selectable parameter-explanation	Confirm	Back	See page
0	Setting dual standby	MENU → TDR	*TDR ON 0	MENU → Press (F) or (M) key Select parameter	ON: Turn on dual standby OFF: Turn off dual standby	→ MENU	→ EXIT	P14-15
1	Setting channel step	MENU → STEP 1	*STEP 500K 1	MENU → Press (F) or (M) key Select parameter	5 kinds of channelstep 5K/6.25K/10K/12.5K/25K	→ MENU	→ EXIT	P15-16
2	Setting squelch level	MENU → SQL 2	*SQL -LE 5 2	MENU → Press (F) or (M) key Select parameter	Squelchlevel from 0-9	→ MENU	→ EXIT	P16
3	Setting batterypack savemode	MENU → SAVE 3	*SAVE OFF 3	MENU → Press (F) or (M) key Select parameter	ON: Turn on save function 1:1/1.2/1.3/1.4 OFF: Turn off save function	→ MENU	→ EXIT	P17
4	Selecting transmit power	MENU → TXP 4	*TXP 1 4	MENU → Press (F) or (M) key Select parameter	6-10: High power (5W). 1-5: Low power (1W)	→ MENU	→ EXIT	P17
5	Setting voice encrypt compress	MENU → SCR 5	*SCR OFF 5	MENU → Press (F) or (M) key Select parameter	ON: Turn on scrambler. OFF: Turn off scrambler.	→ MENU	→ EXIT	P18
6	Transmit over timer	MENU → TOT 6	*TOT 60 6	MENU → Press (F) or (M) key Select parameter	TOT has 40 levels in steps of 15 seconds. OFF: Turn off TOT.	→ MENU	→ EXIT	P18
7	Setting VOX	MENU → VOX 7	*VOX OFF 7	MENU → Press (F) or (M) key Select parameter	VOX has levels from 1 to 10. OFF: Turn off VOX.	→ MENU	→ EXIT	P19
8	Setting bandwidth	MENU → WBN 8	*WBN WIDE 8	MENU → Press (F) or (M) key Select parameter	WIDE: 25KHz. NARROW: 12.5KHz.	→ MENU	→ EXIT	P19

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9	Setting auto back light	MENU → ABR 9	*ABR 2 9	MENU → Press (F) or (M) key Select parameter	ON: Turn on auto back light OFF: Turn off auto back light	→ MENU	→ EXIT	P20
10	Setting receive CTCSS	MENU → STEP 1 → TDR	*R-CTCSS 67.0 10	MENU → Press (F) or (M) key Select parameter	50 groups CTCSS (67 -254.1Hz) OFF: Turn off CTCSS	→ MENU	→ EXIT	P20-21
11	Setting receive DCS	MENU → STEP 1 → STEP 1	*R-DCS OFF 11	MENU → Press (F) or (M) key Select parameter	105 groups DCS (D023N-D754N) OFF: Turn off DCS	→ MENU	→ EXIT	P21
12	Setting transmit CTCSS	MENU → STEP 1 → SQL 2	*T-CTCSS OFF 12	MENU → Press (F) or (M) key Select parameter	50 groups CTCSS (67 -254.1Hz) OFF: Turn off CTCSS	→ MENU	→ EXIT	P21-22
13	Setting transmit DCS	MENU → STEP 1 → SAVE 3	*T-DCS D023N 13	MENU → Press (F) or (M) key Select parameter	105 groups DCS (D023N-D754N) OFF: Turn off DCS	→ MENU	→ EXIT	P22
14	Setting voiceguide	MENU → STEP 1 → TXP 4	*VOICE ENGLISH 14	MENU → Press (F) or (M) key Select parameter	ENGLISH: English OFF: Turn off voiceguide	→ MENU	→ EXIT	P23
15	Setting beeprompt	MENU → STEP 1 → SCR 5	*BEEP ON 15	MENU → Press (F) or (M) key Select parameter	ON: Turn on beeprompt OFF: Turn off beeprompt	→ MENU	→ EXIT	P23
16	Setting DTMF sidetone	MENU → STEP 1 → TOT 6	*STDTMF BOTH 16	MENU → Press (F) or (M) key Select parameter	KEY: Turn on sidekey ANI: Turn on ANI sidetone BOTH: Turn on both sidekey and ANI sidetone OFF: Turn off all	→ MENU	→ EXIT	P24
17	Transmit overtime alarm	MENU → STEP 1 → VOX 7	*TOA 5 17	MENU → Press (F) or (M) key Select parameter	ON: Turn on transmit overtime alarm. OFF: Turn off transmit overtime alarm	→ MENU	→ EXIT	P25

Shortcut operation sheet

18 Busy channel lockout	MENU → STEP 1 → WAVE B → BCL OFF	MENU → Press (F) or (M) key → Select parameter	ON: Turn on busy channel lockout. OFF: Turn off busy channel lockout.	MENU → EXIT	P25
19 Adding channel scan	MENU → STEP 1 → ABR 9 → SC-ADD OFF	MENU → Press (F) or (M) key → Select parameter	ON: Turn on adding channelscan. OFF: Turn off adding channelscan.	MENU → EXIT	P26
20 Setting priority scan function	MENU → SQL 2 → TOR → PRI-SC OFF	MENU → Press (F) or (M) key → Select parameter	ON: Turn on priority scan function. OFF: Turn off priority scan function.	MENU → EXIT	P26
21 Setting priority channel scan function	MENU → SQL 2 → STEP 1 → PRI-CH CH-000	MENU → Press (F) or (M) key → Select parameter	Have 200 groups channel can select	MENU → EXIT	P27
22 Setting scanmode	MENU → SQL 2 → SQL 2 → SC-REV TO	MENU → Press (F) or (M) key → Select parameter	TO: Scan with time CO: Scan with carrier wave SE: Does not scan with carrier wave	MENU → EXIT	P28
23 Setting optional signal	MENU → SQL 2 → SAVE 3 → OPT-SIG OFF	MENU → Press (F) or (M) key → Select parameter	4 kind of signals WDTs/DTMF: Double tone signal 2TONES: 2TONES signal STONES: STONES signal	MENU → EXIT	P29-32
24 Setting mutemode	MENU → SQL 2 → TOP 4 → SPMUTE QT	MENU → Press (F) or (M) key → Select parameter	3 kinds of mutemode QT/AND/OR	MENU → EXIT	P33
25 Transmit PTT ID	MENU → SQL 2 → SQL 5 → PTT-ID OFF	MENU → Press (F) or (M) key → Select parameter	4 kinds of PTT ID BOT/EOT/BOTH/OFF	MENU → EXIT	P33-34
26 Setting ANI ID CODE transmit	MENU → SQL 2 → TOP 6 → PTT-LT	MENU → Press (F) or (M) key → Select parameter	Permit transmit ANI delay time from 1-30, unit:100ms 0: Turn off manual transmit	MENU → EXIT	P34

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27 Setting signal information	MENU → SQL 2 → VOL 7 → S-INFO	MENU → Press (F) or (M) key → Select parameter	15 groups signal information	MENU → EXIT	P35
28 Emergency calling type	MENU → SQL 2 → WAVE B → EMC-TP ALARM	MENU → Press (F) or (M) key → Select parameter	3 kinds of emergency alarm ALARM: Field alarm ENI: Distant alarm BOTH: Field + distant alarm	MENU → EXIT	P35
29 Emergency calling channel	MENU → SQL 2 → ABR 9 → EMC-CH CH-000	MENU → Press (F) or (M) key → Select parameter	200 groups calling channel	MENU → EXIT	P36
30 Select ringmode	MENU → SAVE 3 → TOR → RING-TP SOUND	MENU → Press (F) or (M) key → Select parameter	4 kinds of ringmode SOUND/BIV/BOTH/OFF	MENU → EXIT	P36
31 Setting ringtime	MENU → SAVE 3 → STEP 1 → RING-T	MENU → Press (F) or (M) key → Select parameter	10 levels, 1 second differernt 0 menas turn off ringtime prompt	MENU → EXIT	P37
32 Edit channelname	MENU → SAVE 3 → SQL 2 → CHNAME	MENU → Press (F) or (M) key → Select parameter	The channel name make up of (A to B)26 letters, (0-9)10 numbers, "?" or "+" or "-". The length at least 6 bits.	MENU → EXIT	P37-38
33 Setting transmit segment when in dual standby	MENU → SAVE 3 → SAVE 3 → TDR-PR HI	MENU → Press (F) or (M) key → Select parameter	A: A segment B: B segment	MENU → EXIT	P39
34 Setting A segment channel display mode	MENU → SAVE 3 → TOP 4 → CA-MDF FREQ	MENU → Press (F) or (M) key → Select parameter	CH: Channel order display FREQ: channelfrequency+channelorder display. NAME: channelname+channelorder display	MENU → EXIT	P39-40
35 Setting B segment channel display mode	MENU → SAVE 3 → SQL 5 → CB-MDF FREQ	MENU → Press (F) or (M) key → Select parameter	CH: Channel order display FREQ: channelfrequency+channelorder display. NAME: channelname+channelorder display	MENU → EXIT	P40-41

Shortcut operation sheet

36 Setting keyboard lock	MENU → SAVE 3 → TOT 6 → *AUT ^{ON} / _{OFF} * 36	MENU → Press (▲) or (▼) key Select parameter	ON: Turn on autolock OFF: Turn off autolock	MENU → EXIT	P41-42
37 Setting power on message	MENU → SAVE 3 → VOX 7 → *POMSG ^{ON} / _{OFF} * 31	MENU → Press (▲) or (▼) key Select parameter	FULL: Full screen display MSG: WELCOME. BATT-V: Battery voltage display	MENU → EXIT	P42
38 Setting sidekey1(PF1)	MENU → SAVE 3 → WAK 8 → *PF1 ^{ON} / _{OFF} * 38	MENU → Press (▲) or (▼) key Select parameter	FM: FM radio key. CALL: Signal calling at present NO-SUB: Delete receive JP-PRI: Switch to priority scan channel. JP-EMC: Switch to emergency calling mode.	MENU → EXIT	P42-44
39 Setting topkey(PF2)	MENU → SAVE 3 → ARR 9 → *PF2 ^{ON} / _{OFF} * 39	MENU → Press (▲) or (▼) key Select parameter	EMCALL: Turn on alarm function. CALL07-CALL15: Signal calling key.	MENU → EXIT	P44-45
40 Define MONI key	MENU → TOP 4 → TOP → *MON ^{ON} / _{OFF} * 40	MENU → Press (▲) or (▼) 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.	MENU → EXIT	P45-46
41 Setting standby display-color	MENU → TOP 4 → STEP 1 → *MT-LED ^{ON} / _{OFF} * 41	MENU → Press (▲) or (▼) key Select parameter	BLUE: Blue backlight ORANGE: Orange backlight PURPLE: Purple backlight OFF: Turn off backlight	MENU → EXIT	P46
42 Setting receive display-color	MENU → TOP 4 → SOL 2 → *RX-LED ^{ON} / _{OFF} * 42	MENU → Press (▲) or (▼) key Select parameter	BLUE: Blue backlight ORANGE: Orange backlight PURPLE: Purple backlight OFF: Turn off backlight	MENU → EXIT	P46
43 Setting transmit display-color	MENU → TOP 4 → SAVE 3 → *TX-LED ^{ON} / _{OFF} * 43	MENU → Press (▲) or (▼) key Select parameter	BLUE: Blue backlight ORANGE: Orange backlight PURPLE: Purple backlight OFF: Turn off backlight	MENU → EXIT	P47

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44 Setting memory channel	MENU → TOP 4 → TOP 4 → *MEM-CH ^{ON} / _{OFF} * 44	MENU → Press (▲) or (▼) key Select parameter	200 channels	MENU → EXIT	P47-48
45 Delete channel	MENU → TOP 4 → BCK 5 → *DEL-CH ^{ON} / _{OFF} * 45	MENU → Press (▲) or (▼) key Select parameter	200 channels	MENU → EXIT	P49
46 Frequencyshift direction	MENU → TOP 4 → TOT 6 → *SFT ^{ON} / _{OFF} * 46	MENU → Press (▲) or (▼) key Select parameter	+ : Positive offset - : Negative offset. OFF: Turn off frequencyshift direction	MENU → EXIT	P49
47 Offset frequency	MENU → TOP 4 → VOX 7 → *OFFSET ^{ON} / _{OFF} * 47	MENU → Press (▲) or (▼) key Select parameter	From 0 to 99.950MHz can be selectable	MENU → EXIT	P49-51
48 ANI CODE edit (ANI)	MENU → TOP 4 → WAK 8 → *ANI ^{ON} / _{OFF} * 48	MENU → Press (▲) or (▼) key Select parameter	Set by programming software	MENU → EXIT	P51
50 Setting VOX-T	MENU → BCK 5 → TOP → *VOX-T ^{ON} / _{OFF} * 50	MENU → Press (▲) or (▼) key Select parameter	Total has 20 levels Unit: 100ms	MENU → EXIT	P51-52
51 Setting Companding	MENU → BCK 5 → STEP 1 → *COMP ^{ON} / _{OFF} * 51	MENU → Press (▲) or (▼) key Select parameter	ON: Turn on COMP OFF: Turn off COMP	MENU → EXIT	P52
52 Setting reset	MENU → BCK 5 → SOL 2 → *RESET ^{ON} / _{OFF} * 52	MENU → Press (▲) or (▼) key Select parameter	VFO: Menu reset ALL: All message reset	MENU → EXIT	P52-53

- Speed search (▲) / (▼) (See page 7)
- High/Low power changeable when on transmitting(See page 17)
- All calls, group calls and selective calls (See page 29-31)
- Setting reverse frequency function (See page 53)
- Lowvoltage batterypack voiceprompt (See page 54)
- Adding channelscan (See page 54)
- Wireclone function(See page 54)
- Programming repeater function (See page 55-56)

How to operate

Lock menu functions

If you don't need operate menu functions frequently, you can turn off it by KG-689E programming software. The steps as following:

1. Set password of switching between channelmode and frequencymode.
2. Set workmode as channelmode.
3. Turn off operating menu function in channelmode.

When you want to use menu functions, input password which you have set, and switch to frequencymode, then you can operate it.

NOTE

- » The KG-689E has dualfrequency display. In frequencymode it will display two different transmit and receive frequency at the same time. In channelmode it will display the two different channels plus their parameters.
- » In frequency and channelmode you can switch to A and B segment by pressing the topkey left above the LCD.

Setting dualstandby (TDR) --- MENU 0

This menu is to turn on/off dualstandby. When it is switched to ON, the radio will start standby between A and B including their set parameters. Any channel or frequency has been received, then system will stay on corresponding channel or frequency, until channel or frequency signal disappear.






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Once signal has disappeared, system will return to standby and start to flicker "TDR".

In standby, press  and number  and the screen will display 

Press  enter, arrowhead aim at "ON" position, press  /  select ON turn on dualstandby or OFF turn off dualstandby. Press  to confirm, then press  to return to standby.



NOTE

- » Standby time is set by auto-backlight. (See MENU 9)

Setting channel step (STEP) ---- MENU 1

In standby, press  and number  and the screen will display 

Press  enter, arrowhead aim at "5.00" and press  /  to select the channel step you desired.

Press  to confirm, then press  to return to standby.

This transceiver has the option of 5KHz, 6.25KHz, 10KHz, 12.5KHz and 25KHz steps.

NOTE

- » In frequencymode you have thirteen different settings to choose from channel step, outputpower, voice encrypt compress, bandwidth, receive CTCSS and DCS, transmit CTCSS and DCS, optional signal, signal encode, mutemode, frequencyshift direction, offsetfrequency on A/B.
- » In channelmode the next setting are not available to change: outputpower, receive CTCSS and DCS, transmit

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NOTE

CTCSS and DCS, optional signal, channel bandwidth, encoding signal, mutemode, PTT transmit, voice encrypt compress, busy channel lockout, companding and adding channelscan.

» In channel mode the next three settings are not available to change on A/B segment: channel step, frequency-shift direction, offset frequency.

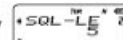
» In channel mode setting voice encrypt compress is available to change A/B segment.

Setting squelch level (SQL-LE) --- MENU 2

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 lose communication in a fringe area.

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 **MENU** + number **SQL 2** and the screen will display 

Press **MENU** enter, arrowhead aim at "5" position by going **UP** / **DOWN** to select the desired squelch.

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

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Setting battery pack savemode (SAVE)--- MENU 3

In standby, press **MENU** + number **SAV 3** and the screen will display 

Press **MENU** enter, arrowhead aim at "OFF" position, press **UP** / **DOWN** select one of 1:1/ 1:2/1:3/1:4/OFF.

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

1:1/1:2/1:3/1:4 means the radio receive circuit turn on and off pulse ratio.

Selecting transmit power (TXP)--- MENU 4

In frequency mode, press **MENU** + number **TXP 4** and the screen will display 

Press **MENU** enter, arrowhead aim at "1" position, press **UP** / **DOWN** and select the desired power level.

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

NOTE

» This transmit power 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.

How to operate

Setting voice encrypt compress (SCR)--- MENU 5

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

In standby, press **MENU** + number **5** and the screen will display 

Press **MENU** enter, arrowhead aim at "OFF" position, press **UP** / **DOWN** and select OFF to switch off this function or ON to turn on SCR. Press **MENU** to confirm, then press **EXIT** to return to standby.

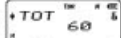
NOTE

» To ensure effective communications the radio's must be set to the same voice encrypt.

Transmit over timer (TOT) ---- MENU 6

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.

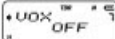
This transceiver can be set in 40 steps of 15 seconds, between 15 and 600 seconds.

In standby, press **MENU** + **TOT 6** and the screen will display 

Press **MENU** enter, arrowhead aim at "60" and press **UP** / **DOWN** to select the level you need when on transmit. Press **MENU** to confirm, then press **EXIT** to return to standby.

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Setting VOX (VOX) ---- MENU 7


In standby, press **MENU** + number **7** and the screen will display 

Press **MENU** enter, arrowhead aim at "OFF" position, press **UP** / **DOWN** to select VOX OFF or to switch on the 1 to 10 different sensitivity-levels. Press **MENU** to confirm, then press **EXIT** 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 function.

Setting wide and narrow bandwidth (WN) ---- MENU 8

In standby, press **MENU** + number **8** and the screen will display 

Press **MENU** enter, arrowhead aim at "WIDE" position, press **UP** / **DOWN** and you can select WIDE or NARROW bandwidth. Press **MENU** to confirm, then press **EXIT** to return to standby.

How to operate

Setting auto backlight (ABR) ---- MENU 9

It means that the time of return to radio standby state after receive the signal.

In standby, press **[MENU]** + number **[ABR 9]** and the screen will display ***ABR 2**

Press **[MENU]** enter, arrowhead aim at "2" position, press **[UP]** / **[DOWN]** key and select 1 to 5 to turn on auto backlight or when you want to switch OFF backlight. Press **[MENU]** to confirm, then press **[EXIT]** to return to standby.

NOTE

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

Setting receive CTCSS (CTCSS) ---- MENU 10

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 when receive the same signal of CTCSS/DCS, the radio will release the mutemode.

In standby, press **[MENU]** + number **[STEP 1] [P]** and the screen will display ***R-CTCSS OFF**

Press **[MENU]** enter, arrowhead aim at "OFF" position, press **[UP]** / **[DOWN]** and select OFF to switch off CTCSS or use one of the tones between 67Hz and 254.1Hz. Press **[MENU]** and confirm, then press **[EXIT]** to return to standby.

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NOTE

» This transceiver has 50 groups different CTCSS tones, see appendix (1) CTCSS frequency sheet.

Setting receive DCS (R-DCS) ---- MENU 11

In frequency mode, press **[MENU]** + number **[STEP 1] [STEP 1]** and the screen will display ***R-DCS OFF**

Press **[MENU]** enter, arrowhead aim at "OFF" position, press **[UP]** / **[DOWN]** and select OFF to switch off DCS or one of the steps from D023N to D754I. Press **[MENU]** to confirm, then press **[EXIT]** to return to standby.

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.

Setting transmit CTCSS (T-CTCS) ---- MENU 12

In standby, press **[MENU]** + number **[STEP 1] [SQL 2]** and the screen will display ***T-CTCSS OFF**

Press **[MENU]** enter, arrowhead aim at "OFF" position, press **[UP]** / **[DOWN]** and select OFF to switch off CTCSS or use one of the tones between 67Hz and 254.1Hz. Press **[MENU]** to confirm, then press **[EXIT]** to return


How to operate

to standby.

NOTE

» This transceiver has 50 groups different CTCSS tones, see appendix (1) CTCSS frequency sheet.


Setting transmit DCS (T-DCS) ---- MENU 13

In frequency mode, press **MENU** + number **STEP 1** **SAVE 3** and the screen will display . Press **MENU** enter, arrowhead aim at "OFF" position, press **UP** / **DOWN** and select OFF to switch off DCS or one of the steps from DO23N to D754I. Press **MENU** to confirm, then press **EXIT** to return to standby.

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.

Setting voiceguide (VOICE) ---- MENU 14

In standby, press **MENU** + number **STEP 1** **TOP 4** and the screen will display . Press **MENU** enter, arrowhead aim at "ENG", press **UP** / **DOWN** key to either select English or OFF to switch off the voiceguide. Press **MENU** to confirm, then press **EXIT** to return to standby.

NOTE


» If want to turn off all keypad voiceguide should turn off MENU15 and MENU14.

Setting beeprompt function (BEEP) ---- MENU 15

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

We kindly advice you to switch on this function.

This function will inform you for any possible malfunction.

In standby, press **MENU** + number **STEP 1** **BOX 5** and the screen will display . Press **MENU** enter, arrowhead aim at "ON" then press **UP** / **DOWN** to switch on the beep or OFF when you want to switch off the beep. Press **MENU** to confirm, then press **EXIT** to return to standby.

NOTE

» When MENU 14 is switched on, the voice guide gets priority.

How to operate

Setting DTMF sidetone (DTMFST) ---- MENU 16

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.

BOTH: Sidekey and ANI are both on.

OFF: Turn off all.

In standby, press **MENU** + number **STEP 1** **TOP 6** and the screen will display ***DTMF*
BOTH**

Press **MENU** enter, arrowhead aim at "BOTH" position, press **▲ UP** / **▼ DOWN** and select one function of KEY/ ANI/BOTH/OFF. Press **MENU** to confirm, then press **EXIT** to return to standby.

Setting transmit overtime alarm (TOA) ---- MENU 17

Transmit overtime alarm is the setting to alarm the user that he/she has reached the preset time and 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** + number **STEP 1** **VOX 7** and the screen will display ***TOA*
5**

Press **MENU** enter, arrowhead aim at "5" position, press **▲ UP** / **▼ DOWN** to select OFF or to set 1 to 10 for the overtime alarm. Press **MENU** to confirm, then press **EXIT** to return to standby.

Busy channel lockout (BCL) ---- MENU 18

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.

In frequencymode, press **MENU** + number **STEP 1** **MENU 8** and the screen will display ***BCL*
OFF**

Press **MENU** enter, arrowhead aim at "OFF" position, press **▲ UP** / **▼ DOWN** and select between ON or OFF.

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

How to operate

Adding channelscan (SC-ADD) ---- MENU 19

This function ensure that whether frequency or channel be added to scan list or not.

In frequencymode, press **MENU** + number **STOP 1** **ARR 9** and the screen will display 

Press **MENU** enter, arrowhead aim at "ON" position, press **UP** / **DOWN** and select ON or OFF.

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

Priority scan function (PRI-SC) ---- MENU 20

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 frequencymode, press **MENU** + number **SQL 2** **TDR 0** and the screen will display 

Press **MENU** enter, arrowhead aim at "OFF" position, press **UP** / **DOWN** to turn on or turn off.

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

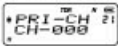
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Setting priority channel scan function (PRI-CH) ---- MENU 21

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

In frequencymode, press **MENU** + number **SQL 2** **STOP 1** and the screen will display 

Press **MENU** enter, arrowhead aim at "CH-000" position, press **UP** / **DOWN** select the desired channel.

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

NOTE

- » This transceiver priority scan channel from 0 to 199 can selectable.
- » There is only display a "S" 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 frequencymode, channelmode 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 transfered priority channel only be used to communication, you can't do any other operation until radio resumes frequency.

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How to operate

Setting scanmode (SC-REV) ---- MENU 22

This transceiver will stop scanning when detect the frequency(memory channel) of signal.According to the method of restoring that you choose,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 **MENU** + number **SQL 2** **SQL 2** and the screen will display 

Press **MENU** enter, arrowhead aim at "TO" position, press **▲ UP** / **▼ DOWN** and select TO, CO or SE.

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

Switch on scanning: Press the *** SCAN** via keyboard.

Setting option signal (OPTSIG) ---- MENU 23

In standby, press **MENU** + number **SQL 2** **SAVE 3** and the screen will display 

Press **MENU** enter, arrowhead aim at "WDT S" position, press **▲ UP** / **▼ DOWN** select one kind of WDT S/DTMF /2-TONES/5-TONES, Press **MENU** to confirm, then press **EXIT** to return to standby.

All calls, group calls and selective calls

This transceiver has the functions of transmitting ANI, editing ANI and DTMF decoding, without by other tool, it can accomplish the operation of all calls, group calls and selective calls.

How to program all calls, group calls and selective calls.

1. Program ANI

This transceiver has 3 kinds of method:

- ①. ANI-XXX ②. ANI-XXXX ③. ANI-XXXXX

XXX: Means can program 3 bits ANI ID CODE.

XXXX: Means can program 4 bits ANI ID CODE.

XXXXX: Means can program 5 bits ANI ID CODE.

How to operate

DTMF, 2-TONES, 5-TONES.

1. When DTMF/2-TONES/5-TONES signaling is programmed in a frequency. 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
 - ① Using any one of transceiver must be set DTMF/2-TONES/5-TONES option signal, the details see to the MENU (23).
 - ② Setting sidetone the details see to the MENU (16), according your requirement to select.
 - ③ Mutemode should have set as AND. the details see to the MENU (24)
 - ④ Setting PTT transmit
Depend on your requirement to select one of the BOT/EOT/BOTH, the details see to the MENU (25)
 - ⑤ Setting S-INFO
The receiver's and the transmitter's signaling must be set the same.
 - ⑥ Setting PTT-LT
In fact, the signal can delay before transmitted, the details see to the MENU (26)

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Setting mutemode (SPMUTE) ---- MENU 24

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 AND signal it will switch on the speaker.

In frequency mode, press **MENU** + number **2** **4** and the screen will display **SPMUTE 24**

Press **MENU**, arrowhead aim at "QT" position, press **UP** / **DOWN** and select one of QT or AND or OR. Press **MENU** to confirm, press **EXIT** to return to standby.

PTT ID (PTT-ID) ---- MENU 25

PTT ID means that the method of choosing the transmitting ID code.

- ① **BOT**: when press the PTT key, then radio transmits the ID code immediately.
- ② **EOT**: when release the PTT key, then radio transmits the ID code immediately.
- ③ **BOTH**: when press or release the PTT key, then radio transmits the ID code immediately.

How to operate

④ OFF: The radio can't transmit the ID code when turn off all.

In frequency mode, press **[MENU]** + number **[VOL 2]** **[VOL 5]** and the screen will display ***PTT-ID OFF 25**

Press **[MENU]** key enter, arrowhead aim at "OFF" position, press **[UP]** / **[DOWN]** select one of BOT/EOT/BOTH /OFF. Press **[MENU]** to confirm, press **[EXIT]** to return to standby.

Setting ANI ID CODE transmit (PTT-LT) ---- MENU 26

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]** + number **[VOL 2]** **[TOP 6]** and the screen will display ***PTT-LT 0 26**

Press **[MENU]** enter, arrowhead aim at "5" position, press **[UP]** / **[DOWN]** select 1 to 30 for delay transmit ANI or OFF to switch off ANI delay transmit. Press **[MENU]** to confirm, then press **[EXIT]** 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 1and 30, then the setting delayed time will be delayed to transmit signalcode.

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Setting signal information (S-INFO) ---- MENU 27

This function means select information code which be used to program signal.

In frequency mode, press **[MENU]** + number **[VOL 2]** **[VOL 7]** and the screen will display ***S-INFO 1 27**

Press **[MENU]** enter, arrowhead aim at "1" position, press **[UP]** / **[DOWN]** select from 1 to 15.

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

Emergency calling type (EMC-TP)---MENU 28

This transceiver has 3 kinds function.

1. ALARM: Field alarm
2. ENI: Distant alarm
3. BOTH: Field + distant alarm

In frequency mode, press **[MENU]** + number **[VOL 2]** **[VOL 8]** and the screen will display ***EMC-TP ALARM 28**

Press **[MENU]** key enter, arrowhead aim at "ALARM" position, press **[UP]** / **[DOWN]** select ALARM/ENI/BOTH

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

NOTE

» In frequencymode or channelmode, only be set as ENI and BOTH, then can use the alarm channel to alarm.

» In frequencymode or channelmode, if you do not set alarm channel, then it will alarm at the present frequency or channel.

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How to operate

Emergency calling channel (EMC-CH)---MENU 29

Select any channel which have set for emergency calling.

In standby mode, press + number and the screen will display

Press key enter, arrowhead aim at "CH-000" position, press / select the desired channel,

Press confirm, then press to return to standby.

Select ringmode (RING-M)---MENU 30

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

This transceiver has 4 kinds ringmode can be selectable.

SOUND: Turn on ring

BIV: Turn on libration

BOTH: Turn on ring and libration

OFF: Turn off all.

In frequencymode, press + number and the screen will display

Press key enter, arrowhead aim at "SOUND" position, press / select one of SOUND/

BIV/BOTH/OFF. Press confirm, then press to return to standby.

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Setting ringtime(RING-T)---MENU 31

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

In standby, press + number and the screen will display

Press enter, arrowhead aim at "0" position, press / to select the time of the ring between

0 and 10. Press to confirm, then press 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.

Edit channelname (CHNAME) ---- MENU 32

1. Channelname can be made up of 26 letters (A to Z), 10 numbers (0 to 9) or (?) (+) (-), with any of the 3 last symbols.
2. Channelname can have a length of maximum of 6 bits or you can edit one of the bits from 1 to 6.
3. When you select the (-) symbol it means that the bit is blank.

Edit method

1. Via KG-689E software.

How to operate

2. Via keyboard of transceiver.

Edit Channelname

1. At least one channel should have been stored.
2. The transceiver should be work in channelmode.
3. Enter the channelname edit menu, then press / to select character, press to select edit position.

Edit step

1. If the transceiver works in frequencymode, set the workmode as NAME in the display then press and power on again.

If the transceiver works in CH mode, then go through MENU 34 to set display to NAME.

2. Select the desired channel, press + + + and then the screen will display 6 rails, press / and select character then press , press / again to select the second character, after selecting the sixth character press to confirm, press to exit.

The screen will display the channelname and show the order of this channel on top right corner.

Setting transmit segment when in dual standby (TDR-AB) ---- MENU 33

The transceiver will transmit on A segment or B segment when switch on the dualfrequency.

In frequencymode, press + number and the screen will display

Press enter, arrowhead aim at "A" position, then press / selected A or B. Press to confirm, then press to return to standby.

NOTE

- » Setting this function you must turn on dualstandby at first.
- » When in dualstandby,press PTT to transmit A segment or B segment.

Setting A segment channel display mode (CA-MDF)---MENU 34

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

In standby, press + number and the screen will display

1. Channelorder display mode

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

Press to confirm, then press to exit.


How to operate

2. Channelfrequency + Channelorder display mode

Press **MENU** enter, press **▲ UP** / **▼ DOWN** select **FREQ** and the screen will display 

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

3. Channelname + Channelorder display mode

Press **MENU** enter, press **▲ UP** / **▼ DOWN** 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 or it will still display the channelorder. See details of channelname edit in MENU 32.

Setting B segment channel display mode (CB-MDF)---MENU 35

This transceiver has three selectable display modes: Channelorder, channelfrequency + channelorder and channelname + channelorder.

In standby, press **MENU**+ number **SAVE 3** **SCR 5** and the screen will display 

1. Channelorder display mode

Press **MENU** enter, press **▲ UP** / **▼ DOWN** select **CH** and the screen will display 

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

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2. Channelfrequency + Channelorder display mode

Press **MENU** enter, press **▲ UP** / **▼ DOWN** select **FREQ** and the screen will display 

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

3. Channelname + Channelorder display mode

Press **MENU** enter, press **▲ UP** / **▼ DOWN** select **NAME** and the screen will display 

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

Channelname display mode: To operate this function you need to edit the channelname first or it will still display the channelorder. See details of channelname edit in MENU 32.

Setting keyboard lock (AUTOLK) ---- MENU36

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

AUTOLK: When you set autolock the keyboard will be locked within 15 seconds.

To release keyboard press **↵*** for more than 2 seconds.



OFF: Turn off auto lock

In frequencymode, press **MENU** + number **SAVE 3** **TOP 6** and the screen will display 

Press **MENU** enter, arrowhead aim at "OFF" position, press **▲ UP** / **▼ DOWN** and select **AUTO** for autolock or **OFF** to switch off autolock. Press **MENU** to confirm, then press **EXIT** to return to standby..

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NOTE






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

Setting power on message (PONMSG) ---- MENU 37

Transceiver power on message:

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

In standby, press  + number   and the screen will display 

Press  enter, arrowhead aim at "FULL" position, press  /  and select one of FULL/BATT-V/MSG, Press  to confirm, then press  to return to standby.

Setting sidekey 1(PF1)---MNEU 38

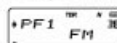
This transceiver sidekey 1 has 5 kinds function can be selected:


- 1.FM: FM radio key
2. CALL: Signal calling at present.
3. NO-SUB: Cancel receive DCS or CTCSS.
4. JP-PRI: Switch to priority scan channel.


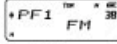
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5. JP-EMC: Switch to emergency calling mode.

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 

a. In FM radio, press  /  or number key to select program.






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

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 standby, press  + number   and the screen will display 





Press  enter, arrowhead aim at "FM" position, press  /  and select one of the FM/CALL/NO-SUB/JP-PRI/JP-EMC, press  to confirm, 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 two-way radio, After the signal disappeared 5 seconds, it will auto return to FM radio. If you want

NOTE

to exit FM radio, please press sidekey 1 again.

- » You can use the software to edit the channel of FM radio, make the radio can display the frequency and radio's name on LCD screen, after you have succeed in programming, press the sidekey 1 to turn on FM radio, now you not only can use the channel knob to switch channel, but also can use  /  to switch. If the radio don't have channel knob, you can use  /  to switch FM radio channel.

Setting topkey (PF2) ---MENU 39






The topkey offers two kinds of function:

EMCALL: Start up alarm function

CALL01-CALL15:Signal calling key

Select EMCALL function

In standby, press  + number   and the screen will display 






Press  enter, arrowhead aim at "EMCALL", press  /  and select EMCALL. Press  and confirm, then press  to return to standby.

When you have selected EMCALL, in standby press the 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.

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Signal calling key

In standby, press  + number   and the screen will display 

Press  enter, arrowhead aim at "EMCALL" position, press  /  select one of function from CALL01 to CALL15, press  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 you can communicate each other, also you can communicate when the LED is flickering.

Define MONI key (MONI) ---- MENU 40

This function is defined for squelch diagram.

Total have 2 kinds function can be selected.

CONTIN: Should always press side key 2 all the time to persist turn off squelch diagram.

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

In standby, press  + number   and the screen display 

How to operate

Press **[MENU]**, arrowhead aim at "CONTIN" position. Press **[UP]** / **[DOWN]** select CONTIN/PRESS
Press **[MENU]** confirm, then press **[EXIT]** to return to standby.

Selecting standby display color (WT-LED) ---- MENU 41

The transceiver has four colors available:

BLUE / ORANGE / PURPLE/OFF

In standby, press **[MENU]** + number **[TOP 4]** **[STEP 1]** and the screen will display ***WT-LED* 41**

Press **[MENU]** enter, arrowhead aim at "PURPLE" position, press **[UP]** / **[DOWN]** and select the desired color of BLUE / ORANGE / PURPLE/OFF. Press **[MENU]** to confirm, then press **[EXIT]** to return to standby.

Selecting receive display color (RX-LED) ---- MENU 42

The transceiver has four colors available:

BLUE / ORANGE / PURPLE/OFF

In standby, press **[MENU]** + number **[TOP 4]** **[VOL 2]** and the screen will display ***RX-LED* 42**

Press **[MENU]** enter, arrowhead aim at "BLUE" position, press **[UP]** / **[DOWN]** and select the desired color of BLUE / ORANGE / PURPLE/OFF. Press **[MENU]** to confirm, then press **[EXIT]** to return to standby.

Selecting transmit display color (TX-LED) ---- MENU 43

The transceiver has four colors available:

BLUE / ORANGE / PURPLE/OFF

In standby, press **[MENU]** + number **[TOP 4]** **[SAVE 3]** and the screen will display ***TX-LED* 43**

Press **[MENU]** enter, arrowhead aim at "ORANGE" position, press **[UP]** / **[DOWN]** and select the desired color of BLUE / ORANGE / PURPLE/OFF. Press **[MENU]** to confirm, then press **[EXIT]** to return to standby.

Setting memory channel=setting co-channel and dis-channel (MEM-CH) ---- MENU 44

When transceiver works in frequency mode or in standby, input the frequency and any kind of parameter what you want to store.

Press **[MENU]** + number **[TOP 4]** **[TOP 4]** and the screen will display ***MEM-CH* 44**

Press **[MENU]** enter, press **[UP]** / **[DOWN]** to select channel order, press **[MENU]** to store and you will hear a voiceprompt if it is stored.

Press **[EXIT]** to exit, at this moment the channel should be co-channel frequency channel.

When you need to store dis-channel, repeat the above procedure, after you stored, you will hear a voiceprompt "store transmit".

How to operate

Example:

You want 450.025MHz for receive and 460.025MHz for transmit and stored in CH-20, then act as follows:

1. When the transceiver works in frequency mode, input TOP 4 BOX 5 TRF TRF SQL 2 BOX 5 , MENU + TOP 4 TOP 4 + MENU , then press SQL 2 TRF or UP / DOWN key select CH-20, press MENU key to confirm, voice prompt will tell you it is stored, press EXIT to exit;
2. Then input TOP 4 TOP 6 TRF TRF SQL 2 BOX 5 + MENU + TOP 4 + TOP 4 + MENU + MENU and voiceprompt will tell you it is stored + press EXIT to exit.
3. The dis-channel is stored.

NOTE

- » If you want to set CTCSS, D.C.S, W&N etc functions on parameter please setting before stored. Then it can store with frequency in channel.
- » The transmitting only stored transmit frequency, if you want to store MENU function and parameter, please store with the receiving.
- » If you want to store by manual, in frequency mode, and the channel should be vacant, then you can go on operation of store receiving and transmitting or you can only go on the operation of storing transmitting. If the channel is not vacant and you want to go on the operation of storing receiving and transmitting, you should delete channel.

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Delete channel (DEL-CH) ---- MENU 45

In standby, press MENU + number TOP 4 BOX 5 and the screen will display DEL-CH CH-000 . Press MENU enter, press UP / DOWN to select the channel you want to delete, press MENU to confirm. The select channel and message are deleted, press EXIT to return to standby.

Setting frequencyshift direction (SFT-D) ---- MENU 46

Frequencyshift means that:

1. The transmit frequency is higher than receive frequency. This is called positive offset (+)
2. The transmit frequency is lower than receive frequency. This is called negative offset.(-)
3. Turn off frequencyshift.

In standby, press MENU + number TOP 4 TOP 6 and the screen will display SFT-D OFF . Press MENU enter, press UP / DOWN and select one of +/- / OFF. Press MENU to confirm, then press EXIT to return to standby.

Setting offsetfrequency (OFF-SET) ---- MENU 47

Offsetfrequency is the difference between the transmit and receive frequency. The transceiver offset range can be from 0 to 99.950MHz.

How to operate

In standby press **MENU** + number **TOP 4** **VOX 7** and the screen will display **OFFSET 00.000**

Press **MENU** enter, press number 0 to 9 to select offset frequency. Press **MENU** to confirm, then press **EXIT** to return to standby.

The frequency shift direction and offset frequency can only be programmed when the transceiver works in frequency mode, in order to let transmitting and receiving under different frequency.

Follow the next steps:

1. Set working frequency.
2. Set frequency shift direction and offset frequency.

Example: In frequency mode, the transceiver will work on receive frequency 450.025MHz and transmit frequency will be 460.025MHz.

In frequency mode, order input **TOP 4** **ICK 5** **TOP 0** **TOP 0** **BSL 2** **ICK 5**, press **MENU** + **TOP 4** + **TOP 6** + **MENU** and select positive offset (+); press **MENU** + **EXIT**, then press **MENU** + **TOP 4** + **VOX 7** + **MENU** + number key to select 10.000 + **MENU** + **EXIT** and the frequency shift direction plus offset frequency are complete.

The screen will display **450.025**
470.025

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When press **PTT** key the screen will display **450.025**
470.025

When you release **PTT** the screen will display **450.025**
470.025

Now the receiving frequency is **450.025**

The transmit frequency is **460.025**

ANI CODE edit (ANI) ---- MENU 48

Any transceiver of 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 CODE must keep the same as which used in group.
- » ANI CODE only can be programmed via KG-689E programming software.

Setting VOX-T (VOXT) ---- MENU 50

The purpose of setting VOX-T is to avoid the problem: When after transmitted, transceiver will return to receive 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.

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How to operate

Be careful, don't set VOX-T to a long time.

This transceiver total has 20 levels, unit: 100ms

In standby, press **MENU** + number **[SCH 5]** **[TMR]** and the screen will display **VOX-T 50**

Press **MENU** enter, arrowhead aim at "5", press **[UP]** / **[DOWN]** and select one of level between 1 and 20 or 0 not allow delay transmit, press **MENU** to confirm, then press **[EXIT]** to return to standby.

Companding (COMP) ---- MENU 51

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

In standby, press **MENU** + number **[SCH 5]** **[STEP 1]** and the screen will display **COMP OFF 51**

Press **MENU** enter, arrowhead aim at "OFF" position, press **[UP]** / **[DOWN]** to select ON or OFF.

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

Setting reset (RESET) ---- MENU 52

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.

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1. MENU reset (VFO):

In standby, press **MENU** + number **[SCH 5]** **[SQL 2]** and the screen will display **RESET VFO 52**

Press **MENU** enter, press **[UP]** / **[DOWN]** select VFO, press **MENU** key and the screen will display **RESET SOURE? 52**

Press **MENU** again and the screen will display **RESET WAIT 52**

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** + number **[SCH 5]** **[SQL 2]** the screen will display **RESET ALL 52**

Press **MENU** enter, press **[UP]** / **[DOWN]** and select ALL, press **MENU** and the screen will display **RESET SOURE? 52**

Press **MENU** again and the screen will display **RESET WAIT 52**

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

Setting reverse frequency function

When using reverse frequency function, the transceiver transmit-and receivefrequency will interchange and the setting of CTCSS and/or DCS encode and decode will interchange.

■ Operating reverse frequency function:

In standby, press **[SCH]** and this will turn on reverse frequency function, press **[SCH]** again and this will turn off reverse frequency function.

How to operate

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 MENU 6)

Adding channelscan

Edit method: Strictly via KG-689E programming software.

Only scan according programming list which have 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.

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Programming repeater function

Most repeaters use standard or different splits and/or matching CTCSS/DCS or DTMF signals.

When you need to join a repeater, you need to set different parameters on receive and transmit.

Example: The repeater transmit frequency is 450.025MHz, CTCSS value is 67Hz, the receive frequency is 460.025MHz, CTCSS value is 254.1Hz.

When the transceiver needs to join the repeater, you need to follow the following steps:

1. Set receive frequency, CTCSS value and transmitting CTCSS value and store this on appointed channel, example channel 20. The transceiver in frequency mode, setting receive frequency is 460.025MHz, receiving CTCSS value is 254.1 Hz, transmitting CTCSS value is 67Hz, and store to channel 20. The operation is as follows:

In frequency mode, order input **TOP 4** + **TOP 6** + **PTT** + **PTT** + **SQL 2** + **SQL 5**, **MENU** + **STEP 1** + **PTT** + **MENU**, press **UP** / **DOWN** and select CTCSS value 254.1 + **MENU** + **EXIT**; **MENU** + **STEP 1** + **SQL 2** + **MENU**, press **UP** / **DOWN** and select CTCSS value 67Hz + **MENU** + **EXIT**, **MENU** + **TOP 4** + **TOP 4** + **MENU** + **SQL 2** + **PTT** + **MENU** voice prompt receive store, press **EXIT** key.

2. Setting transmit frequency and store in appoint channel 20. The transceiver in frequency mode, setting transmit frequency as 450.025MHz, and store in channel 20.

How to operate

In frequency mode, order input **[TOP 4] + [SCR 5] + [TOP] + [TOP] + [SQL 2] + [SCR 5]**, **[MENU] + [TOP 4] + [TOP 4]** + **[MENU]**; **[SQL 2] + [TOP] + [MENU]**. Voiceprompt transmit store, press **[EXIT]** key.

3. Press **[MENU]**, turn on the power at the same time, the transceiver work in channel mode at this time, press **[UP]** / **[DOWN]** select channel 20, the transceiver can join repeater.

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 battery pack, 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 battery pack is fully charged.
4. When you plug in the battery pack, the red LED flickers and you hear "Di Di" twice, the battery pack is not plugged in right, please plug in the battery pack again.

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.

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

Trouble shooting

Problem	Possible Cause	Possible Solution
Keyboard and PTT switch do not work.	<ol style="list-style-type: none"> 1. The keyboard is locked. 2. RADIO "mode" is switched on, see displayFM. 	<ol style="list-style-type: none"> 1. Set keyboard to free. 2. Please exit RADIO mode.
The receivlight is on and you can not transmit.	If you have set transceiver to busychannel lockout.	Switch off busychannel lockout.
You can not store certain settings.	In channel mode or frequency+channel mode you cannot set parameters.	Set transceiver to frequency mode.
Autotransmit when you are in standby.	The VOX level is set too LOW.	Switch off VOX or set VOX to a HIGHER level.
During communication you receive other group(s) or receive distorted signal.	The frequency and the CTCSS/DCS are the same as other users.	Change the setting of CTCSS/DCS,frequency or channel.

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Technology parameter

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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

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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: 350-390MHz
	UHF: 400-470.9875 MHz	UHF: 450-520MHz
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	250g	
Size	62 X 105 X 39 (mm)	2.44x4.13x1.54(inch)

NOTE

» Specifications are subject to change without notice.

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Optional accessories

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Dual slot charger



"AA" battery pack



Eliminator



Programming cable



Car charger



Wire clone 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.

English Version: 689E-A-0804-V1