



CG-828mini MOBILE RADIO



**500 Channels
VOX Function
Noise Reduction**

Instruction Manual

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1. FUNCTIONS & FEATURES

CG-828mini Mobile Radio has nice housing, stoutness & stability, advanced and reliable functions, perfect & valuable. This amateur mobile radio especially designs for drivers and it pursues philosophy of innovation and practicality. More functions as follows:

- ◆ 500 programmable memory channels, identified by editing name;
- ◆ VOX function
- ◆ Noise Reduction
- ◆ 1.44 Inch TFT display;
- ◆ Adopt superior quality material, better technology and high quality radiator to ensure stable and durable operation;
- ◆ Amateur mode and professional mode for different operation requirement;
- ◆ CTCSS, DCS, DTMF, 2Tone, 5Tone setting for each single channel;
- ◆ 11 groups fixed scrambler code plus self define scrambler code;
- ◆ LCD brightness control;
- ◆ Main unit and microphone key lock function;
- ◆ Comander function;
- ◆ Tone Pulse frequency;

Version notice:

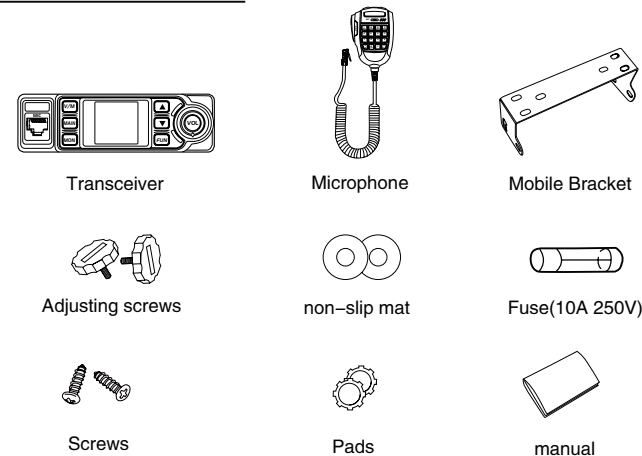
Europe version : Frequency range cover 144-146Mhz ,430--440Mhz
Complies with R ED 2014/53/EU directive.

USA version : Complies with Part 95E and Part 15B FCC rules.
Frequency information as following chart.

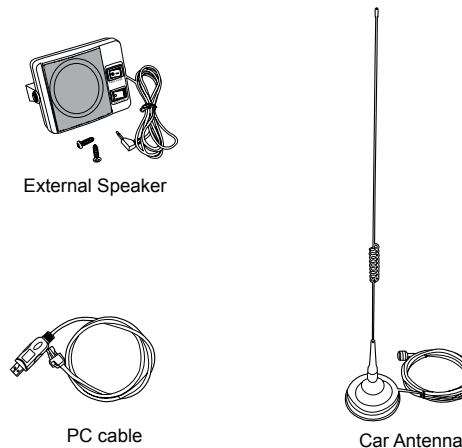
Channel NO.	Channel Frequency TX/RX	Channel NO.	Channel Frequency RX	Channel Frequency TX
1	462.5625	15	462.5500	462.5500 467.5500(Repeater)
2	462.5875	16	462.5750	462.5750 467.5750(Repeater)
3	462.6125	17	462.6000	462.6000 467.6000(Repeater)
4	462.6375	18	462.6250	462.6250 467.6250(Repeater)
5	462.6625	19	462.6500	462.6500 467.6750(Repeater)
6	462.6875	20	462.6750	462.675 467.6750(Repeater)
7	462.7125	21	462.7000	462.7000 467.7000(Repeater)
		22	462.7250	462.7250 467.7250(Repeater)

2. ACCESSORIES

2.1 Standard Accessories

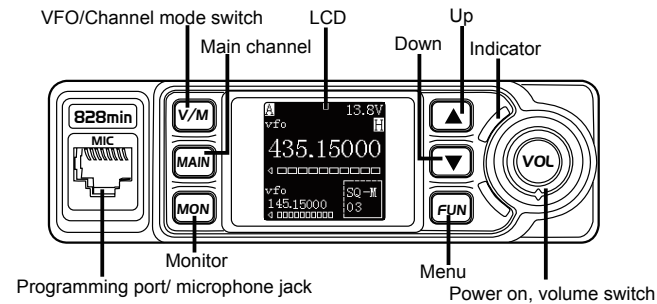


2.2 Optional Accessories

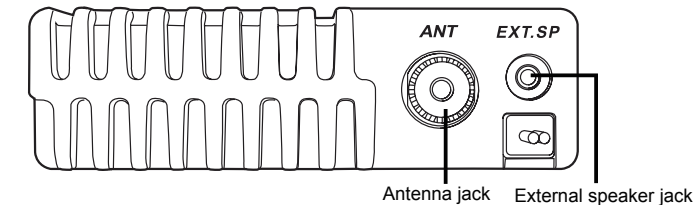


3. GETTING ACQUAINTED

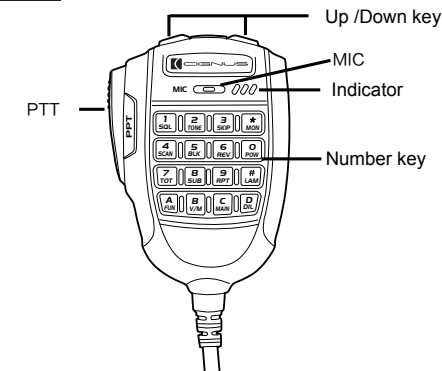
3.1 Front panel



3.2 Rear panel



3.3 Microphone



4. BASIC OPERATIONS

4.1 Switching the Power On/Off

1. Turn the Volume knob clockwise to turn on the radio, the radio LCD will display programmed text and emit a beep sound .
2. Power Off: Turn volume knob anti-clockwise until hear click"to turn off the radio.

4.2 Adjusting the Volume

Turn volume knob clockwise to increase colume and anti-clockwise to reduce it.

4.3 Switch between Main Channel and Sub Channel

In standby states, press the microphone key or front panel key to switch between main channel and sub channel. The top left corner of LCD will display current main channel .

4.4 Adjust Channel

1. Press microphone key or front panel key to switch the radio to channel mode, press microphone [UP] / [DN] key or front panel / key to choose channel.
2. In channel mode, input three numbers by number key to fast choose a channel.

4.5 Adjusting Frequency (Europe version only)

1. By number key: In VFO mode, you can input wanted frequency by the microphone number key. For example if want 145.125Mhz, just press key 1, 4, 5, 1, 2, 5, if want 145Mhz, just press 1, 4, 5. The input is invalid if the frequency is over range.
2. By step size: In VFO mode, press microphone [UP] / [DN] or front panel / key can change frequency by step size.
Step size can be programmed by software from 2.5K to 50K.

4.5 Store channel

In standby states, press the microphone key, the top left corner will display Func, then press [UP] KEY, the LCD bottom left corner will display Save to XXX, now press [UP] / [DN] key to choose a channel number, hold key to store the new frequency and return to standby.

▲ » XXX stands for the channel number, if LCD displays "Null" under "Save TO XXX", means current channel is empty.

4.6 Channel Delete

1. In channel mode, press microphone key, then press [DN] key, the LCD displays "Delete XXX" and frequency, press [UP] / [DN] key to choose the channel to delete, hold [# LAM] key delete to current channel.

▲ » "XXX" stands for the channel number, the LCD displays "Null" after channel deleted

4. SHORTCUT OPERATION

4.7 Receiving

Choose a receiving channel or frequency for receiving call, if the RX signal is weak, hold front panel [MON] key or microphone [MON] key to monitor weak signal.

▲ » *When the RX icon and field strength flashes, but can not hear the calling, it means current channel receive a matching carrier but unmatching signaling. Refer to CTCSS/DCS CODE or Optional Signaling setup in Page 6.*

4.8 Transmitting

Hold [PTT] and speak into microphone. the radio start transmit, the screen shows red TX and field strength. Hold the microphone approximately 2.5-5.0cm from your lips and speak to microphone in your normal speaking voice to get best timbre.

4.9 Squelch Off

In standby, press microphone [MON] key or front panel [MON] key to turn off squelch, the radio will monitor weak signal.

4.10 Emergency Alarm

In standby, hold [MAIN] key, release it until the LCD displays ALARM, the alarm function turns on. Program emergency alarm rule shall be programmed by PC software.

4.11 Keypad Lockout

In standby, hold [FUN] key or [MON] key, the radio emit Du sound, the LCD displays LOCK. Now release the key, the keypad is locked. To turn of key lock, hold [FUN] key or [MON] key until the radio emit Du Du, the LOCK icon disappear. now release the key.

4.12 Transmit Tone Pulse Frequency

Hold PTT and [DN] key will transmit selected Pre-programmed tone pulse frequency.

4.13 VFO Scan and Channel Scan

1. VFO scan: In VFO mode, press microphone [MON] key or [SCAN] key to start VFO scan. If the radio has programm PL1, PH1, ,PL2, PH2, PH2 frequency(in the buttom of channel list), VFO scan will between PL1-PL2 and PL2-PH2.

2. Channel Scan: In channel mode press microphone [MON] key and then press [SCAN] key to start channel scan. Channel scan setting shall be programmed by PC software.

4.15 VOX On/Off control

In standby, hold [V/M] key until LCD displays VOX icon, repeater this step or repower on radio to turn off VOX function.

▲ Note: Before turn on VOX, please set VOX level in 26th menu.

4. SHORTCUT OPERATION

Press microphone [MON] key and then press number key TO fast enter following functions, then press [UP] / [DN] key to choose value. press [PTT] key or [DIL] key to Store.

Function list

No.	Function name	Combination Key
1	Squelch level setting	[FUN] + [1 SOL]
2	Optional signaling setting	[FUN] + [2 TONE]
3	Scan Skip	[FUN] + [3 SKIP]
4	Scan	[FUN] + [4 SCAN]
5	Busy channel lockout	[FUN] + [5 BLK]
6	Frequency reverse	[FUN] + [6 REV]
7	Time out timer	[FUN] + [7 TOT]
8	Sub channel on/off switch	[FUN] + [8 SUB]
9	Offset direction	[FUN] + [9 RPT]
10	Function Menu	[FUN] + [MON]
11	Power setting.	[FUN] + [O POW]
12	LCD brightless	[FUN] + [# LAM]
13	DTMF Code check	[FUN] + [D DIL]

▲ » In DTMF check mode

When check DTMF code, press PTT will send current DTMF code. To revise DTMF code, press [MON] key and then press [O POW] key to enter edit mode. input DTMF code by number keys, then press PTT to transmit the code and store.

5. FUNCTION SETTING

5.1 By Front Panel Key

- Press [FUN] key to enter main menu.
 - Press [V/M] key or [MAIN] key to choose function.
 - Press [▲] / [▼] key to choose value.
 - Press [FUN] key or [MON] key to store and exit.
- ▲ » When setting DCS code, [MON] key is for switch between positive and inverse code.

5.2 By Microphone Key

- Press [MON] key and then press [MON] key to enter menu.
 - Press [V/M] key or [MON] key to choose function.
 - Press [UP] / [DN] key to choose value.
 - Press [DIL] key to store and exit
- ▲ » When setting DCS code, [1 SOL] key is for switch between Positive and inverse code. [3 SKIP] key is for choose special DCS.

Function list

No.	Function name	Setting value
1	TX CTC/DCS	67Hz~254.1Hz、000N~777I
2	RX CTC/DCS	67Hz~254.1Hz、000N~777I
3	TX/RX CTC/DCS	67Hz~254.1Hz、000N~777I
4	Optional signaling	OFF、DTMF、2Tone、5Tone
5	Squelch mode	SQ、CT/DCS、Tone、C&T、C/T
6	Step size	2.5K~50K
7	Band width	WIDE (25K) 、NARROW (12.5K)
8	Reverse	ON、OFF
9	Talk around	ON、OFF
10	Offset frequency	0~70MHz
11	Busy channel Lock	OFF、REPEATER、BUSY
12	Channel name	0~z

5. FUNCTION SETTING

No.	Function name	Value
13	TX OFF	ON、OFF
14	Scramber	1~11、edit、OFF
15	Compander	ON、OFF
16	NC(Noise reduction)	ON、OFF
17	5Tone	1~100、 Press PTT to transmit
18	2Tone	1~32、 Press PTT to transmit
19	Sub channel display	FREQ、VOLT、OFF
20	Key beep	ON、OFF
21	Time out timer	1~30Min、OFF
22	DMTF transmit time	50ms~500ms
23	Squelch level	OFF、1~9
24	Scan pause time	5ST、10ST、15ST、2SP
25	LCD brightness	1~5
26	VOX level	OFF、1~9
27	VOX delay	0.5~5 Second
28	Tone burst frequency	1750Hz、2100Hz、1000Hz、1450Hz
29	Channel display	FREQ、CH、NAME
30	Reset	FACTORY? INITIALIZE?

5.3 Reset Factory Default

If your radio seems to be malfunctioning because of wrong operation or setup, this function will resume all setup and channels to factory default.

- Press front panel [MAIN] key to enter main MENU list.
 - Press [V/M] or [MAIN] key to chooe 27th function, the LCD display reset options.
 - Press [▲] / [▼] key to chooe "FACTORY?" .
 - Hold [FUN] key, until the radio re-power on.
- After reset, all channel and fuction setting will resume default value.

▲ » If chooe "INITIALIZE?" , only function setting value will resume to default setting.

6. SPECIFICAITONS

GENERAL		
Frequency Range	Europe version: TX/RX: 144~146MHz , 430~440MHz USA version: TX1:462.5625-462.7125MHz (5W) TX2:462.550-467.725MHz RX: 136~174MHz , 400~480MHz	
Channel Spacing	Europe version: 25K (Wide Band) 12.5K (Narrow band) USA version: 12.5K	
Channel Number	500 channels	
Operating Voltage	DC 13.8V±15%	
Squelch	Carrier/ CTCSS/DCS/5Tone/2Tone/DTMF	
Frequency Stability	±2.5ppm	
Operating Temperature	-20℃ ~ +60℃	
Dimensions(mm)	124x101x36m	
Weight	0.45kg (main unit)	
RECEIVER		
	Wide band	Narrow band
Sensitivity (12dB Sinad)	≤ 0.25μV	≤ 0.35μV
Adjacent Channel Selectivity	≥ 70dB	≥ 60dB
Audio Response	+1~-3dB(0.3~3KHz)	+1~-3dB(0.3~2.55KHz)
Hum & Noise	≥ 45dB	≥ 40dB
Audio distortion	<3%	
Audio power output	>2W@10%	
TRANSMITTER		
	Wide band	Narrow band
Power - EU version	UHF>18W	VHF>20W
Power - USA version	/	462.5625-462.7125MHz (5W) 462.550-467.725MHz (18W)
Modulation	16KΦF3E	11KΦF3E
Adjacent Channel Powe	≥ 70dB	≥ 60dB
Hum & Noise	≥ 40dB	≥ 36dB
Spurious Emission	≥ 60dB	≥ 60dB
Audio Response	+1~-3dB(0.3~3KHz)	+1~-3dB(0.3~2.55KHz)
Audio Distortion	≤ 5%	