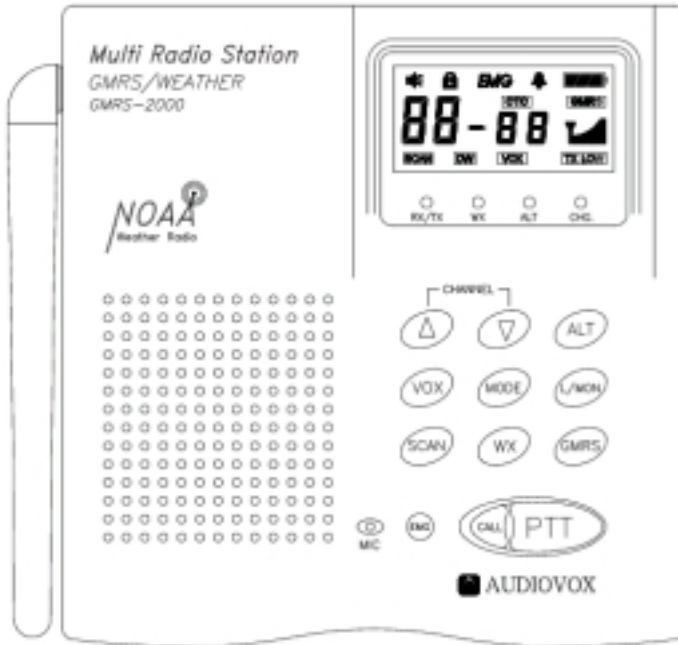


Instruction Manual

General Mobile Radio Service

GMRS-2000



- CTCSS Sub Tone
- (38 Frequency)
- VOX Operating
- Scanning
- Monitor
- Weather Radio Band (10 Channels)
- Weather Alert
- Key Pad Lock
- Back Light LCD Display
- Battery Status Indicator
- Emergency Channel
- Choice of Battery - Rechargeable
- Standard Alkaline

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1 INTRODUCTION

1) Product Description

GMRS-2000 General Mobile Radio Service has been designed to enable you to use for general purpose. This is a sophisticated multi channel, battery powered, 462 MHz FM two-way radio. The controls and accessories are easy to use and GMRS-2000 can be used correspond to FRS for channel 1 to 7. Also it has a 38 CTCSS feature to get the clear communication without interference.

And also this radio can be operated the weather band radio.

2) Package Contents

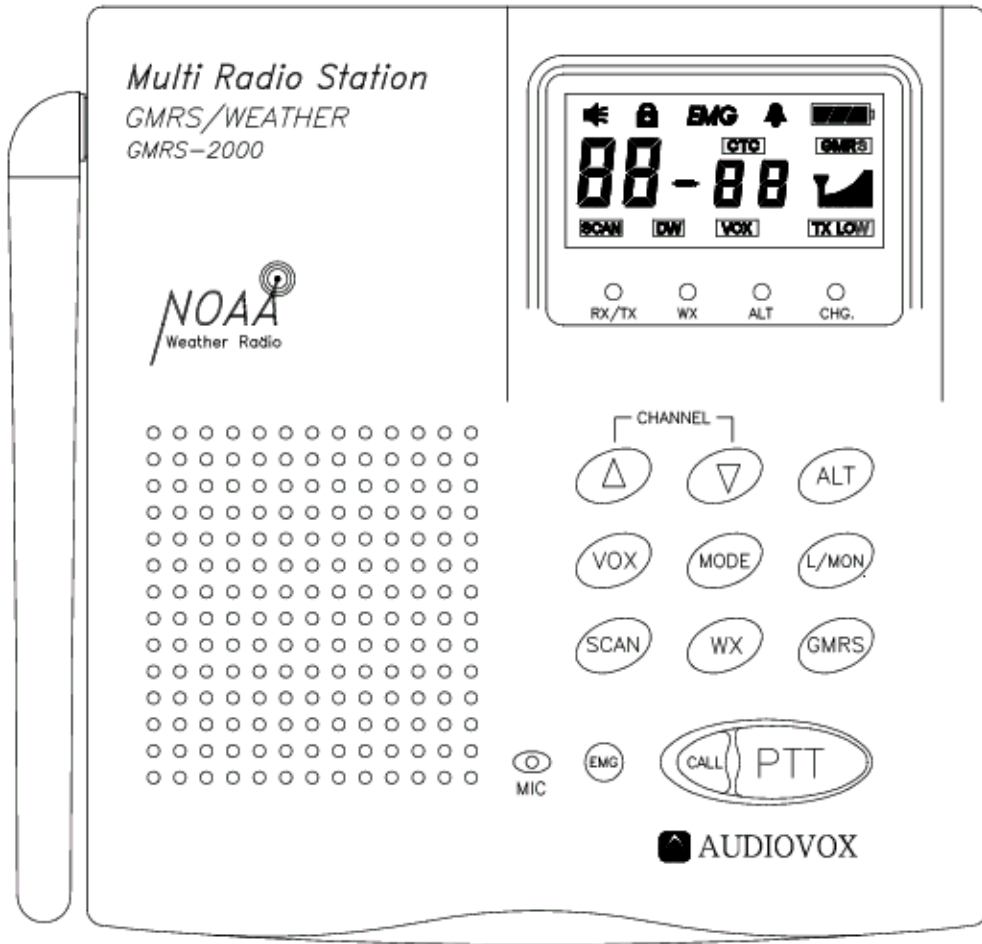
When you open the package, you should have;

- GMRS-2000 Radio Unit
- Rechargeable Battery Cell (AA x 5)
- Wall Charger
- User's Manual

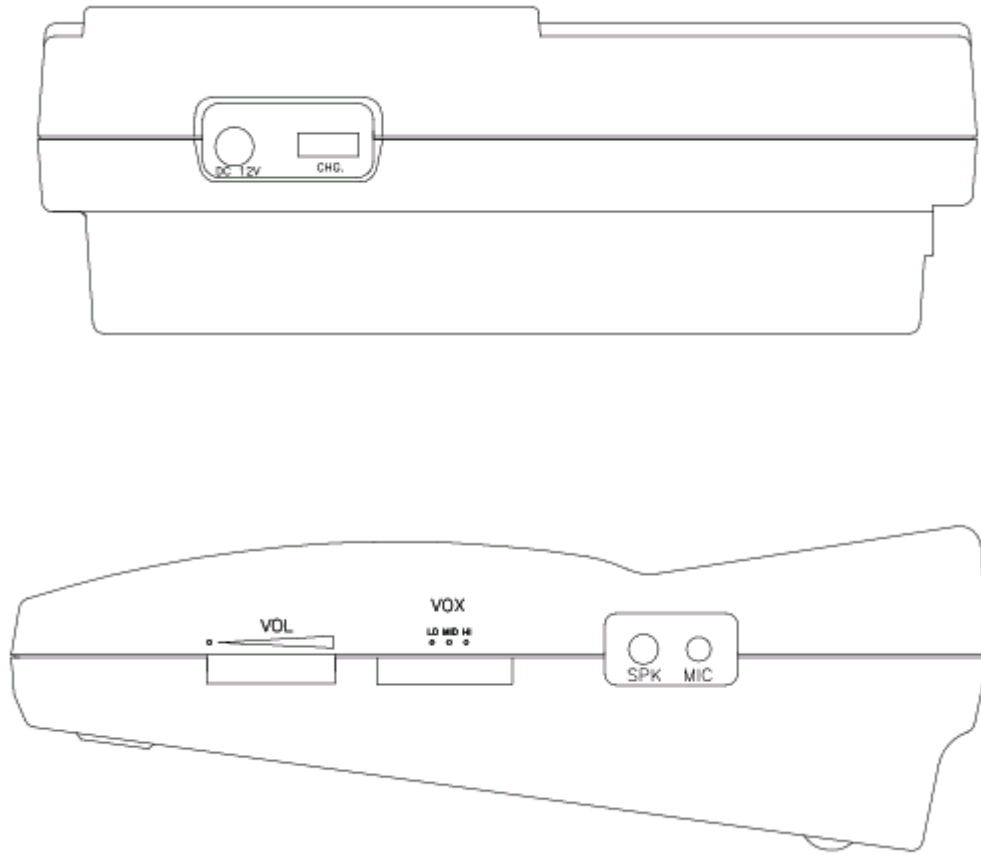
3) Features

- CTCSS(38 Frequency)
- Channel Scan and Dual Channel Scan
- VOX(Voice Activated Transmission)
- RSSI(Received Signal Strength Indicator)
- Call Signal (5 ringer signal)
- Beep ON/OFF
- PSC(Auto Power Saving Control)
- Monitor
- LCD Back lighting
- Low Battery Indicator
- Squelch Control
- Emergency Call
- Keypad Lock
- Transmitting/Receiving LED
- Weather Indicator LED
- Weather Alert Indicator LED
- Weather Band Radio (10CH)

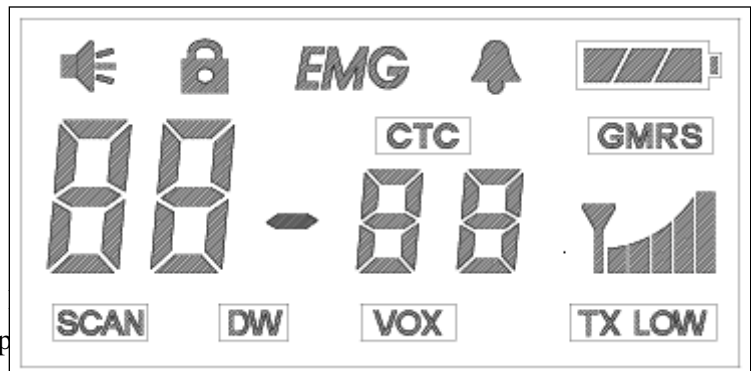
4) Front side Overview



5) Rear side Overview



6) Function and Feature Display



- Key
- Beep
- Emergency Channel Indicator : Appears when emergency channel is in use.
- Battery indicator : Indicates the battery status.
- Channel readout : Shows the current channel number
- CTCSS Frequency readout
- Channel & CTCSS displaying
- CTCSS indicator: Appears when the CTCSS function is in use.
- Receive signal indicator
- VOX (Voice Activated Transmit) Indicator
- Monitor indicator
- Scan indicator : Indicates that scan is enabled.
- Skip channel indicator : Appears when a non-select scan channel is selected.
- Tx Power Low indicator

7) Mode (Function) key sequence

- 1'st press -- CTCSS
- 2'nd press -- Tx power Hi Low select
- 3'rd press -- Dual watch channel select
- 4'th press -- Dual watch ctcss channel select
- 5'th press -- Beep ON/OFF
- 6'th press -- Roger beep ON/OFF
- 7'th press -- Ringer type select

2 INSTALLATION

Your GMRS-2000 is designed for use with five "AA" size rechargeable battery (supplied with radio) or Alkaline Batteries(not supplied).When rechargeable battery cell is installed, please charge the batteries for at least 12 hours before use.

New rechargeable batteries should be fully charged before use. While rechargeable battery charge, the radio must be turned off during charging.

Warning

Do not use wall charger with Alkaline batteries. The radio will be damaged.

1) Installation of the batteries

- Ensure the On/Off switch on the radio is to set Off position.
- Hold the radio and battery cover with the back facing you.
- Press down the 'battery cover latch' to release the battery cover.
- Install five "AA" size Alkaline batteries or rechargeable batteries.
Note : Carefully observe the polarity of the batteries before installing.
- Install the battery cover into the radio until the cover latch click into place.

2) Antenna

The antenna is connected to the radio. It is detachable.
Please do not attempt to transmit without an antenna,
the radio will damage.

3 Basic Operation

1) On/Off & Volume control Switch

- Radio ON : Rotate the switch clockwise until you here a 'click'. All indicators will appear momentarily on the LCD and you will hear short beep sound.
- Radio Off : Rotate the switch counter clockwise until all indicators disappear on the LCD.
- Volume setting : Rotate On/Off Volume switch to mid position or adjust level that is most comfortable for you.

2) Selecting the Channel and tone code(CTCSS)

GMRS-2000 has a tone code system

- 38 CTCSS Code (indicated by **CTC** icon on the LCD)

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To select the channel

- Turn the radio on
- Press up[] or down[] button to select a channel.

To set the tone codes(CTCSS)

- Press mode button to enter function mode.
- Press up[] or down[] button to select a ctcss channel.

3) Receiving

The coding feature reduces possibility of interference and provides enhanced communication. You can only listen to a call containing correct matching code.

Important ;

Before making or listening to a call, always ensure

- Correct channel is selected and
- Correct code is set

4) Monitoring the channel

It is used for listening the weak signal or to here all activities on the channel by manually overriding channel code setting.

To activate the Monitor feature

- Press and hold the **MON** button for over two seconds.
- When you here the sound, release the **MON** button.

To disable the Monitor feature

- Press and hold the **MON** button for over two seconds.

5) Auto Channel Scanning

This feature allows you to monitor all channels automatically for valid signal. It does this by scanning all the pre-assigned channels in sequential order and checking for correct matching code.

You can find all the channels which will be scan with icon **SCAN** on the LCD.

To activate the Scan

- Press the Scan button
- Radio will begin scanning for an active pre-assigned channels only.

While scan, you can transmit and receive. It will return to scan mode after transmitting & receiving is finished then after 5 seconds

6) Transmitting

- Press and hold the PTT button (The red LED will be illuminated)
- Speak slowly and clearly
- To stop the transmission, release the PTT button
- The unit will go to the stand-by mode

To disable the Scan

- Press the **SCAN** button again
- Radio will return to normal operation.

7) Dual Watch Scan Channel

This feature allows you to monitor one special channel when the radio is in scan mode. The assigned channel will be scanned between channel and channel.

Example : Dual Watch channel is 2 channel. When you are in **SCAN** mode ,it will be scan as follows;

CH1 - 5 - 2 - 5 - 2

To set the Dual Watch Scan Channel

- Press the **Mode** button until the **DW** Icon blinks on the LCD.
- Press the up[] button or down [] button to select the Dual Watch channel.
- Press the PTT Button to confirm your selection.

To activate the Dual Watch Scan

- Same as Scan mode

To disable the Dual Watch Scan

- Same as Scan mode

8) VOX (Voice Activated Transmission) []

This option enables you to have hands-free conversation. You do not have to operate the PTT button each time when you want to transmit. When using the external SPK/MIC or EAR/MIC, your have same function. You can also control the VOX sensitivity to suit your environment of operation.(E.g. noisy road, motor bike, factory etc.)

To set the VOX mode.

- **VOX** icon will be appeared in the LCD.

To set the VOX level, select Hi/Mid/Low level by side SW

9) Emergency Call Ringer Selection Mode

This feature provides 5 user selectable call ringer signal. The calling party identify who send a alert signal.

To set your favorite call ringer signal.

- Press the Mode button 7 times.
- "rG 0" will appear in the LCD.
- Press the up[] button or down [] button to preview the 5 available signal..
- Press the PTT button to confirm.
- To activate the call , click the CALL button.
- You can here the call sound.

10) Emergency Channel Mode

When you are in emergency situation, you just press the **EMG** button. The radio will be set to emergency channel (CH10 : 462.6750Mhz) automatically.

To access the Emergency Channel

- Press **EMG** button.
- **EMG** icon and channel **10** will appear in the LCD.


To disable the Emergency Channel

- Press the Emergency button once.
- The radio will be return to normal channel.

11) Keypad Lock

The lock function is to avoid the accidental changes to channel with other radio settings. All buttons and keys will be locked except the On/Off & Volume, PTT and monitor button.

To lock the keypad

- Press and hold down the **SCAN** button for over 2 seconds.
- Keypad is now locked ( icon will appear on the LCD)

To unlock the keypad

- Press and hold down the **SCAN** button for over 2 seconds.
- Keypad is now unlocked ( icon will disappear on the LCD)

12) Backlight

Backlight is used to improve the display visibility in dark condition.


To activate the Backlight

- Press and hold the **MON** button momentarily.

To disable the Backlight

- Press and hold the **MON** button momentarily once again.

13) Battery status indicator

The  icon will blink when the radio is in low battery power. Charge the rechargeable battery or replace the batteries.

- Full battery - three segments are illuminated.
- Low battery - one segment is illuminated.

The radio will be off if the battery has no power.

14) Beep tone

To activate the beep tone

- Press the Mode button until the **bp** icon on the LCD.
- Press the PTT Button to confirm.

To disable the beep tone

- Press the Mode button until the **bp** icon on the LCD.
- Press the PTT Button to confirm.

15) External DC socket

This is to charge the rechargeable battery. Please use the approved and sullied wall charger only. If not, the radio will damage.

Wall charger specification : DC power adapter, AC 120V, 12V DC, 1600mA

16) External Speaker - Mic

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Use the approved accessories only to have the optimum performance.

- Speaker/Mic unit
- Ear/Mic unit

4 INFORMATION

1) Radio

- Never operate radio very close or touching to exposed parts of the human body.
- Do not shock or vibrate the radio to keep the best condition.
- If possible, remained this radio under the direct ray of light(the sun) or high humid area.
- Do not operate the radio in explosive atmosphere.
- Never hold the antenna, while transmit , to get the good performance.

2) Battery

- Alkaline Batteries(5 x AA size)
- Rechargeable Ni-MH battery cell and wall charger are supplied.
- Charging time ; 10~12 hours
- **Please do not overcharge the battery to conserve the battery lifetime.**
- Never attempt to charge alkaline batteries. This will damage the radio.
- Use approved battery charger only. If not, the radio will damage.
- Always power off the radio when charging.
- Never use the wall charger simultaneously.
- Avoid overcharging the rechargeable batteries. Charge battery for less than 15 hours.
- Keep battery contacts clean.

3) Operating temperature

The radio will work correctly under the temperature condition from -20°C to +60°C .

4) Others

When the “UL” is appeared on the LCD, turn off and turn on the radio. And change the battery to new one. If this message does not disappear on the LCD, please contact to service center.

5 SPECIFICATIONS

1) GENERAL SPECIFICATIONS

- | | |
|-----------------------|--|
| ● Channel Frequency | 462.5500 ~ 462.7250 MHz |
| ● Channel Capacity | 15 |
| ● Frequency Control | PLL synthesizer |
| ● Frequency Stability | 0.00030% |
| ● Channel Spacing | 12.5 KHz |
| ● Ambient temperature | -20°C to +60°C |
| ● Antenna | Fixed 1/4 Wave |
| ● Power Supply | 7.5V Alkaline (5 x AA) / 6.0V Ni-MH) |
| ● Battery Life | AL :1.8W (30hr,2000mA - 5:5:90)
Ni-MH:1.4W(18hr, 1300mA - 5:5:90) |

2) TRANSMITTER

- RF Output 2 Watts (2W-Al ,1.4W-NiMH)
- Modulation F3E
- Audio Distortion <5% at 1 KHZ
- TX current 800mA
- FM Hum & Noise 40dB Min
- Spurious and Harmonics emission -60 dBc

3) RECEIVER

- Sensitivity 12dB SINAD 0.25 V
- 20dB Quieting 0.5 V
- Selectivity >-60dB
- Inter-Modulation -60dB
- Spurious and Image Rejection -65dB
- Audio output power 500 mW
- FM Hum & Noise -40dB

4) DIMENSIONS

- 177 mm(L) x 170 mm(W) x 58.7 mm(D) without antenna

5) BASIC PACKAGE

- Radio
- Rechargeable Battery cell (NiMH 5xAA,1300mAh)
- Wall Charger

6) OPTION

- Speaker / MIC
 - Ear / MIC
 - Leather Case
 - Cigarette charger
- note : Jack diameter for Ear phone/Speaker-Microphone is 3.5 - 2.5 .

6 MAIN CHANNEL FREQUENCY TABLE (in MHz)

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	462.5625	9	462.6250
2	462.5875	10	462.6750
3	462.6125	11	462.5500
4	462.6375	12	462.6000
5	462.6625	13	462.6500
6	462.6875	14	462.7000
7	462.7125	15	462.7250
8	462.5750		

NOTE : Channels 1 through 7 are shared with FRS radios

7 WEATHER FREQUENCY TABLE

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	162.550	6	162.550
2	162.400	7	162.525
3	162.475	8	161.650
4	162.425	9	161.775
5	162.450	10	163.275