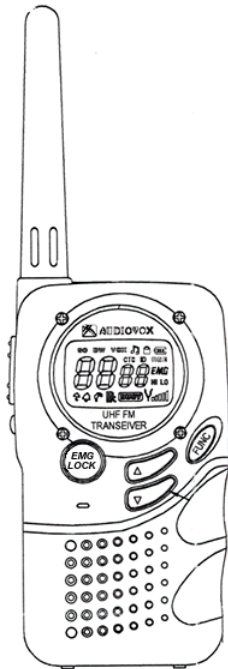




**General Mobile Radio Service (GMRS)  
Model: GMRS1600-2PK**



# Owner's Manual

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Customer Service  
1-800-290-6650

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**128-6400**  
**1 of 28**

**CAUTION**

NEVER ATTEMPT TO CHARGE ALKALINE OR DRY CELL BATTERIES, AS BATTERIES MAY BURST CAUSING PERSONAL INJURY AND DAMAGE TO THE PRODUCT. WHEN RECHARGING NICKEL METAL HYDRIDE (NiMH) BATTERIES WITH THE SUPPLIED AUDIOVOX CHARGER AND WALL ADAPTER, USE ONLY AUDIOVOX-APPROVED RECHARGEABLE BATTERIES. USE OF THE AUDIOVOX CHARGER WITH OTHER BRANDS OF BATTERIES IS NOT RECOMMENDED, AS BATTERY CHARGING TIMES WILL VARY WITH DIFFERENT BRANDS. REFER TO THE MANUFACTURER'S INSTRUCTIONS FOR CHARGING OTHER BRANDS OF BATTERIES.

AVOID PLACING THE GMRS1600-2PK RADIO TRANSCEIVER FOR PROLONGED PERIODS OF TIME IN DIRECT SUNLIGHT OR TEMPERATURES BELOW -4° F (-20° C) OR ABOVE 140° F (60° C).

KEEP THE ANTENNA AT 1 INCH (2.5 cm) AWAY FROM YOUR HEAD AND BODY. DO NOT USE YOUR GMRS1600-2PK RADIO TRANSCEIVER WITH A DAMAGED ANTENNA.

PLACE THE RUBBER COVERS ON JACKS WHEN NOT IN USE.

**GMRS LICENSE:**

USE OF THIS RADIO WITHIN THE UNITED STATES REQUIRES AN FCC GMRS LICENSE. AN INDIVIDUAL 18 YEARS OF AGE OR OLDER, WHO IS NOT A REPRESENTATIVE OF A FOREIGN GOVERNMENT, IS ELIGIBLE TO APPLY FOR A GMRS SYSTEM LICENSE. YOU WILL NEED TWO FORMS FROM THE FCC; FCC FORM 159 AND FCC FORM 605 MAIN FORM AND SCHEDULE F. YOU CAN FIND THE FORMS ONLINE AT: [HTTP://WWW.FCC.GOV/FORMPAGE.HTML](http://www.fcc.gov/formpage.html), OR CALL 1-800-418-3676.

## FEATURES

Your GMRS1600-2PK Family Radio is a portable, easy to use, two-way radio that you can carry almost anywhere. It is skillfully constructed to give you reliable communications for many different applications.

## PERFORMANCE

Your transceiver will achieve its maximum operating range when communicating with other transceivers in a flat open area with no trees or buildings obstructing its signal. Range may be up to 7 miles under such conditions. Obstacles such as buildings, trees or mountains will tend to reduce the transceiver's effective range.

## FCC WARNING

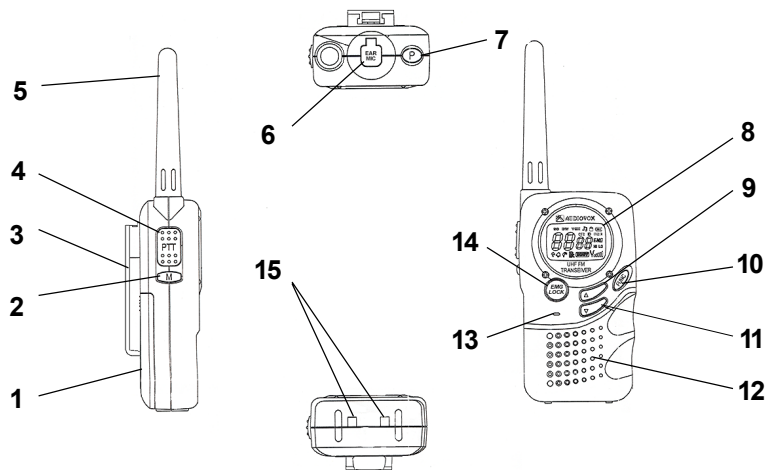
Replacement or substitution of transistors, diodes or other parts of a unique nature, with parts other than those recommended by the manufacturer, may cause a violation of the technical regulations of Part 15 of FCC Rules.

## SAFETY INFORMATION

Your wireless hand-held portable transceiver contains a low power transmitter. When the PTT button is pushed it sends out radio frequency (RF) signals. The device is authorized to operate at a duty factor not to exceed 50%. In August 1996, the Federal Communications Commission (FCC) adopted RF exposure guidelines with safety levels for hand-held wireless devices.

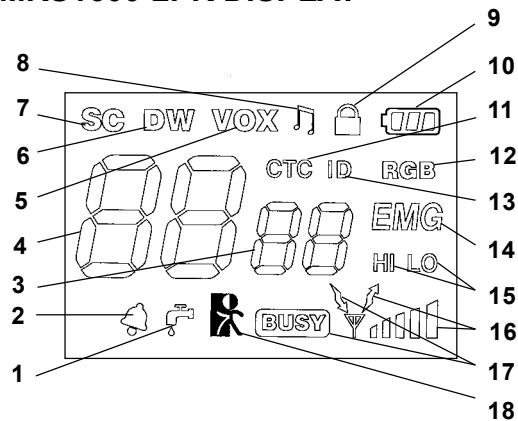
**Important:** To maintain compliance with the FCC's RF exposure guidelines hold the transmitter at least 1 inch (2.5 centimeters) from your face and speak in a normal voice, with the antenna pointed up and away. If you wear the handset on your body while using the headset accessory, use only the Audiovox supplied carry clip for this product and ensure that the antenna is at least 1 inch (2.5 centimeters) from your body when transmitting. Use only the supplied antenna. Unauthorized antennas, modifications, or attachments could damage the transmitter and may violate FCC regulations.

## Model GMRS1600-2PK (FCC License Required)



- |  |                                   |
|--|-----------------------------------|
| 1. Battery Cover                                       | 9. Up Channel/Volume Button       |
| 2. Monitor Button                                      | 10. Function (FUNC) Select Button |
| 3. Detachable Carry Clip                               | 11. Down Channel/Volume Button    |
| 4. Push-To-Talk (PTT) and Function Confirmation Button | 12. Built-in Speaker              |
| 5. Antenna   | 13. Built-In Microphone           |
| 6. External Ear (EAR) / Microphone (MIC) Jack          | 14. Emergency (EMG/LOCK) Button   |
| 7. Power On/Off Button                                 | 15. Battery Charging Contacts     |
| 8. Liquid Crystal Display (LCD)                        |                                   |

## Model GMRS1600-2PK DISPLAY



- 1. Battery Save Indicator:** Automatically appears 5 seconds after idle button or receive activity, thereby entering the “Sleep” mode.
- 2. Transmit Call Indicator:** Icon appears when the PTT button is pressed twice to alert the receiving party that a transmission is about to occur.
- 3. Small Segment Display:** Indicates the Continuous Tone Coded Squelch System (CTCSS) tone code (1-38) function is active for the main channel in use.
- 4. Large Segment Display:** Indicates the channel number in use between 1 and 22.
- 5. Voice Activated Transmission (VOX) Indicator:** This function allows hands free conversation. The icon appears when the VOX mode is active.
- 6. Dual Watch Mode Indicator:** Icon appears when dual watch mode is active.

7. **Scan Indicator:** This function allows the user to scan a channel and/or a tone code every .5 second to search for a valid signal.
8. **Beep Tone Indicator:** Icon appears when beep button confirmation tone is selected; icon disappears when tone is off.
9. **Lock Indicator:** Icon appears when the keypad is locked. This function disables keys such as channel up/down and MODE.
10. **Battery Level Indicator:** Icon indicates the battery charge level.
11. **CTC Indicator:** This icon appears when the Continuous Tone Coded Squelch System is active or a CTC channel is being selected.
12. **Roger Beep (RGB) Indicator:** This icon appears when the Roger Beep tone is enabled; the tone sounds at the receiving unit to indicate voluntary "End of Transmission".
13. **User Identification (ID) Indicator:** When enabled, this icon appears on the display, and one of 10 user selectable ID codes accompanies each transmission, letting the receiving unit (if so equipped) know who the sender is.
14. **EMG Indicator:** This icon appears when the unit is placed in the emergency transmit mode.
15. **HI/LO Indicators:** The **HI** or **LO** indicator appears depending on the selected transmitter power output level.
16. **Transmit Indicators:** These icons appear when the PTT button is pressed to initiate a transmission. Transmission power is depicted by the transmit icon; in low power mode, two bars appear and in high power mode, five bars appear
17. **Receive/Monitor (BUSY) Indicators:** These icons appear whenever an incoming signal is being received, and whenever the monitor (M) button is pressed to receive incoming transmissions.
18. **Out-of-Range Indicator:** Icon will be on steady when received signal strength is normal; icon flashes when signal strength becomes weak and intermittent.

### Equipment and Accessories Supplied

- |                                      |                     |
|--------------------------------------|---------------------|
| 1. Radio (2)                         | Model: GMRS1600-2PK |
| 2. Carry Case (2)                    | P/N: ACC-403T       |
| 3. Owner's Manual (1)                | 128-6400            |
| 4. Batteries (8), Rechargeable       | P/N: ASB-404T       |
| 5. Dual Desk-Top Charger (1)         | P/N: ADT-467T       |
| 6. AC Wall Adapter (1)               | P/N: AAA-401T       |
| 7. Boom Microphone (2)               | P/N: ABM-402T       |
| 8. Car Cigarette Lighter Adapter (1) | P/N: ACL-466T       |

### Powering the Transceiver:

Your GMRS1600-2PK radio transceiver operates on four AAA batteries. Alkaline batteries will provide slightly better performance than rechargeable batteries. Only the supplied Audiovox-approved rechargeable batteries can be recharged in the radio transceiver using the supplied desk-top charger and associated wall adapter. In addition, the unit can be operated directly from a 12 Vdc source (such as available from a car cigarette lighter receptacle) by connecting the vehicle cigarette lighter battery charger adapter to the dual desk-top charger supplied with the units. When connected for operation in this manner, the batteries are bypassed and are no longer used to power the unit. The battery charge indicator icon displays the battery charge level. This will ensure optimum performance for the GMRS1600-2PK. Battery charging time is typically 10-12 hours. Use of the Audiovox charger with other brands of batteries is not recommended, as battery charging times will vary. Refer to the manufacturer's instructions for charging other brands of batteries.

### Batteries

There are three methods of powering the GMRS1600-2PK:

1. Alkaline Batteries.

**WARNING:** Do not attempt to recharge Alkaline batteries.

2. Audiovox Rechargeable NiMH Batteries - (Rechargeable NiMH batteries, Wall Adapter, Car Cigarette Lighter Adapter and Charging

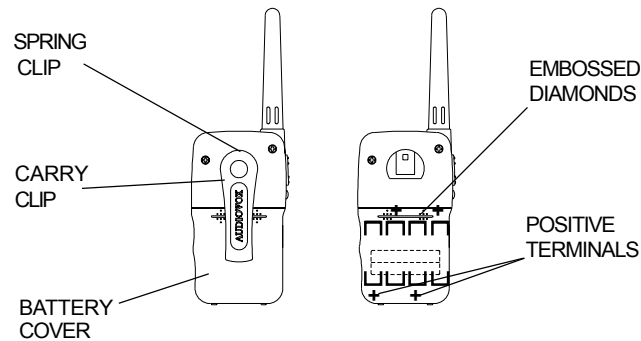
Stand included). Use only Audiovox-approved rechargeable batteries and charger when charging batteries internal to the unit.

**NOTE:** To extend battery life, avoid overcharging the batteries.

3. Various Brands of Rechargeable Batteries - Use of the Audiovox charger with other brands of rechargeable batteries is not recommended, as battery charging times will vary with different brands of batteries. Refer to the manufacturer's instructions for charging other brands of batteries.

#### Installing the batteries:

Battery installation is made more convenient when the carry clip is removed. To do this, release the spring clip securing the belt clip to radio and slide the belt clip upward and away from the radio body. Next, press down with the thumbs at the embossed diamonds, slide the battery cover down and lift off the battery cover. Insert four AAA batteries (alternate positive ends (+) toward the bottom of the transceiver, starting left-to-right).

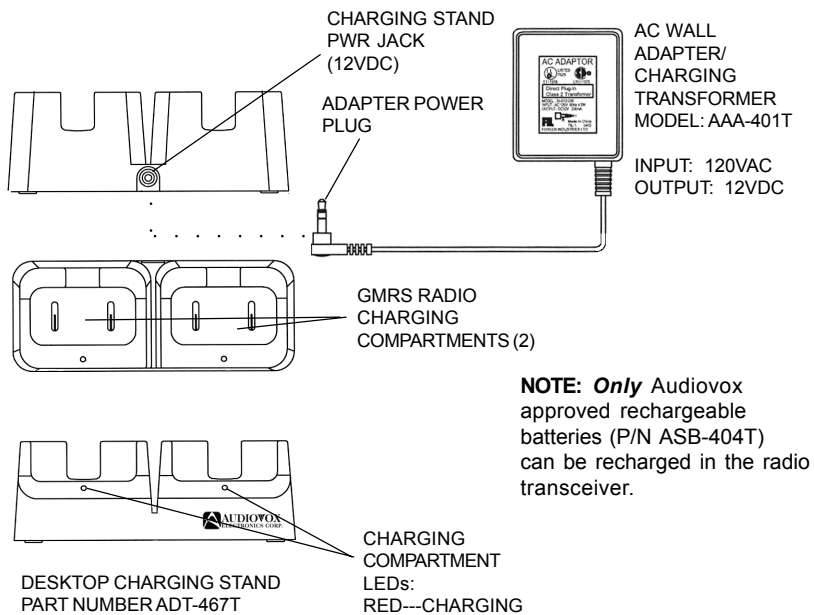


1. Using thumbs, press down on battery cover at diamonds and slide cover down to open.
2. Slide the cover down and then lift cover at bottom to open. Remove cover.
3. Insert four AAA batteries (positive (+) end toward the bottom, beginning at left side, and alternating positive terminals as shown).



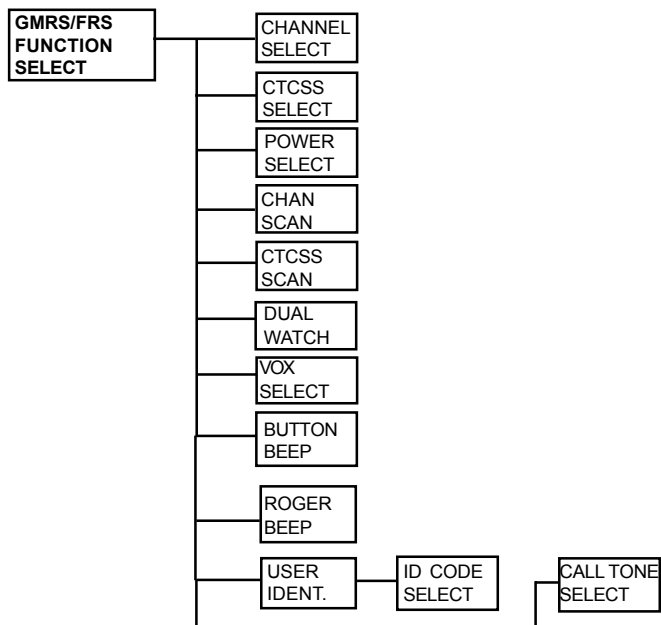
The following guidelines will improve performance and provide longer operating times for the GMRS1600-2PK:

1. Do not mix old and new batteries.
2. The use of alkaline-type batteries is recommended to provide the longest operating time.
3. Do not mix alkaline, standard (carbon-zinc) or rechargeable batteries.
4. If the unit is not to be used for an extended period of time, remove the batteries. Old or leaking batteries can cause damage to the unit and will void the warranty.



**NOTE: Only** Audiovox approved rechargeable batteries (P/N ASB-404T) can be recharged in the radio transceiver.

## GMRS1600-2PK OPERATIONAL MODES



### Controls:

#### Power (P) On/Off (7) Button



Press and hold the Power on/off ( P ) button for at least 2 seconds. You will hear a confirming melody to indicate the unit is on. To turn the unit off, press and hold the button for at least 2 seconds.

#### Adjusting the Volume (9, 11)

With the unit powered on, press the Up Channel/Volume button ( ▲ ) to increase volume and the Down Channel/Volume button ( ▼ ) to decrease



volume. The display will indicate the current volume level (**UL**) followed by the number (**1-8**). As volume is increased upward, the beep sound (if enabled) also increases, and vice-versa. When the minimum and maximum volume settings are reached, a unique tone will sound.

#### **Monitor (M) Button (2)**

This button is used to check activity on the current frequency before transmitting. Check activity by pressing the Monitor (M) Button longer than 2 seconds; the monitor icon (  ) will appear on the display, together with the **BUSY** icon, and you will hear static if the frequency is clear. **Do not transmit if you hear conversation.** Hold down the Monitor Button again longer than 2 seconds; the monitor (  ) and **BUSY** icons will disappear from the display. The monitor function will temporarily bypass the squelch setting and play all signals on a given channel. This feature is useful when communicating with other parties at extreme range.

By pressing the monitor button momentarily, the LCD backlight is turned on; the LCD backlight will turn off automatically in about 5 seconds, unless the monitor button is pressed once again.

#### **Push To Talk (PTT) Button (4)**

Pressing and holding this button will allow you to speak to any transceiver that is set to the same channel and privacy code setting as yours. Hold the transceiver approximately 1 to 2 inches from your face as you speak into the built in microphone (13). After you have finished speaking, release the PTT Button to allow reception of incoming signals. It is not possible to transmit and receive at the same time. While the PTT Button is pressed, the transmit icon (  ) in the lower right quadrant of the display will appear. Releasing the button allows the unit to revert to standby mode. When receiving an incoming signal, the monitor (  ) and **BUSY** icons will appear.

#### **Up Channel/Volume Button (9)**

In the standby mode, pressing this button will increment the listening volume. When in function edit mode, this button will be used to adjust the unit's settings.

#### **Down Channel/Volume Button (11)**

In the standby mode, pressing this button will decrease the volume. When in function edit mode this button will be used to adjust the unit's settings.


#### **FUNCTION Button (10)**

This button is used to select various feature settings in the GMRS and FRS modes.

#### **External Speaker (EAR)/Microphone (MIC) Jack (6)**



This jack accepts the Audiovox Earset/Microphone assembly. Refer to Earset/Microphone operation later in this manual.

#### **Emergency (EMG)/LOCK Button (14)**

This radio has a quick access button (EMG) to the Emergency and Assistance Channel. This channel is **NOT** monitored by local authorities. When using this channel, **EMG** appears on the display. Pressing this button will set the transceiver to channel 20, operating on 462.6750 MHz. In addition, when the EMG button is pressed and held, the auto keylock feature is enabled; the keylock icon (  ) appears on the display. Press and hold the EMG button again, and the keylock icon will disappear.

### **Operating Modes and Features**

#### **GRMS/FRS Operation:**

- From GMRS/FRS standby mode, press and hold the Power (P) button for 2 seconds to turn on power.
- Press the FUNC button so the Channel number flashes.
- Select the desired channel with the Up (9) and Down (11) Buttons; then press the PTT button to confirm selection (automatic confirmation occurs 10 seconds later). When receiving a call, the Monitor icon (  ) and **BUSY** indication will appear on the display.
- Press and hold the PTT button (4) to transmit, then speak into the microphone clearly and slowly. The Transmit icon (  ) will appear on the display; the number of bars will reflect the selected power level.

- Release PTT Button (4) to receive.
- Communication can only be accomplished when the channel and CTCSS tone frequency of at least two parties are the same.
- The CTCSS sub-channel number will be displayed on the LCD panel if the tone frequency function is enabled.

### **Channel Selection**

In order to communicate with other GMRS/FRS units, both transmitting and receiving party must be on the same frequency.

The GMRS1600-2PK has 22 channels (frequencies) indicated by the large digits on the LCD display panel. Channels 1 through 7 are the shared GMRS/FRS channels. Channels 8-14 are FRS only channels, while channels 15-22 are assigned GMRS only channels. Communication with Audiovox GMRS/FRS and compatible units is possible on these 22 channels. Before transmitting on the selected channel, press the Monitor (M) Button (2) to check the activity on that channel. If there is activity on the selected channel, change to another channel that is clear.

To change the channel:

- From GMRS/FRS standby mode, press the FUNC button (10) until the channel number flashes.
- Press the Up Button (9) briefly to move to the next higher main channel number.
- Press the Down Button (11) briefly to move to the next lower main channel number.
- Press the PTT button momentarily to confirm selection.

### **CTCSS Mode (Sub-Channel) Selection**

The Continuous Tone Coded Squelch System (CTCSS) provides 38 Sub-Frequencies. This feature allows you to utilize the coded squelch tones (1-38) within a main channel and enables you to communicate with another party on the same main channel using the same subcode. (This filters out unwanted transmissions without the same coded squelch tone). Since there are 38 CTCSS Sub-channels for each main channel, a different

subcode may be selected for each of the 22 channels.

To change the CTCSS Sub-channel:

- From GMRS/FRS standby mode, press the FUNC Button twice; a flashing **oF** or sub-channel number is displayed.
- Press the Up or Down button to select the desired sub-channel for use (**1-38**).
- Press the PTT button to confirm selection.

The CTCSS mode can be turned off by selecting the **oF** icon as the setting.

**NOTE:** To communicate with other GMRS/FRS units, they must be switched to the same channel and CTCSS subcode. To communicate with other GMRS/FRS units that do not have subcodes, switch your unit to the same channel with the subcode set to **oF**. The CTCSS subcodes do not prevent others from hearing your transmission. This will only allow you to ignore all traffic on a given channel not using the same subcode.

### **Transmit Power Selection Mode**

This feature permits selection of the transmitting power level to high (1.8 watts, maximum) or low (0.5 watt maximum). (**FRS channels 8-14 operate on low power only.**) Using low power, the unit will have a lower transmit range, but battery life will be increased.

**NOTE:** You will find that for the majority of your needs, the low-power setting will provide adequate communications on all channels; there should seldom be any need to use high power, except in situations where you need absolute maximum range. Using low power will greatly extend battery life. We suggest you experiment with switching between low and high power. However, we do recommend that you **not change** this setting unless it proves to be necessary in your particular situation.

To access the transmitter power selection function:

- From GMRS/FRS standby mode, press the FUNC Button three times until the **Po HI** or **Lo** indication appears with a flashing **HI** or **LO** indication on the display.

- Press the Up or Down button to toggle between the High and Low selections.
- Press the PTT or Monitor button to confirm selection.

### **Channel Scan Operation**

This feature allows you to monitor all channels automatically for valid signals. While scanning, you can transmit and receive. When a signal is received, the scan is interrupted and will return to scan mode approximately 4 seconds after reception is terminated.

**NOTE:** The scan mode will reduce the overall battery life since the battery save function is overridden.

To enable the channel scan mode:

- From GMRS/FRS standby mode, press the FUNC Button four times; **SC** and the channel number will appear flashing on the LCD display.
- Press the Up button to scan each channel (1-22) in ascending order, or press the Down button to scan each channel in descending order. The scan mode thus operates to find an active main channel.
- When the unit doesn't find any signals and you want to transmit, press the PTT Button to transmit on the primary selected channel.

The transceiver will automatically resume scanning approximately 20 seconds after the communication is completed.

- If there is no activity and you want to leave the scan mode, press the FUNC button momentarily and the unit will return to normal operation; the **SC** icon will disappear from the LCD display.

### **CTCSS Code Channel Scan Operation**

This feature allows you to monitor all CTCSS channels automatically for valid signals. While scanning, you can transmit and receive. When a signal is received, the scan is interrupted and will return to scan mode approximately 4 seconds after reception is terminated.

**NOTE:** The scan mode will reduce the overall battery life since the battery save function is overridden.

To enable the CTCSS channel scan mode:

- From GMRS/FRS standby mode, press the FUNC Button five times; **SC**, **CTC** and CTCSS channel number **1** will appear flashing on the LCD display.
- Press the Up button to scan each CTCSS channel (**1-38**) in ascending order, or press the Down button to scan each channel in descending order. The scan mode thus operates to find an active CTCSS channel.
- When the unit doesn't find any signals and you want to transmit, press the PTT Button to transmit on the primary channel with the CTCSS code currently being scanned. The transceiver will automatically resume scanning approximately 20 seconds after the communication is completed.
- If there is no activity and you want to leave the CTCSS scan mode, press the FUNC button momentarily and the unit will return to normal operation; the **SC** icon will disappear from the LCD display and the currently displayed CTCSS code will remain along with the **CTC** indication.

### Dual Watch Mode

This feature allows you to monitor two channels at the same time. While in dual watch mode, the unit will continuously monitor both the primary and dual watch channel. Received signals will be heard for 5 seconds, then the unit will resume scanning the two channels. Pressing the PTT button during a received transmission will set the unit to transmit on the same channel. Pressing the PTT button when no signal is received will set the unit to transmit on the primary channel.

To set the Dual Watch Mode:

- From GMRS/FRS standby mode, press the FUNC button six times; the **DW** appears flashing on the display with channel number 1.
- To enable the dual watch mode, press the Up or Down button; the dual watch channel number starts to increment up or down as the Up or Down button is pressed.



- The display will immediately alternate between the primary channel and the dual watch channel just selected.
- To cancel the dual watch mode, press the FUNC button six times; then press the Up or Down buttons to set the dual watch mode to **oF** .

### **VOX Selection Mode**

This option enables you to have hands-free conversation. Your voice or nearby sound is detected and the radio transmits without the need to press the PTT button.

To set radio for VOX operation:

- From GMRS/FRS standby mode, press the FUNC button seven times until the **VOX** icon flashes on the display.
- Press the Up or Down button to select VOX On (if **oF** appears) and the **1-5** VOX sensitivity level .
- Momentarily press the PTT button to confirm the VOX selection; the **VOX** icon will appear steady on the LCD display.


A VOX sensitivity of **1** is the most sensitive, and should be used in a relatively quiet surrounding. A VOX sensitivity of **5** is the least sensitive and should be used in a noisy surrounding.

VOX can be turned off by selecting **oF** as the setting.

### **Key Beep Tone**

The key tone feature allows the transceiver to sound a confirmation tone whenever the following keys are pressed: Up/Down Buttons, FUNC Button, EMG Button or the Power (off) Button.

To turn the key tones on or off:

- From GMRS/FRS standby mode, press the FUNC Button eight times until the tone (  ) icon, and **On** or **oF** flash on the LCD display.
- Press the Up or Down Button to toggle the key tone feature On or Off.
- Press the PTT button to confirm selection.

When the key tone features is on, the tone icon appears steady on the display, and the beep tones sound in response to button activation.

### **Roger Beep Tone**

The Roger Beep is a tone which is automatically transmitted whenever the PTT button is released. This tone alerts the receiving party that the transmission has been terminated intentionally.

To turn the Roger Beep tone on or off:

- From GMRS/FRS standby mode, press the FUNC Button nine times until the **rb** and **On** or **oF** indications appear on the display, together with a flashing **RGB**.
- Press the Up or Down Button to toggle the Roger Beep tone feature **On** or **oF**.
- Press the PTT button to confirm selection.

When the Roger Beep tone features is on, the **RGB** indication appears steady on the display.

### **Caller Identification (ID) Select**

The caller ID function allows you to assign an ID code between 1 and 10, accompanied by a unique call tone; this code and tone accompanies your transmission whenever you call another party, and will appear at the receiving unit, provided it has caller ID capability.

To select a caller ID code for your unit:

- From GMRS/FRS standby mode, press the FUNC button 10 times; **Id** appears, together with **oF** or **1-10** and a flashing **ID** indication.
- Use the Up or Down button to select the desired call identification number.
- As you step through the ID codes between **1** and **10**, stop at the desired code number.
- Press the PTT or Monitor button to confirm selection.

Now, your caller ID number will accompany each transmission, and will appear on the receiving unit, if so equipped, and vice-versa.

### Call Ring

The transceiver provides 3 user-selectable call ringer melodies to alert the remote receiver to an incoming call. Any one of these melodies can be selected whenever you select your personal call ring melody.

To select your favorite call ringer melody:

- From the GMRS/FRS standby mode, press the FUNC button 11 times until **CA** appears with a flashing call melody number (1-3). Then use the Up or Down Button to select the desired call melody between **1** and **3**. As each code selection appears, it causes a sample call tone to play. Stop at the desired call tone.
- Press the PTT button to confirm selection.

Now, your call ring melody will sound whenever you press the PTT button twice to initiate a transmission. It will be heard at the receiving unit, provided it is the same type and has the same capabilities.

### Emergency and Assistance Channel Mode


This radio has a quick access button (EMG) to the Emergency and Assistance Channel. This channel is **NOT** monitored by local authorities. The Emergency Channel can be selected quickly from any user mode.

To turn the Emergency Channel feature on or off:

- Press and release the EMG Button; **EMG** appears on the display together with a Channel **20** indication.
- When the transceiver is set to Emergency Channel 20, the transceiver transmits and receives on a special frequency (CH20: 462.6750 MHz).
- To exit the Emergency Channel mode, press the Emergency (EMG) Button; **EMG** and Channel **20** disappear from the display, and the radio reverts to the current user selected channel.

### Out of Range Indication


The GMRS1600-2PK provides an Out-of-Range indication when reception is no longer intelligible or too weak to be discernible. When this condition

occurs, the  icon appears on the display, reminding you that you are outside the range of the unit, or that signal reception is being obstructed by natural or man-made objects.



### **VOX Operation**

When in the VOX mode, hands-free conversation is possible when using the internal microphone/speaker or external microphone/earset (**Supplied**). Your voice or the signal is detected and the radio transmits and receives automatically.



### **Auto Key Lock Selection Mode**

This feature prevents accidental channel change to the preferred settings of the unit. The Auto Key Lock function temporarily disables the Up, Down and FUNC Buttons. Press and hold the EMG Button for more than 1 second to lock or unlock the key pad, except PTT and Monitor (M). When the keypad is locked, the (  ) icon will display in the upper left corner.

To access the Auto Key Lock feature:


- From GMRS/FRS standby mode, press and hold the EMG Button for over 2 seconds to Lock the Auto Key function; the (  ) icon appears on the display.
- The PTT and Monitor Buttons are not effected.
- To unlock the Auto Key function, press and hold the EMG button for at least 2 seconds; the icon (  ) disappears from the display.

### **Battery Alert**

When the battery icon (  ) blinks on the LCD panel, recharge or install fresh batteries. If the batteries are not replaced, the (  ) icon will appear and an audio tone will sound intermittently to warn the user that the batteries must be recharged/replaced.

### **Battery Saver Mode**

Your GRMS1600-2PK has a unique circuit designed to dramatically extend the life of its batteries. After 8-10 seconds of inactivity, the unit will switch to battery saver mode. While in battery saver mode, the battery saver

mode indicator (  ) is present on the display; however, the transceiver will still remain ready to receive any incoming transmissions in this idle (sleep) mode. Pressing any button will exit the battery saver mode.

### **Earset/Microphone Assembly**

The supplied Microphone/Earset assembly contains a convenient integral PTT switch, and eliminates the need of using the PTT switch on the unit to transmit voice communications. In the VOX mode, pressing this switch to transmit is not required, since this mode enables hands-free communication simply by speaking into the microphone.

To transmit using the earset/microphone:

1. Set the desired primary channel; then press and hold the Earset/Microphone assembly Push-to-Talk (PTT) button while speaking slowly and clearly in a normal voice into the boom microphone.
2. Release the PTT button when you finish speaking to receive incoming signals.

To receive using the earset/microphone:

1. Set the desired channel, and adjust the volume control to the desired listening volume by using the up and down buttons.
2. The transceiver will play received signals through the earset/microphone assembly.

### **NOTES FOR GOOD COMMUNICATION**

1. The 22 channels of the GMRS1600-2PK are shared on a 'take turns' basis. This means other groups may be talking on any of the channels. A common code of ethics/courtesy is to switch to another vacant channel and not to attempt to talk over someone who is already using the channel you first selected.

2. The GMRS1600-2PK has been designed to maximize performance and improve transmission range in the field. To avoid interference, it is recommended that you do not use the units closer than 5 feet apart.
3. For best transmission results, always keep your mouth about 2-3 inches from the microphone (13) and speak slowly in a normal voice.
4. To increase battery life, avoid features such as Scan and Dual Watch . These features will reduce battery operating life considerably.

### **Warning**

- Do not operate the transceiver unless you are licensed to do so.
- Remove the batteries from the transceiver if it is not expected to be used for long periods. This will eliminate the possibility of chemicals leaking from the batteries and corroding the transceiver.
- Avoid exposing the transceiver to water or extremes of temperature.
- Do not use this device in or near a mining facility, which uses remotely triggered explosives or in areas labeled "Blasting Area". Premature or accidental detonation may result.
- Do not attempt to modify or in any way increase the output of this transceiver. Its output is designed to meet the legal limits set by the FCC.
- Do not use this device or change its batteries in potentially explosive atmospheres as sparks in such areas could result in an explosion.
- Turn your transceiver off wherever posted notices restrict the use of radios or cellular telephones. Facilities such as hospitals may use equipment that is sensitive to RF energy.
- Turn your transceiver off on board aircraft when requested to do so.
- Do not place your radio in front of a vehicle's air-bag. If the air-bag deploys, it could propel the transceiver like a projectile causing bodily injury.

## Troubleshooting

Problem	Possible cause	Correction
No transmission while pressing the PTT Button	Weak batteries	Charge or replace batteries
	Incorrect battery polarity	Install the batteries following the directions in paragraph Installing the Batteries.
Weak or no signal received	Weak batteries	Charge or replace batteries
	Channel and privacy code not set the same as target transceiver	Adjust the transceiver's settings to match those settings of the target transceiver
	Volume level too low PTT Button inadvertently depressed	Increase volume level Release PTT Button
	Excessive radio interference on a particular channel Obstruction of radio signal	Change to a different channel Avoid operating in or near large buildings or vehicles
Unit beeps, but will not function when turned on	Batteries extremely discharged	Charge or replace batteries
Reception of unwanted signals	CTCSS privacy mode not on	Turn on the CTCSS privacy mode and set code number to match the setting of the target transceiver.
	Interference from electronic devices such as computers or TVs	Turn the devices off or move farther away from them.

## Technical Specifications:

### General

Frequency Range:

Channels 1 through 7 are

GMRS/FRS Frequencies.

Channels 8 through 14 are

FRS only.

Channels 15 through 22 are

GMRS only.

Channel Spacing

Privacy Codes

Dimensions (W x H x D)

(Without Antenna)

Refer to frequency chart on next page.

Refer to frequency chart on next page.

Refer to frequency chart on next page.

12.5kHz

38 for each main channel

2.125 W x 4.0 H x 1.325 D

(54.0 mm x 101.6 mm x 33.6 mm)

### Power Supply

Power Source

Alkaline Batteries, AAA (4), 6 VDC

Ni-MH rechargeable, AAA (4),

4.8 VDC, 650 mAh

Operating Time

(Transmit: Receive: Standby)

(5: 5: 90 ratio)

(Based on alkaline batteries)

30 hours Low Power

14 hours High Power

### Receiver

Useable Sensitivity

>-119 dBm

Maximum Audio Output Power

> 0.3 Watt maximum (8 Ohm )

Modulation Distortion

< 5% (1 kHz 70%)

### Transmitter

RF Output Power

1.8 Watts maximum (high power)

0.5 Watt maximum (low power)

Maximum Deviation

+/- 2.5 kHz

Modulation Distortion

< 5% (1 kHz 70%)

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This transceiver complies with FCC regulations for use in the United States of America. Use in other countries may be prohibited or restricted by local regulation. Please check with the local regulating agency before using this device outside the United States of America.

### Main Channel Frequencies:

CHANNEL/TYPE	FREQ (MHz)	CHANNEL/TYPE	FREQ (MHz)
1 GMRS/FRS	462.5625	12 FRS	467.6625
2 GMRS/FRS	462.5875	13 FRS	467.6875
3 GMRS/FRS	462.6125	14 FRS	467.7125
4 GMRS/FRS	462.6375	15 GMRS	462.5500
5 GMRS/FRS	462.6625	16 GMRS	462.5750
6 GMRS/FRS	462.6875	17 GMRS	462.6000
7 GMRS/FRS	462.7125	18 GMRS	462.6250
8 FRS	467.5625	19 GMRS	462.6500
9 FRS	467.5875	20 GMRS	462.6750
10 FRS	467.6125	21 GMRS	462.7000
11 FRS	467.6375	22 GMRS	462.7250

**NOTE:** Channels 1 through 7 are GMRS/FRS Frequencies.

Channels 8 through 14 are FRS only.

Channels 15 through 22 are GMRS only.

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**Continuous Tone Coded Squelch System Tone  
Frequencies (in Hz)**

<b>CTCSS</b>	<b>Freq. Hz</b>	<b>CTCSS</b>	<b>Freq. Hz</b>
1	67.0	20	131.8
2	71.9	21	136.5
3	74.4	22	141.3
4	77.0	23	146.2
5	79.7	24	151.4
6	82.5	25	156.7
7	85.4	26	162.2
8	88.5	27	167.9
9	91.5	28	173.8
10	94.8	29	179.9
11	97.4	30	186.2
12	100.0	31	192.8
13	103.5	32	203.5
14	107.2	33	210.7
15	110.9	34	218.1
16	114.8	35	225.7
17	118.8	36	233.6
18	123.0	37	241.8
19	127.3	38	250.3

\* oF = No Tone

## 90 DAY LIMITED WARRANTY

*Applies to Audiovox Family Radio and General Mobile Service Products.*

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