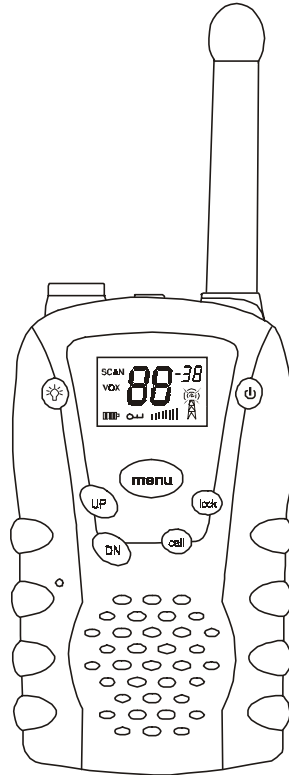


OPERATIONS MANUAL

# GM22-SVP

**General Mobile Radio Service  
22 Channel 2-Way Radios  
With CTCSS security**

GMRS/FRS Frequencies  
Voice-Activated  
Earpiece Included



Owners Manual  
and Instructions



## CAUTIONS

### **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.HTWL](http://www.fcc.gov/formpage.html) ,OR CALL 1-800-418-3676.

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, DO NOT TRANSMIT.

The GM-22 supplied belt clip is for storage purposes ONLY. Use only the supplied antenna.

Unauthorized antennas, modifications, or attachments could damage the transmitter and may violate FCC regulations.

Normal Position :Hold the transmitter approximately 1" from your face and speak in a normal voice, with the antenna pointed up .

MODIFICATIONS OR CHANGES NOT EXPRESSLY APPROVED BY COLUMBIA TELECOMMUNICATIONS, INC. COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

## SAFETY TRAINING INFORMATION

Your radio generates RF electromagnetic energy during transmit mode . This radio is designed for and classified as “ Occupational Use Only “ ,meaning it must be used only during the course of employment by individuals aware of the hazards , and the ways to minimize such hazards . This radio is NOT Intended for use by the General Population in an uncontrolled environment .

This radio is not designed for use by the general population and is restricted to occupational users only, where the operator has control of his or RF exposure .

### Safety Information For GMRS UNIT

Your wireless handheld portable transceiver contains a low power transmitter. When the TALK button is pushed it sends out radio frequency (RF) signals . This 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 handheld wireless devices.

To ensure that your exposure to RF electromagnetic energy is within the FCC allowable limits for occupational use ,always adhere to the following guidelines:

. DO NOT operate the radio without a proper antenna attached , as this may damage the radio and also cause you to exceed FCC RF exposure limits . A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.

. DO NOT transmit for more than 50% of total radio use time (50% duty cycle)  
Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded.

.ALWAYS use authorized accessories antennas, batteries,belt clips, speaker/mic, etc). Use of unauthorized accessories can cause the FCC RF exposure compliance requirements to be exceeded.

ALWAYS keep the antenna at least 2.5cm (1 inch) away from the body when transmitting ,If you wear the handset on your body while using the headset accessory, DO NOT TRANSMIT. The GM-22 supplied belt clip is for storage purposes ONLY. This is to ensure FCC RF exposure compliance requirements are not exceeded. To provide the recipients of your transmission the best sound quality, hold the antenna at least 5cm(2 inches) from the mouth, and slightly off to one side.



## FCC Warnings

ADJUSTMENT: REPLACEMENT or substitution of transistors, regular diodes or other parts of a unique nature, with parts other than those recommended by Columbia, may cause a violation of the technical regulations of part 95 of the FCC Rules, or violation of Type Acceptance requirements of Part 2 of the Rules.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 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.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following condition: this device must accept any interference received, including interference that may cause undesired operation.



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## Introduction

### Included in your package

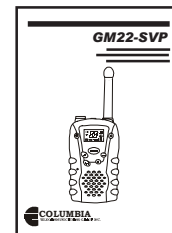
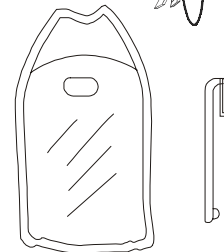
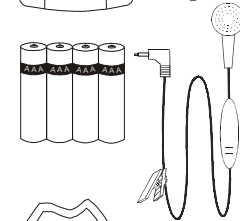
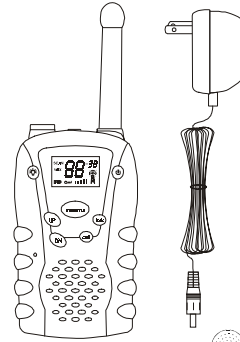
When you unpack your GM-22 radios, you should find the following items enclosed in the package.

- \* 2 pieces GM-22 radio
- \* 8 X AAA Rechargeable Batteries
- \* 2 Cases
- \* 2 Adaptors
- \* 2 VOX microphone earpieces
- \* Belt clip (attached)
- \* This manual

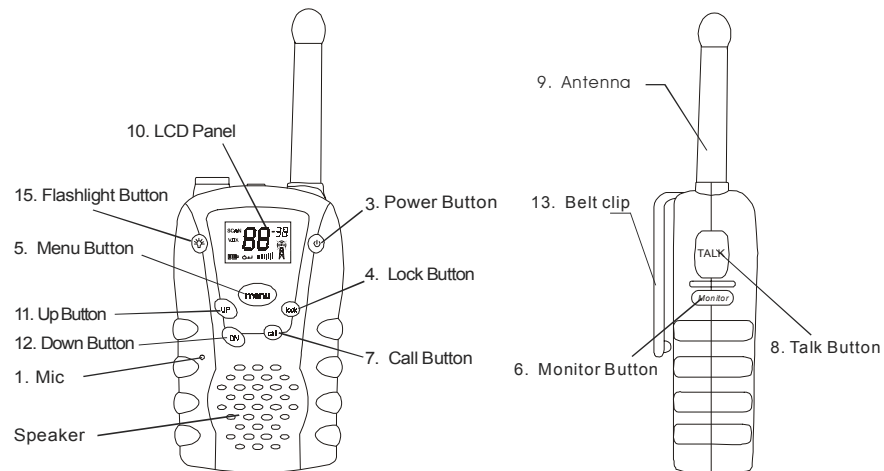
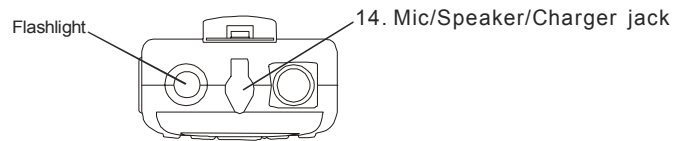
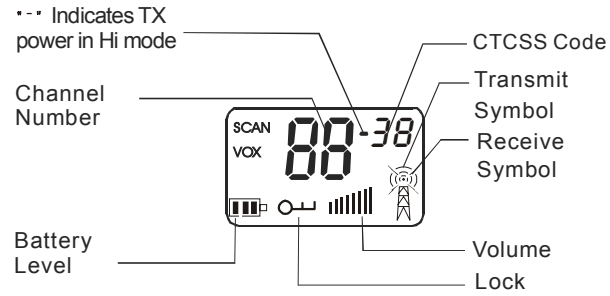
Please check for these carefully. If any items are missing, please call COLUMBIA Telecommunications Customer support at 1-800-889-7434 between 9am and 5pm EST (Eastern Standard Time).

### Controls and Displays

1. Mic
2. Speaker
3. Power Button
4. Lock Button
5. Menu Button
6. Monitor Button
7. Call Button
8. Talk Button
9. Antenna
10. LCD Panel
11. Up Button (Change Channel and Volume)
12. Down Button (Change Channel and Volume)
13. Belt clip
14. Mic/Speaker/Charger Jack
15. Flashlight Button



## Component Guide



## Setting Up Your GMRS Radio

### Battery Installation

Batteries are not installed with you GMRS 2-way radios. To use the radio, you must install 4 AAA size alkaline batteries or 4 AAA size Ni-MH rechargeable batteries .

Caution: incorrect positioning of the batteries can damage both the batteries and the unit.

To install the batteries:

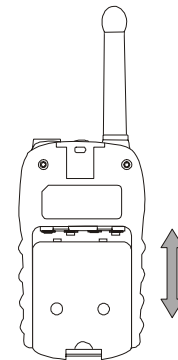
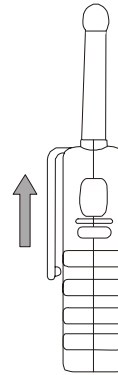
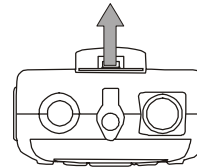
- Remove the belt clip by pulling the tab on the top of the belt clip back, and sliding it up and off of the unit.
- Pull the battery door lock tab down to release the battery cover.
- Insert four AAA batteries. Position the batteries according to the polarity markings on the plastic.
- Replace the battery cover. Snap the lock tab and belt clip back into place.

### connecting the adaptor

Lift the rubber flap on the top of the unit to expose the jack.

To use the unit with an AC/DC Adaptor rechargeable batteries, insert the round connector (OD 2.5mm) of the 7.5V DC/200mA AC/DC adaptor into the SPK/MIC/CHG jack on top of the unit.

Note The unit should be turned OFF in order to charge the batteries properly. If the unit is turned ON and placed for





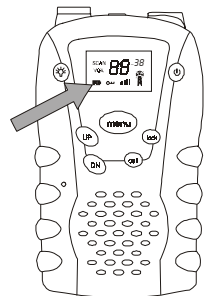
## Setting Up Your GMRS Radio

charging the charge current is too low for the battery to charge up as the unit is still using power. There is no charge indicator during charging at OFF mode. It takes approximately 6 to 7 hours to fully charge the batteries if they are at their lowest level.

### WARNING

**DO NOT CHARGE THIS UNIT USING AN AC DC ADAPTOR WITH REGULAR AAA ALKALINE BATTERIES INSTALLED. USE ONLY THE AC/DC ADAPTOR WITH AAA RECHARGEABLE BATTERIES**

- Do not mix old and new batteries.
- Do not mix alkaline, standard (carbon-zinc), or rechargeable batteries.



### **Battery Meter**

The battery meter is located in the bottom left corner of the LCD display panel on the unit. It looks like a battery with 3 vertical bars inside. These indicate the amount of power available. As the power is used, the bars will disappear.

### **Low Battery Indicator**

When the batteries need to be changed, the battery meter icon will flash. To ensure uninterrupted communication, replace the batteries as soon as possible.



## Setting Up Your GMRS Radio

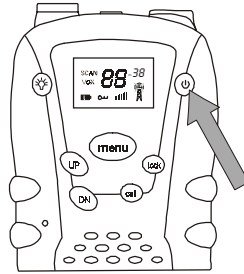
**Note:**

Always use alkaline batteries or Ni-MH type rechargeable batteries for replacements. If you store your radio for long periods of time, always remove the batteries. Batteries may corrode and leak when left unused over long periods of time, and permanently damage your radio.

**DO NOT PUT BATTERIES INTO FIRE OR EXPOSE TO HIGH HEAT. THEY MAY EXPLODE.**



## Operation



### Turning On Your GMRS

Push & hold Power button, to turn the GMRS/FRS radio on or off. The unit will beep, the LCD panel will display information about your radio, and the panel will be illuminated by a green light for several seconds.

### Communication

You can communicate two ways with your new GMRS/FRS radio. There are 22 channels available to you, each with 38 interference elimination codes (CTCSS codes). You can either talk directly to others and hear their response, or you can call or page them with an audible tone.

***In all cases, both units must be set to the same channels and CTCSS codes, or they will not communicate. If the CTCSS code feature is turned off, you will hear all transmissions on the channel (1-22) that you are tuned to.***

**The GMRS/FRS radios can only communicate when either the TALK button (for speech), or the CALL button (for paging) is pressed. The unit can only receive when both buttons are fully released.**

### Receiving Communications

When your GMRS/FRS unit is turned on and is

## Operation

not being used to transmit voice communication or pages, it is always in the listening mode.

You cannot receive any transmissions when the **TALK** or **CALL** buttons are pressed, even if you aren't saying anything. Pressing these buttons automatically overrides and turns off the receive mode.

When you are using the unit in conversation, you must release the **TALK** and/or **CALL** buttons to hear the responses of the other people. Failure to do so will keep your unit in transmission mode, preventing you from hearing other units.

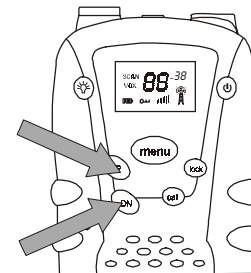
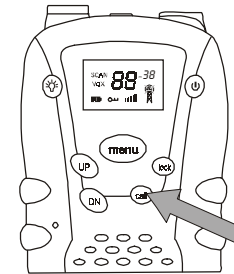
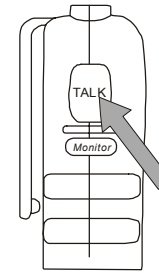
### Respond Prompt Tone

When the person talking to you from another radio finishes speaking and releases his **TALK** button, you will hear a tone from your unit. This means that the other radio is now in receive mode, and you can begin your transmission.

### Adjusting the Speaker Volume

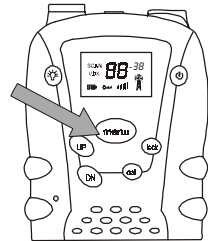
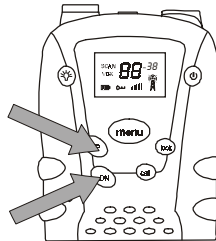
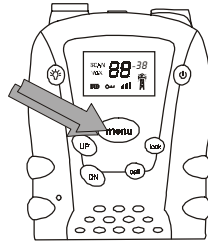
The Up and Dn(DOWN) Buttons control the volume, change channels, codes and program the GMRS

- Press the **UP** button to increase volume.
- Press the **DN** button to decrease volume.
- The LCD displays the volume level by the



## Operation

number of bars on the screen.



### Channel selection

Your GRMS/FRS operates on one of twenty-two preset channels. You can only talk to other radios that are set to the same channel as your unit. The chart on page 22 gives the frequencies on which your radio operates.

To change the channel:

- Press the **MENU** (Channel Set) button. The large 2-digit channel number on the display panel will begin to flash.
- While the number is flashing, press the **UP** or **DN** arrow buttons until you reach the desired channel.
- Press the **MENU** (Channel Set) button again to set the channel.

If you do not press **MENU** the second time, The unit will automatically return to normal operation in ten seconds.

### Frequencies

Other GMRS/FRS radio models may have only 2 channels. If you want to communicate with these units, you must set the channels as follows:

22-ch radios	Frequency	2-ch radios
Chan 8	467.5625 MHz	Chan 1

## Operation

Chan 12    467.6625 MHz    Chan 2

### Interference Elimination Codes (CTCSS - Continuous Tone Coded Squelch System)

These codes filter out unwanted conversation, static, and other interference on your channel, giving your communication more clarity.

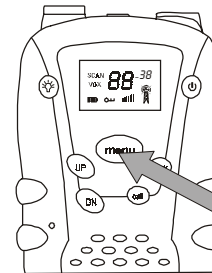
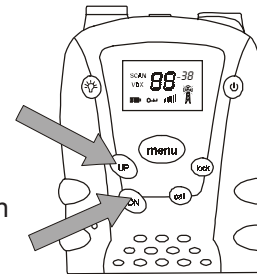
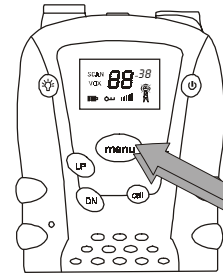
Both units must be set to the same channels and CTCSS codes, or they will not communicate. These codes will not prevent others from hearing your transmissions.

To change the code:

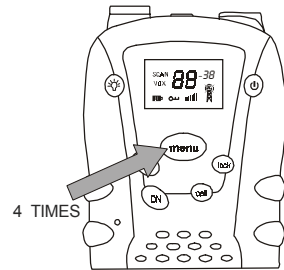
- Press the **MENU** button twice. The small 2-digit channel number on the display panel will begin to flash.
- While the number is flashing, press the **UP** or **DN** arrow buttons until you reach the desired code number.
- Press the **MENU** button to set the code.

**To turn the codes off, and hear all activity on the channel, set the CTCSS code to zero (0).**

**Note:** If another user on the same channel has a radio that doesn't have CTCSS codes, or has the CTCSS codes turned off, they will be able to hear your transmissions, even if you cannot hear them.



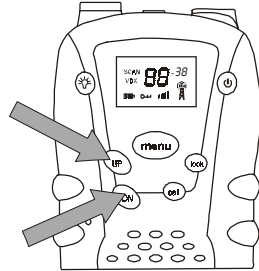
## Operation



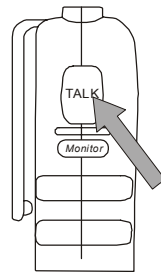
### Transmit Power Hi / Low

GM-22 selects transmitting power level to Hi(2W) or Low (0.5W)

1. Press the **MENU** Button 4 times and the Power (*PD*) icon and level (*H/L*) will appear on the LCD screen . Using low power , the unit will have a lower transmit range but battery life will be increased .
2. Select Hi (*H*) or Low (*L*) by pressing the **UP** or **DN** button.
3. Exit from the Transmit power selection mode by pressing the Menu or pressing the **TALK** button.



**Note:** On GMRS frequencies (8-14CH),the power goes into 0.5W automatically .FCC requires that the transmitting power for GMRS channel (8-14CH) must be less than 0.5W.



### To speak to Another Radio

- Make sure both units are on and set to the same channel and CTCSS code.
- Turn the volume up to an audible level.
- Press and hold the **TALK** button on the left side of the unit. The signal transmitting waves on the LCD display will appear.
- While pressing on the **TALK** button,



## Operation

Speak into the microphone with your mouth 2 to 3 inches from the unit.

- When you finish speaking, release the **TALK** button immediately to hear the response.

### Range

Your GM22 unit has a range of up to 5 miles (2 miles in 8-14CH). This range can be decreased by certain atmospheric and environmental conditions at the time of your conversation.

Some conditions that affect range are:

- Buildings
- Dense trees or foliage
- Hilly or mountainous terrain

The best range will be in flat, open terrain, without obstructions. Using the **MON** (monitor) button to override the automatic squelch will help extend the range to the maximum limits.

Your range is also dependent on the battery condition of the radio, the type of terrain where you are located, and the strength of the signal from the transmitting radio.

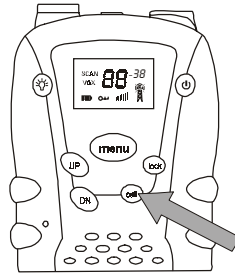
### Calling (Paging) Another Radio

The volume of the incoming **CALL** (Page) tone is set by turning the volume button on top of the



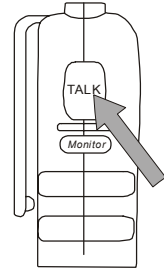
## Operation

receiving unit.



To send a page, or CALL

- Make sure both units are on.
- Turn the volume up to an audible level.
- Set both units to the same channel and CTCSS code.
- Press and release the **Call** button on the front of your radio.



The other unit will make a 2 second call (page) tone. They can then respond to your call by either:

- Pressing the **TALK** button and speaking into the radio, or
- Pressing the **Call** button, which activates a 2 second call (page) tone on your radio.

## Special Features

### Automatic Squelch

Your GMRS is equipped with automatic squelch circuitry, which filters out weak transmissions and unwanted noise. These signals may be picked up as background static, and are usually caused by terrain conditions, or if you have reached the limit of your range.

### Monitor

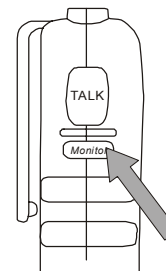
This feature turns off the Automatic Squelch feature, either momentarily or continuously. This allows your unit to receive all signals to its maximum range, but it may pick up static signals as well. You can set the speaker volume by the noise of the static.

Momentary monitor feature activation:

- Press the **MON** button for up to 4 seconds. The monitor signals on the LCD display will appear.
- Release the button to restore the automatic squelch

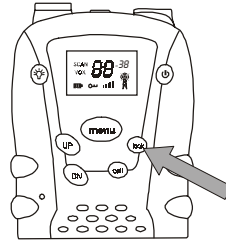
Continuous monitor feature activation:

- Press the **MON** button for more than 5 seconds until you hear a “beep” sound and release it. The monitor signals on the LCD display will appear.
- To restore automatic squelch, press and release the **MON** button again.



**NOTE: You cannot transmit when the**

## Special Features



**MONITOR** feature is activated.

### Channel Lock

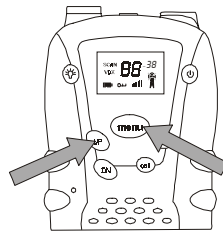
This feature locks the channel adjustment buttons on the front to the unit so that the channel cannot be changed accidentally.

To Lock the channel:

- Press the **Lock** button for 5 seconds until you hear a “beep “ sound. The lock symbol - shaped like a key - will appear on the LCD display.

To Unlock the channel:

- Press the **Lock** button for 5 seconds until you hear a “beep “ sound again. The lock symbol in the LCD display will disappear.

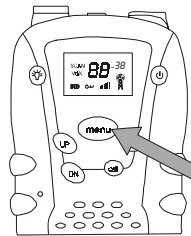


### Channel Scan

Your radio can scan across it' s 22 channels for any activity. This allows you find other radios without having to change channels.

To scan:

- Press the **MENU** button and the **UP** button at the same time.
- The channel display will change as it scans through the channels.
- When a signal is detected, the unit will pause and listen for 4 seconds.
- Press the **TALK** button to stop the scan and communicate, or the **UP** button to continue.
- To stop the scanning operation, press the **MENU** button again.



## Special Features

### Automatic Battery Save

Your GMRS unit has special circuitry designed to extend the life of your battery. When the radio is not used for 4 seconds, it will switch itself into a low power mode.

Battery Save does not affect the radio's ability to receive transmissions. When a signal is detected, it automatically returns to full power.

### VOX Selection

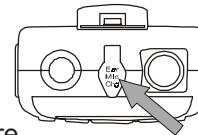
Once you set the VOX function, You can transmit without press the PTT button.

- Press the **MENU** button three times until the VOX function mode icon display on the LCD. *VOX OFF* icon will be displayed.
- Press **UP** button once to select the VOX on, *VOX ON* icon will be displayed.
- Press **UP/ DN** button to select the VOX sensitivity .
- Press **DN** button to cancel vox. *VOX OFF* icon will be displayed.
- To confirm your selection, press the **MENU** button.

**Note :** To select the higher VOX sensitivity, choose higher value. In VOX mode, the radio will transmit a signal only when it is activated by your voice or other sound around you. VOX operation is not recommended if you plan to use your radio in a noisy or windy environment.

### External Microphone/Speaker Jacks

Your GMRS radio can be used with an optional external microphone and speaker, usually sold together in a ear bud/mic combination. The jacks are



## Customer Support

located under the protective rubber cover on the top of the unit.

To attach external speaker/microphone headsets or ear bud/mic.

- Lift the rubber flap on the top of the unit to expose the jacks.
- Insert the appropriate plugs into the correct jacks.
- Note that the sizes of the jacks and plugs are different for speaker and microphone.

### Customer Support

Thank you for purchasing the Columbia GM-22 2-way Radios. This is a high-quality communications device that can give you many years of reliable service. Please read these instructions carefully.

Should you encounter any problems with the product or not understand its many features, please refer to this owner's manual. If after referring to the manual, you still need help, call Customer Service at 1-800-889-7434 between 9am and 5pm EST (Eastern Standard Time).

### Service

For your own protection, retain your original sales receipt indicating the date and place where you purchased this product. We will not be able to service your GMRS unit without a copy of this receipt.

Also, as previously suggested, retain all packing materials. In case you should need to ship your unit for servicing. This product is covered by a ONE YEAR LIMITED WARRANTY.

## Channel Frequencies and Code Charts

### GMRS/FRS Channel Frequencies

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

### Interference Elimination Codes

#### (CTCSS - Continuous Tone Coded Squelch System)

Code	Frequency (Hz)	Code	Frequency (Hz)
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



## **COLUMBIA TELECOMMUNICATIONS Limited Warranty**

COLUMBIA TELECOMMUNICATIONS warrants this unit to be free from defects in material and/or workmanship for a 1-year period beginning with the date of purchase. This warranty does not cover second-hand ownership or products that are purchased for sale or lease to another. This warranty does not cover damage resulting from acts of God, lightning accident, misuse, improper installation or operation, or unauthorized repair or alteration.

If this unit should become defective within the first 30 days from purchase, return it to the retailer where obtained (with all of the original packing materials and parts) for an over-the-counter exchange. If this unit becomes defective after the first 30 days but within one year of purchase, we will replace it with a new or reconditioned unit of the same or similar style. The replacement unit will be warranted for a period of 90 days or the remainder of the original one year period, whichever is longer.

To obtain warranty service on your COLUMBIA TELECOMMUNICATIONS equipment, you must provide proof of date of purchase. We strongly recommend that you keep your sales receipt and all of the packing materials in order to take advantage of your products limited warranty. Include all accessories and owners manual when returning to an authorized service center (listed below.) Do not forget to include your name and return address (print please), a brief description of the defect, a \$10.00 check (for shipping and handling) and a copy of your sales receipt.

There are no expressed warranties except as listed above. COLUMBIA TELECOMMUNICATIONS will not be liable for incidental or consequential damages resulting from the use of this product, or resulting from misuse contrary to this warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you. This warranty gives you specific and legal rights and you may also have other rights which vary from state to state.

Please use the shipping address below for the authorized Warranty Service center:

COLUMBIA TELECOMMUNICATIONS INC.  
174 Milbar Blvd.  
Farmingdale, NY 11735

