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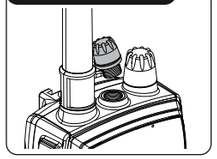
Speaker/Mic Port



### Radio Speaker and Microphone

The internal **Radio Speaker** and **Microphone** are located on the bottom front face of the radio below the lower control buttons.

An optional **Speaker/Microphone** port is located at the top of the radio between the antenna and the **Power/Volume** control. Unthread the **Speaker/Microphone** port cover to access and install an optional Cobra speaker or microphone into this port.

Talk Button

### Talk Button

Press and hold the **Talk** button to transmit messages. Release the **Talk** button to stop transmitting.

Backlight/Key Lock Button

### Backlight/Key Lock Button

**To Display the Backlight Momentarily:**

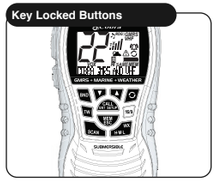
Press the **Backlight/Key Lock** button. The backlight will remain On for 10 seconds. If the backlight is already On, another press of the **Backlight/Key Lock** button will turn it Off.

**Key Lock**

To prevent accidental changes to your settings, you can lock all of the following buttons:

- **Channel Up** Button
- **Channel Down** Button
- **Band** Button
- **REWIND** Button
- **SCAN** Button
- **MEM/ESC** Button
- **WX/H-M-L** Button
- **16/9** Button
- **TRI-WATCH** Button
- **Call/Enter/Setup** Button

Key Locked Buttons

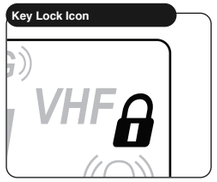


**To Lock or Unlock the Buttons:**

Press and hold the **Backlight/Key Lock** button for two (2) seconds. The **Key Lock** icon will appear or disappear in the LCD. When **Key Lock** is On, pressing any of the listed buttons on the front of the radio will result in a three (3) beep error message.

Both the **Backlight/Key Lock** button and the **Talk** button are active — you can **Receive (Rx)** or **Transmit (Tx)** a message with **Key Lock** On, but you cannot change the channel.

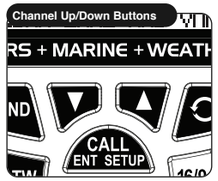
Key Lock Icon



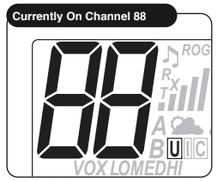





Channel Up/Down Buttons




Currently On Channel 88




### Channel Up/Down Buttons

Your radio will **Receive (Rx)** and **Transmit (Tx)** VHF/GMRS signals on the channel indicated on the LCD display. You can change the channel at any time using the **Channel Up/Down** buttons.

**To Change Channels:**

Press the **Channel Up/Down** button.

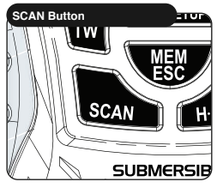
If you are on Channel 88, pressing the **Channel Up** button will advance to Channel 01. If you are on Channel 01, pressing the **Channel Down** button will advance to Channel 88. (GMRS highest channel is 22, then will advance to channel 1. Weather highest channel is 10, then advances to channel 1).

You can press and hold the **Channel Up/Down** button for fast advance. The beep sound will occur only at the first press of the button and not during fast advance.

If the new channel selected is restricted to low power, the radio will automatically switch to **Low Power** mode and the **Low Power** icon will appear on the LCD.

If the radio is in the **Key Lock** mode, the channel will not change and the three (3) beep error signal will sound.

SCAN Button




### SCAN Button

Press and release the **SCAN** button to enter all scanning modes - Marine, GMRS and memory. See the **Advanced Operation** section has more details on using the Scan modes. The **SCAN** icon will display on the LCD display. Scanning begins at lower channels, and scans to higher channels. Press the **Channel Up/Down** button to change the scan direction.

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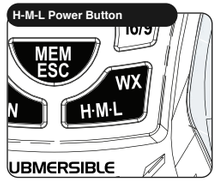
H-M-L Power Button




### High/Medium/Low (H-M-L) Power Button

Your radio can transmit selectively at 1, 3 or 6 (or highest allowed ERP setting in GMRS mode) watts of power. Cobra suggests you maintain the low power setting for short-range communications. You will conserve battery life and avoid overpowering nearby stations with a low power setting signal. Use the high power setting for long-range communications or when you do not receive a response to a signal sent at 1 watt.

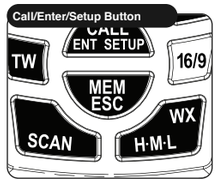
**To Toggle Between H-M-L Power Modes:**

Press and release the **H-M-L Power** button. The LCD will show which mode is in effect. Some channels are restricted for a maximum use of 1 watt. Your radio will automatically set the power to **Low Power** mode when you select those channels.

**NOTE**

Some channels, frequency bands and countries of use might not be able to operate in **High Power** mode and some channels are receive only.

Call/Enter/Setup Button

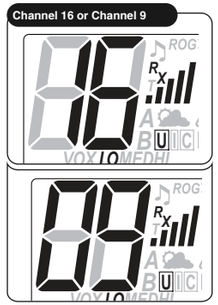



### Call/Enter/Setup Button

The **Call/Enter/Setup** button has multiple functions. It is generally used in the following ways:

- Press and release to transmit your unique **Call Tone** signal to another radio.
- Press and hold to enter any **Setup** menu.
- Functions as an **Enter** button when making a selection in any **Setup** menu.

Channel 16 or Channel 9




### Channel 16/9 Button

**Channel 16/9** mode gives you quick access to calling Channel 16 and Channel 9 from any operational mode.

**To Switch to Channel 16 or Channel 9:**

1. Press the **Channel 16/9** button to change to Channel 16.
2. Press the **Channel 16/9** button again to change to Channel 9.
3. Press the **Channel 16/9** button a third time and return to the last used channel.





### Setup Mode Programming

The following series of procedures is designed to allow you to set the programmable features of your radio. Correctly following these steps results in a minimal amount of radio setup programming time.

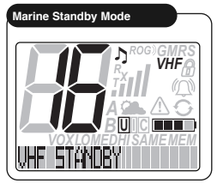
During setup programming, the matrix display will show text describing the programming action you are now performing.

**NOTE**

When in any of the **Setup** modes (**Marine** (VHF), **GMRS** or **Weather**), if you stop programming for longer than 15 seconds, your entry will be saved and the radio will go back to **Standby** mode. While in the **Setup** mode, you will not receive any signal reception except when setting squelch.

## Marine (VHF) Mode Programming

Marine Standby Mode




Programming these features will allow you to customize certain features of this radio to enhance your “On-Water” radio use.

Start from **Marine Standby** mode to begin **Marine (VHF) Setup** programming. Press and hold the **Call/Enter/Setup** button for two (2) seconds to enter the programming mode.

The mode programming follows this sequence:

- Squelch Level Set
- UIC Channel Map
- VOX On/Off
- Vox Sensitivity Level Set (this menu setting will be present when VOX is set to ON)
- Call Alert Tone/Vibrate Set
- Call Alert Tone Set
- Roger Beep On/Off
- Key Tone On/Off
- Rewind On/Off
- Priority 16 On/Off

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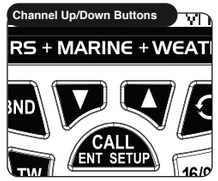
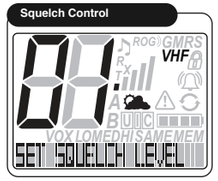



### Squelch Control

**Squelch Control** filters weak signals and radio frequency (RF) noise so that you will clearly hear the signals you want. The **Squelch Control** on this radio is set through the following keypad operation.

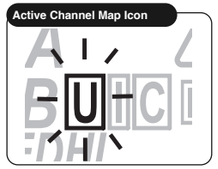
**To Set Squelch Control:**

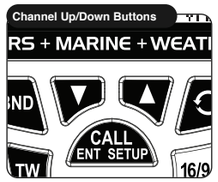
1. With the power On, push and hold **Call/Enter/Setup** button to access the **Setup** menu.
2. Squelch control will be the first menu item to appear. Press the **Channel Up** and **Channel Down** buttons to set level. The signal level bar graph shows squelch level while you are in **Setup** mode on the squelch adjust function.
3. To adjust your squelch, press the **Channel Down** button until you hear a hissing sound, then press and release the **Channel Up** button until the hissing stops. This will establish a “Baseline” squelch.
4. By pressing the **Channel Up** button further, you will filter weak and medium strength signals. By pressing **Channel Down** button, you will receive weaker signals.
5. Press the **Call/Enter/Setup** button to save this entry and move to the next **Setup** mode programming.

**NOTE**
If the **Squelch** is set so that you can hear a continuous hissing sound, the **Memory Scan** and **Tri-Watch** functions will be blocked.








### USA/International/Canada Channel Maps

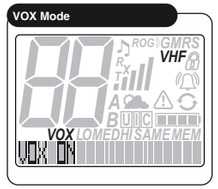
Three (3) sets of VHF Channel Maps have been established for marine use in the USA, Canada, and the rest of the world (International). Most of the channels are the same for all three (3) maps, but there are definite differences (see table in the Appendix on page 62). Your radio has all three (3) maps built into it and will operate correctly in whichever area you choose.

**To Set Channel Map Operating Area:**

1. The **Channel Map** mode is the second mode on the **Marine (VHF) Setup** programming.
2. **U, I** and **C** will display, with the current setting (the **U** icon is the default) flashing.
3. Press **Channel Up/Down** button to select the **U, I** or **C** icon.
4. Press **Call/Enter/Setup** button to save this entry and move to the next **Setup** mode programming.

# VHF Mode Programming

VOX Mode




## Voice Activated Transmit (VOX) Mode

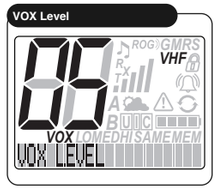
In **VOX** mode, your radio can be used "hands-free," automatically transmitting when you speak. You can also set the **VOX** sensitivity level to fit the volume of your voice and avoid transmissions triggered by background noise.

**To turn VOX Mode On or Off:**

1. Display will show **VOX** icon and **ON** or **OFF** flashing.
2. Press **Channel Up/Down** button to select **ON** or **OFF**.
3. Press **Call/Enter/Setup** button to save this entry and move to the next setup programming mode.

**NOTE**
Once set, this is a global setting when in all radio modes.

VOX Level

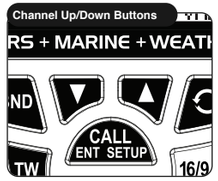



**To set VOX Sensitivity Level:**

**NOTE**
**VOX** sensitivity level is only visible when **VOX** is On.

1. The display will show **VOX LEVEL** and the current level will be flashing.
2. Press **Channel Up/Down** button to change the Vox level of your choice. Remember, this selection is your voice sensitivity level during hands-free operation.
   - **05** - indicates a Low (quiet) voice setting.
   - **03** - indicates a Medium voice setting.
   - **01** - indicates a High (loud) voice setting.
3. Press **Call/Enter/Setup** button to save this entry and move to the next setup programming mode.

Channel Up/Down Buttons



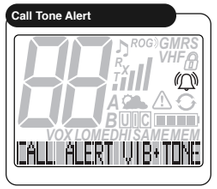

**NOTE**
**VOX** will be turned Off automatically when the radio is turned Off. This will avoid accidental transmissions.





VHF Mode Programming

Call Tone Alert



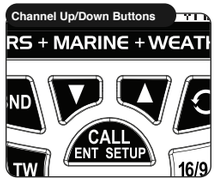

## Call Alert

If **Call Alert** is set to On, the radio will alert you to a call from a compatible Cobra radio with a Call Alert.

**Select the type of radio alert:**

1. The display will show **CALL ALERT** and will be flashing **OFF, TONE, VIBRATE**, or **VIB+TONE**.
2. If **TONE, VIBRATE**, or **VIB+TONE** option is shown on the display then the appropriate **BELL, VIBRATE, shake bars** or **combination VibrAlert** icon will be displayed.
3. Press **Channel Up/Down** button to select the alert mode of your choice.
4. Press **Call/Enter/Setup** button to save this entry and move to the next setup programming mode.

Channel Up/Down Buttons



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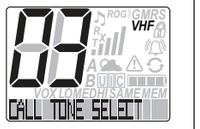
Call Tone Select




### Call Tone Select

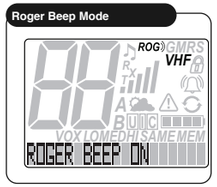
This setting will allow you to transmit a unique **Call Tone** alert to identify your radio when you transmit messages. You can select from one of 10 different **Call Tone** signals.

**To Set Call Tone:**

1. From the previous press of the **Call/Enter/Setup** button, the matrix will display **CALL TONE SELECT** and the display will flash the current **Call Tone** number (01 through 10).
2. Press the **Channel Up/Down** button to select a different **Call Tone**. An example of each call tone will sound for 1.5 seconds.
3. Press **Call/Enter/Setup** button to save this entry and move to the next **Setup** mode programming.

**NOTE**
**Call Tones** are not usually used for **Marine VHF** communications. We allow you to turn it On for your unique communication needs. It is only compatible with other Cobra VHF radios.

Roger Beep Mode



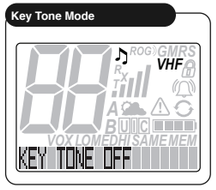

### Roger Beep Mode

In **Roger Beep** mode, your listener will hear an audible tone when you release the **Talk** button. This alerts your listener that you are finished talking and it is OK for them to speak.

**To Set Roger Beep On or Off:**

1. Display will show **ROG** icon flashing and the matrix will display **ROGER BEEP ON** or **OFF**.
2. Press **Channel Up/Down** button to select **ON** or **OFF**. **ROG** will be displayed when On.
3. Press **Call/Enter/Setup** button to save this entry and move to the next **Setup** mode programming.

Key Tone Mode




### Key Tone Mode

In **Key Tone** mode, an audible tone will sound each time a button is pressed or you change a setting.

**To Set Key Tone On or Off:**

1. Display will show **Key Tone** icon flashing and matrix will display **KEY TONE ON** or **OFF**.
2. Press **Channel Up/Down** button to select **ON** or **OFF**.
3. Press **Call/Enter/Setup** button to save entry.

**NOTE**
Once set, this is a global setting when in all radio modes.





Channel Up/Down Button

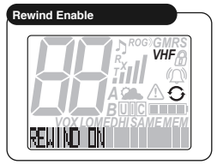

### Rewind On/Off

If **Rewind** is enabled, the last 20 seconds of incoming audio is recorded and you can play back missed VHF calls by pressing the **Rewind** button.

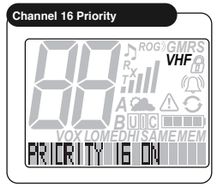
1. Display will show the **Rewind** icon and the matrix will display **REWIND ON** or **OFF**.
2. Press Channel Up/Down button to select **ON** or **OFF**.
3. Press **Call/Ent/Setup** button to save entry.

**NOTE**
Once set, this is a global setting when in all radio modes.

Rewind Enable




Channel 16 Priority




### Channel 16 Priority Mode

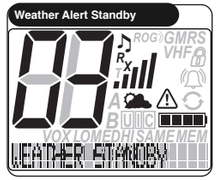
If **Priority 16** is turned on, during channel scan the radio will frequently check the **Channel 16 Safety and Distress** channel for calls.

**To Set Priority 16 On or Off:**

1. The display matrix will show **PRIORITY 16 ON** or **OFF**.
2. Press the **UP or DOWN** button to select On or Off.
3. Press **Call/Ent/Setup** button to save entry.

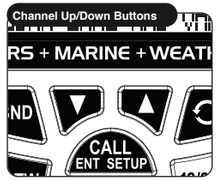
## Weather (WX) Mode Programming

Weather Alert Standby




Programming these features will allow your radio to listen to all NOAA Hazard Alert radio channels. In this process, you will be programming the channel settings for the "Specific Area Message Encoding (SAME)" and "Emergency Alert Messages" sent by NOAA. See channels and frequencies listed on page 31. Start from **Weather Standby** mode to begin **Weather Alert Setup** programming. Momentarily Press the button to enter the programming mode.

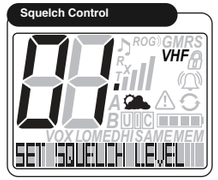
Channel Up/Down Buttons




### Squelch Control

**Squelch Control** filters weak signals and radio frequency (RF) noise so that you will clearly hear the signals you want. The **Squelch Control** on this radio is set through the following keypad operation.

Squelch Control




**To Set Squelch Control:**

1. With the power On, momentarily press the **Call/Enter/Setup** button to enter the **Setu**p mode programming.
2. Squelch control will be the first menu item to appear. Press the **Channel Up** and **Channel Down** buttons to set level. The signal level bar graph shows squelch level while you are in **Setup** mode on the squelch adjust function.
3. To adjust your squelch, press the **Channel Down** button until you hear a hissing sound, then press and release the **Channel Up** button until the hissing stops.
4. Press the **Call/Enter/Setup** button to save this entry and move to the next **Setup** mode programming.



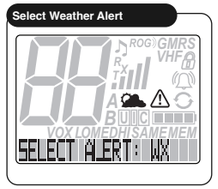


### Alert Functions

**SAME** is an advanced weather alert feature. Leave this set to **OFF** if you are not sure about your understanding of its operation. The weather mode can be set to respond to NOAA alerts in three ways:

- **OFF** - radio alerts are disabled.
- **WX** - radio will sound a max volume tone alert for 8 seconds when NOAA sends a 1050 Hz warning alert tone.
- **SAME** - radio will display the NOAA SAME alert message.

Select Weather Alert




1. Select **Alert** and either **OFF, WX** or **SAME** will flash in the display.

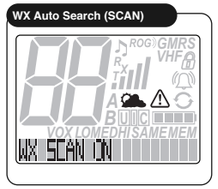
**NOTE**
If **WX Alert** is turned on, the radio will receive NOAA voice alerts from a wide geographic area around you.

**NOTE**
If **SAME Alert** is turned on, the radio will receive detailed NOAA alerts from a geographic area immediately around you.

2. Press **Channel Up/Down** button to select **OFF, WX** or **SAME**.
3. Press the **Call/Enter/Setup** button to save entry and move to the next programming mode.

**NOTE**
Proceed to **SAME** programming section if **SAME** has been selected.

WX Auto Search (SCAN)




**To Set WX Auto Search (SCAN) On or Off:**

1. Display will show **WX Alert** icon and **SCAN**, **ON** or **OFF** is flashing.
2. Press **Channel Up/Down** button to select **SCAN**, **ON** or **OFF**.
3. Press the **Call/Enter/Setup** button to save entry.

**NOTE**
When **WX Auto Search (SCAN)** is set to On, weather channel scanning will start automatically and scan all available weather channels. When the user-selected weather channel falls below the preset squelch level, the weather channel will change to a new weather channel under the following conditions:

- **WX Alert** is engaged.
- **WX** received signal level falls below a preset squelch on the user-selected weather channel and
  - radio is in **WX Standby** OR
  - radio is in **VHF** or **GMRS Standby** and there is no channel activity.

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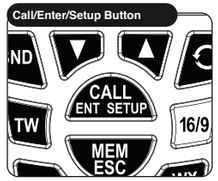
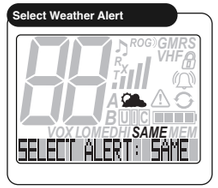
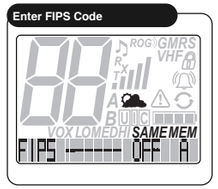
Call/Enter/Setup Button



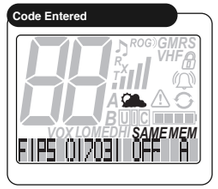

Select Weather Alert




Enter FIPS Code




Code Entered




**To Set SAME FIPS Code Programming:**

1. From **Weather Standby** Mode, press **CALL/ENT/SETUP** key until the display matrix shows **SELECT ALERT:** and **WX, SAME, or OFF** will be flashing.
2. Press **Channel Up/Down** buttons to select **SAME**. The first memory location "A" will be displayed. Up to 10 **FIPS codes** can be entered A - J.
3. Press and release the **CALL/ENT/SETUP** button and the first FIPS memory A will be displayed. Use the **Channel Up/Down** buttons to select the FIPS memory location A-J.
4. Press the **Call/Enter/Setup** button to enter geographic weather locations as identified by **FIPS** (Federal Information Processing System) area in the United States.

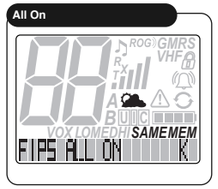
**NOTE**
**FIPS** codes identify geographic areas in the United States as shown on the Internet website: http://www.nws.noaa.gov/nwr/indexnw.htm.

5. The display will show " ------," or last entered **FIPS** code. One (1) digit in display will be flashing.
6. Press **Channel Up/Down** button to select first digit.
7. Press and release **Call/Enter/Setup** button to advance to next digit code. Press and release **MEM/ESC** button to back up. Repeating, press and release of the **MEM/ESC** button, will back up to the top level.
8. Continue steps 5 to 7 until all six (6) digits are entered.
9. Press the **Call/Enter/Setup** button to save the entered digits.

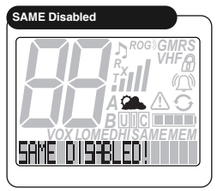




All On




SAME Disabled




**To Set SAME FIPS Code Programming** continued**:**

10. Use the **Channel Up/Down** buttons to select:
    - **OFF** - entered FIPS code is not active or,
    - **ON** - entered FIPS code is active.
11. Press the **Call/Enter/Setup** button to save the memory.
12. Repeat steps 3 through 10 to enter up to 10 FIPS codes in memory.
13. When all of the codes are entered, use the **Channel Up/Down** buttons to move to memory K.
14. Press the **Call/Enter/Setup** button and select:
    - **ON** - all entered FIPS codes are set active,
    - **OFF** - all entered FIPS codes are set inactive, or
    - **OK** - all entered FIPS codes are correctly entered, some On and some Off.
15. At least **one** FIPS code must be entered and made active (ON) or the **SAME** mode is disabled. The radio will warn you if no FIPS codes are on.
16. Press the **Call/Enter/Setup** button to exit back to weather standy.

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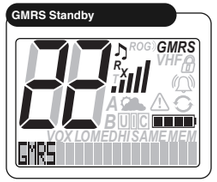
GMRS Standby

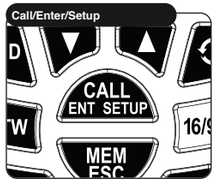



## GMRS Mode Programming

The **GMRS** (General Mobile Radio Service) feature is a landmobile service available for short-distance, two-way communications in the USA. You must have a valid FCC license to communicate on these channels (see page 28).

Start from **GMRS Standby** mode to begin **GMRS Setup** programming. Press and hold the **Call/Enter/Setup** button for two (2) seconds to enter the programming mode.

Call/Enter/Setup




### Squelch Control

**Squelch Control** filters weak signals and radio frequency (RF) noise so that you will clearly hear the signals you want. The **Squelch Control** on this radio is set through the following keypad operation.

**To Set Squelch Control:**

1. With the power On, push and hold **Call/Enter/Setup** button to access the **Setup** menu.
2. Squelch control will be the first menu item to appear. Press the **Channel Up** and **Channel Down** buttons to set level. The signal level bar graph shows squelch level while you are in **Setup** mode on the squelch adjust function.
3. To adjust your squelch, press the **Channel Down** button until you hear a hissing sound, then press and release the **Channel Up** button until the hissing stops. This will establish a “Baseline” squelch.
4. By pressing the **Channel Up** button further, you will filter weak and medium strength signals. By pressing **Channel Down** button, you will receive weaker signals.
5. Press the **Call/Enter/Setup** button to save this entry and move to the next **Setup** mode programming.

**NOTE**

If the **Squelch** is set so that you can hear a continuous hissing sound, the **Memory Scan** and **Tri-Watch** functions will be blocked.

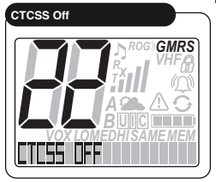


Operating Your Radio
GMRS Mode Programming

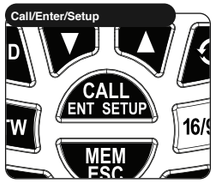
### CTCSS and DCS Coding Mode

**Continuous Tone Controlled Squelch System (CTCSS)** and **Digital Coded Squelch (DCS)** coding are used in two-way radio systems. These are sub-audible frequencies or digital tones that are sent continuously with speech to engage other radios with this feature. This feature is generally used between talk groups on shared channels. Radios with the same subcode set will hear your transmission. Radios with both DCS and CTCSS set to Off or 00 will be able to hear your transmissions.

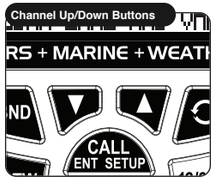
CTCSS Off




Call/Enter/Setup




Channel Up/Down Buttons




**To Set CTCSS Code Entry:**

1. Display will show **CTCSS** icon and **OFF** icon flashing.

**NOTE**

If **CTCSS** was previously set to a **Code** number, display will show the current **GMRS** channel and flash the **CTCSS** icon and **Code** number.

2. Codes begin at **00 (OFF)** and go to **38**, followed by **00**, and return back to **01** again. The last used **GMRS** channel will be shown in the large digit display.

**NOTE**

If **CTCSS** is On, then **DCS** will be Off. If **DCS** is On, then **CTCSS** will be Off. The radio does this automatically.

3. Press **Channel Up/Down** button to change code number, or press and hold **Channel Up/Down** button to rapid advance (scroll).
4. Press **Call/Enter/Setup** button to save entry and move to the next setup programming mode.

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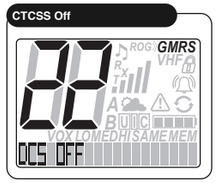
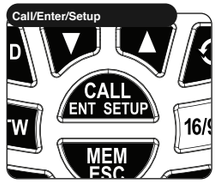
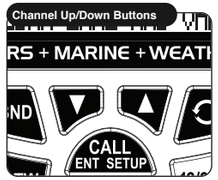
CTCSS Off




Call/Enter/Setup




Channel Up/Down Buttons




**To Set DCS Code Entry:**

1. Display will show **DCS** icon and **OFF** icon flashing.

**NOTE**
If **DCS** was previously set to a **Code** number, display will show the current **GMRS** channel and flash the **DCS** icon and **Code** number.

2. Codes begin at **01** and go to **38**, followed by **OFF**, and return back to **01** again. The last used **GMRS** channel will be shown in the large digit display.

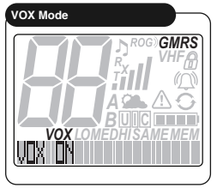
**NOTE**
If **CTCSS** is On, then **DCS** will be Off. If **DCS** is On, then **CTCSS** will be Off. The radio does this automatically.

3. Press **Channel Up/Down** button to change code number, or press and hold **Channel Up/Down** button to rapid advance (scroll).
4. Press **Call/Enter/Setup** button to save entry and move to the next setup programming mode.

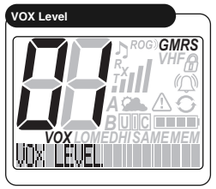


Operating Your Radio
GMRS Mode Programming

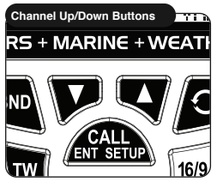
VOX Mode




VOX Level




Channel Up/Down Buttons




### Voice Activated Transmit (VOX) Mode

In **VOX** mode, your radio can be used "hands-free," automatically transmitting when you speak. You can also set the **VOX** sensitivity level to fit the volume of your voice and avoid transmissions triggered by background noise.

**To turn VOX Mode On or Off:**

1. Display will show **VOX** icon and **ON** or **OFF** flashing.
2. Press **Channel Up/Down** button to select **ON** or **OFF**.
3. Press **Call/Enter/Setup** button to save this entry and move to the next setup programming mode.

**NOTE**
Once set, this is a global setting when in all radio modes.

**To set VOX Sensitivity Level:**

**NOTE**
**VOX** sensitivity level is only visible when **VOX** is On.

1. The display will show **VOX LEVEL** and **01** will be flashing.
2. Press **Channel Up/Down** button to change volume level of your choice. Remember, this selection is your voice sensitivity level during hands-free operation.
   - **05** - indicates a Low (quiet) voice setting.
   - **03** - indicates a Medium voice setting.
   - **01** - indicates a High (loud) voice setting.
3. Press **Call/Enter/Setup** button to save this entry and move to the next setup programming mode.

**NOTE**
**VOX** will be turned Off automatically when the radio is turned Off. This will avoid accidental transmissions.

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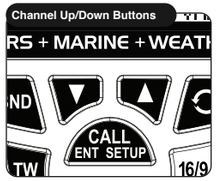
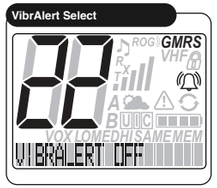
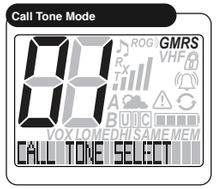
Channel Up/Down Buttons



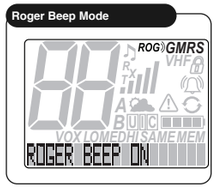

VibrAlert Select




Call Tone Mode




Roger Beep Mode




## VibrAlert Select

This setting will allow you to select whether your radio activates the VibrAlert shake in addition to the incoming call tone when receiving a call. Once the radio shakes, it will delay 20 seconds before shaking again to eliminate excessive VibrAlerts on a busy GMRS channel.

**To Set VibrAlert:**

1. From the previous press of the **Call/Enter/Setup** button, the matrix will display **VIBRALERT OFF**.
2. Press the **Channel Up/Down** button to select **VIBRALERT ON**. The **VibrAlert** icon will be activated on the display.
3. Press **Call/Enter/Setup** button to save this entry and move to the next **Setup** mode programming.

## Call Tone Select

In **Call Tone** mode, you can select the tone the radio will use when transmitting a Call.

1. The display will show **Call Tone Select** and the current tone number will be flashing.
2. Press **Channel Up/Down** to select the tone you want to use.
3. Press **Call/Enter/Setup** button to save this entry and move to the next **Setup** mode programming.

## Roger Beep Mode

In **Roger Beep** mode, your listener will hear an audible tone when you release the **Talk** button. This alerts your listener that you are finished talking and it is OK for them to speak.

**To Set Roger Beep On and Off:**

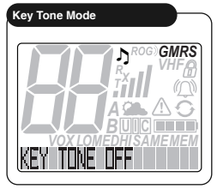
1. Display will show **ROG** icon flashing and the matrix will display **ROGER BEEP ON** or **OFF.**
2. Press **Channel Up/Down** button to select **ON** or **OFF**. **ROG** will be displayed when On.
3. Press **Call/Enter/Setup** button to save this entry and move to the next **Setup** mode programming.

**NOTE**
Once set, this is a global setting when in all radio modes.

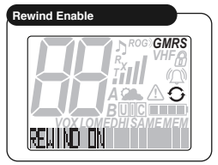




Key Tone Mode

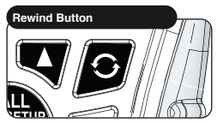



Rewind Enable

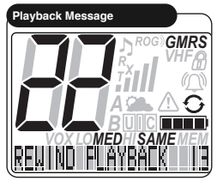



Call/Ent/Setup Button


Rewind Button



Playback Message




## Key Tone Mode

In **Key Tone** mode, an audible tone will sound each time a button is pressed or you change a setting.

**To Set Key Tone On and Off:**

1. Display will show **Key Tone** icon flashing and the matrix will display **KEY TONE ON** or **OFF.**
2. Press **Channel Up/Down** button to select **ON** or **OFF**.
3. Press **Call/Enter/Setup** button to save this entry.

**NOTE**
Once set, this is a global setting when in all radio modes.

## Rewind On/Off

If **Rewind** is enabled, the last 20 seconds of incoming audio is recorded and you can play back missed VHF calls by pressing the **Rewind** button.

1. Display will show the **Rewind** icon and the matrix will display **REWIND ON** or **OFF**.
2. Press Channel Up/Down button to select **ON** or **OFF**.
3. Press **Call/Ent/Setup** button to save entry.

**NOTE**
Once set, this is a global setting when in all radio modes.

Use the Cobra exclusive **Rewind-Say-Again®** feature to replay or record the last 20 seconds of an incoming audio transmission.

**Example 1:**
When engine noise, music or conversation creates too much noise to hear an inbound message clearly, press the **REW** button to hear the message a second time.

**Example 2:**
When listening to an urgent distress message of an excited caller with confusing background noise, press the **REW** button to hear the message a second time and get life saving information. Use this feature to record call details including position coordinates, call signs, registration numbers and store details that will help authorities locate the distressed vessel.

**NOTE**
Hold the **Rewind** button to lock the recording memory (the **Rewind** icon flashing) and save the currently recorded transmission.

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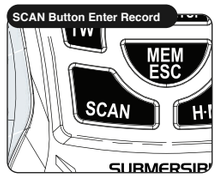
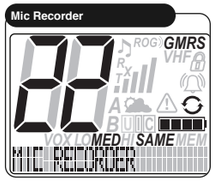
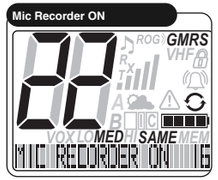
SCAN Button Enter Record




Mic Recorder




Mic Recorder ON




**Using Rewind-Say-Again® to Record VOICE Audio Transmission:**

**NOTE**
If the record memory is locked (rewind icon flashing), press and hold the **REW** button to unlock.

1. Press and hold **SCAN** button for two (2) seconds to enter **Record** mode. The matrix will display **MIC RECORDER**.
2. Press and hold **PTT** button to begin recording from radio microphone. The transmitter will turn off. The matrix will display **MIC RECORDER ON** and the seconds remaining will be shown in the lower right corner. If **PTT** button is released, recording stops. While recording, a 20-second countdown begins on display. When 20-second countdown time has ended, recording stops and two (2) beep tones will be heard.
3. Press and hold **SCAN** button again for two (2) seconds or press **MEM/ESC** button to cancel recording and return to last operation.

## Tri-Watch Mode

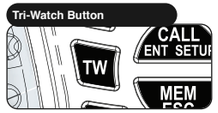
**Tri-Watch** mode gives you one (1) button access to scan a total of three (3) channels of most importance to you. Channel 16 is preprogrammed and will always be one (1) of the scanned locations. Two (2) other channels, either GMRS or VHF, of your choice can be stored in the radio. These channels can be edited and/or recalled during future engagements of **Tri-Watch** mode.

**NOTE**
The radio must be squelched for **Tri-Watch** mode to function. See page 18 for **Squelch** procedure.

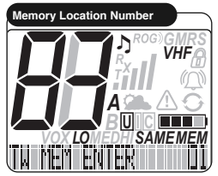




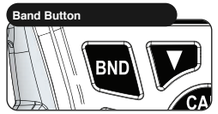
Tri-Watch Button




Memory Location Number

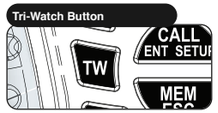



Band Button

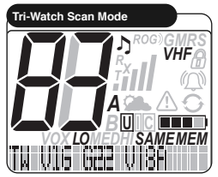



Channel Up/Down Buttons

Tri-Watch Button




Tri-Watch Scan Mode




### Tri-Watch Setup

**To Program or Edit the Tri-Watch Channels:**

1. Press and hold the **TRI-WATCH** button from **Marine or GMRS Standby** mode for two (2) seconds to activate **Tri-Watch Setup** mode. The **MEM** icon on the display will turn On and the matrix will display **TW MEM ENTER 01**.

**NOTE**
The main channel number will flash to indicate channel position. If there is no input activity for 15 seconds, the radio will sound three (3) beeps and return to **GMRS** or **Marine Standby** mode.

2. Use the **Band** button to select Marine or GMRS channels.
3. Press **Channel Up/Down** button to select the desired **Tri-Watch** channel.
4. Press and release **TRI-WATCH** button or **Call/Enter/Setup** button to confirm entry.
5. Repeat steps 2 and 3 to program the remaining additional **Tri-Watch** memory channel.
6. After programming both **Tri-Watch** memory channels the radio will immediately engage **Tri-Watch** mode.

## Using Tri-Watch

**Tri-Watch Scan Mode:**

1. From **Marine or GMRS Standby** mode, press the **TRI-WATCH** button. The **TW SCAN** will display on the matrix along with the three channels stored in the **Tri-Watch** memory.
2. The radio will scan through the three (3) **Tri-Watch** memory channels.
3. A signal on any one (1) of the three (3) channels will stop the scan for 10 seconds to allow you to listen to the traffic on that location.

**NOTE**
After the **Tri-Watch** scan stops to monitor a channel, as long as you do not press any buttons within 10 seconds, your radio will automatically resume scanning the **Tri-Watch** channels.

4. Press the **Channel Up/Down** button to resume scanning the **Tri-Watch** channels or to change the scan direction.
5. To EXIT the **Tri-Watch** scan, press the **TRI-WATCH** button again, and the radio will return to **Marine or GMRS Standby** mode.

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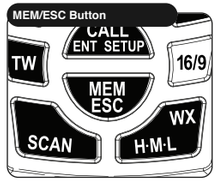
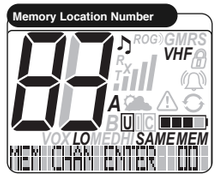
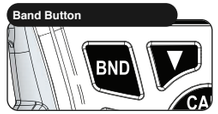
MEM/ESC Button



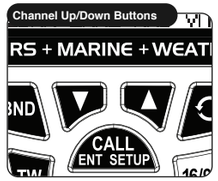

Memory Location Number



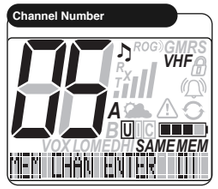

Band Button




Channel Up/Down Buttons




Channel Number




## Memory Location Mode

Your radio has unlimited memory locations for storing your most frequently used channels. These memory locations can be selected individually or can be scanned. (See page 49 under **Memory Location Scan**.)

To enter **Memory** mode, press **MEM/ESC** button. The display will show the **MEM** icon and the **Memory Channel** bank will be displayed on the matrix.

**To Program Memory Locations:**

1. Press and hold the **MEM/ESC** button for two (2) seconds. The memory location number will be displayed on the matrix and the **MEM** icon will be turned On.
2. Use the **Channel Up/Down** button to advance to the memory location (00-99) you want to program.
3. Press the **MEM/ESC** button to select the memory location.
4. Use the **Band** button to select the GMRS or marine band.
5. Use the **Channel Up/Down** button to change to the channel you want to store into the selected memory location.
6. Press the **MEM/ESC** button to program that channel. The memory location will be displayed on the matrix again.

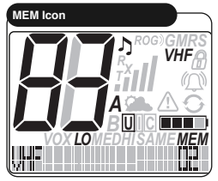
Repeat steps 2 through 5 to program as many additional memories as you want.

7. Press and hold the **MEM/ESC** button for two (2) seconds. This will return the radio to **Memory** mode.
8. Press and release the **MEM/ESC** button again to return to **Marine or GMRS Standby** mode.





MEM Icon




**To Recall a Stored Memory Location:**

1. Press the **MEM/ESC** button. The **MEM** icon will be turned On.
2. Press the **Channel Up/Down** button to select the memory location. If a memory location has been programmed, its associated channel will display on the LCD. Your radio is now in **Marine or GMRS Standby** mode on the selected memory location.

**To Exit Memory Location Mode:**

Press the **MEM/ESC** button to return the radio to **Marine or GMRS Standby** mode. The last channel used in **Marine or GMRS Standby** mode will now be displayed on the LCD and the **MEM** icon will disappear.

**To Erase Stored Memory Locations:**

1. Press and hold the **MEM/ESC** button for two (2) seconds. The memory location number will be displayed on the matrix and the **MEM** icon will be turned On.
2. Use the **Channel Up/Down** button to advance to the memory location you want to erase.
3. Press the **MEM/ESC** button to select the memory location.
4. Use the **Channel Up/Down** button to change to the channel to read “00” at the selected memory location.
5. Press the **MEM/ESC** button to erase that channel.

Repeat steps 2 through 5 to erase as many additional memories as you want.

6. Press and hold the **MEM/ESC** button for two (2) seconds. This will return the radio to **Memory** mode.
7. Press and release the **MEM/ESC** button again to return to **Marine or GMRS Standby** mode.

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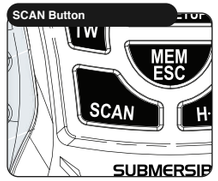
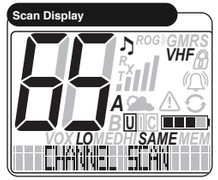
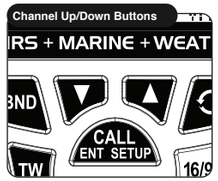
SCAN Button




Scan Display




Channel Up/Down Buttons




## Scan Modes

A signal on any channel will stop the scan for 10 seconds to allow you to listen to the traffic on that location. After 10 seconds, the radio will resume scanning.
Press the **Channel Up/Down** button to resume scanning before the 10-second pause has completed or to change the scan direction.

## VHF Channel Scan

During **Channel Scan** mode, the radio will rapidly switch from channel to channel through all the channels.

**NOTE**
The radio must be squelched for **Channel Scan** mode to function. See page 28 for **Squelch** procedure.

**To Enter Marine Scan:**

1. From **Marine or GMRS Standby** mode, press the **SCAN** button. The radio will immediately begin to scan the entire channel map selected in the active channel map.
   **CHANNEL SCAN** will display on the matrix.

**NOTE**
If **Priority 16** feature has been selected, channel 16 will checked frequently for activity to insure you will not miss any calls.

2. To EXIT **Channel Scan** mode, press the **SCAN** or **PTT** button again. The **SCAN** icon will disappear from the LCD and the radio will return to **Marine or GMRS Standby** mode.

## Memory Location Scan

During **Memory Location Scan** mode, the radio will rapidly scan through all pre-assigned memory channels.

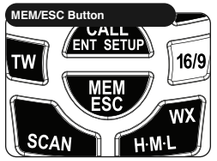
**NOTE**
The radio must be squelched for **Memory Location Scan** mode to function. See page 18 for **Squelch** procedure.

**NOTE**
If there are fewer than two (2) memory locations programmed in the radio, the **Memory Location Scan** option will not be available. To program at least two (2) memory locations, see page 34.

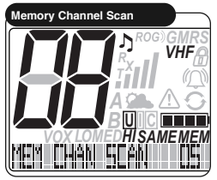




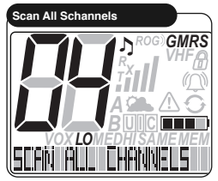
MEM/ESC Button



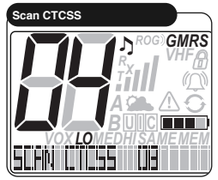

Memory Channel Scan



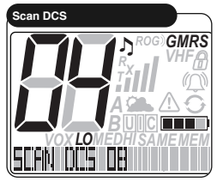

Scan All Schannels




Scan CTCSS




Scan DCS




**To Enter Memory Location Scan:**

1. From **Marine or GMRS Standby** mode, press the **MEM/ESC** button.
2. Press the **SCAN** button. The radio will immediately begin to scan all pre-assigned memory channels. The **MEM** icon will show on the LCD, and **MEM CHAN SCAN** will display on the matrix along with the memory location.
3. To EXIT **Memory Location Scan** mode, press the **SCAN or PTT** button again. The **MEM** icon will disappear from the LCD and the radio will return to **Marine or GMRS Standby** mode.

## GMRS Scan

In **GMRS** mode, there are 3 types of scans - **all GMRS channels, CTCSS tones** (on the selected channel) **and DCS codes** (on the selected channel).

**To Enter the GMRS Scans:**

1. Successive press and release of the **SCAN** button will toggle betwen all channel scan, CTCSS tone scan and DCS code scan.
2. Press and hold the **SCAN** button to start the selected scan.
3. To exit a GMRS scan, press the **MEM/ESC** button or **PTT**.

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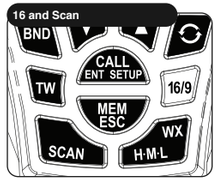
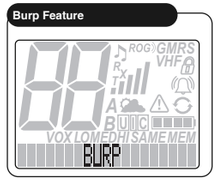
16 and Scan




Burp Feature



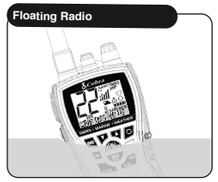

## Burp Feature

Cobra's **Burp** feature allows the operator to expel water from inside the speaker grill. This is especially useful if the radio is dropped overboard or during extreme foul weather conditions. In these conditions, water can become trapped in the speaker grill and muffle the audio.

**To Activate Burp:**

1. Press and release the **16/9** and **SCAN** keys at the same time.
2. The **Burp** tone(s) at maximum level will sound from the internal speaker for eight seconds.
3. During this time, the matrix will display **BURP**.
4. Hold the radio with the speaker grill down to help the water drain out.
5. After an 8-second interval, the radio will return to standby.

Floating Radio



## Floating Radio

This radio is designed to float if dropped overboard. The orange center makes it visible and easy to retrieve. This rugged radio is also designed to meet JIS7 (IPX7) specifications. This means it's designed to operate properly after being submerged in one meter deep water for 30 minutes.

**NOTE**

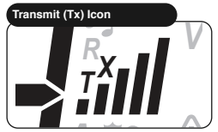
Do not leave the radio floating in water permanently. This could cause premature corrosion of the battery contacts and other damage.

The radio is only designed to float with its included Lithium-ion battery. Using other approved batteries might cause the radio to sink. This includes the optional AA battery tray, depending on the weight of the AA batteries used.

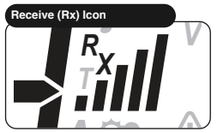




Transmit (Tx) Icon




Receive (Rx) Icon




## Marine (VHF), GMRS and Weather Standby Band Selections

**The BAND button allows you to quickly toggle between the Marine (VHF), GMRS and WX Alert Standby bands.**

**To Make a Band Selection:**

Press **BAND** button to toggle between the **Marine (VHF) Standby**, **GMRS Standby** or **WX Standby.**

## Marine (VHF) Standby Mode

**Marine Standby** mode is the default mode for the radio whenever it is turned On. From this mode, you can change current settings by becoming familiar with the different key functions. While in **Marine Standby** mode, the user will be able to **Transmit (Tx)** by pressing the **Push to Talk (Talk)** button. Signals in **Receive (Rx)** mode will be received on the selected channel(s).

**NOTE**

Coast Guard alerts are broadcast on Channel 16 and you need to have the **WX Alert** or **SAME** turned On to receive NOAA weather alerts. While in **Marine Standby** mode, you will receive any messages sent on the channel to which you are tuned.

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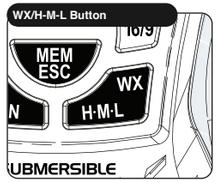
WX/H-M-L Button




## Weather Standby Mode

To enter and exit the **Weather Standby** mode, press and hold the **WX/H-M-L** button or press the **BAND** key.

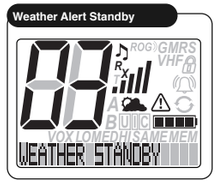
### Receiving a Weather Alert

NOAA broadcasts weather information as described in the NOAA weather channels section on page 75 of this manual.

When NOAA broadcasts a weather alert signal and your radio is in **WX Alert Standby** mode, the following items will be displayed on the LCD display:

- The **WX** icon (cloud/sun) icon will be displayed.
- The last used weather channel will be displayed.
- The bar graph will display received signal strength level.
- The **WX Alert** (triangle) or **SAME Alert** icon will be displayed if either of these alerts are enabled.
- The matrix will display **WEATHER STANDBY**.

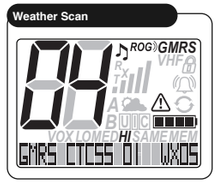
Weather Alert Standby




**NOTE**
Only one (1) or two (2) of the weather channels will be operating in any given location [only in **Receive (Rx)** mode]. You will need to select the channel with the strongest signal in your location.

**NOTE**
When **WX Alert** is turned on, and NOAA sends the 1050 Hz alert tone, the radio will sound a series of loud beeps regardless of the volume control setting.

Weather Scan




**NOTE**
When **SAME Alert** is turned on, and NOAA sends a SAME message, the radio will display the NOAA warning message.

**NOTE**
When either **WX** or **SAME** is set on, then in **Marine** and **GMRS** standby modes, the radio will display the selected weather channel.

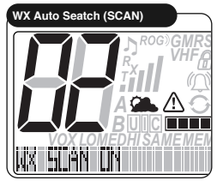




## WX Auto Search (SCAN) Mode Function

The purpose of the **WX Auto Search (SCAN)** function is to enable the receiver to automatically scan for an active **WX** channel under the following conditions:

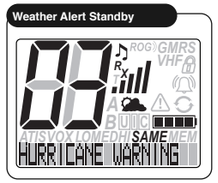
WX Auto Seatch (SCAN)




1. **WX Auto Search (SCAN)** function is On.
2. **WX Alert** is On.
3. The radio is tuned to a **Marine or GMRS** channel and has entered **Power Save** mode (meaning there is no signal activity or user input for 10 seconds).
4. The radio software has detected that the current **WX** channel signal level has dropped below a preset minimum level or is gone completely.

Once these conditions have been met, the software will then scan the **Weather** channels looking for an active **Weather** channel. When an active **Weather** channel is found it will stop the scan and use the new **Weather** channel to look for the standard 1050Hz alert tone.

Weather Alert Standby




## SAME Alert Codes

Your HH450 radio has the ability to alert you when NOAA sends out alerts from their Emergency Alert System (EAS). These alerts cover any weather related watches, warnings or statements. Using this system insures that you will always be aware of you local Weather, Civil, and National emergency events.

For a complete list of all the event codes your radio is capable of displaying, please go to the following web address:
**http://www.nws.noaa.gov/os/eas_codes.shtml#list**

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## GMRS Standby Mode

The **GMRS** (General Mobile Radio Service) **Standby** feature is a land-mobile service available for short-distance, two-way communications in the USA. You must have a valid FCC license to communicate on these channels (see page XX).

While in **GMRS Standby** mode, the user will be able to **Transmit (Tx)** by pressing the **Push to Talk (Talk)** button. Signals in **Receive (Rx)** mode will be received on the selected channel(s).

When in **GMRS Standby mode**, the radio has the ability to receive calls as well as transmit calls

**NOTE**

As **GMRS** channels are scrolled, you will see **CTCSS** or **DCS** icons displayed on the LCD screen if the codes have been previously programmed. You will only hear transmissions from other radios with the equivalent subcodes programmed.

When a transmission is received, the following icons will be displayed.

- **Receive (Rx)** Icon
- **Bar Graph** Icon





## Transmit (Tx) and Receive (Rx) Modes

**Transmit (Tx)** and **Receive (Rx)** modes gives you the ability to interact with other **GMRS** radios. When you use this capability, be sure to follow the procedures and to observe the courtesies that govern its use so everyone benefits. (See pages XX through XX) to help you select the proper channels.

When a talk transmission occurs, the following icons will be displayed.

- **Transmit (Tx)** Icon
- **Bar Graph** Icon

**To Transmit a Message:**

1. Check to see that your radio is set to a proper channel for the type of message you plan to send.
2. Toggle to the **Low Power** setting.
3. With the microphone about 2 in. [51 mm] from your mouth, press and hold the **Talk** button and speak into the microphone. The **Transmit** icon will appear on the LCD.
4. Release the **Talk** button when you are finished speaking. Your radio can only operate in either **Transmit (Tx)** or **Receive (Rx)** mode at any given time. You will not hear the response to your message unless the **Talk** button is released. **Battery Power** icon is held at the level it was at during receive.

**NOTE**

If the Talk button is held down for five (5) minutes, the radio will automatically sound a series of beeps and cease transmitting to prevent unwanted signal generation and battery drain. As soon as the Talk button is released, it can be pressed again to resume transmission.

# Maintenance and Troubleshooting

## Maintenance

Very little maintenance is required to keep your Cobra VHF/GMRS radio in good operating condition:

- Keep the radio and charger clean by wiping with a soft cloth and mild detergent. Do not use solvents or harsh or abrasive cleaners, which could damage the case or scratch the LCD screen.
- If the radio is exposed to salt water, wipe with a soft, moist cloth at least once a day to prevent buildup of salt deposits, which could interfere with button operation.
- If the radio will be stored for a long period, such as over the winter, remove the batteries from the battery tray and store them in a separate package. This is especially important if you are using alkaline batteries.

## Troubleshooting

| Problem | Possible Cause(s) | Solution(s) |
|---|---|---|
| No display on LCD when radio is turned On | Batteries are exhausted | Recharge or replace batteries |
| | Batteries not installed properly | Remove batteries and reinstall according to polarity markings |
| Batteries run down quickly | Batteries are at the end of their life | Replace with new batteries |
| Will transmit at one (1) or three (3) watts, but not at six (6) watts | Batteries are low | Recharge or replace batteries |
| | Selected channel is limited to one (1) watt | Switch to another channel |
| Will not transmit | Selected channel is limited to receive only | Switch to another channel |
| No sound from speaker | Volume level is too low or squelch level is too deep | Re-adjust volume and squelch |
| No response to button press | Button lock is On | Press and hold **Backlight/ Key Lock** button |
| No answer to calls | Out of range of other station | Switch to Medium or High transmit power or move closer. |
| | Signal is blocked by terrain | |





# Specifications

## Specifications

| | |
|---|---|
| **General** | |
| Number of Channels | All U.S., Canadian, and International NOAA Weather Channels, 15 GMRS Channels |
| Channel Spacing | VHF - 25 kHz Max., GMRS - 12.5 kHz |
| Modulation | VHF - 5 kHz Max., GMRS - 2.5 kHz |
| Input Voltage | 7.4 VDC |
| Battery Life: 5% TX, 5% RX, 90% Stand-by | Lithium-ion: 8 hrs @ High Power, 14 hrs @ Low Power; |
| Current Drain: | |
| Stand-by | 45 mA |
| Receive | 150 mA |
| Transmit | 1.8 A @ High power 650 mA @ Low Power |
| Temperature Range | -20˚C to 50˚C |
| Radio Dimensions | 4.8 in. x 2.4 in. x 1.4 in. (123 mm x 62 mm x 36 mm) not including antenna |
| Radio Weight | 0 lbs 8 oz. (228 g) without batteries |
| **Receiver** | |
| Frequency Range | VHF 156.050 to 163.275 MHz GMRS 462.5500 to 467.7250 MHz |
| Receiver Type | Marine VHF: Double Conversion Super-Heterodyne GMRS & WX: Low if direct conversion. |
| Sensitivity (typical): | Marine VHF: 12 dB Sinad: -121 dBm |
| Adjacent Channel Selectivity | Marine: 70dB, GMRS: 50dB, WX: 55dB (typical) |
| Intermodulation and Rejection | Marine: 70dB, GMRS: 65dB, WX: 55dB (typical) |
| Spurious and Image Rejection | Marine: 70dB, GMRS: 50dB, WX: 65dB (typical) |
| AF Output | 400 mW < 5% distortion @ 8 ohms |
| **Transmitter** | |
| Frequency Range: TX | VHF 156.025 to 157.425 MHz GMRS 462.5500 to 462.7250 MHz |
| RF Output Power | Marine:1, 3 & 6 Watts/GMRS: 1, 3 & 4.5 Watts |
| Spurious Emissions | -60 dBc @ High Power, -55 dBc @ Low Power |
| Microphone Type | Condenser |
| Frequency Stability | +/-5 ppm |
| FM Hum and Noise | 40 dB |

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# Warranty and Trademark Acknowledgement

Warranty

## Limited 3-Year Warranty

### For Products Purchased In The U.S.A.

Cobra Electronics Corporation warrants that its Cobra VHF/GMRS radio, and the component parts thereof, will be free of defects in workmanship and materials for a period of three (3) years from the date of first consumer purchase. This warranty may be enforced by the first consumer purchaser, provided that the product is utilized within the U.S.A.

Cobra will, without charge, repair or replace, at its option, defective radios, products or component parts upon delivery to the Cobra Factory Service department, accompanied by proof of the date of first consumer purchase, such as a duplicated copy of a sales receipt.

You must pay any initial shipping charges required to ship the product for warranty service, but the return charges will be at Cobra's expense, if the product is repaired or replaced under warranty. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

**Exclusions: This limited warranty does not apply:**

1. To any product damaged by accident.
2. In the event of misuse or abuse of the product, or as a result of unauthorized alterations or repairs.
3. If the serial number has been altered, defaced, or removed.
4. If the owner of the product resides outside the U.S.A.

All implied warranties, including warranties of merchantability and fitness for a particular purpose are limited in duration to the length of this warranty. Cobra shall not be liable for any incidental, consequential or other damages; including, without limitation, damages resulting from loss of use or cost of installation.

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

### For Products Purchased Outside The U.S.A.

Please contact your local dealer for warranty information.

## Trademark Acknowledgement

Cobra®, CobraMarine®, Nothing Comes Close to a Cobra®, and the snake design are registered trademarks of Cobra Electronics Corporation, USA.

Cobra Electronics Corporation™ is a trademark of Cobra Electronics Corporation, USA.



# Product Service

Customer Service

## Product Service

### If you have any questions about operation or installing your new Cobra VHF/GMRS product or if you are missing parts…

**Please call Cobra first! DO NOT RETURN THIS PRODUCT TO THE STORE!**
**See customer assistance on page A1.**

If your product should require factory service, please call Cobra first before sending your radio. This will ensure the fastest turn-around time on your repair. You may be asked to send your radio to the Cobra factory. It will be necessary to furnish the following to have the product serviced and returned:

1. For warranty repair, include some form of proof-of-purchase, such as a photocopy of a sales receipt. If you send the original receipt, it cannot be returned.
2. Send the entire product.
3. Enclose a description of what is happening with the radio. Include a typed or clearly printed name and address of where the radio is to be returned.
4. Pack radio securely to prevent damage in transit. If possible, use the original packing material.
5. Ship prepaid and insured by way of a traceable carrier such as United Parcel Service (UPS) or Priority Mail to avoid loss in transit to: Cobra Factory Service, Cobra Electronics Corporation, 6500 West Cortland Street, Chicago, Illinois 60707 U.S.A.
6. If the radio is in warranty, upon receipt of your radio, it will either be repaired or exchanged depending on the model. Please allow approximately three (3) to four (4) weeks before contacting Cobra for status. If the radio is out of warranty, a letter will automatically be sent informing you of the repair charge or replacement charge.
7. If your radio is returned for factory repair, it will be returned to you with default settings restored.

**If you have any questions, please call 773-889-3087 for assistance.**