GARMIN

VHF 100/200 Series

owner's manual

Garmin International, Inc.
1200 East 151st Street,
Olathe, Kansas 66062, USA
Tel. (913) 397.8200 or (800) 800.1020
Fax (913) 397.8282

Garmin (Europe) Ltd.
Liberty House
Hounsdown Business Park,
Southampton, Hampshire, SO40 9LR UK
Tel. +44 (0) 870.8501241 (outside the UK)
0808 2380000 (within the UK)
Fax +44 (0) 870.8501251

Garmin Corporation
No. 68, Jangshu 2nd Road,
Shijr, Taipei County, Taiwan
Tel. 886/2.2642.9199
Fax 886/2.2642.9099

CE Notification

CE Notified Body number (0168) valid for the VHF 100i/VHF 200i only.

CE 0168

July 2009 Part Number 190-01019-00 Rev. B Printed in China

Introduction

The VHF 100 and VHF 200 series radios equip you with the ability to communicate on all International, USA, and Canadian marine channels, as well as preset private channels. The USA and Canadian frequency bands are not available on the VHF 100i. They also allow monitoring of ten WX (weather) channels. The VHF 100, VHF 200, and GHS™ 10 are for use in North America, while the VHF 100i, VHF 200i, and GHS 10i are for use in Europe and throughout the world.

The VHF 100 and VHF 200 series radios have many enhanced features, including those listed in the following table.

	VHF 100	VHF 100i	VHF 200	VHF 200i
Auto power on	•	•	•	•
Full Class D Digital Selective Calling (DSC)	•	•	•	•
Position tracking to track up to three other boats	•	•	•	•
Transmits position requests	•	•	•	•
Local receiver mode to improve receiver performance in busy port environments	•	•	•	•
Up to 25 watts of transmit power, selectable between 1 watt and 25 watts	•	•	•	•
Dedicated key for easy, one-touch access to Channels 16/9	•	Channel 16 only	•	Channel 16 only
NMEA 0183 interface capabilities	•	•	•	•
NMEA 2000® interface capabilities			•	•
Additional capabilities with NMEA 2000 compatible Garmin chartplotters and Garmin autopilot system			•	•
Hard-wired speaker and microphone	•	•		
Relocatable speaker and microphone			•	•
Supports one GHS 10 or one GHS 10i full-function, wired microphone			•	•
Hailer and foghorn output at 20 watts with automatic and manual foghorn signals and adjustable, base fog frequencies			•	•
Two-way hailer functionality for listening back when connected to a compatible horn speaker			•	•
Intercom capabilities			•	•
Receives NOAA weather alerts	•		•	

	VHF 100	VHF 100i	VHF 200	VHF 200i
ATIS support		•		•
Private channel customization (pre-set by your Garmin® dealer)		•		•
Multilingual user interface: English, French, Italian, German, and Spanish			•	•

Manual Conventions

In this manual, when you are instructed to select an item using the **Channel** knob, turn the channel knob to highlight the item, and the press the **Channel** knob to select the item.

Small arrows (>) in the text indicate that you should use the **Channel** knob to select each item in order. For example, if the text indicates "select **COMMUNICATIONS** > **PROTOCOL**," you should complete these steps:

1. Turn the **Channel** knob to highlight **COMMUNICATIONS**, and then press the **Channel** knob to select **COMMUNICATIONS**.
2. Turn the **Channel** knob to highlight **PROTOCOL**, and then press the **Channel** knob to select **PROTOCOL**.

VHF 100/200 Series and GHS 10 Series Instructions

This manual provides instructions for the following units:

North American Models	International Models
VHF 100	VHF 100i
VHF 200	VHF 200i
GHS 10	GHS 10i

Unless otherwise noted, the instructions for the VHF 100/200 Series radios and the GHS 10 Series handsets are the same.

Table of Contents

Introduction ..... **i**
Manual Conventions ii

Getting Started **1**
Transceiver Front Panel 1
Microphone and GHS 10 Series Handsets 2
Transceiver and Handset Display 3
Tips 4

Basic Operation **5**
Turning the Radio On and Off 5
Adjusting the Radio Volume 5
Adjusting the Volume on a GHS 10 or a GHS 10i 5
Adjusting the Squelch on the Radio 5
Adjusting the Squelch on a GHS 10 or a GHS 10i 5
Selecting Channels 5
Scanning and Saving Channels 6
Monitoring Multiple Channels 7
Reprogramming the Second-Priority Channel 8
Using 16/9 Mode 8
Switching Between 1 W and 25 W Transmitting Modes 8
Adjusting the Local/Distant Receiving Sensitivity 9
Using the Intercom 9
Using the Hailer 10
Using the Foghorn 10
Listening to NOAA Weather Broadcasts and Enabling Weather Alerts 12
Automatic Transmitter Identification System (ATIS) 13

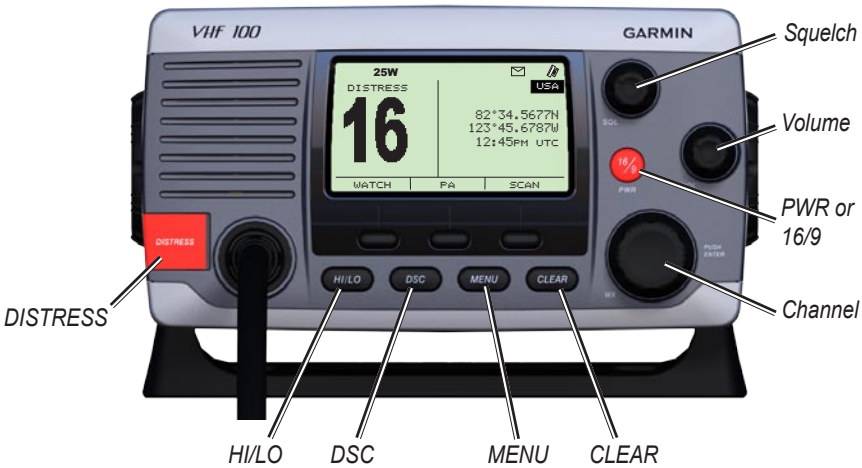
Digital Selective Calling (DSC) **15**
Entering Your MMSI Number 15
Viewing Your MMSI Number 16
DSC Distress Calls 16
Placing Calls 18
Receiving Calls 21
Position Tracking 22
Working with the Call Logs 23
Using the Directory 26
Adding and Modifying Group Entries 26
Configuring DSC Settings 27

Advanced Operation **29**
NMEA 0183 and NMEA 2000 29
Modifying the Operating Settings 30

Appendix **35**
Alarms and Messages 35
Channel Lists 36
Specifications 46
Caring for the Unit 49
Index **50**

Getting Started

Transceiver Front Panel



DISTRESS—press to start a DSC distress call if you have programmed your radio with an MMSI number.

Squelch—rotate to adjust the squelch level.

Volume—rotate to adjust the volume.

PWR or 16/9—press and hold this key to turn the radio on and off. When the radio is on, press and release this key to toggle the radio between Channel 16, your second-priority channel, and your original channel.

Channel—rotate to change the channel on the radio, or press to select a menu item. When on the Home screen, press to access WX (weather) channels (VHF 100 and VHF 200 only).

HI/LO—press to select between local and distant receive settings or to bypass 1 W transmission power for some channels.

DSC—press to display a menu of DSC options. Press again to return to the Home screen.

MENU—press to display a menu of configuration options. Press again to return to the Home screen.

CLEAR—press to return to the previous screen when you are in the menu options. This key also cancels or mutes an incoming DSC call.

Microphone and GHS 10 Series Handsets

With the exception of adjusting the volume and the squelch, the handset works the same as the radio.

PTT (Push-to-talk)—press to exit the current menu and return to the Home screen to begin broadcasting.

DISTRESS (GHS 10 and GHS 10i)—press to start a DSC distress call if you have programmed your radio with an MMSI number.

Up and Down Arrows (Microphone)—press to change the channel on the radio.

Channel—rotate to change the channel on the radio, or press to select a menu item. When on the Home screen, press to access WX (weather) channels (GHS 10 only).

CLEAR—press to return to the previous screen when you are in the menu options. This key also cancels or mutes an incoming DSC call.

DSC—press to display a menu of DSC options. Press again to return to the Home screen.

16+ (VHF 100i/200i; GHS 10i) or 16/9 (VHF 100/200; GHS 10)—press and release to toggle between Channel 16, your second-priority channel, and your original channel.

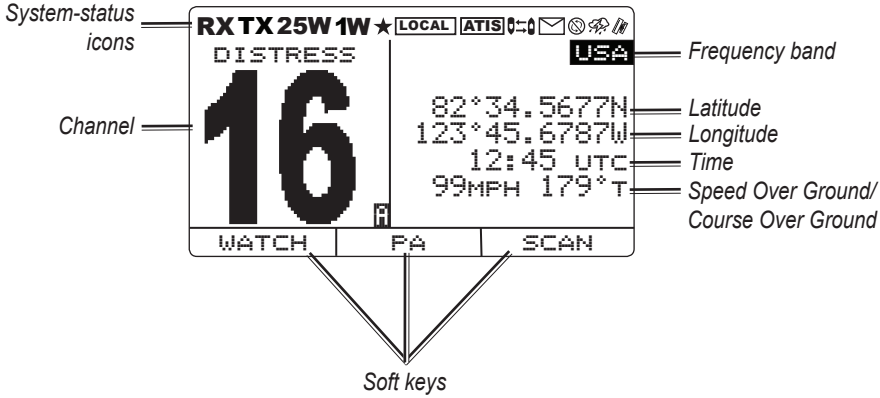
HI/LO—press to select between local and distant receive settings or to bypass 1 W transmission power for some channels.

MENU—press to display a menu of configuration options. Press again to return to the Home screen.

Volume/Squelch—press to toggle the function of the Channel knob to adjust the volume and squelch levels.

Transceiver and Handset Display

The Home screen is the most-viewed screen in the system. It displays all of your current information, such as the current channel, the frequency band, and the channel name.



Channel—current working channel.

Frequency band—current frequency band: International, Canadian, or USA.

Latitude, Longitude, and Time—current latitude, longitude, and time are displayed if the transceiver is connected to a GPS device. If the transceiver is not connected to a GPS device, you can manually enter the position and the time that you entered the position data.

Speed Over Ground (SOG)/Course Over Ground (COG)—current SOG or COG is displayed if the transceiver is connected to a GPS device.

Soft keys—used to select items. The function of these keys changes depending on what you are doing.

System-status icons—see the following table.

RX Squelch level is broken by reception of an incoming signal	**TX** Transmitting	**25W** Transmitting at 25 watts	**1W** Transmitting at 1 watt
★ Saved channel	**LOCAL** Receiver mode for areas with radio frequency interference (such as harbors)	**ATIS** ATIS enabled	Position tracking enabled
Auto channel changing disabled	Incoming or missed DSC call	Weather alert	External GPS connected

Tips

Keep the following tips in mind when using your radio or handset:

- Press and release the **PTT** key at any time during a series of steps to return to the Home screen.
- Press the **CLEAR** key to view the previous screen.
- Select **OK** to save your changes and return to the Home screen.
- Select ⇦ when entering data to return to a previous character.

Basic Operation

Turning the Radio On and Off

IMPORTANT: To use the DSC capabilities of your radio, you must first enter an MMSI number. See page 15 for more information.

To turn on the radio, press and hold the **16/9** key. If you have not entered a Mobile Maritime Safety Identity (MMSI) number, you must press the **CLEAR** key to access the Home screen. To turn off the radio, press and hold the **16/9** key.

TIP: For information on enabling auto power-on, see page 31.

Adjusting the Radio Volume

- To turn up the radio volume, turn the **Volume** knob clockwise.
- To turn down the radio volume, turn the **Volume** knob counterclockwise.

TIP: To set the appropriate volume level, first turn the squelch level to off, and then adjust the volume. See below for more information on adjusting the squelch level.

Adjusting the Volume on a GHS 10 or a GHS 10i

1. Press the **VOL/SQL** key until the screen displays “CURRENT VOLUME.”
2. Turn the **Channel** knob on the handset to adjust the level.

Adjusting the Squelch on the Radio

The squelch control allows you to suppress unwanted static when receiving.

1. When receiving, rotate the **Squelch** knob counterclockwise until you hear audio.
2. Rotate the **Squelch** knob clockwise until there is no background noise.

Adjusting the Squelch on a GHS 10 or a GHS 10i

1. Press the **VOL/SQL** key until the screen displays “CURRENT SQUELCH”.
2. When receiving, rotate the **Volume** knob counterclockwise until you hear audio.
3. Rotate the **Volume** knob clockwise until there is no background noise.

Selecting Channels

- Turn the **Channel** knob clockwise or counterclockwise to change channels.
- To change channels using the microphone, press the up or down arrow key. To scroll quickly through the channels, press and hold the up or down arrow key.

See page 36 for lists of International, Canadian, and USA channels.

Transmitting with the Radio or the Handset

1. Select the appropriate channel.
2. Check to ensure that the channel is clear before transmitting. The Federal Communications Commission (FCC) and international regulations require that you not obstruct the communications of others.
3. Press the **PTT** key on the microphone or the handset to transmit on the current channel. The **TX** icon is displayed at the top of the screen.
4. Speak your message and release the **PTT** key.

NOTE: Five minutes is the maximum amount of time for transmission. After you have pressed **PTT** key for five minutes, PTT is disabled until you release the **PTT** key.

Bypassing the LO (1 W) Transmission Power Setting

In the USA frequency band, transmissions on Channels 13 and 67 are required to be low-power (1 watt) by default. You can bypass this power setting by pressing the **25W** soft key during transmission.

1. If you are on USA Channels 13 or 67, when you press the **PTT** key, the screen displays a message to press **25W** to bypass the 1 W transmission requirement.
2. Press and hold the **25W** soft key to broadcast on HI. The radio bypasses the 1 W transmission requirement when you are pressing the **25W** soft key.

Scanning and Saving Channels

IMPORTANT: If you turn on ATIS, the radio cannot scan or save channels. See page 13.

Scanning All Channels

When you scan channels, the radio searches for channels that are broadcasting. If a channel is broadcasting, the radio pauses on that channel until the broadcast stops. After four seconds of inactivity on the channel, the radio resumes scanning.

1. Select **SCAN** > **ALL**.
2. Choose from the following options:
   - **SKIP**—this option is displayed if active channels are detected. When you select this option, the system resumes the scan and does not include that channel in subsequent passes.
   - **+CH16**—Channel 16 is scanned every other channel (for example: 21, 16, 22, 16, and so on). “ALL SCAN +CH16” is displayed on the screen.
   - **-CH16**—Channel 16 is scanned in its normal order (for example, 14, 15, 16, 17, and so on). “ALL SCAN” is displayed on the screen.
   - **EXIT**—returns you to Home screen. The system ends the current scan and continues to receive on the channel where you ended the scan.

Saving Channels

You can save any channel other than the WX (weather) channels to the transceiver memory. You can scan your saved channels separately from scanning all of the channels that radio receives. There is no limit to the number of channels you can save.

To save a channel:

1. Select **SCAN**.
2. Turn the **Channel** knob to access different channels.
3. To save a channel, select **SAV CH**. A ★ star on the top of the screen denotes a saved channel.

To remove the saved status from a channel:

1. Select **SCAN**.
2. Turn the **Channel** knob to access different channels.
3. Select **SAV CH**.

Scanning Saved Channels

1. Select **SCAN**.
2. Select **SAVED**.

NOTE: This scan does not include Channel 16 unless you saved Channel 16 to memory. However, you can select **+16** to scan Channel 16 every other channel (for example: 21, 16, 32, 16). When this setting is active, the soft key displays -16. Select **-16** to scan your saved channels in their normal order (for example, 08, 10, 11, 14).

Monitoring Multiple Channels

IMPORTANT: The radio disables multiple-channel monitoring (Dual watch and Tri watch) if you turn on ATIS. See page 13.

Select **WATCH** to monitor priority channels and the currently selected channel for broadcasting activity. Channel 16 is the first-priority channel on your radio. Channel 9 is the default second-priority channel, but you can select another channel as your second-priority channel. For more information on reprogramming the second-priority channel, see page 8.

Monitoring Two Channels (Dual Watch)

Dual watch allows you to cycle between monitoring the current channel you have selected and Channel 16.

1. Select **WATCH**.
2. Select **DUAL**. “DUAL WATCH”, the currently selected channel, and Channel 16 are displayed on the screen—for example, “DUAL WATCH CH: 75 + 16”.
3. To exit Dual watch, select **EXIT**.

Monitoring Three Channels (Tri Watch)

Tri watch allows you to cycle between monitoring the current channel you have selected, Channel 16, and your second-priority channel.

1. Select **WATCH**.
2. Select **TRI**. "TRI WATCH", the currently selected channel, Channel 16, and your second-priority channel are displayed on the screen—for example, "TRI WATCH CH: 75 + 16 + 9".
3. To exit Tri watch, select **EXIT**.

Reprogramming the Second-Priority Channel

You can program your radio to recognize a channel other than Channel 9 as your second-priority channel.

1. Select **MENU**.
2. Select **CHANNEL** > **2ND PRIORITY**.
3. Turn the **Channel** knob or use the up and down arrows on the microphone or handset to change the channel displayed on the screen.
4. When the correct channel is displayed, select **OK**.

Using 16/9 Mode

16/9 is a priority operation that is activated by pressing the **16/9** key on the transceiver or the microphone. Pressing the **16/9** key stops the current operation and changes your current working channel to Channel 16 on the first press, your second-priority channel on the second press, and your original channel on the third press. Entering this mode changes the transmit power to HI (25 W), and leaving this mode restores the previous setting.

1. Press the **16/9** key to immediately switch to Channel 16 and change the transmit power to HI (25 W). To transmit on LO power in 16/9 mode, press the **HI/LO** key, and then select **1W**. The radio displays **1W** on the screen to indicate low-power transmission.
2. Press the **16/9** key again to switch to your second-priority channel.
3. Press the **16/9** key a third time to return to your previous current working channel and the previous transmit power setting.

Switching Between 1 W and 25 W Transmitting Modes

You can control the transmitting power of the radio. There are two options: LO (1 W) and HI (25 W). LO is typically used for local transmissions, while HI is typically used for distance and distress transmissions.

NOTE: When you press the **16/9** key, the radio switches to HI power. While in 16/9 mode, Channel 16 and the second-priority channel (Channel 9 by default) automatically transmit on HI power. However, you can switch to LO power in 16/9 mode.

When two signals are broadcast on the same frequency, a VHF radio only receives the stronger of the two signals. Other than distress calls, transmit using the lowest power setting that allows you to communicate. This reduces the possibility of your transmissions interfering with the transmissions of disinterested parties.

In the USA frequency band, transmissions on Channels 13 and 67 are required to be low-power (1 watt) by default. You can bypass this power setting by pressing the **25W** soft key during transmission.

To switch between LO and HI transmitting power:

1. Press the **HI/LO** key.
2. Select **1W** or **25W** to toggle between LO and HI transmit power modes.

TIP: The radio returns to the Home screen automatically two seconds after changing the 1 W/25 W mode. You can also select **OK** to return to the Home screen.

Adjusting the Local/Distant Receiving Sensitivity

You can control the receiving sensitivity of the radio. If you are experiencing noise in high-traffic areas or areas with electromagnetic interference (caused by cell-phone towers, for example), set the receiving sensitivity to Local to decrease the sensitivity of the receiver. In remote areas and in open water, set the receiving sensitivity to Distant to ensure that you are using the maximum range of the receiver.

The LOCAL icon is displayed on the screen when set to Local receiving sensitivity.

1. Press the **HI/LO** key.
2. Select **LOCAL/DIST** to toggle between local and distant modes.

Using the Intercom

Intercom operation only applies to the VHF 200 series radios and GHS 10 series handsets.

The intercom is part of the Public Address (PA) system of your radio. With an optional GHS 10 or GHS 10i handset, you can use the radio and handset stations as an intercom system for two-way communication. You can use the radio to initiate communication with a handset station, and you can use a handset to initiate communication with the radio.

TIP: When the radio is in intercom mode, it does not receive traffic from your current channel.

Initiating an Intercom Call

1. Select **PA** > **INTRCM**.
2. Select a device from the list. Selecting **ALL** will transmit to every station. The other party must press the **PTT** key on the receiving unit to accept the call.
3. Press and hold the **PTT** key and speak your message.

4. Release the **PTT** key and listen for a response.
5. When you and the other party have finished talking, select **EXIT** to return to the Home screen.

Receiving an Intercom Call

1. The screen indicates which station is calling. Press and release the **PTT** key to accept the call.
2. When the other party has finished talking, press and hold the **PTT** key and speak your message.
3. When you and the other party have finished talking, select **EXIT** to return to the Home screen.

Using the Hailer

Hailer operation is only available with the VHF 200 Series. You must provide and install an optional hailer horn on the deck or tower to use this feature. See the *VHF 100/200 Series Installation Instructions* for installation information.

The hailer, which is part of the PA system of your radio, allows you to make on-boat or ship-to-shore announcements. The hailer allows for two-way communication: you can address the ship using the radio or handset, and sounds received through the horn can be heard through the radio speaker. For vessels with enclosed cabins, this allows you to hear what is happening on deck.

NOTE: When the radio is in hailer mode, it does not receive traffic from your current channel.

To operate the hailer:

1. Select **PA** > **HAILER**. Sounds received through the horn can be heard through the radio speaker.
2. Press and hold the **PTT** key and speak your announcement.
3. Turn the **Channel** knob or select the up and down arrows to adjust the horn volume.
4. Release the **PTT** key to listen.
5. Select **EXIT** to return to the Home screen.

Using the Foghorn

Foghorn operation is only available with the VHF 200 Series. You must provide and install an optional hailer horn on the deck or tower to use this feature. See the *VHF 100/200 Series Installation Instructions* for installation information.

The foghorn is part of the PA system of your radio. You can sound the foghorn through a hailer horn or an external speaker. Your radio can sound the horn automatically using standard, pre-defined patterns, or you can sound the horn manually.

Similar to the hailer, when you are manually operating the foghorn, sounds received through the horn can be heard through the radio speaker between soundings.

Automatically Sounding the Foghorn

1. Select **PA** > **FOG**.
2. Select **AUTO** from the list.
3. Select an item from the following options. The radio alternates between sounding the pattern of tones or rings and receiving radio traffic.
   - UNDERWAY
   - SAILING/FISHING
   - UNDER TOW
   - AT ANCHOR
   - STOPPED
   - RESTRICT/TOW
   - PILOT
   - AGROUND
4. Turn the **Channel** knob to adjust the volume of the horn.
5. Select **EXIT** to turn off the automatic soundings and return to the Home screen.

Manually Sounding the Foghorn

NOTE: When you manually sound the horn, the radio will not alternate to receive radio traffic between horn soundings.

To sound the fog horn:

1. Select **PA** > **FOG**.
2. Select **MANUAL** from the list. Sounds received through the horn can be heard through the radio speaker.
3. Press the **PTT** key on the microphone or handset to sound the horn. The horn will stop when you release the **PTT** key.
4. Turn the **Channel** knob to adjust the volume of the horn.
5. Select **EXIT** to return to the Home screen.

Adjusting the Sound Frequency of the Foghorn

You can increase or decrease the sound frequency of the foghorn. The pitch of the tone will rise with an increase in the frequency, and will fall with a decrease in frequency. The minimum setting is 200 Hz and the maximum setting is 850 Hz. The default setting is 350 Hz. Regulations dictate the correct frequency of foghorns. Typically, these regulations correlate the required foghorn frequency with the size of the vessel.

1. Select the **MENU** key.
2. Select **SYSTEM** > **FOG FREQUENCY**.
3. Use the **Channel** knob to adjust the frequency in 50 Hz increments.

4. Select **ACCEPT** to save your changes and return to the Home screen. Select **CANCEL** to disregard the changes and return to the previous screen.

Listening to NOAA Weather Broadcasts and Enabling Weather Alerts

There are 10 WX (weather) channels that are pre-programmed into your radio to monitor weather broadcasts from the National Oceanic and Atmospheric Organization (NOAA). WX channels are listen-only channels.

These broadcasts are in a continuous loop and are updated regularly. Because the NOAA weather centers broadcasting the information are regional, the weather information will be relevant to your broadcast area.

NOTE: This functionality is not available with the VHF 100i or VHF 200i. NOAA broadcasts on the WX channels are only available in the USA and certain regions in Canada.

Accessing WX (Weather) Mode

1. While viewing the Home screen, press the **Channel** knob. "WX" is displayed to indicate that you are listening to WX frequencies.
2. Turn the **Channel** knob to change the channel.
3. Select **EXIT** to return to the Home screen. The radio returns to the channel you were listening to before you entered WX mode.

Enabling WX (Weather) Alerts

You can enable your radio to continually monitor NOAA weather alerts. If the radio detects an incoming weather alert, it will automatically tune to the WX channel that is broadcasting the alert. The radio will not receive WX alerts if the transmitter is active.

NOTE: When you enable weather alerts, the radio only monitors the last monitored weather channel.

1. Press the **Channel** knob to access WX mode.
2. Select **ALERT**.
3. Select **EXIT** or press the **Channel** knob to return to the Home screen.

The icon indicates that WX alerts are enabled.

Disabling WX (Weather) Alerts

1. Press the **Channel** knob to access WX mode.
2. Select **ALERT**.
3. Select **EXIT** to return to the Home screen.

Automatic Transmitter Identification System (ATIS)

ATIS is a vessel identification system that can be used on certain inland waterways in certain countries throughout Europe. Your Garmin dealer can program your VHF 100i, VHF 200i, or GHS 10i to use ATIS if you plan to use your radio on waterways that are within the bounds of the Regional Arrangement Concerning the Radiotelephone Service on Inland Waterways (the Basel Agreement). The use of ATIS is prohibited outside the European inland waterways covered by the Basel Agreement.

When you enable ATIS, a data signal identifying your station is sent at the end of every transmission. Data identifying your position is not sent; however, your position is calculated through the method of triangulation by coastal stations receiving your transmissions.

To enable ATIS, enter your ATIS identification number (see below), and then turn on ATIS (see page 14). Contact your Garmin dealer to determine your ATIS identification number and to learn about ATIS requirements for your region.

Your radio disables the following functions when you enable ATIS:

- Digital Selective Calling (DSC)
- Dual watch and Tri watch
- Channel scanning

The following International channels are restricted to transmit on low-power (1 watt) when you enable ATIS: 6, 8, 10, 11, 12, 13, 14, 71, 72, 74, and 77.

Entering Your ATIS Identification Number

IMPORTANT: Use caution when entering your ATIS identification number because you can only enter it once. If you need to change your ATIS identification number after entering it, you must take the radio to your Garmin dealer for reprogramming.

1. Press the **MENU** key.
2. Select **ATIS** > **MY ATIS ID**.
3. For each number in the sequence, turn the **Channel** knob clockwise to increase the number, and counterclockwise to decrease the number.
4. Press the **Channel** knob to accept the number and move to the next number in the sequence.
5. Select **ACCEPT** when you have entered your ATIS number. The radio prompts you reenter your number.
6. Enter your ATIS ID number again, and press **ACCEPT**. If the ATIS ID numbers you entered do not match, the screen displays “ATIS ID NUMBERS DO NOT MATCH”. Select **RETRY** and enter the numbers again.

Viewing Your ATIS ID Number

1. Press the **MENU** key.
2. Select **ATIS** > **MY ATIS ID**.
3. Select **OK** to return to the previous screen, or press the **MENU** key to return to the Home screen.

Turning ATIS Functionality On and Off

1. Press the **MENU** key.
2. Select **ATIS** > **ATIS**.
3. Select **ON** or **OFF**. When ATIS is enabled, the **ATIS** icon is displayed on the screen.
4. Select **OK** to save your changes and return to the Home screen. Press the **MENU** key to return to the Home screen without saving your changes.

Digital Selective Calling (DSC)

DSC is a key component of the Global Maritime Distress and Safety System (GMDSS). DSC provides VHF radios with the ability to place and receive digital calls directly with other vessels and shore stations, including the USA and Canadian Coast Guards. Your radio includes full Class D DSC capabilities.

If you have a GPS device connected to the transceiver, your latitude and longitude and the current time are transmitted when you send a distress call or other type of DSC call. If you have manually entered your position information, your latitude, longitude, and time of entry are transmitted with the call. Having your location automatically transmitted prevents you from needing to identify your location in an emergency situation.

Channel 70 is reserved exclusively for DSC calls, and your radio uses a dedicated receiver to maintain a constant watch on Channel 70. You do not need to change the channel to make a DSC call, since your radio automatically changes to Channel 70 to transmit a DSC call. Your radio sends the DSC data over Channel 70 in less than one second, and then tunes to the appropriate channel for voice communications.

IMPORTANT: To use the DSC capabilities of your radio, you must first enter a Mobile Maritime Safety Identity (MMSI) number. An MMSI number identifies each DSC radio, like a telephone number.

IMPORTANT: The radio disables DSC if you turn on ATIS. See page 13.

The ✉ icon is displayed when you have an incoming or missed DSC call.

Entering Your MMSI Number

The Mobile Maritime Safety Identity (MMSI) number is a nine-digit code that acts as a DSC self-identification number, and is required in order to use the DSC capabilities of your radio. You can obtain an MMSI number from the telecommunications authority or ship registry for your country. In the USA, you can obtain an MMSI number from the following sources:

- Federal Communications Commission (FCC)—assignments are recognized internationally
- BoatU.S., Sea Tow, or United States Power Squadrons®—assignments are for USA waters only

After obtaining your MMSI number, you must program the number into your radio to enable DSC.

IMPORTANT: Use caution when entering your MMSI number, because you can only enter it once. If you need to change your MMSI number after entering it, you must take the radio your Garmin dealer for reprogramming.

To enter your MMSI number:

1. Press the **MENU** key.
2. Select **DSC** > **MY MMSI**.
3. For each number in the sequence, turn the **Channel** knob clockwise to increase the number, and counterclockwise to decrease the number. Press the **Channel** knob to move to the next number in the sequence. Select ← to return to a previous character.
4. Select **ACCEPT** when you have entered your MMSI number. The radio prompts you confirm your entry.
5. Enter your MMSI number again, and select **ACCEPT**. If the MMSI numbers you entered do not match, the screen displays "MMSI NUMBERS DO NOT MATCH". Select **RETRY** and repeat the process. If you do not want to enter your MMSI number at this time, select **CANCEL**.

Viewing Your MMSI Number

1. Press the **MENU** key.
2. Select **DSC** > **MY MMSI**.
3. Select **OK** to return to the previous screen, or press the **MENU** key to return to the Home screen.

DSC Distress Calls

When you make a DSC distress call, your call is transmitted to all DSC-capable radios within receiving range. Your current GPS position (latitude and longitude) and the current time are included in the transmission if you have a GPS device connected to your transceiver. If you have manually entered your position information with the time, that data is transmitted with the call. For information on manually updating your position information, see page 27.

NOTE: Familiarize yourself with the standard distress-call format and protocol to ensure that your calls are clear and effective.

Sending an Undesignated Distress Call

When you send an undesignated distress call, the nature of your emergency is not transmitted to the receiving stations. Sending an undesignated distress call is a shorter and quicker procedure that can save you time during an emergency.

1. Lift the spring-loaded door, and press and hold the **DISTRESS** key for at least three seconds. The transceiver beeps, and the screen displays "DISTRESS CALL COUNTING DOWN". The channel pane counts down the seconds from 3 to 1.

2. The radio automatically sounds an alarm, switches to Channel 70, and transmits your call on HI (25 W) power. You can press any key to turn off the alarm sound.
3. After transmitting your distress call, the radio automatically tunes to Channel 16 on HI (25 W) power. Press the **PTT** key on the microphone or handset and speak your message. The radio waits for an acknowledgement (ACK) on Channel 70 from a listening station.

Sending a Designated Distress Call

When you send a designated distress call, the nature of your emergency is transmitted to the receiving stations.

1. Lift the spring-loaded door and press the **DISTRESS** key.
2. Use the **Channel** knob to select the type of distress call:
   - UNDESIGNATED
   - FIRE
   - FLOODING
   - COLLISION
   - GROUNDING
   - CAPSIZING
   - SINKING
   - ADRIFT
   - ABANDONING
   - PIRACY
   - MAN OVERBOARD

NOTE: To exit this screen without sending a designated distress call, press the **CLEAR** key to return to the Home screen, or press the **16/9** key to tune to Channel 16.

3. Press and hold the **DISTRESS** key for at least three seconds.
4. The transceiver beeps, and the screen displays “DISTRESS CALL COUNTING DOWN”. The channel pane counts down the seconds from 3 to 1.
5. The radio automatically sounds an alarm, switches to Channel 70, and transmits your call on HI (25 W) power. You can press any key to turn off the alarm sound.
6. After transmitting your distress call, the radio automatically tunes to Channel 16 on HI (25 W) power. Press the **PTT** key on the microphone or GHS 10 handset and speak your message. The radio waits for an acknowledgement (ACK) from a listening station.

Waiting for a Distress Call Acknowledgement

If the radio does not receive a distress call acknowledgement, the radio retransmits the distress call at a random time between 3.5 and 4.5 minutes. This process is repeated continually until the radio receives an acknowledgement.

Receiving a distress call acknowledgement:

1. When the radio receives a distress call acknowledgment, the radio beeps and the screen displays “DISTRESS ACK”. Press any key to turn off the beeping.
2. Select ▾ to view additional information. If the MMSI of the station transmitting the ACK signal is an entry in your directory, the name associated with the MMSI number is indicated on the screen. If not, the screen displays the MMSI number.
3. Select **ACCEPT**.

Stopping Automatic Retransmission of Distress Calls

To stop the radio from automatically retransmitting a distress call, select **CANCEL**. The radio remains tuned to Channel 16. Selecting **CANCEL** does not communicate to other stations that you no longer have an emergency. Selecting **CANCEL** only stops the automatic repetition of the call. For information on revoking a distress call, see below.

Revoking a Distress Call

A DSC distress call is not transmitted until you press and hold the **DISTRESS** key for at least three seconds. However, if you inadvertently make a DSC distress call or are no longer in distress, it is important to cancel the call immediately by transmitting a voice message to All Stations on Channel 16.

1. Select **CANCEL** to cancel the distress alert.
2. Press the **16/9** key. The radio tunes to the Channel 16.
3. Press the **PTT** key on the microphone or handset and speak a voice message to cancel the false distress alert. The following is an example of an appropriate cancellation message:

“All Stations, All Stations, All Stations, this is _____ (vessel name), MMSI number _____, Position _____ North (or South), _____ West (or East). Cancel my distress alert of _____ (date and time). This is _____ (vessel name), MMSI number _____, Out.”

Placing Calls

Placing Individual Calls

1. Press the **DSC** key.
2. Select **INDIVIDUAL**.
3. Select from the following options to select the place from which the MMSI number is retrieved:
   - **MANUAL**—a screen is displayed that allows you to enter the MMSI number manually. Select a number and move to the next character. When you have entered the correct MMSI number, select **ACCEPT**.
   - **DIRECTORY**—the directory is displayed. Select an entry.

- **RECENT CALLS**—a screen is displayed that allows you to select from your recent calls. Select an entry.

4. After you have selected the vessel or entered the MMSI number manually, select the channel on which you want to communicate. The radio transmits this request with your call. See below for information on selecting a channel.
5. Select **CALL**.

The radio transmits the call on Channel 70 and returns to the current working channel. The radio listens for an acknowledgement on Channel 70 while staying on the working channel. After an acknowledgement is received, the radio automatically tunes to the channel you selected.

Placing Group Calls

You can contact a group of specific vessels, such as a sailing club or flotilla, by making a group call. Before placing a call to a group, ensure that the MMSI number of the group is entered into the memory. For more information on entering a group, see page 26.

1. Press the **DSC** key.
2. Select **GROUP** > **CALL**.
3. Select an entry.
4. After you have selected the group, select the channel on which you want to communicate. The radio will transmit this request with your call. See below for information on selecting a channel.
5. Select **CALL**. The radio transmits the call on Channel 70 and tunes to the channel you selected.

Selecting the Channel for Individual Calls or Group Calls

When placing an individual or group call, you can select from the following channels on which you want to communicate. The radio transmits this request with your call.

- **USA:** 6, 8 ,9 ,10 ,13 ,16, 17, 67, 68, 69, 71, 72, 73, or 77
- **Canadian and International:** All of the channels listed previously, plus Channel 15

In most cases, the selection of a DSC channel is limited to those channels that are available in all frequency bands. When selecting the channel, select **CUSTOM** to select a different channel than the ones listed above. If you select a custom channel, be aware that the station you are calling may not be able to comply with the specified channel. Ensure that you select a channel that is appropriate for communication.

Placing All-Ships Calls

All-ships calls are transmitted to all stations within receiving distance of your radio. You can make two types of all-ships calls:

- Safety calls are used to broadcast significant navigational or weather-related information.
- Urgency calls are used to communicate situations about the safety of a vessel or person when danger is not imminent. Discerning whether a situation warrants a distress call or an urgency call is the responsibility of the captain.

To place an all-ships call:

1. Press the **DSC** key.
2. Select **ALL SHIPS**.
3. Select **SAFETY** or **URGENCY** to indicate the reason for your call.
4. Select **CALL**. The radio transmits the call on Channel 70 and then automatically switches to Channel 16.

Placing Position Request Calls

Position data received from stations that respond to position request calls is sent over the NMEA network, so that you can track the vessels on your Garmin chartplotter, for example. For more information on NMEA 0183 and NMEA 2000, see page 29.

1. Press the **DSC** key.
2. Select **POS. REQUEST**.
3. Select from the following options to select the place from which the MMSI number is retrieved:
   - **MANUAL**—a screen is displayed that gives you the ability to enter the MMSI number manually. Select a number and move to the next character. When you have entered the correct MMSI number, select **ACCEPT**.
   - **DIRECTORY**—the directory is displayed. Select an entry.
4. Select **ACCEPT** when you have entered your MMSI number.
5. Select **CALL**. The radio transmits the call on Channel 70, and then switches to your current working channel. The screen displays “POS REQUEST WAITING FOR ACKNOWLEDGE”.

Receiving Calls

Receiving Distress Calls and Distress Relay Calls

The radio sends data relative to the call over the NMEA network based on how you have MMSI filtering configured. See page 30 for more information.

1. When receiving a distress call or a distress relay call, the screen displays the "DISTRESS" or "DISTR RELAY" and information about the call (for example, the MMSI number and the nature of the distress). Select ▼ to view additional information.
2. If necessary, select **OK** to tune to Channel 16. See page 28 for more information on configuring the auto channel-change setting. If you select **CANCEL**, the radio does not change channels and continues to receive on the current channel.
3. Select **OK** to return to the Home screen on the new channel.

Receiving All-Ships Urgency Calls

1. When receiving an all-ships urgency call, "ALL SHIPS" is displayed on the screen. "URGENCY" is shown as the type of call. If the channel request is for an invalid channel, "INVALID CH REQUEST" is displayed on the screen.
2. If necessary, select **OK** to switch to Channel 16. See page 28 for more information on configuring the auto channel change setting. If you select **CANCEL**, the radio does not change channels and continues to receive on the current channel.
3. Select **OK** to return to the Home screen on the new channel.

Receiving All-Ships Safety Calls

1. When receiving an all-ships safety call, "ALL SHIPS" is displayed on the screen. "SAFETY" is shown as the type of call. Select **OK** to change the channel. If you select **CANCEL**, the radio does not change channels and continues to receive on the current channel.
2. Select **OK** to return to the Home screen on the new channel.

Receiving Individual Routine Calls

1. When receiving an individual routine call, "INDIVIDUAL" is displayed on the screen. "ROUTINE" is shown as the type of call. If the channel request is for an invalid channel, "INVALID CH REQUEST" is displayed on the screen.
2. If the channel request is for a valid channel, select **OK** to change channels. If you select **CANCEL**, the radio does not change channels and continues to receive on the current channel.

Receiving Position Request Calls

You can configure your radio reply automatically to incoming position requests, to prompt you to review and approve the incoming requests before replying, or to ignore incoming requests (see page 28 for more information).

If you enable automatic position replies, the screen displays “SENDING POSITION CALLING” and sends your position when receiving a position request. After the call has been transmitted successfully, the screen displays “POSITION SENT”.

When receiving a position request, “POS. REQUEST FROM [VESSEL NAME or MMSI NUMBER]” is displayed on the screen. If GPS data is available, press OK to send the position reply. If GPS data is not available, the screen displays “NO GPS DATA. UNABLE TO COMPLY”.

Receiving Position Send Calls

When receiving a position send call (position report), “POS. SEND FROM [VESSEL NAME or MMSI NUMBER]” is displayed on the screen with the position data. Select **OK** to return to the Home screen.

Receiving Group Calls

1. When receiving a group call, “GROUP ROUTINE” is displayed on the screen. The radio prompts you to change to the requested channel. If the channel request is for an invalid channel, “INVALID CH REQUEST” is displayed on the screen.
2. Select **OK** to change the working channel.
3. Select **OK** to return to the Home screen on the new channel.

Position Tracking

When you enable position tracking, your radio uses interval position-request calls to track up to three vessels. Regulations allow transmission of one position-request call every five minutes. You can call up to three vessels that your radio will alternate calling at five-minute intervals. If a vessel does not respond to five consecutive position-request calls, the vessel is removed from the position-tracking list.

The following timetable shows the polling sequence when you have three vessels in the position-tracking list. The radio continues to send position-request calls until you stop position tracking by selecting **EXIT**.

Time	0 minutes	5 minutes	10 minutes	15 minutes	20 minutes
Vessel Polled	Ship 1	Ship 2	Ship 3	Ship 1	Ship 2

Position data received from stations that respond to position-request calls is sent over the NMEA network, so that you can track the vessels using your Garmin chartplotter. For more information on NMEA 0183 and NMEA 2000, see page 29.

Selecting the Vessels and Activating the Call

1. Press the **DSC** key.
2. Select **POS. TRACKING** > **ADD ENTRY**. You can have no more than three vessels on the position tracking list at one time. If you select **ADD ENTRY** and the radio sounds a triple error beep, you must delete an entry before adding another.
3. Select the vessels from the directory.
4. Select **BEGIN TRACKING**. The icon is displayed to indicate that position tracking is in progress.
5. Select **EXIT** to stop position tracking.

Viewing and Deactivating Vessels on the Position Tracking List

1. Press the **DSC** key.
2. Select **POS. TRACKING**.
3. To view the vessels on the list, select **VESSELS**.
4. To configure the radio to keep a vessel on the list, but to not call that vessel for position tracking information, select the vessel.
5. Select **OFF**.

Deleting a Vessel from the Position Tracking List

1. Press the **DSC** key.
2. Select **POS. TRACKING** > **DELETE**.
3. Select the vessel.
4. Select **YES** to delete the vessel from the list. Select **NO** to return to the previous screen without deleting.

Working with the Call Logs

For every DSC call that your radio receives, the calling station, type of call, and date and time of the call are recorded in the call logs. The latitude and longitude of the calling station are also recorded if they are transmitted with a call.

There are three categories for calls that are logged: distress, position, and other. The following table indicates where each type of call is located in the call logs.

Call Type	Call Log
Distress	Distress
Distress relay	Distress

Call Type	Call Log
Distress ACK	Distress
Position send	Position
Position request	Position
Group	Other
All Ships	Other
Individual	Other

If you have entered the calling station in your directory, the name of the station is displayed in the list of calls. If not, the MMSI number is displayed. A symbol indicating the station type may be displayed to the left of the station name or MMSI number. The following table indicates the meaning of these symbols and the MMSI number format for different station types.

Symbol	Meaning	MMSI Number Format
	Ship station	xxxxxxxxx
	Group call	0xxxxxxxx
	Coastal station	00xxxxxxx

Viewing the Calls Stored in the Call Logs

1. Press the **DSC** key.
2. Select **CALL LOG** > **DISTRESS LOG**, **POSITION LOG**, or **OTHER LOG**.
3. Select the call. Information about the call is displayed on the screen. Select ▼ to scroll and view all of the information.

Placing a Call from a Call Log

All calls placed from the call log are individual routine calls.

1. Press the **DSC** key.
2. Select **CALL LOG** > **DISTRESS LOG**, **POSITION LOG**, or **OTHER LOG**.
3. Select the MMSI number or the station name.
4. Select **CALL**. The screen indicates individual routine as the call type.
5. Select the channel on which you want to communicate. The radio transmits this request with your call. See page 19 for information on selecting a channel.
6. Select **CALL**.

Saving a Vessel to the Directory from a Call Log

1. Press the **DSC** key.
2. Select **CALL LOG** > **DISTRESS LOG**, **POSITION LOG**, or **OTHER LOG**.
3. Select the MMSI number. Select a station name if you want to edit the name in the directory.
4. Select **SAVE**.
5. To edit the name, turn the **Channel** knob to change the character. Press the **Channel** knob to select the character and move to the next character in the name. Select ⇦ to return to a previous character. You can enter up to 10 characters.
6. Select **ACCEPT** to save your changes. Select **CANCEL** to exit the edit screen without saving your changes.

Deleting a Call Log Entry

1. Press the **DSC** key.
2. Use the **Channel** knob to select **CALL LOG** > **POSITION LOG**, **DISTRESS LOG**, or **OTHER LOG**.
3. Use the **Channel** knob to select the MMSI number or station.
4. Select ⋮.
5. Select **DELETE**.
6. Select **YES** to delete the call. Select **NO** to cancel this action and return to the previous screen.

Using the Directory

Viewing the Directory

1. Press the **DSC** key.
2. Select **DIRECTORY**.
3. Select a station name in your directory.
4. Press the **CLEAR** key to return to the previous screen. Press the **MENU** key to return to the Home screen.

Adding an Individual Entry to the Directory

1. Press the **DSC** key.
2. Select **DIRECTORY** > **ADD ENTRY**.
3. Enter the MMSI number.
4. Enter a name. You can enter up to 10 characters.
5. Select **ACCEPT** to save your changes to the directory. Select **BACK** to return to the previous screen without saving your changes. Press the **MENU** key at any time to return to the Home screen.

Editing an Individual Entry in the Directory

1. Press the **DSC** key.
2. Select **DIRECTORY** > **EDIT ENTRY**.
3. Select an entry in the directory.
4. Change the characters in the MMSI field or the Name field.
5. Select **ACCEPT** to save your changes to the directory. Select **BACK** to return to the previous screen without saving your changes. Press the **MENU** key to return to the Home screen.

Deleting an Individual Entry from the Directory

1. Press the **DSC** key.
2. Select **DIRECTORY** > **DELETE**.
3. Select the entry to delete.
4. Select **YES** to delete the entry. Select **NO** to quit the action and return to the directory list. Press the **CLEAR** key at any time to return to the previous screen without saving your changes. Press the **MENU** key to return to the Home screen.

Adding and Modifying Group Entries

Adding a Group

1. Press the **DSC** key.
2. Select **GROUP** > **ADD ENTRY**.
3. Enter the MMSI number.

4. Enter a name.
5. Select **ACCEPT** to save your changes. Select **CANCEL** to return to the previous screen without saving the changes. Press the **MENU** key to return to the Home screen.

Editing a Group

1. Press the **DSC** key.
2. Select **GROUP** > **EDIT ENTRY**.
3. Change the characters in the MMSI field or the Name field.
4. Select **ACCEPT** to save your changes. Select **CANCEL** to return to the previous screen without saving the changes. Press the **MENU** key to return to the Home screen.

Deleting a Group

1. Select the **DSC** key.
2. Select **GROUP** > **DELETE**.
3. Select **YES** to delete the entry. Select **NO** to quit the action and return to the previous screen.

Configuring DSC Settings

Manually Entering Position Information

If you do not have a GPS device connected to your radio, manually enter your position and time of entry so that this information will be transmitted with DSC calls. When you enter the position and time manually, "MANUAL POS" is displayed on the screen.

Your radio has two alarms to indicate that you need to update your position data:

- When the position data you entered manually is over four hours old, the radio beeps and displays "DATA IS OVER 4 HOURS OLD" on the screen.
- After 23.5 hours, manually-entered position data is considered invalid. The radio displays "DATA IS INVALID" on the screen. The radio will not transmit position data that is more than 23.5 hours old.

See page 35 for more information on GPS alarms.

When you manually enter your position with the time, the time remains fixed at the value you specify. The radio updates the time only if you connect a GPS device to the radio.

To enter position information:

1. Press the **MENU** key.
2. Select **SYSTEM** > **MANUAL GPS**.
3. For each number in the sequence, turn the Channel knob clockwise to increase the number, and counterclockwise to decrease the number. When entering a direction character, rotate the channel knob to switch between N or S and E or W.

Configuring the Automatic Channel Change Setting

This setting determines whether the radio automatically tunes to Channel 16 when receiving the following types of calls:

- Distress
- Distress relay
- All-ships urgency

Under certain conditions, you may want to disable automatic channel changing, such as when you need to continually monitor a channel to maintain uninterrupted communication with another vessel. When disabled, the ⃠ icon is displayed on the screen.

1. Press the **MENU** key.
2. Select **DSC** > **AUTO CHANGE CH**.
3. Select from the following options:
   - **ON**—when a qualifying call is received, the radio automatically turns the channel to Channel 16.
   - **OFF**—when a qualifying call is received, a message is displayed that prompts you to accept or decline the changing of channels.
4. Press the **MENU** key to return to the Home screen.

Configuring the Automatic Position Reply Setting

You can configure the way your radio responds to incoming position requests.

1. Press the **MENU** key.
2. Select **DSC** > **POSITION REPLY**.
3. Select from the following options:
   - **AUTO**—the radio automatically and immediately sends position information to all position inquiries.
   - **MANUAL**—the radio sends position information only after you review and approve the request.
   - **OFF**—the radio does not send position information or notify you when a position inquiry has been received.
4. Press the **MENU** key to return to the Home screen.

Advanced Operation

NMEA 0183 and NMEA 2000

When you connect your radio to a NMEA 0183 network or a NMEA 2000 network (VHF 200/200i only), the following data can be transferred:

- The radio can transfer received DSC distress and position information to any compatible chartplotter.
- The radio can receive GPS position. GPS position can be displayed on the Home screen and is transmitted with DSC calls. The icon is displayed when GPS data is available, and blinks when GPS data is not present. When GPS data is not present, the radio will signal for you to enter your position manually every four hours.

For supported NMEA 0183 sentences and NMEA 2000 PGNs, see page 48. For more information on connecting your radio to a NMEA network, see the *VHF 100/200 Series Installation Instructions*.

Additional Functionality with Other Garmin Devices

Your VHF 100/200 series radio has additional capabilities when connected with other Garmin devices.

NOTE: Your Garmin chartplotter may require a free software upgrade to use the functionality listed in this section.

- When you connect your radio to a Garmin chartplotter using NMEA 0183 or NMEA 2000, your chartplotter can keep track of the current and previous positions of the contacts in the radio directory.

TIP: Try using position tracking on up to three contacts to automate this process.

- When your VHF 200 or VHF 200i is connected to a NMEA 2000 network with another Garmin chartplotter, you can use the chartplotter interface to set up an individual routine call.
- As an additional safety measure, when your VHF 200 or VHF 200i is connected to a NMEA 2000 network and you initiate a man-overboard distress call from your radio, your Garmin chartplotter will display the man-overboard screen and prompt you to navigate to the man-overboard point. If you have a Garmin autopilot system connected to the network, it will prompt you to start a Williamson's turn to the man-overboard point.

Selecting NMEA 0183 or NMEA 2000

Because only the VHF 200, VHF 200i, GHS 10, and GHS 10i are NMEA 2000-compatible, this setting is only available on those units. This setting indicates whether you are connected to a NMEA 0183 or NMEA 2000 network. The radio can only communicate over one network type at a time.

1. Press the **MENU** key.
2. Select **COMMUNICATIONS** > **PROTOCOL**.
3. Select **NMEA2000** or **NMEA0183**.

MMSI (Vessel) Filtering over a NMEA Network

Your radio can send call-related data over NMEA 0183 or NMEA 2000 when it receives distress calls, acknowledgements to position request calls, and other position-send calls. You can filter the MMSI numbers (vessels) for which your radio sends this data in three ways: any MMSI number (all vessels), no MMSI numbers (no vessels), or select MMSI numbers (vessels selected from your directory).

When you configure the radio to send data for select vessels, and you receive an acknowledgement to a position request call or other position-send call from an MMSI number not in your directory, your radio does not send NMEA data for that call. Distress call information will still be sent. For more information about NMEA output from your radio, see page 48.

Configuring MMSI Filtering for Select Vessels

1. Press the **MENU** key.
2. Select **COMMUNICATIONS** > **DSC OUTPUT** > **SELECT VESSELS**. You can also select **ALL VESSELS** to send data when you receive a call from any MMSI number, or select **NO VESSELS** to not send data for any MMSI number.
3. Select the vessel in your directory.
4. Select from the following options:
   - **ON**—the radio will send call-related data over your NMEA network when you receive a distress call, an acknowledgement to a position request call or other position send call from this vessel.
   - **OFF**—the radio will not send data for this vessel. Distress call information will still be sent.

Modifying the Operating Settings

Modifying the Backlight and Contrast Settings

1. Press the **MENU** key.
2. Select **SYSTEM** > **DISPLAY** > **BACKLIGHT** or **CONTRAST**.

3. Turn the **Channel** knob to adjust the backlight or contrast. “MAX” represents the maximum setting, and the number 1 represents the minimum setting.
4. Select **CANCEL** to disregard your changes and return to the previous screen. Select **OK** to save your changes and return to the Home screen.

Modifying the Beeper Setting

You can change the volume of the beeper tone that sounds when you press keys or the **Channel** knob, or you can turn the beeper tone off.

1. Press the **MENU** key.
2. Select **SYSTEM** > **BEEPER**.
3. Select from the following options:
   - **OFF**—the radio does not beep when you press keys, or when you press the **Channel** knob.
   - **QUIET** or **LOUD**—set the beeper volume level.

Turning the Auto Power-On Setting On or Off

1. Press the **MENU** key.
2. Select **SYSTEM** > **AUTO POWER-ON**.
3. Select **ON** or **OFF**.

Configuring Whether Latitude and Longitude are Displayed on the Home Screen

You can display the latitude and longitude on the home screen if you have a GPS device connected to your radio, or if you enter position data manually.

1. Press the **MENU** key.
2. Select **SYSTEM** > **NUMBERS** > **LAT/LONG**.
3. Select from the following options:
   - **AUTO**—latitude and longitude information is displayed on the Home screen.
   - **HIDE**—latitude and longitude information is not displayed on the Home screen.

Configuring Course Over Ground/Speed Over Ground (COG/SOG) Information Displayed on the Home Screen

You can display COG and SOG on the home screen if you have a GPS device connected to your radio.

1. Press the **MENU** key.
2. Select **SYSTEM** > **NUMBERS** > **COG/SOG**.

3. Select from the following options:
   - **AUTO**—COG/SOG information is displayed on the Home screen.
   - **HIDE**—COG/SOG information is not displayed on the Home screen.

Configuring Whether the Time is Displayed on the Home Screen

You can configure whether the time is displayed on the Home screen. The radio updates the time only if you connect a GPS device to the radio. When you manually enter your position with the time, the time remains fixed at the value you specify. This time of entry is always displayed on the Home screen, even if you hide the time.

1. Press the **MENU** key.
2. Select **SYSTEM** > **NUMBERS** > **TIME**.
3. Select from the following options:
   - **AUTO**—time information is displayed on the Home screen.
   - **HIDE**—time information is not displayed on the Home screen.

Configuring the Time Format

1. Press the **MENU** key.
2. Select **SYSTEM** > **UNITS** > **TIME** > **FORMAT**.
3. Select **12 Hour**, **24 Hour**, or **UTC**.

Configuring the Time Offset

If you prefer to have your unit display the time in local time rather than Universal Coordinated Time (UTC), you need to indicate the local time offset from UTC time. When you make an adjustment for local time, "LOC" is displayed after the time instead of "UTC" on the Home screen.

NOTE: The time sent when you make a DSC call is always sent in UTC format.

To configure the UTC offset:

1. Press the **MENU** key.
2. Select **SYSTEM** > **UNITS** > **TIME** > **OFFSET**.
3. Turn the **Channel** knob to enter an offset number in increments of 0.5 hours. You can set the offset to a maximum of +/- 13 hours.
4. Select from the following options:
   - **OK**—save your changes and return to the previous screen.
   - **CANCEL**—remove your changes.

Modifying the Speed Unit of Measurement

You can adjust the unit of measure that is displayed for the speed calculation throughout the radio. The Speed Over Ground (SOG) on the Home screen will be displayed in the measurement you select here.

1. Press the **MENU** key.
2. Select **SYSTEM** > **UNITS** > **SPEED**.
3. Select from the following options:
   - **KNOTS**—change the unit of measure to knots.
   - **MPH**—change the unit of measure to miles per hour.
   - **KPH**—change the unit of measure to kilometers per hour.

Modifying the Heading Display

You can modify the heading to display either true or magnetic calculations. This heading measurement is displayed throughout the radio including Course Over Ground (COG) on the Home screen.

1. Press the **MENU** key.
2. Select **SYSTEM** > **UNITS** > **HEADING**.
3. Select from the following options:
   - **TRUE**—change the calculation to reflect true north.
   - **MAGNETIC**—change the calculation to reflect magnetic north.

NOTE: If your radio is configured for NMEA 2000 communication, you cannot select **TRUE** or **MAGNETIC**. Your radio displays **AUTO** as the setting and displays heading data based on the information provided over the network.

Selecting the Frequency Band

You can switch between the USA, International, or Canadian frequency bands. For a list of channels available in each frequency band, see pages 36–43.

NOTE: The USA and Canadian frequency bands are not available on the VHF 100i.

1. Press the **MENU** key.
2. Select **MENU** > **CHANNEL** > **FREQUENCY BAND**.
3. Use the **Channel** knob to select **USA**, **INTERNATIONAL**, or **CANADA**.

Changing the Language

For the VHF 200, VHF 200i, GHS 10, and GHS 10i, you can configure whether the text on the screen is displayed in English, French, Italian, German, or Spanish.

1. Press the **MENU** key.

2. Select **LANGUAGE**.
3. Select the system language.

Changing the Channel Names

Channel names are displayed on the Home screen using nine characters. If the name is longer than nine characters, the full name scrolls across the top of the screen and then switches to the short name. You can change the nine-character name of the channel to reflect a local meaning.

1. Press the **MENU** key.
2. Select **CHANNEL** > **NAME**.
3. Select the channel you want to edit.
4. To edit the default name, turn the **Channel** knob to change the character. Press the **Channel** knob to select the character and move to the next character in the word. You can enter a maximum of nine characters for a channel name.
5. Select any of the following options to perform various functions:
   - Press ⇦ to return to a previous character.
   - **CANCEL**—return to the previous screen without saving your changes.
6. When you have completed renaming the channel, select **ACCEPT**.

Restoring Factory Settings

You can restore the radio to utilize the factory default settings. When you perform this action, any changes you have made to the radio settings are lost, and the call logs are deleted. Group entries, the directory, the MMSI number, and the ATIS ID are retained.

1. Press the **MENU** key.
2. Select **SYSTEM** > **SYSTEM INFO**.
3. Select **RESET**.
4. Select from the following options:
   - **YES**—restart the radio and restore it to the original factory default settings.
   - **NO**—return to the previous screen.

Testing the System Operation

1. Press the **MENU** key.
2. Select **SYSTEM** > **SYSTEM INFO**.
3. Select **TEST**. A list of test items is displayed.
4. If necessary, use the arrow keys to scroll through the information.

Appendix

Alarms and Messages

The radio may generate the following alarms or system messages.

Battery Alarm

If the radio detects a voltage greater than 15.8 Vdc or less than 10 Vdc, “HIGH VOLTAGE” or “LOW VOLTAGE” is displayed on the screen. Check the wiring if any of these conditions occur.

Main in Use

When the primary VHF 200 or VHF 200i unit is being used, “MAIN IN USE” is displayed on the screen of all remote GHS 10 or GHS 10i handsets. The screen returns to normal three seconds after the last input on the primary station.

Remote handset stations cannot interrupt the primary radio unit. However, remote handset stations can interrupt the operation of other handset stations.

WX (Weather Alert)

If you set the WX alarm and an incoming weather alert is detected, the radio automatically tunes to the WX channel that is broadcasting the alert. See page 12 for more information on weather alerts.

GPS Data Alarm

When GPS data from a NMEA network or position data you entered manually is over four hours old, the alarm tone beeps and “DATA IS OVER 4 HOURS OLD” is displayed on the screen.

- Select **IGNORE** to disregard the alarm and to turn off the alarm beeping. When you take no action after three minutes, **IGNORE** is selected automatically.
- Select **SET** to enter a new position. See page 27 for more information on manually entering position data.

Invalid GPS Data Alarm

When GPS data from a NMEA network or position data you entered manually is over 23.5 hours old, “DATA IS INVALID” is displayed on the screen. The radio will not transmit position data that is more than 23.5 hours old.

- Select **IGNORE** to discard the old position data. The screen displays “NO GPS INFO” on the Home screen. When you take no action after three minutes, **IGNORE** is selected automatically.

- Select **SET** to enter a new position. See page 27 for more information on manually entering position data.

Position Tracking

After five consecutive failed attempts to request position information from a vessel, "NO POS FOR [VESSEL NAME]" is displayed on the screen.

- Select **RETRY** to reattempt the position request.
- Select **REMOVE** to discontinue calling the vessel. When you take no action after three minutes, **REMOVE** is selected automatically.

Channel Lists

The USA, Canadian, and International channel lists provided in this Appendix are for reference only. It is the responsibility of the radio operator to ensure that channels are used correctly according to local regulations.

USA Channels

For the latest information on USA channels, visit www.navcen.uscg.gov/marcomms/vhf.htm. Also visit the Federal Communications Commission's Marine VHF Radio Channels page at http://wireless.fcc.gov/services/index.htm?job=service_bandplan&id=ship_stations. The FCC page does not include frequency information, but has more complete information on the use of the channels.

IMPORTANT: Boaters primarily should use channels listed as non-commercial. Use Channel 16 to call other stations or for distress alerting. Use Channel 13 to contact a ship when there is danger of collision. All ships of length 20 m or greater are required to guard VHF Channel 13, in addition to VHF Channel 16, when operating within USA territorial waters. Users may be fined by the FCC for improper use of these channels.

Channel Number	Transmission MHz	Receiving MHz	User
01A	156.050	156.050	Port operations and commercial, VTS. Available only in the New Orleans and lower Mississippi areas.
03A	156.150	156.150	GOVERNMENT ONLY
05A	156.250	156.250	Port operations or VTS in the Houston, New Orleans, and Seattle areas.
6	156.300	156.300	Intership safety
07A	156.350	156.350	Commercial
8	156.400	156.400	Commercial (Intership only)
9	156.450	156.450	Boater Calling. Commercial and non-commercial.
10	156.500	156.500	Commercial

Channel Number	Transmission MHz	Receiving MHz	User
11	156.550	156.550	Commercial. VTS in selected areas.
12	156.600	156.600	Port operations. VTS in selected areas.
13	156.650	156.650	Intership navigation safety (bridge-to-bridge). Ships greater than 20 meters in length maintain a listening watch on this channel in US waters.
14	156.700	156.700	Port operations. VTS in selected areas.
15	--	156.750	Environmental (receive only). Used by Class C Emergency Position Indicating Radio Beacons (EPIRBs).
16	156.800	156.800	International distress, safety, and calling. Ships required to carry radio, USCG, and most coast stations maintain a listening watch on this channel.
17	156.850	156.850	State control
18A	156.900	156.900	Commercial
19A	156.950	156.950	Commercial
20	157.000	161.600	Port operations (duplex)
20A	157.000	157.000	Port operations
21A	157.050	157.050	USA Coast Guard only
22A	157.100	157.100	Coast Guard Liaison and Maritime Safety Information Broadcasts. Broadcasts are announced on Channel 16.
23A	157.150	157.150	USA Coast Guard only
24	157.200	161.800	Public correspondence (Marine Operator)
25	157.250	161.850	Public correspondence (Marine Operator)
26	157.300	161.900	Public correspondence (Marine Operator)
27	157.350	161.950	Public correspondence (Marine Operator)
28	157.400	162.000	Public correspondence (Marine Operator)
61A	156.075	156.075	Government only
63A	156.175	156.175	Port operations and commercial, VTS. Available only in the New Orleans and lower Mississippi areas.
64A	156.225	156.225	Coast Guard only
65A	156.275	156.275	Port operations
66A	156.325	156.325	Port operations
67	156.375	156.375	Commercial. Used for Bridge-to-bridge communications in lower Mississippi River. Intership only.
68	156.425	156.425	Non-Commercial
69	156.475	156.475	Non-Commercial

Channel Number	Transmission MHz	Receiving MHz	User
70	156.525	156.525	Digital Selective Calling (voice communications not allowed)
71	156.575	156.575	Non-Commercial
72	156.625	156.625	Non-Commercial (Intership only)
73	156.675	156.675	Port Operations
74	156.725	156.725	Port Operations
77	156.875	156.875	Port Operations (Intership only)
78A	156.925	156.925	Non-Commercial
79A	156.975	156.975	Commercial. Non-Commercial in the Great Lakes only.
80A	157.025	157.025	Commercial. Non-Commercial in the Great Lakes only.
81A	157.075	157.075	USA Government only. Environmental protection operations.
82A	157.125	157.125	USA Government only
83A	157.175	157.175	USA Coast Guard only
84	157.225	161.825	Public Correspondence (Marine Operator)
85	157.275	161.875	Public Correspondence (Marine Operator)
86	157.325	161.925	Public Correspondence (Marine Operator)
87	157.375	161.975	Public Correspondence (Marine Operator)
88	157.425	162.025	Public Correspondence only near Canadian border.
88A	157.425	157.425	Commercial, Intership only

The letter “A” indicates simplex use of the ship station transmit side of an international duplex channel, and that operations are different than international operations on that channel. “A” channels are generally only used in the USA, and use is normally not recognized or allowed outside the USA.

The letter “B” indicates simplex use of the coast station transmit side of an international duplex channel. The USA does not currently use “B” channels for simplex communications in this band.

WX (Weather) Channels

Channel	Frequency (MHz)
WX1	162.55
WX2	162.4
WX3	162.475
WX4	162.425

Channel	Frequency (MHz)
WX5	162.45
WX6	162.5
WX7	162.525

Canadian Channels

Channel Number	Transmission MHz	Receiving MHz	Area of Operation	User
01	156.050	160.650	PC	Public correspondence
02	156.100	160.700	PC	Public correspondence
03	156.150	160.750	PC	Public correspondence
04A	156.200	156.200	PC	Intership, Ship/Shore, and Safety: Canadian Coast Guard search and rescue
04A	156.200	156.200	EC	Intership, Ship/Shore, and Commercial: Commercial fishing only.
05A	156.250	156.250		Ship Movement
06	156.300	156.300	All areas	Intership, Commercial, Non-commercial, and Safety: May be used for search and rescue communications between ships and aircraft.
07A	156.350	156.350	All areas	Intership, Ship/Shore, and Commercial
08	156.400	156.400	WC, EC	Intership, Commercial, and Safety: Also assigned for operations in the Lake Winnipeg area.
09	156.450	156.450	AC	Intership, Ship/Shore, Commercial, Non-commercial, and Ship Movement: May be used to communicate with aircraft and helicopters in predominantly maritime support operations.
10	156.500	156.500	AC, GL	Intership, Ship/Shore, Commercial, Non-commercial, Safety, and Ship Movement: May also be used for communications with aircraft engaged in coordinated search and rescue and antipollution operations.
11	156.550	156.550	PC, AC, GL	Intership, Ship/Shore, Commercial, Non-commercial, and Ship Movement: Also used for pilotage purposes.
12	156.600	156.600	WC, AC, GL	Intership, Ship/Shore, Commercial, Non-commercial, and Ship Movement: Port operations and pilot information and messages.

Channel Number	Transmission MHz	Receiving MHz	Area of Operation	User
13	156.650	156.650	All areas	Intership, Commercial, Non-commercial, and Ship Movement: Exclusively for bridge-to-bridge navigational traffic. Limited to 1 watt maximum power.
14	156.700	156.700	AC, GL	Intership, Ship/Shore, Commercial, Non-commercial, and Ship Movement: Port operations and pilot information and messages.
15	156.750	156.750	All areas	Intership, Ship/Shore, Commercial, Non-commercial, and Ship Movement: All operations limited to 1 watt maximum power. May also be used for on-board communications.
16	156.800	156.800	All areas	International Distress, Safety, and Calling
17	156.850	156.850	All areas	Intership, Ship/Shore, Commercial, Non-commercial, and Ship Movement: All operations limited to 1 watt maximum power. May also be used for on-board communications.
18A	156.900	156.900	All areas	Intership, Ship/Shore, and Commercial: Towing on the Pacific Coast.
19A	156.950	156.950	All areas except PC	Intership and Ship/Shore: Canadian Coast Guard only.
19A	156.950	156.950	PC	Intership and Ship/Shore: various Government departments.
20	157.000	161.600	All areas	Ship/Shore, Safety, and Ship Movement: Port operations only with 1 watt maximum power.
21A	157.050	157.050	All areas	Intership and Ship/Shore: Canadian Coast Guard only.
21B	-	161.650	All areas	Safety: Continuous Marine Broadcast (CMB) service.
22A	157.100	157.100	All areas	Intership, Ship/Shore, Commercial, and Non-commercial: For communications between Canadian Coast Guard and non-Canadian Coast Guard stations only.
23	157.150	161.750	PC	Ship/Shore and Public Correspondence: Also in the inland waters of British Columbia and the Yukon.
24	157.200	161.800	All areas	Ship/Shore and Public Correspondence

Channel Number	Transmission MHz	Receiving MHz	Area of Operation	User
25	157.250	161.850	PC	Ship/Shore and Public Correspondence: Also assigned for operations in the Lake Winnipeg area.
25B	-	161.850	AC	Safety: Continuous Marine Broadcast (CMB) service.
26	157.300	161.900	All areas	Ship/Shore, Safety, and Public Correspondence
27	157.350	161.950	AC, GL, PC	Ship/Shore and Public Correspondence
28	157.400	162.000	PC	Ship/Shore, Safety, and Public Correspondence
28B	-	162.000	AC	Safety: Continuous Marine Broadcast (CMB) service.
60	156.025	160.625	PC	Ship/Shore and Public Correspondence
61A	156.075	156.075	PC	Intership and Ship/Shore: Canadian Coast Guard only.
61A	156.075	156.075	EC	Intership, Ship/Shore, and Commercial: Commercial fishing only.
62A	156.125	156.125	PC	Intership and Ship/Shore: Canadian Coast Guard only.
62A	156.125	156.125	EC	Intership, Ship/Shore, and Commercial: Commercial fishing only.
64	156.225	160.825	PC	Ship/Shore and Public Correspondence
64A	156.225	156.225	EC	Intership, Ship/Shore, and Commercial: Commercial fishing only.
65A	156.275	156.275		Intership, Ship/Shore, Commercial, Non-commercial, and Safety: Search and rescue and antipollution operations on the Great Lakes. Towing on the Pacific Coast. Port operations only in the St. Lawrence River areas with 1 watt maximum power. Pleasure craft in the inland waters of Alberta, Saskatchewan and Manitoba (excluding Lake Winnipeg and the Red River).
66A	156.325	156.325		Intership, Ship/Shore, Commercial, Non-commercial, Safety, and Ship Movement: Port operations only in the St. Lawrence River/Great Lakes Areas with 1 watt maximum power.
67	156.375	156.375	EC	Intership, Ship/Shore, and Commercial: Commercial fishing only.

Channel Number	Transmission MHz	Receiving MHz	Area of Operation	User
67	156.375	156.375	All areas except EC	Intership, Ship/Shore, Commercial, Non-commercial, and Safety: May also be used for communications with aircraft engaged in coordinated search and rescue and antipollution operations.
68	156.425	156.425	All areas	Intership, Ship/Shore, and Non-commercial: For marinas and yacht clubs.
69	156.475	156.475	All areas except EC	Intership, Ship/Shore, Commercial and Non-commercial
69	156.475	156.475	EC	Intership, Ship/Shore, and Commercial: Commercial fishing only.
71	156.575	156.575	PC	Intership, Ship/Shore, Commercial, Non-commercial, Safety, and Ship Movement
71	156.575	156.575		Intership, Ship/Shore, and Non-commercial: For marinas and yacht clubs on the East Coast and on Lake Winnipeg.
72	156.625	156.625	EC, PC	Intership, Commercial, and Non-commercial: May be used to communicate with aircraft and helicopters in predominantly maritime support operations. For marinas and yacht clubs on the East Coast and on Lake Winnipeg.
73	156.675	156.675	EC	Intership, Ship/Shore, and Commercial: Commercial fishing only
73	156.675	156.675	All areas except EC	Intership, Ship/Shore, Commercial, Non-commercial, and Safety: May also be used for communications with aircraft engaged in coordinated search and rescue and antipollution operations.
74	156.725	156.725	EC, PC	Intership, Ship/Shore, Commercial, Non-commercial, and Ship Movement.
77	156.875	156.875		Intership, Ship/Shore, Safety, and Ship Movement: Pilotage on Pacific Coast. Port operations only in the St. Lawrence River/ Great Lakes areas with 1 watt maximum power.
78A	156.925	156.925	EC, PC	Intership, Ship/Shore and Commercial
79A	156.975	156.975	EC, PC	Intership, Ship/Shore and Commercial
80A	157.025	157.025	EC, PC	Intership, Ship/Shore and Commercial
81A	157.075	157.075		Intership and Ship/Shore: Canadian Coast Guard use only in the St. Lawrence River/ Great Lakes areas.

Channel Number	Transmission MHz	Receiving MHz	Area of Operation	User
81A	157.075	157.075	PC	Intership, Ship/Shore, and Safety: Canadian Coast Guard antipollution.
82A	157.125	157.125	PC	Intership, Ship/Shore, and Safety: Canadian Coast Guard use only.
82A	157.125	157.125		Intership and Ship/Shore: Canadian Coast Guard use only in the St. Lawrence River/ Great Lakes areas.
83	157.175	161.775	PC	Ship/Shore and Safety: Canadian Coast Guard use only.
83A	157.175	157.175	EC	Intership and Ship/Shore: Canadian Coast Guard and other Government agencies.
83B	-	161.775	AC, GL	Safety: Continuous Marine Broadcast (CMB) Service.
84	157.225	161.825	PC	Ship/Shore and Public Correspondence
85	157.275	161.875	AC, GL, NL	Ship/Shore and Public Correspondence
86	157.325	161.925	PC	Ship/Shore and Public Correspondence
87	157.375	161.975	AC, GL, NL	Ship/Shore and Public Correspondence
88	157.425	162.025	AC, GL, NL	Ship/Shore and Public Correspondence

Key	
PC: Pacific Coast EC (East Coast): includes NL, AC, GL and Eastern Arctic areas WC (West Coast): Pacific Coast, Western Arctic and Athabasca-Mackenzie Watershed areas	NL: Newfoundland and Labrador AC: Atlantic Coast, Gulf, and St. Lawrence River up to and including Montreal GL: Great Lakes (including St. Lawrence above Montreal) All areas: includes East and West Coast areas

International Channels

Channel Number	Transmission MHz	Receiving MHz	User
01	156.050	160.650	Public Correspondence, Port Operations, and Ship Movement
02	156.100	160.700	Public Correspondence, Port Operations, and Ship Movement
03	156.150	160.750	Public Correspondence, Port Operations, and Ship Movement
04	156.200	160.800	Public Correspondence, Port Operations, and Ship Movement
05	156.250	160.850	Public Correspondence, Port Operations, and Ship Movement
06	156.300	156.300	Intership

Channel Number	Transmission MHz	Receiving MHz	User
07	156.350	160.950	Public Correspondence, Port Operations, and Ship Movement
08	156.400	156.400	Intership
09	156.450	156.450	Intership, Port Operations, and Ship Movement
10	156.500	156.500	Intership, Port Operations, and Ship Movement
11	156.550	156.550	Port Operations and Ship Movement
12	156.600	156.600	Port Operations and Ship Movement
13	156.650	156.650	Intership Safety, Port Operations, and Ship Movement
14	156.700	156.700	Port Operations and Ship Movement
15	156.750	156.750	Intership and On-board Communications at 1 watt only
16	156.800	156.800	Distress, Safety, and Calling
17	156.850	156.850	Intership and On-board Communications at 1 watt only
18	156.900	161.500	Public Correspondence, Port Operations, and Ship Movement
19	156.950	161.550	Public Correspondence, Port Operations, and Ship Movement
20	157.000	161.600	Public Correspondence, Port Operations, and Ship Movement
21	157.050	161.650	Public Correspondence, Port Operations, and Ship Movement
22	157.100	161.700	Public Correspondence, Port Operations, and Ship Movement
23	157.150	161.750	Public Correspondence, Port Operations, and Ship Movement
24	157.200	161.800	Public Correspondence, Port Operations, and Ship Movement
25	157.250	161.850	Public Correspondence, Port Operations, and Ship Movement
26	157.300	161.900	Public Correspondence, Port Operations, and Ship Movement
27	157.350	161.950	Public Correspondence, Port Operations, and Ship Movement
28	157.400	162.000	Public Correspondence, Port Operations, and Ship Movement
60	156.025	160.625	Public Correspondence, Port Operations, and Ship Movement
61	156.075	160.675	Public Correspondence, Port Operations, and Ship Movement

Channel Number	Transmission MHz	Receiving MHz	User
62	156.125	160.725	Public Correspondence, Port Operations, and Ship Movement
63	156.175	160.775	Public Correspondence, Port Operations, and Ship Movement
64	156.225	160.825	Public Correspondence, Port Operations, and Ship Movement
65	156.275	160.875	Public Correspondence, Port Operations, and Ship Movement
66	156.325	160.925	Public Correspondence, Port Operations, and Ship Movement
67	156.375	156.375	Intership, Port Operations, and Ship Movement
68	156.425	156.425	Port Operations and Ship Movement
69	156.475	156.475	Intership, Port Operations, and Ship Movement
70	-	-	Reserved for DSC
71	156.575	156.575	Port Operations and Ship Movement
72	156.625	156.625	Intership
73	156.675	156.675	Intership
74	156.725	156.725	Port operations and Ship movement
75	156.775	156.775	Port operations and Ship movement
76	156.825	156.825	Port operations and Ship movement
77	156.875	156.875	Intership
78	156.925	161.525	Public correspondence, Port Operations, and Ship Movement
79	156.975	161.575	Public correspondence, Port Operations, and Ship Movement
80	157.025	161.625	Public correspondence, Port Operations, and Ship Movement
81	157.075	161.675	Public correspondence, Port Operations, and Ship Movement
82	157.125	161.725	Public correspondence, Port Operations, and Ship Movement
83	157.175	161.775	Public correspondence, Port Operations, and Ship Movement
84	157.225	161.825	Public correspondence, Port Operations, and Ship Movement
85	157.275	161.875	Public correspondence, Port Operations, and Ship Movement

Channel Number	Transmission MHz	Receiving MHz	User
86	157.325	161.925	Public correspondence, Port Operations, and Ship Movement
87	157.375	157.375	Port Operations and Ship Movement
88	157.425	157.425	Port Operations and Ship Movement

Specifications

VHF 100/100i and VHF 200/200i Specifications

General

Dimensions:

Flush-Mounted: (W × H × D) 7.16 × 3.86 × 6.42 in. (18.2 × 9.8 × 16.3 cm)

Bracket-Mounted: (W × H × D) 7.56 × 4.65 × 6.42 in. (19.2 × 11.8 × 16.3 cm)

Weight:

VHF 100/100i Transceiver and Microphone: 45.86 oz. (1.30 kg)

VHF 200/200i Transceiver: 38.45 oz. (1.09 kg)

VHF 200/200i Microphone: 9.42 oz. (0.267 kg)

Temperature Range: from 14ºF to 122ºF (from -10ºC to 50ºC)

Compass-safe Distance: 20 in. (500 mm)

Waterproof: IEC 60529 IPX7 (Immersion in 1 meter of water for 30 minutes)

Antenna Connector: S0-239 (50 Ω)

Speaker Microphone Audio Power: 94 dBA

Digital Selective Calling: Class D

Frequency Bands: All USA, Canadian, and International marine channels; 10 NOAA weather channels

Channel Spacing: 25 kHz

Modulation:

FM: 16K0G3E

DSC: 16K0G2B

Frequency Stability: ± 10 ppm

Oscillate Mode: PLL

Power

Operating Voltage: 12.0 Vdc

Current Drain:

Standby: 350 mA

Receive: 600 mA

Transmit: 6.0 A at HI power (25 W); 2.0 A at LO power (1 W)

Maximum Antenna Gain: 9 dBi

Antenna Port Impedance: 50 Ω

Audio Output Power:

Internal Speaker: 1 W (with 4 Ω at 10% distortion)

Optional External Speaker (VHF 200/200i only): 4 W (4 Ω/Max)

VHF 200/200i Auxiliary Components:

Hailer Output Power: 20 W at 4 Ω

NMEA Port Impedance: 330 Ω

External Speaker Impedance: 4 Ω

Hailer Horn Impedance: 4 Ω

Transmitter

Modulation System: Variable reactance frequency modulation

Transmitter Protection: Open/short circuit of antenna

Frequency Error: 10 ppm

Maximum Frequency Deviation: ± 5 KHz

Modulation Distortion ±3 KHz: less than or equal to 10%

Adjacent Channel Power: more than 70 dB

Spurious/Harmonic Emissions: less than -36 dBm

Transmitter Output (at 13.6 Vdc): 25 W (HI); 1 W (LO)

FM Hum and Noise Level: less than 40 dB

Duty Cycle: 5% Transmit; 5% Receive; 90% Standby

Microphone Type: Electret

Compliance: Part 15 of the FCC interference limits for Class B digital devices FOR HOME OR OFFICE USE

Receiver

Receiver Type: Double conversion superheterodyne

Frequency Range: 156.050 MHz to 163.275 MHz (including WX channels)

12 dB SINAD Sensitivity: 0.28 µV Typical

FM Hum and Noise Level: less than 40 dB

Audio Distortion: less than 10%

Squelch Sensitivity @ 12dB SINAD:

At Tight: less than 1 µV

At Threshold: less 0.28 µV

Spurious Response: more than 70 dB

Adjacent Channel Selectivity: more than 70 dB

Adjacent Channel Rejection: more than 70 dB

Intermodulation Rejection Ratio: more than 70 dB

Residual Noise Level: more than 0 dB unsquelched

NMEA

NMEA 0183 IN Sentences Supported (NMEA 0183 version 3.01)

Sentence	Definition
GGA	Global Positioning System Fix Data
GLL	Geographic Position - Latitude/Longitude
GNS	GNSS Fix Data
RMA	Recommended Minimum Specific Loran-C Data
RMB	Recommended Minimum Navigation Information
RMC	Recommended Minimum Specific GNSS Data

NMEA 0183 OUT Sentences Supported (NMEA 0183 version 3.01)

Sentence	Definition
DSC	DSC Information
DSE	Expanded DSC

NMEA 2000 PGN Information (VHF 200/200i only)

Receive		Transmit	
059392	ISO Acknowledgement	059392	ISO Acknowledgement
059904	ISO Request	060928	ISO Address Claim
060928	ISO Address Claim	126208	NMEA Request/Command/Ack
126208	NMEA Request/Command/Ack	126464	PGN List
129026	COG/SOG, Rapid Update	126996	Product Information
129029	GNSS Position Data	129799	Radio Frequency/Mode/Power
		129808	DSC Call Information

GHS 10 and GHS 10i Specifications

Dimensions: 6.34 × 2.82 × 1.69 in. (16.1 × 7.16 × 4.28 cm)

Weight: 12.98 oz. (368 g)

Temperature Range: from 14ºF to 122ºF (from -10ºC to 50ºC)

Compass-safe Distance: 20 in. (500 mm)

Waterproof: IEC 60529 IPX7 (Immersion in 1 meter of water for 30 minutes)

Water Immersion

The unit is waterproof to IEC Standard 60529 IPX7. It can withstand immersion in 1 meter of water for 30 minutes. Prolonged submersion can cause damage to the unit. After submersion, be certain to wipe and air dry the unit before reuse.

Contact Garmin

Contact Garmin Product Support if you have any questions while using your VHF 100/200 series radio. In the USA, go to www.garmin.com/support, or contact Garmin USA by phone at (913) 397.8200 or (800) 800.1020.

In the UK, contact Garmin (Europe) Ltd. by phone at 0808 2380000.

In Europe, go to www.garmin.com/support and click **Contact Support** for in-country support information, or contact Garmin (Europe) Ltd. by phone at +44 (0) 870.8501241.

Caring for the Unit

The case is constructed of high quality materials and does not require user maintenance, except cleaning.

Cleaning the Case

Clean the unit's outer casing (except for the screen) using a cloth dampened with a mild detergent solution and then wipe dry. Avoid chemical cleaners and solvents that may damage plastic components.

Cleaning the Screen

The unit's lens is textured to reduce glare, and is sensitive to skin oils, waxes and abrasive cleaners. Cleaners containing ammonia, alcohol, abrasives, or anti-grease detergents will harm the anti-reflective coating. It is important to clean the lens using an eyeglass lens cleaner (that is specified as safe for anti-reflective coatings) and a clean, lint-free cloth.

Index

Symbols

16/9 mode 8
1 W power transmission 8
25 W power transmission 8

A

alarms
- battery 35
- GPS data 35
- invalid GPS data 35
- WX (weather alert) 35

ATIS 13
- disabled functions with 13
- disabling 14
- enabling 14
- entering identification number 13
- viewing identification number 13

autopilot capabilities 29
auto power-on 31

B

backlight level 30
beeper volume 31
bypassing 1 W transmission power 6

C

call logs
- deleting entries 25
- placing calls from 25
- saving vessels to directory 25
- types of 23
- viewing stored calls 24

channel changing, automatic 28
channel monitoring
- Dual watch 7
- Tri watch 8

channels
- Canadian 39
- changing names of 34
- International 43
- removing saved status 7
- saving 7
- scanning all 6
- scanning saved 7
- selecting 5
- USA 36
- WX (weather) 38

chartplotter capabilities 29
cleaning
- case 49
- screen 49

contrast level 30
Course Over Ground
- displaying 31
- on Home screen 3

D

directory
- adding entries 26
- deleting entries 26
- editing entries 26
- viewing 26

distant/local reception
- sensitivity adjustment 9

distress calls 16–18
- receiving acknowledgement 18
- revoking 18
- sending designated 17
- sending undesignated 16
- stopping automatic transmission 18
- waiting for acknowledgement 17

Dual watch 7

F

factory settings, restoring 34
features i–ii
foghorn 10–12
  frequency, adjusting 11
  sounding, automatic 11
  sounding, manual 11
frequency band, selecting 33

G

Garmin
  contact information 49
GHS 10 series handsets
  controls 2
  display 3
groups
  adding 26
  deleting 27
  editing 27
  receiving calls from 22

H

hailer, using 10
handset
  controls 2
  display 3
heading display, modifying 33
HI power transmission 8

I

icons, system status 3
intercom 9–10
  initiating call 9
  receiving call 10

L

language, changing 33
latitude and longitude
  displaying 31
  on Home screen 3
local/distant reception
  sensitivity adjustment 9
LO power transmission 8

M

microphone controls 2
MMSI filtering over NMEA network 30
  configuring 30
MMSI number
  entering 15–16
  formats 23
  obtaining 15
  viewing 16
monitoring multiple channels 7

N

NMEA
  feature overview 29
  NMEA 0183 sentences 48
  NMEA 2000 PGNs 48
  selecting NMEA 0183 or NMEA 2000 30
  sending call-related data over network 30
NOAA weather broadcasts 12

P

placing calls
  all-ships safety 20
  all-ships urgency 20
  group 19
  individual 18
  position request 20
  selecting the channel for 19

position information
entering manually 27
position replies
automatic setting 28
position tracking 22–23
activating calls 23
removing vessels from list 23
selecting vessels 23
power 5
auto power-on 31
battery alarm 35

R

radio
controls 1
display 3
features i–ii
front panel 1
testing 34
receiving calls
all-ships safety calls 21
all-ships urgency 21
distress 21
distress relay 21
group 22
individual routine 21
position request 22
position send 22
receiving sensitivity 9

S

saving channels 7
scanning
all channels 6
saved channels 7
screen
backlight level 30
contrast level 30
second-priority channel, reprogramming 8
selecting channels 5
soft keys 3
specifications
GHS 10 series 49
Speed Over Ground
displaying 31
on Home screen 3
speed unit of measurement, modifying
modifying 33
squelch
adjusting with handset 5
adjusting with radio 5
location on handset 2
location on radio 1
system messages
main in use 35
position tracking 36

T

testing the radio 34
time
changing format 32
configuring offset 32
displaying 32
on Home screen 3
transceiver
display 3
front panel 1
transmitting
with handset 6
with radio 6
transmitting power
adjusting 8–9
Tri watch 8

U

UTC offset 32

V

volume
adjusting with handset 5
adjusting with radio 5
location on handset 2
location on radio 1

W

water immersion 49
weather
accessing channels 12
alerts 12, 35
channel list 38
disabling alerts 12
enabling alerts 12
tuning to weather channels 12
WX. *See* weather

This equipment is for use worldwide, including the following European countries:

AT	DK	DE	IT	MT	SK	GB	CH
BE	EE	GR	LV	NL	SI	IS	BG
CY	FI	HU	LT	PL	ES	LI	RO
CZ	FR	IE	LU	PT	SE	NO	TR

Garmin International, Inc.
1200 East 151st Street, Olathe, Kansas 66062, USA

Garmin (Europe) Ltd.
Liberty House, Hounsdown Business Park, Southampton, Hampshire, SO40 9LR UK

Garmin Corporation
No. 68, Jangshu 2nd Road, Shijr, Taipei County, Taiwan

www.garmin.com

July 2009 Part Number 190-01019-00 Rev. B Printed in China