GARMIN.

VHF 315 SERIES

Owner's Manual

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Introduction

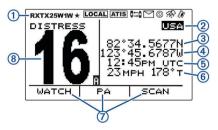
See the Important Safety and Product Information guide in the product box for product warnings and other important information.

Handset Overview



Item	Key	Description
1	PTT	Hold to broadcast.
2	DISTRESS	Lift the door and press to send a DSC distress call with a programmed MMSI number (<i>Entering Your MMSI Number</i> , page 4).
3		Press the key that corresponds to the on- screen item to select the item.
4	ENTER	On the home screen, rotate to change the channel. On the home screen, press to toggle weather channels (<i>NOAA</i> * <i>Weather Broadcasts and Alerts</i> , page 4). Rotate to change the volume or squelch level after pressing the VOL/SQ key. Rotate to highlight an item in a list. Press to select an item.
	PWR North America: 16/9 International: 16+	Hold to turn the radio on and off. Press to toggle between preset channels.
	HI/LO	Press to change the transmission mode and power settings.
	CLEAR	Press to return to the previous menu option. Press to cancel or mute an incoming DSC call.
	MENU	From the home screen, press to view configuration options. From a menu, press to return to the home screen.
	DSC	Press to view a menu of DSC options.
	VOL/SQ	Press to switch between volume or squelch.

Home Screen



- 1 Radio system status, settings, and alerts. International, Canadian, or USA frequency band *Latitude
- 4 *Longitude
- (5) *Time

2

3

- 6 *Speed over ground (SOG) or course over ground (COG)
- ⑦ Soft-key functions change depending on your current activity
- (8) Working channel

*The latitude, longitude, and time appear when the radio has a GPS signal acquired. You can enter data manually when the radio does not have a GPS signal.

** The SOG and COG appear when the radio has a GPS signal acquired, and the option is enabled in the menu (Number Settings, page 9).

System Status Icons

lcon	Status
RX	Receiving an incoming signal
тх	Transmitting
25W	Transmitting at 25 W
1W	Transmitting at 1 W
\star	Saved channel
LOCAL	Local receiver mode, often used in areas with radio frequency interference (harbors)
ATIS	ATIS enabled
0=0	Position tracking enabled
\otimes	Auto channel changing disabled
	Incoming or missed DSC call
Ð.	Weather alert
[H]	GPS signal acquired

Basic Operation

Turning On and Off the Device

Hold PWR.

TIP: You can set the device to turn on automatically (System Settings, page 9).

Adjusting the Volume

- 1 Set the squelch level to MIN before you adjust the volume (optional).
- 2 Select VOL/SQ twice.

VOLUME appears on the screen.

3 Turn the dial to increase or decrease the volume.

Adjusting the Squelch Level

You can adjust the sensitivity level of the squelch to filter out background noise. When you increase the squelch level, you hear fewer weak background signals when you are receiving.

- 1 Select VOL/SQ.
 - SQUELCH appears on the screen.
- 2 Turn the dial counter-clockwise until you hear audio.
- 3 Turn the dial clockwise until there is no background noise.

Selecting the Frequency Band

You can switch between the USA, International, or Canadian frequency bands (*Channel Lists*, page 10).

NOTE: Not all frequency bands are available on all device models.

- 1 Select MENU > CHANNEL > FREQUENCY BAND.
- **2** Select a frequency band.

Selecting a Channel

You can select an International, Canadian, or USA channel (*Selecting the Frequency Band*, page 2).

Turn the dial.

Transmitting with the Radio

- 1 Select an appropriate channel.
- 2 Verify that the channel is clear.

NOTE: You cannot obstruct the communications of other people due to Federal Communications Commission (FCC) and international guidelines.

- 3 Select PTT on the handset.
- **TX** appears at the top of the screen.
- **4** Speak into the handset.

NOTE: Five minutes is the maximum time allowed for transmission. After five minutes of transmitting, PTT is disabled until you release PTT.

5 Release PTT.

Scanning and Saving Channels

Scanning All Channels

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

NOTE: When you turn on ATIS (*Automatic Transmitter Identification System*, page 8), the radio does not scan or save channels.

- 1 Select SCAN > ALL.
- 2 Select an option:
 - To exclude the currently active channel from subsequent passes and resume scanning, select **SKIP**.
 - To scan channel 16 each time another channel is scanned, select **+CH16**.

For example, the radio scans channel 21, channel 16, channel 22, channel 16, and so on.

+CH16 appears on the device screen.

- To scan channel 16 in its usual order, select **-CH16**. For example, the radio scans channel 14, channel 15, channel 16, channel 17, and so on.
- To end the scan, select EXIT.
 The radio stops scanning and tunes to the last used, active channel.

Saving a Channel

You can save any channel except the weather (WX) channels. You can save an unlimited number of channels.

- 1 Select SCAN.
- 2 Turn the ENTER dial until you find a channel you want to save.
- 3 Select SAV CH.

 \star appears above a saved channel.

Removing a Saved Channel

- 1 Select SCAN.
- 2 Turn the ENTER dial until you find a saved channel. NOTE: A saved channel has ★ above it.
- 3 Select SAV CH.

Scanning Saved Channels

You can scan only the channels you have saved. When a saved channel is broadcasting, the radio pauses on that channel until the broadcast stops. After four seconds of inactivity on a channel, the radio resumes scanning.

NOTE: When you turn on ATIS (*Automatic Transmitter Identification System*, page 8), the radio does not scan or save channels.

- 1 Select SCAN > SAVED.
- 2 Select an option:
 - To exclude the currently active channel from subsequent passes and resume scanning, select **SKIP**.
 - To scan channel 16 each time another saved channel is scanned, select **+CH16**.

For example, the radio scans saved channel 21, channel 16, saved channel 25, channel 16, and so on.

+CH16 appears on the device screen.

- To stop scanning channel 16, select -CH16.
 For example, the radio scans saved channel 21, saved channel 25, and so on.
- To end the scan, select EXIT.
 The radio stops scanning and tunes to the last used active channel.

Monitoring Multiple Channels

Before you can monitor multiple channels, you must turn off ATIS (Automatic Transmitter Identification System, page 8).

You can 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. You can program a different channel as your second-priority channel (*Selecting a Different Second-Priority Channel*, page 2).

Select WATCH.

Monitoring Two Channels

You can monitor your current channel and channel 16 at the same time.

Select WATCH > DUAL.

DUAL WATCH and the channels you are monitoring appear on the screen. For example, DUAL WATCH CH:, and 16 + 9.

Monitoring Three Channels

You can monitor your current channel, channel 16, and your second-priority channel at the same time.

Select WATCH > TRI.

TRI WATCH, your current channel, channel 16, and your second-priority channel appear on the screen. For example, TRI WATCH CH:, and 75 + 16 + 9.

Selecting a Different Second-Priority Channel

You can select a channel other than channel 9 as your secondpriority channel.

- 1 Select MENU > CHANNEL > 2ND PRIORITY.
- 2 Turn the ENTER dial to the preferred channel.
- 3 Select OK.

Switching to Priority Channels

You can quickly switch between your current working channel and a priority channel. When you change to a priority channel, the transmit power is set to high (25 W) automatically, and when you change back to your current channel, the transmit-power setting is restored.

On North American models, you can quickly switch between channel 16, your second-priority channel, and your original channel using the 16/9 key.

On International models, you can quickly switch between channel 16 and your original channel using the 16+ key.

1 To switch from your current channel to channel 16, select 16/9 or 16+.

The transmit power changes to high (25 W) automatically. You can select HI/LO > 1W to change the transmit power to low (1 W).

- 2 On North American models, select **16/9** to switch to your second-priority channel.
- 3 Select 16/9 or 16+ to return to your previous channel and transmit-power setting.

Setting the Receiving Sensitivity

You can control the receiving sensitivity of the radio. When you have noise in high-traffic areas or areas with electromagnetic interference, such as near cell-phone towers, you can set the receiving sensitivity to LOC to decrease receiver sensitivity. In remote areas and on open water, you can set the receiving sensitivity to DIST to ensure that you use the maximum range of the receiver.

- 1 Select HI/LO.
- 2 Select an option:
 - Select LOC to enable local sensitivity.
 - Select **DIST** to enable distant sensitivity.

Switching Between 1 W and 25 W Transmitting Modes

You can control the transmitting power of the radio. Low (1 W) is used for local transmissions, and high (25 W) is used for distance and distress transmissions.

When two signals broadcast on the same frequency, a VHF radio receives only the stronger of the two signals. You should transmit calls other than distress calls using the lowest power setting that allows you to communicate, to reduce the possibility that your transmissions interfere with the transmissions of others.

In the USA frequency band, transmissions on channels 13 and 67 must be low (1 W) by default. You can bypass the power setting temporarily during transmission (*Bypassing the Low Transmission Power Setting*, page 3).

In the International channel band, transmissions on channels 15 and 17 must be low (1 W), and the radio does not allow transmissions on these channels to be changed to high (25 W).

- 1 Select HI/LO.
- 2 Select 1W or 25W.
- 3 Select OK.

Bypassing the Low Transmission Power Setting

In the USA frequency band, transmissions on channels 13 and 67 are required to be low-power (1 W) by default, because they are intended for intership (bridge-to-bridge) communication. If other radios cannot receive these channels due to the low power setting, you can bypass the default restriction.

- **1** From USA channels 13 or 67, select **PTT**.
- 2 While transmitting, select 25W.

Using the Hailer Function

Before you can use the hailer function, you must install a hailer horn (optional). For more information, see the *VHF 315 Series Installation Instructions*.

A hailer horn allows you to make on-boat or ship-to-shore announcements, and allows two-way communications between connected radios. 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, the hailer horn allows you to hear sounds from the deck.

NOTE: When the radio is in hailer mode, it does not receive broadcasts from the active channel.

1 Select PA > HAILER.

Sounds received through the horn are heard through the radio speaker.

- 2 Hold PTT.
- **3** Select an option:
 - To make an announcement, speak into the handset.
 - To adjust the volume of the hailer broadcast, turn the **ENTER** dial.
- 4 Release **PTT** to stop broadcasting and listen for broadcasts from other connected radios on the ship.

Foghorn

NOTE: Foghorn functionality is not available on all VHF radio models.

Before you can use the foghorn, you must provide and install a hailer horn (optional) on the deck or tower of your boat. For more information, see the *VHF 315 Series Installation Instructions*.

The foghorn is part of the public address 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 patterns, or you can sound the horn manually. When you manually operate the foghorn, sounds received through the horn can be heard through the radio speaker between soundings.

Sounding the Foghorn Automatically

- 1 Select PA > FOG > AUTO.
- 2 Select a foghorn-type option.

The radio alternates between sounding the pattern of tones or rings and receiving radio broadcasts.

3 Turn the **ENTER** dial to adjust the volume of the horn (optional).

Sounding the Foghorn Manually

NOTE: When you sound the horn manually, the radio does not receive broadcasts between horn soundings.

- 1 Select PA > FOG > MANUAL.
 - Sounds are received through the horn and heard through the radio speaker.
- 2 Hold PTT.

NOTE: The horn stops sounding when you release PTT.

3 Turn the **ENTER** dial to adjust the volume of the horn (optional).

Adjusting the Sound Frequency of the Foghorn

You can increase or decrease the sound frequency of the foghorn. The pitch of the tone rises with an increase in frequency, and falls 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, which correlate with the size of your vessel.

- 1 Select MENU > SYSTEM > FOG FREQUENCY.
- **2** Turn the **ENTER** dial to adjust the frequency in 50 Hz increments.
- 3 Select ACCEPT.

Entering Text

You may need to enter a name, a number, or other text on the radio.

- 1 From a number or text field, turn the **ENTER** dial to change the number, letter, or character.
- 2 Press the **ENTER** dial to accept the number, letter, or character and move to the next space in the sequence.
- Repeat this process for each number, letter, or character.
 NOTE: You can select to return to the previous entry in the sequence.
- 4 Select ACCEPT.

NOAA® Weather Broadcasts and Alerts

NOTE: This feature is not available on all radio models.

NOAA weather broadcasts on the weather (WX) channels are available only in the USA and certain regions in Canada.

Compatible radio models are programmed with 10 WX channels to monitor weather broadcasts from the National Oceanic and Atmospheric Organization (NOAA). WX channels are listen-only channels that broadcast in a continuous loop and are updated regularly. NOAA broadcasting information is regional and relevant to your broadcast area.

Tuning Weather Broadcasts

- 1 From the home screen, press the **ENTER** dial. WX appears on the screen.
- 2 Turn the ENTER dial to change the weather channel.

Enabling and Disabling Weather Alerts

You can enable weather (WX) alerts to sound when you are using standard radio channels.

1 When tuning weather broadcasts, select **ALERT** to enable or disable weather alerts.

so indicates that weather alerts are enabled.

2 Select EXIT.

The radio returns to normal operation while continuing to monitor weather alerts.

Digital Selective Calling

Digital Selective Calling

NOTE: Before you can use DSC capabilities, you must enter a Mobile Marine Safety Identity (MMSI) number (*Entering Your MMSI Number*, page 4). An MMSI number identifies each DSC radio, like a telephone number.

Digital Selective Calling (DSC) is a key component of the Global Maritime Distress and Safety System (GMDSS). DSC enables VHF radios 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, longitude, and the current time are transmitted when you send a distress call or other type of DSC call. If you enter your position information manually, your latitude, longitude, and time of entry are transmitted with the call. Transmitting your location automatically speeds help in an emergency situation. Channel 70 is reserved exclusively for DSC calls, and your device 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. Your device changes to Channel 70 automatically to transmit a DSC call. Your radio sends the DSC data over Channel 70 in less than one second, and then tunes to an appropriate channel for voice communications.

 $\ensuremath{\boxtimes}$ appears on the device screen when you have an incoming or missed DSC call.

NOTE: The device disables DSC automatically when you turn on ATIS (*Automatic Transmitter Identification System*, page 8).

Entering Your MMSI Number

NOTICE

You can enter your MMSI number only once. If you must change your MMSI number after entering it, you must take your radio to your Garmin[®] dealer for reprogramming.

The Mobile Marine Safety Identity (MMSI) number is a nine-digit code that acts as a DSC self-identification number, and it is required 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 these sources:

- Federal Communications Commission (FCC): assignments are recognized internationally
- BoatU.S.^o, Sea Tow^o, or United States Power Squadrons^o: assignments are for USA waters only.
- 1 Select MENU > DSC > MY MMSI.
- 2 Enter your MMSI number (Entering Text, page 4).
- 3 Select ACCEPT. The radio prompts you to confirm your identity.
- 4 Enter your MMSI number again, and select ACCEPT. If the MMSI numbers you entered do not match, a message appears.
- 5 If necessary, select RETRY, and enter the number again.

Viewing Your MMSI Number

Select MENU > DSC > MY MMSI.

Distress Calls

When you make a 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 manually entered your position information with the time, that data is transmitted with the call.

NOTE: You should familiarize yourself with the standard distress-call format and protocol to ensure 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 faster procedure that can save you time during an emergency.

1 Lift the spring-loaded door, and hold **DISTRESS** for at least 3 seconds.

The radio beeps and counts down the seconds. DISTRESS CALL COUNTING DOWN appears on the screen.

The radio sounds an alarm, switches to channel 70, and transmits your call on high (25 W) power.

2 Press any key to silence the alarm sound.

The radio tunes to channel 16 on high (25 W) power.

3 Select PTT on the handset or radio to relay your distress message.

The radio waits for an acknowledgment (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 DISTRESS.
- 2 Turn the ENTER dial, and select the type of distress call. TIP: You can select CLEAR to exit the screen without
- sending a distress call. 3 Hold DISTRESS for at least three seconds.

The radio beeps and counts down the seconds. DISTRESS CALL COUNTING DOWN appears on the screen.

The radio sounds an alarm, switches to channel 70, and transmits your call on high (25 W) power.

4 Press any key to silence the alarm sound. The radio tunes to channel 16 on high (25 W) power.

5 Select PTT on the handset or radio to relay your message. The radio waits for an acknowledgment (ACK) on channel 70 from a listening station.

Waiting For and Receiving and Acknowledgment for a **Distress Call**

If the radio does not receive an acknowledgment for a distress call, the radio retransmits the distress call randomly between 3.5 to 4.5 minutes later, and continues to retransmit the distress call at random intervals until the radio receives an acknowledgment.

When the radio receives the acknowledgment, it begins beeping and DISTRSS ACK appears on the screen.

- 1 Press any key to turn off the beeping.
- Select

 to view additional information.

TIP: If the MMSI of the station transmitting the acknowledgment signal is an entry in your directory, the name associated with the MMSI number appears on the screen. If the MMSI of the station is not in your directory, the MMSI number appears on the screen.

3 Select ACCEPT.

Pausing and Resuming Distress Call Retransmission

If the radio does not receive an acknowledgment for a distress call, the radio retransmits the distress call randomly between 3.5 to 4.5 minutes later, and continues to retransmit the distress call at random intervals until the radio receives an acknowledgment. You can pause and resume the retransmission countdown.

- 1 Send a designated or undesignated distress call.
- 2 Select PAUSE

The distress-call-retransmission countdown stops.

- 3 Select an option:
 - To resume the countdown, select **RESUME**.
 - To revoke the distress call, select CANCEL (Revoking a Distress Call, page 5).

Stopping Automatic Retransmission of Distress Calls Select CANCEL.

The radio remains tuned to channel 16.

NOTE: Selecting CANCEL ends the automatic repetition of the call, but does not communicate to other stations that you no longer have an emergency. If you no longer have an emergency, you should revoke the distress call (Revoking a Distress Call, page 5).

Revoking a Distress Call

You do not transmit a distress call until you hold DISTRESS for at least three seconds. If you inadvertently make a distress call, or are no longer in distress, you should cancel the call immediately by transmitting a voice message to all stations on channel 16.

- Select CANCEL > YES, and wait until DISTRESS CANCEL 1 HAS BEEN SENT appears on the screen.
- 2 Select OK.
- 3 Hold PTT on the handset, and transmit an appropriate voice message to cancel the distress call (Distress Call Cancellation Script, page 5).
- 4 Select an option:
 - Select END to complete the distress-call cancellation and return to normal radio operation.
 - Select RESEND to resend the distress-call cancellation and start the process again.

Distress Call Cancellation Script

When you revoke a DSC distress call (Revoking a Distress Call, page 5), you should transmit an appropriate cancellation message.

For example, "All stations, all stations, all stations, this is

(vessel name), MMSI number ____, position ___(North uth), ____(West or East). Cancel my distress alert of or South), (date and time). This is (vessel name), MMSI number ___. Out."

Placing Calls

Placing Individual Calls

- 1 Select DSC > INDIVIDUAL.
- 2 Select an option:
 - To enter the MMSI number manually, select MANUAL, enter the MMSI number, and select ACCEPT.
 - To select an entry from the directory, select **DIRECTORY**, and select an entry.
 - To select a recent call, select RECENT CALLS.
- 3 Select a channel (Individual Call or Group Call Channels, page 6).

The radio transmits the request with your call.

4 Select CALL.

The radio transmits the call on channel 70, and returns to the previous channel while listening for an acknowledgment on channel 70. After an acknowledgment is received, the radio changes to the channel you selected for the call.

Placing Group Calls

Before you can place a call to a group, you must enter the MMSI number of the group into the directory (Adding a Group, page 8).

You can contact a group of specific vessels, such as a sailing club or flotilla, by making a group call.

- 1 Select DSC > GROUP > CALL.
- Select a saved group.
- 3 Select a channel (Individual Call or Group Call Channels, page 6).

The radio transmits the channel request with your call.

4 Select CALL.

The radio transmits the call on channel 70, then changes to the selected channel.

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 broadcast significant navigational or weatherrelated information. Urgency calls communicate situations about the safety of a vessel or person when danger is not imminent. The captain should discern whether a situation warrants a safety call or an urgency call.

1 Select DSC > ALL SHIPS.

- 2 Select SAFETY or URGENCY.
- **3** Select a channel (*Individual Call or Group Call Channels*, page 6).

The radio transmits the channel request with your call.

4 Select CALL.

The radio transmits the call on channel 70, then changes to the selected channel.

Individual Call or Group Call Channels

When placing an individual or group call, you should select from designated DSC channels. The radio transmits this request with your call.

- USA: channels 6, 8, 9, 10, 13, 17, 67, 68, 69, 71, 72, 73, and 77.
- Canada and International: all USA channels, plus channel 15

DSC channels are limited to channels that are available in all frequency bands. You can select CUSTOM to select a channel that is not listed. If you select a custom channel, the station you are calling may not be able to comply with the specified channel. You should select a channel that is appropriate for communication.

Requesting a Vessel's Position

Position data received from stations that respond to position request calls is sent over the NMEA[®] network. You can track the vessels on your Garmin chartplotter.

- 1 Select DSC > POS. REQUEST.
- 2 Select an option:
 - To enter the MMSI number manually, select MANUAL, enter the MMSI number, and select ACCEPT.
 - To select an entry from the directory, select **DIRECTORY**, and select an entry.
- 3 Select CALL.

The radio transmits the call on channel 70 and returns to the previous channel. WAITING FOR ACKNOWLEDGE appears on the screen.

Receiving Calls

Receiving Distress Calls and Distress Relay Calls

When receiving a distress call or a distress relay call, DISTRESS or DISTR RELAY, and information about the call, such as MMSI number and the nature of the distress, appear on the radio screen. A distress call is sent from a vessel in need of assistance, and a distress relay call is sent from either another vessel or a station on behalf of a vessel in need of assistance.

The radio sends data related to the call over the NMEA network based on how you configure MMSI filters (*Configuring DSC NMEA Transmissions*, page 9).

NOTE: When a distress call is received, the radio switches to channel 16 automatically after ten seconds.

When a distress call is received, select an option:

- To view additional information about the distress call and switch to channel 16, select ↓.
- To accept the distress call and switch to channel 16, select OK.
- To review information about the distress call without switching to channel 16 automatically, select PAUSE.
- To ignore the distress call and stay on the current channel, press CLEAR.

Receiving All-Ships Urgency and Safety Calls

When you receive an all-ships urgency or safety call, ALL SHIPS appears on the screen, and URGENCY or SAFETY appears as the type of call. If the channel request is for an invalid channel, INVALID CH REQUEST appears on the screen.

NOTE: When an all-ships call is received, the radio switches to the requested channel automatically after ten seconds.

When an urgency or safety call is received, select an option:

- To view additional information about the call and switch to the requested channel, select ↓.
- To accept the call and switch to the requested channel, select **OK**.
- To review information about the call without switching to the requested channel automatically, select **PAUSE**.
- To ignore the call and stay on the current channel, press **CLEAR**.

Receiving Individual Routine Calls

When you receive an individual routine call, INDIVIDUAL appears on the screen, and ROUTINE appears as the type of call. If the channel request is for an invalid channel, INVALID CH REQUEST appears on the screen.

NOTE: When an individual call is received, the radio switches to the requested channel automatically after ten seconds.

When a call is received on a valid channel, select an option:

- To accept the call and switch to the requested channel, select **OK**.
- To review information about the call without switching to the requested channel automatically, select **PAUSE**.
- To ignore the call and stay on the current channel, press **CLEAR**.

Receiving Position Requests

You can configure the radio to reply automatically to incoming position requests, or prompt you to review and approve the incoming requests before replying (*Sending Automatic Replies*, page 8).

When you receive a position request with automatic position replies enabled, SENDING ACKNOWLEDGE appears on the screen, and the radio sends your position automatically. After the position successfully transmits, POSITION SENT appears on the screen.

When you receive a position request with automatic position replies disabled, POS. REQUEST appears on the screen.

When you receive a position request with automatic position replies disabled, select $\mathbf{OK},$ and select an option:

• To reply to the position request with your current position, select **OK**.

If GPS-position or manual-position data is available, the radio transmits your position to the other vessel.

• To ignore the position request, press **CLEAR**.

Receiving Position Calls

When you receive a position call, POS. SEND and the position data appear on the screen.

Select OK.

The radio saves the position report in the call log.

Receiving Group Calls

When you receive a group call, GROUP appears on the screen, and the radio prompts you to change to the requested channel. If the channel requested is invalid, INVALID CH REQUEST appears on the screen.

- 1 Select OK.
- 2 Turn the ENTER dial to select the requested channel.

Position Tracking

When you enable position tracking, the radio uses intervalbased position requests to track up to three vessels.

Your radio transmits received position data over the NMEA network, and you can track the vessels using your Garmin chartplotter (*Configuring DSC NMEA Transmissions*, page 9).

Selecting Vessels and Activating Position Tracking

Before you can use position tracking, you must have at least one vessel saved in the directory (*Directory*, page 7).

- 1 Select DSC > POS. TRACKING > ADD ENTRY.
- 2 Select the vessels you want to track.

You can track the position of up to three vessels at one time. If you select a fourth vessel, the radio sounds an error tone, and you must remove a vessel before you can add a new one.

3 Select BEGIN TRACKING.

the screen when the radio tracks vessels.

Position-Tracking Polling Interval Sequence

Regulations allow transmission of one position-request call every five minutes. When tracking more than one vessel, the radio alternates calling each vessel in the list at five-minute intervals. If a vessel does not respond to five consecutive position-request calls, the radio removes the vessel from the position-tracking list.

You can use this table to better understand how the time interval is applied to the vessels in the position-tracking list.

Vessel	Time
Ship 1	0 minutes (immediately when starting position tracking)
Ship 2	5 minutes
Ship 3	10 minutes
Ship 1	15 minutes
Ship 2	20 minutes
Ship 3	25 minutes

Viewing and Deactivating Vessels on the Position Tracking List

You can deactivate vessels that you want to keep in the tracking list, but do not want to actively track.

- 1 Select DSC > POS. TRACKING > VESSELS.
- 2 Select a vessel.
- 3 Select OFF.

Deleting a Vessel From the Position Tracking List

You can delete vessels from the tracking list that you don't plan to track in the future.

- 1 Select DSC > POS. TRACKING > DELETE.
- 2 Select a vessel.
- 3 Select YES.

Call Log

When the radio receives a DSC call, it records the date and time, calling station, and type of call in the call log. The radio also records the latitude and longitude of the calling station if that data is transmitted with the call.

DSC calls are logged as distress, position, or other calls.

Call Type	Call Log
Distress	Distress
Distress relay	Distress
Distress acknowledge	Distress

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

When you enter a calling station in your directory, the name of the station appears in the list of calls. If the calling station is not saved in your directory, the MMSI number appears in the list of calls. A symbol indicates the station type.

Symbol	Meaning	MMSI Number Format
1. Ar	Ship station	XXXXXXXXX
+	Group call	0XXXXXXX
ń	Coastal station	00XXXXXX

Viewing the Calls in the Call Log

- 1 Select DSC > CALL LOG.
- **2** Select a call-log category.
- 3 Select a call.

Information about the call appears on the screen.

Placing a Call from a Call Log

Calls placed from the call log are placed as individual routine calls.

- 1 Select DSC > CALL LOG.
- 2 Select a call log type.
- 3 Select the MMSI number or the station name.
- 4 Select CALL.
- **5** Select a channel on which to transmit the call (*Channel Lists*, page 10).

The radio transmits the channel request with your call.

6 Select CALL.

Saving a Vessel or Station to the Directory from the Call Log

- 1 Select DSC > CALL LOG.
- **2** Select a call-log category.
- 3 Select the MMSI number you want to save.
- 4 Select SAVE.
- 5 Enter or edit the name for the saved vessel or station (optional) (*Entering Text*, page 4).

Deleting a Call Log Entry

- 1 Select DSC.
- **2** Select a call-log category.
- 3 Select the MMSI number or station.
- 4 Select -.
- 5 Select DELETE.

Directory

You can store the MMSI numbers of vessels and stations, and assign names to them for quick access or for identification purposes.

Viewing Saved Vessels and Stations in the Directory

- 1 Select DSC > DIRECTORY > DIRECTORY.
- 2 Select a saved vessel or station.

Adding an Entry to the Directory

1 Select DSC > DIRECTORY > ADD ENTRY.

- 2 Enter the MMSI number (Entering Text, page 4).
- 3 Enter a name (optional).
- 4 Select ACCEPT.

Editing an Entry in the Directory

- 1 Select DSC > DIRECTORY > EDIT ENTRY.
- 2 Select an entry.
- **3** Edit the MMSI number, the name, or both (*Entering Text*, page 4).
- 4 Select ACCEPT.

Deleting an Entry from the Directory

- 1 Select DSC > DIRECTORY > DELETE.
- 2 Select an entry.
- 3 Select YES.

Adding a Group

A DSC group is a collection of specific vessels, such as a sailing club or flotilla, that share a single group MMSI number.

- 1 Select DSC > GROUP > ADD ENTRY.
- 2 Enter the group MMSI number (*Entering Text*, page 4).
- **3** Enter a name for the group (optional).
- 4 Select ACCEPT.

Editing a Group

- 1 Select DSC > GROUP > EDIT ENTRY.
- 2 Select a group.
- **3** Edit the group MMSI number, the name, or both (*Entering Text*, page 4).
- 4 Select ACCEPT.

Deleting a Group

- 1 Select DSC > GROUP > DELETE.
- **2** Select a group.
- 3 Select YES.

DSC Settings

Manual Position Information

If you do not have a GPS device connected to your radio, you can manually enter your position and time of entry. The position data is transmitted with DSC calls. When you enter the position and time manually, MANUAL POS appears on the screen.

Manually entered position information must be updated regularly, and the radio displays two alerts to remind you to update the position data.

- When the position data you entered manually is more than four hours old, DATA IS OVER 4 HOURS OLD appears on the screen. The radio continues to transmit this position data, but you should update it before it becomes invalid.
- When the position data you entered manually is more than 23.5 hours old, it is considered invalid and DATA IS INVALID appears on the screen. The radio does not transmit invalid position data, and you should update it immediately.

Entering Position Information Manually

- 1 Select MENU > SYSTEM > MANUAL GPS.
- 2 Enter your current coordinates and the present time (*Entering Text*, page 4).
- 3 Select ACCEPT.

Changing the Channel to 16 Automatically

By default, the radio changes to channel 16 automatically when receiving distress, distress relay, and all-ships urgency calls. In certain situations, when you must continually monitor a channel to maintain uninterrupted communication with another vessel, for example, you can disable this feature.

- 1 Select MENU > DSC > AUTO CHANGE CH..
- 2 Select an option:
 - To set the radio to switch automatically to channel 16 when you receive a qualifying call, select **ON**.
 - To set the radio to prompt you to accept or decline a channel change when you receive a qualifying call, select OFF.

Sending Automatic Replies

You can configure the radio to automatically respond to incoming calls, including position requests.

NOTE: When you configure the radio to automatically respond to incoming calls, the radio also changes the channel automatically for all incoming individual calls.

- 1 Select MENU > DSC > INDIV REPLY.
- **2** Select an option:
 - To send automatic replies, select AUTO.
 - To send replies manually, select MANUAL.

Automatic Transmitter Identification System

Automatic Transmitter Identification System (ATIS) is a vessel identification system used on certain inland waterways in some European countries. See your Garmin dealer to program your VHF radio 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). ATIS is prohibited outside the European inland waterways that are covered by the Basel Agreement.

When you enable ATIS, your radio sends a data signal identifying your station at the end of every transmission. Data identifying your position is not sent, but your position is calculated through the method of triangulation by coastal stations that receive your transmissions.

To enable ATIS, you must enter your ATIS identification number (*Entering Your ATIS Identification Number*, page 8), and turn on ATIS (*Turning On and Off ATIS*, page 9). See your Garmin dealer to determine your ATIS identification number and to learn about ATIS requirements for your region.

Your radio disables these functions when you enable ATIS.

- Digital Selective Calling (DSC)
- Monitor two or three channels (Dual watch and Tri watch)
- Scanning channels

International channels 6, 8, 10, 11, 12, 13, 14, 71, 72, 74, and 77 restrict transmitting to low-power (1 W) when you enable ATIS.

Entering Your ATIS Identification Number

NOTICE

You can enter your ATIS identification number only once. If you must change your ATIS identification number after entering it, you must take your radio to your Garmin dealer for reprogramming.

NOTE: You can access the ATIS settings on the radio after the ATIS feature is activated by your Garmin dealer.

- 1 Select MENU > ATIS > MY ATIS ID.
- 2 Enter your ATIS number (*Entering Text*, page 4).
- 3 Select ACCEPT.

The radio prompts you to reenter your number.

- **4** Enter your ATIS number again, and select **ACCEPT**. If the ATIS numbers do not match, a message appears.
- 5 If necessary, select RETRY, and enter the number again.

Turning On and Off ATIS

- 1 Select MENU > ATIS > ATIS.
- 2 Select ON or OFF.
- 3 Select OK.

Viewing Your ATIS Identification Number

Select MENU > ATIS > MY ATIS ID.

NMEA 0183 and NMEA 2000[®]

When you connect the radio to a NMEA 0183 device or a NMEA 2000 network, you can transfer received DSC distress and position information to any compatible connected chartplotter (*NMEA*, page 10).

The radio can also receive GPS-position information from a NMEA 0183 device or a NMEA 2000 network. Received GPS-position information appears on the home screen and is transmitted with DSC calls. *M* appears on the screen when GPS data is available, and flashes when GPS data is not present. When GPS data is not present, you must enter your position manually (*Manual Position Information*, page 8).

For more information on connecting the radio to a NMEA 0183 device or a NMEA 2000 network, see the *VHF 315 Series Installation Instructions*.

Additional Functionality with Other Garmin Devices

The radio has additional capabilities when you connect it to other Garmin devices, such as a chartplotter.

NOTE: You may need to upgrade your Garmin chartplotter software to use NMEA 0183 or NMEA 2000 features.

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

When you connect the radio to the same NMEA 2000 network as a Garmin chartplotter, you can use the chartplotter to set up an individual routine call.

When you connect the radio to the same NMEA 2000 network as a Garmin chartplotter, and you initiate a man-overboard distress call from the radio, the chartplotter prompts you to navigate to the man-overboard location. If you connect a Garmin autopilot system to the same NMEA 2000 network, the chartplotter prompts you to start a Williamson's turn to the manoverboard location.

Communicating Over NMEA 0183 or NMEA 2000

NOTE: This feature is not available on all models.

You can select a connection either to a NMEA 0183 device or to a NMEA 2000 network. The radio can communicate over only one communication protocol at a time.

- 1 Select MENU > COMMUNICATIONS > PROTOCOL.
- 2 Select NMEA0183 or NMEA2000.

Configuring DSC NMEA Transmissions

You can filter the types of DSC-call data the radio sends to a connected NMEA 0183 device or over a NMEA 2000 network.

1 Select MENU > COMMUNICATIONS > DSC OUTPUT.

- 2 Select an option:
 - To send NMEA data when you receive a DSC call from any MMSI number, select ALL VESSELS, and proceed to the last step.

- To disable sending NMEA data when you receive a DSC call, select NO VESSELS, and proceed to the last step.
- To send NMEA data only when you receive a call from a vessel in your directory, select SELECT VESSELS, and proceed to the next step.

NOTE: When you configure the radio for **SELECT VESSELS**, all received DSC-distress-call data is sent over NMEA, even if the vessel is not in your directory.

- 3 Select a vessel in your directory.
- 4 Select an option:
 - To send all DSC-call data from this vessel, select ON.
 - To send DSC-distress-call data only from this vessel, select OFF.
- 5 Repeat this process for each vessel in your directory.
- 6 Select **BACK** to save your changes and exit the menu.

System Settings

Select MENU > SYSTEM.

DISPLAY: Sets the backlight and contrast levels.

- **BEEPER**: Sets the volume or disables the beeper tone that sounds when you press a key or turn a dial.
- AUTO POWER-ON: Sets the radio to turn on automatically when it receives power.
- LANGUAGE: Sets the language for the radio.

Number Settings

You can customize the numbers shown on the home screen of the radio.

Select MENU > SYSTEM > NUMBERS.

- LAT/LONG: Shows or hides the latitude and longitude numbers from either a connected GPS device, or from manually entered position data.
- **TIME**: Shows or hides the time received from a connected GPS device or entered manually.

NOTE: The time updates automatically only if you connect a GPS device. When you enter your time and position manually, the time shown does not update automatically. For manually entered position and time data, the time of entry is always shown on the home screen, even if you hide the time with this setting.

COG/SOG: Shows or hides course-over-ground (COG) and speed-over-ground (SOG) information.

NOTE: You must connect a GPS device to show courseover-ground (COG) and speed-over-ground (SOG) information.

Units Settings

You can set the unit of measure used for values shown on the radio.

Select MENU > SYSTEM > UNITS.

- **SPEED**: Sets the unit of measure shown for speed-related fields, such as speed-over-ground.
- TIME > FORMAT: Sets the time format.

HEADING: Sets the radio to show all heading calculations, such as Course Over Ground (COG), using true or magnetic north.

NOTE: If the radio is configured for NMEA 2000 communication, the heading unit is set to AUTO, and shows heading data based on the information provided over the network. This setting cannot be changed.

Configuring the Time Offset

You can show the local time rather than Universal Coordinated Time (UTC). When you adjust for local time, LOC appears after the time on the home screen.

NOTE: When you make a DSC call, the time is sent in UTC format.

- 1 Select MENU > SYSTEM > UNITS > TIME > OFFSET.
- 2 Turn the ENTER dial to adjust the time offset from UTC.
- 3 Select OK.

Selecting the Frequency Band

You can switch between the USA, International, or Canadian frequency bands (*Channel Lists*, page 10).

NOTE: Not all frequency bands are available on all device models.

- 1 Select MENU > CHANNEL > FREQUENCY BAND.
- **2** Select a frequency band.

Changing a Channel Name

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

- 1 Select MENU > CHANNEL > NAME.
- 2 Turn the ENTER dial to select a channel, and select OK.
- 3 Change the name of the channel (Entering Text, page 4).
- 4 Select ACCEPT.

Restoring Factory Settings

You can restore the radio to the default factory settings. When you restore the radio to factory settings, all system changes and customizations are lost. Restoring factory settings deletes the call logs, but retains group entries, directory entries, the MMSI number, and the ATIS ID.

- 1 Select MENU > SYSTEM > SYSTEM INFO > RESET.
- 2 Select YES to confirm the reset.

Appendix

Alarms and Messages

BATTERY ALRM: Sounds when the battery reaches a specified low or high voltage. Check the battery wiring.

- WX: Sounds when you set a weather alarm and the radio detects an incoming weather alert (NOAA[®] Weather Broadcasts and Alerts, page 4). The radio tunes automatically to the weather channel that is broadcasting the alert.
- **GPS ALARM**: Sounds first when GPS data from a NMEA network or position data entered manually is more than four hours old. Sounds again when GPS data from a NMEA network or position data entered manually is more than 23.5 hours old (*Manual Position Information*, page 8).
- **POSITION TRACKING**: Appears after five consecutive failed attempts to request position information from a vessel (*Position Tracking*, page 7).

Channel Lists

The International, USA, and Canadian channel lists are available online for reference. You are responsible for the correct use of channels according to local regulations.

• To view the latest international channel list, go to www.navcen.uscg.gov/?pageName=apps18.

- To view the latest USA channel list, go to www.navcen.uscg.gov/?pageName=mtVhf.
- To view the latest Canadian channel list, go to www.ic.gc.ca /eic/site/smt-gst.nsf/eng/sf01011.html#sched1.

VHF 315 Series Specifications

Dimensions (H x W x D) 6 x 20.5 x 18.1 cm (2.36 x 8.07 x 7.13 in.)

0 X 20.0 X 10.1 011 (2.00 X 0.01 X 1.10 11.)	
1.527 kg (3.37 lb.)	
Operating: From -15° to 70°C (from 5° to 158°F)	
Storage: From -20° to 70°C (from -4° to 158°F)	
50 mm (2 in.)	
IEC 605290 IPX7	
S0-239 (50 ohm)	
12.0 Vdc	
Standby: 350 mA Receive: 600 mA Transmit: From 2.0 A to 6.0 A (from 1 W to 25 W)	
9 dBi	
50 ohm	
20 W at 4 ohm	
4 ohm	
1 (50 mA)	

*The device withstands incidental exposure to water of up to 1 m for up to 30 min. For more information, go to www.garmin.com /waterrating.

NMEA

NMEA 0183 IN Sentences Supported

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

Sentence	Definition
DSC	DSC information
DSE	Expanded DSC

NMEA 2000 PGN Information

Receive		Transmit	
059392	ISO acknowledgment	059392	ISO acknowledgment
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
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Cleaning the Outer Casing

NOTICE

Avoid chemical cleaners and solvents that can damage plastic components.

- 1 Clean the outer casing of the device (not the screen) using a cloth dampened with a mild detergent solution.
- **2** Wipe the device dry.

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