# GPSMAP® 4000/5000 Series
## owner's manual

**GARMIN**

# INTRODUCTION

This manual includes information for the following products:

- GPSMAP® 4008
- GPSMAP® 4012
- GPSMAP® 5008
- GPSMAP® 5012

## Tips and Shortcuts

- Press or touch **HOME** from any screen to return to the Home screen.
- Press or touch **MENU** from any main screen to access additional settings.
- Press and release the ⏻ **POWER** key to adjust the display settings.
- Press and hold the ⏻ **POWER** key to turn the unit on or off.

## Manual Conventions

In this manual, when you are instructed to select an item, press the soft key along the right side of the screen (GPSMAP 4008/4012 units) or use your finger to touch that item on the screen (GPSMAP 5008/5012 units) to select it. Small arrows (>) in the text indicate that you should select each item in order. For example, if you see "select **Charts** > **Navigation Chart**," you should select or touch **Charts**, and then select or touch **Navigation Chart**.

# Table of Contents

# GETTING STARTED

## Unit Overview

*Automatic backlight sensor*

*Soft keys*

*POWER*

*RANGE (+/-)*

*ROCKER*

*MARK*

*SELECT*

*MENU*

*HOME*

*Numeric keypad (GPSMAP 4012)*

*SD card slot*

**GPSMAP 4012**

**NOTE:** Use the soft keys to select menu items on the GPSMAP 4008/4012 unit. Touch menu items on the GPSMAP 5008/5012 screen to select them.

*POWER*

*Automatic backlight sensor*

*SD card slot*

**GPSMAP 5008**

*NMEA 2000 connector*

*Garmin Marine Network connectors*

*Power connector*

*Marine video connector*

*NMEA 0183 connector*
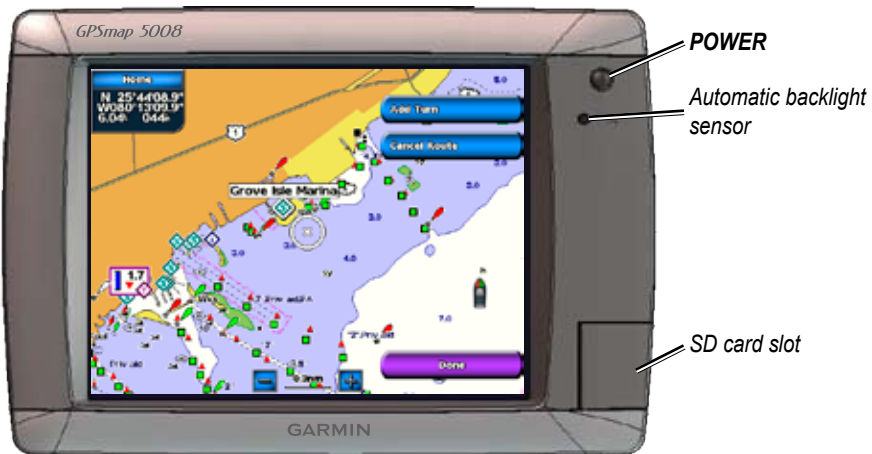
## Turning the Unit On or Off

To turn the unit on, press and release the ⏻ **Power** key. When the Warning screen appears, select **I Agree** to open the Home screen.

**NOTE:** The first time you power on your unit, you must go through a setup sequence. See page 44.

To turn the unit off, press and hold the ⏻ **POWER** key.



**Warning Screen**



**Home Screen**

## Adjusting the Backlight

1. Press and release the ⏻ **POWER** key.
2. Select **Backlight**.
3. To allow the unit to automatically adjust the backlight based on ambient light, select **Auto**.



*To manually adjust the backlight, either select Up or Down, use the ROCKER (4008/4012), or touch and drag the brightness bar (5008/5012).*

**To adjust the color mode:**
1. Press and release the ⏻ **POWER** key.

2. Select **Color Mode**.

3. Select **Day Colors**, **Night Colors**, or **Auto**.

# Acquiring GPS Satellite Signals

When you turn the unit on, the GPS receiver must collect satellite data and establish its current location. When the unit acquires satellite signals, the signal strength bars at the top of the Home screen are green 📶. When the unit loses satellite signals, the green bars disappear 📶 and the position icon shows a flashing question mark.

For more information about GPS, visit the Garmin Web site at www.garmin.com/aboutGPS.

# Inserting and Removing SD Cards

Your unit supports Secure Digital (SD) cards. Insert optional BlueChart® g2 Vision™ SD cards to view high-resolution satellite imagery, and aerial reference photos of ports, harbors, marinas, and other points of interest. Insert blank SD cards to transfer data such as waypoints, routes, and tracks to another compatible Garmin unit or a computer. The SD card slot is located on the bottom-right corner of the unit.

To insert the SD card, open the access door and press the SD card in until it clicks. Press in again to eject the SD card.



*Card label*

**GPSMAP 4012**

*Card label*
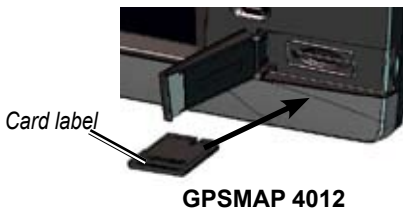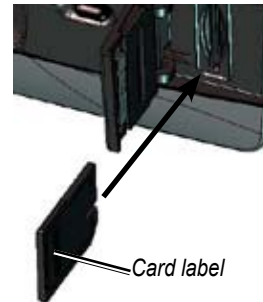
**GPSMAP 4008/5008/5012**

# Restoring Factory Settings

You can restore your unit to the original factory settings.

⚠ **CAUTION:** This procedure deletes any information you have entered.

**To restore factory settings:**
1. From the Home screen, select **Configure** > **System** > **System Information.**

2. Select **Factory Settings**.

3. Select **Reset** to restore all factory settings. Otherwise, select **Back** to cancel.

# Viewing System Information

You can view your unit's software version, basemap version, and unit ID number. You may need this information to update the system software or purchase additional map data information.

From the Home screen, select **Configure** > **System** > **System Information**.

## Using Simulator Mode

Simulator Mode turns the GPS receiver off for use indoors or for practice. The unit does not track satellites in simulator mode.

> ⚠️ **CAUTION:** Do not try to navigate using Simulator Mode because the GPS receiver is turned off. Any satellite signal strength bars shown are only simulations and do not represent the strength of actual satellite signals.

### To turn on Simulator Mode

1. From the Home screen select **Configure** > **System** > **Simulator** > **On**.
2. Select **Setup** to set speed, track control, position, simulator time, and simulator date.

## Understanding the Home Screen

Use the Home screen to access all other screens. Press or touch **HOME** from any screen to return to the Home screen.

> ✓ **NOTE:** Options on this screen vary based on the unit type. When you add additional hardware to your Garmin Marine Network, additional options appear.



**GPSMAP 4008/4012 Home Screen**          **GPSMAP 5008/5012 Home Screen**

- **Charts**—access Navigation, Mariner's Eye, Mariner's Eye 3D, Fish Eye 3D, Fishing Charts and Radar Overlay charts (page 5).

> ✓ **NOTE:** Mariner's Eye 3D, Fish Eye 3D, and Fishing Charts are available only if you use a BlueChart g2 Vision SD card.

- **Radar**—set up and view radar (page 35).
- **Sonar**—access sonar information (page 39).
- **Combinations**—set up the screen to view a chart, sonar, radar, and video in a two or three (GPSMAP 4008/4012), or four (GPSMAP 5008/5012) field split screen (page 16).
- **Where To**—access navigation features (page 18).
- **Information**—view information including tides, currents, celestial data, user data, information about other boats, gauges, and video (page 24).
- **Configure**—access unit and system settings (page 29).
- **Mark**—mark, edit, or delete your current location as a waypoint or MOB (GPSMAP 5008/5012).
- **Man Overboard**—navigate to a Man Overboard location (GPSMAP 5008/5012).

# Using Charts

Your unit has a basic worldwide imagery map. By purchasing an optional Blue Chart® g2 Vision™ preprogrammed SD card, you can view detailed information for your region, including:

- **Navigation Chart**—displays all relevant navigation data available, including buoys, lights, cables, depth soundings, marinas, and tide stations in an overhead view.
- **Mariner's Eye**—a view from above and behind your boat for a visual navigation aid.
- **Fishing Chart**—removes navigational data from the chart, while enhancing bottom contours for depth recognition.
- **Fish Eye 3D**—an underwater view that visually represents the sea floor according to the chart's information.

The unit automatically shows relevant navigational data when you select a navigation option..

## Using the Navigation Chart

Use the Navigation Chart to plan your course, view map information, and as a navigational aid.

To access the Navigation Chart, from the Home screen, select **Charts** > **Navigation Chart**.



**Navigation Chart with BlueChart g2 Vision Data**

### Zooming In and Out on the Map

The **RANGE (+/-)** keys (GPSMAP 4008/4012) or the ➕ and ➖ keys (GPSMAP 5008/5012) control the zoom level, indicated by the scale at the bottom of the navigation chart ( 120m ). The bar under the number represents that distance on the map.

### Navigation Chart Settings

To access additional settings or options for the Navigation chart, press or touch **MENU**.

**Overlay Numbers**—show or hide cruising, navigation, fishing and sailing numbers on the screen.

**Chart Setup**—customize the Navigation chart.

### Understanding Chart Data

BlueChart g2 and BlueChart g2 Vision charts use graphic symbols to denote map features, which follow the standards for US and international charts.

Other features common to most charts include depth contour lines (with deep water represented in white), intertidal zones, spot soundings (as depicted on the original paper chart), navigational aids and symbols, and obstructions and cable areas.

### Navigating to a Point on the Chart

1. From the Home screen, select **Charts**.

2. Select **Navigation Chart**, **Fishing Chart**, or **Radar Overlay**.

3. Select the point on the chart where you want to go.

4. Select Navigate To.

5. Select **Go To** or **Guide To** (available when using a preprogrammed BlueChart g2 Vision card to use Auto Guidance).

6. Follow the colored line on the screen to the destination.

To create a route to a point on the chart, see .

### Panning the Navigation Chart

Use the **ROCKER** on your GPSMAP 4008/4012 unit to move the map pointer (⟋) away from your current location, and scroll to other areas on the navigation chart. As you pan past the edge of the current map display, the screen scrolls forward to provide continuous map coverage. Touch and drag the Navigation screen on your GPSMAP 5008/5012 unit to pan away from your current location. The position icon (🛥) stays at your present location. If the position icon leaves the map when you pan, a small window appears in the corner so you can keep track of your current position.

As you move the map pointer, its coordinates, distance, and bearing from your current location appear in the upper-left corner of the map.

To pan the map, press up, down, right, or left on the **ROCKER** (GPSMAP 4008/4012), or touch and drag the Navigation screen (GPSMAP 5008/5012).



Pointer coordinates

Pointer distance and bearing from current location

Map pointer

Position window

Pan options

To stop panning, select **Stop Panning**.

As you pan the map, a list of options appear along the right side. The options change as you move the map pointer over various objects and charts.

- **Review**—(might not appear if the pointer is not near an object—if the pointer is near only one object, the object's name appears.) This allows you to view details of objects in the vicinity of the pointer. When you select **Review**, you are presented with a list of all the objects near the pointer.

- **Navigate To**—begin navigation to the pointer location.

- **Create Waypoint**—mark a waypoint at the pointer location.

- **Information**—view tide, current, celestial, or chart information near the pointer location.

### Accessing Additional Object Information

Use the map pointer ( ) (GPSMAP 4008/4012) or touch an item on the screen
(GPSMAP 5008/5012) to view information about on-screen map items, waypoints, and charts.

*Additional item
information*

*Selected
item*

### Viewing Tide Station Information

Tide station information appears on the chart with a detailed icon showing the relevant tide level.
You can view an in-depth graph for a tide station to help predict the tide level at different times or
different days.

*Relevant tide
level*

*Detailed
tide station
information*

Highlight or touch a tide station icon ( ), and select **Review** to view a detailed tide graph.

# Using Mariner's Eye

Mariner's Eye provides a view from above and behind the boat (according to your course), and provides a visual navigation aid. This view is helpful when navigating tricky shoals, reefs, bridges, or channels, and is beneficial when trying to identify entry and exit routes in unfamiliar harbors or anchorages.

To access the Mariner's Eye screen, from the Home screen, select **Charts** > **Mariner's Eye**.

Press the **RANGE (+)** key (GPSMAP 4008/4012) or touch the ⊞ key (GPSMAP 5008/5012) to move the view closer to your boat and lower to the water, Press the **RANGE (-)** key (GPSMAP 4008/4012) or touch the ⊟ key (GPSMAP 5008/5012) to move the view away from the boat.

## *Mariner's Eye Settings*

To access additional settings or options from the Mariner's Eye screen, press **MENU.**

**Rings**—toggle the range rings on or off.

**Tracks**—turn the visible track log on or off. The unit continues to record tracks if you turn this setting off, but they are hidden from view.

**Safe Depth**—adjust your boat's safe depth.

**Lane Width**—adjust the width of the course line drawn when navigating. This setting does not affect routes **(Route To)** or automatic guidance **(Guide To).**

**Show Radar**—If you have a Garmin marine radar device connected to your Garmin Marine Network, you can overlay radar readings on the Mariner's Eye screen.
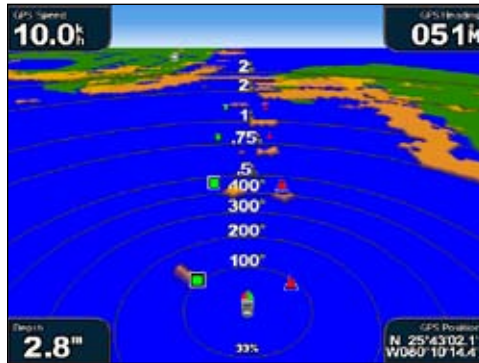


**Mariner's Eye With Radar Information**

**Overlay Numbers**—show or hide cruising, navigation, fishing, and sailing numbers.

# Changing the Chart Settings

To change chart settings, from the Home screen, select **Charts** > **Chart Setup**.

**Orientation**—change the perspective of the map display:

- **North Up**—sets the top of the map display to a north heading.
- **Track Up**—sets the map display to the current track heading.
- **Course Up**—sets the map so the direction of navigation is always up. The heading line appears vertically on the screen if shown.

Heading line

Track

Chart border

**Heading Line**—draws an extension from the bow of the boat in the direction of travel.

- **Off**—turns off the heading line.
- **Distance**—sets the distance to the end of the heading line.
- **Time**—sets the amount of time until you reach the end of the heading line.

**Chart Borders**—turn on chart borders when using a BlueChart g2 Vision SD card and you want to see what area the maps cover.

**Tracks**—hides (off) or shows (on) tracks on the chart.

**Inset Map**—turn the inset map on or off when panning away.

**Appearance**—customizes how items are shown on the map. Refer to the details below.

## Changing the Chart Appearance

From the Home screen, select **Charts** > **Chart Setup** > **Appearance**.

**Detail**—adjust the amount of detail shown on the map at different zoom levels.

**Photos**—set the high resolution satellite images to off, land only, or blend. High-resolution satellite imagery is only available while using a BlueChart g2 Vision SD card.

**Spot Depths**—turn on spot soundings and set a dangerous depth.

**Light Sectors**—adjust the drawing of light sectors on the map.

**Symbols**—select the navaid symbol set (NOAA or IALA).

**Symbol Size**—adjust the size of the symbols shown on the map.

## Using Tracks

A track is a recording of your path. The track currently being recorded is the active track. An active track can be saved.

### To turn the track log on:

From the Navigation chart, select **Menu** > **Chart Setup** > **Tracks** > **On**. A trailing line on the chart indicates your track.



### To save or clear the active track:

1. From the Home screen, select **Information** > **User Data** > **Tracks**.
2. Select **Save Active Track** to save the track; select **Clear Active Track** to clear it.



### To set active Track Options:

From the Home screen, select **Information** > **User Data** > **Tracks** > **Active Track Options**.

- **Record Mode**—select **Off**, **Fill**, or **Wrap**.
  - **Off**—no track log is recorded.
  - **Fill**—a track log is recorded until the track memory is full.
  - **Wrap**—continuously records the track log, wrapping through the available memory (replacing the oldest track data with new data).
- **Interval**—defines the frequency at which the track plot is recorded. Recording more frequent plots is more accurate, but fills the track log faster.
  - **Interval**—sets whether the interval is determined by distance, time, or resolution. (Select **Change** to set the quantity.)

- **Distance**—records the track based on a distance between points.
- **Time**—records the track based on a time interval.
- **Resolution**—records the track plot based on a variance from your course. This setting is recommended for the most efficient use of memory. The distance value (**Change**) is the maximum error allowed from the true course before recording a track point.
- **Change**—Sets the value of the interval.
- **Color**—sets the color of the track plot.

**To edit or delete a saved track:**
1. From the Home screen, select **Information** > **User Data** > **Tracks** > **Saved Tracks**.
2. Select the track you want to edit or delete.
3. Select **Edit Track** to change the name or color of the track or to delete it.

## Using BlueChart g2 Vision
Optional BlueChart g2 Vision preprogrammed SD cards allow you to get the most out of your unit. In addition to detailed marine charting, BlueChart g2 Vision has the following features:

- **Mariner's Eye 3D**—a view from above and behind the boat, for a visual, three-dimensional navigation aid. The BlueChart g2 Vision Mariner's Eye 3D is more detailed than the preloaded data.
- **Fish Eye 3D**—an underwater, 3D view that visually represents the sea floor according to the chart's information.
- **Fishing Charts**—view the chart with enhanced bottom contours and without navigational data. This chart works best for offshore deep-sea fishing.
- **High Resolution Satellite Imagery**—high resolution satellite images are provided for a realistic view of the land and water on the Navigation chart.
- **Aerial Photos**—view marinas and other navigationally significant aerial photos to help you visualize your surroundings.
- **Detailed Roads and POI data**—view roads, restaurants, and other points of interest (POIs) along the shore.
- **Current Data**—view current station information.
- **Auto Guidance**—uses the specified boat safe depth and chart data to determine the best course to your destination.

**NOTE:** You cannot transfer BlueChart g2 Vision data from the SD card to your computer for backup or viewing purposes. You can only use the SD card on BlueChart g2 Vision compatible Garmin GPS units.

# Using Mariner's Eye 3D

A BlueChart g2 Vision SD card offers Mariner's Eye 3D, which provides a detailed three-dimensional view from above and behind the boat (according to your course), and provides a visual navigation aid. This view is helpful when navigating tricky shoals, reefs, bridges, or channels, and is beneficial when trying to identify entry and exit routes in unfamiliar harbors or anchorages.
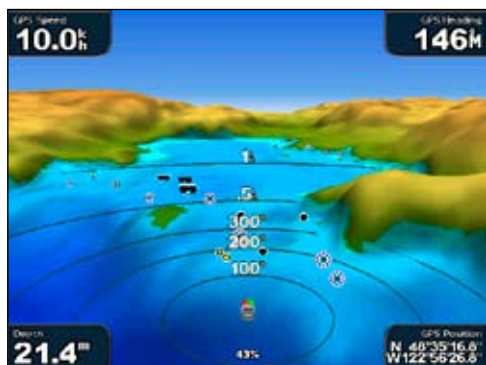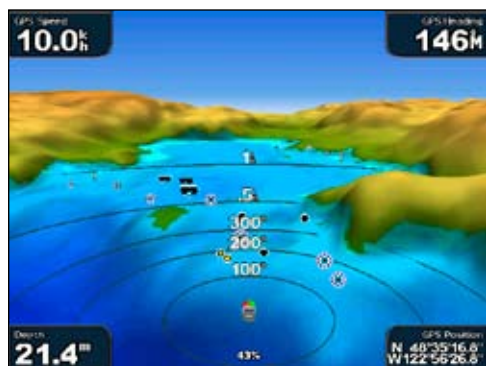

**Mariner's Eye 3D**


**Navigation Chart**

Press the **RANGE (+)** key (GPSMAP 4008/4012) or touch the ⊞ key (GPSMAP 5008/5012) to move the view closer to your boat and lower to the water, Press the **RANGE (-)** key (GPSMAP 4008/4012) or touch the ⊟ key (GPSMAP 5008/5012) to move the view away from the boat.

## *Mariner's Eye 3D Settings*

To access additional settings or options from the Mariner's Eye 3D screen, press **MENU**.

**Colors**—choose between **Normal** (Default), **Water Hazard**, and **All Hazard**. The **Normal** setting shows the land as seen from the water. The **Water Hazard** setting indicates shallow water and land with a color scale. Blue indicates deep water, yellow is shallow water, and red is very shallow. The **Water Hazard** setting indicates land in green and brown, and the **All Hazard** setting shows land as dark red.


**Mariner's Eye 3D, Normal Colors**
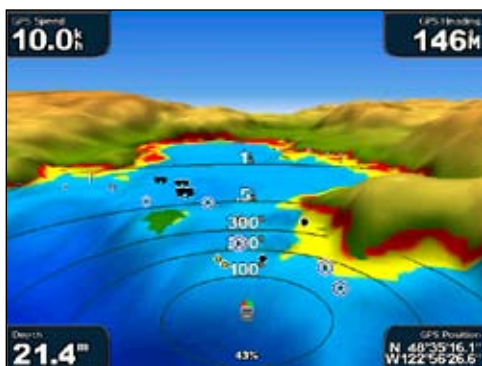

**Mariner's Eye 3D, Hazard Colors**

**Safe Depth**—adjust the depth at which red indicates shallow water. This also changes the global Safe Depth setting as it applies to the Auto Guidance feature.

**Rings**, **Tracks**, **Lane Width**, and **Show Radar**—see "Mariner's Eye Settings" on page 8.

# Using Fish Eye 3D

Using the depth contour lines of the BlueChart g2 Vision cartography, Fish Eye 3D provides an underwater view of the sea floor or lake bottom. Use the **RANGE** keys (GPSMAP 4008/4012) or the ➕ and ➖ keys (GPSMAP 5008/5012) to adjust the view.
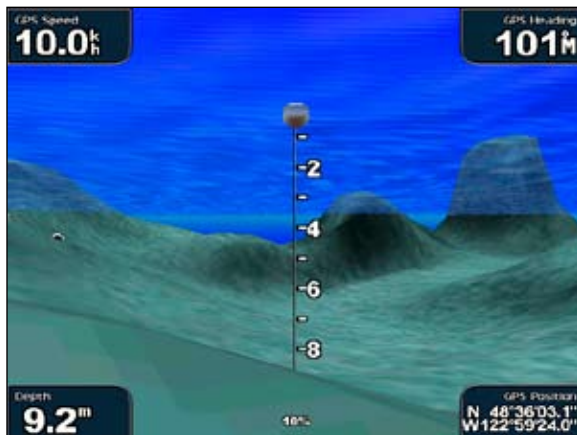
**Fish Eye 3D**

## *Fish Eye 3D Settings*

To access additional settings or options for the Fish Eye 3D screen, press **MENU.**

**Sonar Cone**—turn a cone on or off that shows the area covered by your transducer.

**Sonar Data**—visually show the sonar readings received by your transducer for the best combination of sonar and mapping.

**Tracks**—turn the track log on or off.

**Overlay Numbers**—show or hide cruising, navigation, or fishing numbers.

# Using Fishing Charts

Use the Fishing chart for a detailed, unobstructed view of the bottom contours and depth soundings on the chart.

**Fishing Chart**                    **Navigation Chart**

The Fishing chart uses detailed bathymetric data on a preprogrammed BlueChart g2 Vision SD card, and is best for offshore deep-sea fishing.

# Enabling High Resolution Satellite Imagery

You can overlay high-resolution satellite images on the land, sea, or both portions of the Navigation chart when using a preprogrammed BlueChart g2 Vision SD card.

### To enable satellite imagery:

1. While viewing the **Navigation Chart**, press **MENU**.

2. Select **Chart Setup** > **Appearance** > **Photos**.

3. Select one of the following:

   • **Off**—standard chart information is shown on the map.

   • **Land Only**—standard chart information is shown on water with photos overlaying the land.

   • **Blend**—photos overlay both the water and the land at a specified opacity. The higher you set the percentage, the more the satellite photos will cover both land and water.

**NOTE:** When enabled, the high resolution satellite images are only present at lower zoom levels. If you cannot see the high resolution images in your BlueChart g2 Vision region, either zoom in further using the **RANGE (+)** key (GPSMAP 4008/4012) or touch the ➕ key (GPSMAP 5008/5012), or set the detail level higher.


**Photo Overlay Off**


**Land Only Photo Overlay**


**Blend at 50%**


**Blend at 100%**

## Viewing Aerial Photos

Preprogrammed BlueChart g2 Vision SD cards contain aerial photographs of many landmarks, marinas, and harbors. Use these photos to help orient yourself to your surroundings or acquaint yourself with a marina or harbor prior to arrival.

**NOTE:** Use the **RANGE** (+/-) keys (GPSMAP 4008/4012) or touch the [+] and [−] keys (GPSMAP 5008/5012) to zoom in and out while viewing the aerial photo on the full screen.

**To access aerial photos from the navigation chart:**
1. Touch (GPSMAP 5008/5012) or use the **ROCKER** (GPSMAP 4008/4012) to highlight a camera icon with the pointer, and select **Review**.



*Overhead*

*Perspective*
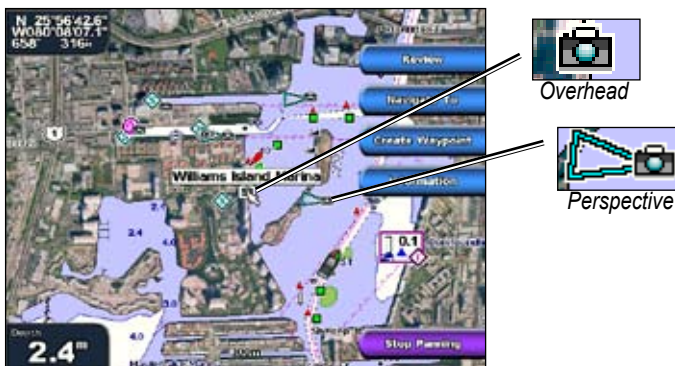
2. Select **Aerial Photo** > **View Fullscreen**.

## Viewing Current Station Information

If current stations are available in your g2 Vision region, they appear on the navigation chart as a highlighted arrow. This detailed icon shows the current's speed and direction at a glance.

## Detailed Road and POI Data

BlueChart g2 Vision contains detailed road and POI data, which includes highly detailed coastal roads and points of interest (POIs) such as restaurants, lodging, local attractions, and more. For instructions on searching for and navigating to these POIs, see the "Where To" section (page 18.)

## Using Automatic Guidance

Automatic Guidance automatically creates and suggests passage based on available BlueChart g2 Vision chart information.

# Using Combinations

Use the Combinations screen to view a combination of different screens at the same time. The number of options available on the Combinations screen depends on the optional network devices you have connected to your chartplotter, and if you are using an optional BlueChart g2 Vision SD card. You can choose to combine two or three screens (GPSMAP 4008/4012) or up to four screens (GPSMAP 5008/5012).

To access the Combinations screen, from the Home screen, select **Combinations**.



**Combinations Screen**

The Combination screen shows a list of possible screen combinations. When viewing three combination screens, one screen is larger than the others. The charts are numbered with a corresponding button in the lower-right corner (GPSMAP 4008/4012). To switch the focus screen, select the icon from the bottom-right corner that represents the screen you want (GPSMAP 4008/4012) or touch **Menu** > **Change Combination** (GPSMAP 5008/5012).



*Focus screen*

*Data fields*

*Select to switch focus screen*
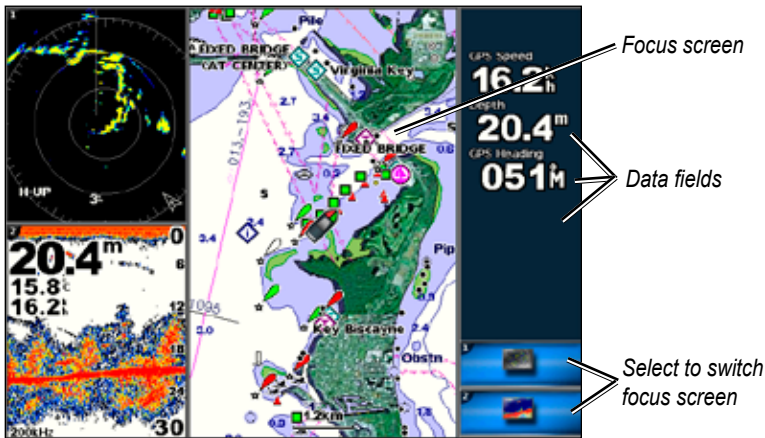
**Navigation Chart, Radar, and Sonar Combination**

To access additional settings or options for the Combinations screen, press **MENU**.

**To customize the screen combinations:**
1. While viewing the Combinations screen, select **MENU** > **Change Combination**.
   OR
   From the Home screen, select **Combinations** > **Unused Combo** (if one is available).



*Combination screen 1*

*Combination screen 2*

*Data bar*

*Select the number of combination screens*

2. Select **Num Functions** to select the [ ] on or off, and choose the combinatio[ ]

3. Select **Done**.

> **NOTE:** When you select the combination screens to view, you can only choose from the options available to your unit. You can increase the number of screens available by using a BlueChart g2 Vision SD card and adding network devices such as sonar and radar.

**To add additional data fields:**
1. While viewing the Combinations screen, touch an unused data field (5008 or 5012) or the soft key corresponding to an unused data field (4008 or 4012).
2. Select the Digital Item to be displayed on the Combinations Screen. Available options vary, based on the unit and network configuration.

**To edit an existing data field:**
1. While viewing the Combinations screen, touch a data field (5008 or 5012) or the soft key corresponding to a data field (4008 or 4012).
2. Select the Digital Item to be displayed on the Combinations Screen.

# WHERE TO

Use the **Where To** option on the Home screen to search for and navigate to nearby fuel, repairs, services, waypoints, and routes.

> **NOTE:** You must create waypoints and routes before you can navigate to them.

You can navigate to a destination using one of three methods: Go To, Route To, or Guide To.

- **Go To**—takes you directly to the destination.
- **Route To**—creates a route from your location to a destination, allowing you to add turns to the route.
- **Guide To**—searches BlueChart g2 Vision chart data to suggest the best path to your destination. You must be using a BlueChart g2 Vision SD card for this option to appear.

> **CAUTION:** Guide To does not assure obstacle and bottom clearance. For safety, always resolve any discrepancies or questions before continuing navigation.

## Navigating to a Destination

You can search for and navigate to nearby destinations including fuel, repairs, marinas, waypoints, and routes.

### To begin navigating:

1. From the Home screen, select **Where To.**
2. Select the marine service category to which you want to navigate. The unit shows the list of the 50 nearest locations and the distance and bearing to each.



3. Select the marine service item to which you want to navigate. A screen containing information about the selected marine service appears.

4. Select **Navigate To**.

5. Select **Go To**.
   OR
   Select **Guide To** when using a preprogrammed BlueChart g2 Vision card to use Auto Guidance.

6. Follow the colored line on the screen to the destination.



**To stop navigating:**
From the chart, Select **Menu**, and then select **Stop Navigating**.

**To search for a destination by name:**
1. From the Home screen, select **Where To** > **Search by Name**.

2.  Touch (GPSMAP 5008/5012) or use the **ROCKER** (GPSMAP 4008/4012) to select characters and spell at least a portion of the name of your destination.

**Search - 4008/4012**          **Search - 5008/5012**

3.  Select **Done** to view the 50 nearest destinations that contain your search criteria.
4.  Select the best location, then select **Navigate To** > **Go To** (or **Route To**).

## Creating and Using Waypoints

You can store up to 1,500 waypoints with a user-defined name, symbol, depth, and water temp for each waypoint.

**To create a new waypoint:**

1.  From the Home screen, select **Charts** > **Navigation Chart**.
2.  Use the map pointer (⬚) to select the location you want to designate as a waypoint (GPSMAP 4008/4012); touch the location you want to designate as a waypoint (GPSMAP 5008/5012).
3.  Select **Create Waypoint**.

4.  Select one of the following:

    - **Edit Waypoint**—designate a specific name, symbol, water depth, water temperature, or position.
    - **Delete**—delete the waypoint.
    - **Navigate To**—go to the waypoint.
    - **Back**—return to the navigation chart.

**To mark your current location as a waypoint:**
1. At any time, press the **MARK** key (GPSMAP 4008/4012) or touch **Mark** on the Home screen (GPSMAP 5008/5012)
2. Select **Edit Waypoint** to designate a specific name, symbol, water depth, water temperature, or position.
   • **Delete**—deletes the waypoint.
   • **Man Overboard**—designates the current location as a Man Overboard location.
   • **Next Page/Previous Page**—switches between waypoint information and the navigation chart.
   • **Back**—returns to the navigation chart.

⚠ **NOTE:** Selecting **Mark** only creates a waypoint at your present location.

**To mark an MOB (Man Overboard) location:**
When you mark a waypoint, you can designate it as an MOB (Man Overboard). This marks the point and sets a course back to the marked location. When an MOB is active, an MOB waypoint with an international MOB symbol is created, and the unit is on an active navigation to that point.

1. At any time, press the **MARK** key.
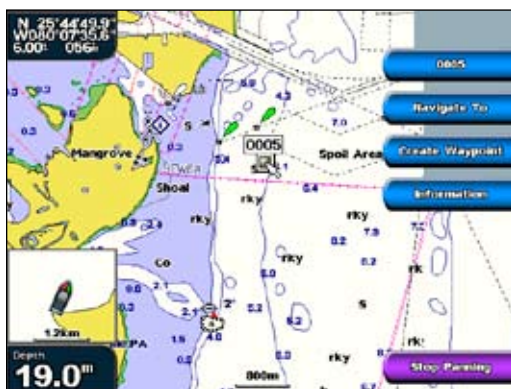2. Select **Man Overboard**.

**To edit an existing waypoint:**
1. From the Navigation chart, touch the waypoint (GPSMAP 5008/5012) or use the map pointer (⟋) (GPSMAP 4008/4012) to highlight the waypoint on the navigation chart.
   OR
   From the Home screen, select **Information > User Data > Waypoints**.
2. Select the button for the waypoint you want to edit.



4. Select **Edit Waypoint**.
5. Select the waypoint attribute you want to change (**Name**, **Symbol**, **Depth**, **Water Temp**, or **Position**).

**To move the waypoint on the navigation chart:**
1. Select the waypoint on the navigation chart.
2. Select **Review**.
3. Select the button for the waypoint you want to edit.
4. Select **Edit Waypoint** > **Position**.
5. Select **Use Chart** or **Enter Coordinates**.

6. If entering coordinates, use the **ROCKER** to enter the new coordinates for the waypoint. If using the chart, highlight the new location with the map pointer (⟨🔍⟩), and select **Move Waypoint**. The waypoint moves to the new location.

**To view a list of all waypoints:**
From the Home screen, select **Information** > **User Data** > **Waypoints**.

**To delete a waypoint or MOB:**
1. From the Navigation chart, touch the waypoint (GPSMAP 5008/5012) or use the map pointer (⟨🔍⟩) (GPSMAP 4008/4012) to highlight the waypoint on the navigation chart.
   OR
   From the Home screen, select **Information** > **User Data** > **Waypoints**.
2. Select the waypoint or MOB you want to delete.
3. Select **Delete**.

# Creating and Using Routes

You can create and store up to 20 routes with up to 250 waypoints each.

**To create a route from your present location:**
1. From the Navigation chart, touch your destination (GPSMAP 5008/5012) or use the map pointer (⟨🔍⟩) (GPSMAP 4008/4012) to choose your destination.
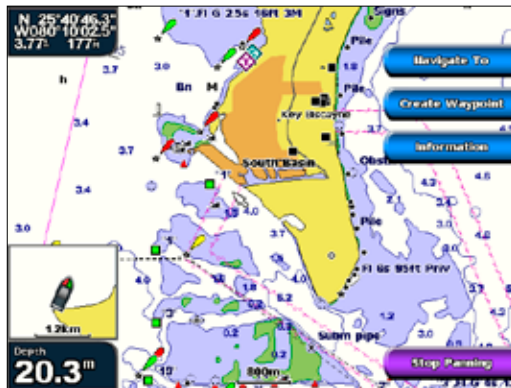


2. Select **Navigate To** > **Route To**.
3. Use the map pointer (⟨🔍⟩) (GPSMAP 4008/4012) to choose where you want to make the last turn. Touch the location where you want to make the last turn toward your destination (GPSMAP 5008/5012).
4. Select **Add Turn**.

5. To add additional turns, choose where you want to make the turn (working backward from the destination) and select **Add Turn**.

6. Select **Done** to finish the route or **Cancel Route** to delete the route.

**To create a route in another location:**

1. From the Home screen, select **Information** > **User Data** > **Routes** > **New Route**.

2. Touch the location (GPSMAP 5008/5012) or use the map pointer ( ) (GPSMAP 4008/4012) to select the location you want to start the new route.

3. Select **Add Turn** to mark the starting point of the route.

4. Choose the location of the first turn and select **Add Turn**. Repeat until the route is complete.

5. Select **Done**.

**To create a route using Auto Guidance:**

1. From the Navigation chart, select your destination.

2. Select **Navigate To** > **Guide To**. Your route is calculated.

> **NOTE:** You can change the auto guidance path to a route by selecting the end of the path and selecting **Navigate To** > **Route To**. The auto guidance path stays on the screen, allowing you to trace it while creating a route.

**To edit a route**

1. From the Home screen, select **Information** > **User Data** > **Routes**.

2. Select the route to edit.

3. Select **Edit Route**. You can edit the route name, turns, or delete the route.
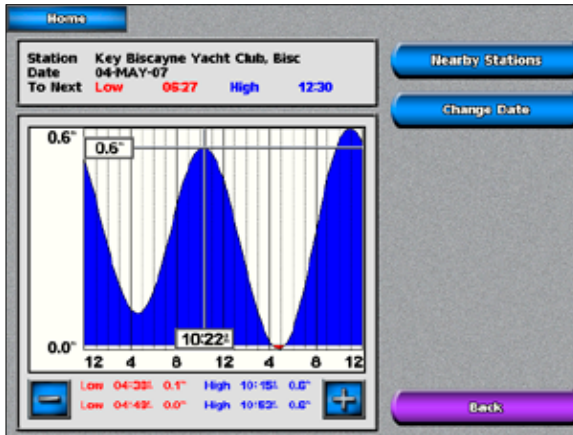
<div align="center">

# VIEWING INFORMATION

</div>

Use the Information screen to access information about tides, currents, celestial data, user data, other boats, gauges, and video.

## Viewing Tide Station Information

To view tide information, from the Home screen, select **Information** > **Tides**, then select a tide station from the list.

Select **Nearby Stations** to view other stations close to your current location. Select **Change Date** > **Manual** to view tide information for a different date.

## Viewing Current Information

Use the Current Prediction screen to view information for currents.

**NOTE:** You must use a BlueChart g2 Vision card to view Current Station information.

To view current information, from the Home screen, select **Information** > **Currents**, then select a current station from the list.



Select **Nearby Stations** to view other stations close to your current selection. Select **Change Date** > **Manual** to view current information for a different date.
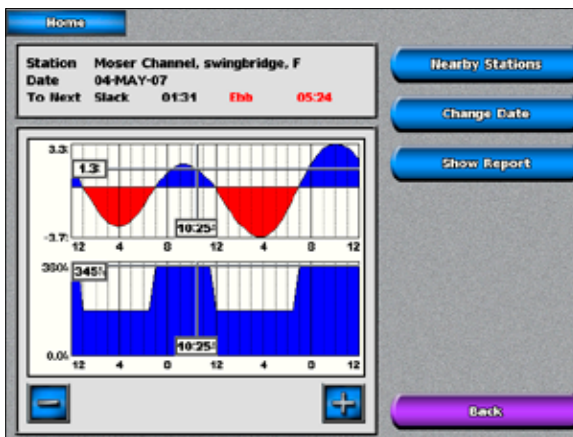
Select **Show Report** to view the Current Report for the selected station.

## Viewing Celestial Information

Use the Celestial screen to view celestial data for sun and moon rise/set, moon phase, and approximate sky view location of the sun and moon.

To view celestial information, from the Home screen, select **Information** > **Celestial**.



*Moon position*

*Sun position*

*Sky view window*
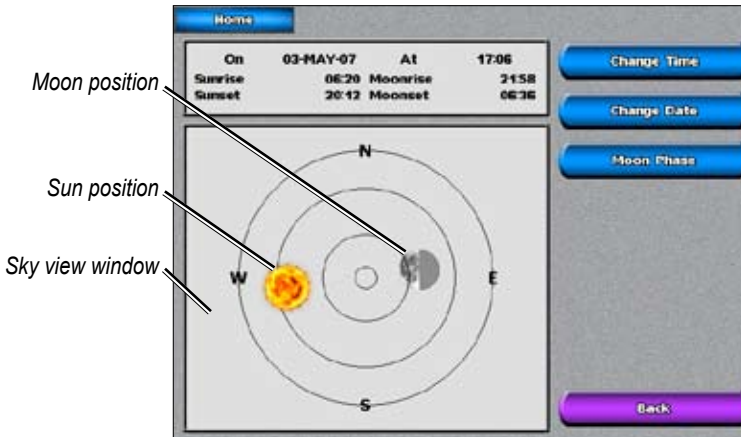
## Viewing User Data

To view user data, from the Home screen, select **Information** > **User Data**.

**Waypoints**—view a list of all saved waypoints (page 22).

**Routes**—view a list of saved routes (page 22).

**Tracks**—view a list of saved tracks.

**Data Transfer**—transfer waypoints, routes, and tracks to and from an SD card or network.

**Clear User Data**—erase all user waypoints, routes, and tracks.

### To transfer data (waypoints, routes, tracks) to or from an SD card:
1. Insert an SD card into the SD card slot on the front of the unit.
2. From the Home screen, select **Information** > **User Data** > **Data Transfer** > **Card**.

   Complete one of the following:
   - Select **Save To Card** to save waypoints, routes, and tracks to the SD card.
   - Select **Merge From Card** to transfer data from the SD card to the unit and combine it with existing user data.
   - Select **Replace From Card** to overwrite items on your unit.

### To transfer data to or from a network:
1. Connect the unit to a Garmin Marine Network using the network port on the back of the unit and a Garmin Network cable.
2. From the Home screen, select **Information** > **User Data** > **Data Transfer** > **Network**.

   Complete one of the following:
   - Select **Clone User Data** to transfer waypoints, routes, and tracks to other chartplotters connected to the network. Existing data will be overwritten on those chartplotters.
   - Select **Merge User Data** to transfer data between all the chartplotters connected to the network. Unique data will be combined with existing data on every chartplotter.

**To back up data to a PC:**
1. Follow steps 1 and 2 above to save the data to an SD card.

2. Insert the SD card into an SD card reader that is attached to a PC.

3. From Windows Explorer, open the Garmin\UserData folder on the SD card.

4. Copy the UserData.ADM file on the card and paste it to any location on the PC.

**To restore backup data to your chartplotter:**
1. Copy the UserData.ADM file from the PC to an SD card in a folder named Garmin\UserData.

2. Insert the SD card into your chartplotter.

3. From the Home screen on your chartplotter, select **Information** > **User Data** > **Data Transfer** > **Card**.

4. Select **Replace From Card** to restore the data.

**To copy or merge MapSource data to your chartplotter:**
1. Insert the SD card into your chartplotter to allow it to place a file on the SD card. This file provides information to MapSource to format its data. This only needs to be done the first time you copy or merge MapSource data to your chartplotter from a specific SD card.

2. Check your MapSource version on the PC by clicking **Help** > **About MapSource**. If the version is older than 6.12.2, update to the most current version by clicking **Help** > **Check for Software** Updates or check the Garmin website at www.garmin.com.

3. Insert the SD card into an SD card reader that is attached to the PC.

4. From within MapSource, click on **Transfer** > **Send to Device**.

5. From the Send to Device window, select the drive for the SD card reader and the types of data you want to copy to your chartplotter.

6. Click **Send**.

7. Insert the SD card into your chartplotter.

8. From the Home screen on your chartplotter, select **Information** > **User Data** > **Data Transfer** > **Card**.

9. Select **Replace From Card** or **Merge From Card** to copy or merge the data into your chartplotter.

# Viewing Other Boats

To view information about other boats, from the Home screen, select **Information** > **Other Boats**.

**NOTE:** To view information about other boats, your unit must be connected to an external AIS (Automatic Identification System) or DSC (Digital Selective Calling) device.

**AIS List**—view information about all of the boats your unit is monitoring. Select **AIS List** to view the MMSIs (Maritime Mobile Service Identities) or names (if the boat is broadcasting a name) of nearby AIS-equipped boats. The AIS list is sorted by range, with the boat nearest to your boat at the top of the list.

**DSC Log**—view a list of all DSC calls, sorted by most recent, sender, or by type (distress calls or position reports).

- **View By Time**—view the most recent DSC calls received, sorted and displayed chronologically by time and date. Calls with identical time and date information show the same information in the list.

- **View By Sender**—view an alphanumerical list of senders.

- **View By Type**—view the most recent distress calls or position reports, sorted chronologically.
- **Delete All**—delete all log entries.

**DSC Call List**—view the 100 most recent calls. The DSC Call List shows the most recent call from a boat. If a second call is received from the same boat, it replaces the first call in the Call List.

**Directory**—view a list of all DSC entries. You can view by name or by MMSI. You can also add an entry.

# Viewing Gauges
To view analog or digital engine gauges, from the Home screen, select **Information** > **Gauges**.
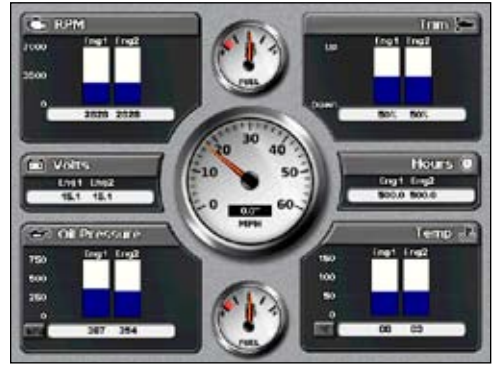


> ✓ **NOTE:** You must be connected to a NMEA 2000 network capable of sensing engine data to view the gauges. For more information on supported NMEA 2000 PGN information, see page 48.

### To select analog or digital gauges:
1. While viewing the Gauges screen, press **MENU**.
2. Select **Gauge Setup** to select the number of engines (1 - 4), number of fuel tanks (1 or 2), and to reset the odometer to zero.

> ✓ **NOTE:** For more than two engines, you can only use the digital gauges. For one or two engines, you can switch between analog and digital gauges.

# Viewing Video
Your unit can display video if you connect to a video source using the supplied video cable. See the *GPSMAP 4000/5000 Series Installation Instructions* for details.

To view video from the Home screen, select **Information** > **Video**.

Select **Menu** to setup the following:

- **Source**—select the video device (1 or 2) to use to display video. If you have two video sources and want to alternate between the two, select **Alternate** to define the amount of time each video is displayed.
- **Aspect**—switch between the standard aspect ratio and a stretched aspect ratio. The video cannot be stretched beyond the dimensions provided by the connected video device. Because of this, the stretched video may not fill the entire screen of the GPSMAP 4012/5012.
- **Brightness**—adjusts the brightness of the video feed up or down, or select **Auto** to allow the unit to automatically adjust the brightness.

- **Saturation**—adjusts the color saturation up or down, or select **Auto** to allow the unit to automatically adjust the saturation.
- **Contrast**—adjusts the contrast up or down, or select **Auto** to allow the unit to automatically adjust the contrast.
- **Standard**—selects the video format used by the source (PAL or NTSC). Select **Auto** to let the unit automatically select the source format.

# CONFIGURING THE UNIT

Use the Configure screen to configure unit settings.

## Configuring System Settings

To change general system settings, from the Home screen, select **Configure** > **System**.

**Simulator**—turn Simulator Mode on or off and set simulator options. (If you set the unit into a Store Demonstration mode during the initial unit setup, this setting is named Demo.)

**Language**—select the on-screen language.

**Beeper/Display**—select **Beeper** to set when the unit makes audible sounds. Select **Backlight** to brighten or darken the backlight Select **Color Mode** to switch between Day or Night Mode.

**GPS**—view GPS satellites and turn WAAS/EGNOS on or off.

**System Information**—view system information, restore factory settings, and view the status of networked devices.

**Event Log**—shows a list of system events. Select the event to view additional information.

**Overlay Numbers**—view or edit the options for Wind (**Apparent Wind** or **True Wind**) and Next Turn numbers (**Distance** or **Time**).

## Changing Units of Measure

To change units of measure from the Home screen, select **Configure** > **Units**.

**System Units**—a global setting that defines most of the individual units of measure at the same time. **Statute (mh, ft, ºF)**, **Metric (kh, m, ºC)**, **Nautical (kt, ft, ºF)**, or **Custom**. Select **Custom** to individually define units of measure for depth, temperature, distance, speed, elevation, volume, and pressure.

> **NOTE:** You must be receiving NMEA Sonar depth data or using a Garmin sounder module to view depth and water temperature information.

**Heading**—set the reference used in calculating heading information.

- **Auto Mag Var**—Automatic Magnetic Variation automatically sets the magnetic declination for your location.
- **True**—sets true north as the heading reference.
- **Grid**—sets grid north as the heading reference (000º).
- **User Mag Var**—allows you to set the magnetic variation value.

**Position Format**—change the coordinate style in which a given location reading appears. Only change the position format if you are using a map or chart that specifies a different position format.

**Map Datum**—change the coordinate system in which the map is structured. Only change the Map Datum if you are using a map or chart that specifies a different Map Datum.

**Time Format**—choose a 12 hour, 24 hour or UTC time format.

**Time Zone**—set the time zone you want displayed for time readings.

**Daylight Saving Time**—indicate whether you want daylight saving time **Off**, **On**, or **Auto**. The auto setting changes turns daylight saving time on or off, depending on the time of year.

## Configuring Communications Settings

To change the communications settings, from the Home screen, select **Configure** > **Communications**.

**Port Types**—select each port's input/output format (**NMEA Std.** or **NMEA High Speed**) to use when connecting your unit to external NMEA devices, a computer, or other Garmin devices.

- **NMEA Std.**—supports the input or output of standard NMEA 0183 data, DSC, and sonar NMEA input support for the DPT, MTW, and VHW sentences.

- **NMEA High Speed**—supports the input or output of standard 0183 data for most AIS receivers.

**NMEA 0183 Setup**—enable or disable NMEA 0183 output sentences for sounder, route, system, and Garmin NMEA settings.

### To enable or disable NMEA 0183 output sentences:
1. From the Home screen, select **Configure** > **Communications** > **NMEA 0183 Setup**.

2. Select a setting (**Sounder**, **Route**, **System**, or **Garmin**).

3. Select the NMEA 0183 output sentence.

4. Select **Off** to disable, or select **On** to enable the 0183 NMEA output sentence.

- **Posn. Precision**—adjust the number of digits (**Two Digits**, **Three Digits**, or **Four Digits**) to the right of the decimal point for transmission of NMEA output.

- **Waypoint IDs**—select how the unit outputs waypoint identifiers (**Names** or **Numbers**).

- **Defaults**—reset NMEA 0183 settings to their default settings (**OK** or **Cancel**).

**NMEA 2000 Setup**—These settings are not required for NMEA 2000 communications, but they provide a means of differentiating units in a NMEA 2000 installation if necessary.

- **Device Instance**—if you have two or more of the same NMEA 2000 devices in your NMEA 2000 network, select **Device Instance** and enter a different number for each device.

- **System Instance**—if you have two or more separate NMEA networks on your boat with a gateway between the systems, select **System Instance** and assign a different number to each NMEA network.

## Setting Alarms

You can set the unit to sound an audible alarm when certain conditions are met. By default, all alarms are turned off.

### To set an alarm:
1. From the Home screen, select **Configure** > **Alarms**.

2. Select an alarm category (**Navigation**, **Engine**, **System**, or **Sonar**).

3. Select an alarm.

4. Select **On** to turn the alarm on, and then specify alarm information.

### *Setting Navigation Alarms*

To set a navigation alarm, from the Home screen, select **Configure** > **Alarms** > **Navigation**.

**Anchor Drag**—set an alarm to sound when you exceed a specified drift distance.

**Arrival**—set an alarm to sound when you are within a specified distance or time from a destination waypoint.

**Off Course**—set an alarm to sound when you are off course by a specified distance.

### Setting System Alarms

To set a system alarm, from the Home screen, select **Configure** > **Alarms** > **System**.

**Clock**—set an alarm using the system (GPS) clock. The unit must be on for the clock alarm to work.

**Battery**—set an alarm to sound when the battery reaches a user-determined low voltage.

**GPS Accuracy**—set an alarm to sound when the GPS location accuracy falls outside the user-determined value.

### Setting Sonar Alarms

To set a sonar alarm, from the Home screen, select **Configure** > **Alarms** > **Sonar**.

> **NOTE:** You must have an optional sonar module (and a transducer connected to the sounder module) wired through NMEA 0183 or connected to the Garmin Marine Network to receive sonar information.

**Shallow Water/Deep Water**—set an alarm to sound when the depth is less than or greater than the specified value.

**Water Temp**—set an alarm to sound when the transducer reports a temperature that is 2° F (1.1° C) above or below the specified temperature.

**Fish**—set an alarm to sound when the unit detects a suspended target of the specified symbols.

— sounds an alarm for all fish sizes

— sounds an alarm for medium and large fish only

— sounds an alarm for large fish only

## Configuring My Boat

To configure settings for your boat, from the Home screen, select **Configure** > **My Boat**.

**Auto Guidance**—set the Auto Guidance parameters for your boat:

- **Safe Depth**—set the minimum depth (refers to the chart depth datum) to allow when calculating an auto guidance path.
- **Safe Height**—set the minimum height (refers to the chart height datum) of a bridge that your boat can safely travel under.

**Keel Offset**—offset the surface reading for the depth of a keel. This makes it possible to measure depth from the bottom of your keel instead of from the transducer's location. Enter a positive number to offset for a keel. You can enter a negative number to compensate for a large vessel that may draw several feet of water.

#### To adjust the Keel Offset:
1. From the Home screen, select **Configure** > **My Boat** > **Keel Offset**.
2. Use the select screen keyboard to specify the offset.
3. Select **Done** to accept the number.

> **NOTE:** Select **Cancel** to cancel your changes and return to the My Boat screen.

**Transducer**—select the transducer type, set the temperature source, sonar cone angles, and calibrate water speed.

- **Temperature Source**—set the temperature source (**Transducer** or **NMEA**).

- **Sonar Cone Angles**—when using a transducer other than the standard Garmin transducer, you can set the angle, in degrees, of the sonar cone so that it is accurately depicted on the Fish Eye 3D screen. Select either **200kHz** or **50kHz** and use the on-screen keyboard to enter the angle.

> **NOTE:** The Sonar Cone Angles setting is preset to match the cone angle of a standard Garmin dual frequency transducer. Only use this option to match the specifications of a non-standard transducer.

**Calibrate Water Speed**—use this menu to calibrate a speed sensing device. Follow the on-screen directions for calibration. If you do not have a speed sensing device, this menu does not appear.

> **NOTE:** If the boat is not moving fast enough or the speed sensor is not registering a speed, a "Speed Too Low" message appears. Select **OK** and safely increase boat speed. If you get the message again, stop the boat and make sure the speed sensor wheel is not stuck. If the wheel turns freely, check the cable connections. If you continue to get the message, contact Garmin Product Support.

## Configuring Other Boats

To configure settings for boats other than your own, from the Home screen, select **Configure** > **Other Boats**.

**AIS**—turn AIS (Automatic Identification System) on or off. AIS alerts you to area traffic by providing boat IDs, position, course, and speed for boats equipped with a transponder within range.

**DSC**—turn DSC (Digital Selective Calling) on or off.

> **NOTE:** To configure AIS or DSC information for other boats, your unit must be connected to an external AIS or DSC device.

**Safe Zone**—(AIS and MARPA only) turn a safe zone around your boat on or off. This is used for collision avoidance, and can be customized. To customize safe zone settings, from the Home screen, select **Configure** > **Other Boats** > **Safe Zone** > **Setup**.

- **Ring**—show or hide a ring on the Navigation chart showing the safe zone for your boat.

- **Range**—change the measured radius of the safe zone ring to a specified distance from 0.1 to 2.0 nm (or 0.2 to 5.0 km, or 0.1 to 2.0 mi).

- **Time to** (Safe Zone)—sounds an alarm if AIS or MARPA determines that a target will intersect the Safe Zone within the defined time interval (ranging from 3 to 24 minutes).

**Details**—show or hide the name, speed, and bearing of AIS or MARPA targets onscreen. The details appear next to the AIS or MARPA target icon.

# USING THE GARMIN MARINE NETWORK

The Garmin Marine Network allows you to share data from Garmin peripheral devices between Garmin chartplotters quickly and easily. You can connect your GPSMAP 4008/4012 and GPSMAP 5008/5012 units and previous Garmin Marine Network compatible chartplotter models (GPSMAP 3005/3006/3010) to your network to share data. With the Garmin Marine Network, you can:

- Share GPS data from a GPS 17 antenna wired to one chartplotter with every chartplotter connected to the Garmin Marine Network.
- Share NMEA 0183 data from devices wired to one chartplotter with every chartplotter connected to the Garmin Marine Network.

**NOTE:** Both the GPS 17 and any NMEA 0183 devices must be connected to the same chartplotter to achieve the best results when sharing data over the Garmin Marine Network.

**NOTE:** If you are using a GSD 21 wired to a GPSMAP 3006/3010 chartplotter, data is shared with any GPSMAP 4008/4012 and 5008/5012 chartplotters connected to your Garmin Marine network. All GSD 21 settings must be configured on the GPSMAP 3006/3010. You cannot wire a GSD 21 to a GPSMAP 4008/4012 or GPSMAP 5008/5012 unit.

- Share data from Garmin Marine Network devices connected to any chartplotter in the Marine Network or a GMS 10 Marine Network Port Expander with every other chartplotter connected to the Marine Network. These devices include:
  - **GSD 22 digital sounder**— provides sonar data when connected to the Garmin Marine Network and an appropriate transducer. Sonar data is shared by all chartplotters on the network.
  - **GMR 21/41 Radome; GMR 18 Radome; and GMR 404/406 Open Array Radar**—provide radar data when connected to the Garmin Marine Network. Radar data is shared by all chartplotters on the network.
- Share BlueChart g2 Vision cartography data from an SD card inserted in one GPSMAP 4000/5000 series chartplotter with every GPSMAP 4000/5000 series chartplotter connected to the Marine Network.

**NOTE:** BlueChart g2 Vision cartography is only compatible with GPSMAP 4000/5000 series chartplotters. Previous Garmin Marine Network compatible chartplotter models (such as the GPSMAP 3010) can be connected to your network, but they cannot share BlueChart g2 Vision data.

- Transfer waypoint, route, and track information from one chartplotter connected to the Garmin Marine Network to every other chartplotter connected to the Marine Network. The data can be cloned from one chartplotter to every other connected chartplotter, or the data can be merged and shared with every connected 4000/5000 series chartplotter.

## Viewing Connected Garmin Marine Network Devices

To view all connected Garmin Marine Network devices, from the Home screen, select **Configure > System > System Information > Network Devices**.



**Network Devices**

Each connected device is listed along the right side of the screen. To assign an alias or name to one of the devices for identification purposes, select the device. Use the **ROCKER** (GPSMAP 4008/4012) or onscreen keyboard (GPSMAP 5008/5012) to name the device.

Select **Back** or press the **HOME** key to exit.

MARINE
NETWORK

# Using Radar

When you connect your chartplotter to an optional Garmin marine radar such as a GMR 404/406 or GMR 18, you can view more information about your surroundings. The Garmin marine radar connects through the Garmin Marine Network and shares radar data with all networked chartplotters.

The Garmin marine radar transmits a narrow beam of microwave energy as it rotates in a 360º pattern. When the transmitted energy contacts a target, some of that energy is reflected back to the radar.

> ⚠ **WARNING:** The marine radar transmits microwave energy that has the potential to be harmful to humans and animals. Before beginning radar transmission, verify that the area around the radar is clear. The radar transmits a beam approximately 12° above and below a line extending horizontally from the center of the radar. Avoid looking directly at the radar, because the eyes are the most susceptible part of the body.

### To turn on the radar:
1. When you power on the network, the radar warms up. A countdown is provided to alert you when the radar is ready. From the Home screen, press **Radar > Cruising**.

> ✓ **NOTE:** As a safety feature, the radar enters standby mode after it warms up. This gives you an opportunity to verify that the area around the scanner is clear before beginning radar transmission. The microwave energy transmitted by the scanner can potentially be dangerous.

2. When the message "Ready to Transmit" appears, press or touch **MENU**.
3. On the bottom right of the screen, select **Transmit Radar**. A "Spinning Up" message appears for a few moments, then the radar begins painting an image.
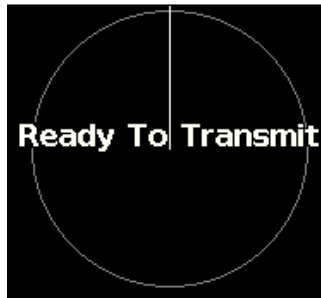


### To turn off the radar:
1. Press or touch and release the ⏻ **POWER** button on the chartplotter (do not hold the button, or you may shut down the chartplotter), or press **MENU**.
2. Select **Go To Standby**.

# Understanding the Cruising Screen

Use the Cruising screen to view a full-screen image of the gathered radar information. Your position is in the center of the screen, and the rings provide distance measurements.
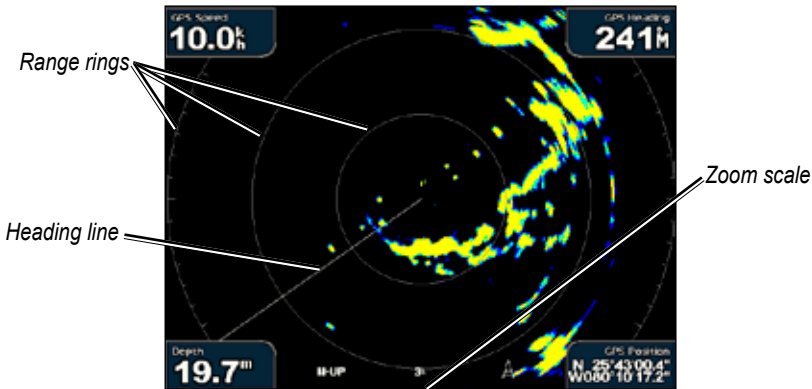


The zoom scale represents the distance from your position (the center) to the outermost ring. Each ring represents an even division of the zoom scale. For example, if the zoom scale is set at three kilometers, each ring represents one kilometer from the center out. Use the using the **RANGE** (+/-) keys (GPSMAP 4008/4012) or the ➕ and ➖ keys (GPSMAP 5008/5012) to adjust the zoom scale.

## *Cruising Screen Settings*

To access additional settings or options for the radar cruising screen, press **MENU**.

**Gain**—controls the sensitivity of the radar receiver. The default setting, **Auto**, adjusts automatically to provide optimal performance. Select **Up** or **Down** to manually adjust the gain; select **Auto** to return the gain to the default setting.

- **Rain Cltr**—adjust the gain for unwanted clutter caused by rain at close ranges. Select **Up** or **Down** to adjust the rain clutter sensitivity.

- **Sea Cltr**—adjust the gain for clutter caused by choppy sea conditions. Select **Nxt Prset** to cycle between **Rough**, **Med**, **Calm**, or **Off**. Select **Up** or **Down** to manually adjust the sea clutter sensitivity.

**Guard Zone**—defines a safe zone around your boat. An alarm sounds when a detected object enters this zone. Select **On** or **Off**. If the guard zone is on, you can define the boundaries by selecting **Adjust Guard Zone**:

- **Corner 1** (and **Corner 2**): Use the **ROCKER** (GPSMAP 4008/4012) as indicated by the arrows (↔ and ↕) to define the size of the guard zone. Select **Corner 1** or **Corner 2** to change the reference point. For GPSMAP 5008/5012 units, touch **Corner 1**, and then touch the point on the screen where you want the first corner of the guard zone. Repeat this with **Corner 2**.

- **Circular**: Joins the guard zone to completely encompass the boat. Use **Corner 1** or **Corner 2** to adjust the size.

| Corner 1 | Corner 2 | Circular |
|---|---|---|
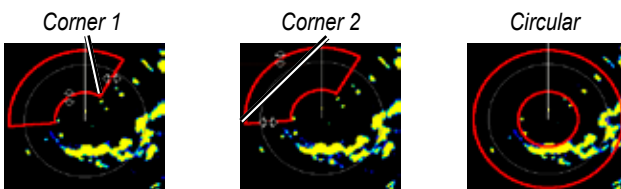
**Overlay Numbers**—show or hide cruising, navigation, sailing, or fishing numbers.

**Radar Setup**—access advanced radar settings.

## *Targeting on the Cruising Screen*

Use the **ROCKER** (GPSMAP 4008/4012) or touch the target location (GPSMAP 5008/5012) to begin targeting. A green ring and a green line appear. The green ring corresponds with the range rings to help define an object's distance from your location. The green line corresponds with the heading line to help define an object's bearing from your location. As you move the **ROCKER**, you adjust the point where the green ring and green line intersect. This point indicates your target. As you move the target over objects on the radar, target options appear along the right side of the screen.



*Heading line*

*Target (intersection)*

*Target options*

**Cruising Screen - Targeting**
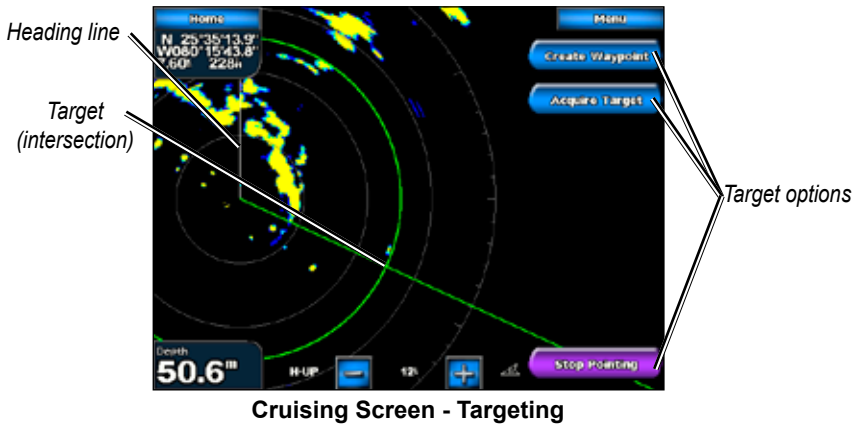
To stop targeting, select **Stop Pointing**.
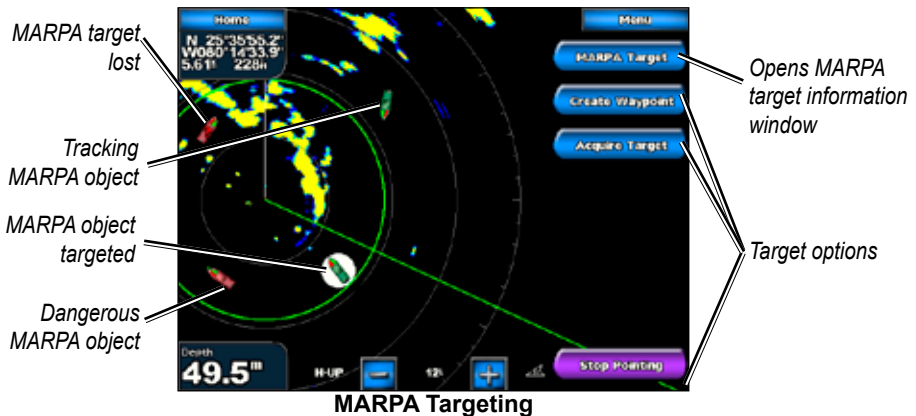
### Target Options

**Create Waypoint**—mark a waypoint at the targeted object or location.

**Acquire Target**—assign a MARPA (Mini Automatic Radar Plotting Aid) tag to the targeted object.

> **NOTE:** MARPA requires the use of a heading sensor. The heading sensor must output the NMEA 0183 sentence HDM or HDG.

**MARPA Target** (only appears when you are targeting a tagged MARPA object)—opens the MARPA target information window. Remove MARPA objects from this window.



*MARPA target lost*

*Tracking MARPA object*

*MARPA object targeted*

*Dangerous MARPA object*

*Opens MARPA target information window*

*Target options*

**MARPA Targeting**

**USING RADAR**

## Understanding the Radar Overlay Screen

Use the Radar Overlay option to overlay radar information on the Navigation chart.

Map scale ⟶                                    ⟵ Radar range
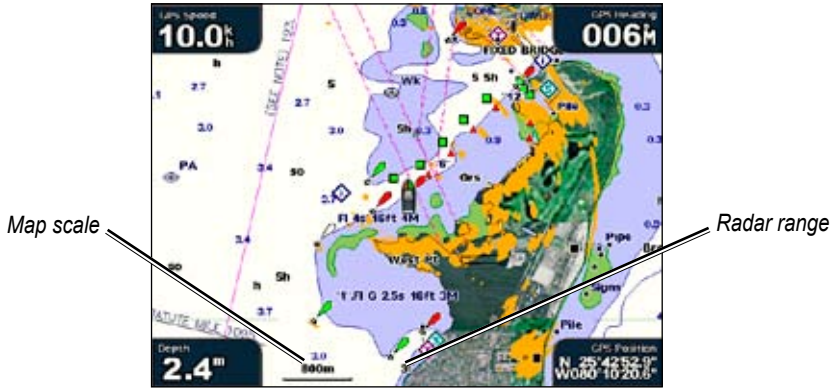
From the Home screen select **Radar > Radar Overlay**. The radar picture appears in orange and overlays the Navigation chart. Use the **RANGE** (+/-) keys (GPSMAP 4008/4012) or the ➕ and ➖ keys (GPSMAP 5008/5012) to zoom in and out. Zooming while panning the map only affects the zoom scale of the map. The radar range remains the same. Zooming while the map is locked on the boat (not panning) affects the zoom scale of the map and the radar range.

To access additional settings or options for the radar overlay screen, touch or press **MENU.** Select **Adjust Chart** > **Chart Setup** to access the chart options. Select **Radar Setup** to return to the radar setup options.

## Changing Radar Settings

To change radar settings, from the Home screen, select **Radar** > **Radar Setup**.

**Orientation**—change the perspective of the radar display.

**Heading Line**—show or hide a line in the direction of travel.

**Rings—**show or hide the radar range rings.

**Look-Ahd Spd—**turn on to shift your current location toward the bottom of the screen as your speed increases. Enter your top speed for the best results.

**Timed Xmit**—set and customize a transmit/standby cycle. Define the transmission time (**Xmit Time**) and standby time (**Stdby Time**) in minutes.

**Xtalk Reject** (Crosstalk)—filter out interference caused by another radar operating in close proximity.

**Advanced**—access advanced radar settings:

- **FTC** (Fast Time Constant)—reduce unwanted clutter caused by rain at a distance.
- **Front of Boat**—offset the front of the boat if you mount the radar at an angle.
- **Antenna Size** (GMR 404/406 only)—select your antenna size (4 Foot or 6 Foot).
- **Motor Speed** (GMR 404/406 only)—set the motor speed of your GMR 404/406 radar to Normal Speed or High Speed. High Speed increases the speed at which the antenna rotates, which increases the speed at which the screen updates.
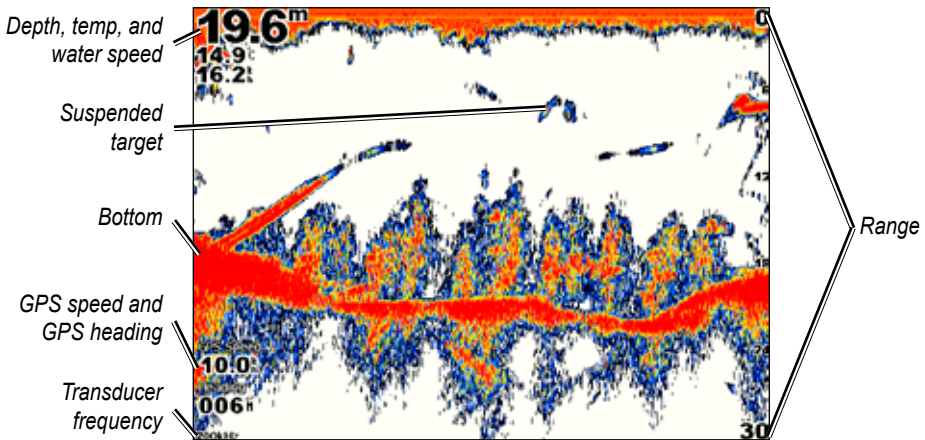
# Using Sonar

When connected to an optional Garmin GSD 22 sounder module and a transducer, your chartplotter becomes a powerful fishfinder. The GSD 22 connects through the Garmin Marine Network and shares sonar data with every chartplotter connected to the network.

## Understanding the Full Screen

Select the **Full Screen** option to view a full-screen graph of the transducer's sonar readings. The range scale along the right side of the screen shows the depth of detected objects as the screen scrolls from the right to the left.

From the Home screen, select **Sonar** > **Full Screen**.



Depth, temp, and water speed

Suspended target

Bottom

Range

GPS speed and GPS heading

Transducer frequency

## Understanding the Split Zoom Screen

Use the Split Zoom screen to view the full sonar data from the graph and a zoomed in portion on the same screen.

From the Home screen, select **Sonar** > **Split Zoom**.



Depth, temperature, and water speed

Zoomed depth scale

GPS speed and GPS heading

Zoom level

Zoom window

Range

Transducer frequency

Using Sonar
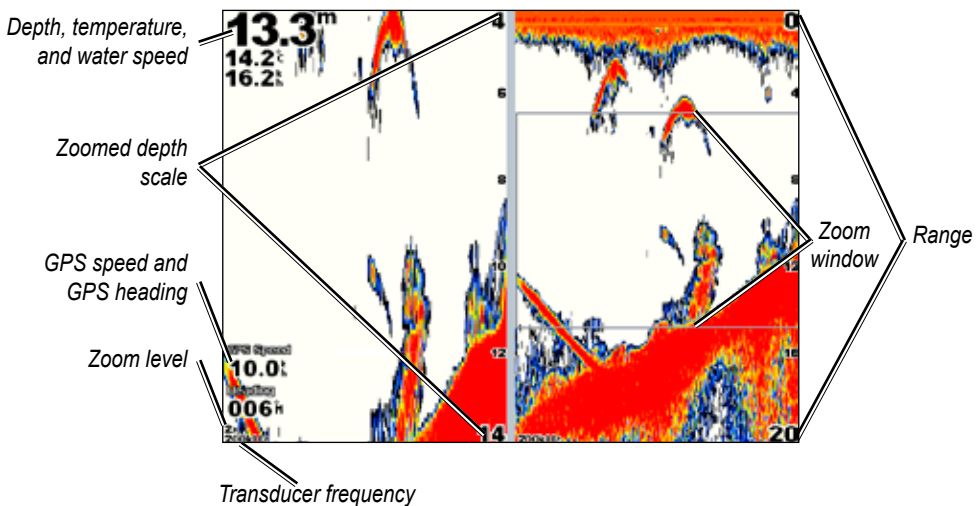
## Understanding the Split Freq Screen

Use the Split Freq screen (dual frequency transducer only) to view both the 50kHz and 200kHz frequencies on the same screen. A 200kHz frequency graph appears on the left; a 50kHz frequency graph appears on the right.

From the Home screen, select **Sonar** > **Split Frequency**.



Depth, temperature, and water speed

Range

GPS speed and GPS heading

Transducer frequencies
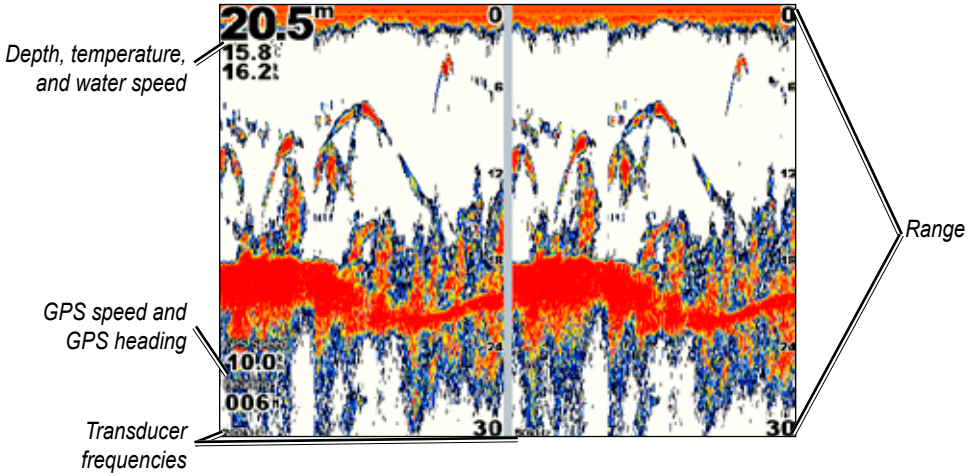
## Understanding the Temp Log

If you are using a temperature-capable transducer, the Temp Log screen keeps a graphic log of temperature readings over time. The current temperature and depth are shown in the top-left corner.

From the Home screen, select **Sonar** > **Temp Log**.



Temperature and depth

Temperature Range
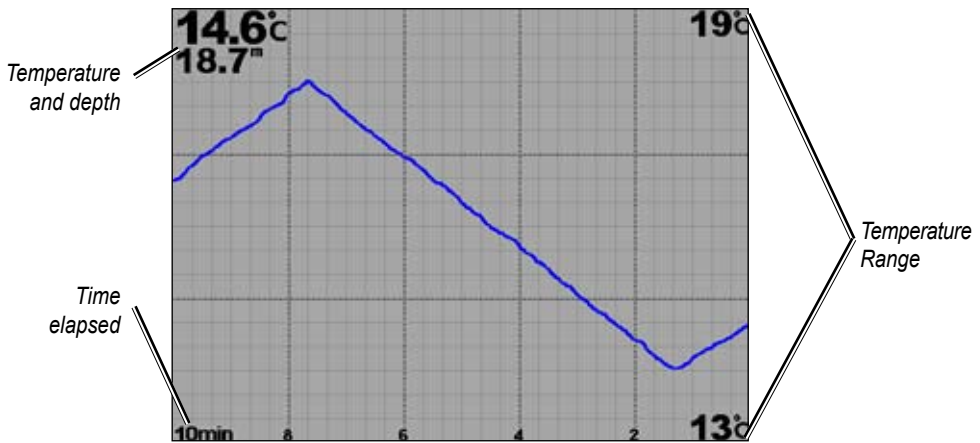
Time elapsed

The temperature appears along the right side and the time elapsed appears along the bottom. The graph scrolls to the left as information is received.

USING SONAR

## Setting Up Sonar

Use the Sonar Setup screen to define and adjust settings universal to all sonar screens.

From the Home screen, select **Sonar** > **Sonar Setup**.

**Color Scheme**—choose white or blue. This affects the background on all sonar screens, but does not change the Temp Log screen.

**Fish Symbols**—set how the sonar interprets suspended targets.

|  | The unit does not interpret the sonar return data (default). |
|---|---|
|  | Suspended targets appear as symbols. Background sonar information appears, making the distinction between fish and structure easier. |
|  | Suspended targets appear as symbols with background information shown. The target depth of each symbol is also indicated. |
|  | Suspended targets appear as symbols. No background information appears. |
|  | Suspended targets appear as symbols with no background information shown. The target depth of each symbol is indicated. |

**Scroll Speed**—adjust the rate at which the sonar scrolls from right to left (**Ultrascroll**, **Fast**, **Medium**, or **Slow**). If using a speed-capable transducer, select **Auto** to have the scroll speed automatically adjust to your boat's water speed.

**Surface Noise**—show or hide the sonar returns near the surface of the water. Hide surface noise to help reduce clutter.

**Whiteline**—highlights the strongest signal from the bottom to help identify its hardness or softness.

- **Off**—(default) Whiteline is disabled.
- **High**—the most sensitive setting. Almost all strong returns are highlighted in white.
- **Medium**—many strong returns are highlighted in white.
- **Low**—the least sensitive setting. Only the strongest returns are highlighted in white.

**Overlay Numbers**—show or hide water temperature, water speed (if your transducer is capable), and navigation numbers.

> **NOTE:** To show water temperature or water speed, change the setting to **Auto**. If the connected transducer is capable, the data is shown.

# Advanced Sonar Settings

To adjust advanced sonar settings, press **MENU** while viewing a sonar screen.

**Range**—the range of the depth scale on the right side of the screen (**Auto** or, to adjust manually, **Up** or **Down)**.

**Gain**—controls the sensitivity of the sonar receiver (**Auto** or, to adjust manually, **Up** or **Down**). To see more detail, increase the gain. If the screen is cluttered, decrease the gain.

**Frequency**—selects how the frequencies appear on screen (**200kHz**, **50kHz**, or **Dual**).

**Zoom**—zoom in to a section of the Full Screen. The zoom is off, or set to **No Zoom**, by default. Four options are available:

- **2x Zoom**—twice the magnification. Select **Up**, **Down**, or **Auto** to set the depth range of the magnified area.
- **4x Zoom**—four times the magnification. Select **Up**, **Down**, or **Auto** to set the depth range of the magnified area.
- **Bottom Lock**—locks the zoom window to the bottom. Select **Up**, **Down**, or **Auto** to set the depth range of the magnified area.

**Depth Line**—quickly reference a specific depth (**On** or **Off**). When **On** is selected, touch and drag the line to set the depth of the reference line (5000 series) or press up or down on the Rocker (4000 series) to set the depth range.

**A-Scope**—a vertical flasher along the right side of the screen (**On** or **Off**).

**Sonar Setup**—opens the Sonar Setup screen. See page 41.

# APPENDIX

## Specifications

### *Physical Specifications*

**Size:**  GPSMAP 4008:  7" H x 11.2" W x 4.2" D (176.9 x 284.4 x 106 mm)
GPSMAP 4012:  9.5" H x 14.8" W x 4.13" D (240.5 x 375 x 105.1 mm)
GPSMAP 5008:  6.8" H x 10.1" W x 4.17" D (173.5 x 256 x 105.9 mm)
GPSMAP 5012:  9.47" H x 13" W x 4.7" D (240.5 x 330 x 119.2 mm)

**Weight:**  GPSMAP 4008:  6 lbs (2.72 kg)
GPSMAP 4012:  10 lbs (4.5 kg)
GPSMAP 5008:  6 lbs. (2.72 kg)
GPSMAP 5012:  9.5 lbs. (4.3 kg)

**Display:**  GPSMAP 4008:  5.17" H x 6.85" W (131.4 x 174 mm)
GPSMAP 4012:  7.3" H x 9.7" W (184.3 x 245.8 mm)
GPSMAP 5008:  5" H x 6.73" W (128.2 x 170.9 mm)
GPSMAP 5012:  7.11" H x 9.3" W (180.49 x 235.97 mm)

**Case:**  Fully Gasketed, high-impact plastic and aluminum alloy, waterproof to IEC 529-IPX

**Temp. Range:**  5° to 131° F (-15° to 55° C)

**Compass Safe Distance:**  GPSMAP 4008/5008: 2.6' (80 cm)
GPSMAP 4012/5012: 3.28' (1 m)

### *GPS Performance (with GPS 17)*

**Receiver:** Differential-ready 12 parallel channel WAAS-capable receiver

**Acquisition Times:**
    **Warm:** 15 seconds
    **Cold:** 45 seconds
    **AutoLocate:** 2 minutes

**Update Rate:** 1/second, continuous
    **GPS Accuracy:**
    **Position:** <15 m (49 ft), 95% typical
    **Velocity:** 0.05 meters/second steady state

**WAAS Accuracy:**
    **Position:** <3 m (9.8 ft), 95% typical
    **Velocity:** 0.05 meters/second steady state
    **Dynamics:** 6gs

### *Power*

**Source:**  10-35 VDC

**Usage:**  4008/5008: 35 W max. at 10 VDC
4012/5012:40 W max at 10 VDC

**Fuse:**  7.5 A, 42 V fast-acting

### *NMEA 2000 Specifications:*

**Load Equivalency Number (LEN):** 2

**Unit Draw:** 75 mA max

# Initializing Unit Settings

The first time you turn your unit on, you must configure a series of initial settings. These settings must also be configured when restoring factory settings.

**NOTE:** You can change these settings later using the Configure screen.

**Language**—select the language to show on your screen.

**Welcome**—select **OK**.

**Any NMEA devices?**—select **Yes** if NMEA devices are or will be connected.

**AIS Connection**—select the type of AIS devices (**NMEA Standard**, NMEA High Speed, or NMEA 2000) connected to the chartplotter.

**NOTE:** This option appears only if you selected **Yes** on the Any NMEA devices? screen.

**Position Format**—specify the coordinate system to use for location readings.

**Time Format**—specify whether you want the time shown in a **12-hour**, **24-hour**, or **UTC** (Universal Time Code) format.

**Time Zone**—select your time zone.

**Units**—specify units for onscreen measurements as **Statute**, **Metric**, or **Nautical**.

**Minimum Safe Depth**—select the minimum safe depth for your boat. Refer to your boat specifications for more information.

**Minimum Overhead Clearance**—select the minimum overhead clearance for your boat. Refer to your boat specifications for more information.

**Zone Alarm** (shown if an **AIS Connection** is indicated)—select **Yes** to set zone alarms.

**Zone Distance** (shown if answer to **Zone Alarm** is **Yes**)—select the estimated distance of collision within which you want a zone alarm to sound.

**Zone Time** (shown if answer to **Zone Alarm** is **Yes**)—select the estimated time of collision within which you want a zone alarm to sound.

# Calibrating the Touchscreen

For GPSMAP 5008/5012 units, you might have to calibrate the touchscreen.

**CAUTION:** Do not calibrate the touchscreen unless you are certain that it is necessary.

**To calibrate the touchscreen on GPSMAP 5008/5012 units:**
1. Turn on the unit. When the Warning screen appears, touch and hold the black screen for at least 15 seconds until the calibration screen appears.
2. Follow the on-screen directions to calibrate the touchscreen.

# Alarms and Messages

**Accuracy Alarm (GPS)**—the GPS accuracy has fallen outside the user-set value.

**AIS: Dangerous Target**—an AIS target presents a collision threat.

**Alarm Clock**—the alarm clock has sounded.

**Anchor Drag Alarm**—boat has drifted out of the user-set distance range.

**Antenna Input is Shorted**—there is a short in the wiring to the GPS 17 antenna.

**Approaching Waypoint <name>**—boat is a specified alarm distance from the destination waypoint.

**Arrival Alarm <name>**—arriving at destination waypoint.

**Auto-guidance unable to calculate route**—(BlueChart g2 Vision) auto-guidance cannot calculate the route.

**Auto-guidance unable to calculate route, please shorten route**—(g2 Vision) auto-guidance cannot calculate the route, choose closer end point.

**Auto-guidance unable to calculate route. Starting position not within safe depth**—(g2 Vision) auto-guidance cannot calculate the route; boat is not in a safe depth.

**Auto-guidance unable to calculate route. Ending position not within safe depth**—(g2 Vision) auto-guidance cannot calculate the route; choose an end point within the specified safe depth

**Battery Alarm**—Battery voltage is at or below the user-set value.

**Boat is not Moving Fast Enough to Calibrate**—(speed sensor) appears during water speed calibration. Check speed wheel for blockage and calibrate again. If wheel is clear, calibrate again and increase speed.

**Can't Read User Card**—cannot read card when attempting a user data transfer.

**Can't Read Voltages That High, Limited To Top Of Range**—entering a battery alarm voltage higher than the unit can read.

**Can't Read Voltages That Low, Limited To Bottom Of Range**—entering a battery alarm voltage lower than the unit can read.

**Can't Unlock Maps**—maps are locked and cannot be used on this unit.

**Can't Write User Card**— cannot write card when attempting a user data transfer.

**Cartography Service Incompatible. Software Update Required**—a software update is needed. Contact Garmin Product Support for assistance updating your unit software.

**Check XM Antenna**—XM antenna not connected. Check connectivity.

**Cooling Fan Voltage Too High**—the unit's cooling fan voltage is higher than expected. Contact product support.

**Cooling Fan Voltage Too Low**—the unit's cooling fan voltage is lower than expected. Contact product support.

**Database Error**—general database error. Contact Garmin Product Support.

**Deep Water Alarm**—(sonar) boat has entered user-defined value for deep water.

**Directory Item With This MMSI Already Exists**—MMSI unit already in directory.

**Directory Memory is Full Can't Create Entry**—DSC directory is full, no more entries can be created.

**Distress Call Received From <name>**—A distress call has been received by the DSC module.

**Drift Alarm**—boat has moved a user-defined distance.

**DSC Position Report Received From <name>**—a position report has been received by the DSC module.

**Entering Target Water Temperature**—(temperature sensor/transducer) the water temperature is inside the user-defined target temperature zone.

**GPS Antenna Has Lost Its Stored Settings**—The GPS antenna's memory has been cleared. Contact Garmin Product Support.

**GPS Service Incompatible. Software Update Required**—a GPS service software update is needed. Contact Garmin Product Support for assistance updating your unit software.

**GPS Service Lost**—the unit has lost communications with the remote GPS unit. Check the network and the antenna wiring.

**Incompatible Device, Software Update Required**—an incompatible device is attached that requires a software update. Contact Garmin Product Support for assistance updating your network.

**Invalid Device Instance. Enter a number between (0 - 252)**—invalid NMEA 2000 Device instance.

**Invalid Entry. Default value selected.**—an invalid entry was entered.

**Invalid MMSI**—an invalid DSC MMSI was entered.

**Invalid System Instance. Enter a number between (0 - 15)**—invalid NMEA 2000 System instance.

**Leaving Target Water Temperature**—(temperature sensor/transducer) the water temperature is outside the user-defined target temperature zone

**Low Fuel Alarm**—(NMEA 2000) low fuel reported by the NMEA 2000 network.

**Lost Heading Sensor Connection**— (radar/NMEA) the unit has lost communications with the heading sensor. Check wiring.

**Lost Remote GPS Connection**—lost connection to the remote GPS. Check the network and the antenna wiring.

**Lost Satellite Reception**—the unit has lost satellite reception. Make sure you have a clear view of the sky.

**Map Format Is Not Supported**—a map format on a preprogrammed SD card is not supported.

**MARPA: Dangerous Target**—(radar) a MARPA target has become dangerous.

**MARPA: Target Lost**—(radar) unable to track a MARPA target any longer.

**NMEA Depth Is Below Transducer**—(sonar) the NMEA depth input is using the DBT sentence which does not include keel offset.

**No DGPS Position**—unit lost differential GPS reception (WAAS). Make sure you have a clear view of the sky.

**No Proximity Waypoints Found**—no proximity waypoints found while attempting a user data transfer.

**No Routes Found**—no routes found while attempting a user data transfer.

**No Tracks Found**—no tracks found while attempting a user data transfer.

**No User Waypoints Found**—no user waypoints found while attempting a user data transfer.

**Not All Maps Fit, Some Maps Will Not Be Drawn**—there are more maps present on the SD card than the unit can support. Some maps on the card will not be drawn or used to find map features.

**Off Course Alarm**—the boat has left the user-defined course.

**Proximity Alarm**—the boat has come close to a user-defined proximity point.

**Proximity Alarm Memory is Full**—the proximity waypoint memory is full. Erase existing proximity waypoints to make room.

**Proximity Overlaps Another Proximity Waypoint**—a proximity point is overlapping another proximity waypoint.

**Radar Guard Zone Alarm**—(radar) an object has been detected in the user-defined radar guard zone.

**Radar Needs Repair Error Code**—(radar) the radar needs repair. An error code will be listed to help diagnose the error.

**Radar Service Incompatible. Software Update Required**—a radar software update is needed. Contact Garmin Product Support for assistance updating your network.

**Radar Service Lost**—(radar) the unit has lost communications with the remote radar unit. Check the network and the radar wiring.

**Route Already Exists**—the named route already exists. Choose another name.

**Route is Full**—the individual route is full, no more waypoints can be added.

**Route Memory is Full, Can't Create Route**—the unit's Route memory as a whole is full, no more routes can be created. Erase existing routes to make room.

**Route Truncated**—some points on the end of the route have been discarded.

**Shallow Water Alarm**—(sonar) the boat has entered the user-defined shallow water depth.

**Simulating Operation**—the unit is in Simulator Mode.

**Sonar Failed, Unit Needs Repair**—there has been a sonar failure and the unit needs to be sent in for repair. Contact Garmin Product Support.

**Sonar Service Incompatible. Software Update Required**—a software update is needed. Contact Garmin Product Support for assistance updating your network.

**Sonar Service Lost**—(sonar) the unit has lost communications with the remote sonar unit. Check the network and the sonar wiring.

**Tide Alarm**—tide has reached user-specified tide alarm range.

**Track Already Exists**—the named track already exists. Choose another name.

**Track Log Full**—there is no longer any space in the active track log storage.

**Track Truncated**—some points on the end of the track have been discarded.

**Transducer Disconnected, Sonar Turned Off**—the transducer has been disconnected. Sonar has been turned off. Check transducer wiring.

**Transfer Complete**—user data transfer is complete.

**Unknown bridge height within calculated auto-guidance route**—(g2 Vision) there is an unknown bridge height within the auto-guidance route.

**User Card Not Found**—user data card transfer. Make sure an SD card is fully inserted.

**Water Speed Sensor not Working**—the water speed sensor is not working properly. Check the wheel for obstructions and check wiring.

**Water Temperature Alarm**—(temperature sensor/transducer) the water temperature has entered or left the user-defined water temperature alarm zone.

**Warning: Auto-guidance route starting position moved due to safe depth settings**—(g2 Vision) auto-guidance has calculated the route, but the starting point has been moved to deeper water.

**Warning: Auto-guidance route ending position moved due to safe depth settings** (BlueChart g2 Vision) auto-guidance has calculated the route, but the end point has been moved to deeper water.

**Waypoint Already Exists**—the named waypoint already exists. Choose another name.

**Waypoint Memory is Full, Can't Create**

**Waypoint**—the User Waypoint memory is full. Erase existing waypoints to make room.

# Product Registration

Help us better support you by completing our online registration today! Connect to our Web site at http://my.garmin.com. Keep the original sales receipt, or a photocopy, in a safe place.

## *Contact Garmin*

Contact Garmin if you have any questions while using your unit. In the USA contact Garmin Product Support by phone: (913) 397-8200 or (800) 800-1020, Monday–Friday, 8 AM–5 PM Central Time; or go to www.garmin.com/support.

In Europe, contact Garmin (Europe) Ltd. at +44 (0) 870.8501241 (outside the UK) or 0808 2380000 (within the UK).

# Declaration of Conformity (DoC)

Hereby, Garmin, declares that this unit is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

To view the full Declaration of Conformity, see the Garmin Web site for your Garmin product: www.garmin.com/products/. Click **Manuals**, and then select the **Declaration of Conformity** link.

# Software License Agreement

BY USING THE UNIT, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENSE AGREEMENT. PLEASE READ THIS AGREEMENT CAREFULLY.

Garmin grants you a limited license to use the software embedded in this device (the "Software") in binary executable form in the normal operation of the product. Title, ownership rights, and intellectual property rights in and to the Software remain in Garmin.

You acknowledge that the Software is the property of Garmin and is protected under the United States of America copyright laws and international copyright treaties. You further acknowledge that the structure, organization, and code of the Software are valuable trade secrets of Garmin and that the Software in source code form remains a valuable trade secret of Garmin. You agree not to decompile, disassemble, modify, reverse assemble, reverse engineer, or reduce to human readable form the Software or any part thereof or create any derivative works based on the Software. You agree not to export or re-export the Software to any country in violation of the export control laws of the United States of America.

# NMEA 0183 and NMEA 2000

The GPSMAP 4000/5000 series chartplotters can accept data from both NMEA 0183 compliant devices and certain NMEA 2000 devices connected to an existing NMEA 2000 network on your boat.

## *NMEA 0183*

The NMEA 0183 data cable included with the GPSMAP 4000/5000 series chartplotter supports the NMEA 0183 standard, which is used to wire various NMEA 0183-compliant devices, such as VHF radios, NMEA instruments, autopilots, wind sensors, or heading sensors.

The GPSMAP 4000/5000 series chartplotters can receive data from up to four NMEA 0183-compliant devices and send GPS data to up to six NMEA 0183-compliant devices.

To wire a GPSMAP 4000/5000 series chartplotter to optional NMEA 0183-compliant devices, see the *GPSMAP 4000/5000 Series Installation Instructions*.

### Approved NMEA 0183 sentences:

GPBWC, GPRMC, GPGGA, GPGSA, GPGSV, GPGLL, GPBOD, GPRMB, GPRTE, GPVTG, GPWPL, GPXTE, and Garmin proprietary sentences—PGRME, PGRMM, and PGRMZ.

This unit also includes support for the WPL sentence, DSC, and sonar NMEA 0183 input with support for the DPT (depth) or DBT, MTW (water temp), and VHW (water temp, speed, and heading) sentences.

> **NOTE:** To configure how the unit sees these NMEA 0183 sentences, see page 30.

## *NMEA 2000*

The GPSMAP 4000/5000 series chartplotter is NMEA 2000 certified, and can receive data from a NMEA 2000 network installed on the boat to show engine specific information on the Gauges section of the Information screen. Also, the unit can receive heading data from a heading sensor connected to an installed NMEA 2000 network.

To connect a GPSMAP 4000/5000 series chartplotter to an existing NMEA 2000 network, see the *GPSMAP 4000/5000 Series Installation Instructions*.

### NMEA 2000 PGN information

The GPSMAP 4000/5000 series chartplotter accepts the following PGN information from a NMEA 2000 network:

    059392 = ISO acknowledgement
    059904 = ISO request
    060928 = ISO address Claim
    126996 = Product information
    127250 = Vessel heading
    127488 = Engine parameters, rapid update (up to four engines)
    127489 = Engine parameters, dynamic (up to four engines)
    127505 = Fluid level (0X00 fuel - does not support other fluid types)

 All GPSMAP 4000/5000 series chartplotters are NMEA 2000 certified.

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