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Warnings

Failure to avoid the following potentially hazardous situations could result in an accident or collision resulting in death or serious injury.

- When navigating, carefully compare information displayed on the unit to all available navigation sources, including information from visual sightings, and maps. For safety, always resolve any discrepancies or questions before continuing navigation.
- Use the electronic chart in the unit only to facilitate, not to replace, the use of authorized government charts. Official government charts and notices to mariners contain all information needed to navigate safely.
- Use this unit only as a navigational aid. Do not attempt to use the unit for any purpose requiring precise measurement of direction, distance, location, or topography.

WARNING: This product, its packaging, and its components contain chemicals known to the State of California to cause cancer, birth defects, or reproductive harm. This Notice is provided in accordance with California's Proposition 65. See www.garmin.com/prop65 for more information.

(Hg) - LAMPS INSIDE THIS PRODUCT CONTAIN MERCURY AND MUST BE RECYCLED OR DISPOSED OF ACCORDING TO LOCAL, STATE, OR FEDERAL LAWS.

For more information go to:
www.garmin.com/aboutGarmin/environment/disposal.jsp.

Important Information

MAP DATA INFORMATION: One of the goals of Garmin is to provide customers with the most complete and accurate cartography that is available to us at a reasonable cost. We use a combination of governmental and private data sources, which we identify in product literature and copyright messages displayed to the consumer. Virtually all data sources contain some inaccurate or incomplete data. In some countries, complete and accurate map information is either not available or is prohibitively expensive.

The **California Electronic Waste Recycling Act of 2003** requires the recycling of certain electronics. For more information on the applicability to this product, see www.ecycle.org.

GETTING STARTED

Turning the Unit On or Off

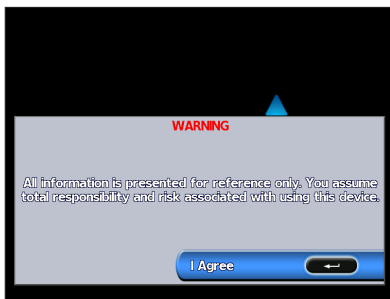
Press and hold the **POWER** key until the unit beeps and the Garmin screen appears. When the Warning screen appears, press **←** to open the Home screen.



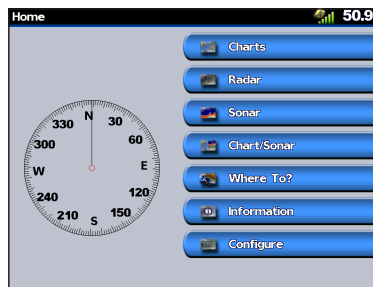
NOTE: The first time you power on your unit, you must go through a setup sequence. See [page 43](#) for details.



NOTE: The manual is applicable to GPSMAP 2008 and GPSMAP 2108. GPSMAP 2108 supports Garmin network by which Garmin Radar is connectible.



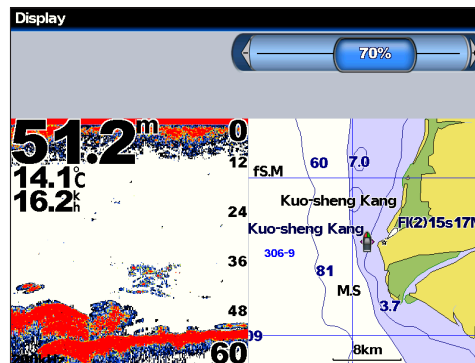
Warning Screen



Home Screen

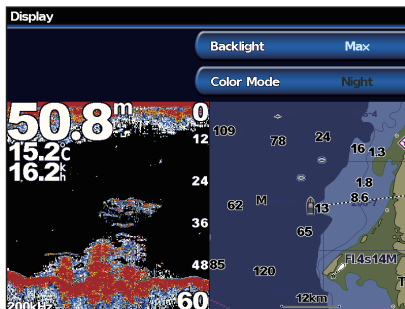
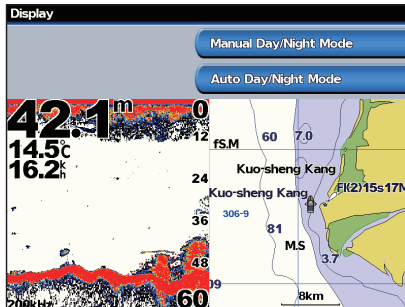
Adjusting the Backlight

1. Press and release the **POWER** key.
2. Select **Backlight** and press left or right on the **ROCKER** to manually adjust the backlight.

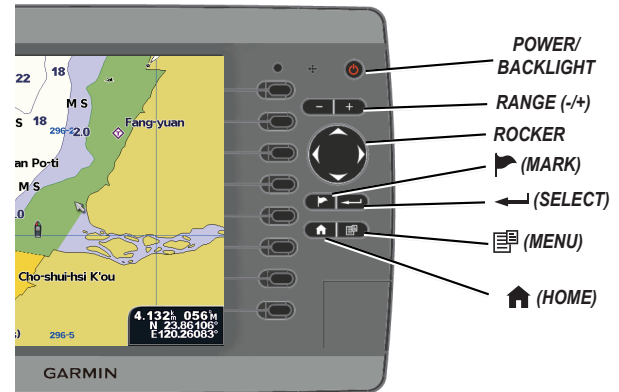


To switch between Day and Night mode:

1. Press and release the **POWER** key.
2. Select **Manual Day/Night Mode**.
3. Press left or right on the **ROCKER** to switch between modes.



Using the Keypad



POWER/BACKLIGHT—Press and hold to turn the unit on or off; press and release to adjust the backlight and day/night modes.


RANGE (-/+)—Press to adjust the range of the sonar; zoom in or out on a chart.

ROCKER—Press up, down, left, or right to move through menus, highlight fields, and enter data.

(MARK)—Press to mark a waypoint.

(SELECT)—Press to select highlighted items and confirm on-screen messages.



 — Press to return to the Home screen.

 — Press to access additional settings and configuration options; press to return to the previous screen when indicated.

Acquiring GPS Satellite Signals

When you turn on the unit, the GPS receiver must collect satellite data and establish its current location. If the unit cannot establish a location, the Initialize Position screen appears.



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 .

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

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**.
2. Select **Setup** to set speed, track control, and position.

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**.



Restoring Factory Settings

You can restore your unit to the original factory settings.



CAUTION: This procedure deletes any information you have entered.

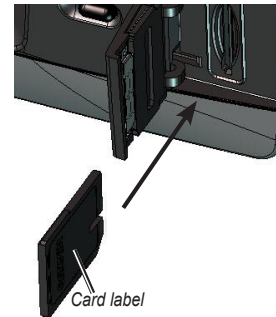
To restore factory settings:

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

2. Select **Factory Settings**.
3. Select **Yes** to restore all factory settings. Otherwise, select **No** to cancel.

Inserting and Removing SD Cards

Your unit supports Secure Digital (SD) cards. Insert an optional BlueChart® g2 SD card to view detailed bluechart and land information. Insert blank SD cards to transfer data such as waypoints, routes, and tracks to another compatible Garmin unit or a PC. The SD card slot is located on the bottom-right corner of the unit. To insert the SD card, press it in until it clicks.



GPSPMAP 2008/2108

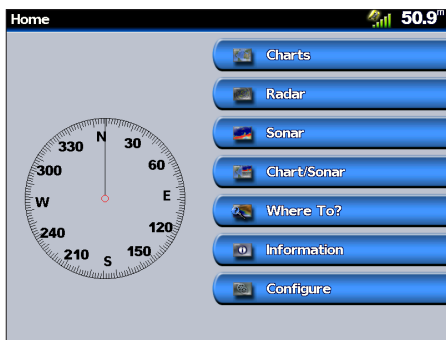
To remove the SD card, press in on the SD card. The card pops out.



NOTE: If using a new, blank SD card to transfer waypoints from MapSource, insert it in your GPSMAP 2008/2108 unit before copying the files from your PC. This prepares the card.

Understanding the Home Screen

Use the Home screen to access all other screens.



- **Charts**—access Navigation ([page 7](#)).



NOTE: On the GPSMAP 2008/2108 unit, you must insert a preprogrammed BlueChart® SD card to access the navigation and fishing charts. **GPSMAP 2008/2108 supports Garmin BlueChart® g2 map. BlueChart® g2 is used for illustration in this owner's manual.**

BlueChart® g2 is only available in some exclusive regions currently, please check with your local Garmin distributors for more details.

- **Sonar**—access sonar information ([page 31](#)).



NOTE: This option is available only if you have a unit with a built-in sounder or a Garmin sonar module connected.

- **Chart/Sonar**—set up the screen to view a chart and sonar in a split screen ([page 13](#)).
- **Where To?**—access navigation features ([page 14](#)).
- **Information**—view information including tides, currents, celestial data, user data, and information about other boats ([page 21](#)).
- **Configure**—access unit and system settings ([page 25](#)).

GPSMAP 2008/2108 provides compass indicator on the main page to visually help users know the heading of the boat. The compass is shown up to the scale of 2 degrees. The feature works only when GPS signal is located.

USING CHARTS

Your unit has a worldwide base map preloaded. If you have Garmin BlueChart® g2 datacard, you can view details on the waterway of a specific country. BlueChart® g2 cartography for either the US shoreline or a specific country.

- **Navigation Chart**—displays all relevant navigation data available on your preloaded maps, including buoys, lights, cables, depth soundings, marinas, and tide stations in an overhead view.



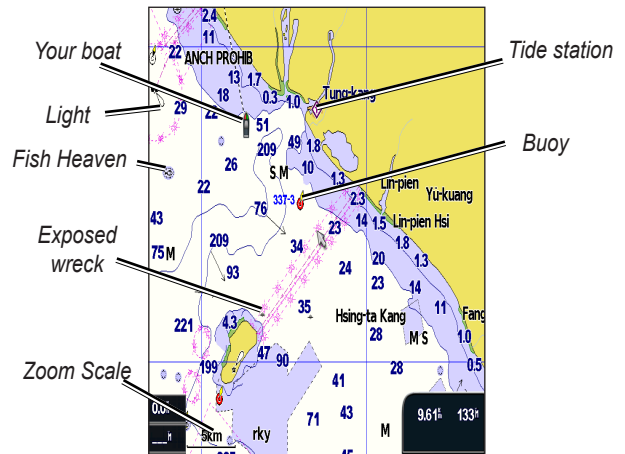
Using the Navigation Chart

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




NOTE: For GPSMAP 2008/2108 units, you must insert a BlueChart® preprogrammed SD card for your region to view detailed navigation charts.


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

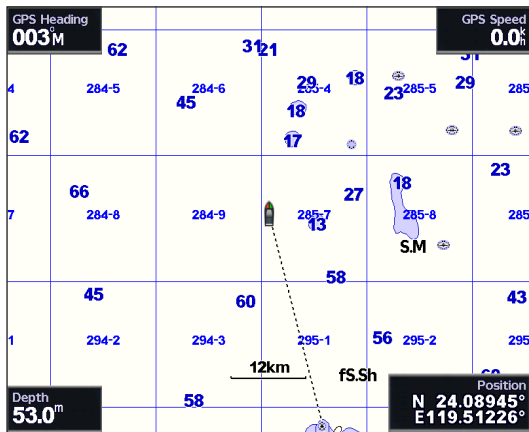


Navigation Chart with g2

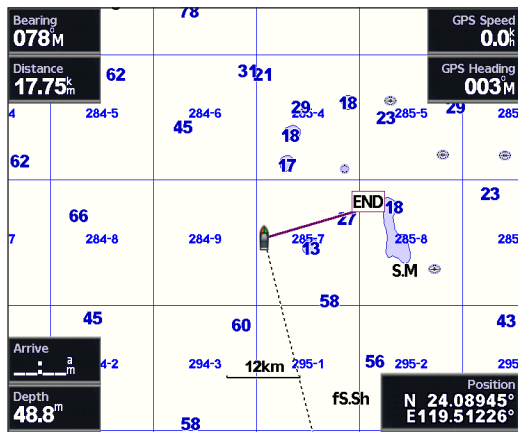
Navigation Chart Settings

To access additional settings or options for the navigation chart, press .

Full Screen Map (Show Numbers)—view the navigation or fishing chart in full-screen mode, without numbers. To view numbers, select  and Show Numbers to view numbers again.



Full Screen Map



Show Numbers

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

Chart Setup—customize the navigation chart. See [page 11](#).

Waypoints—show user's waypoint for navigation or edit waypoints.

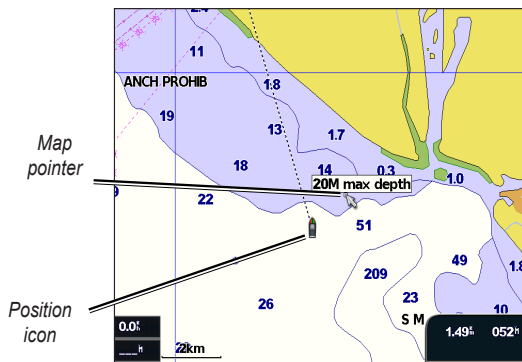
Routes—create or select user's route for navigation.

Panning the Navigation Chart

Use the map pointer (☞) to pan 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. The position icon (📍) stays at your present location.

As you move the map pointer, you can view the distance and bearing from your current location, and the map pointer's location coordinates in the lower-right corner of the map.

To pan the map, press up, down, right, or left on the **ROCKER**.



To stop panning, press , and then select **Stop Panning**.


Zooming In and Out on the Map

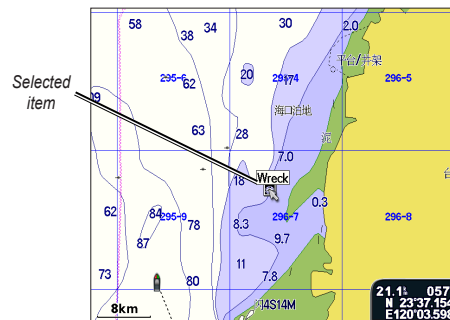
The **Range (+/-)** keys control the zoom level, indicated by the scale at the bottom of the navigation chart (8km). The bar under the number represents that distance on the map.

Accessing Additional Object Information

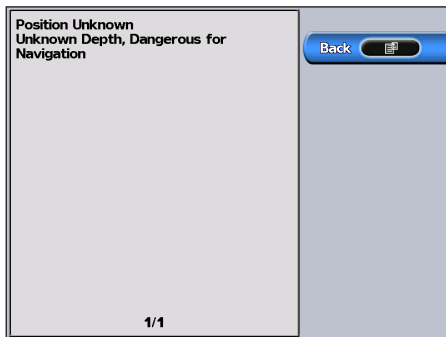
Use the map pointer (☞) to view information about on-screen map items and waypoints.

To access additional object information:

1. On the navigation chart, highlight an item with the map pointer, and press .



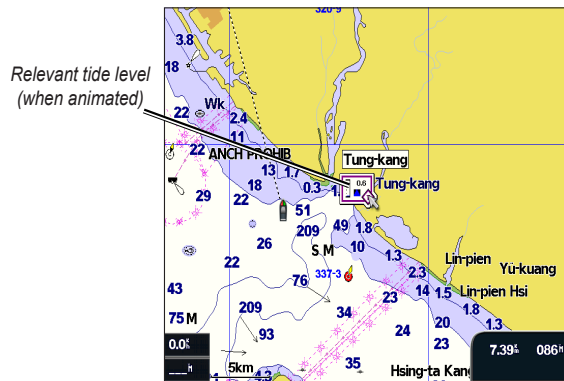
- Select the item. If more than one item is in the area, select **Review**, and then select the item.



Viewing Tidal Information

Tidal station appears on the chart with a detailed information for users' reference. You can view an in-depth description.

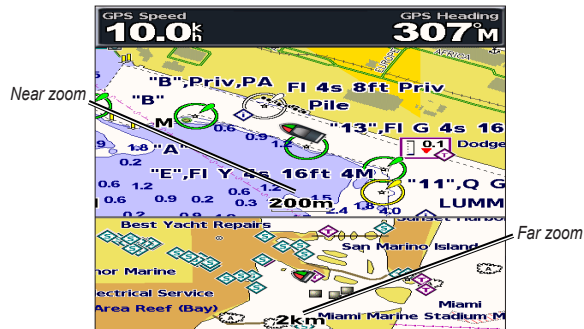
- Use the map pointer (☞) to highlight a tide station icon (⬠), and press ←.
- Select Tidal Name(Tung-Kang) and you can view detailed tidal information.



For more information about tides, see [page 22](#).

Using the Split Navigation Chart

Use the Split Navigation Chart to view two different zoom levels of the Navigation Chart at the same time.



Split Navigation Chart
(with a BlueChart® g2 card)

The top half of the screen is zoomed in 10 times closer than the bottom half of the screen. The **Range** (+/-) keys control the zoom level.

Press  to view additional settings. See [page 8](#).

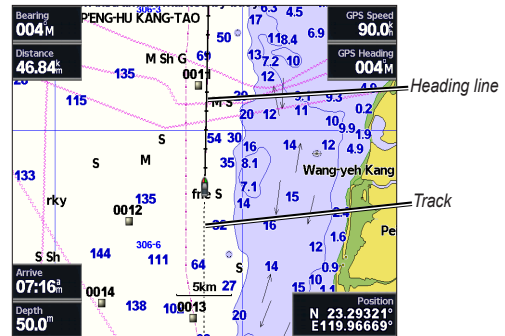
Changing the Chart Settings

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 and turns the course line vertical on the screen.



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

- **Off**—turn 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 if you load BlueChart® g2 maps and you want to see what areas the maps cover.

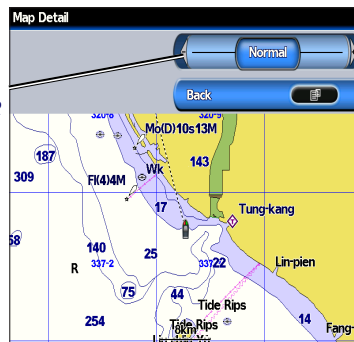
Tracks—hide (off) or show (on) tracks on the chart.

Appearance—customize how items are shown on the map.

Changing the Chart Appearance

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

Detail—adjust the amount of detail shown on the map.



Press left on the **ROCKER** to decrease map detail.

Press right on the **ROCKER** to increase map detail.

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).

Animate Tides—turn on a detailed icon that shows the relevant tide level on the Navigation chart. If

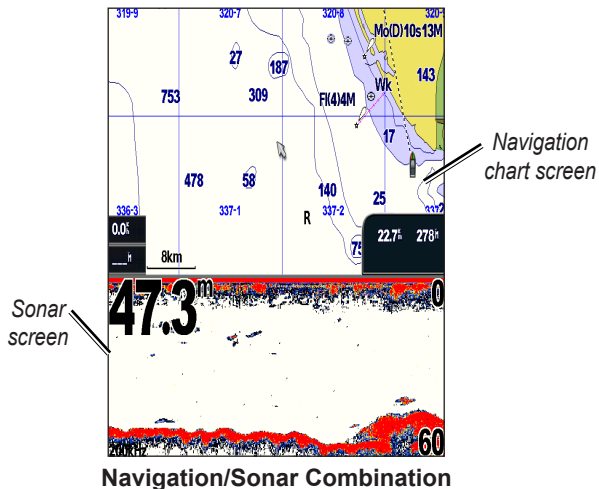
Off, tide stations appear only as an icon (ⓧ) on the Navigation chart.


Using the Chart/Sonar Screen

Use the Chart/Sonar screen to view the Navigation Chart.


To view a split chart/sonar screen:

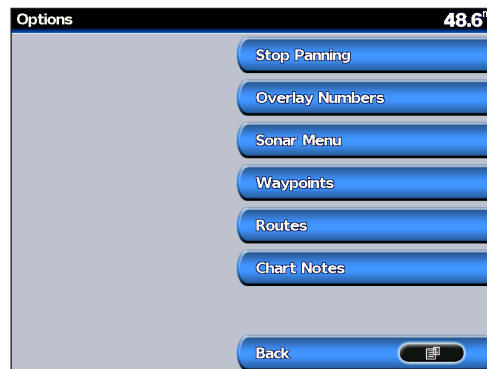
1. From the Home screen, select **Chart/Sonar/Navigation Chart**.
2. Select Navigation Chart to view both Navigation and Sonar Charts.



To access additional settings or options for the chart/sonar screen, press .

To set up Sonar setting:

1. Press .
2. Select **Sonar Menu**
3. Choose required settings for **Range/Gain/Frequency**



Chart/Sonar options



NOTE: The **Chart/Sonar** screen, like the **Sonar** screen, is only available when using a sonar capable unit with a transducer attached.

WHERE TO

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



NOTE: You have to 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.

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 **Waypoint** as of interest.

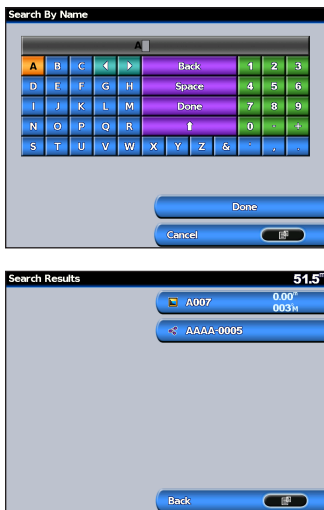
3. Select **Navigate To/Go To**-if destination is one stop.
4. **Route To**-if there are several steps to visit.



“Where To” Categories




Search by Name



international Man Overboard symbol is created and the unit navigates to that point.

To mark your location:

1. From any screen, press .
2. Select **Back** to return to the chart, or select **Man Overboard** to designate the waypoint as an MOB.




NOTE: Pressing the  key only creates a waypoint at your present location.

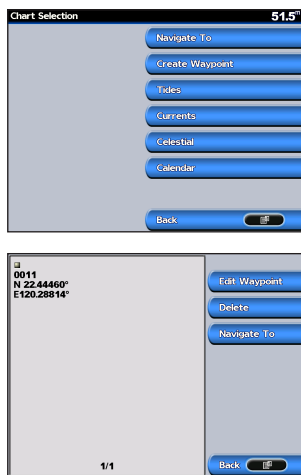
Creating and Using Waypoints

You can store up to 5000 alphanumeric waypoints with a user-defined name, symbol, depth, and water temp for each waypoint.

When you create a waypoint, you can designate it as a Man Overboard. This marks the point and sets a course back to the marked location. When Man Overboard is activated, an MOB waypoint with an

To create a new waypoint:

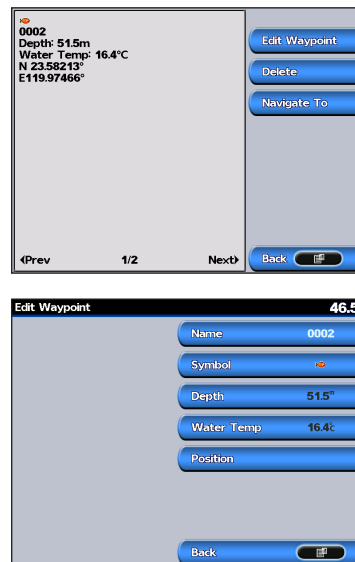
1. On the Navigation, move the map pointer to the location you want, and press .
2. Select **Create Waypoint**.



3. Select one of the following:
 - **Edit Waypoint**—customize the waypoint attributes.
 - **Delete**—delete the waypoint.
 - **Navigate To**—go to the waypoint.
 - **Back**—return to the navigation chart.

To edit a waypoint:

1. Create a new waypoint or select a waypoint on the navigation chart.
2. Select **Edit Waypoint**.
3. 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 **Edit Waypoint** > **Position** > **Use Chart**.
2. Use the **ROCKER** to move the waypoint to a different location, and press **←**.

To view a list of all waypoints:

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

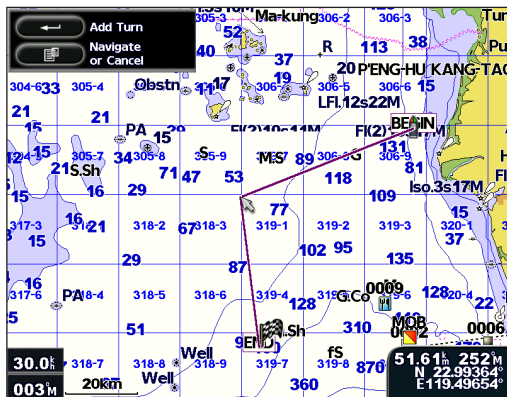


Creating and Using Routes

You can create and store up to 50 routes, with up to 250 waypoints each.


To create a route from your present location:

1. Move the map pointer to a destination, and press **←**.
2. Select **Navigate To** > **Route To**.



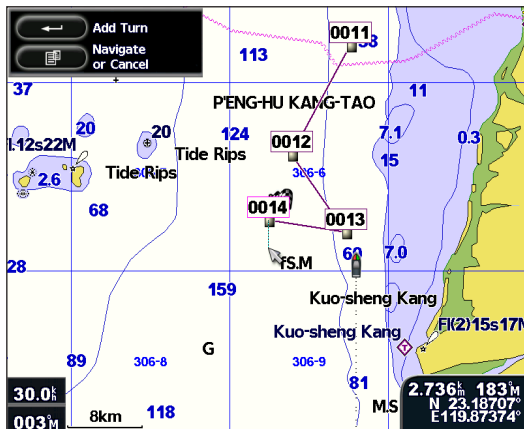
Adding a Turn to a Route

3. Use the **ROCKER** to add a turn, and press **←**. Repeat this step to add additional turns.



- Press  to cancel, undo the last turn, or to begin navigating the route.


To create a route in another location:

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



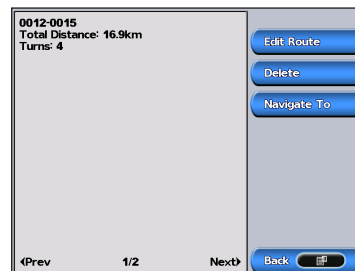
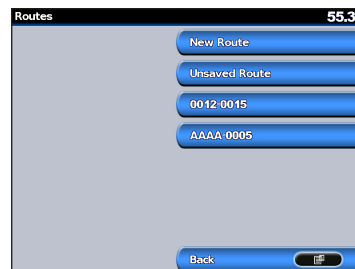
Creating a New Route

- Use the **ROCKER** to select the route's starting point, and press .
- Use the **ROCKER** and  keys to add additional turns.

- Press  to cancel, edit, or navigate the route.

To edit a route

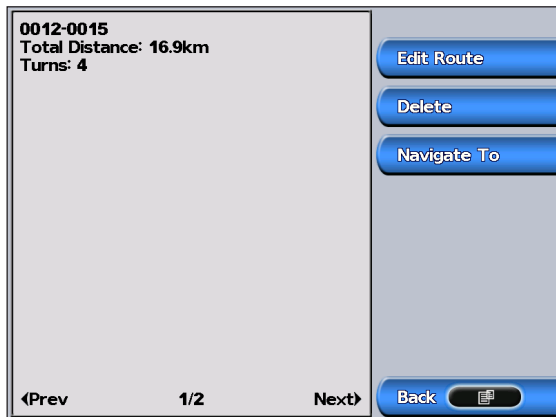
- From the Home screen, select **Information** > **User Data** > **Routes**.
- Select the route to edit.



- Select **Edit Route**. You can edit the route name, turns, or delete the route.

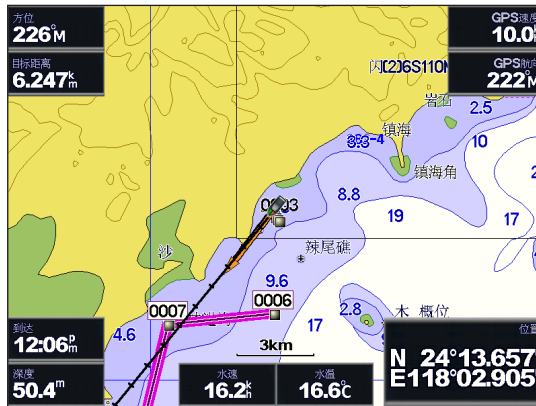
To delete a route:

1. From the Home screen, select **Information** > **User Data** > **Routes**.
2. Select the route to delete, and then select **Edit Route**.
3. Select **Delete**.

**Route used as customized border on map**

It is sometimes required the customized lines drawn individually on the map as warning borders/lines for cruising boats. GPSMAP 2008/2108 features customized lines (routes) that can be shown or hide

individually on the map as cruising indication. You can save routes by creating new routes or by saving tracks. The saved routes can be shown irrespectively on the map per users' requirements. To show customized lines/routes on the map, you need to use the saved routes to display.



NOTE: The routes can be shown individually when the boat received satellite signal and in navigation mode.

VIEWING INFORMATION

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


Viewing Numbers

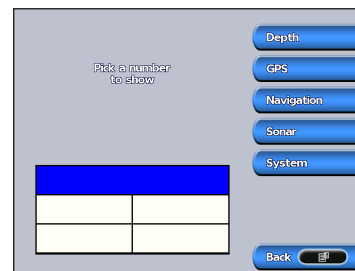
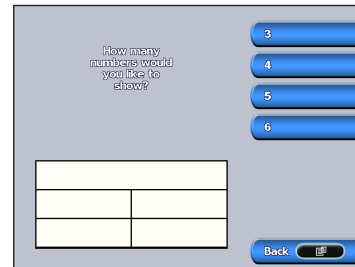
You can view and customize numerical data including depth, GPS information, and navigation information. You can customize the number of fields shown and the type of information shown in each field. You can view up to six fields of numerical information.

To view the numbers screen, from the Home screen, select **Information** > **Numbers** > **Custom**.

<p>Depth</p> <p>51.5^m</p>	<p>Time of Arrival</p> <p>___:___^am</p>
<p>Position</p> <p>N 22.45868° E 120.37859°</p>	<p>Sonar Cover</p> <p>42.6^m</p>
<p>GPS Speed (SOG)</p> <p>0.0^k_h</p>	<p>Bearing</p> <p>___°M</p>

To customize the numbers screen:

1. From the Home screen, select **Information** > **Numbers**.
2. Press  and select **Configure**.
3. Select the number of fields to show (**3**, **4**, **5**, or **6**).
4. Select information to show in each field.

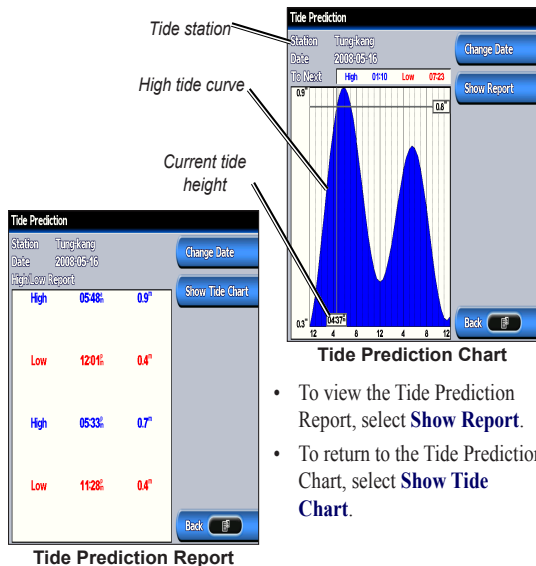




NOTE: The first time you use the numbers screen, you are asked to complete steps 3 and 4 for the initial setup.

Viewing Tide Station Information

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

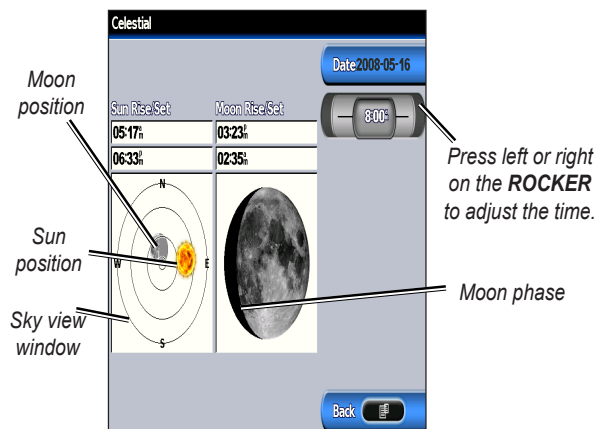


- To view the Tide Prediction Report, select **Show Report**.
- To return to the Tide Prediction Chart, select **Show Tide Chart**.

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, on the Information screen, select **Celestial**.



Viewing User Data

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

Waypoints—view a list of all saved waypoints.

Routes—view a list of saved routes.

Tracks—view a list of saved tracks.

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

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

To transfer data to or from an SD card:

1. Insert an SD card into the SD card slot on the front of the unit. (See [page 5](#).)
2. From the Home screen, select **Information > User Data > Data Transfer**.
3. 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 GPS data.
 - Select **Replace From Card** to overwrite items on your unit.

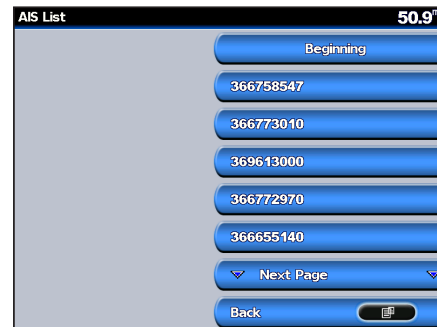
Viewing Other Boats

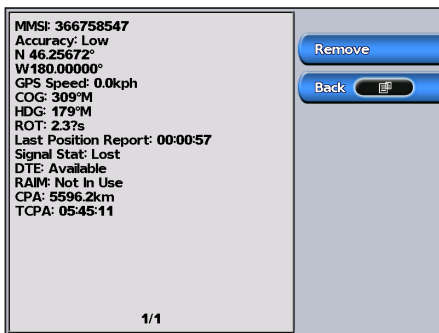
To view information about other boats, from the Home screen, select **Information > Other Boats**.



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. The AIS list shows the MMSIs or (if the boat is broadcasting it) names of the AIS boats, and is sorted by range. The boat nearest to your boat appears 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 seven 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 seven most recent distress calls or position reports, sorted chronologically.

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.

Setup—turn AIS and DSC on or off and set a safe zone for your boat.

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 Mode options. (If you set the unit into a Store Demonstration mode during the initial unit setup, this setting will be named **Demo**.)

Language—select the on-screen language.

Beeper/Display—select **Beeper** to set when the unit makes audible sounds. The three settings are **Off**, **Alarms Only** (default), and **On** (keys and alarms). Select **Display** to switch between Day or Night modes and brighten or darken the backlight.

GPS—view GPS satellites, turn WAAS/EGNOS on or off, and initialize the GPS receiver.

System Information—view system information and restore factory settings.

Event Log—shows a list of system events.

Overlay Numbers—set the styles for Wind and Next Turn numbers.

Changing Units of Measure

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

System Units—this is a quick global setting that defines most of the individual units of measure listed below at once. **Statute (mh, ft, °F)**, **Metric (kh, m, °C)**, or **Nautical (kt, ft, °F)**.

Depth—individually set the units of measure for depth to **Feet (ft)**, **Fathoms (fa)**, or **Meters (m)**.

Temperature—individually set units of measure for temperature to **Fahrenheit (°F)** or **Celsius (°C)**.



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

Dist, Spd, Elev—individually set the units of measure for distance, speed, and elevation readings.

Heading—set the reference used in calculating heading information.

Position—change the coordinate system in which a

given location reading appears. The default format is **hddd°mm.mmm'**. Only change the position format if you are using a map or chart that specifies a different position format.

Time—set the time format (**12 hour**, **24 hour**, or **UTC** time format), time zone, and indicate whether to use daylight saving time.

Configuring Communications Settings

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

Serial Port 1—select the input/output format to use when connecting your unit to external NMEA devices, a personal computer, or other Garmin devices.

- **Garmin Data Transfer**—the proprietary format used to upload, download, or exchange data with a computer or another Garmin unit.
- **Garmin Remote Sonar**—allows you to connect a Garmin GSD 21 or GSD 22 serially.
- **NMEA In/NMEA Out**—supports the input or output of standard NMEA 0183 data, DSC, and sonar NMEA input support for the DPT, MTW,

and VHW sentences.

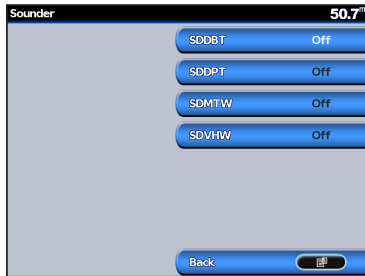
- **NMEA High Speed**—supports the input or output of standard 0183 data for most AIS receivers.
- **None**—provides no interfacing capabilities.

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

To enable or disable NMEA output sentences:

1. From the Home screen, select **Configure > Communications > NMEA Setup**.
2. Select a setting (**Sounder**, **Route**, **System**, or **Garmin**).
3. Select a NMEA output sentence.





4. Select **Off** to disable, or select **On** to enable the 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—select how the unit outputs waypoint identifiers (**Names** or **Numbers**).

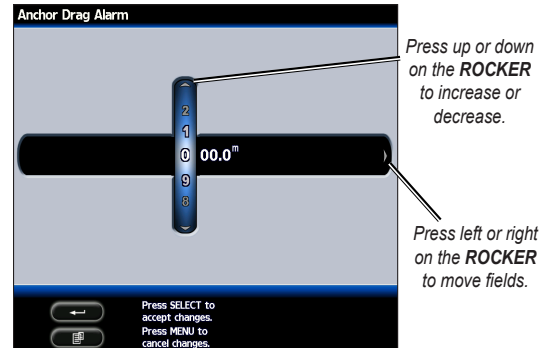
Setting Alarms

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**, **System**, or **Sonar Warnings**).
3. Select an alarm.
4. Select **On** to turn the alarm on, and then use the **ROCKER** to 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 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**.

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.



NOTE: You must have a transducer connected. If your unit does not have a built-in sounder, then you must install a GSD 21 or GSD 22 sounder module to receive sonar information.

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 (referred to the chart depth datum) to allow when calculating an auto guidance path.
- **Safe Height**—set the minimum height (referred 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 **ROCKER** to set the value of the keel offset.
3. Press **←** to accept the number.



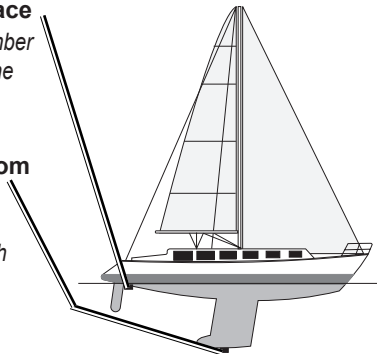
NOTE: Press  to cancel your changes and return to the My Boat screen.

Transducer at Surface

Enter a (+) positive number to show depth from the bottom of the keel.

Transducer at Bottom of Keel

Enter a (-) negative number to show depth from the surface.



Keel Offset

Transducer—select the transducer type (**Dual**

Frequency or Dual Beam), set the temperature source, sonar cone angles, and calibrate water speed.

- **Temp 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 it is accurately depicted on the screen.




NOTE: The Sonar Cone Angles setting does not affect a standard Garmin transducer, and should only be used to match the specifications of a non-standard transducer.


- **Calibrate Water Speed**—to use a speed sensing transducer, use this menu to calibrate the speed sensor. If you do not have a speed sensing transducer, this menu does not appear.

To calibrate the speed sensor:

1. From the Home screen, select **Configure** > **My Boat** > **Transducer** > **Calibrate Water Speed**.
2. Bring the boat to cruising speed. Note your top speed, and then stop the boat.
3. Highlight **OK**, and press **←**.

4. Use the **ROCKER** to enter your top speed, and press .



NOTE: If the boat is not moving fast enough or the speed sensor is not registering a speed, a “**Speed Too Low**” message appears. Highlight **OK**, press , 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—turn a safe zone around your boat on or off. This is used for collision avoidance, and can be customized:

- **Ring**—show or hide a ring on the map 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 .02 to 5.0 km, or 0.1 to 2.0 mi).
- **Time to**—sounds an alarm if AIS determines that a target will intersect the Safe Zone within the defined time interval (ranging from 3 to 24 minutes).

USING SONAR

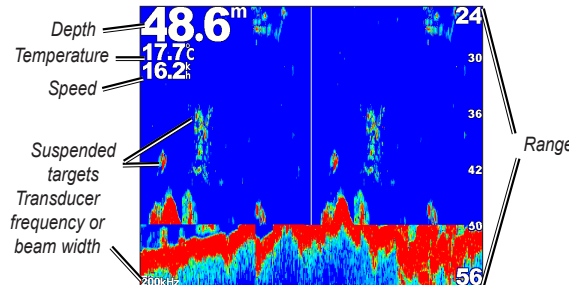
When connected to a transducer, your unit becomes a powerful fishfinder/flasher. You can connect a Garmin GSD 21 or GSD 22 sounder module to your unit to use the sonar features.



NOTE: When using GSD 21, you can wire through NMEA Port 1 or CANet port whereas GSD 22 can only wire to CANet (GPSMAP 2008). With GPSMAP 2108, GSD 21 uses NMEA Port 1 while GSD 22 can only hook to network port.

Understanding the Full Screen

Select the Full Screen option to view a full-screen graph of the transducer's sonar readings. From the Home screen, select **Sonar > Full Screen**.

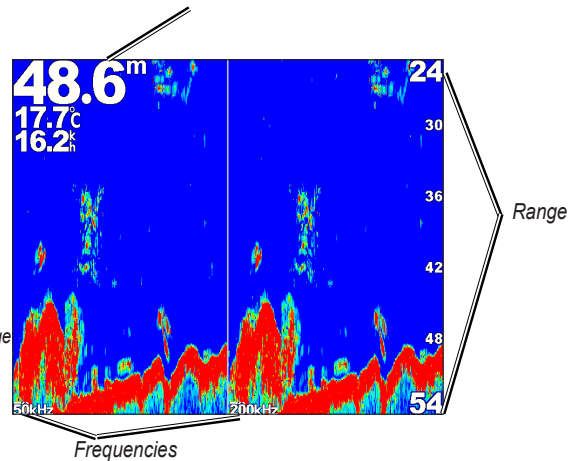


Understanding the Split Freq Screen

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

To open the Split Freq screen, from the Home screen, select **Sonar > Split Freq**.

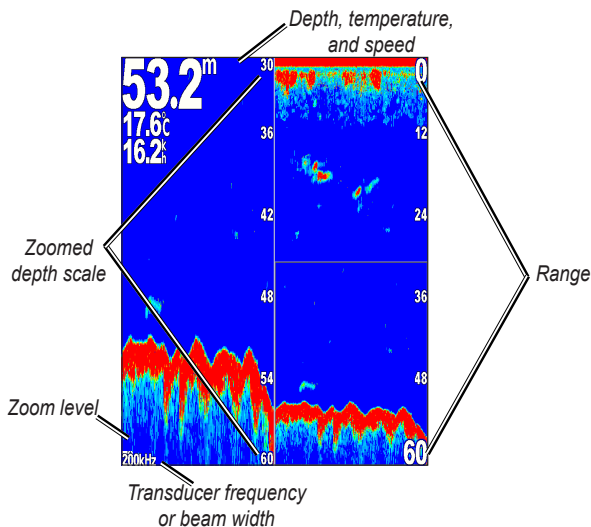
Depth, temperature, and speed



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.

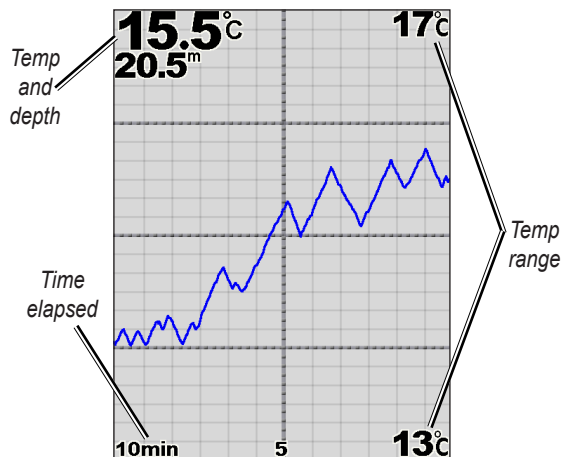
From the Home screen, select **Sonar > Split Zoom**.



Understanding the Temp Log Screen

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**.



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.

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 (**Ultrasroll**, **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 battery voltage, water temperature, water speed (if your transducer is

capable), cruising, and navigation.



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  while viewing a sonar screen.

Range—the range of the depth scale on the right side of the screen (**Auto** or **Manual Range**).

Gain—controls the sensitivity of the sonar receiver (**Auto** or **Manual Gain**). To see more detail, increase the Gain. If the screen is cluttered, decrease the Gain.

Beam—when using a dual beam transducer, select a **Wide** or **Narrow** beam.

Frequency—when using a dual frequency transducer, select how the frequencies appear on screen (**200kHz**, **50kHz**, **Dual**, or **Auto**).

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.
- **4x Zoom**—four times the magnification.
- **Bottom Lock**—locks the zoom window to the bottom.
- **Split Zoom**—opens the Split Zoom screen.

Depth Line—quickly reference a specific depth (**On** or **Off**).

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

USING RADAR

(GPSMAP2108 Applicable)

When you connect your chartplotter to an optional Garmin marine radar such as a GMR 404/406 or a 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 360° 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 12° 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 the network on, the radar warms up. A countdown is provided to alert you when the radar is ready. From the Home screen, press **Radar > Cruising**.

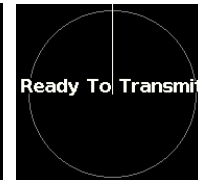


NOTE: As a safety feature, the radar enters standby mode after it warms up. This gives you an opportunity to verify that the area around the radar is clear before beginning radar transmission. The microwave energy transmitted by the radar can potentially be dangerous.

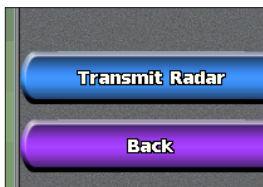
2. When the message “Ready to Transmit” appears, press or touch .
3. On the lower-right portion of the screen, select **Transmit Radar**. A “Spinning Up” message appears for a few moments, then the radar begins painting an image.



1




2



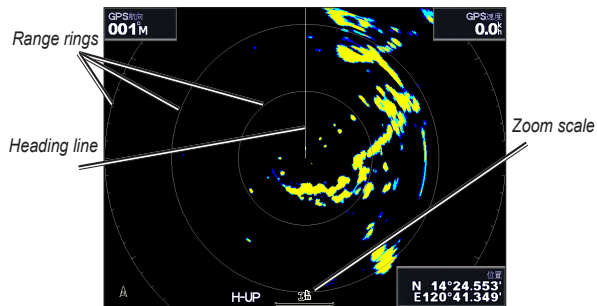
3

To turn off the radar:

1. Press and release the **Power** key on the chartplotter (do not hold the button, or you may shut down the chartplotter), or press .
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 **RANGE (+/-)** keys to adjust the zoom scale.

Cruising Screen Settings

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

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

gain to the default setting.

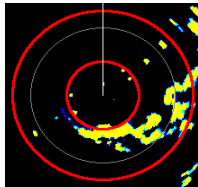
Rain Cltr—adjust the gain for unwanted clutter caused by rain at close ranges. Select **Left** or **Right** to adjust the rain clutter sensitivity.

Sea Cltr—adjust the gain for clutter caused by choppy sea conditions. Select **Nxt Prset** by steps to choose different level of sensitivity. Select **Left** or **Right** 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**.

Circular: Joins the guard zone to completely encompass the boat.

Circular



Nav Features—hides or shows distance, arrival time, and bearing when navigating to a destination.

Overlay Numbers—show or hide cruising and

navigation numbers.

Radar Setup—access advanced radar settings.

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.

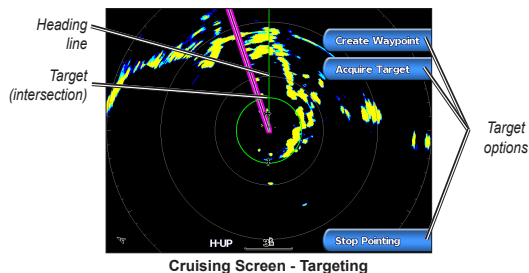
Front of Boat—offset the front of the boat if you mount the radar at an angle.

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.

Targeting on the Cruising Screen

Use the **ROCKER** to begin targeting. A green ring and a green line appear. The green ring corresponds with the range rings to help define the distance of an object from your location. The green line corresponds with the heading line to help define the bearing of an object 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.



To stop targeting, select **Stop Pointing**.

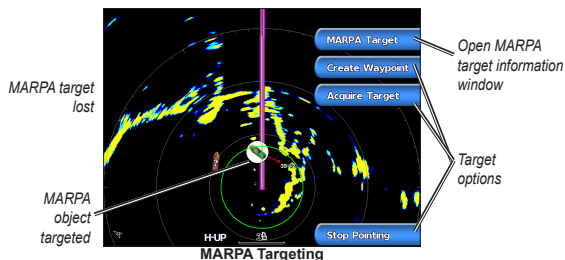
Create Waypoint—marks a waypoint at the targeted object or location.

Acquire Target—assigns 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.



NOTE: When using GPSMAP 2108, please use GSD 21 OR GSD 22 as Sonar options. GPSMAP 2108 is capable of using Garmin network but NOT CANet. Either sonar or radar information can be shown at the time when using GSD21. Both information can NOT be shown simultaneously.



NOTE: When using GSD 21, please wire to the NMEA 1 In/Out port of the GPSMAP 2008 / 2108. GSD 22 should be wired to CANet (GPSMAP2008). GSD22 should be hooked to the network port (GPSMAP 2108). When using Garmin Radar and sonar modules, you will need a network expander GMS10.

INSTALLING THE UNIT

Install the Wiring Harness

The unit comes with a wiring harness that connects the unit to power and the transducer with one easy-to-remove connection and provides interface capabilities for connecting external devices.

The color code in the diagram (see [page 41](#) for GPSMAP2008/2108) indicates the appropriate harness connections. The replacement fuse is a AGC/ 3AG - 3 Amp fuse. If it is necessary to extend the power wires, use 22 AWG wire. DO NOT cut the transducer cable, because this voids your warranty. You can wire the unit directly to the battery. If your boat has an electrical system, you might be able to wire the unit directly to an unused holder on your current fuse block. If you are using the boat's fuse block, remove the in-line fuse holder supplied with the unit.



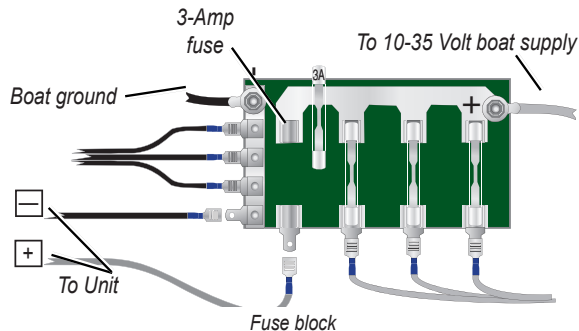
CAUTION: The maximum unit input voltage is 35 Volts DC. Do not exceed this voltage, because this can damage the unit and void the warranty.

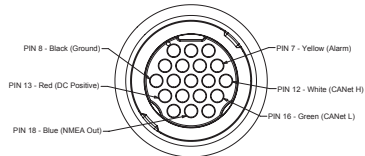


NOTE: During a typical installation, use only the Red and Black wires. The other wires do not have to be connected for normal operation of the unit. For information on connecting to a NMEA or CANet compatible device, see [page 41](#).

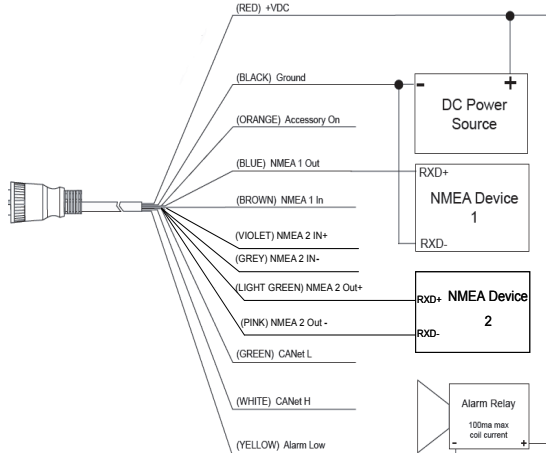
To install the wiring harness:

1. Use a test light or voltmeter to determine the polarity of the voltage source.
2. Connect the Red (+ or positive) wire to the positive voltage terminal. (If you use the boat's fuse block, route the positive connection through the fuse, as shown on the diagram.)
3. Connect the Black (- or ground) wire to the negative voltage terminal.
4. Install or check the 3-Amp fuse (on the boat's fuse block or in the in-line holder).
5. Align the notches on the cable plug and on the back of the unit. Insert the cable into the connector, and turn the lock ring counter-clockwise until it stops.

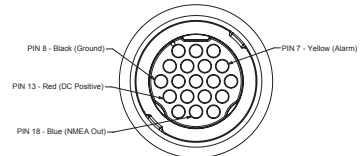




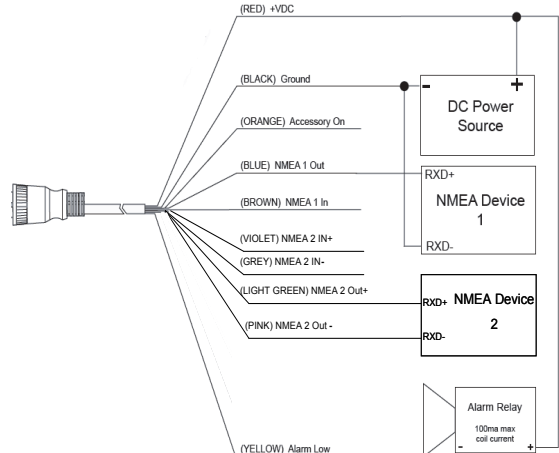
GPSMAP 2008 Pin Assignment



GPSMAP 2008 Wiring Harness



GPSMAP 2108 Pin Assignment



GPSMAP 2108 Wiring Harness

Connecting to a NMEA device

You can connect the unit to other NMEA compatible equipment, such as a DSC or AIS device. Refer to the wiring diagram on [page 41](#) for connecting the unit to NMEA compatible devices.

To install the wiring harness to a GPS or other NMEA device:

1. Follow the voltage source installation steps (see [page 40](#)). For Garmin units, the ground (Black) wires serve as NMEA ground and must be attached together or on the same terminal. Refer to the wiring diagram of your GPS unit for wire identification.
2. Connect the Blue (NMEA Out 1) wire from the unit to the NMEA In wire on the NMEA unit's wiring harness, and the brown (NMEA In 1) wire to the NMEA Out wire on the NMEA unit's wiring harness.
3. Repeat step 2 using the Grey and Violet wires for an additional NMEA unit.
4. Set the unit's serial port(s) to use **NMEA In/NMEA Out**

Interfacing with NMEA

The unit allows for NMEA 0183, Version 3.01 output with a compatible GPS or navigation device. You must set the unit's serial port(s) to **NMEA In/NMEA Out** to send data and receive data

The SDDBT, SDDPT, SDMTW, SDVHW, SDWPL sentences are sent and received in NMEA 0183, Version 3.01.

You can purchase complete information about National Marine Electronics Association (NMEA) format and sentences from:

NMEA

Seven Riggs Avenue

Severna Park, MD 21146 USA

www.nmea.org

Installing the Unit to a Garmin CANet

GPSMAP 2008 is a CANet-compatible Garmin device, and can send or receive sonar information from another CANet-compatible Garmin device. Using the CANet optimizes the performance of CANet-compatible units, allowing sonar information from a Sounder or Fishfinder to be shared with up to two CANet compatible Garmin GPS units. A standard NMEA connection only allows depth, temperature, and speed

information to be sent to a single GPS device, whereas a CANet connection provides full sonar readings, including Ultrascroll™, so you can view and control the same information on your compatible Garmin GPS unit(s) as you can on your compatible Garmin Sounder or Fishfinder.

GPSMAP 2108 does NOT support CANet but Garmin Network. Please connect GSD 21 to NMEA Port 1 or connect GSD 22 to network port for sounder options. When more one network device is used with GPSMAP 2108, GMS 10 is needed to expand network ports.



NOTE: To use the Garmin CANet with your unit, you must obtain a CANet Kit. Contact your Garmin dealer, or visit www.garmin.com.

Test the Installation

To turn on your unit for the first time, press and hold the

POWER key until the unit beeps and turns on. Use the **ROCKER** and the keys and follow the screens to configure your unit.



NOTE: Although it is possible to perform some checks with the boat trailered, the boat should be in the water to properly test the installation.

To configure your unit for the first time:

1. Select the **Language**.
2. Select attached **NMEA Devices**.
3. Select the **Transducer** type (if applicable).
4. Select the **Position Format** (the default is hddd°mm.mmm').
5. Select the **Time Format** (the default is 12 Hour).
6. Select your **Time Zone**.
7. Select your preferred **Units** of measure.
8. Select a **Minimum Depth**.
9. Select the **Overhead Clearance** of your boat.

The Home screen appears (see [page 6](#)) after you select your configuration options.



NOTE: You can adjust these options in the future from the Configure screen.

Because water is necessary to carry the sounder's sonar signal, the transducer must be in the water to

work properly. You cannot get a depth or distance reading when out of the water.

When you place your boat in the water, check for leaks around any screw holes that were added below the water line. DO NOT leave your boat in the water for an extended period of time without checking for leaks.

APPENDIX

Specifications

Physical Specifications

Size: 8.3" W x 5.2" H x 2.8" D (28.5 cm x 17.2 cm x 9.3 cm)

Weight: Less than 2.88 lbs (Approx. 1.4kg)

Display: 8.0" diagonal (20.32 cm), Full SVGA display with adjustable brightness, 800 x 600 pixels, capable of 262,144 colors.

Case: Plastic housing, waterproof to IEC 529 IPX7 standards.

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

Waypoint: up to 5000 points

Route: 50

Active track: 35,000 points

Track log: up to 30 tracks for storage ; 1000 points/track

Performance

Receiver: WAAS-capable receiver, high sensitivity

Acquisition Times:**Warm Start:** Approx. 15 seconds**Cold Start:** Approx. 45 seconds**AutoLocate:** Approx. 2 minutes**Update Rate:** 1/second, continuous**GPS Accuracy:****Position:** <33 feet (10 meters), 95% typical**Velocity:** 0.1 meters/sec steady rate**WAAS Accuracy:****Position:** <10 feet (3 meters), 95% typical**Velocity:** 0.1 meters/sec steady rate**Dynamics:** 6gs**Power****Power Source:** 10-36 ± 0% VDC**Usage:** 7.5 Watts max at 12 VDC**Fuse:** AGC/3AG - 3.0 Amp

NOTE: THE RJ45 port (Garmin Network) is used for Garmin Network devices such as Radar

and GSD 22. The BNC coaxial cable port is to connect to GPS module for satellite positioning, of which frequency range is 1.57542 GHz. Both ports operate below 60VDC and can not work with non Garmin devices.

Alarms and Messages

The unit uses an on-screen message system to alert you to unit operating characteristics. When a message appears, press **MENU** to acknowledge the message.

Accuracy Alarm—the GPS accuracy has fallen outside of user-set value.

AIS: Dangerous Target—shows the MMSI (Maritime Mobile Service Identity) of the dangerous target.

Alarm Clock—the alarm clock has sounded.

Anchor Drag Alarm—you have drifted out of the specified distance range.

Antenna Input is Shorted—some part of the antenna wiring is contacting the chassis.

Arriving At [Waypoint Name]—you arrived at the destination waypoint. You can **Stop Navigation** when

this message appears.

Battery Alarm—battery voltage has fallen below the value entered in the Battery Alarm setup.

Battery Voltage Is Too High—too much input voltage; the unit shuts off in 10 seconds. Decrease the input voltage to 35 Volts or less.

Boat Is Not Moving Fast Enough to Calibrate—the boat is not moving fast enough for the speed wheel to provide a valid speed.

Can't Read User Card—error reading card; remove and reinsert. Contact your dealer or Garmin Product Support if the problem persists.

Can't Read Voltages That High, Limited To Top Of Range—the voltage value in the Battery Alarm setup is higher than the unit can read.

Can't Read Voltages That Low, Limited To Bottom Of

Range—voltage value in the Battery Alarm setup is lower than the voltage where the unit automatically turns off.

Can't Unlock Maps—data on data card is not unlocked for the unit. Contact your dealer or Garmin

Product Support.

Can't Write User Card, Card May Be Full—error reading card; remove and reinsert. Contact your dealer or Garmin Product Support if the problem persists.

Can't Write User Card, Card Is Read-Only—the SD card in your unit contains data copy protection.

DSC Position Report Received From—shows the MMSI or name associated with an MMSI.

Database Error—internal problem with the unit. Contact your dealer or Garmin Product Support to have the unit serviced.

Deep Water Alarm—the Deep Water Alarm depth has been reached.

Directory Item With This MMSI Already Exists—the MMSI number is already in DSC directory. Use a different number.

Directory Memory is Full, Can't Create Entry—the DSC directory has reached maximum of 100 contacts. Delete unneeded contacts to add new ones.

Distress Call—a DSC distress call has been received. Take appropriate action.

Entering (Leaving) target water temperature—the

target water temperature is 2° F (1.1° C) above or below the temperature specified by the Water Temperature Alarm. These messages appear when you enter or leave that zone.

Fish Alarm—a beep sounds (if enabled) when a fish is detected. This alarm does not show a message banner.

Flash Flood Warning*—a flash flood warning was issued for the area by the National Weather Service.

Flood Warning*—a flood warning was issued for the area by the National Weather Service.

Invalid MMSI—enter a Valid MMSI.

Lost Satellite Reception—the unit has lost satellite signals. Check antenna connections or try moving to a location with a clear view of the sky.

Marine Warning*—a marine warning was issued by the National Weather Service.

NMEA Depth Is Below Transducer—you must enter an appropriate Keel Offset for the transducer.

No Waypoints/Routes/Tracks/User Waypoints Found—attempted to transfer user data from an SD card that does not contain the specified type of data.

Make sure there is data to transfer on the SD card.

Off Course Alarm—you are off course the distance set in the “Off Course” alarm.

Route Already Exists—you entered a route name that already exists in memory. Modify the route name or delete the previous route name.

Route Full—you attempted to add more than 250 points to a route. Reduce the number of points or create a second route.

Route Truncated—uploaded route from another device has more than 250 waypoints and was truncated to fit.

Route Waypoint Memory Full—no additional route waypoints can be saved.

Severe Storm Warning*—a severe storm warning has been issued for the area by the National Weather Service.

Shallow Water Alarm—the Shallow Water Alarm depth has been reached.

Sonar Service Incompatible—the external sonar device you are connected to needs a software update.

Sonar Timeout—there is an internal problem with

the unit. Contact your dealer or Garmin Product Support to have the unit serviced.

Sonar Service Lost—the external sonar device you were connected to has either been disconnected or the unit has lost communication with the sonar device for some other reason.

Tornado Warning*—a tornado warning was issued for the area by the National Weather Service.

Track Already Exists [Track Name]—you entered a saved track name that already exists in memory. Modify the track name or delete the existing track.

Track Log Full—the track log is full and track recording has been turned off. To record more track points, you need to clear the track log and turn track recording on. This only appears when the track recording setting is set to “Stop When Full.”

Track Memory is Full, Can’t Create Track—the track log memory is full. No additional track log data can be stored without deleting old data to create memory space.

Track Truncated—a complete uploaded track does not fit into memory. The oldest track log points were deleted to make space for the most recent data.

Transducer Disconnected, Sonar Turned

Off—there is not a transducer attached, bad cable/transducer, or the transducer cable was disconnected. If the transducer cable is removed while the unit is on, reconnect and cycle power.

Transfer Complete—the unit has finished uploading or downloading information to the connected device.

User Card Not Found, Please Insert Card—attempted to transfer user data without an SD card containing user data being present in the SD card slot.

Water Speed Sensor Is Not Working—the speed sensor is not detected. Check the connections.

Water Temperature Alarm—sonar has reported a temperature above, below, inside, or outside the specified value(s).

Waypoint Already Exists—you entered a waypoint name that already exists in memory. Modify the waypoint name or delete the existing waypoint.

Waypoint Memory Full—you have used all 1,500 waypoints available. Delete unwanted waypoints to make space for new entries.

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.

Limited Warranty

This Garmin product is warranted to be free from defects in materials or workmanship for one year from the date of purchase. Within this period, Garmin will, at its sole option,

repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor, provided that the customer shall be responsible for any transportation cost. This warranty does not cover failures due to abuse, misuse, accident, or unauthorized alteration or repairs.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

IN NO EVENT SHALL GARMIN BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE, OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you. Garmin retains the exclusive right to repair or replace the unit or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

To obtain warranty service, contact your local Garmin authorized dealer or call Garmin Product Support for shipping instructions and an RMA tracking number. Securely pack the unit and a copy of the original sales receipt, which is required as the proof of purchase for warranty repairs. Write the tracking number clearly on the outside of the package. Send the unit, freight charges prepaid, to any Garmin warranty service station.

Online Auction Purchases: Products sold through online auctions are not eligible for rebates or other special offers from Garmin. Online auction confirmations are not accepted for warranty verification. To obtain warranty service, an original or copy of the sales receipt from the original retailer is required. Garmin will not replace missing components from any package purchased through an online auction.

International Purchases: A separate warranty is provided by international distributors for units purchased outside the United States. This warranty is provided by the local in-country distributor and this distributor provides local service for your unit. Distributor warranties are only valid in the area of intended distribution. Units purchased in the United States or Canada must be returned to the Garmin service center in the United Kingdom, the United States, Canada, or Taiwan for service.

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GPSMAP® 2008/2108

用户手册 (简体中文)



GARMIN®



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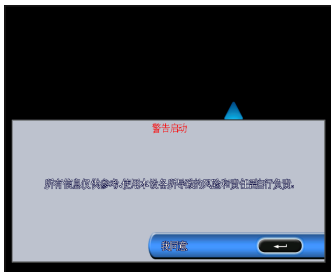
入门指南

开启或关闭设备

按住  电源键，直至设备发出蜂鸣声并显示 Garmin 屏幕。在显示警告屏幕时，按  键，进入主屏幕。



注意：首次启动设备时，必须完成设置程式。细节请参阅第81页




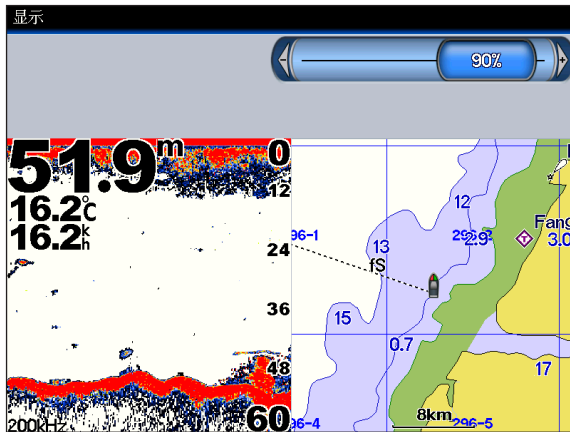
报警视窗



主选单


调节背光

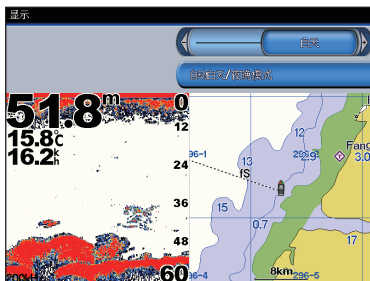
1. 按下并松开  电源键。
2. 选择“背光”并左右推动摇杆，手动调节背光亮度。



背光源调整

如需在白天和夜晚模式之间进行切换：

1. 按下并松开  电源键。
2. 选择“手动日间/夜间模式”。
3. 左右推动摇杆，在这两种模式之间进行切换。

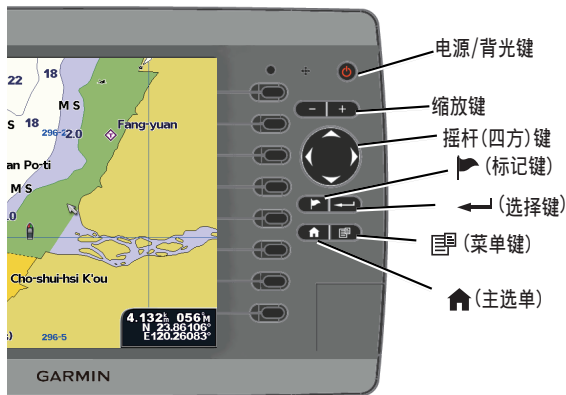


日间模式



夜间模式

使用键盘




电源/背光—按住该键可开启或关闭设备；按下该键后释放，可调节背光及日间/夜间模式。


缩放 (-/+)—按下该键，可调节声纳作用距离；可在航海图上缩放。

摇杆—沿著上、下、左、右四个方向推动，可在菜单之间滚动、高亮显示字段以及输入数据。

标记—按下该键，标记某个航点。

选择—按下该键，选择高亮显示项目并确认屏幕消息。


—按下该键，可返回主选单。

—按下该键，可进入附加设置和配置选项；在屏幕提示时，按下该键，可返回前一个屏幕。

接收GPS卫星信号

开启设备时，GPS接收器必须收集卫星数据并确定当前位置。如果设备无法确定位置，显示初始化位置屏幕。



当设备收到卫星信号时，主屏幕顶部的信号强度条为绿色 。当设备失去卫星信号时，绿

色信号强度条消失 。关于GPS的详情，请访问Garmin网站：www.garmin.com/aboutGPS。

使用模拟器模式

在室内使用或练习操作时，模拟器模式可关闭GPS接收器。在模拟器模式中，设备无法跟踪卫星。



小心：请勿尝试使用模拟器模式导航，因为GPS接收器已经关闭。显示的卫星信号强度条仅用于模拟，并不代表实际卫星信号对强度。

如需开启模拟器模式

1. 在主屏幕中选择配置 > 系统 > 模拟器。
2. 选择“设置”，设定速度、航迹保存和位置。

查看系统信息

您可以查看设备的软件版本、海图版本和设备的ID号。在更新系统软件或购买附加地图数据信息时，您可能需要相关信息。

在主屏幕中选择配置 > 系统 > 系统信息。



恢复出厂设置

您可以将设备恢复到原始出厂设置。



小心：该程序将删除用户输入的任何信息。

如需恢复出厂设置：

1. 在主屏幕中选择**配置 > 系统 > 系统信息**。
2. 选择出厂设置。
3. 选择“是”，恢复出厂设置。否则，请选择“否”，取消操作。

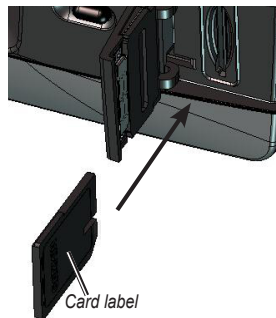
插入和取出SD卡

您的设备支持安全数字（SD）卡。插入选配的BlueChart® g2 SD卡即可查看详细的海图和陆

地信息。插入空白的SD卡，即可将航点、航线和航迹等数据传输给其他兼容的Garmin设备或PC机。

SD卡插槽位于设备右下角。

如需插入SD卡，按下SD卡直至听到咔嚓声。



GPSMAP 2008/2108

如需取出SD卡，按下SD卡。SD卡即可弹出。



注意：如果使用空白的新SD卡从MapSource传输航点，在从PC机复制文件之前，将其插入您的GPSMAP 2008/2108设备。该操作可完成SD卡预先设置。

认识主屏幕

使用主屏幕访问所有其他屏幕。



GPSMAP 2008/2108 主选单

- **导航图**—访问导航图（第59页）。



注意：在GPSMAP 2008/2108设备上，必须插入预先设置的BlueChart® g2 SD卡以使用导航图。GPSMAP 2008/2108支持GARMIN BlueChart® g2 海图。此手册是以BlueChart® g2海图为图示范例，BlueChart® g2只有在特定国家和地区适用，详情请洽当地GARMIN经销商。

- **雷达**—访问雷达信息（第85页）。GPSMAP2108适用。
- **声纳**—访问声纳信息（第81页）。



注意：只有在设备内置发声器或连接Garmin声纳模块时才可使用该选项。

- **海图/声纳**—设置在分区屏幕中查看导航图和声纳（第81页）。
- **想去何处?**—访问导航功能（第65页）。
- **信息**—查看潮汐、洋流、天文视图、用户数据以及其他船只等信息（第72页）。
- **配置**—访问设备和系统设置（第75页）。

罗盘引导辅助

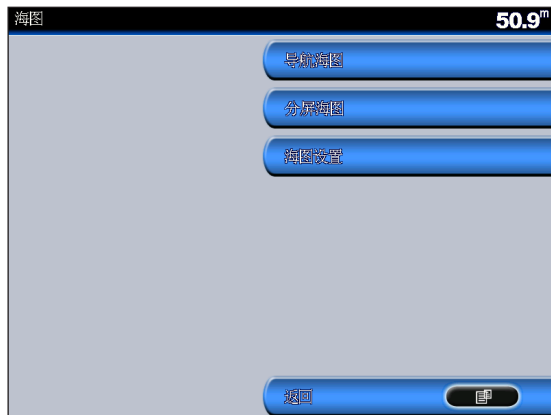
GPSMAP 2008/2108在主画面中也提供了罗盘指示功能，可帮助使用者确认目前船行的方向。

而罗盘的显示刻度单位为2度。

使用导航图

您的设备已经预先载入了一个Garmin全球海图。如果您有Garmin BlueChart® g2 海图数据卡，可查看特定国家的水路详情。

- 导航图—以俯视图形式显示预载地图中的所有相关导航数据，包括航标、灯塔、电缆、测深、码头、潮位站。



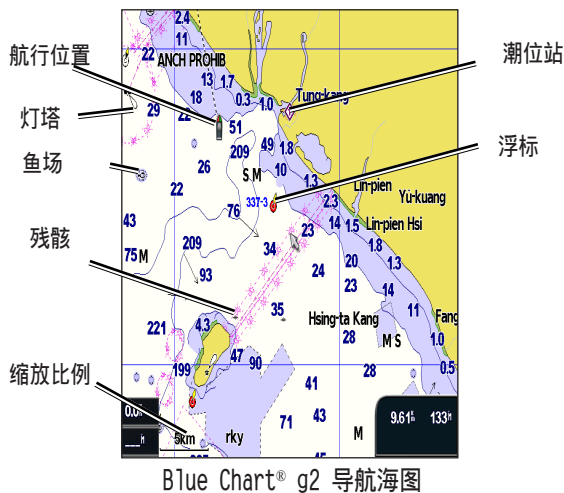
使用导航图

使用导航图可设计航线、查看地图信息并协助导航。




注意：在GPSMAP 2008/2108设备上，必须插入根据相关地区预先设置的BlueChart® SD卡，以查看详细的导航图。

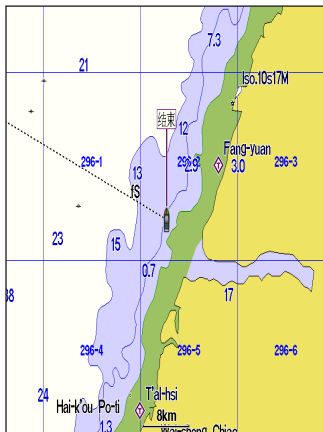
如需访问导航图，在主屏幕中选择海图 > 导航海图。



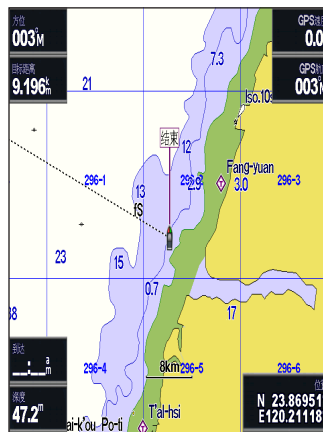
导航海图设置

如需访问导航海图的附加设置或选项，请按  键。

全屏海图—在全屏模式下查看导航图或渔区图。如需查看导航信息请按  键，选择“显示数字”，即可查看信息。



全屏海图



显示导航信息

叠加数字信息—在导航图或者渔区图上显示或隐藏巡航、航行、导航和渔区编号。

海图设置—自定义导航图。

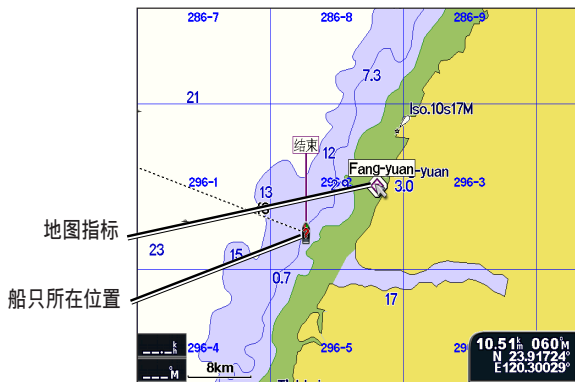
航点—显示用户的航点，以便进行导航或者编辑航点。


航线—创建或者选择用户的航道，以便进行导航。

平移导航图

使用地图指针 (🖱️) 移动当前位置，切换到导航图上的其他区域。如果平移范围超过当前地图显示的边缘，屏幕向前滚动以保持地图图像的连续性。位置图示 (📍) 保持在当前位置。

在移动地图指针时，可查看相对于当前位置的距离和方向，地图右下角显示地图指针的位置坐标。



如需平移地图，可按照所需方向向上、向下、向右或向左推动摇杆。如需停止平移，按  键，然后选择“停止移动海图”。

在地图上缩放显示

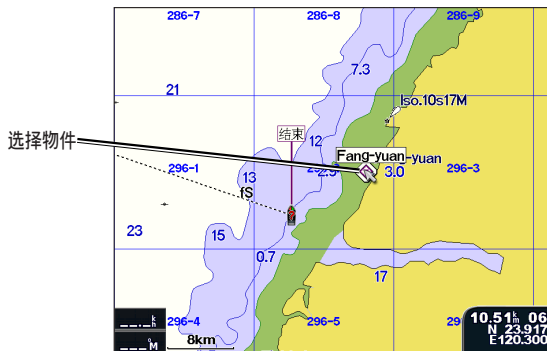
缩放 (+/-) 键用于控制缩放比例，导航图底部的比例尺可显示缩放比例。数字下的条形符号代表地图上的距离。

访问附加对象信息

使用地图指针 (🖱️) 查看屏幕上的地图项目和航点信息。

如需访问附加对象信息：

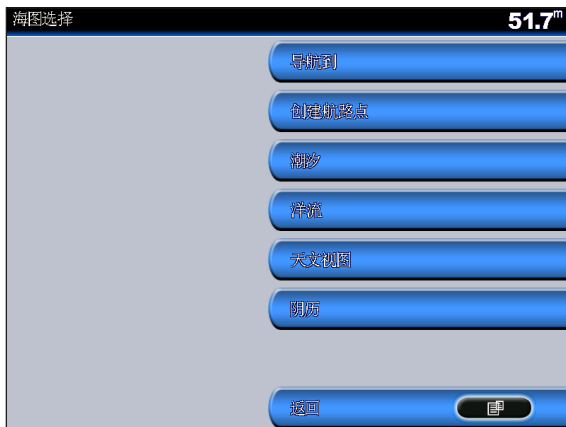
1. 在导航图上，使用地图指针高亮显示某个项目，然后按下“选择 ←”键。



使用导航图




2. 选择项目。如果该区域中有多个项目，选择“检查”，然后选择项目。

关于潮汐的更多详情，请参见第73页。

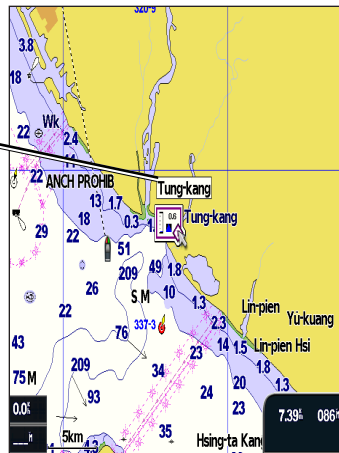


查看潮汐信息

导航图上显示潮位站图标和详细信息，以便用户参考。您可以查看详细的说明。

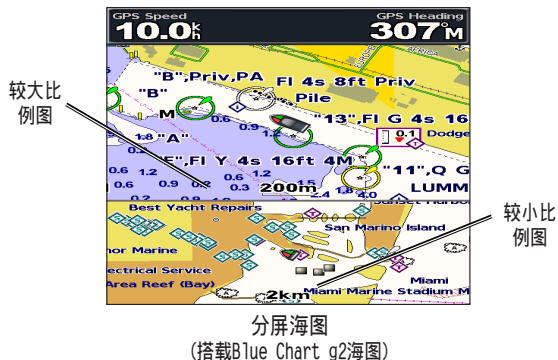
1. 使用地图指针 () 高亮显示潮位站图示 ()，然后按  键。
2. 选择潮汐名称 (东港)，即可查看详细的潮汐信息。

潮汐水位
(启动动态潮汐时)




使用分屏导航图

使用分屏导航图，同时查看不同缩放比例的导航图。



屏幕的上半部分比下半部分放大了10倍。缩放 (+/-) 键可用于控制缩放比例。

按  键可查看附加设置。(参见第60页)。

更改分屏设置

如需更改航海图设置，在主屏幕中选择海图 > 导航海图设置。


方位—更改海图显示的角度：

- 北朝上—将海图显示的顶部设置为北方。
- 航迹向上—将海图显示的顶部设置为航迹方向。
- 目标方位向上—设置海图，使导航方向始终朝上，使屏幕上航线保持垂直方向。



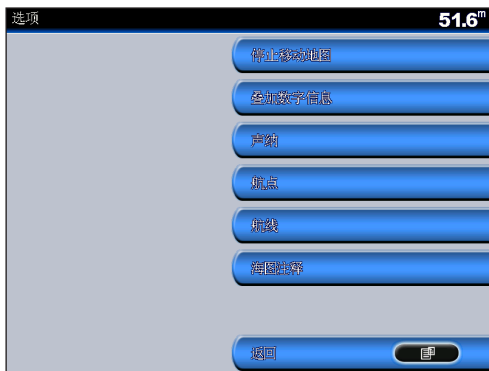
船首线—从船首开始沿著行进方向绘制延长线。

- 关闭—关闭船首线。

如需访问导航/声纳图的附加设置或者选项，请按键。

如需调节声纳设置：

1. 选择声纳
2. 选择所需的范围/增益/频率设置。



导航/声纳图设置



注意：导航/声纳图类似于声纳屏幕，只有在使用支持声纳设备并连接鱼探器时才可使用。

想去何处?

使用主屏幕中的“想去何处”选项可搜索和导航至最近的加油站、维修站、码头、斜坡、航点和航线。



注意：在导航之前，必须创建航点和航线。

可分别使用以下三种方法导航至目的地：
直达、航线与引导。

- 直达—引导您直接到达目的地
- 航线—从当前位置创建一条到达目的地的航线，可在航线中增加转向点。

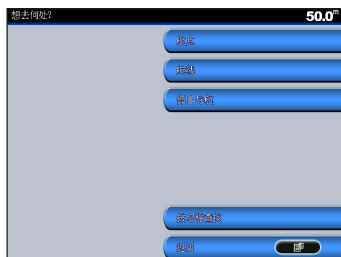
使用导航功能到达目的地

可搜索和导航至最近的目的地，包括加油站、维修站、码头、航点和航线。

如需开始导航：

1. 在主屏幕中选择**想去何处**。
2. 选择所需**航点**。
3. 如果目的地只有一站，选择**航点/导航到/启动导航**
4. 如果有多个目的地，选择**航线**。

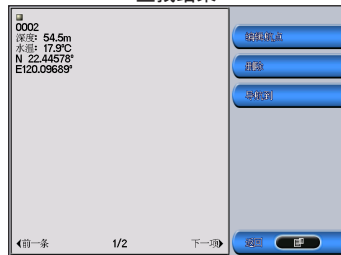
想去何处?



想去何处



查找结果



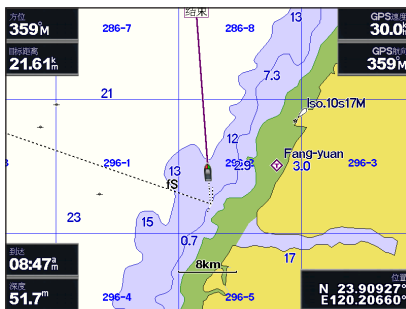
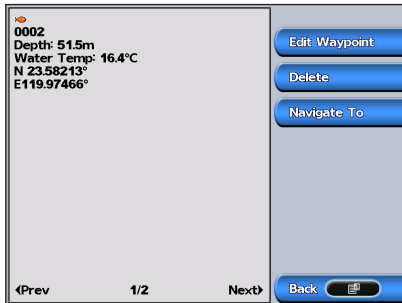
航点信息

5. 选择希望导航的海上服务项目。屏幕显示关于选定海上服务的信息。

6. 选择导航到。

7. 选择启动导航或者插入转向点导航。

8. 按照屏幕上的指示信息前往目的地。



如需停止导航：

按键，然后选择**停止导航**。

如需按照名称搜索目的地：

1. 在主屏幕中选择**想去何处 > 按名称查找**。
2. 上下推动摇杆可选择某个数字或字符；左右推动可移动字段。
3. 按**完成**，可查看符合搜索条件的最近的目的地。




创建和使用航点


您最多可存储5000个航点，每个航路点都可包括用户定义的名称、符号、深度和水温。

在创建某个航点时，可将其设置为紧急事故点。由此可标记该点并设置返回标记位置的航线。在启动紧急事故点时，创建一个MOB航路点和国际紧急事故符号，设备可导航至该点。


如需标记位置：

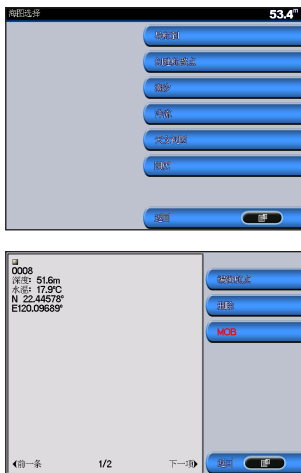
1. 可在任何屏幕中按下键。
2. 选择**返回**以返回航海图，或者选择**MOB**将该航点设置为MOB。



注意：按下该键只会在当前位置创建一个航点。

如需创建一个新的航点：

1. 在导航图上将地图指针移至所需位置，然后按键。
2. 选择“创建航点”。



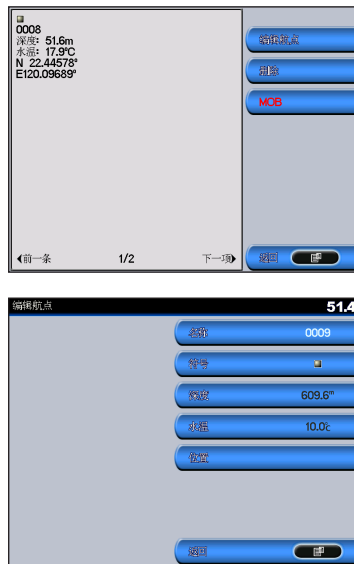
3. 选择以下某一选项：

- 编辑航点—自定义航点属性。
- 删除—删除航点。
- 导航到—前往航点。
- 返回—返回导航图。

如需编辑航点：

1. 创建一个新的航点，或者在导航图上选择某个航点。
2. 选择“编辑航点”。

3. 选择需要修改的航路点属性（名称、符号、深度、水温或位置）。



如需在导航图上移动航点：

1. 选择编辑航点 > 位置 > 使用海图。
2. 使用摇杆将航路点以至不同位置，然后按 ← 选择键。

如需查看所有航点列表:

在主屏幕中选择信息 > 用户数据 > 航点。

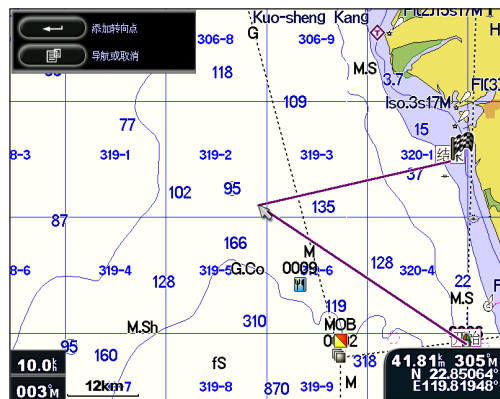


创建和使用航线

您最多可创建并保存50条航线，每条航线最多250个航点。

如需从当前位置创建一条航线:

1. 将地图指针移向目的地，然后按 **←** 键。
2. 选择导航到 > 插入转向点。

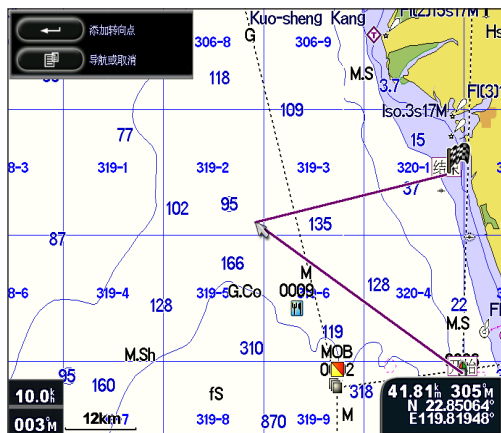


添加转弯点於航线上

3. 使用摇杆添加转向点，然后按 **←** 键。重复该步骤，添加转向点。
4. 按 **⏏** 键取消，取消上一个转向点，或开始航线导航。

如需在另一个位置创建航线:

1. 在主屏幕中选择信息 > 用户数据 > 航线 > 新航线。

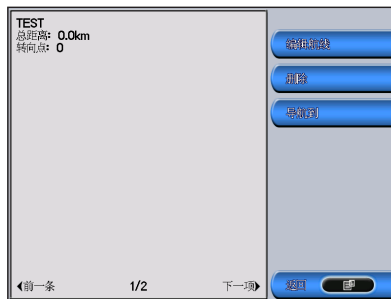
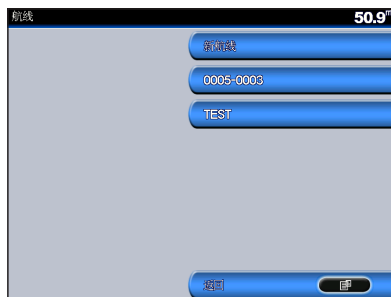


创建新航线

2. 使用摇杆选择航线的起点，然后按 键。
3. 使用摇杆和 键，增加转向点。
4. 按 键取消、编辑或执行航线导航。

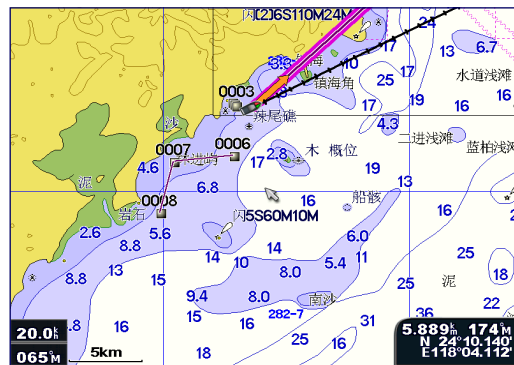
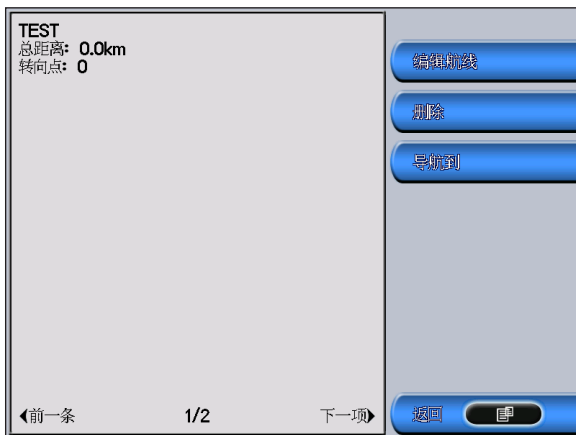
如需编辑航线

1. 在主屏幕中选择信息 > 用户数据 > 航线。
2. 选择需要编辑的航线。
3. 选择“编辑航线”。您可编辑航线名称、转向点或删除航线。



如需删除航线:

1. 在主屏幕中选择信息 > 用户数据 > 航线。
2. 选择需要删除的航线。
3. 选择“删除”。



注意: 只有当船只接收到卫星讯号以及处导航模式时, 自订路线才能单独显示。

在地图上自定边界路线

在船行导航过程中, 有时需要在地图上自订边界或警告的路线, GPSMAP 2008/2108有支持自订路线的功能, 并可在进行导航, 将设定的航线单独显示或隐藏。使用者可以自己建立新航线, 或是将行径的轨迹储存为航线使用。纪录的航线可以依照使用者的不同需求, 在海图上单独显示或隐藏自订的航线。如果要显示自订航线, 需要有已储存的航线才能显示。

查看信息

使用信息屏幕访问关于用户数据、潮汐、洋流、天文数据以及其他船只的信息。

查看航行数据


您可查看和自定义深度、GPS信息、导航信息等数字数据。您可以自定义显示的字段数量和每一个字段中显示的信息类型。您最多可查看六个字段的数字信息。

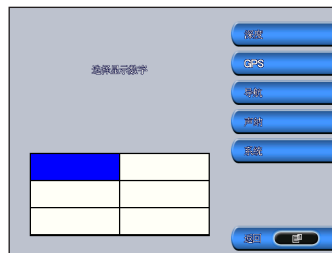
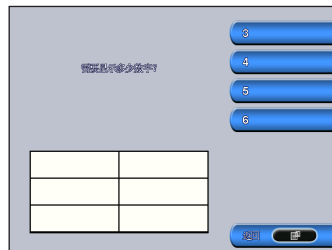
如需查看数据屏幕，在主屏幕中选择信息 > 数据页面 > 用户自订。

深度 51.0^m	时刻 08:13^a
位置 N 22.65809° E 120.16428°	水速 16.2^k_h
方位 ___M	水温 15.6^c

如需自定义数据屏幕：

1. 在主屏幕中选择信息 > 数据页面 > 用户自订。

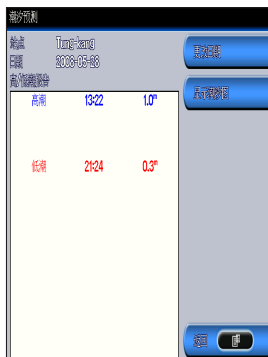
2. 按  键并选择配置。
3. 选择显示的字段数量（3、4、5或6）。
4. 选择在每个字段中显示的信息。



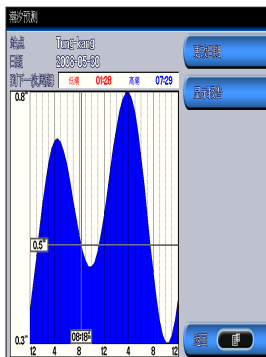
注意：首次使用数据屏幕时，系统会要求您完成初始设置的第3步和第4步。

查看潮位站信息

如需查看潮汐信息，在信息屏幕中选择“潮汐”，然后从列表中选择某个潮位站。



预测潮汐信息



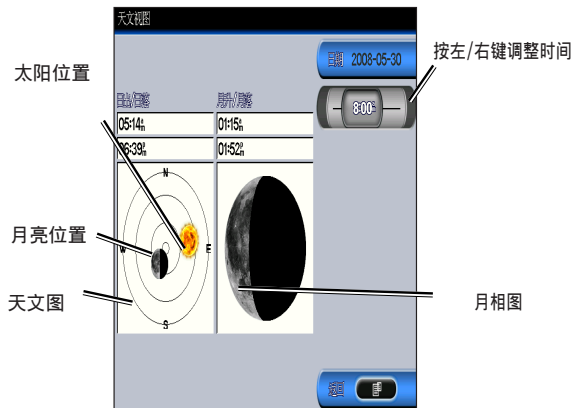
预测潮汐图

- 想查看潮汐信息,选择 显示报告。
- 想查看潮汐图,选择 显示潮汐图。

查看天体信息

使用天体数据屏幕，查看日月升降、月相、日月天空图像近似位置等天文数据。

如需查看天文信息，在信息屏幕中选择“天文视图”。



查看用户数据

如需查看用户数据，在主屏幕中选择信息 > 用户数据。

航路点—查看所有保存的航点列表。

航线—查看保存的航线列表。

航迹—查看保存的航迹列表。

数据传输—通过SD卡传输航点、航线和航迹数据。

清除用户数据—删除所有用户航点、航线和航迹数据。

查看信息

如需通过SD卡传输数据：

1. 将SD卡插入设备正面的SD卡插槽。（参见第57页。）
2. 在主屏幕中选择**信息 > 用户数据 > 数据传递**。
3. 完成以下某一项操作：
 - 选择“保存到存储卡”，将航点、航线和航迹数据保存到SD卡。
 - 选择“从存储卡上合并”，从SD卡将数据送到设备并与现有的GPS数据合并。
 - 选择“由存储卡上替换”，覆盖设备中的数据。

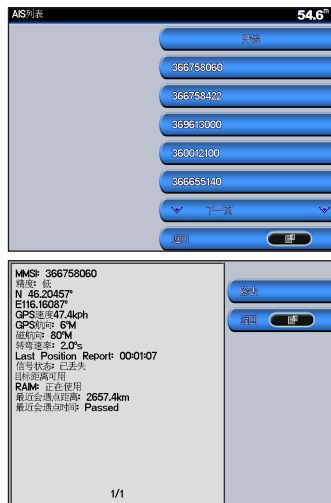
查看其他船只

如需查看关于其他船只的数据，在主屏幕中选择**信息 > 其他船信息**。



注意：如需查看关于其他船只的信息，设备必须连接到外部AIS（自动识别系统）或者DSC（数字选择性呼叫）设备。

AIS 列表—查看关于设备正在监控的所有船只的信息。AIS 列表显示MMSI或者AIS船只的名称（如果船只正在发送广播），并按照距离范围排序。距离本船最近的船只位于列表的顶部。



DSC日志—查看所有DSC呼叫列表，可按照呼叫时间、呼叫人或者呼叫类型排序（求救呼叫或者位置报告）。

- 按照时间顺序查看—查看最近收到的7次DSC呼叫，按照时间和日期排序并显示。时间与日期信息相同的呼叫在列表中显示相同信息。
- 按照发送人顺序查看—查看发送人的字母数字列表。
- 按照类型查看—查看最近收到的7次求救呼叫或者位置报告（按照时间顺序排列）。

DSC呼叫列表—查看最近收到的100次呼叫。DSC呼叫列表可显示某个船只最近发出的呼叫。如果从同一船只收到第二次呼叫，该呼叫将替换呼叫列表中的第一次呼叫。

目录—查看所有DSC条目的列表。可按照名称或MMSI排序查看。您还可添加条目。

设置—开启或关闭AIS及DSC，为本船设置安全区。

配置设备

使用配置屏幕调节设备设置。

配置系统设置

如需更改一般系统设置，在主屏幕中选择**配置 > 系统**。

模拟器—开启或者关闭模拟器模式并设置模拟器模式选项。（如果您在初次设备设置的过程中将设备设置为存储演示模式，该设置将被命名为Demo。）

语言设置—选择屏幕显示语言。（支持英文、简体中文、繁体中文及其他亚洲语系）

蜂鸣/显示—选择**蜂鸣器设置**，使设备发出声响。提供三项设置：关闭、仅报警（默认）和按键和报警音。选择**显示设置**在日间或夜间模式之间进行切换，此外还可调节背光亮度。

GPS—查看GPS卫星，开启或者关闭WAAS/EGNOS以及初始化GPS接收器。

系统信息—查看系统信息和恢复出厂设置。

配置设备

事件日志—显示系统事件列表。

叠加数字信息—设置风向与下一个转向点编号的显示样式。

更改测量单位

如需更改测量单位，在主屏幕中选择**配置 > 单位**。

系统单位—这是一项快速全局设置，可一次性定义大多数下列测量单位。法定单位（mh、ft、°F）、公制单位（kh、m、°C）或者航海单位（kt、ft、°F）。

深度—可将深度测量单位单独设置为英尺（ft）、英呎（fa）或者米（m）。

温度—可将温度测量单位单独设置为华氏度（°F）或者摄氏度（°C）。



注意：如需查看深度和温度信息，必须接收NMEA声纳深度数据或者使用GARMIN声纳模块GSD21/GSD22。

距离、航速和海拔—单独设置距离、航速和海拔的测量单位。

航向—设置计算航向信息时使用的基准。

位置—更改位置读数采用的坐标系。默认格

式为hddd°mm.mmm’。如果正在使用指定了不同位置格式的地图或者航海图，只需更改位置格式。

时间—设置时间格式（12小时，24小时，或者UTC时间格式）、时区，并说明是否使用夏令时。

配置通信设置

如需更改通信系统设置，在主屏幕中选择**配置 > 通信**。

数据端口—选择在将设备连接到外部NMEA设备、个人计算机或者其他Garmin设备时使用的输入/输出格式。

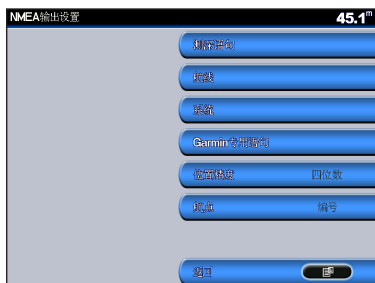
- **Garmin数据传输**—使用专有格式上载、下载或者与计算机或其他Garmin设备交换数据。
- **Garmin外置声纳**—可串行连接Garmin GSD 21或者GSD 22。
- **NMEA输入/NMEA输出**—支持标准NMEA 0183数据的输入或者输出、DSC，提供对DPT、MTW和VHW语句的NMEA输入支持。
- **NMEA高速**—支持大多数AIS接收器的标准0183数据。
- **无一不提供任据传输**

NMEA设置—启用或者禁用发声器、航线、系统

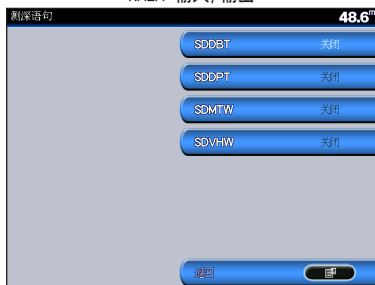
和Garmin NMEA设置的NMEA输出语句。

启用或者禁用NMEA输出语句：

1. 在主屏幕中选择配置 > 通信 > NEMA设置。
2. 选择某项设置（发声器、航线、系统或Garmin）。
3. 选择一个NMEA输出语句。



NMEA 输入/输出



测深语句

4. 选择“关闭”以禁用或者选择“开启”，启用NMEA输出语句。

位置精度—调节传输NMEA输出数据时使用的小数字数（两位、三位或四位）。

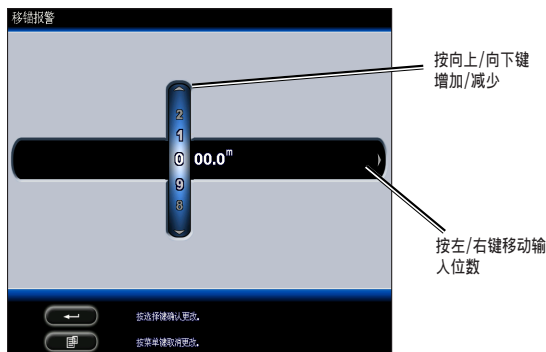
航点—选择设备输出航点标识符（名称或编号）。

设置报警

可设置设备在满足特定条件时发出声响报警。默认情况下，关闭所有报警。

如需设置报警：

1. 在主屏幕中选择配置 > 报警。
2. 选择报警（导航、系统、及声纳）。
3. 选择导航报警。
4. 选择移锚以启动，然后使用摇杆指定报警信息。



设置导航报警

如需设置导航报警，在主屏幕中选择**配置 > 报警 > 导航**。

移锚—设置在超过规定漂移距离时发出报警声。

到达时间—设置在进入目标航点指定距离或者时间范围内时发出报警声。

偏航—设置在偏离行间的距离超出规定时发出报警声。

设置系统报警

如需设置系统报警，在主屏幕中选择**配置 >**

报警 > 系统。

闹钟—使用系统时钟设置报警。时钟报警功能只有在设备开启时才有效。

电池—设置在电池达到用户定义的低电压时发出报警声。

GPS精度—设置在GPS位置精度低于用户定义值时发出报警声。

设置声纳报警

如需设置声纳报警，在主屏幕中选择**配置 > 报警 > 声纳**。

浅水/深水报警—设置在深度低于或者超过规定值时发出报警声。

水温报警—设置在鱼探器测量温度与规定温度之间的温差超过 2°F (1.1°C)时发出报警声。

鱼群报警—设置在设备发现符合规定符号的悬浮目标时发出报警声。



注意：必须连接鱼探器。GPSMAP 2008/2108没有内声纳模块，所以必须安装GSD 21 或 GSD 22 声纳模块以接收声纳信息。

配置本船信息


如需调节船只的设置，在主屏幕中选择**配置>本船信息**。

自动导航—为本船设置自动导航参数：


- **安全水深**—设置在计算自动导航航线时的最小允许深度（参考航海图深度基准）。
- **安全高度**—设置船只从桥下安全通行的最小高度（参考航海图高度基准）。

吃水调整—针对龙骨深度补偿表面读数。这样可从龙骨底部（而不是鱼探器位置）开始测量深度。输入正值可执行龙骨补偿。对于吃水线高度达到数英尺的大型船只，可输入负值以便补偿。

如需调节龙骨补偿(吃水调整)：

1. 在主屏幕中选择**配置 > 本船信息 > 吃水调整**。
2. 使用摇杆设置龙骨补偿值。
3. 按  键可确认数字。



注意：按下  该键可取消更改，并返回我的船只屏幕

鱼探器位于水面
鱼探器位于水面 输入(+)正值
显示鱼探器至龙骨底部之深度

鱼探器位于龙骨底部
鱼探器位于龙骨底部 输入(-)
负值显示鱼探器至水面之深度



吃水调整(Kee1 offset)

鱼探器—选择鱼探器类型（双频或单频双波束），设置温度源、声纳发射锥角及校准水流速。

- **温度来源**—设置温度来源（鱼探器或NEMA）
- **声纳发射锥角**—如果使用非标准Garmin鱼探器，可设置声纳锥角的角度，以便在屏幕上精确显示。
- **校准流速**—设置具有量测水速的鱼探器，可使用此菜单进行校准，如果你的鱼探器不具有速度感知器，则此功能将无法使用。



注意：声纳锥角设置不会影响标准GARMIN鱼探器，而且只应校准水流速—如需使用速度鱼探

器，则使用该菜单进行校准。如果不使用速度鱼探器，则不会显示该菜单。

如需校准速度鱼探器：

1. 在主屏幕中选择**配置 > 本船信息 > 鱼探器 > 校准水速**。
2. 使船只以巡航速度行驶。记录最高速度，然后停船。
3. 高亮显示OK，然后按 \leftarrow 键。
4. 使用摇杆输入最高速度，然后按 \leftarrow 键。



注意：如果船只速度不够高，或者速度鱼探器没有记录速度，显示“速度过低”消息。高亮显示OK并按键确认，然后安全提高船只速度。如果再次显示该消息，停船并确保速度鱼探器轮没有被卡住。如果鱼探器轮自由旋转，检查电缆连接。如果继续显示该消息，请联系Garmin产品支持部门。

配置其他船信息

如需调节其他船只的设置，在主屏幕中选择**配置 > 其他船信息**。

AIS—开启或者关闭AIS（自动识别系统）。AIS可提供有效范围内配置应答器的船只的ID、位置、航线和航速，提醒您注意交通情况。

DSC—开启或者关闭DSC（数字选择性呼叫）。



注意：如需配置其他船只的AIS 或者 DSC进行，设备必须连接到外部AIS（自动识别系统）或者DSC（数字选择性呼叫）设备。

安全区域—开启或者关闭船只周围的安全区域。该功能用于避免碰撞，可自定义设置：

- **距标圈**—在地图上显示或者隐藏船只安全区外圈。
- **范围**—更改安全区外圈的半径：0.1—2.0 nm（或者0.02—5.0 km，或者0.1—2.0 mi）。
- **预计时间**—如果AIS确定某个目标将在规定的间隔时间内进入安全区，发出报警声（3—24分钟）。

使用声纳系统

如果连接鱼探测器，此设备是一个功能强大的鱼群探测器。如需使用声纳功能，可在设备上连接Garmin GSD 21 或者 GSD 22 声纳模块。

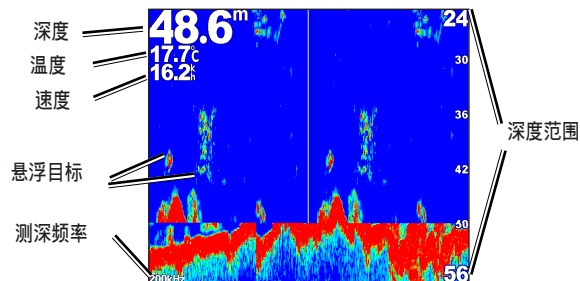


注意：当使用GSD 21声纳模块必须连线NMEA接口1或是CANet接口；GSD 22只能使用CANet接口（GPSMAP 2008适用）。当使用GSD 21 在GPSMAP 2108上，仅可连接NMEA接口1；GSD 22只能使用Garmin网络接口。（线路图请见第41页）

认识全屏功能

选择全屏选项以全屏显示鱼探测器的声纳读数图。

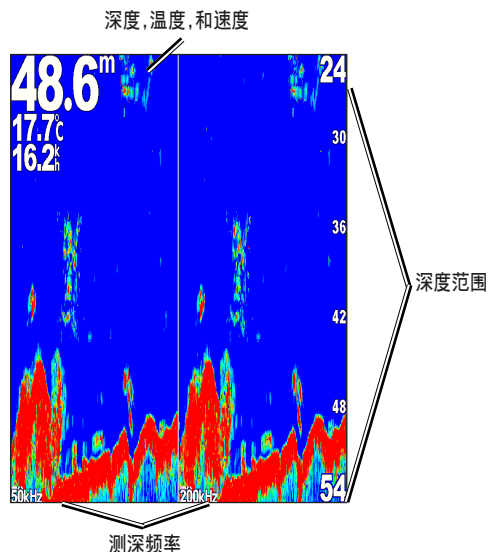
在主屏幕中选择声纳 > 全屏显示。



认识分频屏幕

使用分区频率屏幕（仅限双频鱼探测器）以在同一个屏幕上查看50kHz 和 200kHz频率数据。左侧显示50kHz频率图，右侧显示200kHz频率图。

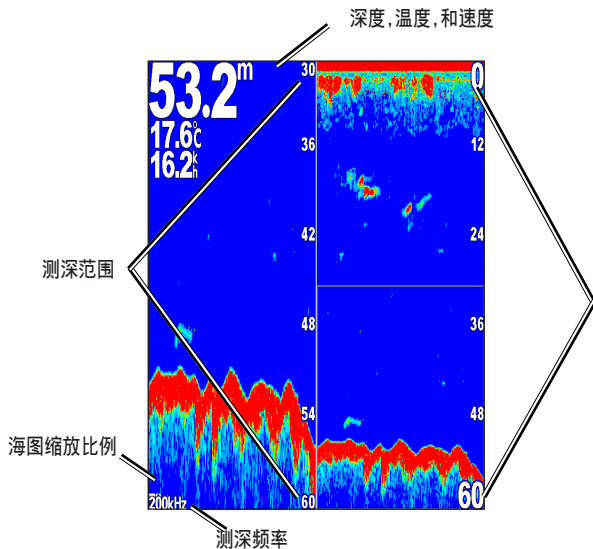
如需打开分区频率屏幕，在主屏幕中选择声纳 > 分频显示。



认识分区缩放屏幕

使用分区缩放屏幕查看图中的所有声纳数据，并在同一个屏幕中缩放部分区域。

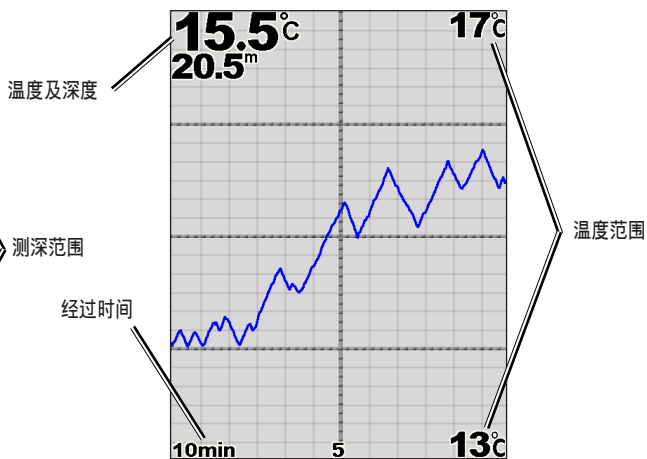
在主屏幕中选择声纳 > 分频放大显示。



认识温度日志屏幕

如果正在使用可测量温度的鱼探器，温度日志屏幕可记录温度随时间变化的图形。左上角显示当前温度和深度。

在主屏幕中选择声纳 > 温度日志。



右侧显示温度，底部显示消耗的时间。在收到信息时，图形向左侧滚动。

设置声纳

使用声纳设置屏幕定义和调节所有声纳屏幕的全局设置。

在主屏幕中选择**声纳 > 声纳设置**。

颜色方案—选择白色或蓝色。该设置影响所有声纳屏幕的背景，但不会改变温度日志屏幕。

鱼群符号—设置声纳设备分辨悬浮目标的方式。



设备不分辨声纳返回数据（默认）。



悬浮目标显示为各种符号。显示背景声纳信息，以便区分鱼群和地质结构。



悬浮目标显示为各种符号，同时显示背景信息(深度)。此外还显示每一个符号的目标深度。



悬浮目标显示为各种符号。不显示背景信息(深度)。



悬浮目标显示为各种符号，不显示背景信息。但显示目标深度信息。

滚动速度—调节声纳从右向左的滚动速度（超快、快速、中速或者慢速）。如果使用可测量速度的鱼探器，选择“自动”以使滚动速度根据船只的水流速自动调节。


表面噪音—显示或者隐藏水面附近的声纳返回数据。隐藏表面造型以减少杂波干扰。

水底白色线—高亮显示底部的最强信号，以便识别硬度。

- **关闭**—（默认）禁用水底白色线功能。
- **高**—最高灵敏度设置。几乎所有返回的强信号都使用白色高亮显示。
- **中**—许多返回的强信号都使用白色高亮显示。
- **低**—最低灵敏度设置。只有返回的最强信号使用白色高亮显示。

覆盖编号—显示或者隐藏电池电压、水温、水流速（如果鱼探器支持这些功能）、巡航和导航数据。

高级声纳设置

如需调节高级声纳设置，在查看声纳屏幕的同时按下  键。

范围—屏幕右侧深度比例尺的范围（自动和手动范围）

增益—控制声纳接收器的灵敏度（自动或手动增益）。如需查看更多细节，提高增益。如果屏幕存在较大干扰，降低增益。

频率—在使用双频鱼探器时，屏幕上的频率显示方式（200kHz、50kHz、双频或自动）。

放大—放大全屏中的某一部分。



关闭缩放功能，或者采用默认设置：无缩放。提供四个选项：

- 2倍缩放—放大两倍。
- 4倍缩放—放大四倍。
- 底部锁定—将缩放窗口锁定在底部。
- 分屏放大显示—打开分区缩放屏幕。

水深线—快速参考特定深度（开启或关闭）。

A-Scope—（仅限双频）屏幕右侧显示一个垂直的闪烁器（开启或关闭）。

测试安装设备

首次开启设备时，按住  电源键，直至设备发出蜂鸣声并开启。使用摇杆和  键按照屏幕提示配置设备。



注意：虽然可在拖挂船只的条件下执行某些检查，但只有下水后才能正确测试安装设备。

在首次配置设备时：

1. 选择“语言”。
2. 选择连接的“NMEA设备”。
3. 选择“鱼探器”类型（如适用）。
4. 选择“位置格式”（默认格式为 hddd° mm. mmm' ）。。
5. 选择“时间格式”（默认格式为12小时）。
6. 选择“时区”。
7. 选择首选测量“单位”。
8. 选择“最小安全深度”。
9. 选择船只的“最小安全高度”。

选择配置选项之后，显示主屏幕（参见第58页）。

由于发声器的声纳信号必须通过水传播，因此鱼探器必须在水中才能正常工作。否则将无法获得深度或者距离读数。

船只下水后，检查吃水线以下的螺丝孔周围是否泄漏。如果没有检查泄漏，不可使船长时间停在水中。

使用雷达系统（GPSMAP 2108搭配功能）

您可以选择Garmin航海专用雷达配件（如GMR 404/406或GMR 18），并在屏幕上获得更多周遭环境的信息。雷达也可支持Garmin航海网络设备，并将数据分享给所有在网络中的海图仪。

Garmin航海雷达会传送属于窄波的微波能量，并以360度的旋转图案呈现，当传送的波束接触到目标，微波便会反射同时显示在雷达页面中。




警告：Garmin航海雷达所发送的微波可能对人体和动物造成危害，请确认雷达周围并无人员靠近。雷达讯号会由雷达中心以水平的正负12度的角度发送，同时并避免以眼睛直视雷达，因为眼睛是人体相当敏感的部份，恐造成生理伤害。

开启雷达功能


1. 开启Garmin海图仪电源，雷达就会开始预热，此时屏幕上会显示雷达准备时的倒计时。请由主屏幕中选择雷达 > 巡航。



注意：雷达开启时会先预热再进入待机模式，是一种安全保护的机制，使用者可以在这段时间确认雷达在发送讯号前周围是否净空，以免雷达发送微波能量的危险。

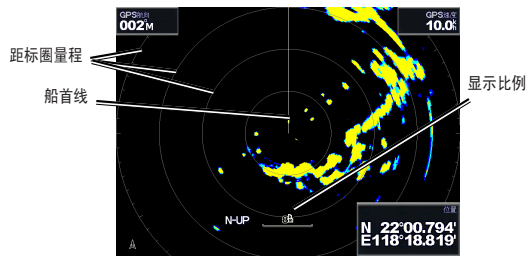
2. 当画面显示「准备发送」讯息，按压.
3. 点选屏幕右下方的**发送雷达**，待画面出现的旋转图案显示完后，雷达便会绘出所扫描的影像。

关闭雷达功能

1. 按压航海导航仪的**电源键**（勿按住不放，以免关闭机器电源），或点选.
2. 点选**进入待机模式**。


巡航画面

透过巡航画面的全屏幕显示，可以看到完整雷达所搜集的信息。使用者的所在位置位于页面正中央，而屏幕上的环型线表示所测量的距离。



显示比例表示了使用者所在位置（正中央）至最外圈环的相对距离，每个环状都代表一个距离相同的显示区域。举例来说，如果显示比例设为3公里，那么由中央算起的每个环都表示1公里的距离。可以使用**量程**按钮来调整显示比例。

巡航画面设置

如果要进入雷达巡航显示页面的设置或选项，请点选.

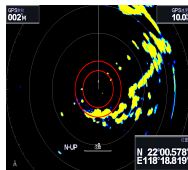
增益—可控制雷达接收器的灵敏度。预设模式为自动调整，会自动调节为最佳的效能状态。也可以左键或右键手动调整感应度，要回复默认值只要再点选自动即可。

雨雪抑制—可以调节因为下雨所产生的雷达杂波。利用上键或下键以调整感应的杂波干扰。

海浪抑制—可以调整因为海水波浪造成的杂波状态。选择最大值可进入概略感应，或以左键及右键手动调节海水波浪造成的杂波。

报警区—可以自行定义船行的安全区域，当侦测到有物体进入此范围时，会以报警音提示。

圆形范围—以圆形环状范围为警戒区域，并将船包围在其中。



导航数据—隐藏或开启导航到目的地时显示的距离、到达时间与航行方位。

叠加数字信息—显示或隐藏航行及导航的讯息。

雷达设置—进入高级雷达设置。

海图朝向—改变雷达显示的观看方式。

船首线—可显示或隐藏路线的航行方向。

距标圈—可显示或隐藏雷达上的距离标距。

前瞻速度—当速度增加时，会把船只当前位置显示在屏幕底部，请输入最高速度以取得最佳效果。

定期发射—可自行设置雷达发送/待机的时间循环，并设置发送及待机的分钟时间。

同频干扰抑制—消除邻近雷达操作造成的讯号干扰。

高级设置—进入雷达高级设置：

FTC—减少在雷达扫描距离内雨雪产生的不明噪声。

船首线校整—调整雷达安装在船上的方位误差。

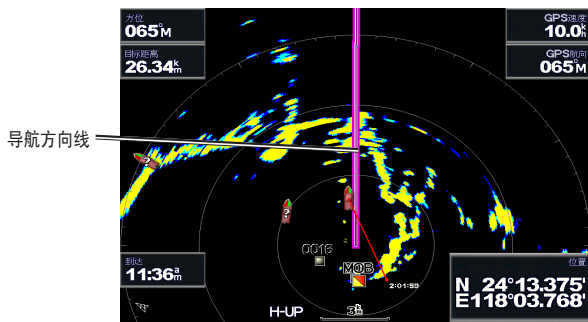
天线大小（限定GMR 404/406）—选择天线的大小（4英尺或6英尺）。

马达速度（限定GMR 404/406）—设置GMR 404/406雷达的马达速度为正常或是高速状态。在高速状态时，屏幕显示的数值会随着天线转动的速度而更新。

在巡航画面设定目标

使用**摇杆键**开始设定目标，画面便会出现绿色的环形圈及指向路线。绿色的环形圈与距标圈大小相符，可以帮助使用者确定目标物体与所在地点的距离；而绿色的指示线与航向路线相当，可以协助确认当前位置与物体的方向。当移动**摇杆键**调整绿圈和绿线的交叉点，即可找出目标物。当此目标交点（绿色线和绿色环形圈交叉处）与雷达上的目标物重迭，画面右方随即弹出目标功能的选项。要停止目标设定，请选择**光标指针退回船位**。

使用雷达系统（GPSMAP2108搭配功能）



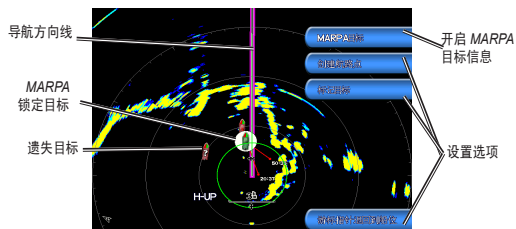
创建航路点— 在目标物或目标交点上标记新航点。

标记目标— 将MARPA（小型ARPA雷达自动标绘技术）卷标设定在目标物。



注意：MARPA需要搭配指向传感器，传感器必须输出符合为NMEA 0183通信协议的HDM或HDG格式。

MARPA目标（只会使用在MAPRA标记的目标显示时）— 开启MARPA目标信息窗口，并从窗口中移除MARPA对象。



注意：当您想使用声纳系统与GPSMAP2108结合时，请选购GSD21 或 GSD22。GPSMAP 2108支持Garmin网络系统但不支持CANet。当选择GSD21时，进入雷达页面时将无法显示声纳信息，其它情形下，声纳功能将持续作用。



注意：当选用GSD21声纳系统时，需连接机台之NMEA接口1（适用GPSMAP2008/2108）。GSD 22需连接至CANet（GPSMAP2008适用），使用GPSMAP2108时则需连接至网络接口。当需同时使用雷达及声纳系统时，则需选购GMS10。

产品规格

屏幕尺寸：8寸全彩SVGA显示屏（800X600像素;26万色）

机台尺寸：17.5cm x 28.4 cm x 9.7 cm

重量：约 1.4 公斤(仅机台重量)

使用温度范围：-15°C to 55°C

海图支持：GARMIN BlueChart® g2 海图。

<p>存储规格</p> <p>航点：5,000点</p> <p>航线：50条</p> <p>航迹：35,000点</p> <p>航迹数：30条</p>	<p>外置模块</p> <p>GPS接收器：GARMIN GA29外接天线</p> <p>鱼探/测深：GSD21(约 460 米深) GSD22(约1500 米深)</p>
<p>GPS规格</p> <p>暖开机：约15秒</p> <p>冷开机：约45秒</p> <p>自动搜寻：约2分钟</p> <p>更新频率：每秒1次</p> <p>精确度：约10米</p>	<p>电源规格</p> <p>供电电压：10-36 ± 0% VDC</p> <p>电力消耗：7.55瓦最大(12VDC时)</p> <p>保险丝：AGC/3AG - 3.0 Amp</p>

产品有害物质或元素自我宣告

GPSMAP2008

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr ⁶⁺)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
GPSMAP 2008 GPS 产品(中文版)	X	O	O	O	O	O
GPSMAP 2008 半成品	X	O	O	O	O	O
GPSMAP 2008 印刷电路板半成品	X	O	O	O	O	O
O : 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。 X : 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。						

GPSMAP2108

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr ⁶⁺)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
GPSMAP 2108 GPS 产品(中文版)	X	O	O	O	O	O
GPSMAP 2108 半成品	X	O	O	O	O	O
GPSMAP 2108 印刷电路板半成品	X	O	O	O	O	O
O : 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。 X : 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。						

GPSMAP® 2008/2108

使用手冊 (繁體中文)



GARMIN®

特別聲明

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GARMIN®

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注意事項

全球衛星定位系統（Global Positioning System，GPS），是由美國國防部發展及管理，並負責該系統的正常運作及定位精度的控制，基於美

國本身的政策考量或國防安全，美國有權在不預先通知或公告的狀況下，影響整個系統的功能或定位精度（Accuracy），另外在使用本產品時，由於使用的場合、環境及應用方式不同，使用者必須特別注意下列事項或說明：

GPSMAP 2008/2108 雖然已是一個精密的電子導航輔助儀器，但是仍然可能因為使用者錯誤的操作方式、外在干擾或故障因素等，而變得不安全，因此使用者需自行承擔風險。

GPSMAP 2008/2108 屬於一般導航級接收機，並不適用於做精密測量（Precise Measurement）及高速航空飛行器尋找地面最近點之用途。

GPSMAP 2008/2108 符合美國 FCC 法規第15條中，關於Class B級數位設備的條件，使用時仍可能會有溫和的無線通訊輻射。使用者需自行調整使用位置，避免被其他設備干擾，導致信號接收與運作不正常；另外，也需注意接收機是否會影響到其他通訊設備之正常工作。上述之干擾狀態並不在本產品之保證事項內，若無法克服則可諮詢Garmin正式授權之經銷商。本中文操作說明書僅適用於GPSMAP 2008/2108 中文繁體版使用，若內容及步驟與原接收機本身功能有所相異之處，則以接收機為準，台灣國際航電股份有限公司將不另外通知，若有疑問，歡迎來電或詢問正式授權之經銷商。

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第一章 功能說明

1.1 GPSMAP 2008功能簡介

衛星定位功能：所搭配之GarminGA29接收機，具有12平行接收頻道，同時可接收及解算12顆衛星，並預留WAAS廣域差分定位接收解算功能。

導航資料記錄：最佳的導航訊息顯示與記錄工具。

記錄方面：可以儲存航點（平面座標）、航跡（平面座標）、編輯航線等資料。

顯示方面：航點、航跡、航線、目前移動速度、行進方向、偏離距離、到達時間。

多功能海圖儀：本機採用Garmin專用g2 海圖系統，圖資內容包含等深線、障礙物、礁岩資訊等，讓您航行觀看更為方便。

擴充系統功能：本機可藉由加掛本公司之漁探聲納器產品，變成一組結合GPS、漁探之全功能完整航儀，實是您航行的最佳幫手。

1.2 GPSMAP 2008/2108 規格

主機部份

外觀大小	28.5 x 17.8 x 11.7 cm
顯示螢幕	8吋(21.3公分)對角線
顯示畫素	800×600畫素
顯示種類	SVGA螢幕
重量	約1.4公斤
內建鋰電池	無
防水等級	IPX7，水下一公尺，三十分鐘內防水
GPS接收機	採用GPS GA29接收機 (30ft 電纜線)
輸出入介面	NMEA 0183輸出/輸入
基底圖	有
Garmin Net-work	有(僅GPSMAP2108)
出廠配備地圖	台灣地區海域電子海圖
擴充記憶卡	具備SD記憶卡槽
航點	可支援5000點
航線	可支援50條

航跡紀錄	航跡35000點；可分段紀錄總數30條航跡
可支援顯示雷達畫面	無(GPSMAP2108 可支援)
可支援漁群探測畫面	有
警示功能	有
潮汐表	有
日月天文資訊	有
美國天氣即時報導	無
語音提示	無

GPS接收機部份

接收器 (GPS GA29)	支援WAAS · 具備12平行接收頻道 · 最多能同時接收及解算12顆衛星資訊。
定位時間	
暖機	大約15秒
冷機	大約45秒
自動定位	大約5分鐘(AutoLocate™)
更新速率	連續每秒一次
定位精準度	<ul style="list-style-type: none"> · 平均定位準確度 < 15公尺(95 % · 正常3D定位狀態下 · S.A. OFF) · 平均速度準確度為0.1海里(RMS · 穩定狀態下)
差分定位 (DGPS)精準度	<ul style="list-style-type: none"> · 平均定位準確度3~5公尺(95 % · 正常3D定位狀態下 · S.A. OFF) · 平均速度準確度為0.1海里(RMS · 穩定狀態下)

差分定位 (WAAS)精準度	<ul style="list-style-type: none">· 平均定位準確度 < 3公尺 (95 % · 正常3D定位狀態下 · S.A. OFF)· 平均速度準確度為0.1海里(RMS · 穩定狀態下)
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注意：基於美國本身的政策考量或國防安全，美國有權在不預先通知或公告的狀況下，影響整個系統的功能或定位精度 (Accuracy)，則本機定位準確度將有可能降至100公尺以上。

注意：本中文說明書，適用於GPSMAP 2008/2108主機軟體Ver 2.00版以上，若功能有所更改，請隨時注意本公司之訊息公佈或來電詢問，台灣國際航電股份有限公司不另外回收及更換原有之說明書。

1.3 台灣地區使用須知

GPS在全世界任一地區均能使用，但是由於每個地區或國家幅員大小差異，加上測繪地圖的年代基準不一，所以在不同地區或國家，您拿到的地圖需注意下列兩項標識：

1. 大地座標系統 (Map Datum)
2. 座標顯示格式 (Coordinate)

針對上述兩項，本機出廠時，內定值如下：

1. 座標系統：WGS84 – 1984年所定的大地座標系統。
2. 座標格式：經緯度。

本機在台灣海域的使用設定：

1. 大地座標系統：WGS84 (新的海圖) 或 Taiwan (舊海圖) 。
2. 座標顯示方式：經緯度。

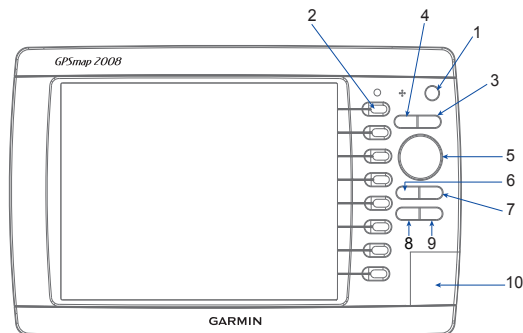
注意事項

1. GPS所計算出的高程值是把地球當正橢球體所得來的，與一般所定的海拔高標準不同，兩者間會有一些差值，因此在未










經修正時，使用者需注意所獲得的高程 (ALTITUDE) 準確度。

2. 本節所敘述的設定，是以在臺灣地區海域為準，其他國家或地區則請參考該地區海圖之標示說明。
3. GPSMAP 2008/2108 僅是一台功能卓越的導航輔助儀器，雖能增進使用者在海上使用的安全性，但並不能完全取代傳統的任何定位定向工具（例如指北針、羅盤、地圖等），請使用者注意。

1.4 按鍵說明



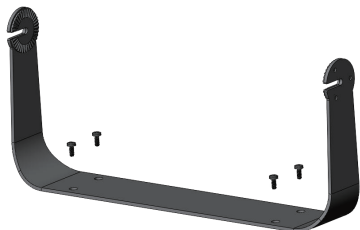
GPSMAP® 2008/2108 使用者手冊

1. 電源鍵 : 長按此鍵即可開機或關機
2. 功能選項鍵 : 可選取畫面右側所對應的功能選項
3. 地圖放大鍵 : 在地圖頁面按此鍵即可放大地圖
4. 地圖縮小鍵 : 在地圖頁面按此鍵即可縮小地圖
5. 游標鍵 : 共有八個方向按壓鍵，可移動游標方向
6. 標定鍵 : 讓使用者快速標定儲存目前位置座標的快速鍵
7. 選擇確定鍵 : 作為選擇及確定之按鍵
8. 首頁鍵 : 按此按鍵即可回到主目錄畫面
9. 目錄鍵 : 按此按鍵即可顯示主畫面的子功能
10. 記憶卡插槽: 支援SD記憶卡 支援
Garmin g2海圖

1.5 安裝說明

GPSMAP 2008/2108固定座安裝方式

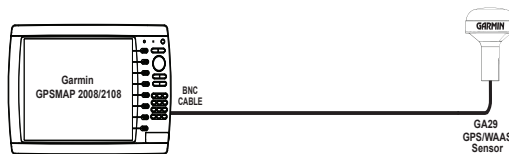
1. 將四顆固定座螺絲透過固定座鎖在您想安裝的位置



2. 將GPSMAP 2008/2108主機安裝至固定座。
3. 依照使用者的需求調整主機角度。



GPSMAP 2008/2108與 GA29連接圖
GA29 接線圖



Wiring the GPSMAP 2008/2108 Unit and the GA29

GA29安裝位置



注意：由於GA29接收衛星訊號時，有可能會與無線電發生干擾現象所以建議使用者安裝GA29位置至少遠離無線電天線1m。

第二章 開機定位

2.1 開機定位

基本上您會遇到下列兩種狀況：

(1) 開機後第一次定位時間，約需45秒鐘：（一般）

說明：大多數使用者均屬此項。此時本機乃直接利用記憶體內的衛星軌道資料及上次關機位置的座標，進行快速的接收及計算，以求出目前所在地的座標值。

(2) 開機後第一次定位時間，需要5分鐘：（特殊）



說明：A.購買後第一次使用。

B.已持續超過三個月以上未使用本機。

C.您目前所在地，距離您上次使用時的關機位置，超過800公里以上。

在這三種狀況下GPSMAP 2008/2108均需重新更新記憶體內的衛星軌道資料，也就是從第一號衛星開始搜尋，執行本機的AutoLocate功能。

開機定位

說明：螢幕右上方可顯示衛星信號的接收強度，當螢幕右上方為紅色信號或空白顯示時，即表示此時尚未完成定位。當完成定位動作，此時在螢幕右上方顯示出綠色信號，代表本機已完成定位工作，可以進行本機的導航功能。

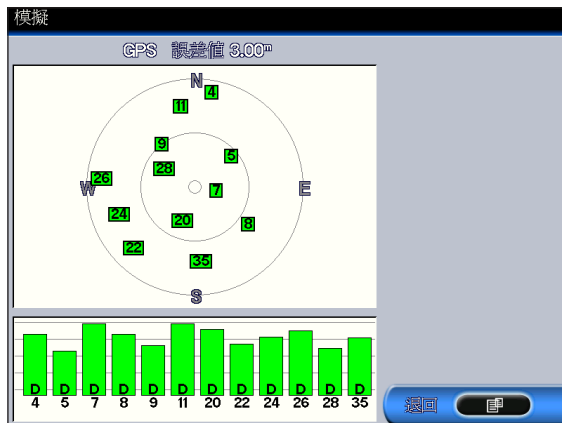
2.2 衛星狀態畫面

【電源】：開機後，系統會自動搜尋衛星，約45秒鐘即完成第一次定位動作。

【設定】：選取「設定」。

【系統】：選取「系統」。

【GPS】：選取「GPS」，進入衛星狀態畫面後即可看到衛星訊號接收狀態及估計誤差值



已完成衛星定位畫面

注意：當剛定位時，此時本機僅是在2D位狀態下，誤差值較大，約再等10秒鐘左右，即會變成3D定位（若天空開闊度條件許可），誤差值也會降低，這時的座標值才較為準確。

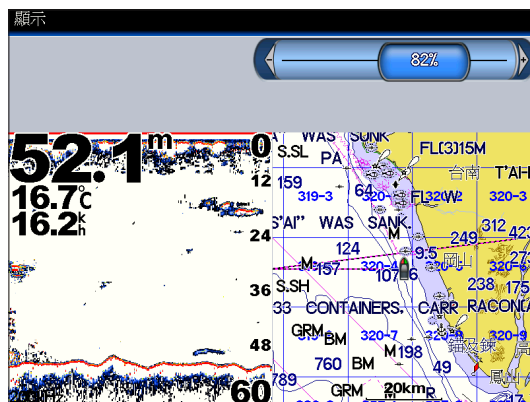
2.3 螢幕背光設定

手動調整

【電源】：第一次為開機。

【電源】：開機後，連續按本鍵兩次進入背光設定畫面

【▲▼】：按壓「+」「-」鍵，依照使用者的需求調整背光亮度



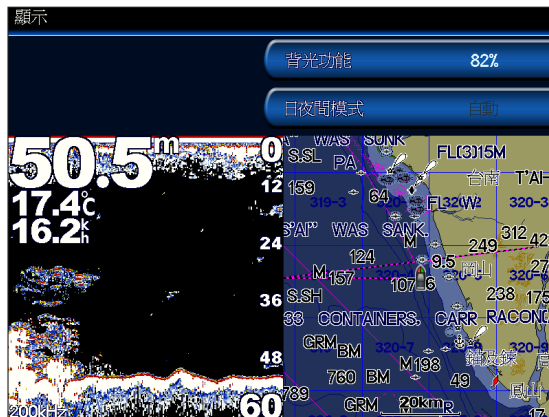
背光設定畫面

顯示模式 (日、夜間顯示模式)

【電源】：第一次為開機。

【電源】：開機後，再按一次電源鍵進入顯示設定畫面。

【選項】：選取「日夜間模式」後，即可設定日間、夜間顏色或自動模式 (建議選擇自動)。



日夜間模式畫面

第三章 基本設定

本章所說明之基本設定條件，均是以在台灣本島（不包括金門及馬祖地區）的使用環境及習性，做為範例標準，若使用者需至其他地區使用，可配合當地地圖資料設定。

3.1 系統設定

【首頁】：回本機首頁畫面。

【選項】：選取「設定」。

【選項】：選取「系統」。即會列出七項相關功能設定。

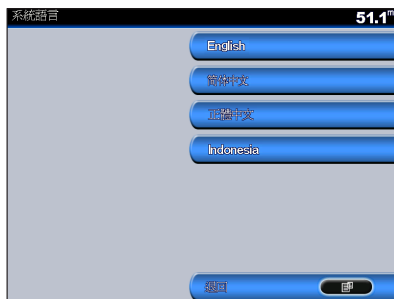
模擬模式

具有「關閉」、「開啟」、「設定」三選項

「設定」：此功能可讓使用者模擬設定航速及航向的狀態及設定位置以先觀查所經路線是否適合。

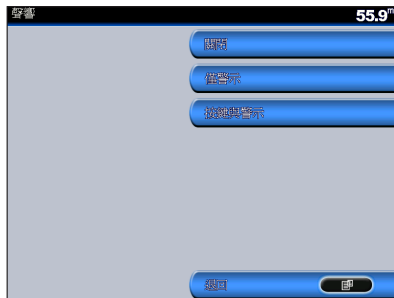
語言設定

本機具備「正體中文」、「簡體中文」、「英文」、其他亞洲語言之操作介面。



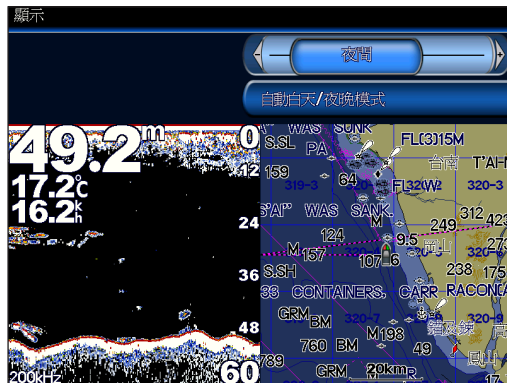
聲響/顯示設定

「聲響」：選擇「關閉」、「僅警示」、「按鍵與警示」。



聲響設定畫面

「顯示」：參考第二章螢幕背光設定。



顯示設定畫面

GPS設定

「衛星狀態」：可知道目前衛星接收狀況。

「WAAS/EGNOS」：若您至美國地區使用，則建議開啟WAAS功能，以提高精度，反之則關閉較佳。

系統資訊

「系統資訊」：進入系統資訊畫面後，即可觀看本機「系統版本」、地圖版本及機台序號。



系統資訊畫面

3.2 單位設定

系統單位

設定您習慣使用的單位顯示：公制、英制、航海制(海裡、英呎、華氏度)及使用者。



單位設定畫面

說明：細項設定關於「深度、溫度、距離、速度、海拔、容量、壓力」等單位設定，使用者可依需求自行更改各項單位。

目前航向

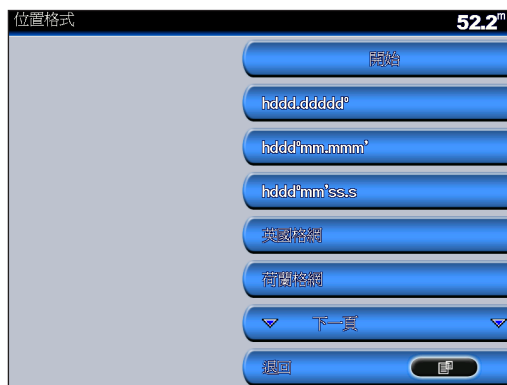
設定您習慣使用的航向角度顯示：真北、方格北、自動(磁北)、使用者自定磁偏角，其中「使用者自定部份」可自行輸入磁偏角修正角度。



航向單位畫面

座標格式

設定您習慣使用的座標顯示格式：經緯度(度)、經緯度(度分)、經緯度(度分秒)、台灣區二度分帶方格座標、使用者自定...等30種座標顯示格式。



設定座標格式畫面

座標系統

設定您目前所適用的座標系統：全球性 WGS84 (TWD97) 或各洲所使用的座標系統，請使用者自行依所使用的紙張海圖做配合使用。



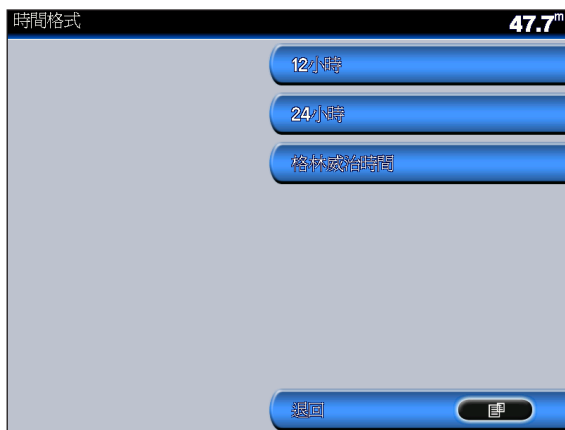
座標系統設定畫面

注意：台灣區適用「全球」或「亞洲」。

基本設定

時間格式

設定您習慣的時間顯示方式：12小時制、24小時制、或格林威治時間。



時間格式設定畫面

時區設定

設定您目前所在位置的適用時區。



時區設定畫面

注意：台灣地區之時區設定為「台灣/香港」。

日光節約時間

設定夏季時間高緯度地區之日光節約時間調節。

注意：台灣地區無日光節約時間，故設定為「關閉」。

3.3 通訊協定

本機提供二組NMEA輸入埠、兩組NMEA輸出埠供相容性航儀的資訊傳輸，例如漁探器。

通訊埠形式

提供兩組NMEA輸入埠、兩組NMEA輸出埠，並分成「標準速率傳輸」及「高速速率傳輸」兩種，請使用者依相關航儀支援規格設定。（一般均使用標準速率）

NMEA0183設定

提供本機所接受的相關NMEA0183資訊，並分類成「測深（漁探）儀」類、「航線」資訊、「系統」資訊、「GARMIN」內定值、「座標精度」顯示位數、「航點ID」的顯示等，請使用者依相關航儀支援規格設定。

3.4 警示功能

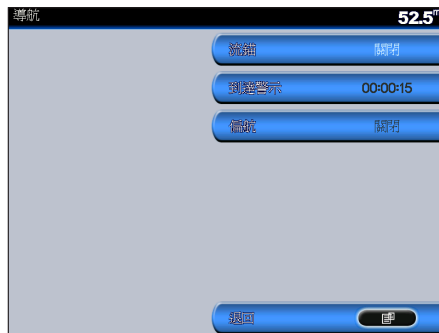
設定本機所具有的警示功能

- 【電源】：開機。
- 【設定】：選擇設定功能。
- 【警示】：選擇警示功能。

導航警示

進入導航警示功能後，即可依照使用者的需求設定

流錨、到達警示(可設時間或距離)、偏離航線(距離)

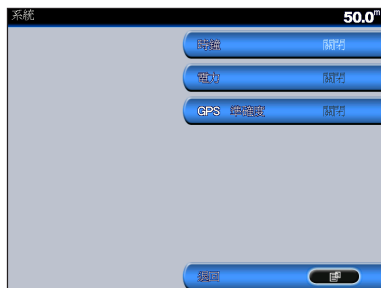


導航警示畫面

基本設定

系統警示

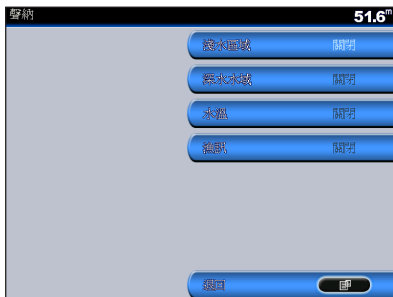
提供「鬧鐘、電力、GPS定位準確度」的警示功能



系統警示設定畫面

聲納警示

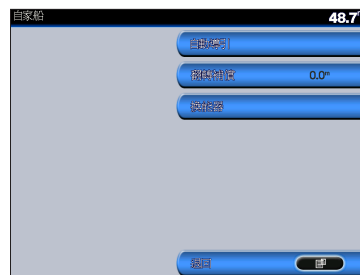
提供「深水、淺水水域、水溫、漁訊」的警示功能



聲納設定畫面

3.5 自家船

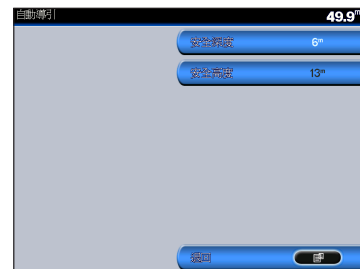
用以設定安裝本機的船隻本身資訊，並依航行需求自行變更設定。



自家船設定畫面

自動導引

具有「安全深度」、「安全高度」兩項，供使用者自行輸入目前船隻的安全水深與高度，以提醒所需航行條件。



自動導引設定畫面

翻轉補償

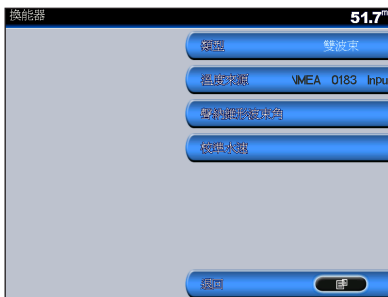
用以設定迴轉所需半徑，以提醒所需航行條件。



翻轉補償設定

漁探器

即設定外掛本公司漁探器時，雙頻漁探音鼓的頻率，以供漁群探測分析。本功能需配合漁探器



換能器設定畫面

3.6 地圖及組合畫面顯示

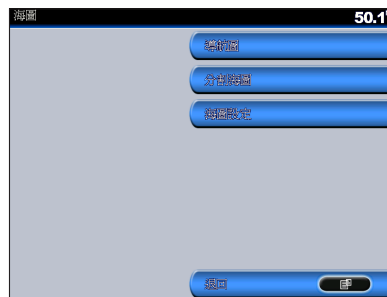
當您要進入主目錄選取您所需要的功能時，只要按下「首頁」鍵即可進入主目錄畫面



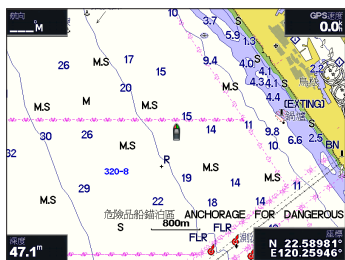
主畫面

海圖畫面

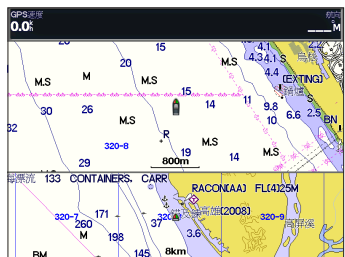
點選海圖選項後即可進入您想觀看的介面



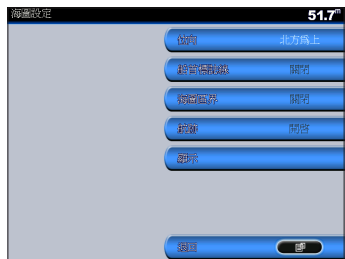
海圖設定畫面



導航圖畫面



分割海圖畫面



海圖設定畫面

第四章 導航相關功能

4.1 航點

航點標定

開機定位後，使用者要儲存目前位置的座標資料時，可依下列不同方式操作。

- 標定目前所在位置

【標定】：按下此鍵後GPSMAP 2008/2108 會自動儲存您的位置並可編輯航點的名稱、符號、深度...等相關設定

- 利用游標標定

【▲▼】：在地圖畫面下，按壓游標鍵，選到您欲標定的位置。

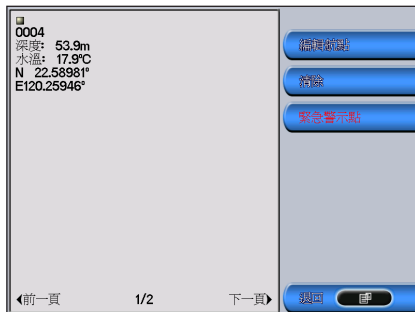
【標定】：按壓此鍵即會儲存游標所在的位置，並可編輯航點的名稱、符號、深度..等相關設定。

- 利用輸入座標

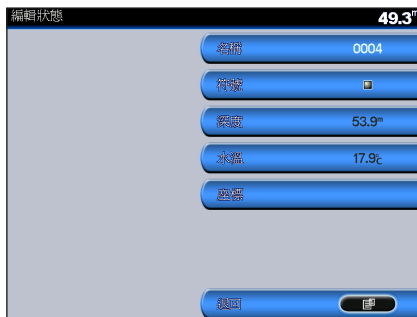
【標定】：按本鍵

【座標】：選取「座標」功能

【輸入座標】：選取輸入座標功能後，即可輸入您所要建置的座標資料變成一個使用者航點。



標定鍵航點畫面



航點編輯設定畫面

清除航點

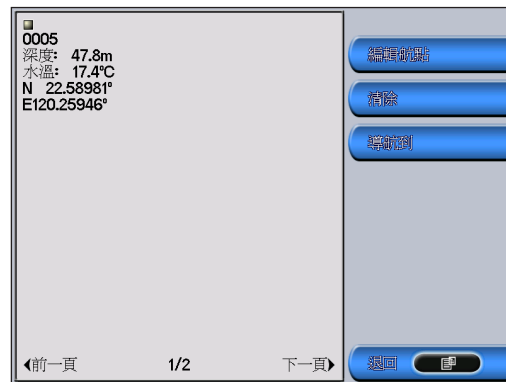
【首頁】：按本鍵

【資訊】：選取「資訊」。

【使用資訊】：選取本選項。

【航點】：選取本選項，並選出您欲刪除的航點。

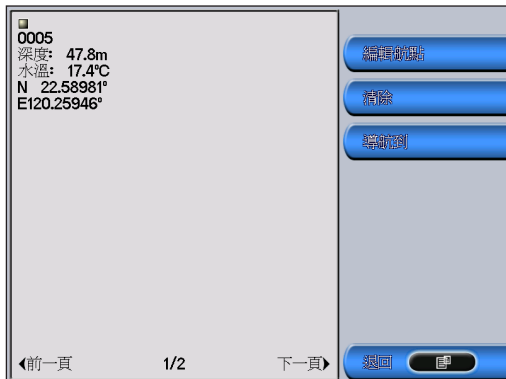
【清除】：選取「清除」，即可將此航點刪除。



航點刪除畫面

航點導航

- 【首頁】：按本鍵
- 【想去那裏】：選本項
- 【航點】：選取本選項，選出您所要前往的航點。
- 【導航到】：選擇“導航到”功能
- 【導航】：點選導航後，系統會自動開始路徑規畫及導航。

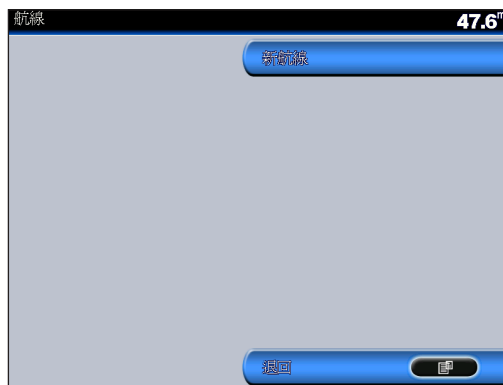


航點刪除畫面

4.2 航線

航線建立

- 【首頁】：按本鍵
- 【資訊】：選取本選項
- 【使用資訊】：選取本選項
- 【航線】：選擇本功能
- 【新航線】：選擇新航線功能後，即可開始編輯航線。



新增航線畫面

停止導航

要停止導航時有下列兩種方式可以操作

- 在導航畫面時

【目錄】：按本鍵

【停止導航】：選取本功能，即可停止導航



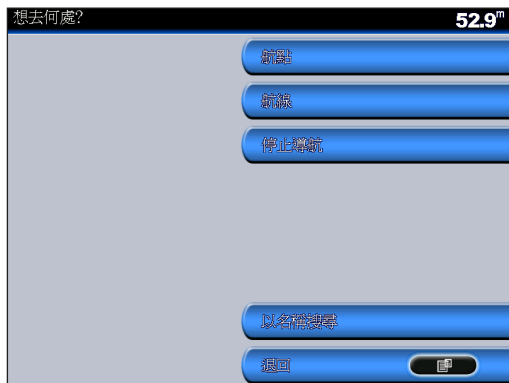
停止導航畫面

- 在主目錄畫面時

【首頁】：按本鍵

【想去哪裡?】：選取本功能

【停止導航】：選取本選項，即可停止導航。

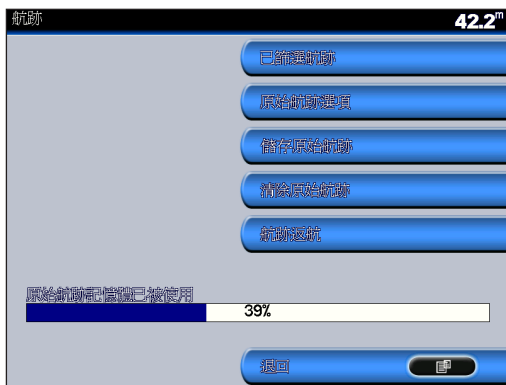


停止導航畫面

航跡返航

【首頁】>【資訊】>【使用資訊】>【航跡】>

【返航】：選擇本功能後即可執行返航導航。



航跡返航選項畫面

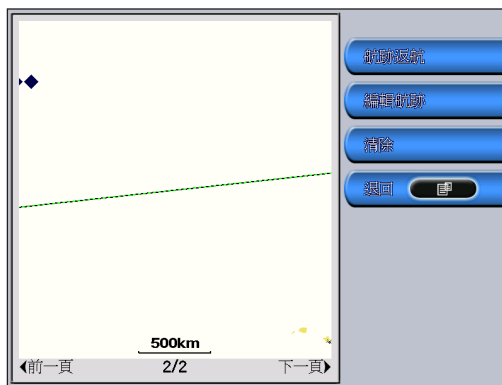
清除航跡

【首頁】>【資訊】>【使用資訊】>【航跡】>

【以篩選航跡】：選擇本選項，再選擇您欲刪除的航跡記錄檔。

【編輯航跡】：選取本選項

【清除】：選取本功能即可完成清除動作。



航跡清除選項畫面

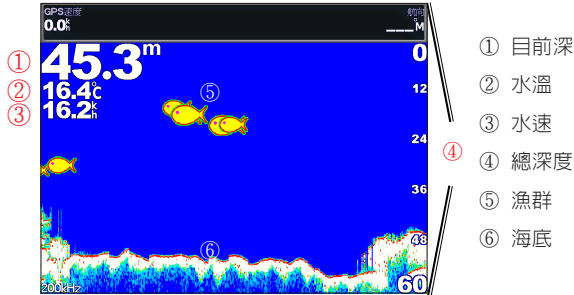
第五章 進階功能 (選項配備)

5.1 聲納 (漁探器)

GPSMAP 2008/2108可外接Garmin 航海專用漁群探測器GSD22，連接後可利用聲納訊號來偵測周圍海面下的漁群及海底深度。

聲納畫面說明

【首頁】>【聲納】>【全螢幕】：選擇全螢幕功能



聲納選項相關功能說明

範圍：可調整聲納訊號範圍，建議使用自動

增益：可調整聲納訊號強度，建議使用自動

頻率：可選擇200K及50K兩種頻率

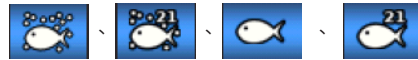
縮放：設定聲納偵測到物體大小，可調整為無縮放、2倍縮放、及4倍縮放

深度線：可設定為顯示或關閉

領域：可設定為關閉或開啟

顏色組合：設定底色圖案，可設定白色或藍色

漁訊符號：可設定聲納偵測到漁群後，所顯示的圖形



卷軸速度：設定畫面更新的速率，可調整為快捲動、快、中、慢、自動

表面雜訊：可設定顯示或關閉

5.2 雷 達(GPSMAP2108適用)

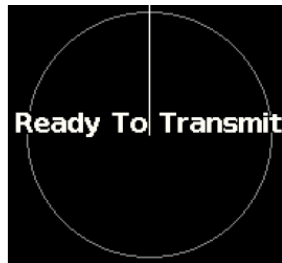
GPSMAP 2108可外接Garmin 航海專用雷達，例如GMR18或GMR404/406，連接後可利用雷達之360°微波訊號來偵測船隻附近是否有礁岩或其他船隻，藉以防範碰撞之意外。

連接與暖機

雷達與GPSMAP 2108連接開機後，雷達需要暖機方可正常工作，暖機此時螢幕會出現倒數計時畫面(圖一)，倒數計時歸零後表示雷達暖機完成(圖二)



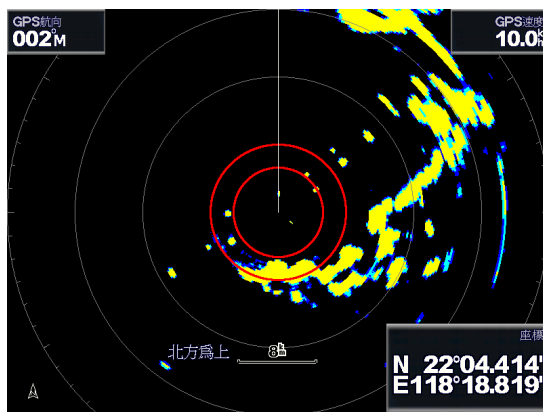
(圖一)





(圖二)

雷達畫面說明

【首頁】>【雷達】>【慢速巡航】：選取本選項



1. 船首標誌線—可顯示航線的方向
2. 監視區—可設定為顯示或關閉
3. 雷達環圈—可設定為顯示或關閉
4. 地圖方向設定—可設定地圖方向為航向為上、北方為上或原航道為上
5. 地圖尺規—可按  或  縮放地圖的比例尺

雷達相關設定

增益設定

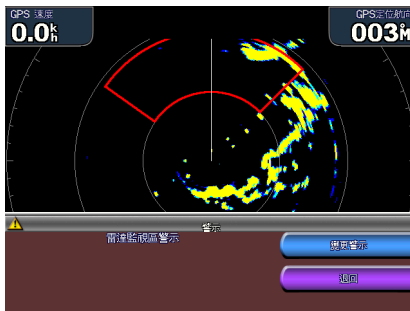
【首頁】>【雷達】>【慢速巡航】>【目錄】>

【增益】：選取本項後，即可設定增益功率（預設值為自動），及雨水雜訊和海面雜訊相關設定

監視區設定

【首頁】>【雷達】>【慢速巡航】>【目錄】>

【監視區】：選取本項後，即可設定監視區域的大小，若雷達偵測到監視區內有障礙物，系統將會發出提示聲響



畫面資訊設定

【首頁】>【雷達】>【慢速巡航】>【目錄】>

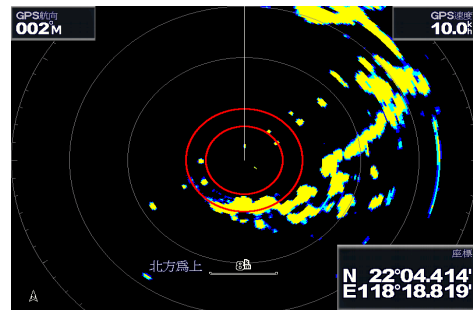
【覆蓋數量】：選取本項後，即可設定畫面資訊顯示(慢速巡航、導航、捕魚、航班)

慢速巡航：GPS航向、GPS速度、GPS座標、深度

導航：GPS定位航向、GPS速度

捕魚：GPS座標、深度、水溫、水速

航班：GPS座標、風速、風向進角、水速、深度



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Part Number 190-00956-01 Rev. C