

GNX™ 20/21 Owner's Manual



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Introduction

⚠ WARNING

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

Device Configuration

NOTE: Certain functions are available only when the appropriate sensors are connected to the device.

The GNX 20 Marine Instrument with Standard LCD or the GNX 21 Marine Instrument with Inverted LCD allows you to view data provided by sensors connected to the device using a NMEA 2000® or NMEA® 0183 network.



	Select to return to the previous menu or to the instrument page.
	Select to view the menu for an instrument page.
	Select to scroll through instrument pages and menus.
	Select to view the display settings. Select twice to view backlight settings. Hold to view the power off settings.

Using the Race Timer

You can use the race timer to count down to a race, and then measure the duration of the race. You can add the race timer as a data field on a page.

TIP: To quickly open the race timer screen, hold from a main page.

- 1 From a page with the race timer active, select > **CONFIGURE DATA FIELDS > RACE TIMER SETTINGS**.
- 2 Select an option:
 - When the device is in prerace mode and is stopped or running, select **RESET**, **START**, or **SETUP**.
 - When the device is in prerace mode and is running, sync the timer to the next minute up or the next minute down, or select **STOP**.
 - When the device is in race mode and the race timer is counting up, sync the timer back to 0:00, or select **STOP**.

Profiles

Profiles are collections of instrument pages that can be customized. Profiles can be made up of instrument pages that display similar data, such as GPS speed information and GPS course information.

During the initial setup, you can select a preset profile, or you can create a custom profile. You can select a different profile at any time.

POWERBOAT: This profile displays instruments useful when in a powerboat. Available default instruments include GPS speed information, GPS course information, depth, bearing to waypoint, distance to the next waypoint, and water temperature.

SAIL CRUISE: This profile displays instruments useful when cruising in a sailboat. Available default instruments include true wind speed, GPS speed information, GPS course information, bearing to waypoint, distance to the next waypoint, true wind angle, and depth.

SAIL RACE: This profile displays instruments useful when racing in a sailboat. Available default instruments include GPS speed information, true wind speed, true wind angle, heading, bearing to waypoint, and distance to the next waypoint.

CUSTOM: This profile allows you to customize the page to display instruments useful to your specific boating needs. The default page displays speed over ground information.

Selecting a Profile

- 1 Select > **SETUP > PROFILES**.
- 2 Select a profile.

Restoring Profiles to their Default Settings

You can restore profiles to their factory default settings.

- 1 Select > **SETUP > PROFILES > RESET DEFAULTS**.
- 2 Select **CURRENT PROFILE** or **ALL PROFILES**.

Instrument Pages

Cycling Through Instrument Pages

From the home page, select .

Using Auto Scroll

You can use auto scroll to automatically cycle through all of the instrument pages.

- 1 Select .
- 2 Select **SETUP > AUTO SCROLL**.
- 3 Select how long each instrument page displays.

Configuring the Data Fields

Data provided on an instrument page can be shown in various ways depending upon the instrument page that is displayed.

Select > **CONFIGURE DATA FIELDS**.

Configuring Graph Data Fields

Some instrument pages display graph data. You can configure the data that displays on the graphs.

- 1 From the instrument page, select > **CONFIGURE DATA FIELDS > GRAPH SETTINGS**.
- 2 Select an option:
 - To determine how long the graph data displays, select **GRAPH DURATION**.
 - To configure the scale of values displayed in the graph, select **GRAPH SCALE**.

Changing the Layout of Instrument Pages

NOTE: Instrument page layout can be changed only on pages that display more than one instrument.

You can change the layout of instrument pages to display up to three instruments from any category.

- 1 Select **☰** > **EDIT CURRENT PAGE** > **CHANGE LAYOUT**.
- 2 Select the number of instrument screens to view at the same time.
- 3 Select a category.
- 4 Select an instrument.
- 5 If necessary, select a data style.
- 6 Select **DONE**.

Adding an Instrument Page

You can create a custom page. You can add up to three instruments from instrument collections to display on a custom page.

- 1 Select **☰** > **ADD/REMOVE PAGE** > **ADD PAGE**.
- 2 Select **ONE FUNCTION**, **TWO FUNCTION**, or **THREE FUNCTION**.
- 3 Select an instrument page collection.
- 4 Select a number.
- 5 If necessary, select an empty function.
- 6 Select **▲** or **▼** to scroll through the instrument pages.
- 7 Select an instrument page to add.

Removing an Instrument Page

- 1 Select the instrument page to remove.
- 2 Select **☰** > **ADD/REMOVE PAGE** > **REMOVE PAGE**.
- 3 Select **YES**.

Device Configuration

Resolving a Combined Network

When the device is turned on, it can detect when it has been synchronized with instruments on another network. This can happen if the device has previously been installed on another vessel and synchronized with instruments on the other vessel's network. If the settings are not restored to the factory default values ([Restoring Profiles to their Default Settings](#)), the device detects a conflict that must be resolved.

- 1 Select **☰** > **SETUP** > **COMBINED NETWORKS DETECTED**.
- 2 Select an option:
 - To synchronize existing instruments on the network to the device, select **NO**.
 - To synchronize the device to existing instruments on the network, select **YES**.

System Settings

Select **☰** > **SETUP** > **SYSTEM**.

UNITS: Sets the units of measure.

HEADING: Sets the reference and the variance used in calculating heading information.

BEEPER: Sets when audible sounds are used.

GPS POSITION: Sets the position format and the map datum. The map datum is dependent on the position format.

AUTO POWER: Enables the device to turn on automatically when the NMEA network turns on.

LANGUAGE: Sets the on-screen language.

OPERATING MODE: Displays a demonstration of device features.

TIME: Sets the time format, time zone, and daylight savings time for your location.

SYSTEM INFORMATION: Displays software information.

FACTORY DEFAULT: Resets the device to factory defaults.

Selecting the Heading Type

- 1 Select **☰** > **SETUP** > **SYSTEM** > **HEADING**.
- 2 Select **NORTH REFERENCE**.
- 3 Select an option:
 - To automatically set the magnetic declination for your GPS position, select **MAGNETIC**.
 - To set true north as the heading reference, select **TRUE**.
 - To set grid north as the heading reference (000°), select **GRID**.

Configuring the Beeper

- 1 Select **☰** > **SETUP** > **SYSTEM** > **BEEPER**.
- 2 Select an option:
 - To turn off the beeper, select **OFF**.
 - To set the beeper to sound only when alarms are triggered, select **ALARMS ONLY**.
 - To set the beeper to sound when the keys are pressed and alarms are triggered, select **ON (KEYS AND ALARMS)**.

Configuring the Position Format

NOTE: Do not change the position format or the map datum unless you are using a map or chart that specifies a different position format.

- 1 Select **☰** > **SETUP** > **SYSTEM** > **GPS POSITION**.
- 2 Select an option:
 - To change the position format in which a reading appears, select **POSITION FORMAT**.
 - To change the coordinate system on which the map is structured, select **MAP DATUM**.

Configuring Data Sources

Instruments that are connected to your device and provide data, such as wind sensors or speed sensors, can be configured through your device. Refer to your instruments' owner's manuals for more information.

- 1 Select **☰** > **SETUP** > **DATA SOURCES**.
- 2 Select a data source and configure it.
- 3 Select your instrument.
- 4 Select a source and configure.

Display Settings

Select **☰** > **SETUP** > **DISPLAY**.

COLOR: Sets the screen color.

BACKLIGHT: Sets the backlight brightness.

NETWORK SHARING: Shares color and backlight settings with devices across the NMEA 2000 or NMEA 0183 network.

Viewing and Editing NMEA Settings

You can view information about NMEA or NMEA 2000 device and change device-specific options.

- 1 Select **☰**.
- 2 Select **SETUP**.
- 3 Select **NMEA 0183** or **NMEA 2000 DEVICES**.
- 4 If necessary, select an option:
 - To view information about the device, such as the software version and the serial number, select **DEVICE LIST**.
 - To change the label of a device, select **LABEL DEVICES**.

NMEA 0183 Data Type Information

Each NMEA certified sensor provides unique information to the NMEA certified display device, such as the GNX 20/21. The data you can view on your display depends on the sensors you have installed and configured. See the General NMEA Data Type Requirements topic in the *Technical Reference for Garmin® NMEA Products* manual at www.garmin.com/support.

Registering Your Device

Help us better support you by completing our online registration today.

- Go to <http://my.garmin.com>.
- Keep the original sales receipt, or a photocopy, in a safe place.

Appendix

Data Fields

ABS: Absolute, relative to another data field. For example, absolute humidity.

AIR: The air temperature.

AVG: The average amount.

AWA: The wind angle measured relative to the bow of the vessel.

AWS: The measured speed of the wind.

BAR: The calibrated current pressure.

BAT: The battery voltage.

BTW: The direction from your current location to a destination. You must be navigating for this data to appear.

COG: The actual direction of travel, regardless of the course steered and temporary variations in heading.

CTS: The direction in which you must steer to return to the course set at the start of navigation.

DIS: The distance traveled for the current track or activity.

DPT: The depth of the water. Your device must be connected to a NMEA 0183 or NMEA 2000 device capable of acquiring the water depth.

DRF: The speed of the current.

DTW: The distance to the waypoint.

ELV: The altitude of your current location above or below sea level.

ERR: The precision of the current position, when used with GPS.

GWD: The direction of the wind relative to the ground, referenced from the north.

GWS: The speed of the wind relative to the ground.

HDG: The direction the boat is pointing.

HUM: The level of humidity.

MAX: The maximum in relation to another data field. For example, maximum speed.

MIN: The minimum in relation to another data field. For example, minimum speed.

ODO: A running tally of distance traveled for all trips. This total does not clear when resetting the trip data.

OTH: The opposite tack direction of the vessel based on the current tack direction.

POS: The vessel's current position.

RACE: The timer for vessel racing.

REF: A steer pilot reference.

REL: Relative to another data field. For example, relative humidity.

RUD: The rudder relative to another data field. For example, rudder angle.

SEA: The temperature of the water.

SOG: The actual speed of travel, regardless of the course steered and temporary variations in heading.

STR: The steer pilot.

STW: The speed of the boat relative to the water.

TRP: A running tally of the distance traveled since the last reset.

TWA: The angle of the wind relative to the water, referenced from the bow of the boat with a port or starboard angle up to 180 degrees.

TWD: The true direction of the wind relative to north.

TWS: The true speed of the wind relative to the vessel.

UTC: The Coordinated Universal Time.

VMG: The speed at which you are closing on a destination along a route. You must be navigating for this data to appear.

WND: The velocity made good upwind.

XTE: A cross track error.

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