GARMIN.

GNX™ 120/130

Owner's Manual

Table of Contents

Introduction

⚠ **WARNING**

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

Device Overview

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

The marine instrument allows you to view data sources from sensors through a NMEA 2000® network.

Although the instrument cannot directly receive NMEA® 0183 data, it can display NMEA 0183 data from sources connected to a GNX 20 or GNX 21 device (sold separately) on the same NMEA 2000 network.

The instrument can also receive data from Nexus® instruments and sensors using a GND™ 10 device (sold separately).

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

Unlocking the Controls

After one minute, the controls on the device lock automatically. This feature reduces accidental button pushes caused by water splashes or droplets. When locked, the 🔒 icon appears when you select a key on the device.

NOTE: You can select **SETUP** > **TOUCH KEY LOCK** to disable the device lock feature.

Hold both ▲ and ▼ at the same time.

The 🔒 icon disappears when the controls are unlocked.

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 any instrument page, select ▲ or ▼.

Using Auto Scroll

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

1 Select ☰ > **SETUP** > **AUTO SCROLL**.
2 Select an option:
   • Select **AUTO SCROLL** to turn auto scroll on or off.
   • Select **AUTO SCROLL INTERVAL** to adjust how long each instrument page is shown.

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**.

Changing the Layout of Instrument Pages

NOTE: You can change the layout of an instrument page to display up to three fields of data from connected instruments.

1 From the instrument page you need to change, select ☰ > **EDIT CURRENT PAGE** > **CHANGE LAYOUT**.
2 Select the number of fields to show on the instrument page.
3 Select the field to change.
4 Select a category.
5 Select the data to show in the field.

6 Repeat steps 3 through 5 for each additional field you need to change.

7 Select **DONE**.

Configuring the Data Fields

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

1 Select ☰ > **CONFIGURE DATA FIELDS**.

2 Select a data field.

3 Select a configuration option.

4 Adjust the configuration.

Filtering the Data

Certain data types can be filtered to control how quickly the marine instrument responds to changes in the data (Data Type Information).

1 When viewing data you need to filter, select ☰ > **CONFIGURE DATA FIELDS**.

2 Select a data field.

3 Select **FILTER SETTING**.

4 Adjust the filter setting.

- Setting the filter to "0" turns off filtering.
- The higher the filter setting, the more gradually the instrument displays changes in the data it receives.

  For example, when you increase the filter setting for wind speed data, the instrument is less responsive to momentary gusts of wind and displays a more constant wind speed.

Adjusting the Data Update Rate

You can adjust the rate at which the marine instrument shows updated data.

1 When viewing the instrument screen with data you need to adjust, select ☰ > **CONFIGURE DATA FIELDS**.

2 Select a data field.

3 Select **UPDATE RATE**.

4 Select an update rate.

  Examples of update-rate speeds are shown next to each selection.

Configuring Graph Data Fields

Some single-function instrument pages display graph data (Data Type Information). You can configure how data is shown on the graphs.

1 From an instrument page with a graph, select ☰ > **CONFIGURE DATA FIELDS** > **GRAPH SETTINGS**.

  NOTE: The GRAPH SETTINGS menu item does not appear on instrument pages that do not contain a graph.

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**.

Configuring Gauge Data Fields

Some data types can be shown as a gauge when they appear as the last function on a two-function instrument page (Data Type Information). You can configure how data is shown on the gauge.

1 From an instrument page with a graph, select ☰ > **CONFIGURE DATA FIELDS** > **GAUGE SETTINGS**.

  NOTE: The GAUGE SETTINGS menu item does not appear on instrument pages that do not contain a gauge.

2 Select a value to adjust the limits of the gauge.

Using the Race Timer

To view the race timer on a page, you must add it as a data field from the SAILING category.

You can use the race timer to count down to a race, and then measure the duration of the race. The race timer is synchronized with other GNX instruments and compatible Garmin® chartplotters on the same NMEA 2000 network.

TIP: To quickly open the race timer screen, you can hold ☰ from a main page. This shortcut works from any page, whether or not the race timer has been added to the page.

1 From a page with the race timer as a data field, select ☰ > **CONFIGURE DATA FIELDS** > **RACE TIMER SETTINGS**.

2 Select an option:

- When the device is in prerace mode and the timer is not running, select **START** to start the prerace timer, select **RESET** to reset the prerace timer, or select **SETUP** to adjust the initial prerace timer value.
- When the prerace timer is running (counting down), select ▲ or ▼ to advance the timer to the next minute up or the next minute down, or select **STOP** to stop the prerace timer.
- When the race timer is running (counting up), select **STOP** to stop the race timer, or select ▼ to reset the timer back to 0:00.

Device Configuration

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.

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

SYSTEM INFORMATION: Displays software information.

FACTORY DEFAULT: Resets the device settings to factory default values.

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**.

Adjusting the Heading Variance

By default, the heading variance is set automatically. You can adjust this value manually.

1 Select ☰ > **SETUP** > **SYSTEM** > **HEADING** > **VARIANCE** > **USER VARIANCE**.

2 Adjust the variance.

3 Select ⤺ to save the variance adjustment.

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**.

Display Settings

Select ≡ > **SETUP** > **DISPLAY**.

BACKLIGHT: Sets the backlight brightness.

COLOR: Sets the screen color.

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

Configuring Data Sources

Sensors connected to your instrument provide data, such as wind or speed information, and can be configured through your instrument. See the owner's manual for each sensor for more information.

1 Select ≡ > **SETUP** > **DATA SOURCES**.

2 Select a data category.

3 If more than one sensor on the boat provides data from the category, select a sensor to configure.

4 Select a configuration option, and configure the setting.

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**.

Keypad Operation

The keypad can control all of the compatible marine instruments on your NMEA 2000 network. All compatible marine instruments must be connected to the same NMEA 2000 network, and you can configure the order in which they are controlled.

NOTE: The keypad is not compatible with all Garmin marine instruments. For a complete list of compatible instruments, go to www.garmin.com/GNXkeypad.

Button	Function
⏻	Select to cycle backlight levels on the marine instruments and keypads. Hold to place the marine instruments and keypads into sleep mode.
① through ④	Presets. Select to make all displays switch to a configured preset page.
▭	Select to switch the marine instrument you control using the keypad.
▯	Select to cycle the pages on the selected marine instrument.

Setting up an Instrument for Use with the Keypad

All compatible marine instruments you need to control with the keypad must be connected to the same NMEA 2000 network as the keypad.

You should perform this procedure for each compatible instrument you add to the NMEA 2000 network.

1 On a compatible marine instrument connected to the same NMEA 2000 network as the keypad, select ≡ > **SETUP** > **REMOTE KEYPAD SETUP**.

NOTE: If COMBINED NETWORKS DETECTED is shown instead of REMOTE KEYPAD SETUP, the combined network must be resolved before you can control the instrument with the keypad (Resolving a Combined Network).

2 Select **YES** to enable keypad control on the instrument.

3 Repeat steps 1 through 2 for each additional compatible instrument you need to control with the keypad.

Setting up the Keypad Display Order

You can configure how the keypad cycles through connected marine instruments with the ▭ buttons.

1 On a compatible marine instrument connected to the same NMEA 2000 network as the keypad, select ≡ > **SETUP** > **REMOTE KEYPAD SETUP** > **SET UP DISPLAY ORDER**.

The device scans the network for other connected instruments.

NOTE: The location of the device in the current display order is shown to the right of the SET UP DISPLAY ORDER menu item. For example, if the device is second in a series of four devices, 2:4 is shown in the menu.

2 Select an option:

- If a correct number of connected instruments is shown, select **CONTINUE**.
- If an incorrect number of connected instruments is shown, check the power and connections of all compatible instruments, and select **RETRY**.

NOTE: If you are unable to see the correct number of instruments listed, it may be caused by a combined network. A combined network must be resolved to control all connected devices with the keypad (Resolving a Combined Network).

3 Select the order of the device, and select **OK**.

4 Repeat steps 1 through 3 for each connected device.

Setting up Keypad Presets

Each of the four preset buttons on the keypad can be assigned to an instrument page.

TIP: While viewing an instrument page on a marine instrument controlled by the keypad, you can quickly assign a preset button to the instrument page by holding the preset button for three seconds.

1 On a compatible marine instrument connected to the same NMEA 2000 network as the keypad, select ☰ > **SETUP** > **REMOTE KEYPAD SETUP** > **SET UP PRESETS**.

2 Select a preset button.

3 Select the number of the instrument page in the current display order that you want to assign to the preset button.

4 (Optional) Repeat steps 1 through 3 for each preset button.

5 (Optional) Repeat steps 1 through 4 on each additional instrument.

Disabling Keypad Control on an Instrument

You can disable keypad control on any compatible marine instrument.

1 On a compatible marine instrument connected to the same NMEA 2000 network as the keypad, select ☰ > **SETUP** > **REMOTE KEYPAD SETUP** > **IGNORE REMOTE KEYPAD**.

2 Select **YES**.

The marine instrument is not controlled by the keypad.

Appendix

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.

NMEA 2000 Data Type Information

Each NMEA 2000 certified sensor provides unique information to the NMEA 2000 certified display device. The data you can view on your display depends on the sensors you have installed and configured. See the installation instructions for your Garmin display device or for the instrument that provides NMEA 2000 PGN data-type information.

NMEA 0183 Data Type Information

Although the instrument cannot directly receive NMEA 0183 data, it can display NMEA 0183 data from sources connected to a GNX 20 or GNX 21 device (sold separately) on the same NMEA 2000 network.

Each NMEA 0183 certified sensor provides unique information to a NMEA 0183 certified display device. The data you can view on your display depends on the sensors you have installed and configured. See the installation instructions provided with your Garmin display device or instrument for NMEA 0183 data-type information.

Abbreviation Glossary

This device uses abbreviations on many screens to indicate the type of data being shown.

ABS: (ABSOLUTE HUMIDITY) Absolute, relative to another data field. For example, absolute humidity.

AIR: The air temperature.

ATW: (ARRIVAL TIME NEXT WAYPOINT) Estimated time of arrival at the next waypoint when navigating.

AVG: (AVERAGE BOAT SPEED) The average amount.

AWA: (APPARENT WIND ANGLE) The wind angle measured relative to the bow of the vessel.

AWS: (APPARENT WIND SPEED) The measured speed of the wind.

BAR: (BAROMETER) The calibrated current pressure.

BAT: (BATTERY) The battery voltage.

BSP: (BOAT SPEED) The speed of the boat through the water.

BSP: (BOAT SPEED) The speed of the boat through the water.

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

COG: (COURSE OVER GROUND) The actual direction of travel, regardless of the course steered and temporary variations in heading.

DIS: (DISTANCE) The distance traveled while navigating.

DPT: (DEPTH) 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: (DRIFT) The speed of the current.

DTL: (DIST. TO START LINE) The distance to the starting line when in race mode.

DTW: (DISTANCE TO WAYPOINT) The distance to the next waypoint when navigating.

ECN: (ENGINE FUEL ECONOMY) Modifier for a value such as fuel economy.

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

ENG: (ENGINE) A modifier for an engine value such as voltage or RPM.

ERR: () The error of precision for the current position, when used with GPS.

FLO: (ENGINE FUEL FLOW RATE) Modifier for a value such as fuel flow rate.

FUEL: Modifier for a fuel value such as fuel economy or fuel flow rate.

GWD: (GROUND WIND DIRECTION) The direction of the wind relative to the ground, referenced from the north.

GWS: (GROUND WIND SPEED) The speed of the wind relative to the ground.

HDG: (HEADING) The direction the boat is pointing.

HUM: (HUMIDITY) The level of humidity.

LINE: When used with VMG, it shows the velocity made good value to the starting line.

MAX: (MAXIMUM SOG) 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: (ODOMETER) A running tally of distance traveled for all trips. This total does not clear when resetting the trip data.

OTH: (OPPOSITE TACK HEADING) The opposite tack direction of the vessel based on the current tack direction.

POS: (POSITION) The vessel's current position.

RACE: The timer for vessel racing.

REL: (RELATIVE HUMIDITY) Absolute, relative to another data field. For example, absolute humidity.

RPM: (ENGINE RPM) Engine revolutions per minute from the tachometer.

RUD: (RUDDER ANGLE) The rudder relative to another data field. For example, rudder angle.

SEA: (SEA TEMP) The temperature of the water. Your device must be connected to a NMEA 0183 or NMEA 2000 device capable of acquiring the water temperature.

SOG: (SPEED OVER GROUND) The actual speed of travel, regardless of the course steered and temporary variations in heading.

TRP: (TRIP) A modifier for another field, for example, a trip odometer or trip fuel used.

TTB: (TIME TO BURN) The time needed to make it to the starting line before a race.

TTL: (TIME TO START LINE) Estimated time it will take to reach the starting line.

TWA: (TRUE WIND ANGLE) 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: (TRUE WIND DIRECTION) The true direction of the wind relative to north.

TWS: (TRUE WIND SPEED) The true speed of the wind relative to the vessel.

UTC: The Coordinated Universal Time.

VMG: (VMG WAYPOINT) The speed at which you are closing on a destination along a route when navigating.

WND: (VMG WIND) The velocity made good value when navigating upwind.

XTE: A cross track error.

Data Type Information

Data Field	Category	Available on a Single Function Page?	Available on a Two- or Three-Function Page?	Graph View Available?*	Gauge View Available?**	Data Filtering Available?
ENGINE RPM	ENGINE	✔	✔			✔
ENGINE TEMPERATURE	ENGINE	✔	✔			
ENGINE FUEL ECONOMY	ENGINE	✔	✔			
ENGINE FUEL FLOW RATE	ENGINE	✔	✔			
ENGINE VOLTAGE	ENGINE	✔	✔			
COURSE OVER GROUND	GPS	✔	✔			✔
ELEVATION	GPS		✔			
GPS ERROR	GPS		✔			
GPS POSITION	GPS		✔			
SPEED OVER GROUND	GPS	✔	✔	✔	✔	✔
ARRIVAL TIME NEXT WAYPOINT	NAVIGATION		✔			
BEARING TO WAYPOINT	NAVIGATION	✔	✔			
CROSS TRACK ERROR	NAVIGATION		✔			
DISTANCE TO WAYPOINT	NAVIGATION		✔			
HEADING	NAVIGATION	✔	✔			✔
TIME TO WAYPOINT	NAVIGATION		✔			
APPARENT WIND ANGLE	SAILING	✔	✔	✔	✔	✔
APPARENT WIND SPEED	SAILING	✔	✔	✔	✔	✔
OPPOSITE TACK HEADING	SAILING	✔	✔			✔
RACE TIMER	SAILING	✔	✔			
TRUE WIND ANGLE	SAILING	✔	✔	✔	✔	✔
TRUE WIND DIRECTION	SAILING	✔	✔	✔		✔
TRUE WIND SPEED	SAILING	✔	✔	✔	✔	✔
VMG WAYPOINT	SAILING	✔	✔	✔	✔	✔
VMG WIND	SAILING	✔	✔	✔	✔	✔
DIST. TO START LINE	SAILING	✔	✔			
TIME TO BURN	SAILING	✔	✔			
TIME TO START LINE	SAILING	✔	✔			
VMG TO START LINE	SAILING	✔	✔			✔

Data Field	Category	Available on a Single Function Page?	Available on a Two- or Three-Function Page?	Graph View Available?*	Gauge View Available?**	Data Filtering Available?
ENGINE VOLTAGE	SYSTEM		✔			
	SYSTEM	✔	✔			
AVERAGE SOG	TRIP		✔			
DISTANCE (Since power on)	TRIP		✔			
MAXIMUM SOG	TRIP		✔			
MAX BOAT SPEED	TRIP		✔			
ODOMETER	TRIP		✔			
TRIP DISTANCE	TRIP		✔			
TRIP FUEL USED	TRIP	✔	✔			
RUDDER ANGLE	VESSEL		✔		✔	
BOAT SPEED	WATER	✔	✔	✔	✔	✔
DEPTH	WATER	✔	✔	✔		
DRIFT	WATER		✔			
SET	WATER		✔			✔
WATER TEMPERATURE	WATER, TEMPERATURE	✔	✔	✔		
AIR TEMPERATURE	WEATHER, TEMPERATURE	✔	✔	✔		
BAROMETER	WEATHER	✔	✔	✔		
GROUND WIND DIRECTION	WEATHER	✔	✔	✔		✔
GROUND WIND SPEED	WEATHER	✔	✔	✔		✔
RELATIVE HUMIDITY	WEATHER		✔			
CUSTOM PC DATA	CUSTOM DATA	✔	✔			

* Graph view, if available for a data type, can be viewed only on single-function pages (Configuring Graph Data Fields).

** Gauge view, if available for a data type, can be viewed only on two-function pages, when the data type is the last function on the page (Configuring Gauge Data Fields).

Index

www.garmin.com/support

🇦🇹	+43 (0) 820 220230	🇧🇪	+ 32 2 672 52 54
🇧🇷	0800 770 4960	🇨🇦	1-866-429-9296
🇭🇷	+385 1 5508 272 +385 1 5508 271	🇨🇿	+420 221 985466 +420 221 985465
🇩🇰	+ 45 4810 5050	🇫🇮	+ 358 9 6937 9758
🇫🇷	+ 331 55 69 33 99	🇮🇹	+ 39 02 36 699699
🇲🇽	(+52) 001-855-792-7671	🇳🇱	0800 0233937
🇳🇴	+47 815 69 555	🇵🇱	00800 4412 454 +44 2380 662 915
🇵🇹	(+35) 1214 447 460	🇸🇮	+386 4 27 92 500
🇿🇦	0861 GARMIN (427 646) +27 (0)11 251 9999	🇪🇸	+34 93 275 44 97
🇸🇪	+ 46 7744 52020	🇹🇼	+886 2 2642-9199 ext 2
🇬🇧	0808 238 0000 +44 (0) 870 8501242	🇩🇪	+49 (0)180 6 427646 20 ct./Anruf. a. d. deutschen Festnetz, Mobilfunk max. 60 ct./Anruf
🇺🇸	913-397-8200 1-800-800-1020		

NMEA 2000 EAC C E