GSD 22 Sounder

installation instructions

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.

This product is intended to be used only as a travel aid and must not be used for any purpose requiring precise measurement of direction, distance, location, or topography. Garmin makes no warranty as to the accuracy or completeness of map data in this product.

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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.

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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.

Product Registration

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.

Introduction

The GSD 22 is a Garmin Marine Network compatible, remote sounder module designed to include powerful features found in other Garmin sounders, including Color Depth Control Gain (DCG®), DynacolorTM, and auto-gain technology. When used with Garmin Marine Network chartplotters, it provides full-featured depth sounder functions.

⚠ **CAUTION:** Always wear safety goggles, ear protection, and a dust mask when drilling, cutting, or sanding.

Product Registration

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. For future reference, write the serial number assigned to your GSD 22 in the space provided. It is located on a sticker on the back of the unit.

Serial Number: _____

Included Equipment

Before installing your GSD 22, confirm that the package contains the following items. If any parts are missing, contact your Garmin dealer.

- GSD 22 Sounder
- 6 ft (0.30 m) Power/Data Cable
- 6 ft (0.30 m) Marine Network Cable
- 1 Field Install Marine Ethernet Connector
- 1 Marine Grommet
- GSD 22 Sounder Installation Instructions

Transducers

A transducer is required to send and receive the sonar signal from the GSD 22. Proper transducer selection and installation are critical to the operation of your GSD 22. Since mounting locations vary, see your local dealer or contact Garmin Product Support for further information. A full list of transducers can be found at www.garmin.com.

Mounting holes

Transducer connector

Marine network connector

Power/data connector

Installation Instructions

The GSD 22 must be properly installed according to the following Marine Network installation instructions to get the best possible performance. **If you experience difficulty with the installation, seek the assistance of a professional installer, or contact Garmin Product Support.**

Selecting a Mounting Location
- Mount the GSD 22 in an out-of-the-way location that is dry and well ventilated.
- Avoid mounting the device where it can be submerged in liquids or exposed to extreme temperatures.
- Mount the GSD 22 so that the LED is visible.
- Allow enough clearance for attaching the cables.

Installing the GSD 22
1. Place the GSD 22 in the selected location. Using the GSD 22 as a template, mark the location of the four mounting holes.
2. Attach the GSD 22 to the mounting location using appropriate fasteners.
3. Mount the transducer according to the instructions provided with the transducer.
4. Route the cables using appropriate tie-wraps, fasteners, and sealant to secure the cable along the route and through any bulkhead or deck. Refer to the following sections: *GSD 22 Wiring Connection*, and *Marine Network Wiring and Cables*.
5. Connect the power/data and transducer cables to the connectors on the back of the GSD 22.
6. Refer to the Marine Network wiring diagrams on for connecting the GSD 22 to compatible Garmin devices.

Note: You can extend the power wiring of the GSD 22 power/data cable up to 100 ft (30 m) total length using 18 AWG wire. Transducer cable extensions are available through your Garmin dealer.

GSD 22 Wiring Connection
To install the power, transducer, and network cables:
1. Align the notch and locking ring tab on the black Power cable with the **POWER** port on the front of the GSD 22. Carefully press the cable in until it is firmly seated. **Do not force the cable, as this may damage the pins!**
2. After the cable is seated, turn the locking ring clockwise until it stops.
3. Repeat steps 1 and 2, attaching the transducer cable to the **TRANSDUCER** connector on the GSD 22.
4. To connect the GSD 22 to your Garmin Marine Network, insert the RJ-45 connector into the **NETWORK** port on the back of the GSD 22 and turn the locking ring clockwise until it stops.

With power applied to the circuit, test the installation by pressing the **POWER** key on the front of the chartplotter. The GSD 22 turns on automatically when the chartplotter is turned on.

When using the chartplotter and GSD 22 on battery power only (engines off) for extended periods of time, be sure there is enough available amperage to run the devices for the time period. Running other onboard devices at the same time can lower the available amperage, causing the chartplotter and/or GSD 22 to shut off. Check with your local marine dealer or installer if problems persist.

⚠ **CAUTION:** During peak transmit conditions, the heat sink might become hot.

⚠ **NOTICE:** Do not connect or disconnect the transducer while the chartplotter and GSD 22 are connected and turned on. Doing so might damage the GSD 22.

Marine Network Wiring and Cables

Garmin Marine Network components use specialized Garmin Network cables. For some installations, it may be necessary to drill 1¼ in. (32 mm) holes to route the connector end of the cables. Garmin rubber grommets are provided to cover the installation holes (see below). Wiring instructions are found on the following pages. **If you experience difficulty installing the GSD 22, contact Garmin Product Support or seek the assistance of a professional installer.**

The grommets may not be needed in some installations. The grommets do NOT create a waterproof seal. To create a waterproof seal, apply marine sealant around the grommet and cable after installation. Additional grommets can be purchased from your Garmin dealer or direct from Garmin. Be sure to test the system before installing the grommets.
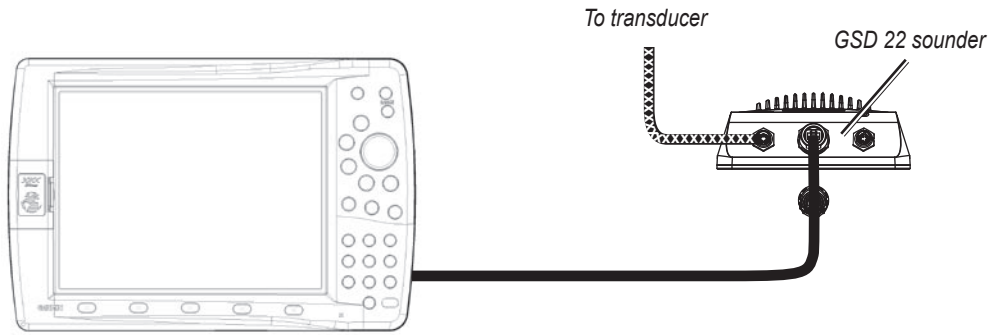
Tools

- Drill
- 1¼ in. (32 mm) paddle drill bit or hole saw
- Utility knife
- Marine sealant (optional)

To install a Cable Grommet and Cable:

1. Mark the location through which the Power/Date cable or the Garmin Marine network cable will be routed.
2. Use a 1¼ in. (32 mm) paddle drill bit or hole saw to drill the installation hole.
3. Refer to the diagram below for trimming instructions. Carefully trim the cable hole, as needed.
4. Route the cable to the GSD 22.
5. Spread the grommet apart at the split, and place it around the cable (see below).
6. Firmly push the grommet into the installation hole until it is seated.
7. Test the connection before applying marine sealant, as needed, to create a waterproof seal.

Cable hole for the Power/Data, Garmin Marine Network, or GPS 17 Cable

Split
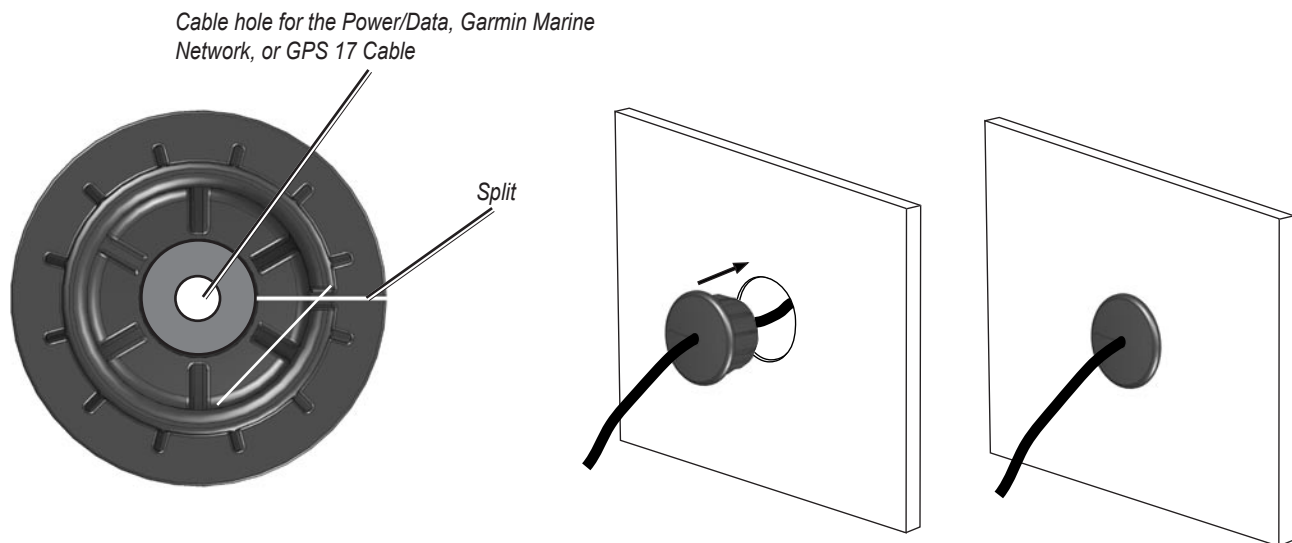
The following diagrams show the Garmin Marine Network with a GSD 22 connected.

To transducer

GSD 22 sounder

The Garmin Marine Network with a Single Chartplotter and a GSD 22

Garmin marine radar

GARMIN

Garmin GMS 10 network port expander

To transducer

GSD 22 sounder

Garmin GDL 30/30A marine XM receiver

Garmin GPS 17 antenna

- Serial cable
- Ethernet cable
- Transducer cable
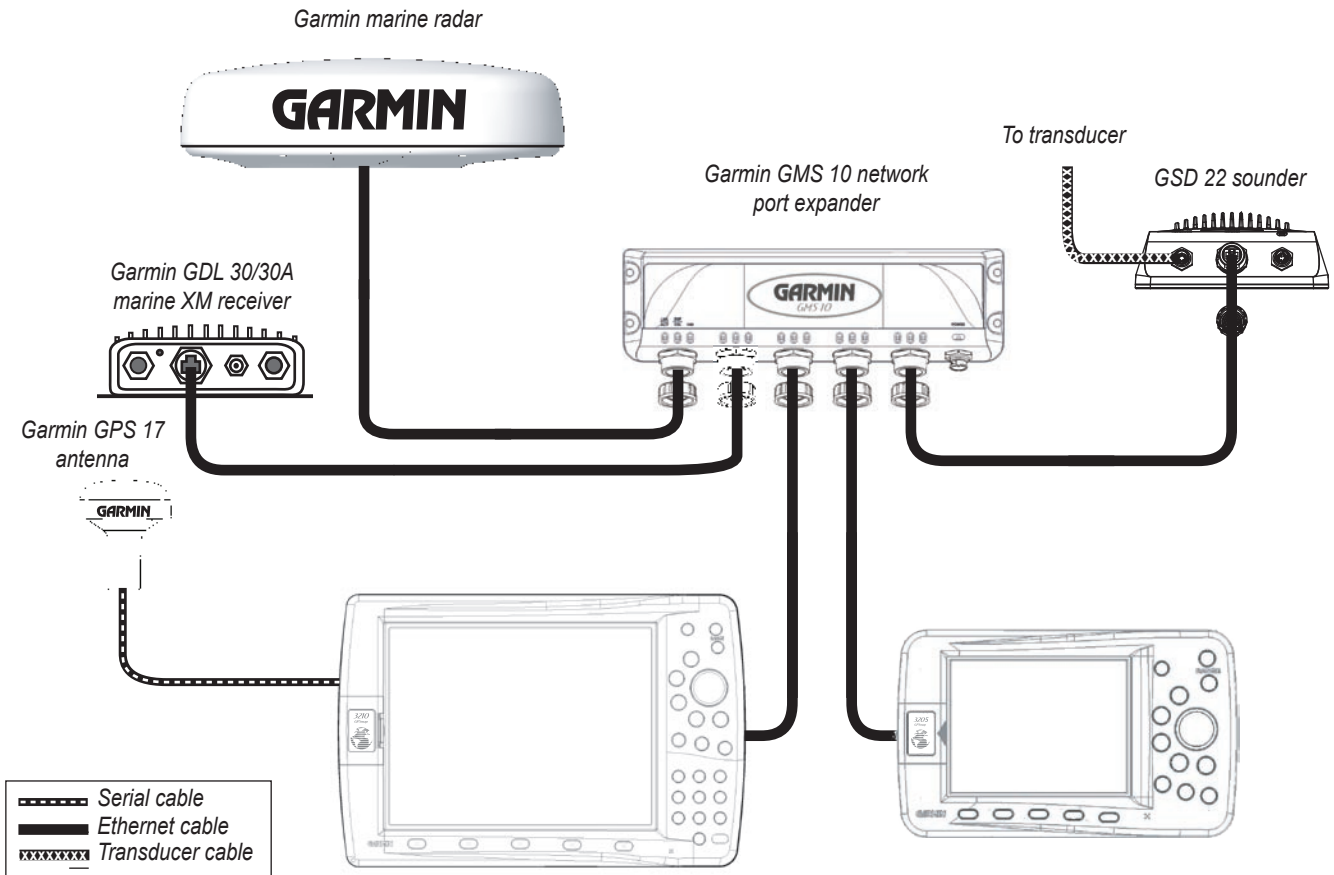
The Garmin Marine Network with Multiple Devices and a GSD 22

Note: Every device connected to the Garmin Marine Network must be connected to the power supply for the boat. These diagrams show the network connections; however, they do not show the power connections. Wire each device according to the appropriate installation instructions.

Note: These diagrams show the Garmin Marine Network connections; however, they do not show NMEA 2000 or NMEA 0183 connections.

Blink Codes

When the GSD 22 is installed, it switches on when the chartplotter is powered on. The two-color (green and red) LED on the GSD 22 indicates the current operational status of the device.

Code	Status
Green blinking, on for 1 second, off for 0.5 second (slow blink)	GSD 22 is servicing one directly-wired connection and the chartplotter is operating properly. You should see sonar data on the chartplotter.
Red blinking, on for 1 second, off for 0.5 second (slow blink)	GSD 22 is powered on but is waiting to connect to a chartplotter. In this state, the GSD 22 does not transmit any sonar signals or send any sonar information to chartplotters. If a chartplotter is connected and this code persists, check the wiring.
Solid Red (no blink)	Software failure - Call Garmin Product Support. If the cause is a software error, the chartplotter can show the error. Power must be cycled to clear the error.
Red blinking, on for 1/10 second, off for 1/10 second (very fast blink)	System alarm. The chartplotter gives a message indicating the type of failure. After the alarm condition is fixed, power must be cycled on the GSD 22 to clear the alarm.

Specifications

Physical
Size: 7 ⅝ in. L x 6 ⅛ in. W x 3 in. H
(19.3 cm x 15.5 cm x 7.6 cm)

Weight: 2.1 lbs. (953 g)

Case: Fully gasketed, high-impact plastic and aluminum alloy, waterproof to IEC 529-IPX-7

Temp Range: From 5°F to 158°F (from -15°C to 70°C)

Electrical
Source: 10-35 Vdc

Usage: 25 watts maximum

Fuse: AGC/3AG - 3.0 A

Compass Safe Distance: 5.9 in. (150 mm)

Sonar
Sounder Power: 500/1,000/2,000 watts (RMS) (Dependent on transducer type.)
4,000 /8,000/16,000 watts (peak to peak) (Dependent on transducer type.)

Frequency: 50/200 kHz

Depth: 5,000 ft. (1.524 km) maximum depth (Depth capacity is dependent on transducer type, water salinity, bottom type, and other water conditions.)

Data Output
Source: Garmin Marine Network

For the latest free software updates (excluding map data) throughout the life of your Garmin products, visit the Garmin Web site at www.garmin.com.

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