

# GSD 22 Sounder Module

*installation instructions*



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## INTRODUCTION

Thank you for choosing the Garmin GSD 22 Sounder Module. The GSD 22 is a CANet™ and Garmin Marine Network compatible, remote sounder module designed to include powerful features found in other Garmin sounders, including Color Depth Control Gain (DCG®), Dynacolor™, and auto gain features technology. When used with compatible Garmin chartplotters, it provides full-featured depth sounder functions. It can interface to multiple head units, providing complete sounder control from multiple stations, including transmit frequency, range, and gain adjustments. To get successful results from your GSD 22, take time to read through this installation guide. If any items are missing, contact your Garmin dealer immediately.

### Included Equipment:

- GSD 22 Sounder Module
- 6 ft (0.30 m) Power/Data Cable
- 6 ft (0.30 m) Marine Network Cable
- 40 ft (12.19 m) CANet Extension Cable
- 1 Field Install Marine Ethernet Connector
- 1 Marine Grommet
- 2 CANet Terminators
- 7 3-Wire Connectors
- The GSD 22 Sounder Module Installation Instructions

### Optional Transducers

The transducer acts as the eyes and ears of your new sonar. The transducer transmits sound waves toward the bottom in a cone shape. The larger the cone angle, the larger the coverage area at a given depth.

Proper transducer selection and installation are critical to the operation of your unit. 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](http://www.garmin.com).



## INSTALLATION INSTRUCTIONS

The GSD 22 must be properly installed according to the following CANet or Marine Network installation instructions to get the best possible performance. Refer to your chartplotter to determine the correct installation method. To complete the installation, you need appropriate fasteners. **If you experience difficulty with the installation, contact Garmin Product Support.**

The module should be mounted in an out-of-the-way location that is dry and well ventilated. Avoid mounting the module where it can be submerged in liquids or exposed to extreme temperatures. Be sure to mount the module so that the LED is visible.

### To install the GSD 22 sounder module:

1. After the location is chosen, place the unit. Be sure to allow enough clearance for attaching the cables. Using the module 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 according to the CANet or Marine Network instructions on the next 3 pages. Use appropriate tie-wraps, fasteners, and sealant to secure the cable along the route and through any bulkhead or deck.
5. After installing the GSD 22 module, connect the power/data and transducer cables to the appropriate receptacle.
6. Refer to the following CANet or Marine Network wiring diagrams for connecting the GSD 22 to compatible Garmin units.



**NOTE:** You can extend the CANet wiring of the GSD 22 power/data cable up to 80 ft (24.38 m) total length using the CANet Connections Kit.



**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** port on the unit.
4. If networking the MFD with the Garmin Marine Network, insert the RJ-45 connector into the **NETWORK** port on the back of the unit and screw the locking ring in clockwise until it is firmly seated. The CANet installation does not require the **NETWORK** port.

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



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

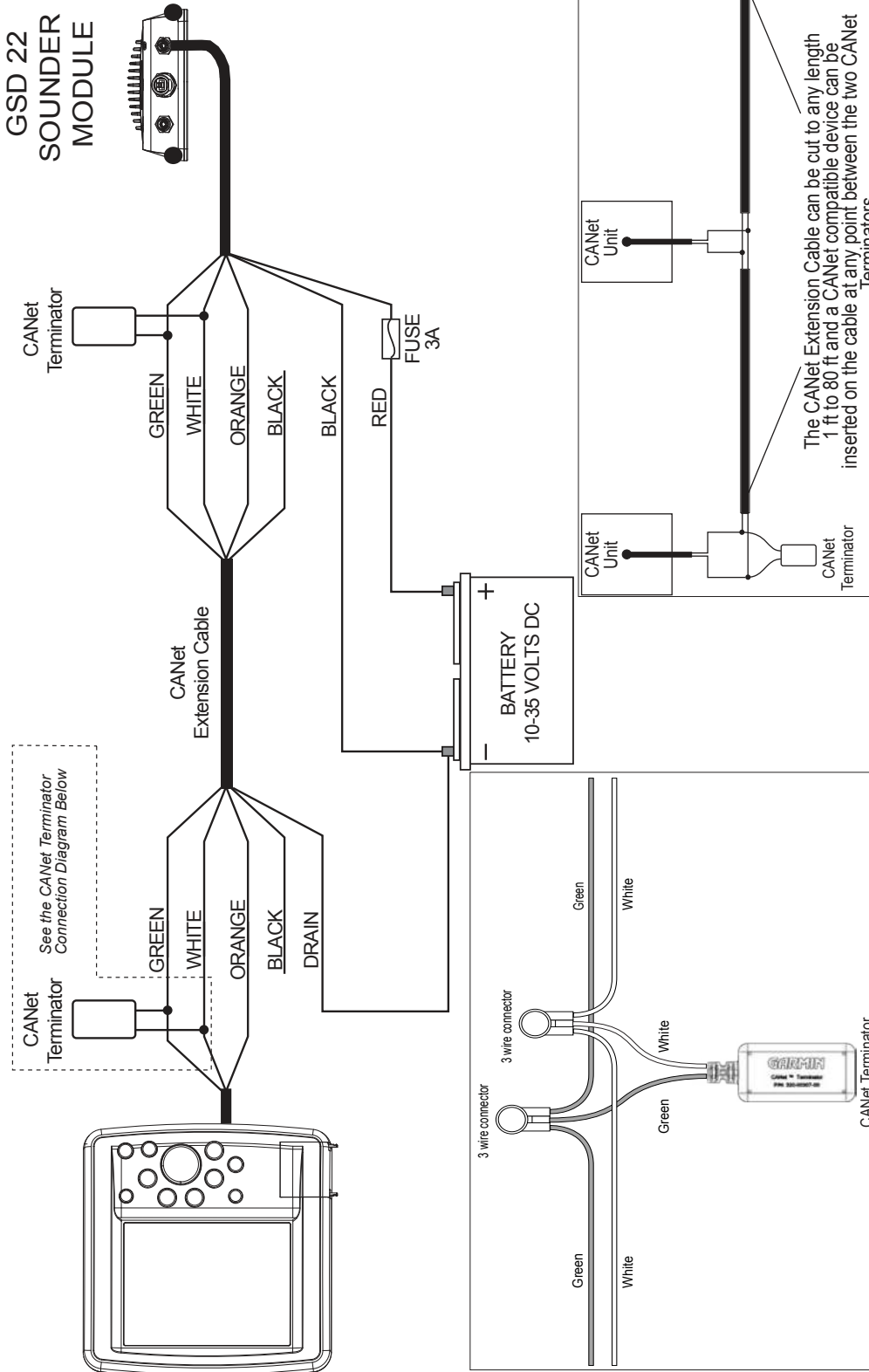


**WARNING:** Do not connect or disconnect the transducer while the MFD and GSD 22 are connected and turned on. Doing so might damage the GSD 22.



**NOTE:** 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 units 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/installer if problems persist.

## CANet Wiring for the Garmin GSD 22



### Multiple CANet Unit Connection

### CANet Terminator Connection

#### Notes:

1. Power and ground wires require 18 AWG. You can extend the CANet wiring of the GSD 22 power/data cable up to 80 ft (24.38 m) total length using the CANet Connections Kit.
2. The CANet Extension Cable can support a maximum of two display units and one sonar unit.
3. The maximum length of cable from the CANet Extension Cable to the sonar or display units is 6 ft.
4. Refer to the chartplotter's installation instructions for wiring the GPS 17 sensor and other devices.
5. Ground the drain wire on the first display unit. Do not ground the drain wire on the subsequent display units or the sonar unit.
6. The CANet Extension Cable Black wire is reserved for future use. When inserting a CANet unit on the CANet Extension Cable, reconnect all wires according to their color.

## Marine Network Wiring and Cables

Garmin Marine Network components use specialized Garmin Network cables. For some installations, it may be necessary to drill 1.25" (31.7 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 unit, contact Garmin Product Support or seek the assistance of a professional installer.**

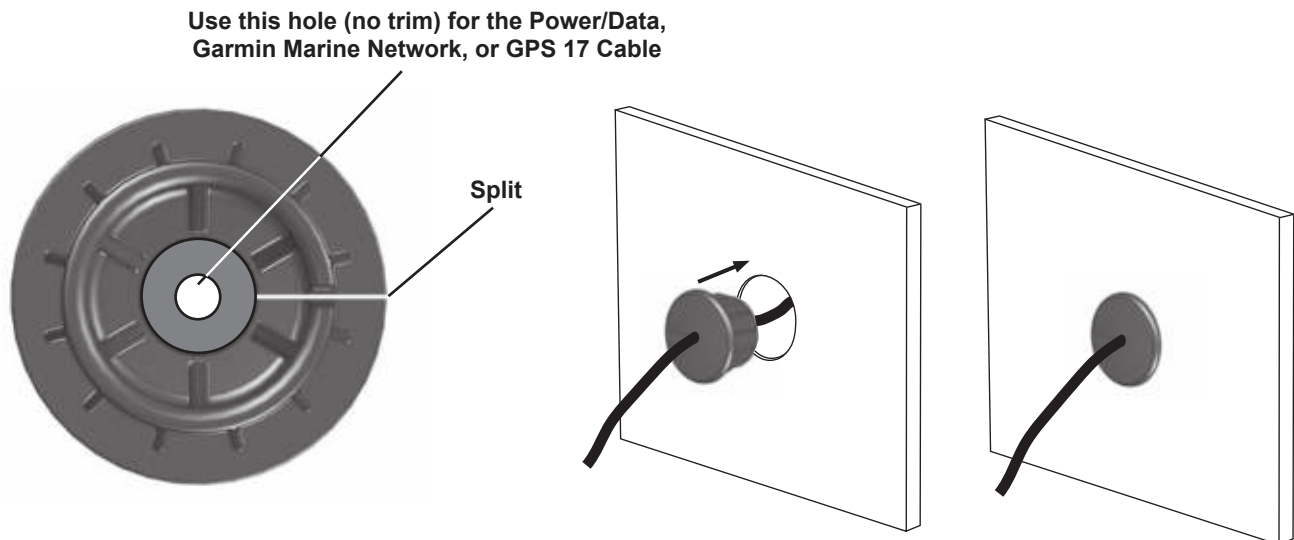
The grommets may not be needed in some installations. The grommets do NOT create a waterproof seal. Apply a marine sealant after installation to weatherproof around the grommet and cable. Additional grommets can be purchased from your Garmin dealer or direct from Garmin. Be sure to test the system before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

### Tools

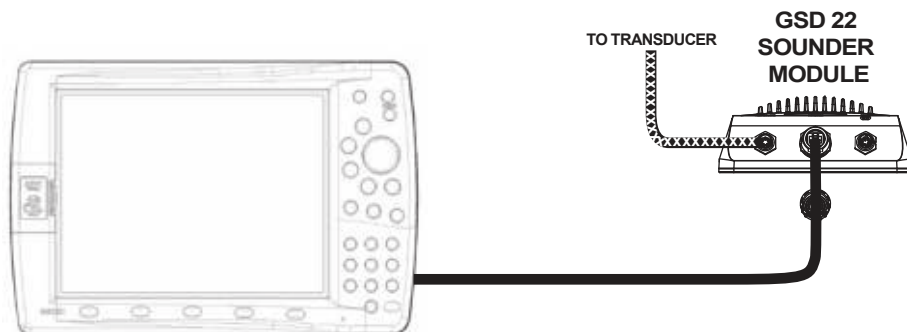
- Drill
- 1.25" (31.7 mm) paddle drill bit or hole saw
- Utility knife
- Marine sealant (optional)

### To install the Cable Grommet:

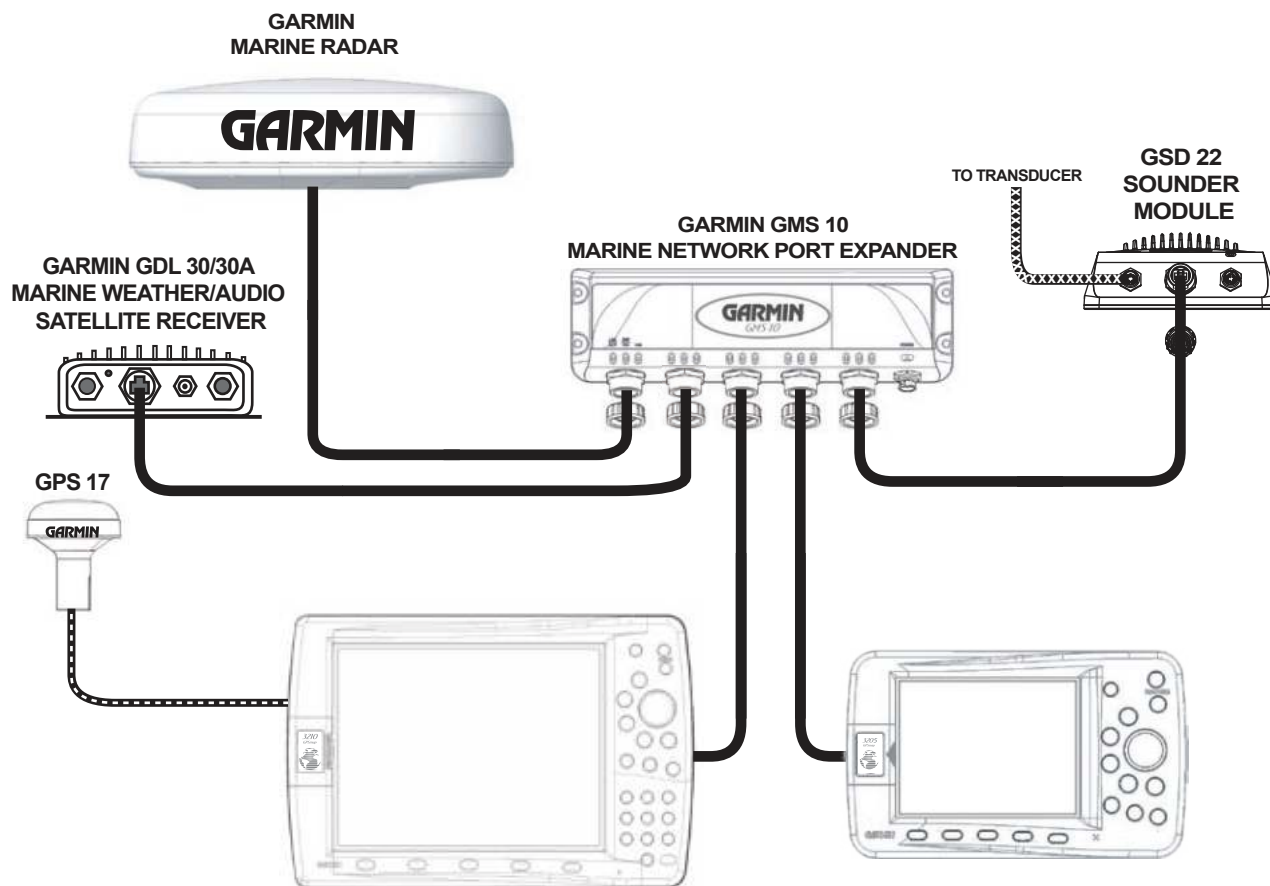
1. Mark the location where the cable Power/Data or Garmin Marine Network cable is to route through.
2. Using a 1.25" (31.7 mm) paddle drill bit or hole saw, drill the installation hole.
3. Refer to the diagram below for trimming instructions. Carefully trim the cable hole, as needed.
4. Route the cable to the unit.
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. Apply marine sealant, as needed, to weatherproof the cable.



The following diagrams shows the Garmin Marine Network with a GSD 22 Sounder Module connected.



The GARMIN Marine Network with a Single MFD and a GSD 22



The GARMIN Marine Network with Multiple Units and a GSD 22

	Serial cable
	Ethernet cable
	Transducer cable

## Blink Codes

When the unit is installed, it switches on when the display unit is powered on (or the GSD 22 remote power line is pulled low, with power applied). The two-color (Green/Red) LED on the GSD 22 indicates the current operational status of the module. Codes are:

Code	Status
Green blinking, on for 1 second, off for 1/2 second (slow blink)	GSD 22 is servicing one directly wired connection and the display device is operating properly. The user should see sonar data on the display unit.
Red blinking, on for 1 second, off for 1/2 second (slow blink)	GSD 22 is powered on but is waiting to connect to a display device. In this state, the GSD 22 does not transmit any sonar signals and is not sending out any sonar information to display units. If a display unit 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 display unit 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 display device 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:** 7.60" L x 6.10" W x 3.00" H  
(19.3 cm x 5.5 cm x 7.6 cm)
- Weight:** 2.1 lbs. (.953 Kg)
- Case:** Fully gasketed, high-impact plastic and aluminum alloy, waterproof to IEC 529-IPX-7
- Temp Range:** 5°F to 158°F (-15°C to 70°C)

### Electrical

- Source:** 10-35 Vdc
- Usage:** 25 watts max.
- Fuse:** AGC/3AG - 3.0 Amp
- Steering Compass Safe Distance:** 5.9" (15.00 cm)

### 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 foot max depth\*

\* Depth capacity is dependent on transducer type, water salinity, bottom type, and other water conditions.

### Data Output

- Source:** CANet or Garmin Marine Network

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