

# GSD 20 Sounder Module

*installation instructions*



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## INTRODUCTION

Thank you for choosing the Garmin GSD 20. The GSD 20 is an intelligent, remote sounder module designed to include powerful features as found in other Garmin sounders, including Depth Control Gain (DCG®) and See-Thru® technology. When used with compatible Garmin chartplotters, it provides full-featured depth sounder functions. It may interface to multiple head units, providing for complete sounder control from multiple stations, including transmit frequency, range, and gain adjustments. To get successful results from your GSD 20, take time to read through this installation guide. If any items are missing, please contact your Garmin dealer immediately.

### Included Equipment:

- GSD 20 Sounder Module
- 30' (9.1 m) Power/Data Cable
- Installation Guide for the GSD 20

### 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 20 must be properly installed according to the following instructions to get the best possible performance. To complete the installation, you need the 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 20 module:

1. Once 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. If needed, additional mounting holes may be drilled in the side mounting flanges of the module.
2. Attach the GSD 20 to the mounting location using the appropriate fasteners.
3. Mount the transducer according to the instructions provided with the transducer.
4. Route the cables to the mounting location of the display unit. Use the appropriate tie-wraps, fasteners, and sealant to secure the cable along the route and through any bulkhead or deck.
5. Once the GSD 20 module has been installed, connect the power/data and transducer cables to the appropriate receptacle.
6. Refer to the following wiring diagrams for connecting the GSD 20 to compatible Garmin units.

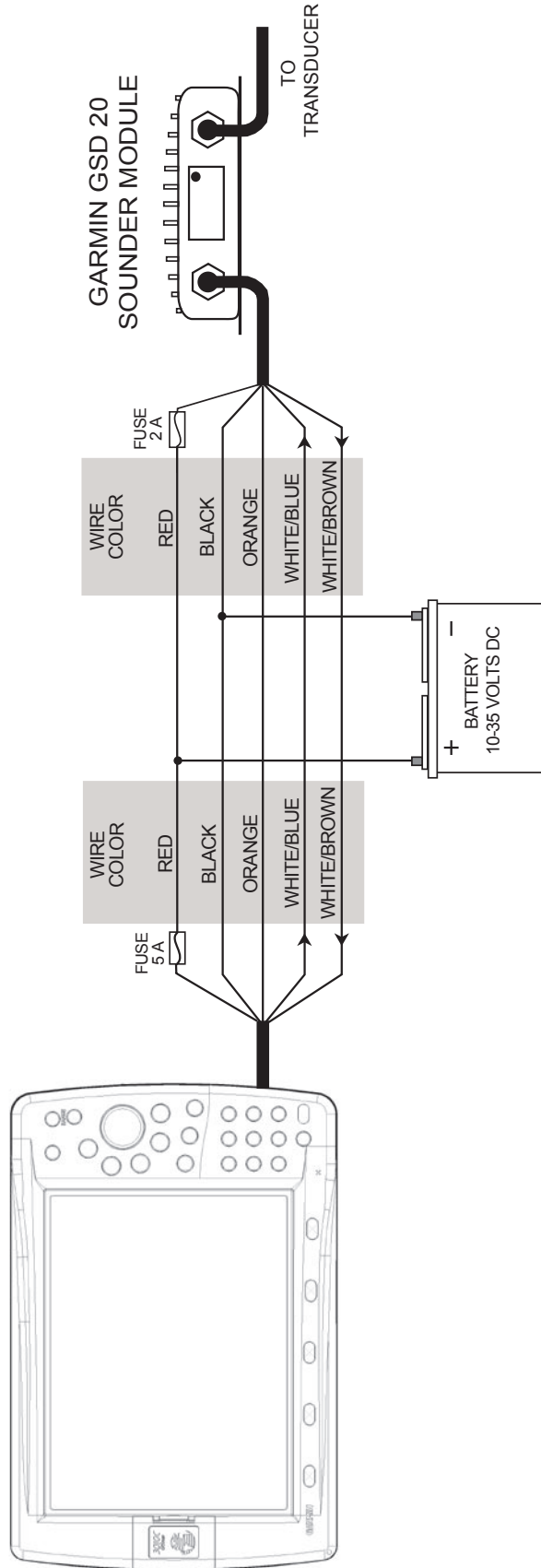


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**NOTE:** You can extend the wiring of the GSD 20 power/data cable up to 100' (30 m) total length. Use 22 AWG, 4-conductor shielded cable for data cable and 18 AWG for power. Transducer cable extensions are available through your Garmin dealer.

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# BASIC WIRING FOR THE GARMIN GSD 20 TO A SINGLE GPSMAP 2006/2006C/2010/2010C/3005C/3006C/3010C

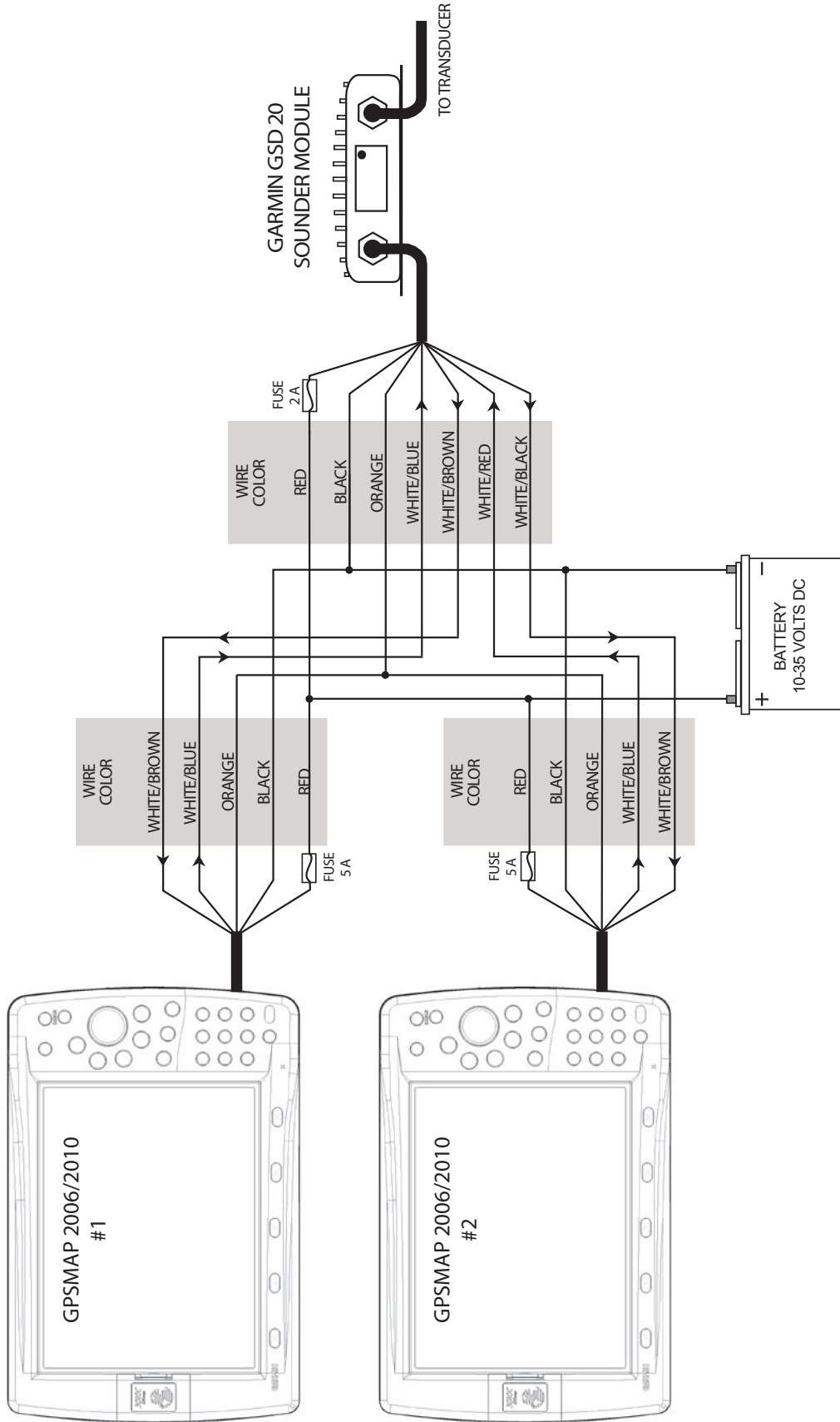


**Notes:**

1. Power and ground wires require 18 AWG. All other wires require 22 AWG. Use 4-conductor, shielded wiring for runs over 30' (9.1 m).
2. Refer to the GPSMAP 2006/2006C/2010/2010C/3005C/3006C/3010C Installation Instructions for wiring the GPS 17 sensor and other devices.
3. For runs over 30' (9.1 m), the drain wire must be connected to the shielding of the extension run. Do not terminate the end of the shield drain wire.
4. When multiple GPSMAP 3005C/3006C/3010C units are in use, only wire the GSD 20 to one unit. The GSD 20 information is transmitted to all units connected to the Garmin Marmine Network.

# BASIC WIRING FOR THE GARMIN GSD 20 TO A DUAL GPSMAP 2006/2006C/2010/2010C

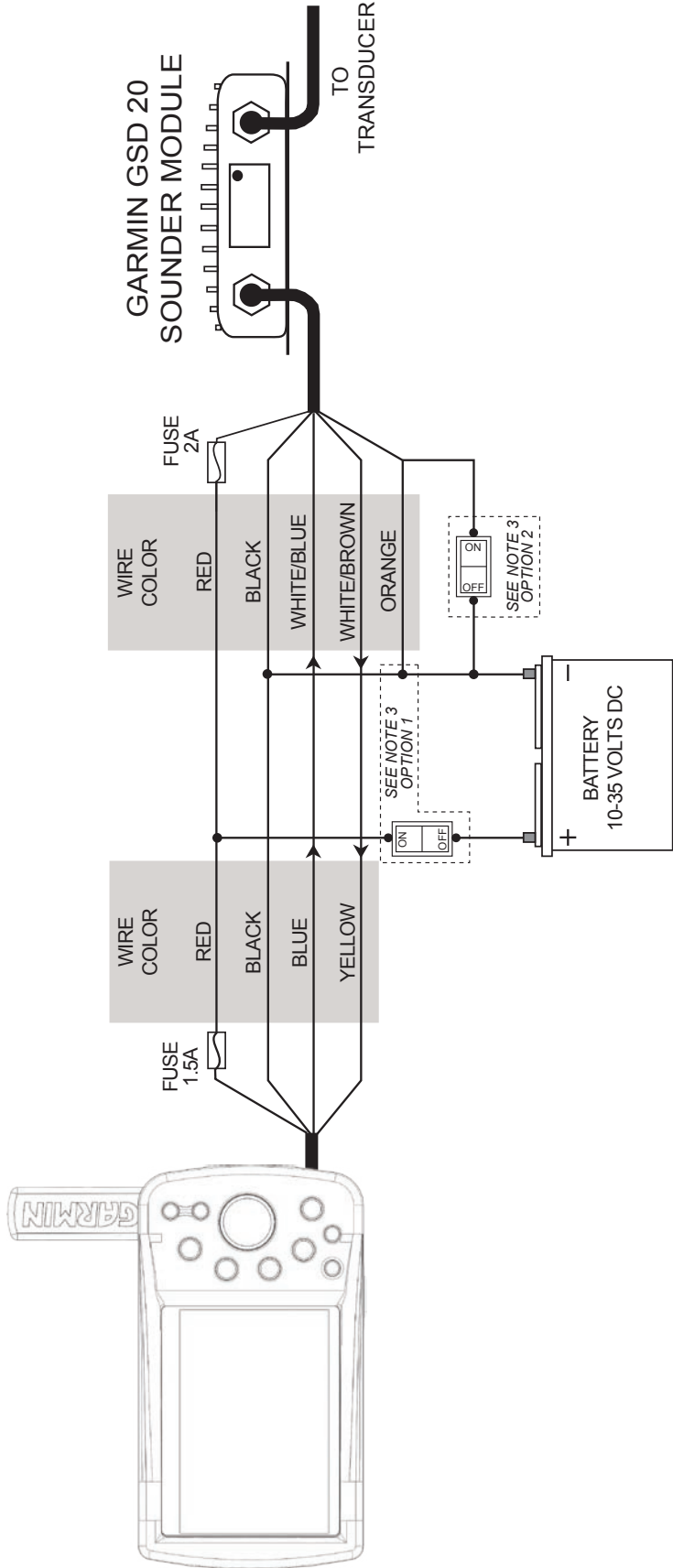
\*This diagram does not apply to the GPSMAP 3005C/3006C/3010C. Refer to Note 4 on the Single GPSMAP 2006/2006C/2010/2010C/3005C/3006C/3010C diagram.



**Notes:**

1. Power and ground wires require 18 AWG. All other wires require 22 AWG. Use 4-conductor, shielded wiring for runs over 30' (9.1 m).
2. Refer to the *GPSMAP 2006/2006C/2010/2010C Installation Instructions* for wiring the GPS 17 sensor and other devices.
3. For runs over 30' (9.1 m), the drain wire must be connected to the shielding of the extension run. Do not terminate the end of the shield drain wire.
4. Use unit #1 to update the GSD 20 software.

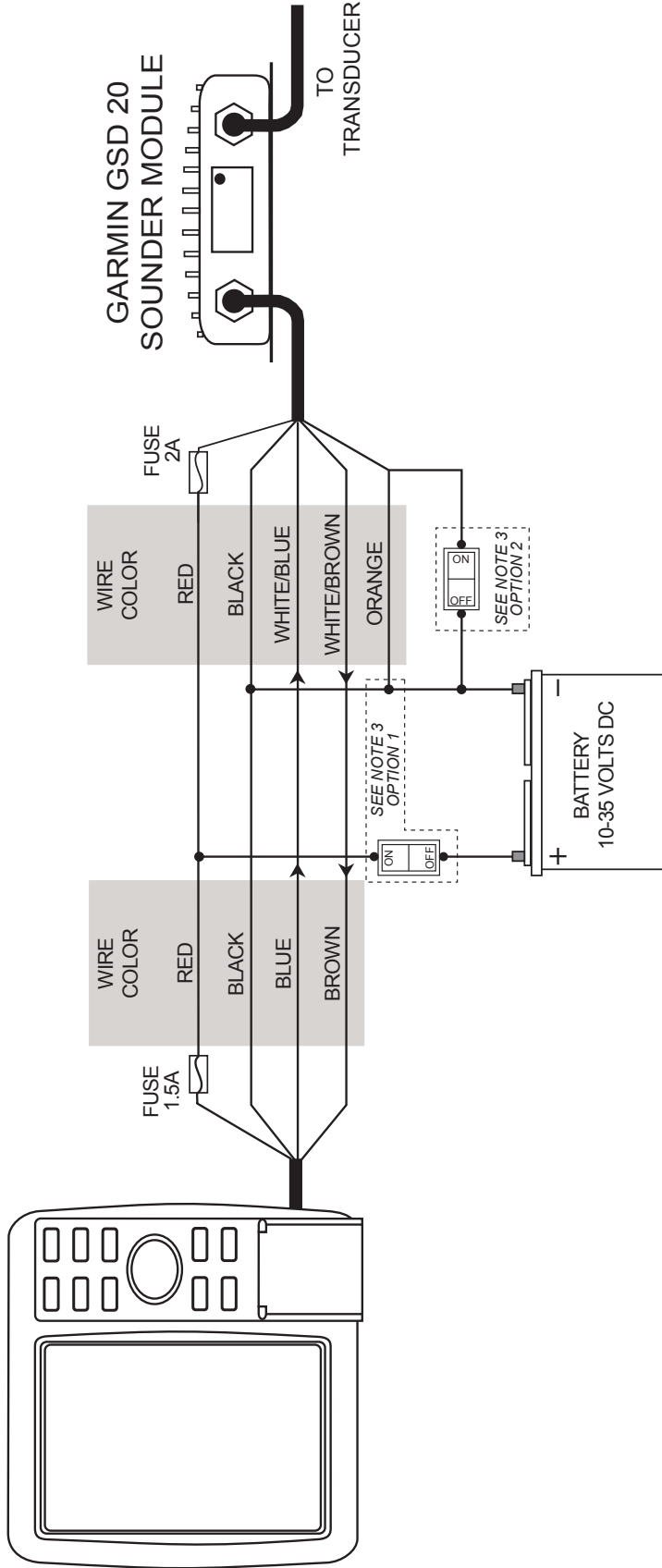
# BASIC WIRING FOR THE GARMIN GSD 20 TO A SINGLE GPSMAP 276C/296/376C/396



**Notes:**

1. Power and ground wires require 18 AWG. All other wires require 22 AWG. Use 4-conductor, shielded wiring for runs over 30' (9.1 m).
2. For runs over 30' (9.1 m), the drain wire must be connected to the shielding of the extension run. Do not terminate the end of the shield drain wire.
3. The Orange wire must be pulled low (-) in order for the GSD 20 to power on.  
 Option 1: If the GSD 20 is wired to a circuit that is switched on the Red (+) wire, connect the Orange wire to ground. The GSD 20 and the GPSMAP 276C/296/376C/396 turn on/off when power is applied/removed to the Red wire.  
 Option 2: If the Red (+) wire is applied directly to a power source, install a switch between the Orange wire and ground. The GSD 20 turns on/off when ground is applied/removed to the Orange wire.

# BASIC WIRING FOR THE GARMIN GSD 20 TO A SINGLE GPSMAP 182/182C/192C/232

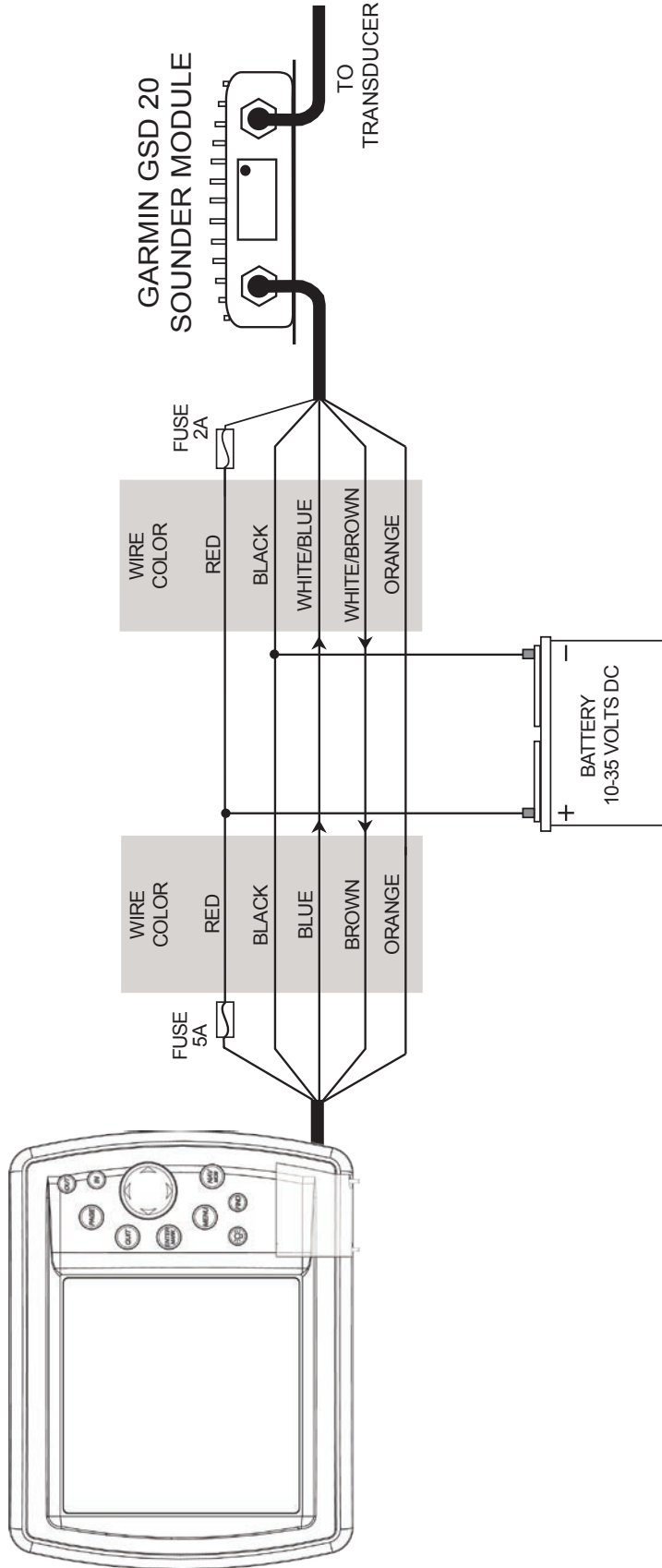


**Notes:**

1. Power and ground wires require 18 AWG. All other wires require 22 AWG. Use 4-conductor, shielded wiring for runs over 30' (9.1 m).
2. For runs over 30' (9.1 m), the drain wire must be connected to the shielding of the extension run. Do not terminate the end of the shield drain wire.
3. The Orange wire must be pulled low (-) in order for the GSD 20 to power on.  
 Option 1: If the GSD 20 is wired to a circuit that is switched on the Red (+) wire, connect the Orange wire to ground. The GSD 20 and the GPSMAP 182/182C/192C/232 turns on/off when power is applied/removed to the Red wire.  
 Option 2: If the Red (+) wire is applied directly to a power source, install a switch between the Orange wire and ground. The GSD 20 turns on or off when ground is applied or removed to the Orange wire.



# BASIC WIRING FOR THE GARMIN GSD 20 TO A SINGLE GPSMAP 172/172C



**Notes:**

1. Power and ground wires require 18 AWG. All other wires require 22 AWG. Use 4-conductor, shielded wiring for runs over 30' (9.1 m).
2. Refer to the GPSMAP 172/172C Owner's Manual for wiring the GPS 17 sensor and other devices.
3. For runs over 30' (9.1 m), the drain wire must be connected to the shielding of the extension run. Do not terminate the end of the shield drain wire.

## Blink Codes

Once the unit is installed, it switches on when the display unit is powered on (or the GSD remote power line is pulled low, with power applied). The two-color (Green/Red) LED on the GSD 20 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 20 is servicing one directly wired connection and the display device is operating properly. The user should see sonar data on the display unit.
Green blinking, on for 1/2 second, off for 1/4 second (fast blink)	GSD 20 is servicing two directly wired connections and the two display devices are operating properly. The user should see sonar data on both display units.
Red blinking, on for 1 second, off for 1/2 second (slow blink)	GSD 20 is powered on but is waiting to connect to a display device. In this state, the GSD 20 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 20 to clear the alarm.

## Physical Specifications

Size: 6.75" L x 4.75" W x 2.00" H  
(17.2cm x 12.1cm x 5.1cm)

Weight: 1.5 lbs. (.680Kg)

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)

## Power

Source: 10-35 Vdc

Usage: 18 watts max.

Fuse: AGC/3AG - 2.0 Amp

## Sonar

Sounder Power: 500 watts (RMS)  
4000 watts (peak to peak)

Frequency: 50/200 kHz

Depth: 1500 foot max depth\*

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

## Data Output

Source: Proprietary Garmin data format.



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