



# Panoptix™ PS21-TM FrontVü



## Installation Instructions

### Important Safety Information

#### ⚠ WARNING

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

You are responsible for the safe and prudent operation of your vessel. Sonar is a tool that enhances your awareness of the water beneath your boat. It does not relieve you of the responsibility of observing the water around your boat as you navigate.

#### ⚠ CAUTION

Failure to install and maintain this equipment in accordance with these instructions could result in damage or injury.

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

#### NOTICE

When drilling or cutting, always check what is on the opposite side of the surface.

To obtain the best performance and to avoid damage to your boat, you must install the Garmin® device according to these instructions.

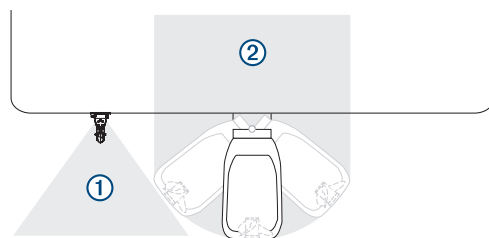
Read all installation instructions before proceeding with the installation. If you experience difficulty during the installation, contact Garmin Product Support.

### Mounting Considerations

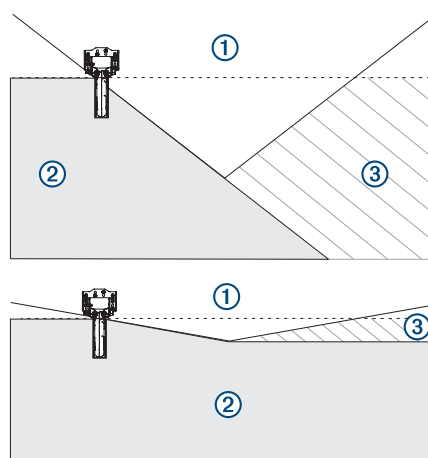
This mount is not usable for all boat hulls. Review these considerations to determine compatibility with your boat type. Poor transducer location may result in poor transducer performance or impact the handling of the boat.

- The transducer should not be mounted in a location where it might be jarred when launching, hauling, or storing.
- The transducer should not be mounted behind strakes, struts, fittings, water intake or discharge ports, in-hull transducers, or anything that creates air bubbles or causes the water to become turbulent. Turbulent water may interfere with the sonar beam.
- The transducer must be mounted with the transducer face submerged and facing forward. The transducer shape requires a larger surface area to be submerged than a typical transom-mounted transducer. The large submerged surface area creates drag that can impact the boat's handling and top speed, ranging from a negligible drag to unacceptable drag. You may need to adjust your boat's trim tabs if the transducer is not mounted in the center of the transom. For optimal results, the transducer should be mounted as close to the center line as possible.

- When the transducer moves through the water, bubbles stream behind the transducer in a "V" shape ①. The size and area of this "V" shape is affected by factors such as your boat speed and the angle of the transducer mount. You should mount the transducer in a location that does not introduce air into the path of propellers ②. Introducing air into the propellers may severely impact acceleration and top speed performance, and can damage the propellers and engines. Mount the transducer far enough to the port or starboard side away from the propeller(s) to avoid this effect. This effect is greater if the transducer is aligned vertically with the path of the propellers. Consider the turning radius of the propellers of an outboard or stern drive. For most installations, it is not recommended to mount the transducer between the engines of a multi-engine arrangement. The transducer is shown from above.



- When mounted farther from the center of the transom, a greater deadrise can cause the boat hull ① to interfere with the sonar beam ②, and can cause inconsistent detection on the opposite side of the boat ③. The transducer is shown from behind.



### Operating Considerations

When operating at speeds greater than 12.9 km/hr (8 mph), the performance of the transducer is limited, the bottom return is diminished, and the depth information and alarm may not provide warnings for potential shallow depth areas.

You should operate your boat slowly in shallow water or in areas of unknown depth or underwater obstructions.

When enabled, the forward depth alarm sounds in shallow bottom areas. Suspended or narrow underwater obstructions may not be identified as the bottom and may not trigger the alarm. The alarm is not guaranteed to prevent collisions. You should always use caution when operating your boat.

### Effective Forward Range

The transducer has an effective forward range of between five and eight times the depth of the water. For example, in 3 m (10 ft.) of water, the effective forward range is between 15 and 24 m (between 50 and 80 ft.). Water conditions and bottom conditions affect the actual range. You should use caution and

observe the water depth and forward range, especially when your device is in manual forward range mode.

## Software Update

You may need to update the device software when you install the device or add an accessory to the device.

### Loading the New Software on a Memory Card

You must copy the software update to a memory card using a computer that is running Windows® software.

**NOTE:** You can contact Garmin customer support to order a preloaded software update card if you do not have a computer with Windows software.

- 1 Insert a memory card into the card slot on the computer.
- 2 Go to [www.garmin.com/support/software/marine.html](http://www.garmin.com/support/software/marine.html).
- 3 Select **Download** next to the software bundle that corresponds with your chartplotter.

**NOTE:** The software download includes updates for all devices connected to the chartplotter. Select the correct bundle that corresponds to the chartplotter to be updated. You can select See All Devices in this Bundle to confirm the devices included in your download.

- 4 Read and agree to the terms.
- 5 Select **Download**.
- 6 If necessary, select **Run**.
- 7 If necessary, select the drive associated with the memory card, and select **Next > Finish**.
- 8 Extract the files to the memory card.

**NOTE:** The software update can take several minutes to load onto the memory card.

### Updating the Device Software

Before you can update the software, you must obtain a software-update memory card or load the latest software onto a memory card.

- 1 Turn on the chartplotter.
- 2 After the home screen appears, insert the memory card into the card slot.  
**NOTE:** In order for the software update instructions to appear, the device must be fully booted before the card is inserted.
- 3 Follow the on-screen instructions.
- 4 Wait several minutes while the software update process completes.
- 5 When prompted, leave the memory card in place and restart the chartplotter manually.
- 6 Remove the memory card.

**NOTE:** If the memory card is removed before the device restarts fully, the software update is not complete.

## Registering Your Device

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

- Go to [my.garmin.com](http://my.garmin.com).
- Keep the original sales receipt, or a photocopy, in a safe place.

### Contacting Garmin Product Support

- Go to [www.garmin.com/support](http://www.garmin.com/support) for in-country support information.
- In the USA, call 913-397-8200 or 1-800-800-1020.
- In the UK, call 0808 238 0000.
- In Europe, call +44 (0) 870 850 1241.

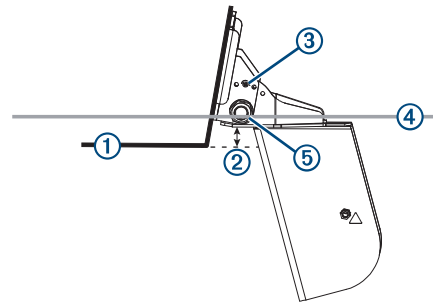
## Tools Needed

- Drill
- 3.2 mm ( $1/8$  in.) drill bit
- 4 mm ( $5/32$  in.) drill bit
- #1 Phillips screwdriver
- #2 Phillips screwdriver
- 17 mm hex socket and 17 mm hex wrench
- 7 mm hex wrenches
- Marine sealant
- Cable ties (optional)

## Installing the Transducer on a Transom

### Aligning the Transom-Mount Hardware on the Boat

- 1 Place the transom-mount on the boat transom ① 13 mm ( $1/2$  in.) ② from the bottom of the hull.

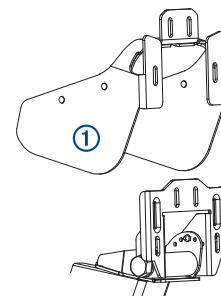


- 2 Insert a shear screw ③ into the transom-mount bracket in a hole that keeps the housing bracket parallel to the water line ④.
- 3 Using the transom-mount bracket as a template, mark the location of the holes.
- 4 Remove the bracket.
- 5 Add the nut to the shear screw and tighten.  
**NOTE:** When installed in the bracket, the shear screw and nut may appear loose.
- 6 Tighten the M10 bolt ⑤.

**NOTE:** The maximum torque applied to the M10 bolt should not exceed 51.5 N-m (38 lb-ft.).

### Installing the Transom-Mount Hardware on the Boat

- 1 If you are installing the bracket on fiberglass, place a piece of tape over the pilot-hole location to reduce cracking of the gel coat.
- 2 Using a 4 mm ( $5/32$  in.) drill bit, drill the pilot holes.
- 3 Slide the deflection shield bracket ① over the transom-mount bracket.



- 4 Apply marine sealant to the four 5x30 screws, and attach the transom-mount bracket and deflection shield bracket assembly to the transom using the 5x30 screws and 5 mm washers.

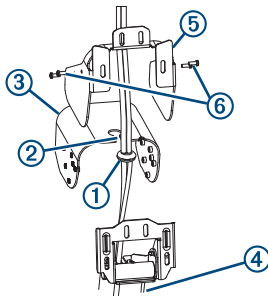
## Mounting the Deflection Shield Cover

### ⚠ CAUTION

Do not step on the mounted deflection shield.

When you travel at high speeds, your transducer can spray excessive water onto your motor. You can install the deflection shield cover to reduce the water spray.

- 1 Insert the grommet ① into the slot ② of the deflection shield cover ③.



- 2 Pull the cable through the grommet.

**TIP:** You can lubricate the grommet and length of cable you are pulling through the grommet with liquid dish soap.

- 3 With the deflection shield cover parallel to the top of the housing bracket ④, attach the deflection shield cover to the deflection shield bracket ⑤ with the screws ⑥.
- 4 Route the cables up the transom above the water line, and secure them with cable ties (optional).

## Connecting the Transducer to Power and the Garmin Marine Network

### ⚠ WARNING

When connecting the power cable, do not remove the in-line fuse holder. To prevent the possibility of injury or product damage caused by fire or overheating, the appropriate fuse must be in place as indicated in the product specifications. In addition, connecting the power cable without the appropriate fuse in place voids the product warranty.

Before you can connect the device to the Garmin Marine Network and power, you must mount the device.

- 1 Route the cables using the appropriate tie wraps, fasteners, and sealant to secure the cables along the route, and through any bulkheads or the deck.
- 2 Install the O-ring and locking collar on the Garmin Marine Network connector.
- 3 Connect the bare-wire end of the power cable to a 10 to 35 Vdc power source and to the ground (*Installation Diagram, page 3*).
- 4 Select an option:
  - Connect the network cable to the network or the Panoptix port on your chartplotter.
  - Connect the network cable to a port on the GMS™ 10, if available.

### Cable Routing Grommets

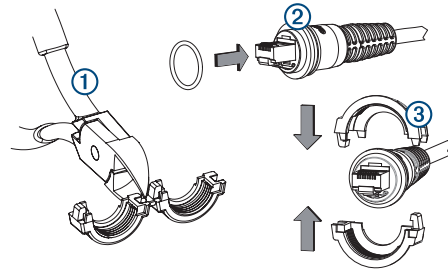
When routing cables through your boat, it may be necessary to drill holes to route the cables. Cable routing grommets can be used to cover cable installation holes. The grommets do not create a waterproof seal. If necessary, apply a marine sealant after installation to weatherproof around the grommet and the cable. You can purchase grommets from your Garmin dealer or directly from Garmin at [www.garmin.com](http://www.garmin.com).

### Installing Locking Rings on the Cables

Before you install locking rings on the cables, you must route the cables.

To help make the cable-routing process easier, the locking rings are packaged separately from the cables. Each locking ring is packaged in a small bag with a number on the label for easy identification.

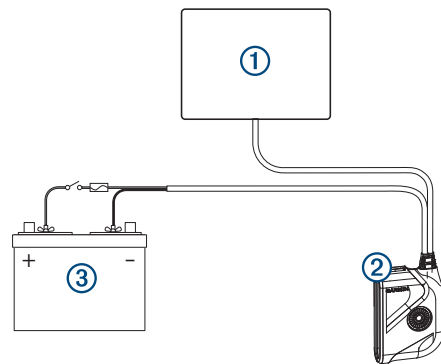
- 1 Separate the two halves of the locking ring ①.



- 2 Insert the o-ring ② into the end of the connector.

- 3 Align the two halves ③ of the locking ring over the cable and snap them together.

### Installation Diagram



Item	Description
①	Chartplotter
②	Panoptix PS21-TM
③	Power source (switch is optional)

## Maintenance

### Cleaning the Transducer

Aquatic fouling accumulates quickly and can reduce your device's performance.

- 1 Remove the fouling with a soft cloth and mild detergent.
- 2 If the fouling is severe, use a scouring pad or putty knife to remove growth.
- 3 Wipe the device dry.

### Anti-Fouling Paint

To prevent corrosion on metal hulls and to slow the growth of organisms that can affect a vessel's performance and durability, you should apply a water-based anti-fouling paint to the hull of your vessel every six months.

**NOTE:** Never apply ketone-based anti-fouling paint to your vessel, because ketones attack many types of plastic and could damage or destroy your transducer.

## Specifications

Specification	Measurement
Dimensions (W x H x L)	32 x 118 x 84 mm (1.3 x 4.6 x 3.3 in.)
Transducer weight	.39 kg (.87 lb.)
Total weight (transducer, mount, cable, and deflection shield)	2.64 kg (5.82 lb.)
Max. power usage	8 W

Specification	Measurement
Operating voltage	From 10 to 35 Vdc
Operating temperature range	From 0 to 40°C (from 32 to 104°F)
Storage temperature range	From -40 to 70°C (from -40 to 158°F)
Material	ASA plastic
Maximum range*	91.4 m (300 ft.)
Frequency	417 kHz
Fuse rating	4.0 A mini 32 Vdc

\*Dependent upon transducer placement, water salinity, bottom type, and other water conditions.

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