

# GARMIN<sup>®</sup>

## PANOPTIX™ LIVESCOPE™

### LVS12

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# INSTALLATION INSTRUCTIONS

## Important Safety Information

### ⚠ WARNING

See the *Important Safety and Product Information* guide in the chartplotter 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<sup>®</sup> device according to these instructions.

Read all installation instructions before proceeding with the installation. If you experience difficulty during the installation, go to [support.garmin.com](http://support.garmin.com) for more information.

## Registering Your Device

Help us better support you by completing our online registration today. Keep the original sales receipt, or a photocopy, in a safe place.

- 1 Go to [my.garmin.com/registration](http://my.garmin.com/registration).
- 2 Sign in to your Garmin account.

## Software Update

You must update the software when you install this device.

If your Garmin chartplotter has Wi-Fi<sup>®</sup> technology, you should update the software using the ActiveCaptain™ app on a compatible Android™ or Apple<sup>®</sup> device. If your chartplotter does not have Wi-Fi technology, you should update the software using a memory card and a Windows<sup>®</sup> computer.

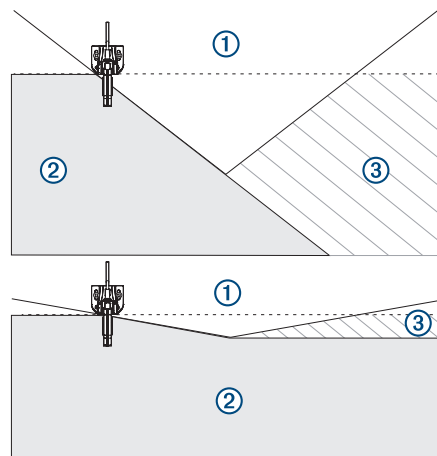
For more information, go to [support.garmin.com](http://support.garmin.com).

## Tools Needed

- Drill
- 4 mm ( $\frac{5}{32}$  in.) and 3.2 mm ( $\frac{1}{8}$  in.) drill bits
- Masking tape
- #2 Phillips screwdriver
- Marine sealant
- 32 mm (1  $\frac{1}{4}$  in.) hole saw (optional)
- Cable ties (optional)

## Mounting Considerations

- You must not mount the transducer in the path of the propeller.
- On an outboard motor, you should mount the transducer on the side of the down stroke of the propeller, typically starboard.
- You should mount the transducer in a location where it will not be jarred when launching, hauling, or storing.
- You should mount the transducer in a location where it is not behind strakes, struts, fittings, water intake or discharge ports, thru-hull transducers, or anything that creates air bubbles or causes the water to become turbulent. Turbulent water may interfere with the sonar beam.
- You should mount the transducer as close to the center line of the boat as possible.
- 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.



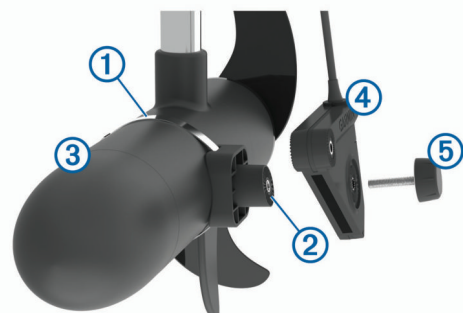
- On twin-drive vessels, you should mount the transducer between the drives, if possible.
- If necessary, for extra cable length you can connect an optional extension cable, available at [buy.garmin.com](http://buy.garmin.com) or from your Garmin dealer.

## Installing the Transducer on the Trolling Motor

### NOTICE

You must secure the transducer cable to the shaft or other secure location after installation. Damage to the transducer cable wires or cable jacket can cause transducer failure.

- 1 Insert the hose clamp ① through the slot on the trolling motor mount bracket ②, until equal lengths extend on both sides of the mount.



- 2 Secure the hose clamp around the trolling motor ③.
- 3 Align the top of the transducer ④ parallel to the top of the bracket.
- 4 Secure the transducer to the bracket using the knob ⑤.
- 5 Use cable ties (not included) to secure the transducer cable to the shaft or other secure location.
- 6 Route the transducer cable to the chartplotter while taking these precautions.
  - You should not route the cable close to electrical wires or other sources of electrical interference.
  - You must route the cable so it is not pinched when the trolling motor is deployed or stowed.

## Installing the Transducer on a Trolling Motor Shaft

### Trolling Motor Shaft Bracket Orientation

The trolling motor bracket features an 8-degree angle to reduce interference from the trolling motor on the transducer beam. You must orient the bracket with the narrow end of the angle to the top when installing the bracket.



The angled side of the transducer ① should face the front of the trolling motor ②.



### Installing the Transducer on the Trolling Motor Shaft

#### NOTICE

You must secure the transducer cable to the shaft or other secure location after installation. Damage to the transducer cable wire or the cable jacket can cause transducer failure.

You should mount the transducer as far from the motor as possible.

- 1 Orient the trolling motor shaft bracket (*Trolling Motor Shaft Bracket Orientation*, page 2).

- 2 Using the M6 screws ①, attach the curved trolling shaft bracket ② to the angled trolling shaft bracket ③.



- 3 Secure the transducer ④ to the bracket using the knob ⑤.
- 4 Use cable ties (not included) to secure the transducer cable to the shaft or other secure location.
- 5 Route the transducer cable to the chartplotter while taking these precautions.
  - You should not route the cable close to electrical wires or other sources of electrical interference.
  - You must route the cable so it is not pinched when the trolling motor is deployed or stowed.

## Installing the Transducer on a Transom

### Assembling the Transom-Mount Hardware

Attach the transducer ① to the transom-mount bracket ② using the hex nut ③, rubber washer ④, flat washer ⑤, and bolt ⑥.

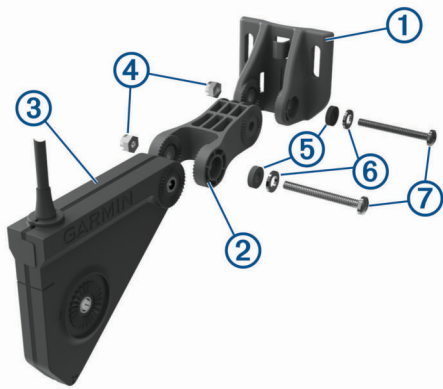


### Assembling the Transom-Mount Hardware with an Extension

You can add an extension bracket to extend the transducer beyond the hull on a deep V hull boat. This extends the transducer below the water line without immersing the bracket or installing the bracket too close to the edge of your boat. The extension bracket is not required in all installations.



Attach the transom-mount bracket ① to the extension ②, and attach the extension to the transducer ③ using the hex nuts ④, rubber washers ⑤, flat washers ⑥, and bolts ⑦.

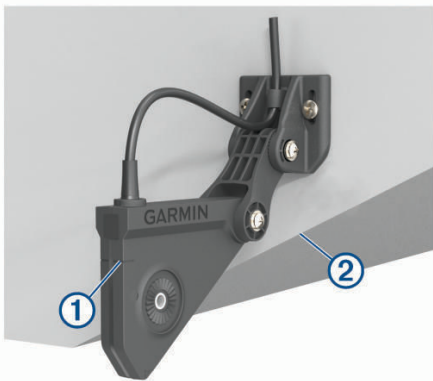


## Installing the Transom-Mount Hardware

### NOTICE

If you are mounting the bracket on fiberglass with screws, it is recommended to use a countersink bit to drill a clearance counterbore through only the top gel-coat layer. This will help to avoid cracking in the gel-coat layer when the screws are tightened.

- 1 To ensure proper alignment underwater, place the transducer mount so the line on the transducer ① aligns with the bottom of the transom ②.



- 2 Using the transom mount as a template, mark the location of the pilot holes.
- 3 Wrap a piece of tape around a 4 mm ( $\frac{5}{32}$  in.) bit at 19 mm ( $\frac{3}{4}$  in.) from the point of the bit, to avoid drilling the pilot holes too deep.
- 4 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.
- 5 Using the 4 mm ( $\frac{5}{32}$  in.) bit, drill the pilot holes approximately 19 mm ( $\frac{3}{4}$  in.) deep at the marked locations.
- 6 Apply marine sealant to the included 20 mm screws.
- 7 Using the three 20 mm screws, attach the transducer mount to the transom.
- 8 Route the cable under the transom mount wire hook.



- 9 If you must route the cable through the transom, choose a pilot-hole location well above the waterline and mark it.
- 10 If you marked a pilot hole in step 8, use a 32 mm (1  $\frac{1}{4}$  in.) hole saw to drill a pass-through hole completely through the transom.
- 11 Route the transducer cable to the chartplotter:
  - If you are routing the cable using a pass-through hole, push it through the hole you drilled in step 9.
  - If you are not routing the cable using a pass-through hole, route the cable up and over the top of the transom.

You should avoid routing the cable close to electrical wires or other sources of electrical interference.

## Calibrating the Compass

Before you can calibrate the compass, the transducer must be installed on the shaft far enough away from the trolling motor to avoid magnetic interference, and deployed in the water. Calibration must be of sufficient quality to enable the internal compass.

**NOTE:** To use the compass, you must mount the transducer on the transom or the trolling motor shaft. The compass may not work when you mount the transducer on the motor.

**NOTE:** For best results, you should use a heading sensor such as the SteadyCast™ heading sensor. The heading sensor shows the direction the transducer is pointing relative to the boat.

You can begin turning your boat before calibrating, but you must fully rotate your boat 1.5 times during calibration.

- 1 From an applicable sonar view, select **MENU > Sonar Setup > Installation**.
- 2 If necessary, select **Use AHRS** to turn on the AHRS sensor.
- 3 Select **Calibrate Compass**.
- 4 Follow the on-screen instructions.

## 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 Wipe the device dry.

## Specifications

### Panoptix LiveScope LVS12 Specifications

Dimensions (L x H x W)	113 x 92 x 23 mm (4.45 x 3.6 x .91 in.)
Weight (transducer only)	500 g (1.1 lbs.)
Frequencies	From 530 to 1.1 MHz
Operating temperature	From 0° to 40°C (from 32° to 104°F)

Storage temperature	From -40° to 85°C (from -40° to 185°F)
Maximum depth/distance*	61 m (200 ft.)
Field of view	Front to back: Two 30-degree sectors Side-to-side: 20 degrees

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

### Open-Source Software License

To view the open-source software license(s) used in this product, go to [developer.garmin.com/open-source/linux/](https://developer.garmin.com/open-source/linux/).

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