

Raymarine®



RVX1000

Installation instructions

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Check the Raymarine website for the latest software releases for your product.
www.raymarine.com/software

Product documentation



The latest versions of all English and translated documents are available to download in PDF format from the website: www.raymarine.com/manuals.
Please check the website to ensure you have the latest documentation.

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Chapter 1: Important information

Certified Installation

Raymarine recommends certified installation by a Raymarine approved installer. A certified installation qualifies for enhanced product warranty benefits. Contact your Raymarine dealer for further details, and refer to the separate warranty document packed with your product.



Warning: Product installation and operation

- This product must be installed and operated in accordance with the instructions provided. Failure to do so could result in personal injury, damage to your vessel and/or poor product performance.
- Raymarine recommends certified installation by a Raymarine approved installer. A certified installation qualifies for enhanced product warranty benefits. Contact your Raymarine dealer for further details, and refer to the separate warranty document packed with your product.



Warning: Potential ignition source

This product is NOT approved for use in hazardous/flammable atmospheres. Do NOT install in a hazardous/flammable atmosphere (such as in an engine room or near fuel tanks).



Warning: Positive ground systems

Do not connect this unit to a system which has positive grounding.



Warning: Power supply voltage

Connecting this product to a voltage supply greater than the specified maximum rating may cause permanent damage to the unit. Refer to the *Technical specification* section for voltage rating.



Warning: Switch off power supply

Ensure the vessel's power supply is switched OFF before starting to install this product. Do NOT connect or disconnect equipment with the power switched on, unless instructed in this document.

Caution: Power supply protection

When installing this product ensure the power source is adequately protected by means of a suitably-rated fuse or automatic circuit breaker.



Warning: High voltage

This product contains high voltage. Adjustments require specialized service procedures and tools only available to qualified service technicians. There are no user serviceable parts or adjustments. The operator should never remove the cover or attempt to service the product.



Warning: Product grounding

Before applying power to this product, ensure it has been correctly grounded, in accordance with the instructions provided.



Warning: Transducer cables

Do not remove the transducer cable whilst the product is powered on, doing so can cause sparks. If the transducer cable is accidentally removed whilst the product is powered on, switch the product's power off, replace the cable and then switch the power back on.



Warning: Sonar operation

- NEVER operate the sonar with the vessel out of the water.
- NEVER touch the transducer face when the sonar is powered on.
- SWITCH OFF the sonar if divers are likely to be within 7.6 m (25 ft) of the transducer.

Caution: Do not cut transducer cables

- Cutting the transducer cable severely reduces sonar performance. If the cable is cut, it must be replaced, it cannot be repaired.
- Cutting the transducer cable will void the warranty and invalidate the European CE mark.

Caution: Service and maintenance

This product contains no user serviceable components. Please refer all maintenance and repair to authorized Raymarine dealers. Unauthorized repair may affect your warranty.

Water ingress

Water ingress disclaimer

Although the waterproof rating capacity of this product meets the stated IPX standard (refer to the product's *Technical Specification*), water intrusion and subsequent equipment failure may occur if the product is subjected to commercial high-pressure washing. Raymarine will not warrant products subjected to high-pressure washing.

Disclaimer

Raymarine does not warrant that this product is error-free or that it is compatible with products manufactured by any person or entity other than Raymarine.

Raymarine is not responsible for damages or injuries caused by your use or inability to use the product, by the interaction of the product with products manufactured by others, or by errors in information utilized by the product supplied by third parties.

EMC installation guidelines

Raymarine equipment and accessories conform to the appropriate Electromagnetic Compatibility (EMC) regulations, to minimize electromagnetic interference between equipment and minimize the effect such interference could have on the performance of your system

Correct installation is required to ensure that EMC performance is not compromised.

Note: In areas of extreme EMC interference, some slight interference may be noticed on the product. Where this occurs the product and the source of the interference should be separated by a greater distance.

For **optimum** EMC performance we recommend that wherever possible:

- Raymarine equipment and cables connected to it are:
 - At least 1 m (3 ft) from any equipment transmitting or cables carrying radio signals e.g. VHF radios, cables and antennas. In the case of SSB radios, the distance should be increased to 7 ft (2 m).
 - More than 2 m (7 ft) from the path of a radar beam. A radar beam can normally be assumed to spread 20 degrees above and below the radiating element.
- The product is supplied from a separate battery from that used for engine start. This is important to prevent erratic behavior and data loss which can occur if the engine start does not have a separate battery.

- Raymarine specified cables are used.
- Cables are not cut or extended, unless doing so is detailed in the installation manual.

Note: Where constraints on the installation prevent any of the above recommendations, always ensure the maximum possible separation between different items of electrical equipment, to provide the best conditions for EMC performance throughout the installation

Compass safe distance

To prevent potential interference with the vessel's magnetic compasses, ensure an adequate distance is maintained from the product.

When choosing a suitable location for the product you should aim to maintain the maximum possible distance from any compasses. Typically this distance should be at least 1 m (3 ft) in all directions. However for some smaller vessels it may not be possible to locate the product this far away from a compass. In this situation, when choosing the installation location for your product, ensure that the compass is not affected by the product when it is in a powered state.

Declaration of Conformity

FLIR Belgium BVBA declares that the RVX1000 Sonar module, part number E70511, is in compliance with the EMC Directive 2014/30/EU.

The original Declaration of Conformity certificate may be viewed on the relevant product page at www.raymarine.com/manuals.

Connections to other equipment

Requirement for ferrites on non-Raymarine cables

If your Raymarine equipment is to be connected to other equipment using a cable not supplied by Raymarine, a suppression ferrite **MUST** always be attached to the cable near the Raymarine unit.

Product disposal

Dispose of this product in accordance with the WEEE Directive.

The Waste Electrical and Electronic Equipment (WEEE) Directive requires the recycling of waste electrical and electronic equipment which contains materials, components and substances that may be hazardous and present a risk to human health and the environment when WEEE is not handled correctly.



Equipment marked with the crossed-out wheeled bin symbol indicates that the equipment should not be disposed of in unsorted household waste.

Local authorities in many regions have established collection schemes under which residents can dispose of waste electrical and electronic equipment at a recycling center or other collection point.

For more information about suitable collection points for waste electrical and electronic equipment in your region, refer to the following table:

| Region | Website | Region | Website |
|--------|--|--------|--|
| AT | www.araplus.at | IT | www.erp-recycling.org/it-it |
| BE | www.recupel.be | LT | www.eei.lt |
| BG | www.greentech.bg | LU | www.ecotrel.lu , https://aev.gouvernement.lu/fr.html |
| CY | www.electrocyclo-sis.com.cy | LV | www.lze.lv |
| CZ | www.retela.cz | MT | http://www.greenpak.com.mt |

| Region | Website | Region | Website |
|--------|--|--------|--|
| DE | www.earn-service.com | NL | www.wecycle.nl |
| DK | www.elretur.dk | PL | www.electro-system.pl |
| EE | www.elektronikaromu.ee | PT | www.amb3e.pt |
| ES | www.raee-asimelec.es | RO | www.ecotic.ro |
| FI | www.elker.fi | SE | www.el-kretsen.se |
| FR | www.ecologic-france.com , www.eco-systemes.fr | SI | www.zeos.si |
| GR | www.electrocycle.gr | SK | www.erp-recycling.sk |
| IE | www.weeeireland.ie | UK | www.wastecare.co.uk/compliance-services/weecare |

Warranty registration

To register your Raymarine product ownership, please visit www.raymarine.com and register online.

It is important that you register your product to receive full warranty benefits. Your unit package includes a bar code label indicating the serial number of the unit. You will need this serial number when registering your product online. You should retain the label for future reference.

IMO and SOLAS

The equipment described within this document is intended for use on leisure marine boats and workboats NOT covered by International Maritime Organization (IMO) and Safety of Life at Sea (SOLAS) Carriage Regulations.

Technical accuracy

To the best of our knowledge, the information in this document was correct at the time it was produced. However, Raymarine cannot accept liability for any inaccuracies or omissions it may contain. In addition, our policy of continuous product improvement may change specifications without notice. As a result, Raymarine cannot accept liability for any differences between the product and this document. Please check the Raymarine website (www.raymarine.com) to ensure you have the most up-to-date version(s) of the documentation for your product.

Operation instructions

For detailed operation instructions for your product, refer to the documentation that accompanies your display.

All product documentation is available to download from the Raymarine website: www.raymarine.com/manuals.

Multifunction display software version

To ensure optimum performance and compatibility with external devices, your multifunction display must be using the latest software version.

Visit www.raymarine.com to download the latest software.

Suppression ferrites

- Raymarine cables may be pre-fitted or supplied with suppression ferrites. These are important for correct EMC performance. If ferrites are supplied separately to the cables (i.e. not pre-fitted), you must fit the supplied ferrites, using the supplied instructions.
- If a ferrite has to be removed for any purpose (e.g. installation or maintenance), it must be replaced in the original position before the product is used.
- Use only ferrites of the correct type, supplied by Raymarine or its authorized dealers.
- Where an installation requires multiple ferrites to be added to a cable, additional cable clips should be used to prevent stress on the connectors due to the extra weight of the cable.

Chapter 2: Document and product information

Chapter contents

- [2.1 Document information on page 16](#)
- [2.2 Parts supplied on page 18](#)
- [2.3 Product overview on page 19](#)
- [2.4 Sonar technology on page 20](#)
- [2.5 Raymarine sonar modules on page 26](#)

2.1 Document information

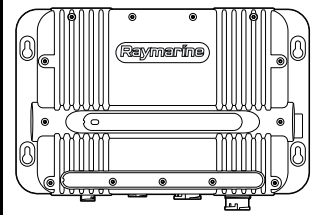
This document contains important information related to the installation of your Raymarine product. The document includes information to help you:

- plan your installation and ensure you have all the necessary equipment;
- install and connect your product as part of a wider system of connected marine electronics;
- troubleshoot problems and obtain technical support if required.

This and other Raymarine product documents are available to download in PDF format from www.raymarine.com/manuals.

Applicable products

This document is applicable to the following products:

| | Part number | Name | Description |
|---|-------------|---------|-----------------------------------|
|  | E70511 | RVX1000 | RealVision™ 3D CHIRP sonar module |

Document illustrations

Your product and if applicable, its user interface may differ slightly from that shown in the illustrations in this document, depending on product variant and date of manufacture.

All images are provided for illustration purposes only.

Product documentation

The following documentation is applicable to your product:

| Description | Part number |
|---|-------------|
| RVX1000 Installation instructions Installation of an RVX1000 unit and connection to a wider system of marine electronics. | 87349 |
| RVX1000 Mounting template Mounting diagram for surface mounting an RVX1000 | 87350 |
| LightHouse™ 3 Advanced Operation instructions Details the operation of the RVX1000 and the Fishfinder application for the following multifunction displays: <ul style="list-style-type: none">• eS Series• gS Series• Axiom• Axiom Pro | 81370 |

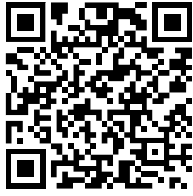
Operation instructions

For detailed operation instructions for your product, refer to the documentation that accompanies your display.

All product documentation is available to download from the Raymarine website: www.raymarine.com/manuals.

LightHouse™ 3 MFD Operation instructions

For operation instructions for your MFD please refer to the LightHouse™ 3 MFD Operation instructions.



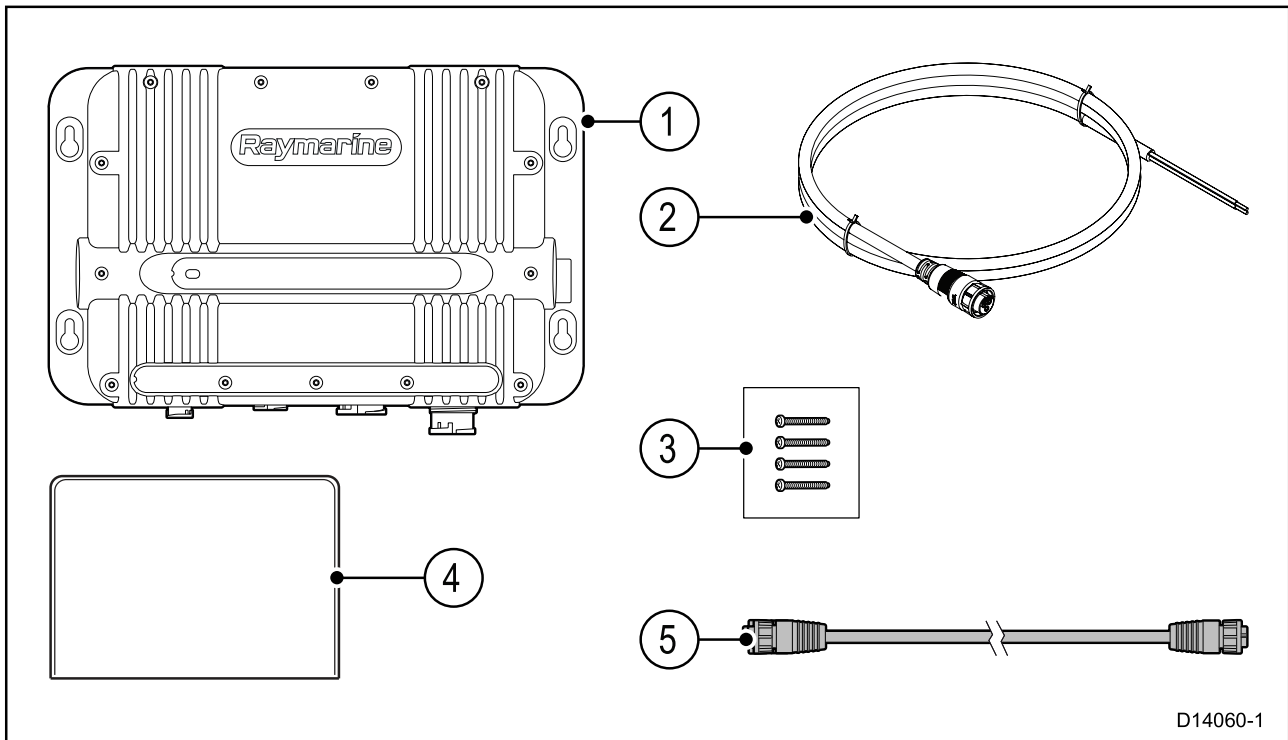
The Basic (81369) and Advanced (81370) LightHouse™ 3 Operation Instructions can be downloaded from the Raymarine website: www.raymarine.com/manuals

Transducer installation instructions

This document includes installation instructions for the sonar module only. For installation instructions for a connected transducer, please refer to the documentation that accompanies the transducer.

2.2 Parts supplied

RVX1000 — Parts supplied

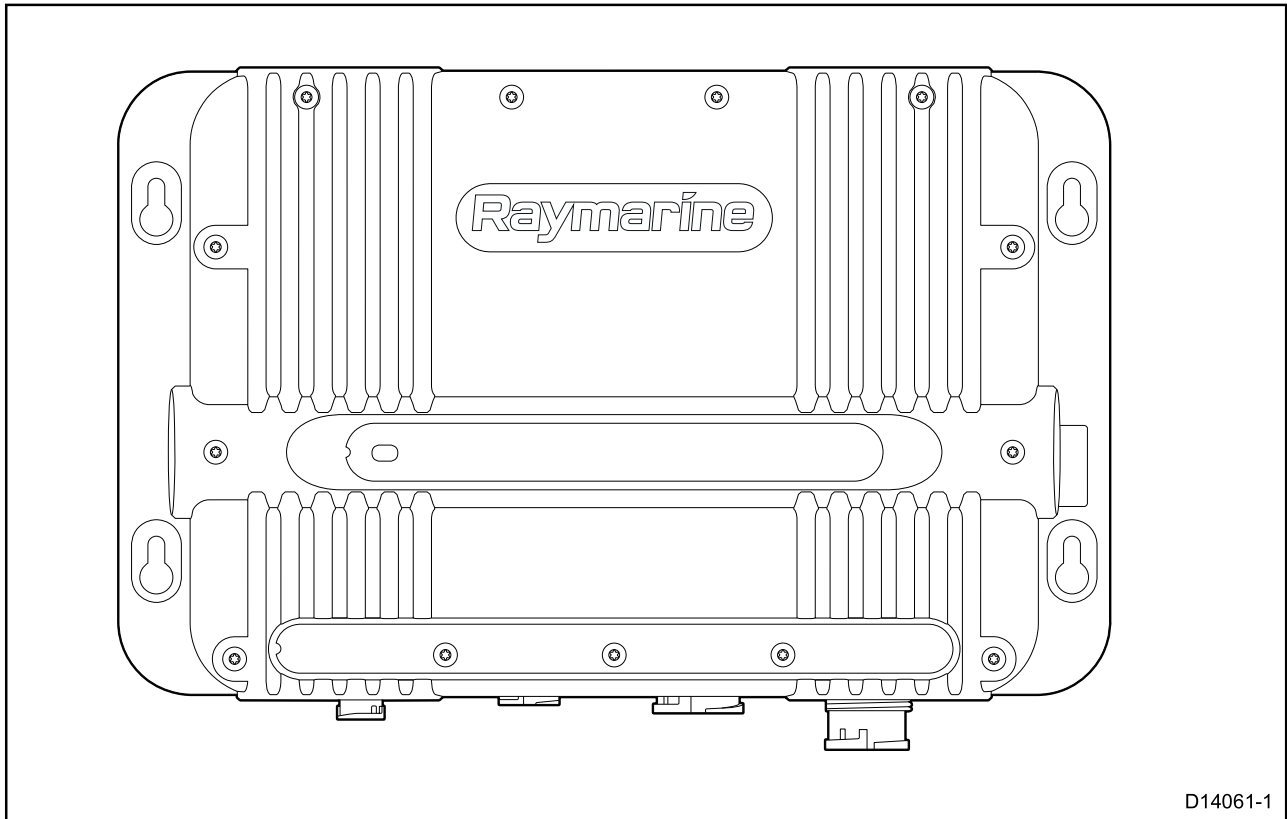


| Item | Description | Quantity |
|------|--|----------|
| 1 | Sonar module | 1 |
| 2 | 1.5 m (5 ft) power cable | 1 |
| 3 | No.8 fixing screws | 4 |
| 4 | Documentation pack | 1 |
| 5 | 2 m (6.56 ft) RayNet (Female) to RayNet (Female) network cable | 1 |

2.3 Product overview

RVX1000 product overview

The RVX1000 is a **RealVision™ 3D** sonar module that also includes a 1kW CHIRP sonar. In conjunction with a compatible multifunction display and transducer, the RVX1000 produces realistic 3D representations of the objects below your vessel, to help you identify underwater structures and locate fish.



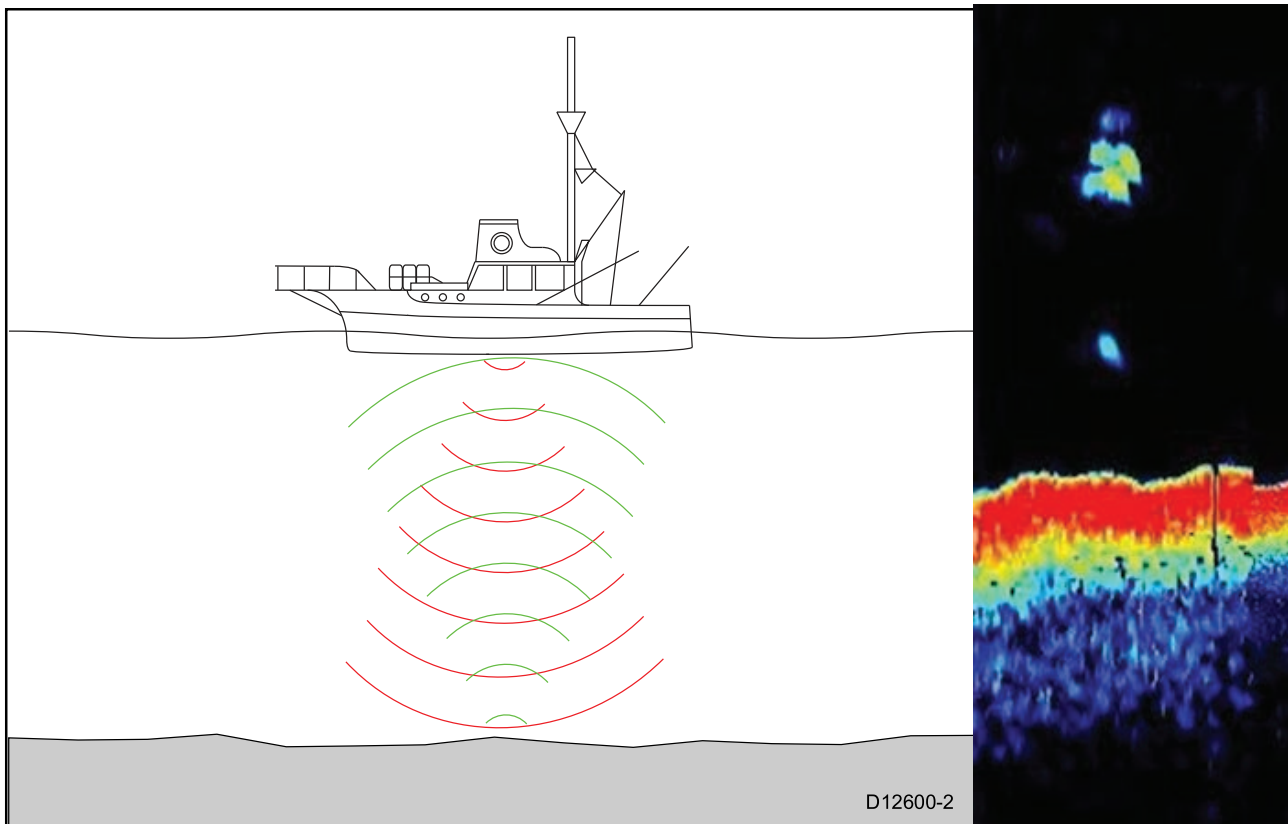
The RVX1000 has the following features:

- 1 x CHIRP sonar; 1 x DownVision™; 1 x SideVision™; 1 x RealVision™ 3D.
- 1 x 1 kW sonar supporting low, medium, and high frequency CHIRP or traditional transducers.
- 0.9 m (3 ft) to 1,524 m (5,000 ft) depth range (in optimum conditions using a 1 kW transducer).
- Water temperature and speed sensing.
- Support for transom, through-hull, in-hull, and pocket/keel mount transducers.
- Support for Wide Beam transducers.
- 12 V or 24 V dc operation.
- Waterproof to IPX6/IPX7.
- Robust and waterproof high-speed network connection.

2.4 Sonar technology

Traditional sonar technology

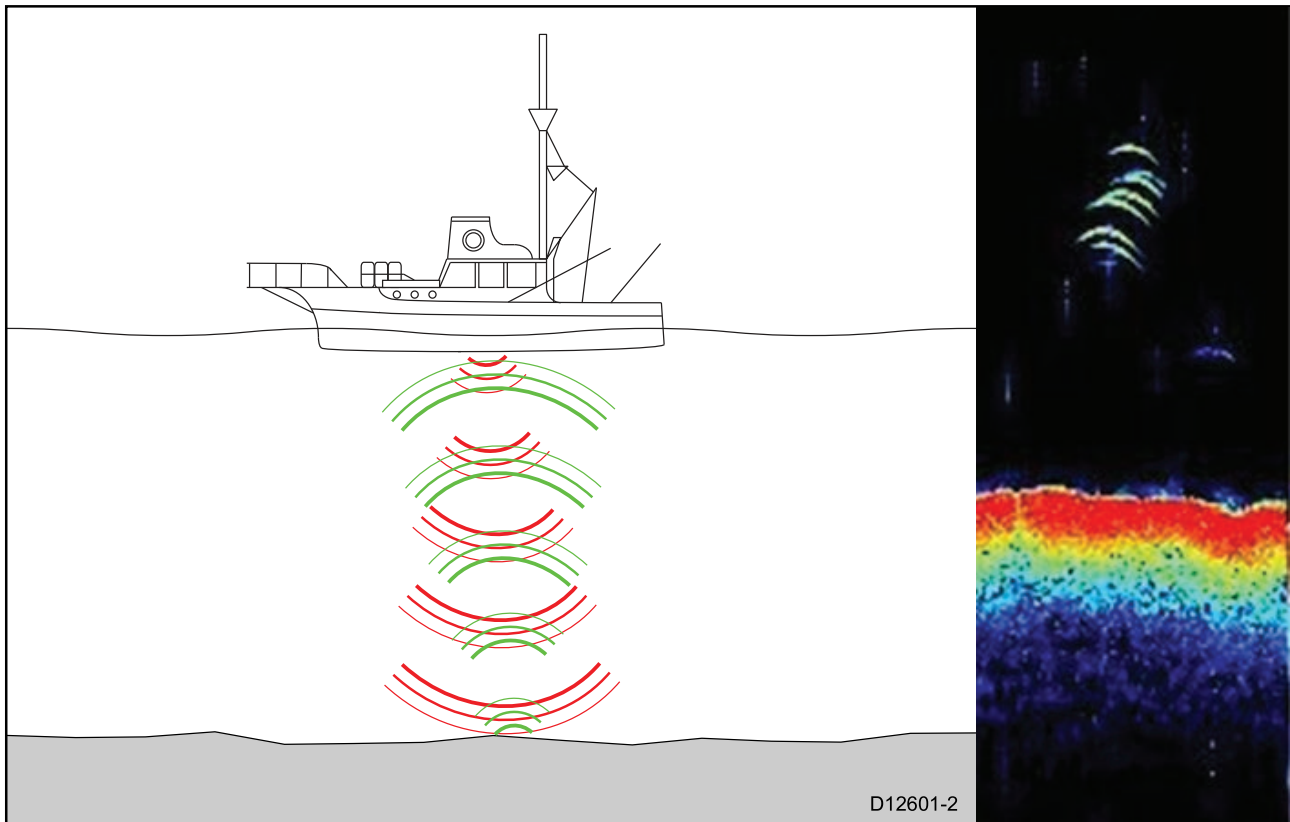
Traditional sonar uses a single carrier frequency or carrier wave for the sonar ping. The sonar works by measuring the time it takes the ping echo to return to the transducer to determine target depth.



CHIRP technology

CHIRP sonars use a swept frequency 'CHIRP' signal which can distinguish between multiple close targets, this enables the sonar to display multiple targets instead of large combined targets that you would see when using traditional non-CHIRP sonar.

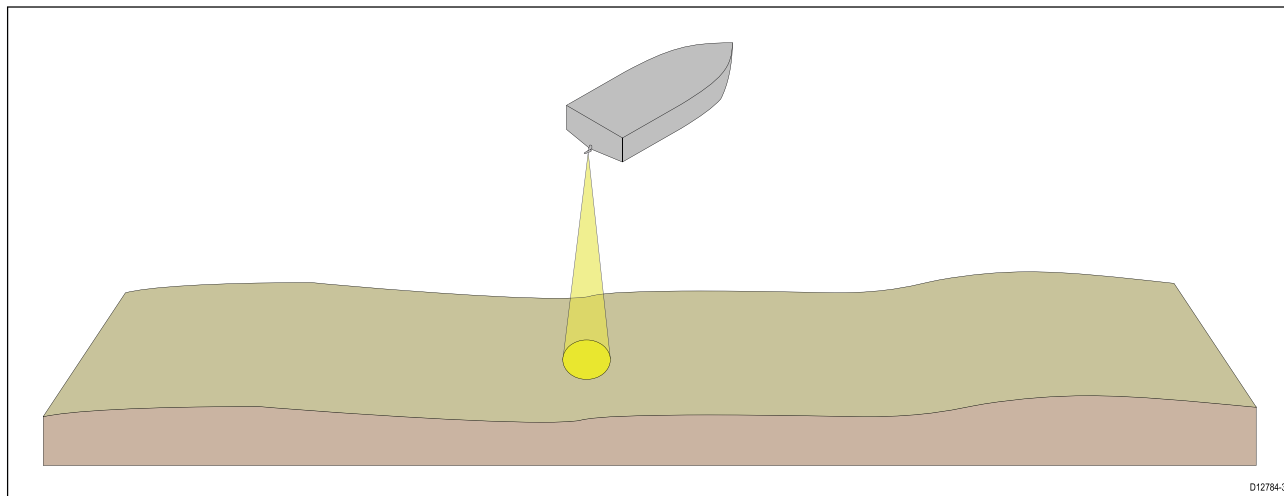
Benefits of CHIRP include improvements to target resolution, bottom detection even through bait balls and thermoclines and detection sensitivity.



CHIRP Sonar overview

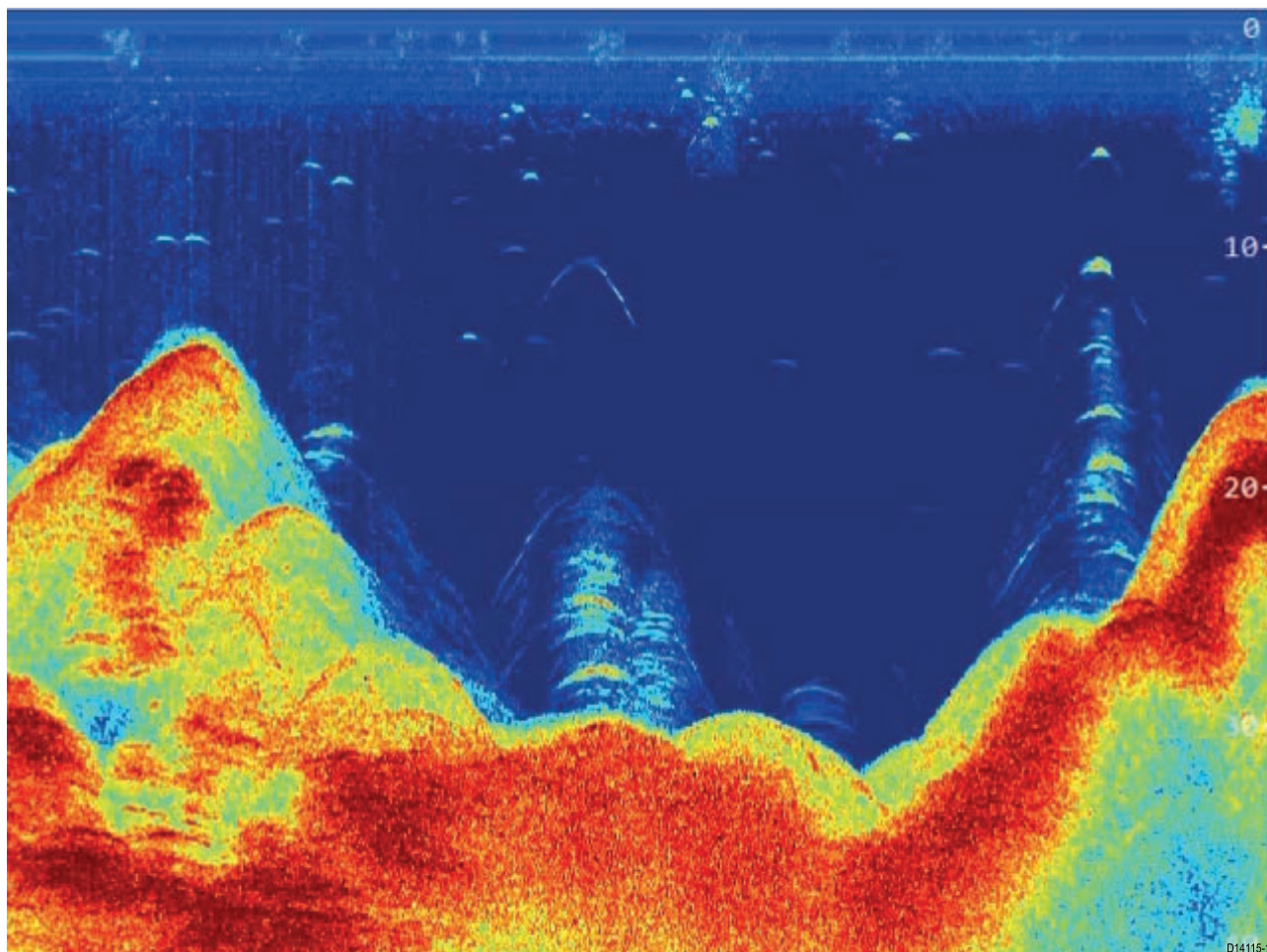
CHIRP sonar produces a conical shaped beam, the coverage of the conical beam is the water column directly beneath the vessel

Conical beam



Sonar is effective at a range of speeds. In deeper waters the CHIRP bandwidth is automatically optimized to improve bottom lock and the detection of moving objects (e.g. fish) in the wider water column.

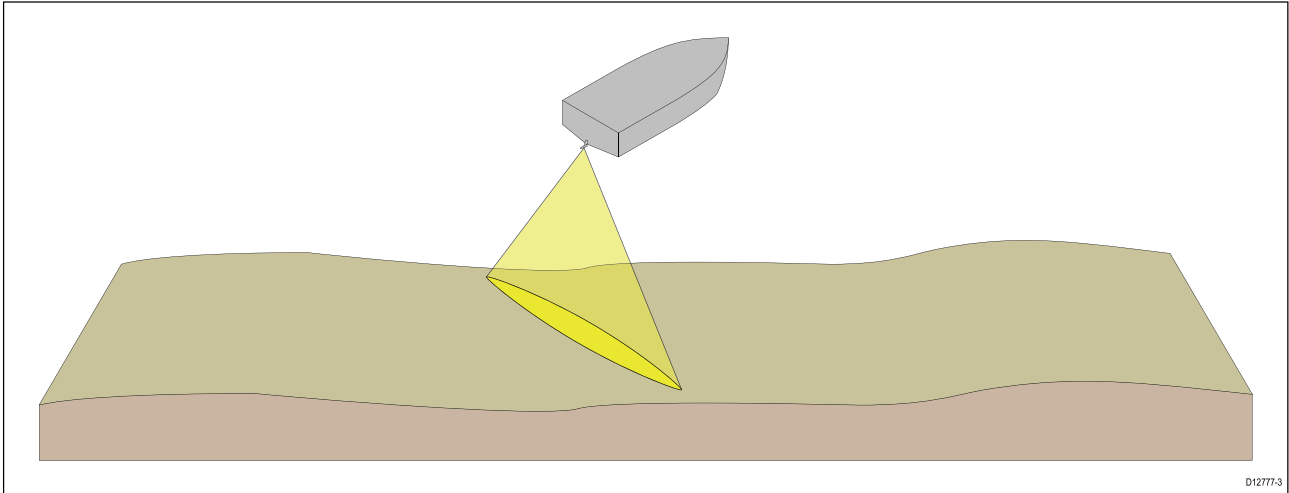
CHIRP sonar screen example



CHIRP DownVision™ overview

DownVision™ produces a wide-angle side-to-side beam and a thin fore-to-aft beam. The coverage of the DownVision™ beam is a water column directly beneath and to the sides of the vessel.

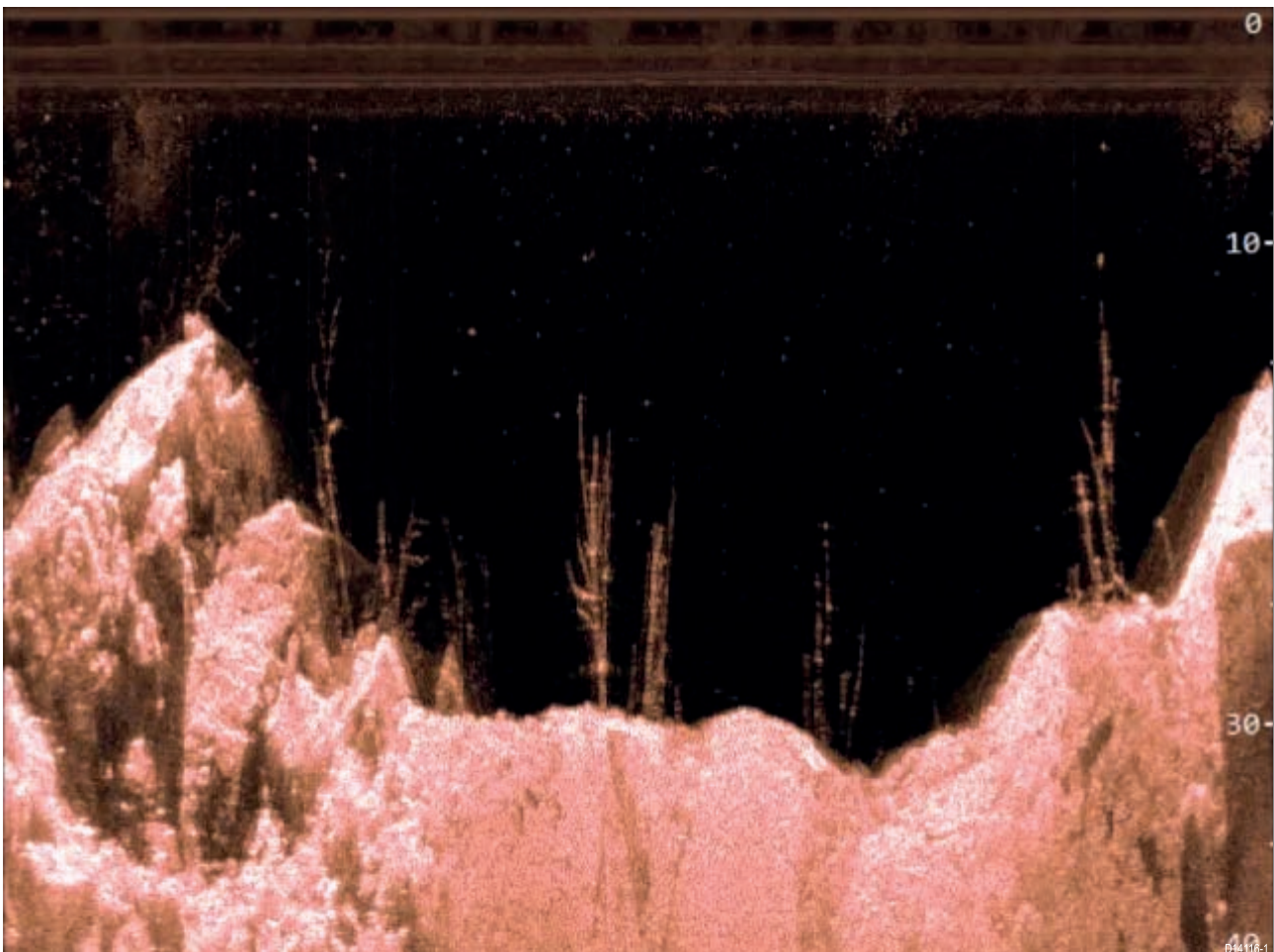
DownVision™ beam



DownVision™ is effective at lower vessel speeds. In deeper waters the CHIRP bandwidth is automatically optimized to improve bottom lock and the detection of moving objects (e.g. fish) in the wider water column.

The wide, thin beam produces clear target returns. The use of CHIRP processing and a higher operating frequency provide a more detailed image, making it easier to identify bottom structures around which fish may reside.

CHIRP DownVision™ screen example

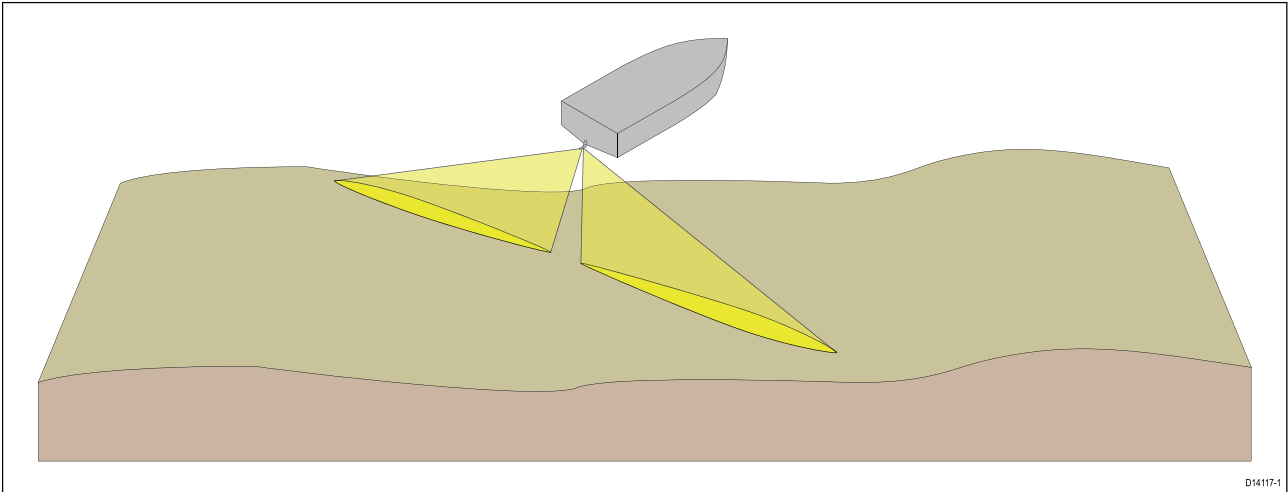


CHIRP SideVision™ overview

SideVision™ interprets signals from a pair of side-looking transducers and builds up a detailed underwater view as your vessel moves forward. The transducers send pulses of sound waves into the water on each side of your vessel, and record the sound waves that reflect off the bottom, and off objects on the bottom or suspended in the water column. The received echoes are affected by the bottom material (for example mud, gravel or rock), and by any other objects in their path (for example cables on the sea floor, bridge piers, wrecks, shoals or fish).

SideVision™ produces 2 wide-angle side-to-side beams, each with a thin fore-to-aft beam. The coverage of the **SideVision™** beams is a swath on each side of the vessel.

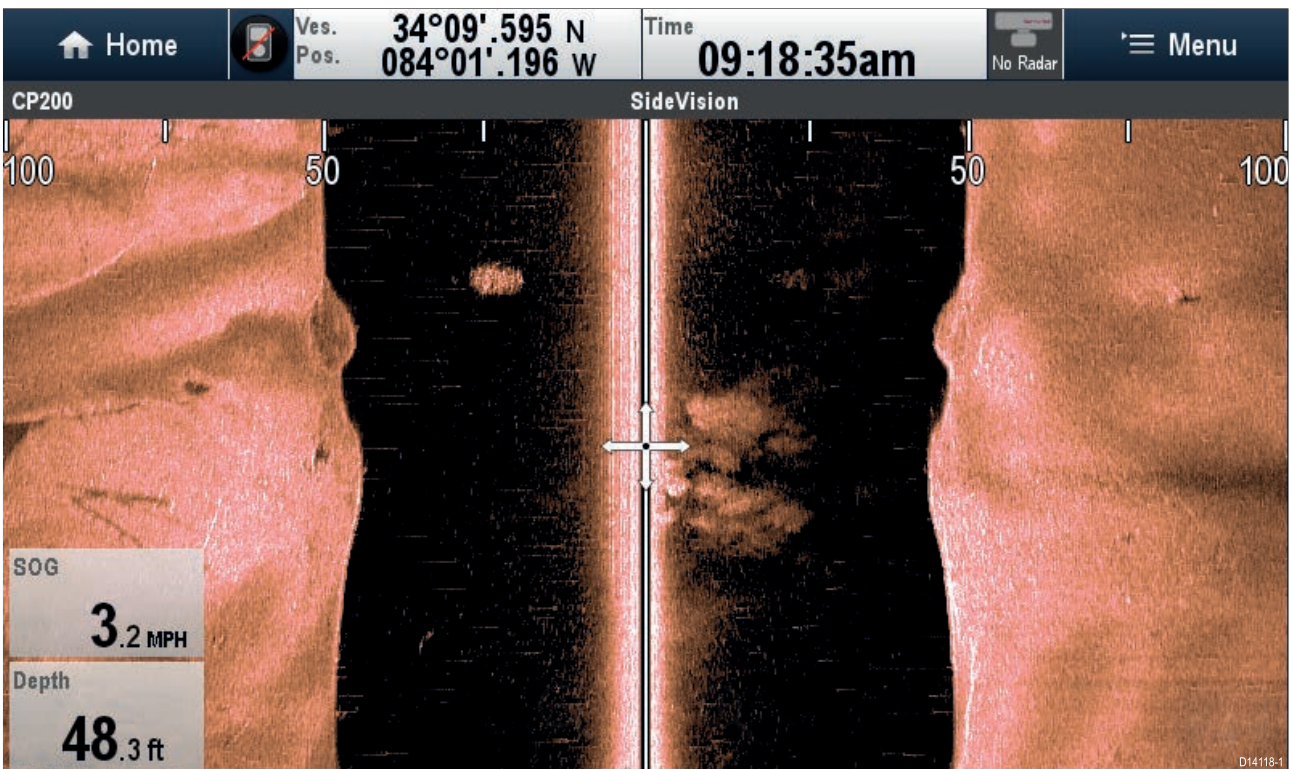
SideVision™ beams



SideVision™ is effective at lower vessel speeds. The wide, thin beams produce clear target returns. As your vessel moves forward, subsequent returns build up to provide an image of the sea floor on each side of your vessel.

The use of CHIRP processing and a high operating frequency provide a detailed image, making it easier to identify bottom structures around which fish may reside. The narrow angle the beams make with the bottom at longer ranges can reveal the shadows of structures that protrude from the bottom.

CHIRP SideVision™ screen example

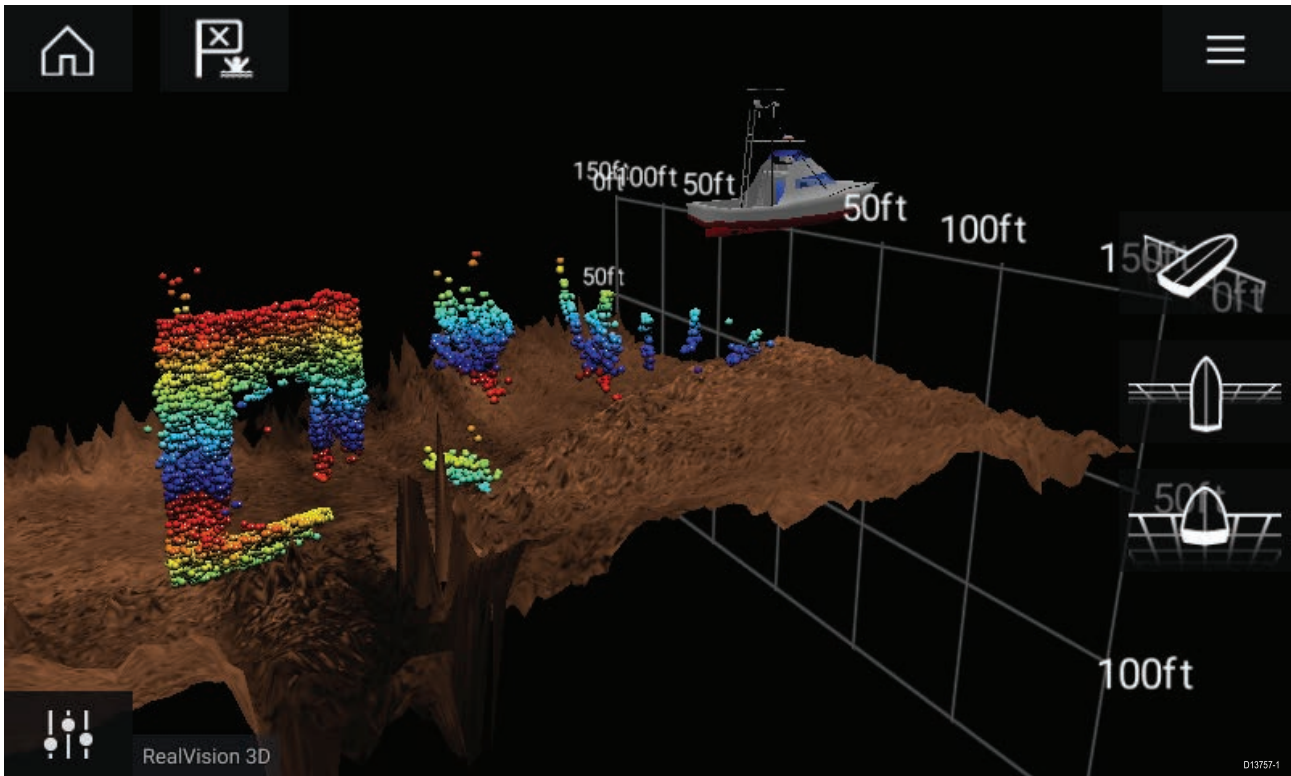


CHIRP RealVision™ 3D overview

CHIRP RealVision™ 3D transducers combine CHIRP DownVision™, CHIRP SideVision™, high frequency CHIRP Sonar, and RealVision™ 3D to deliver life-like 3D sonar imagery.

RealVision™ 3D provides a true, easy-to-understand view of bottom topography, debris, and fish.

CHIRP RealVision™ 3D screen example



Note: The “Depth” figure shown in the illustration above assumes that you have a device in your system that provides depth data. Please be aware that not all transducers and / or sonar modules support depth sensing. For more information, refer to the latest specifications and documentation available for your particular products on the Raymarine website (www.raymarine.com).

2.5 Raymarine sonar modules

The table below lists Raymarine's current range of sonar modules.

| Sonar module | Type | Technology |
|--|----------|---|
| CP100 | External | CHIRP DownVision™ / Sonar |
| CP200 | External | SideVision™ |
| CP300 / CP370 | External | Traditional (1 kW) |
| CP450C / CP470 | External | CHIRP |
| CP570 | External | CHIRP |
| RVX1000 | External | CHIRP RealVision™ 3D / CHIRP DownVision™ / CHIRP / Traditional (1kW) sonar / 200W CHIRP sonar |
| Axiom™ Pro 9 RVX /12 RVX /16 RVX | Internal | CHIRP RealVision™ 3D / CHIRP DownVision™ / CHIRP / Traditional (1kW) sonar / 200W CHIRP sonar |
| Axiom™ Pro 9 S /12 S /16 S | Internal | 200W CHIRP sonar |
| Axiom™ 7 DV | Internal | CHIRP DownVision™ / Sonar / Traditional (600W) sonar / 200W CHIRP sonar |
| Axiom™ 7 /9 / 12 RV 3D | Internal | CHIRP RealVision™ 3D / Sonar / Traditional (600W) sonar / 200W CHIRP sonar |
| a68 / a78 / a98 / a128 / eS78 / eS98 / eS128 | Internal | CHIRP DownVision™ / Sonar |
| a67 / a77 / a97 / a127 / c97 / c127 / e7D / e97 / e127 / eS77 / eS97 / eS127 | Internal | Traditional (600W) sonar |
| DSM30 / DSM300 | External | Legacy external |
| Dragonfly | Internal | CHIR DownVision™ / Sonar |

Note: **SideVision™** cannot be used as a source of depth data.

Chapter 3: Planning the installation

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- 3.10 Product dimensions on page 53

3.1 Installation checklist

Installation includes the following activities:

| Installation Task | |
|-------------------|--|
| 1 | Plan your system. |
| 2 | Obtain all required equipment and tools. |
| 3 | Site all equipment. |
| 4 | Route all cables. |
| 5 | Drill cable and mounting holes. |
| 6 | Make all connections into equipment. |
| 7 | Secure all equipment in place. |
| 8 | Power on and test the system. |

Schematic diagram

A schematic diagram is an essential part of planning any installation. It is also useful for any future additions or maintenance of the system. The diagram should include:

- Location of all components.
- Connectors, cable types, routes and lengths.

3.2 Required additional components

This product forms part of a system of electronics and requires the following additional components for full operation.

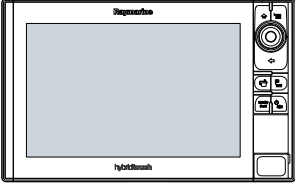
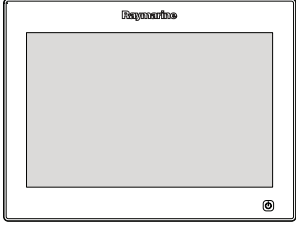
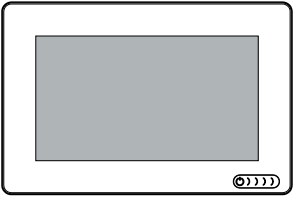
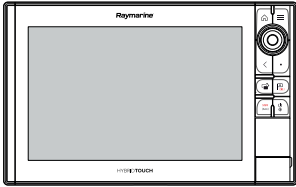
- Compatible transducer: transom, through-hull, in-hull, or pocket/keel mount. Refer to [3.5 Compatible transducers](#) for a list of compatible products.
- Compatible Raymarine multifunction display. Refer to [Compatible multifunction displays](#) for a list of compatible products.
- Data cables. Refer to [Chapter 4 Cables and connections](#) for suitable cables. Some installations may also require extensions to data, power or transducer cables. Refer to the [Chapter 4 Cables and connections](#) and [Chapter 10 Spares and accessories](#) sections for more information.

3.3 Multifunction display compatibility

Compatible multifunction displays

This product is compatible only with Raymarine multifunction displays running LightHouse™ 3 software, version 3.4 or later.

LightHouse™ 3 MFDs:

| | Product variants | | Product variants |
|---|------------------|--|-------------------|
|  | * eS Series |  | * gS Series |
|  | Axiom |  | Axiom Pro / Pro-S |

* MFDs running existing LightHouse 2 software MUST be upgraded to LightHouse 3, version 3.4 or later.

LightHouse MFD software requirements

To use this product with a Raymarine LightHouse™ MFD, ensure that your MFD is running the required version of the software.

| MFD software | Required version |
|---------------|------------------|
| LightHouse™ 3 | 3.4 or later |

| |
|---|
| <p>Note: The latest MFD software can be obtained by visiting www.raymarine.com/software.</p> |
|---|

3.4 Software updates

The software running on the product can be updated.

- Raymarine periodically releases software updates to improve product performance and add new features.
- The software on many products can be updated using a connected and compatible multifunction display (MFD).
- Refer to www.raymarine.com/software/ for the latest software updates and the software update procedure for your specific product.

Important:

- To prevent potential software-related issues with your product, always follow the relevant update instructions carefully and in the sequence provided.
- If in doubt as to the correct procedure for updating your product software, refer to your dealer or Raymarine technical support.

Caution: Installing software updates

The software update process is carried out at your own risk. Before initiating the update process ensure you have backed up any important files.

Ensure that the unit has a reliable power supply and that the update process is not interrupted.

Damage caused by incomplete updates are not covered by Raymarine warranty.

By downloading the software update package, you agree to these terms.

3.5 Compatible transducers

Compatible transducers — RVX1000 sonar module

You can connect the following transducer types directly to your RVX1000 sonar module:

RV Transducer connection:

- [RealVision™ 3D transducers.](#)

1kW Transducer connection:

- [Wide Beam CHIRP transducers.](#)
- [CHIRP transducers.](#)

You can use an adaptor cable to connect the following transducer types your RVX1000 sonar module:

RV Transducer connection, with 25-pin to 9-pin adaptor cable (A80490):

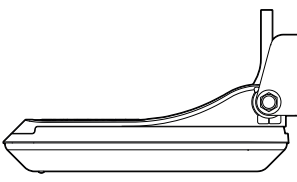
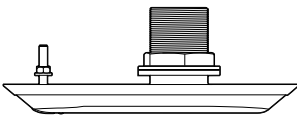
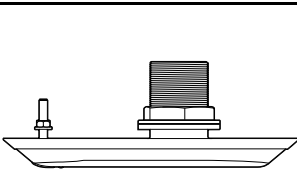
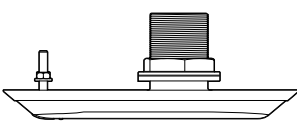
- [DownVision™ transducers.](#)
- [CPT-S CHIRP conical beam transducers](#) that utilize the 9 pin DownVision™ connector.

1kW Transducer connection, with 11-pin to 8-pin adaptor cable (A80496):

- [Traditional transducers.](#)

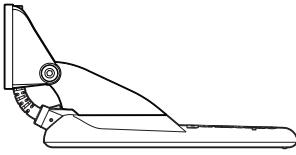
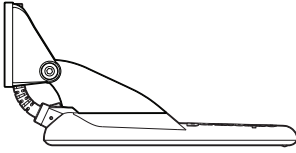
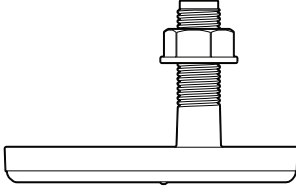
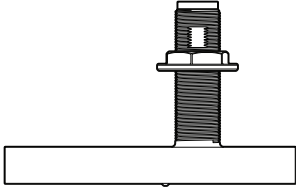
RealVision transducers

The transducers listed below can be connected directly to the RVX1000 RealVision™ 3D CHIRP sonar module.

| Product number | Transducer | Mounting | Description |
|---|---|-----------|--|
| A80464 |  | Transom | RV-100 RealVision™ 3D Plastic Transducer |
| A80465 |  | Thru-Hull | RV-200 RealVision™ 3D Bronze 0° Single Transducer |
| The following two transducers are supplied as a pair (product no. T70318). Connect them to your RVX1000 using a Y-cable (product no. A80478). | | | |
| A80466 |  | Thru-Hull | RV-212P RealVision™ 3D Bronze 12° Split-pair Port Transducer |
| A80467 | | Thru-Hull | RV-212S RealVision™ 3D Bronze 12° Split-pair Starboard Transducer |
| The following two transducers are supplied as a pair (product no. T70319). Connect them to your RVX1000 using a Y-cable (product no. A80478). | | | |
| A80468 |  | Thru-Hull | RV-220P RealVision™ 3D Bronze 20° Split-pair Port Transducer |
| A80469 | | Thru-Hull | RV-220S RealVision™ 3D Bronze 20° Split-pair Starboard Transducer |

DownVision™ transducers

The transducers listed below can be connected to the RVX1000 RealVision™ 3D CHIRP sonar module via an adaptor cable (part number A80490).

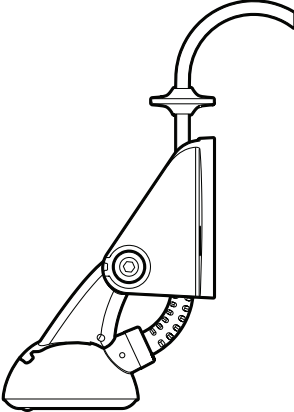
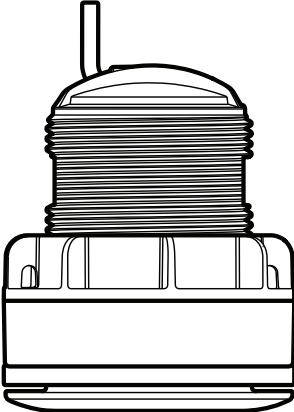
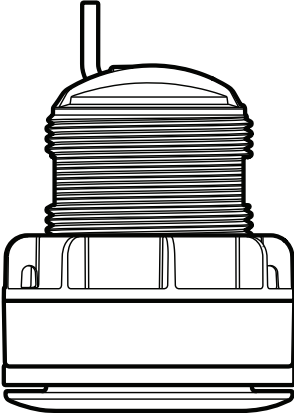
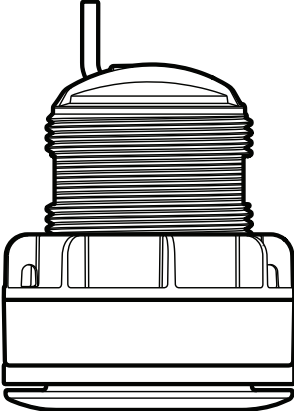
| Product number | Transducer | Mounting | Description |
|----------------|--|-----------|---|
| A80507 |  | Transom | CPT-90DVS plastic |
| A80351 |  | Transom | CPT-100DVS plastic (replacement for A80270 CPT-100) |
| A80277 |  | Thru-hull | CPT-110 plastic |
| A80350 |  | Thru-hull | CPT-120 bronze (replacement for A80271 CPT-120) |

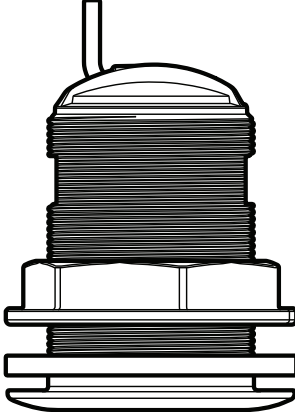
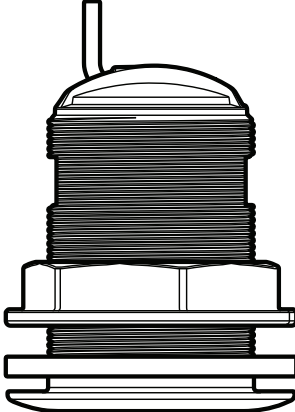
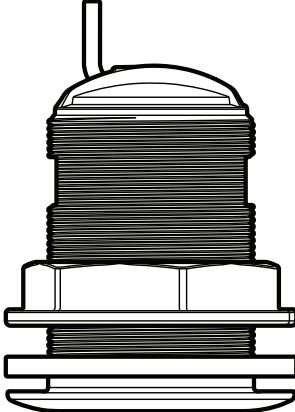
CHIRP conical beam transducers (using DownVision™ type connector)

The transducers listed below can be connected to the RVX1000 RealVision™ 3D CHIRP sonar module via an adaptor cable (part number A80490).

CPT-S transducers use CHIRP sonar technology to produce a conical-shaped sonar beam.

Note: CPT-S transducers do NOT offer DownVision™ capabilities.

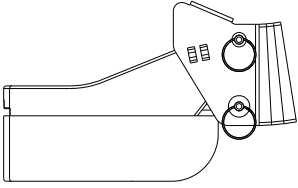
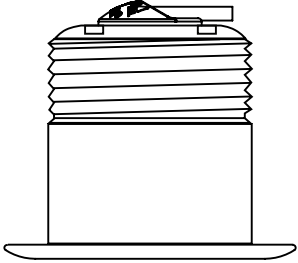
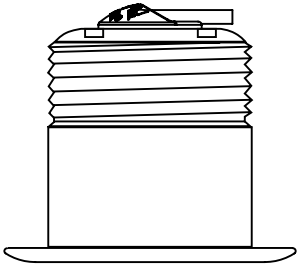
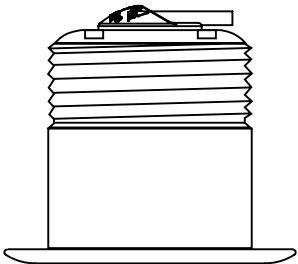
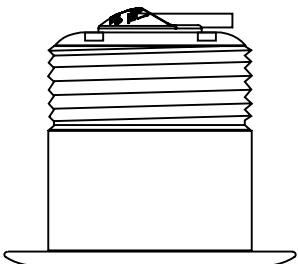
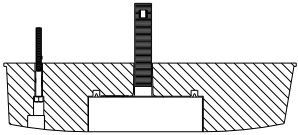
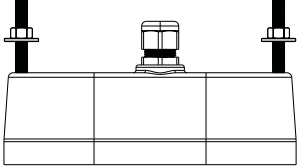
| Product number | Transducer | Mounting | Description |
|----------------|---|-----------|---|
| E70342 |  | Transom | CPT-S plastic |
| E70339 |  | Thru-hull | CPT-S 0° angled element plastic |
| A80448 |  | Thru-hull | CPT-S 12° angled element plastic |
| A80447 |  | Thru-hull | CPT-S 20° angled element plastic |

| Product number | Transducer | Mounting | Description |
|----------------|---|-----------|--|
| A80446 |  | Thru-hull | CPT-S 0° angled element bronze |
| E70340 |  | Thru-hull | CPT-S 12° angled element bronze |
| E70341 |  | Thru-hull | CPT-S 20° angled element bronze |

Wide Beam CHIRP transducers

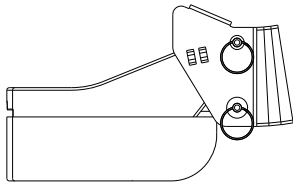
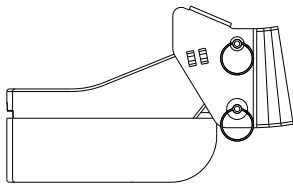
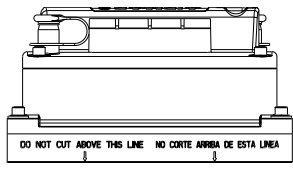
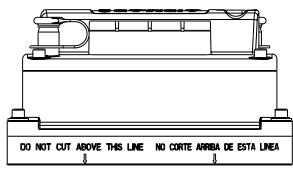
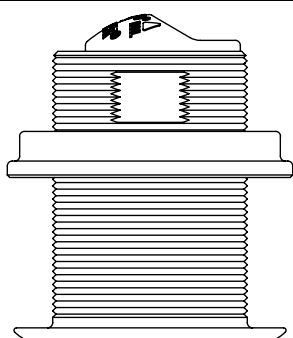
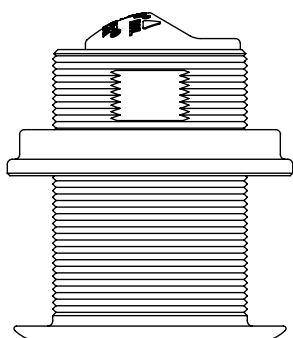
The transducers listed below can be connected directly to the RVX1000 RealVision™ 3D CHIRP sonar module.

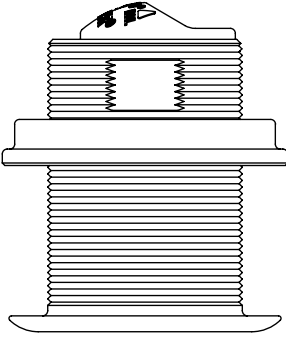
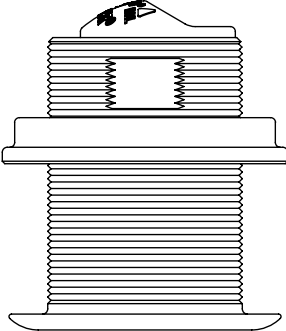
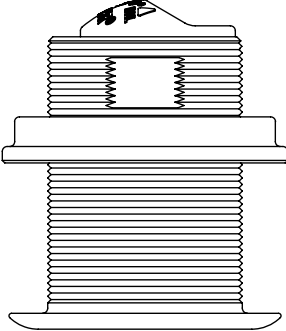
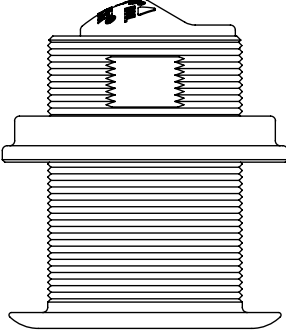
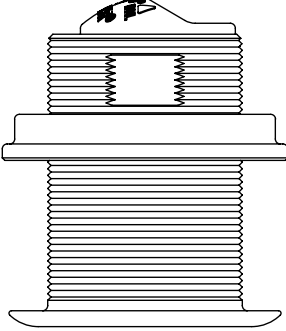
Note: All Wide Beam CHIRP transducers include a 2 m pigtail cable. Use an extension cable for a complete transducer installation (3 m: A102148; 5 m: A102150; 10 m: A80327).

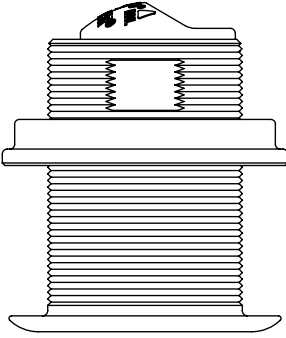
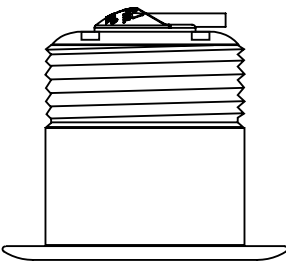
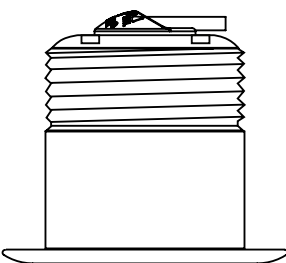
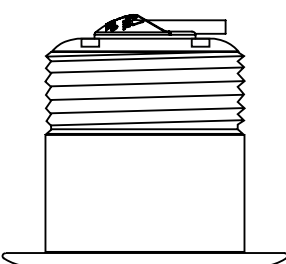
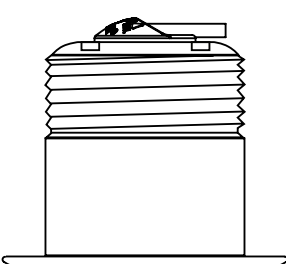
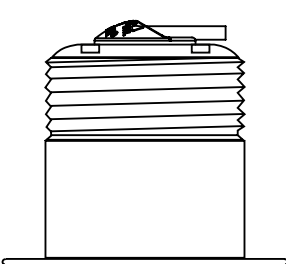
| Product number | Transducer | Mounting | Description |
|----------------|---|---------------------|--|
| A80318 |  | Transom | TM275LH-W plastic |
| A80319 |  | Thru-Hull | B175H-W 0° angled element bronze |
| A80320 |  | Thru-Hull | B175H-W 12° angled element bronze |
| A80321 |  | Thru-Hull | B175H-W 20° angled element bronze |
| A80506 |  | Thru-Hull | SS175H-W 20° angled element stainless steel |
| A80322 |  | Thru-Hull | B275LH-W bronze |
| A80325 |  | Pocket / Keel mount | PM275LH-W bronze |

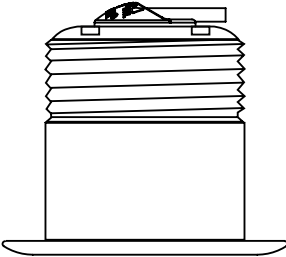
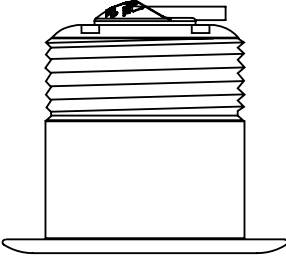
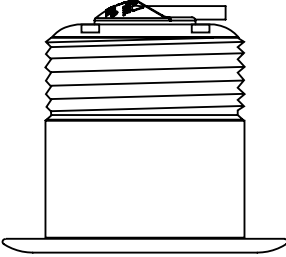
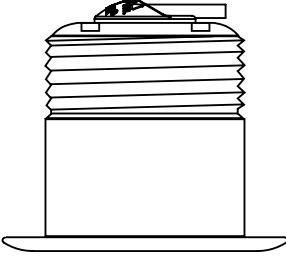
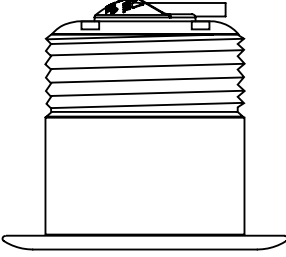
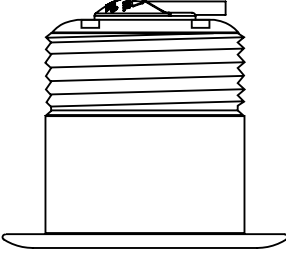
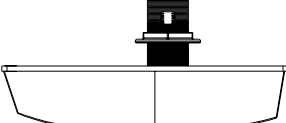
CHIRP transducers

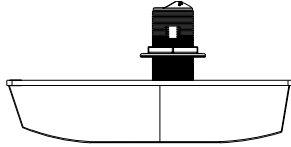
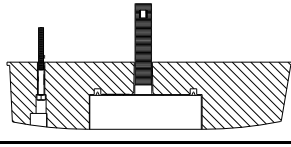
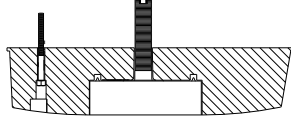
The transducers listed below can be connected directly to the RVX1000 RealVision™ 3D CHIRP sonar module.

| Note: To install individual B75 or B175 transducers, use the Single B75/B175 Operation Cable (A80328) instead of the Paired CHIRP Transducer Y-cable (A102146). | | | |
|--|---|-----------|--------------------------------------|
| Product number | Transducer | Mounting | Description |
| A80013 |  | Transom | TM265LH plastic |
| A80041 |  | Transom | TM265LM plastic |
| A80012 |  | In-Hull | M265LH plastic |
| A80038 |  | In-Hull | M265LM plastic |
| A80016 |  | Thru-Hull | B75L 0° angled element bronze |
| A80017 |  | Thru-Hull | B75M 0° angled element bronze |

| Product number | Transducer | Mounting | Description |
|----------------|---|-----------|---------------------------------------|
| A80018 |  | Thru-Hull | B75H 0° angled element bronze |
| A80033 |  | Thru-Hull | B75L 12° angled element bronze |
| A80034 |  | Thru-Hull | B75M 12° angled element bronze |
| A80035 |  | Thru-Hull | B75H 12° angled element bronze |
| A80036 |  | Thru-Hull | B75M 20° angled element bronze |

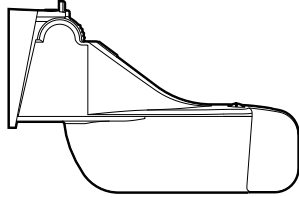
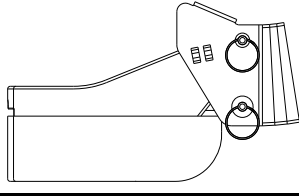
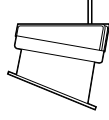
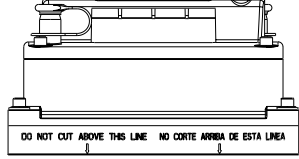
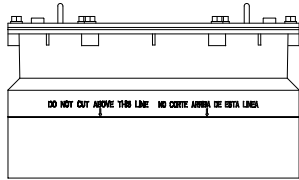
| Product number | Transducer | Mounting | Description |
|----------------|---|-----------|--|
| A80037 |  | Thru-Hull | B75H 20° angled element bronze |
| A80042 |  | Thru-Hull | B175L 0° angled element bronze |
| A80043 |  | Thru-Hull | B175M 0° angled element bronze |
| A80044 |  | Thru-Hull | B175H 0° angled element bronze |
| A80045 |  | Thru-Hull | B175L 12° angled element bronze |
| A80046 |  | Thru-Hull | B175M 12° angled element bronze |

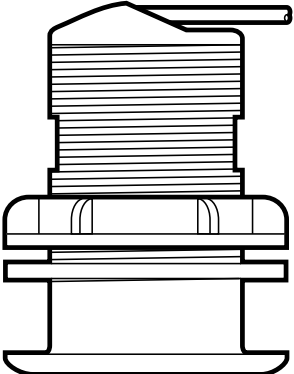
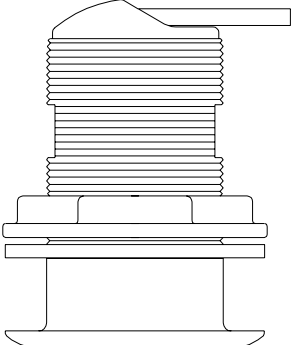
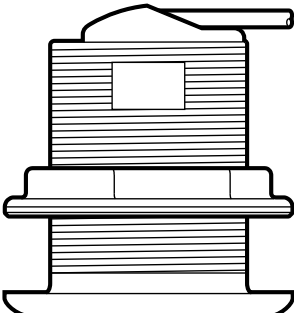
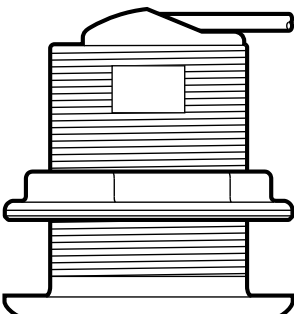
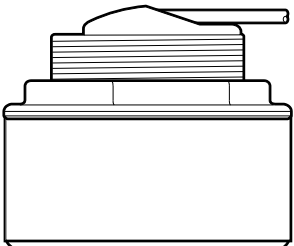
| Product number | Transducer | Mounting | Description |
|----------------|---|-----------|--|
| A80047 |  | Thru-Hull | B175H 12° angled element bronze |
| A80048 |  | Thru-Hull | B175L 20° angled element bronze |
| A80049 |  | Thru-Hull | B175M 20° angled element bronze |
| A80050 |  | Thru-Hull | B175H 20° angled element bronze |
| A80504 |  | Thru-Hull | SS175L 20° angled element stainless steel |
| A80505 |  | Thru-Hull | SS175M 20° angled element stainless steel |
| A80014 |  | Thru-Hull | B765LH bronze |

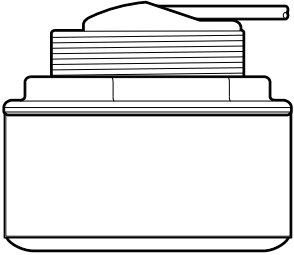
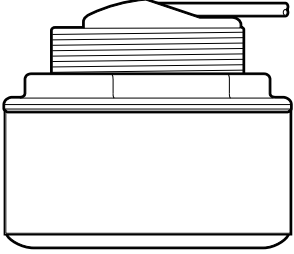
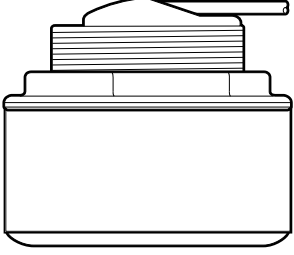
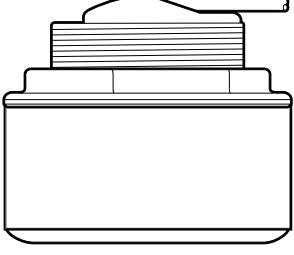
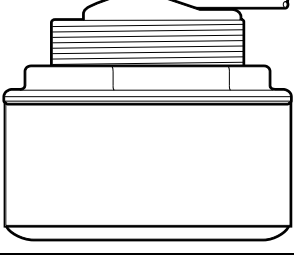
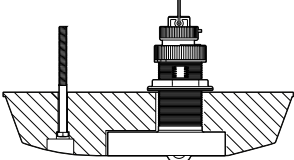
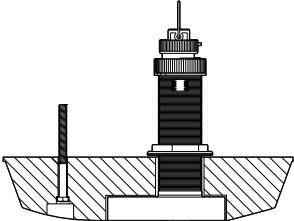
| Product number | Transducer | Mounting | Description |
|----------------|---|-----------|----------------------|
| A80015 |  | Thru-Hull | B765LM bronze |
| A80010 |  | Thru-Hull | B265LH bronze |
| A80011 |  | Thru-Hull | B265LM bronze |

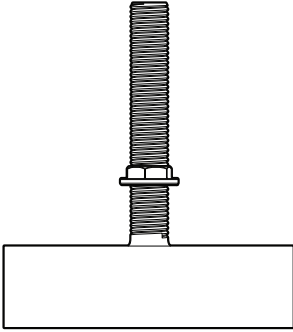
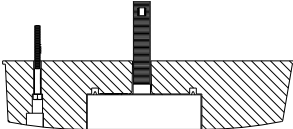
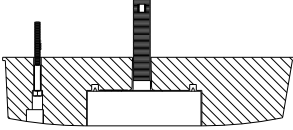
Traditional transducers

The transducers listed below can be connected to the RVX1000 RealVision™ 3D CHIRP sonar module via an adaptor cable (part number A80496).

| Product number | Transducer | Mounting | Description |
|----------------|---|----------|----------------------|
| E66054 |  | Transom | P66 plastic |
| E66084 |  | Transom | TM258 plastic |
| E66008 |  | In-hull | P79 plastic |
| A66089 |  | In-hull | M260 plastic |
| E66076 |  | In-hull | R199 plastic |

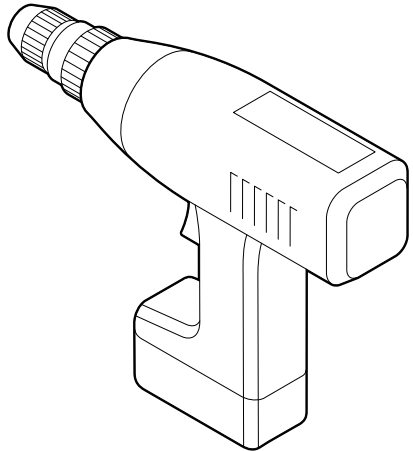
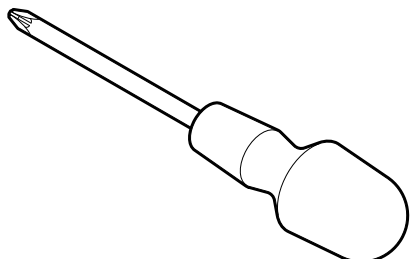
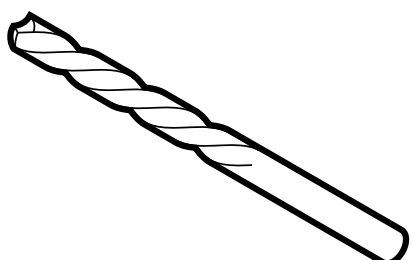
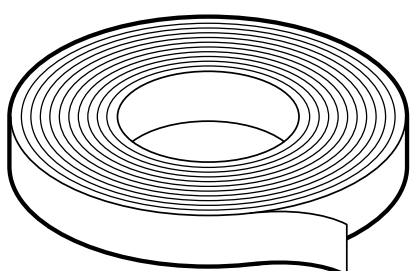
| Product number | Transducer | Mounting | Description |
|----------------|---|-----------|--------------------------------------|
| E66013 |  | Thru-hull | P319 plastic |
| E66014 |  | Thru-hull | B117 bronze |
| E66086 |  | Thru-hull | B60 12° angled element bronze |
| E66085 |  | Thru-hull | B60 20° angled element bronze |
| A102137 |  | Thru-hull | B164 0° angled element bronze |

| Product number | Transducer | Mounting | Description |
|----------------|---|-----------|---|
| A102112 |  | Thru-hull | B164 12° angled element bronze |
| A102113 |  | Thru-hull | B164 20° angled element bronze |
| A80451 |  | Thru-hull | SS164 0° angled element stainless steel |
| A66098 |  | Thru-hull | SS164 12° angled element stainless steel |
| A66099 |  | Thru-hull | SS164 20° angled element stainless steel |
| A66091 |  | Thru-hull | B744V bronze |
| A66092 |  | Thru-hull | B744VL bronze |

| Product number | Transducer | Mounting | Description |
|----------------|---|-----------|--------------------------------|
| E66082 |  | Thru-hull | B258 bronze |
| A102121 |  | Thru-hull | SS270W wide-beam bronze |
| E66079 |  | Thru-hull | B260 bronze |

3.6 Tools required

Product installation requires the following tools:

| Item | Description | Quantity |
|---|--------------------------------|----------|
|  | Power drill | 1 |
|  | Pozidrive screwdriver | 1 |
|  | Drill bit of appropriate size* | 1 |
|  | Adhesive tape | 1 |

Note: * The appropriate drill bit size is dependent on the thickness and material of the mounting surface.

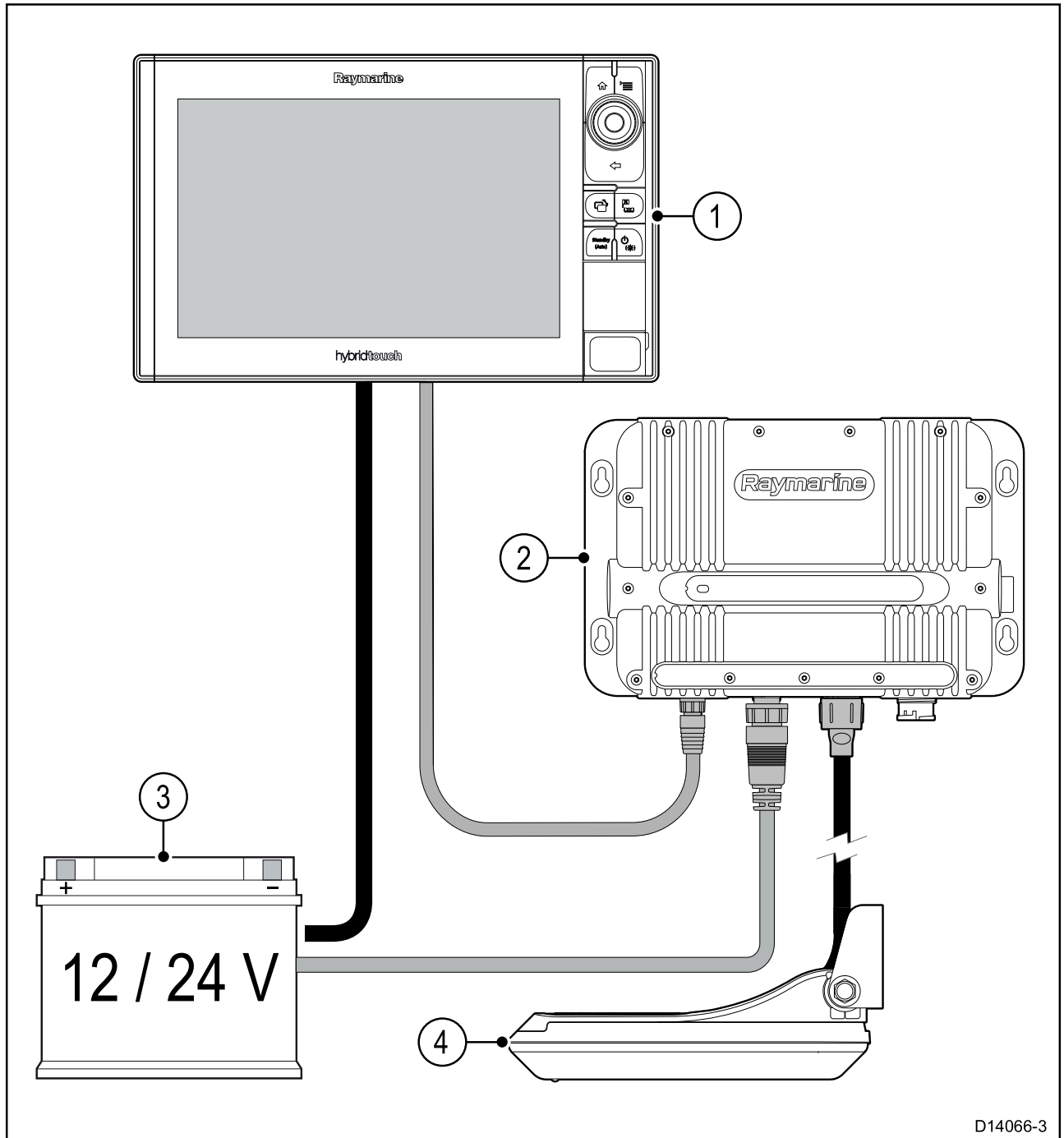
3.7 Typical system examples

The RVX1000 sonar module can be connected to a variety of equipment as part of your marine electronics system.

Note: The following illustrations show the various products that can be connected in a typical system. These systems are shown as an example only and may differ from your planned installation.

- For information on how to connect the products, refer to the [Chapter 4 Cables and connections](#) section.
- For information on available cables and accessories, refer to the [Chapter 10 Spares and accessories](#) section.

Example: Basic RealVision™ system

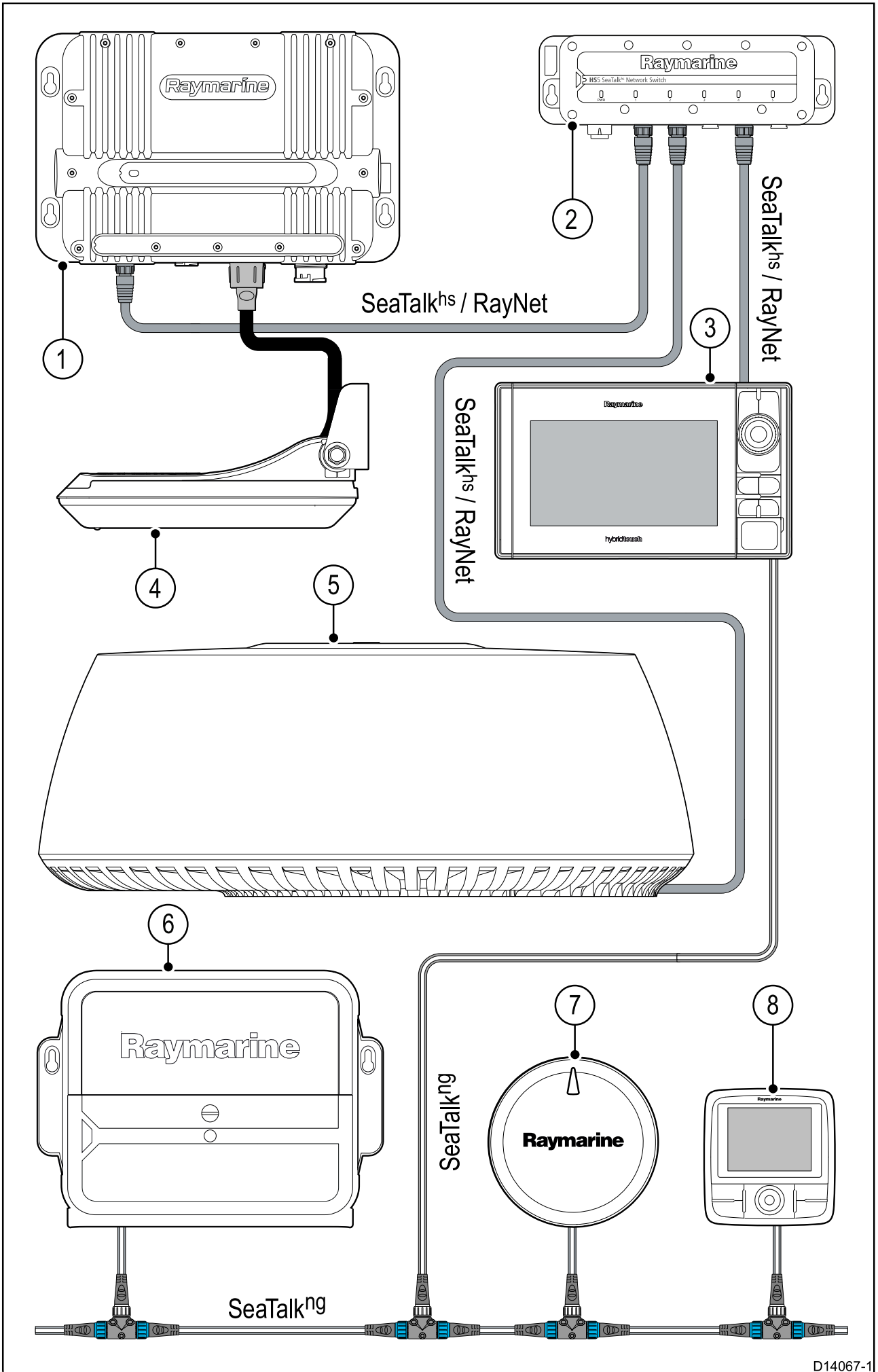


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| Item | Description |
|------|--|
| 1 | Compatible Raymarine multifunction display (eS Series illustrated) |
| 2 | RVX1000 sonar module |

| Item | Description |
|-------------|--|
| 3 | Power supply for RVX1000 and multifunction display |
| 4 | Transducer (RV-100 RealVision™ 3D illustrated) |

Example: Extended RealVision™ system



Note: Power connections are not shown in this illustration. The sonar module, multifunction display, and some of the other devices shown require their own dedicated power connection.

| Item | Description |
|------|--|
| 1 | RVX1000 sonar module |
| 2 | Raymarine network switch |
| 3 | Compatible Raymarine multifunction display (eS Series illustrated) |
| 4 | Transducer (RV-100 RealVision™ 3D illustrated) |
| 5 | Quantum™ 2 Doppler Radome |
| 6 | Actuator Control Unit (ACU) |
| 7 | EV unit |
| 8 | SeaTalk ^{ng} Pilot controller |

Note: For detailed information on sonar module connections refer to [Chapter 4 Cables and connections](#).

3.8 Warnings and cautions

Important: Before proceeding, ensure that you have read and understood the warnings and cautions provided in the [Chapter 1 Important information](#) section of this document.

3.9 General location requirements

Important considerations when choosing a suitable location for your product.

This product is suitable for mounting above or below decks.

The product should be mounted where it will be:

- protected from physical damage and excessive vibration.
- well ventilated and away from heat sources.
- away from any potential ignition source such as an engine room, near fuel tanks or a gas locker.

When choosing a location for the product, consider the following points to ensure reliable and trouble-free operation:

- **Access** — there must be sufficient space to enable cable connections to the product, avoiding tight bends in the cable.
- **Diagnostics** — the product must be mounted in a location where the diagnostics LED is easily visible.

Note: Not all products include a diagnostics LED. Refer to the [Chapter 6 System checks and troubleshooting](#) for more information.

- **Electrical interference** — the product should be mounted far enough away from any equipment that may cause interference such as motors, generators and radio transmitters / receivers.
- **Magnetic compass** — refer to the *Compass safe distance* section in this document for advice on maintaining a suitable distance between this product and any compasses on your vessel.
- **Power** — to keep cable runs to a minimum, the product must be located as close as possible to the vessel's dc power supply.
- **Mounting surface** — ensure the product is adequately supported on a secure surface. Refer to the weight information provided in the *Technical specification* for this product and ensure that the intended mounting surface is suitable for bearing the product weight. Do NOT mount units or cut holes in places which may damage the structure of the vessel.

Cable routing requirements

Consider the following before installing the system cables:

- You will need to attach power, transducer and network cables to the unit.
- The transducer cable should only be extended where the sonar module cannot be installed close enough to the transducer to allow a direct connection.
- All cables should be adequately secured, protected from physical damage, and protected from exposure to heat.
- Avoid sharp bends in cables.
- Use a watertight feed-through wherever a cable passes through an exposed bulkhead or deckhead.
- Secure cables in place using tie-wraps or lacing twine. Coil any extra cable and tie it out of the way.
- Do NOT run cables through bilges or doorways, or close to moving or hot objects.
- Do NOT run cables near to engines or fluorescent lights.

Always route data cables as far away as possible from:

- other equipment and cables,
- high current carrying ac and dc power lines,
- antennas.

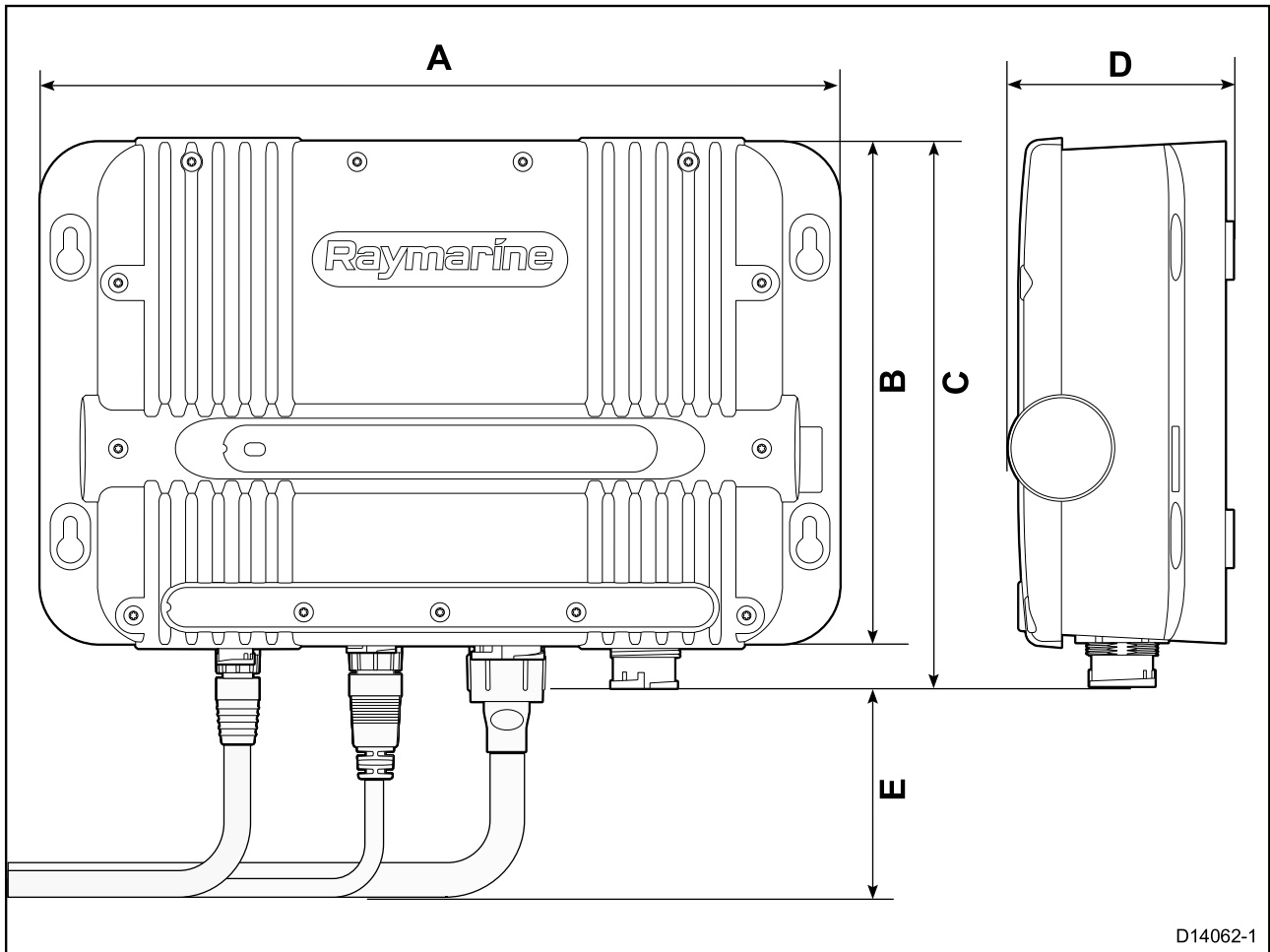
Compass safe distance

To prevent potential interference with the vessel's magnetic compasses, ensure an adequate distance is maintained from the product.

When choosing a suitable location for the product you should aim to maintain the maximum possible distance from any compasses. Typically this distance should be at least 1 m (3 ft) in all directions. However for some smaller vessels it may not be possible to locate the product this far away from a compass. In this situation, when choosing the installation location for your product, ensure that the compass is not affected by the product when it is in a powered state.

3.10 Product dimensions

RVX1000 dimensions



| Item | Dimension |
|------|---------------------|
| A | 299.4 mm (11.79 in) |
| B | 188.0 mm (7.40 in) |
| C | 209.9 mm (8.26 in) |
| D | 84.4 mm (3.32 in) |
| E | 80.0 mm (3.15 in) |

Chapter 4: Cables and connections

Chapter contents

- [4.1 General cabling guidance on page 56](#)
- [4.2 Connections overview on page 58](#)
- [4.3 Power connection on page 60](#)
- [4.4 Transducer connections on page 64](#)
- [4.5 Network connection on page 72](#)

4.1 General cabling guidance

Cable types and length

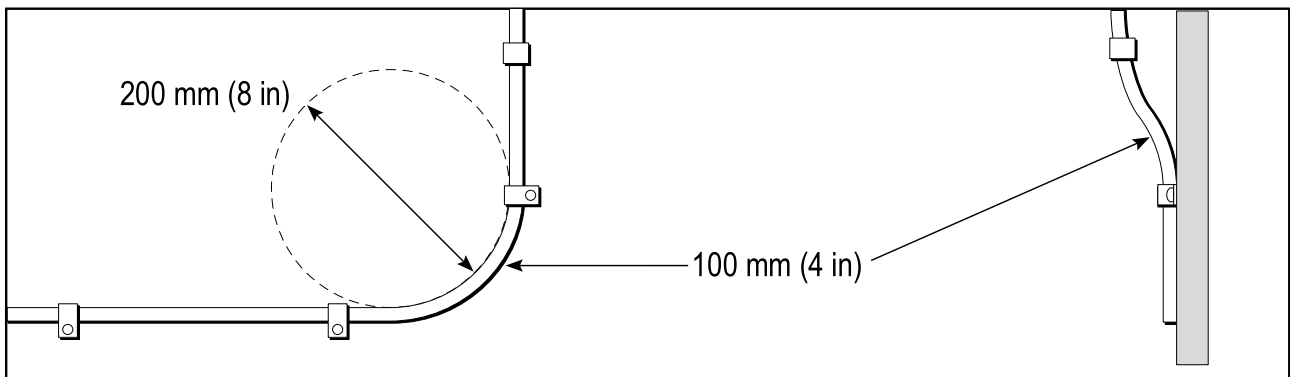
It is important to use cables of the appropriate type and length

- Unless otherwise stated use only standard cables of the correct type, supplied by Raymarine.
- Ensure that any non-Raymarine cables are of the correct quality and gauge. For example, longer power cable runs may require larger wire gauges to minimize voltage drop along the run.

Routing cables

Cables must be routed correctly, to maximize performance and prolong cable life.

- Do NOT bend cables excessively. Wherever possible, ensure a minimum bend diameter of 200 mm (8 in) / minimum bend radius of 100 mm (4 in).



- Protect all cables from physical damage and exposure to heat. Use trunking or conduit where possible. Do NOT run cables through bilges or doorways, or close to moving or hot objects.
- Secure cables in place using tie-wraps or lacing twine. Coil any extra cable and tie it out of the way.
- Where a cable passes through an exposed bulkhead or deckhead, use a suitable watertight feed-through.
- Do NOT run cables near to engines or fluorescent lights.

Always route data cables as far away as possible from:

- other equipment and cables,
- high current carrying AC and DC power lines,
- antennas.

Strain relief

Ensure adequate strain relief is provided. Protect connectors from strain and ensure they will not pull out under extreme sea conditions.

Circuit isolation

Appropriate circuit isolation is required for installations using both AC and DC current:

- Always use isolating transformers or a separate power-inverter to run PC's, processors, displays and other sensitive electronic instruments or devices.
- Always use an isolating transformer with Weather FAX audio cables.
- Always use an isolated power supply when using a 3rd party audio amplifier.
- Always use an RS232/NMEA converter with optical isolation on the signal lines.
- Always make sure that PC's or other sensitive electronic devices have a dedicated power circuit.

Cable shielding

Ensure that all cables are properly shielded and that the cable shielding is undamaged.

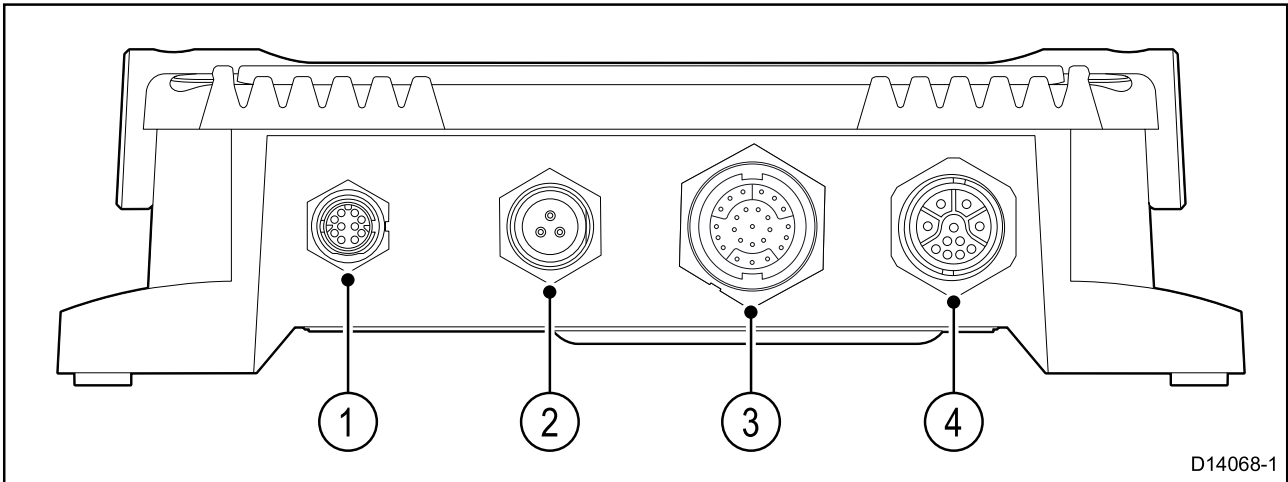
Suppression ferrites

- Raymarine cables may be pre-fitted or supplied with suppression ferrites. These are important for correct EMC performance. If ferrites are supplied separately to the cables (i.e. not pre-fitted), you must fit the supplied ferrites, using the supplied instructions.
- If a ferrite has to be removed for any purpose (e.g. installation or maintenance), it must be replaced in the original position before the product is used.
- Use only ferrites of the correct type, supplied by Raymarine or its authorized dealers.
- Where an installation requires multiple ferrites to be added to a cable, additional cable clips should be used to prevent stress on the connectors due to the extra weight of the cable.

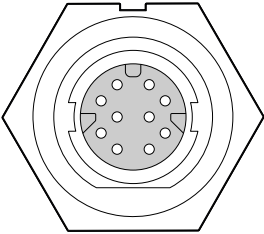
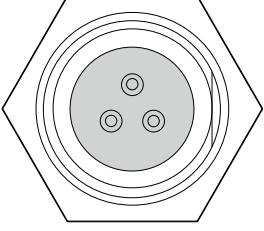
4.2 Connections overview

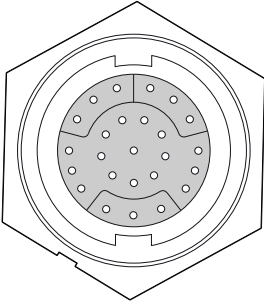
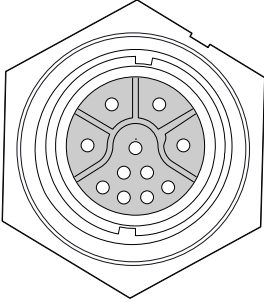
Cable connectors for your sonar module are shown below:

RVX1000 sonar module



| Item | Description |
|------|--|
| 1 | Network connection |
| 2 | Power connection |
| 3 | RealVision™ (RV) transducer connection |
| 4 | 1kW transducer connection |

| Item | Connector | Connects to: | Suitable cables |
|------|---|--------------------------|--|
| 1 |  | RayNet network or device | RayNet cable with female connector (Refer to Chapter 10 Spares and accessories for more information.) |
| 2 |  | 12/24 DC power supply | Power cable (supplied) |

| Item | Connector | Connects to: | Suitable cables |
|------|---|---|---|
| 3 |  | <ul style="list-style-type: none"> • RealVision™ 3D transducers • DownVision™ transducers • CPT-S CHIRP conical beam transducers | <ul style="list-style-type: none"> • Transducer's fitted cable • Extension cable • Adaptor cable |
| 4 |  | <ul style="list-style-type: none"> • Wide Beam CHIRP transducers • CHIRP transducers • Traditional transducers | <ul style="list-style-type: none"> • Transducer's fitted cable • Extension cable • Adaptor cable |

Note: A dust cap is provided for each transducer connector. Ensure that you fit the dust cap over any unused transducer connector.

Making connections

Follow the steps below to connect the cable(s) to your product.

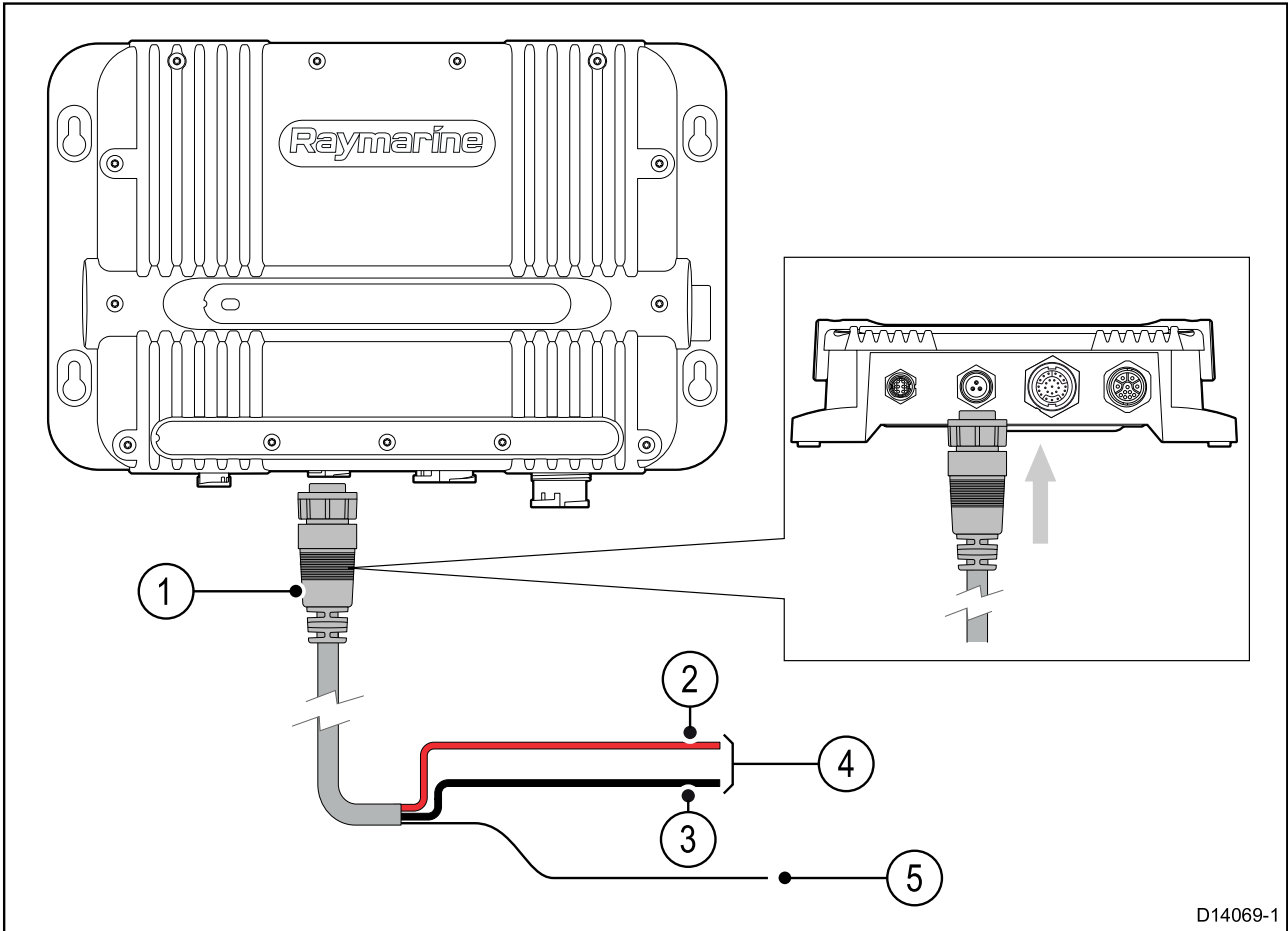
1. Ensure that the vessel's power supply is switched off.
2. Ensure that the device being connected to the unit has been installed in accordance with the installation instructions supplied with that device.
3. Ensuring correct orientation, push the cable connector fully onto the corresponding connector on the unit.
4. Turn the locking collar clockwise to secure the cable.

4.3 Power connection

Power must be supplied to the sonar module from an appropriate power source.

Power connection requirements

- 12 or 24 Vdc nominal supply voltage
- Isolated power supply
- Connected via an appropriately rated thermal breaker or fused switch.



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| Item | Description | Connects to: |
|------|---------------------------------------|--|
| 1 | Power cable. | Product's power connector. |
| 2 | Red cable (positive) | Power supply's positive terminal. |
| 3 | Black cable (negative) | Power supply's negative terminal. |
| 4 | Connection to 12V / 24V power supply. | Power supply. |
| 5 | Drain / Ground | Vessel RF ground, or negative battery terminal |

In-line fuse and thermal breaker ratings

The following in-line fuse and thermal breaker ratings apply to your product:

| In-line fuse rating | Thermal breaker rating |
|---------------------|-------------------------------------|
| 5 A slow blow | 5 A (if only connecting one device) |

Note:

- The suitable fuse rating for the thermal breaker is dependent on the number of devices you are connecting. If in doubt consult an authorized FLIR dealer.
- Your product's power cable may have a fitted in-line fuse, if not then you can add an in-line fuse to the positive wire of your product's power connection.

Power distribution

Recommendations and best practice.

- The product is supplied with a power cable, either as a separate item or a captive cable permanently attached to the product. Only use the power cable supplied with the product. Do NOT use a power cable designed for, or supplied with, a different product.
- Refer to the *Power connection* section for more information on how to identify the wires in your product's power cable, and where to connect them.
- See below for more information on implementation for some common power distribution scenarios.

Important:

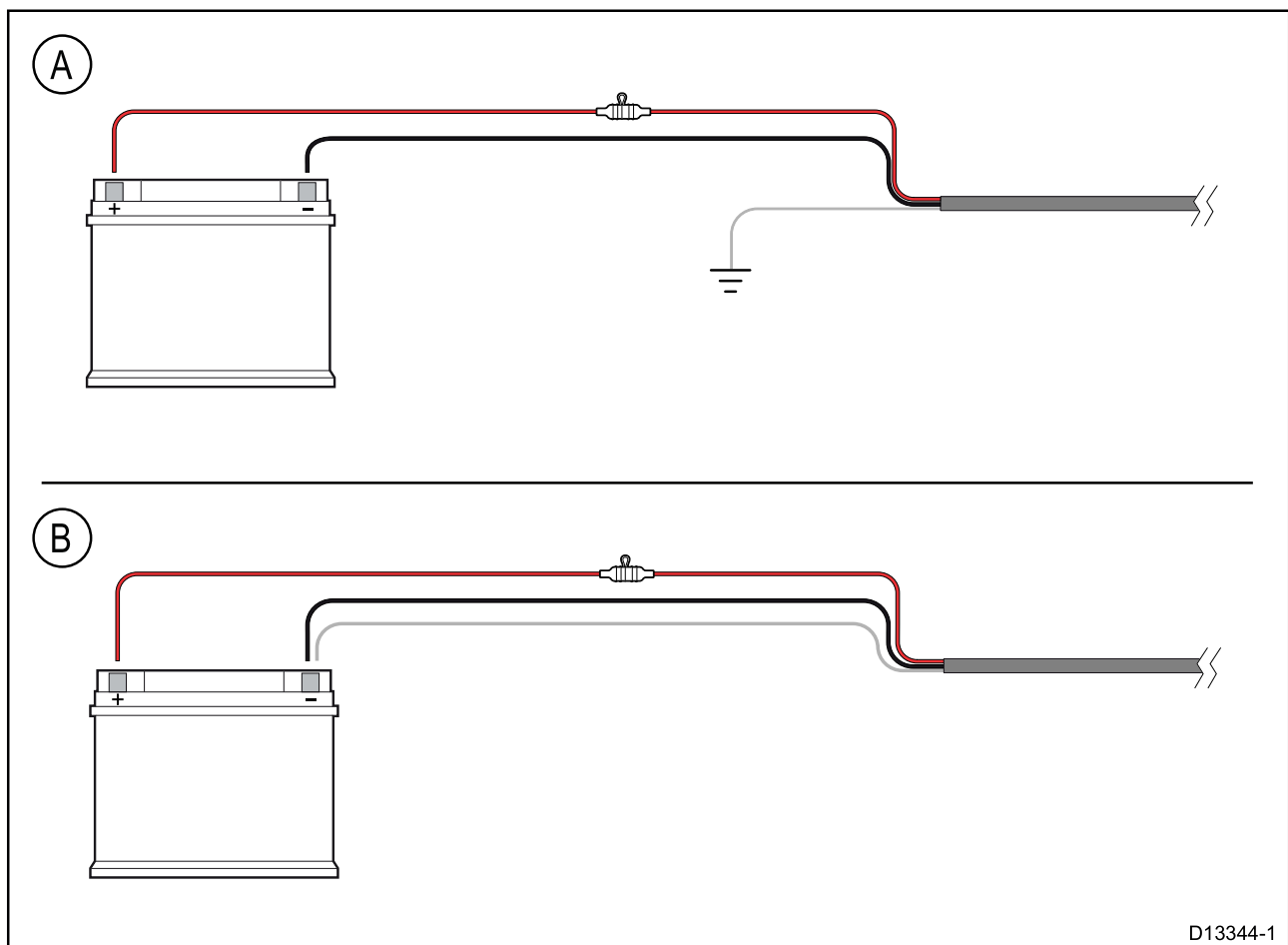
When planning and wiring, take into consideration other products in your system, some of which (e.g. sonar modules) may place large power demand peaks on the vessel's electrical system.

Note:

The information provided below is for guidance only, to help protect your product. It covers common vessel power arrangements, but does NOT cover every scenario. If you are unsure how to provide the correct level of protection, please consult an authorized Raymarine dealer or a suitably qualified professional marine electrician.

Implementation – direct connection to battery

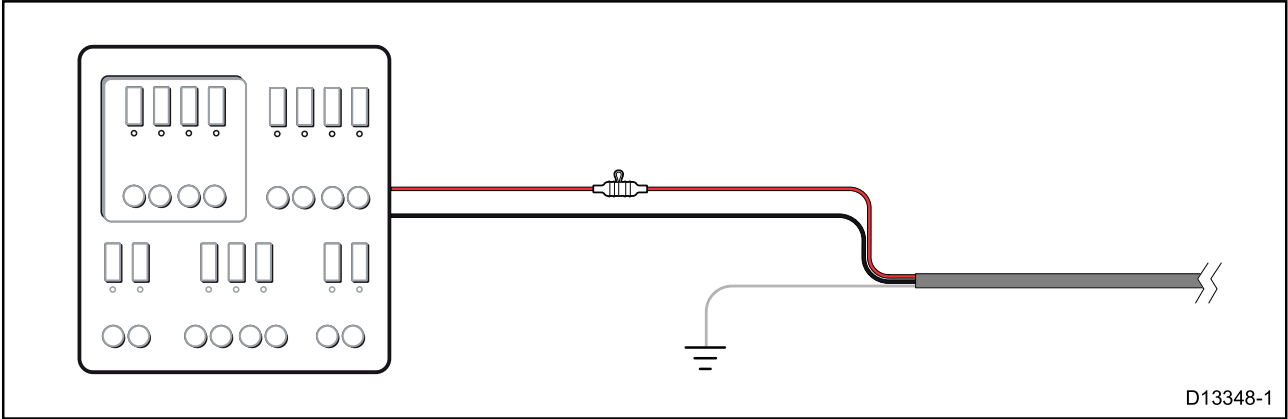
- The power cable supplied with your product may be connected directly to the vessel's battery, via a suitably rated fuse or breaker.
- The power cable supplied with your product may NOT include a separate drain wire. If this is the case, only the power cable's red and black wires need to be connected.
- If the supplied power cable is NOT fitted with an inline fuse, you MUST fit a suitably rated fuse or breaker between the red wire and the battery's positive terminal.
- Refer to the inline fuse ratings provided in the product's documentation.
- If you need to extend the length of the power cable supplied with your product, ensure you observe the dedicated *Power cable extensions* advice provided in the product's documentation.



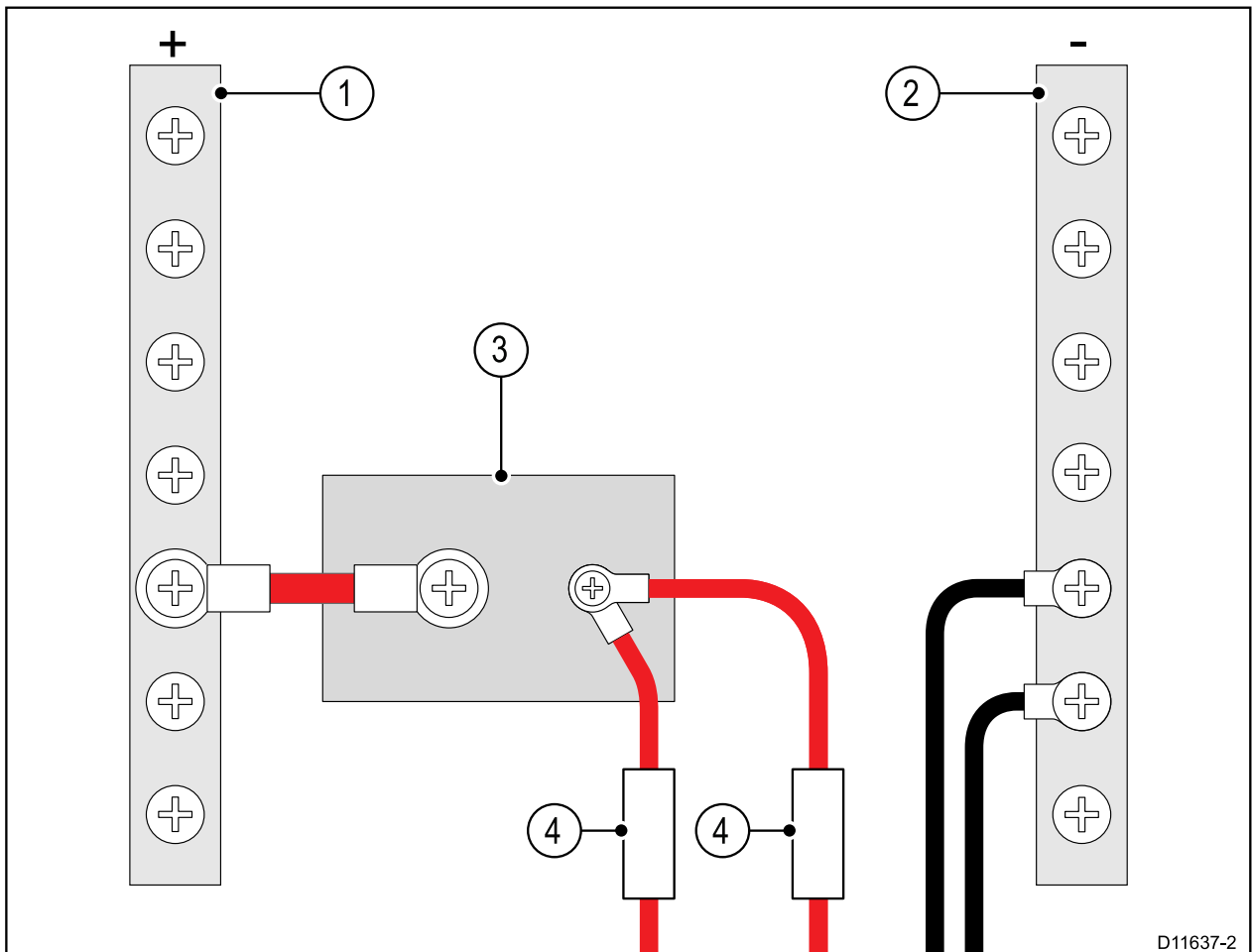
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| | |
|---|--|
| A | Battery connection scenario A: suitable for a vessel with a common RF ground point. In this scenario, if your product's power cable is supplied with a separate drain wire then it should be connected to the vessel's common ground point. |
| B | Battery connection scenario B: suitable for a vessel without a common grounding point. In this case, if your product's power cable is supplied with a separate drain wire then it should be connected directly to the battery's negative terminal. |

Implementation – connection to distribution panel



- Alternatively, the supplied power cable may be connected to a suitable breaker or switch on the vessel's distribution panel or factory-fitted power distribution point.
- The distribution point should be fed from the vessel's primary power source by 8 AWG (8.36 mm²) cable.
- Ideally, all equipment should be wired to individual suitably-rated thermal breakers or fuses, with appropriate circuit protection. Where this is not possible and more than 1 item of equipment shares a breaker, use individual in-line fuses for each power circuit to provide the necessary protection.



| | |
|---|------------------|
| 1 | Positive (+) bar |
| 2 | Negative (-) bar |
| 3 | Circuit breaker |
| 4 | Fuse |

- In all cases, observe the recommended breaker / fuse ratings provided in the product's documentation.

Important:
Be aware that the suitable fuse rating for the thermal breaker or fuse is dependent on the number of devices you are connecting.

Power cable extension

If you need to extend the length of the power cable supplied with your product, ensure you observe the following advice:

- The power cable for each unit in your system should be run as a separate, single length of 2-wire cable from the unit to the vessel's battery or distribution panel.
- For power cable extensions, a **minimum** wire gauge of 16 AWG (1.31 mm²) is recommended. For cable runs longer than 15 meters, you may need to consider a thicker wire gauge (e.g. 14 AWG (2.08 mm²), or 12 AWG (3.31 mm²)).
- An important requirement for all lengths of power cable (including any extension) is to ensure that there is a continuous **minimum** voltage of 10.8 V at the product's power connector, with a fully flat battery at 11 V.

Important: Be aware that some products in your system (such as sonar modules) can create voltage peaks at certain times, which may impact the voltage available to other products during the peaks.

Grounding

Ensure that you observe any separate grounding advice provided in the product's documentation.

More information

It is recommended that best practice is observed in all vessel electrical installations, as detailed in the following standards:

- BMEA Code of Practice for Electrical and Electronic Installations in Boats
- NMEA 0400 Installation Standard
- ABYC E-11 AC & DC Electrical Systems on Boats
- ABYC A-31 Battery chargers and Inverters
- ABYC TE-4 Lightning Protection


Grounding — Dedicated drain wire

The power cable supplied with this product includes a dedicated shield (drain) wire for connection to a vessel's RF ground point.

It is important that an effective RF ground is connected to the system. A single ground point should be used for all equipment. The unit can be grounded by connecting the shield (drain) wire of the power cable to the vessel's RF ground point. On vessels without an RF ground system the shield (drain) wire should be connected directly to the negative battery terminal.

The dc power system should be either:

- Negative grounded, with the negative battery terminal connected to the vessel's ground.
- Floating, with neither battery terminal connected to the vessel's ground



Warning: Positive ground systems
Do not connect this unit to a system which has positive grounding.

4.4 Transducer connections



Warning: Transducer cables

Do not remove the transducer cable whilst the product is powered on, doing so can cause sparks. If the transducer cable is accidentally removed whilst the product is powered on, switch the product's power off, replace the cable and then switch the power back on.

Caution: Do not cut transducer cables

- Cutting the transducer cable severely reduces sonar performance. If the cable is cut, it must be replaced, it cannot be repaired.
- Cutting the transducer cable will void the warranty and invalidate the European CE mark.

RVX1000 Transducer connections

The RVX1000 is a **RealVision™** sonar module designed for use with a variety of transducers.

The RVX1000 supports dedicated **RealVision™ 3D** transducers, CHIRP transducers (including Wide Beam CHIRP transducers), DownVision™ transducers, CPT-S CHIRP conical beam transducers, and traditional transducers.

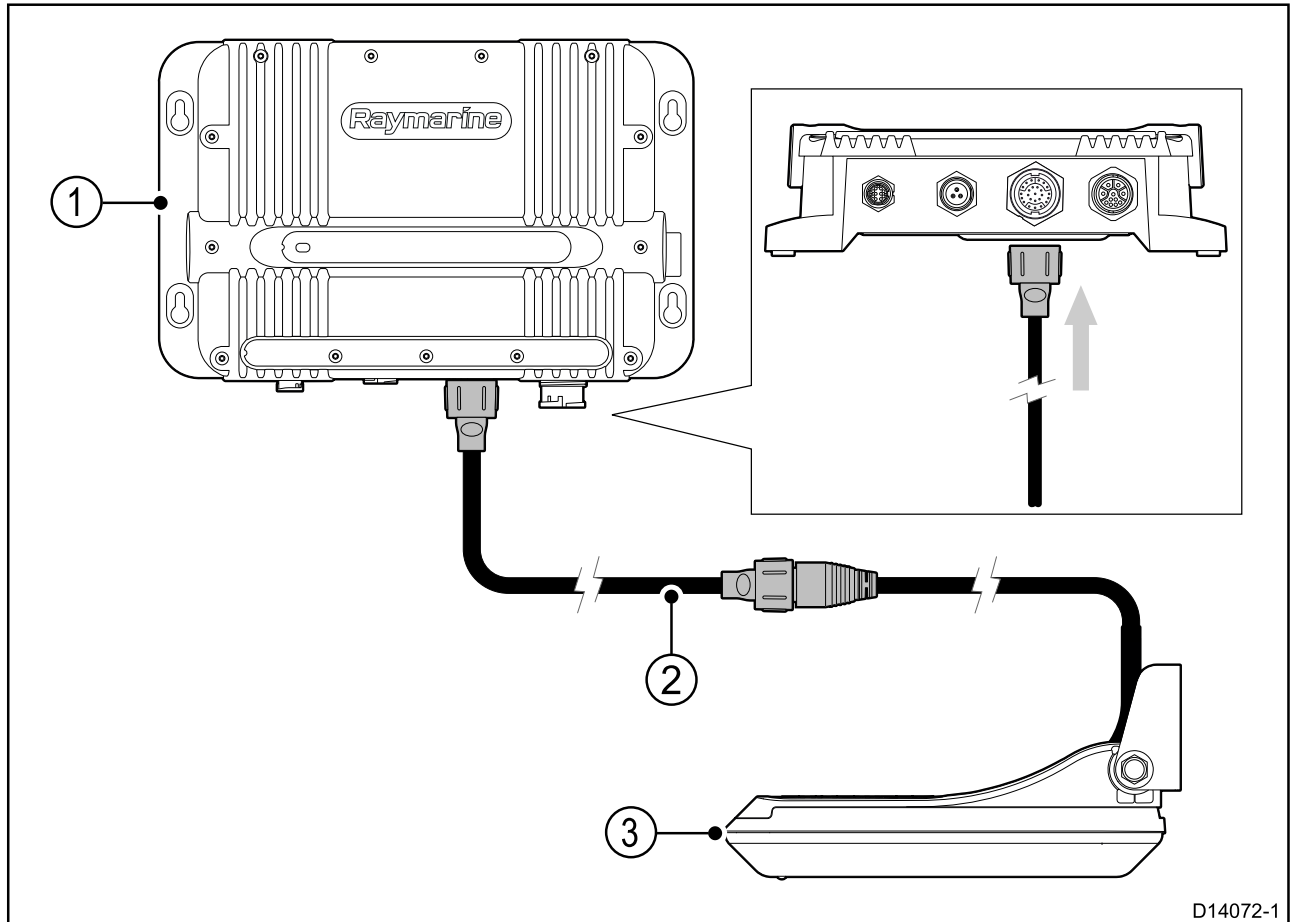
Transducers must be installed in accordance with the instructions provided with the transducer.

Note: Transducers without Transducer ID® are not supported.

For a list of compatible transducers, refer to [Compatible transducers – RVX1000 sonar module](#)

For a list of transducer cables refer to [10.1 Spares and accessories](#).

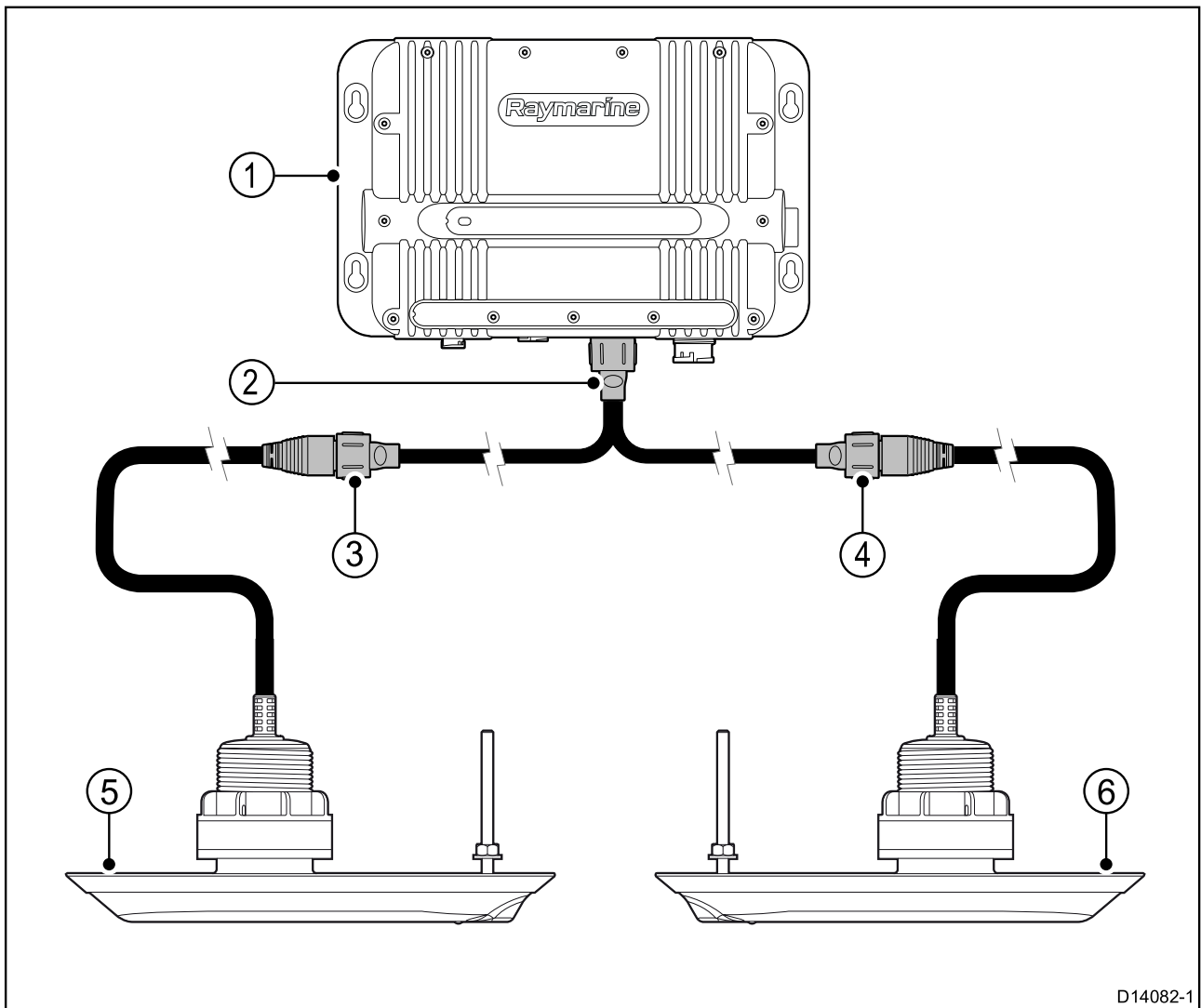
RealVision™ transducer connection



D14072-1

| Item | Description |
|------|----------------------------|
| 1 | RVX1000 |
| 2 | Extension cable (optional) |
| 3 | RealVision™ transducer |

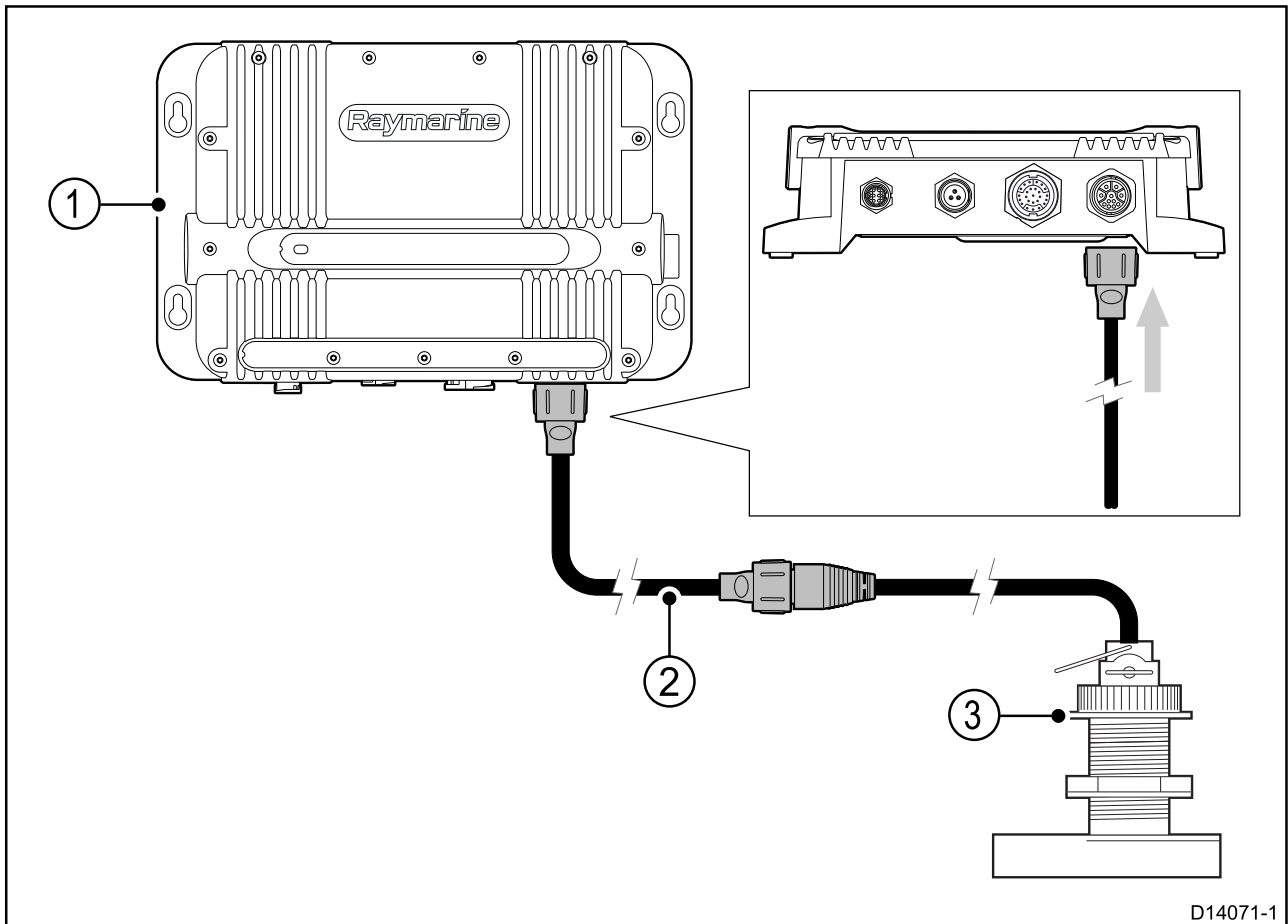
Split-pair RealVision™ transducers connection



D14082-1

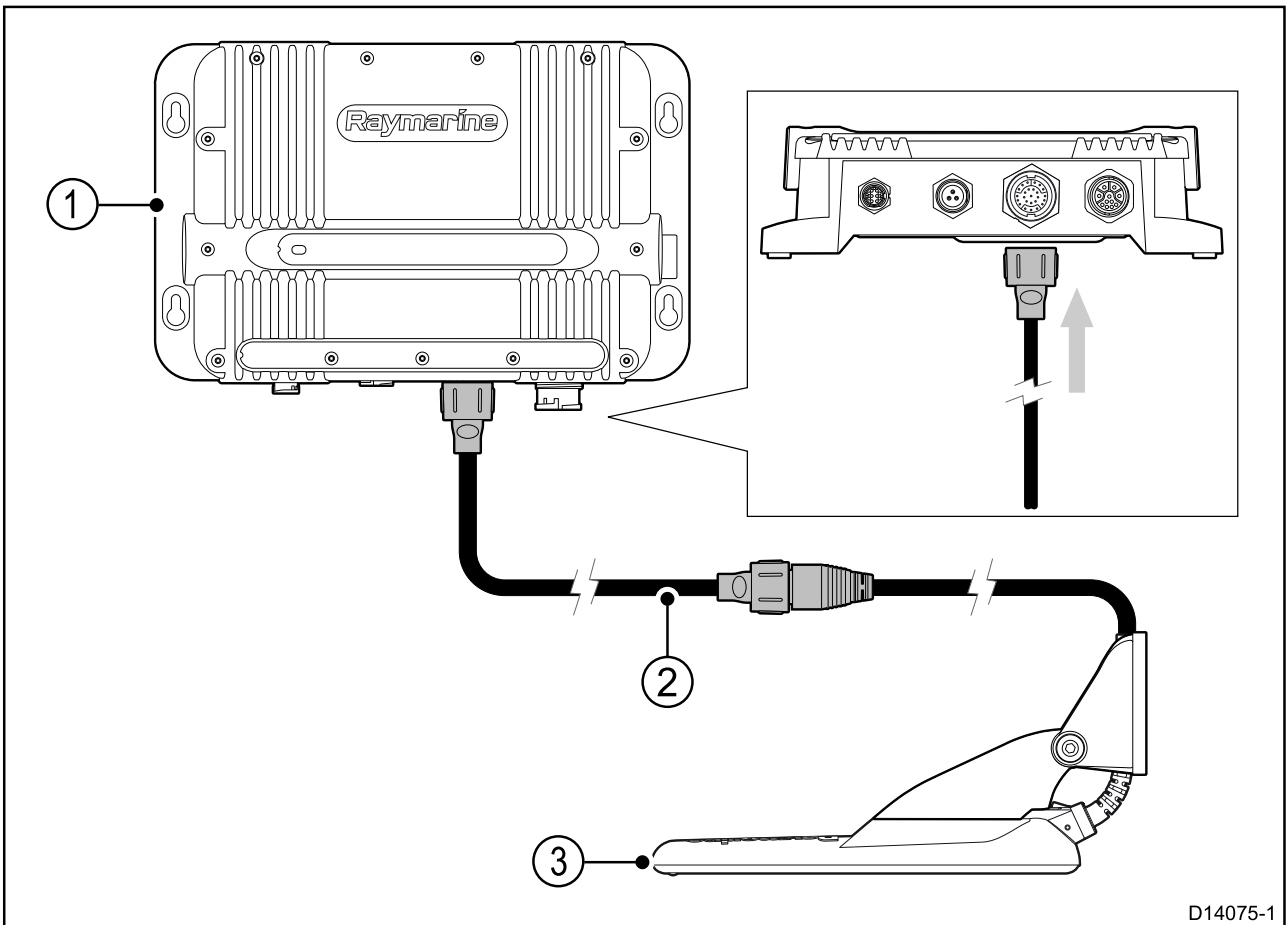
| Item | Description |
|------|--|
| 1 | RVX1000 |
| 2 | Paired RealVision™ transducer Y-cable (part number A80478) |
| 3 | Channel B of combined cable |
| 4 | Channel A of combined cable |
| 5 | RealVision™ transducer (split pair) |
| 6 | RealVision™ transducer (split pair) |

CHIRP transducer connection (including Wide Beam CHIRP)



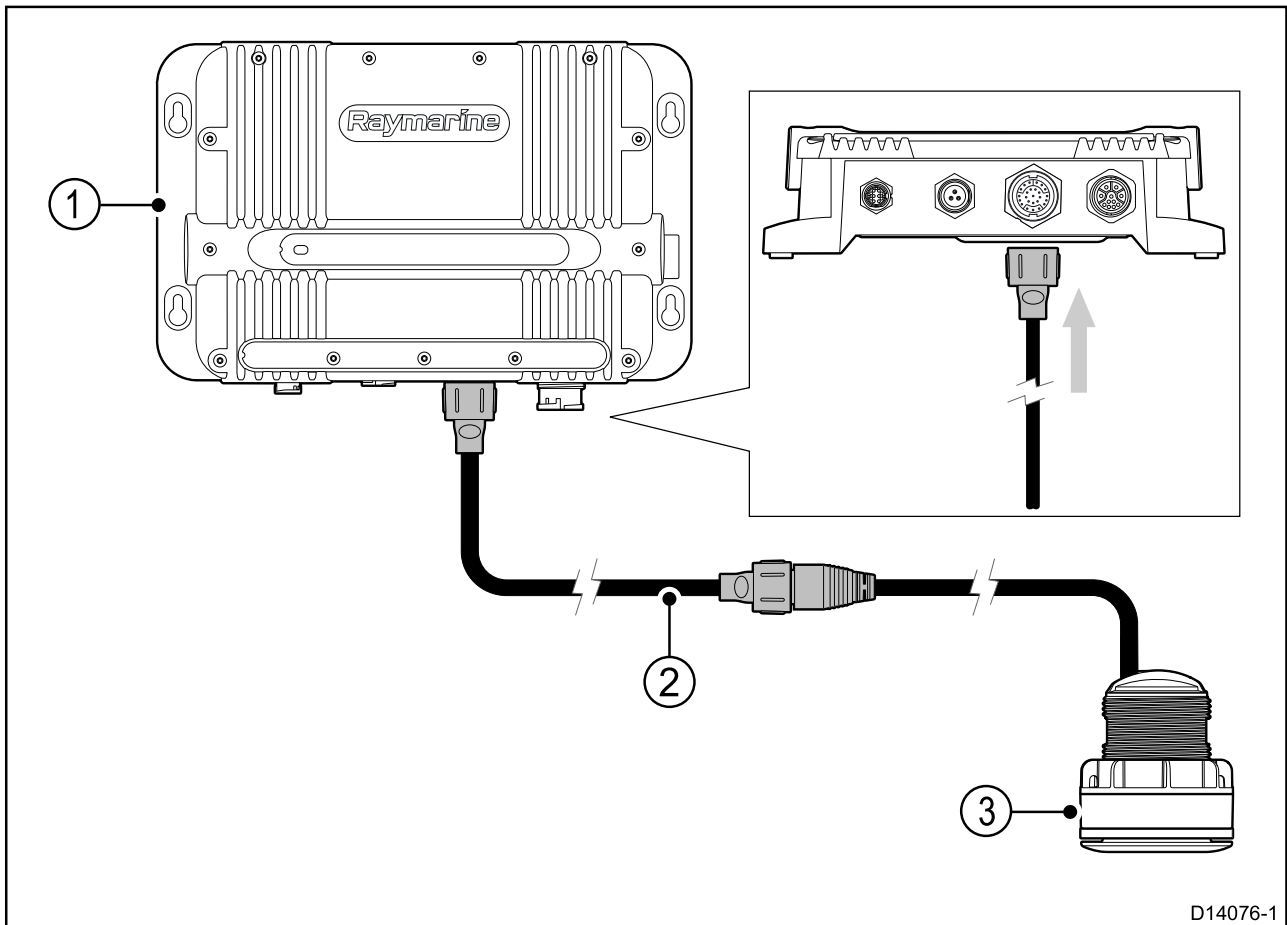
| Item | Description |
|------|---|
| 1 | RVX1000 |
| 2 | Extension cable (optional) |
| 3 | CHIRP transducer / Wide Beam CHIRP transducer |

DownVision™ transducer connection



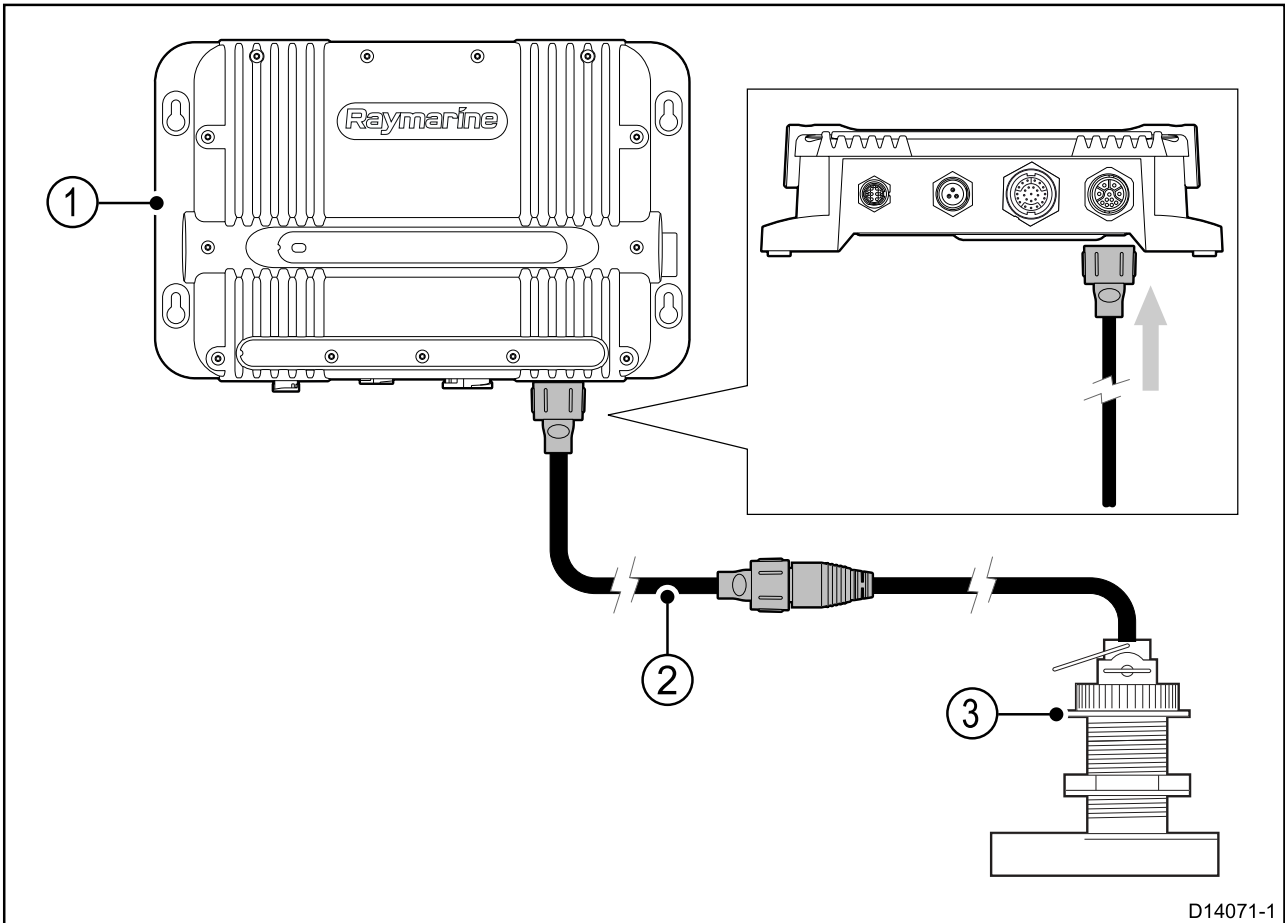
| Item | Description |
|------|--|
| 1 | RVX1000 |
| 2 | 25-pin to 9-pin adaptor cable (A80490) |
| 3 | DownVision™ transducer |

CPT-S CHIRP conical beam transducer connection



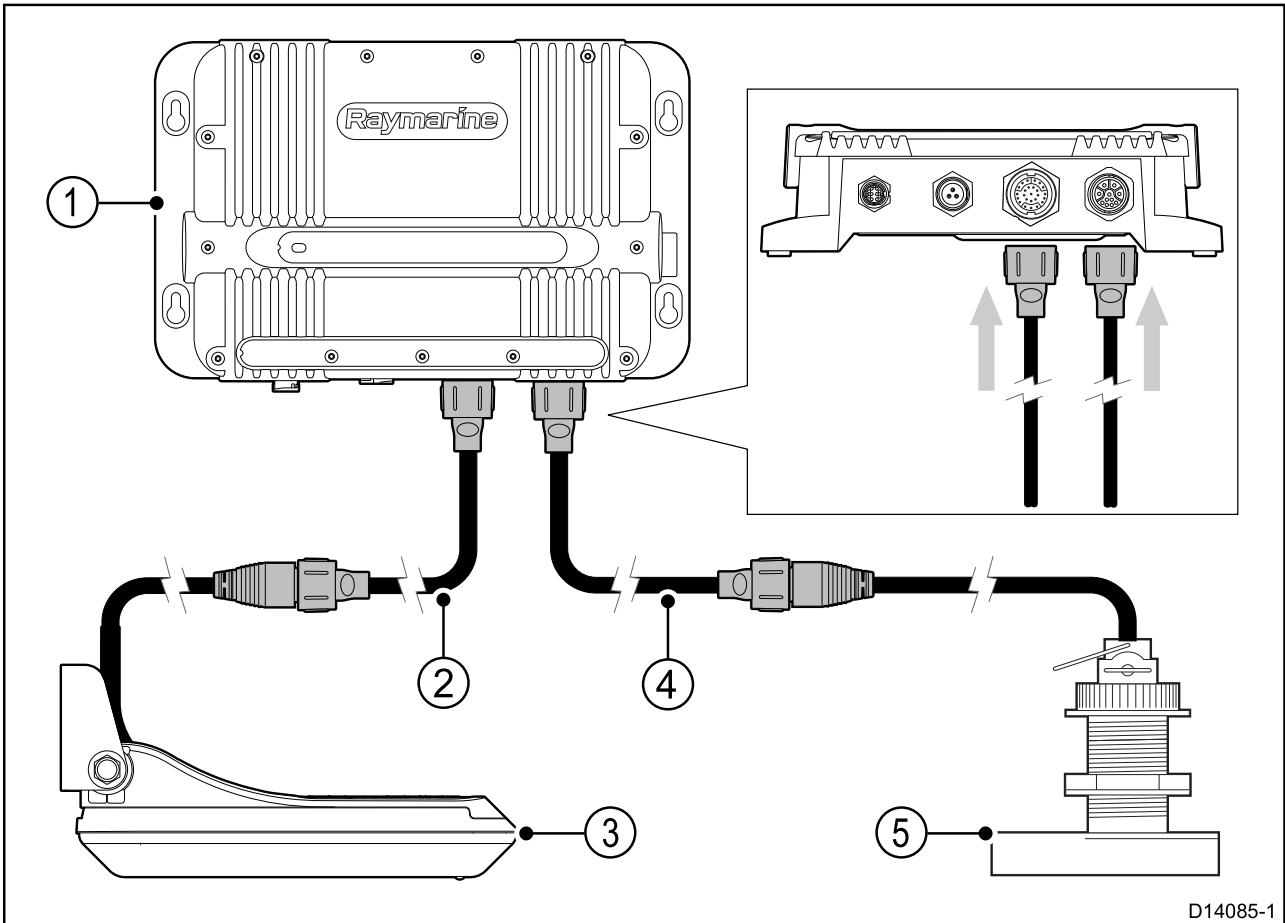
| Item | Description |
|------|--|
| 1 | RVX1000 |
| 2 | 25-pin to 9-pin adaptor cable (A80490) |
| 3 | CPT-S CHIRP conical beam transducer |

Traditional transducer connection



| Item | Description |
|------|--|
| 1 | RVX1000 |
| 2 | 11-pin to 8-pin adaptor cable (A80496) |
| 3 | Traditional transducer |

Simultaneous RealVision™ and traditional transducer connections



| Item | Description |
|------|--|
| 1 | RVX1000 |
| 2 | Extension cable (optional) |
| 3 | RealVision™ transducer |
| 4 | 11-pin to 8-pin adaptor cable (A80496) |
| 5 | Traditional transducer |

Transducer cable extension

For some installations it may be necessary to extend the transducer cable.

- Refer to [Chapter 10 Spares and accessories](#) for a list of suitable transducer extension cables.
- Raymarine recommends a maximum of one cable extension for any single transducer cable.
- For best performance, keep all cable lengths to a minimum.

Cable extensions for Wide Beam transducers

All Wide Beam transducers are supplied with a fixed 2 m cable.

You must pair the fixed 2 m cable with an appropriate extension cable to connect the Wide Beam transducer to your CHIRP sonar module.

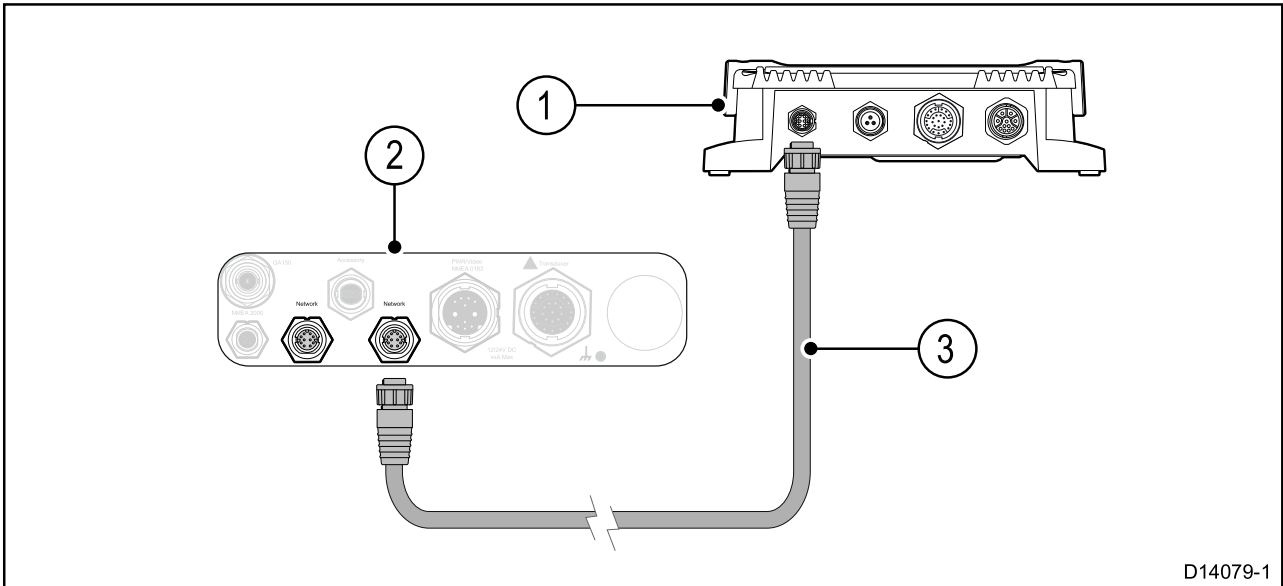
For paired Wide Beam transducer installations, extension cables must be placed between the Y-cable and the transducer.

4.5 Network connection

The unit must be connected to a compatible Raymarine multifunction display to enable echo sounder data to be viewed.

Multifunction display connection

Unit connected to a multifunction display using a RayNet cable.



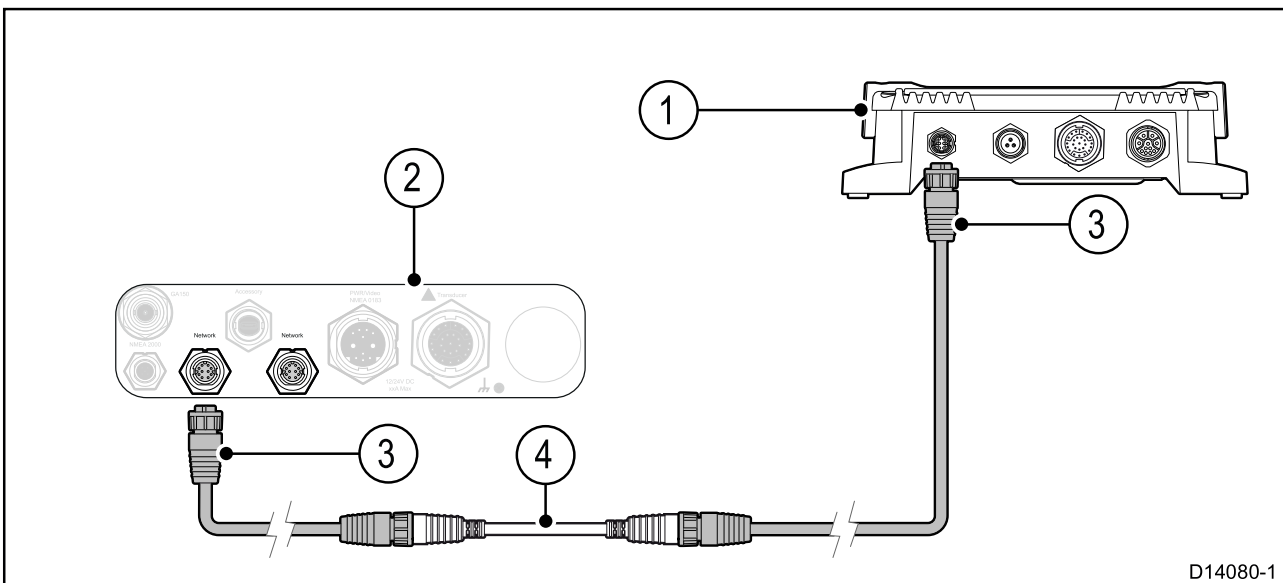
D14079-1

Note: The connection panel on your product may look slightly different to that shown, depending on variant. The network connection method remains the same for all products featuring RayNet connectors.

| Item | Description |
|------|--|
| 1 | RVX1000 sonar module |
| 2 | Connector panel for compatible Raymarine multifunction display |
| 3 | RayNet cable |

Multifunction display connection (extended cables)

When the required length of a single network cable run is greater than 20 m (65.6 ft), a RayNet (male) to (male) adaptor cable should be used to connect RayNet cables together.



D14080-1

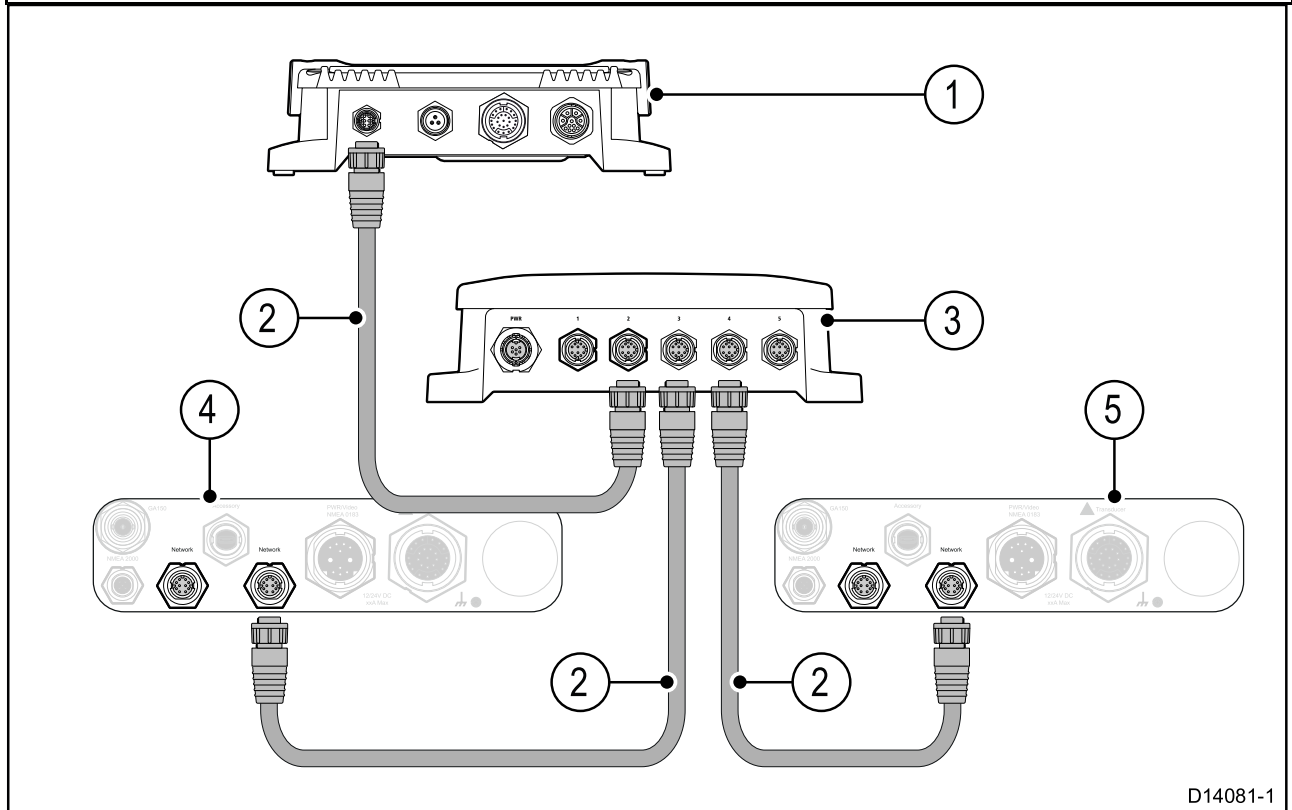
Note: The connection panel on your product may look slightly different to that shown, depending on variant. The network connection method remains the same for all products featuring RayNet connectors.

| Item | Description |
|------|--|
| 1 | RVX1000 sonar module |
| 2 | Connector panel for compatible Raymarine multifunction display |
| 3 | RayNet cables |
| 4 | RayNet (Male) to (Male) adaptor cable |

Multiple multifunction display connections

A Raymarine network switch can be used to connect the unit to more than 1 multifunction display.

Note: Ensure network cables and connections are tight and secure using any cable ties provided with your network hardware.



Note: The connection panel on your product may look slightly different to that shown, depending on variant. The network connection method remains the same for all products featuring RayNet connectors.

| Item | Description |
|------|---|
| 1 | RVX1000 sonar module |
| 2 | RayNet cable |
| 3 | RayNet network switch |
| 4 | Connector panel for compatible Raymarine multifunction display |
| 5 | Connector panel for additional compatible Raymarine multifunction display |

For details on available network hardware and cables refer to [Chapter 10 Spares and accessories](#).

Chapter 5: Mounting

Chapter contents

- [5.1 Mounting on page 76](#)

5.1 Mounting

Fixing screw suitability

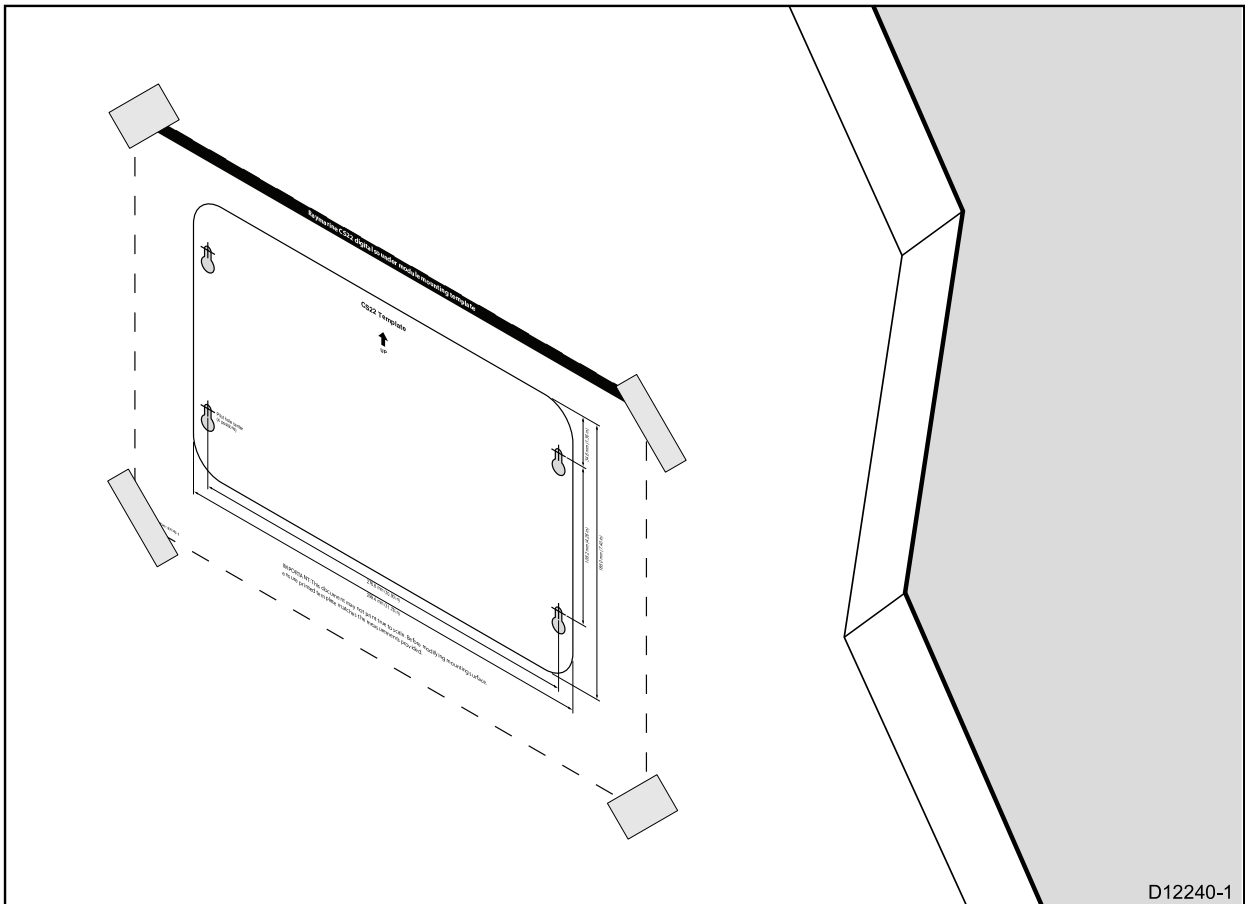
Important: The fixing screws supplied with your product may not be suitable for the mounting surface. Please check the security and integrity of the mounted product before finalizing your installation. If necessary, obtain replacement or additional mounting screws to ensure a secure installation.

Mounting the unit

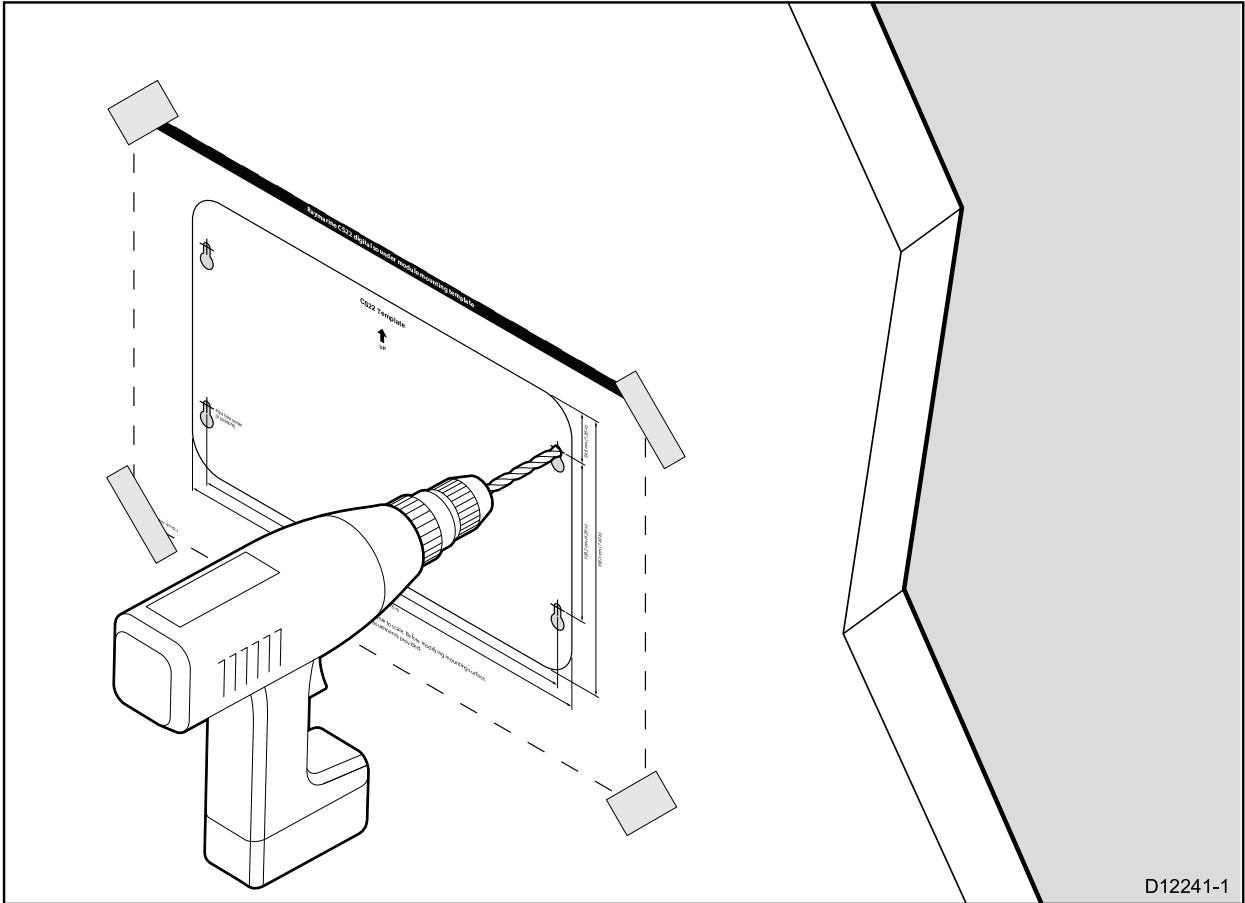
Having chosen a suitable location, install the unit as follows:

Note: Raymarine recommends mounting the unit vertically.

1. Secure the mounting template in the required location using adhesive tape.

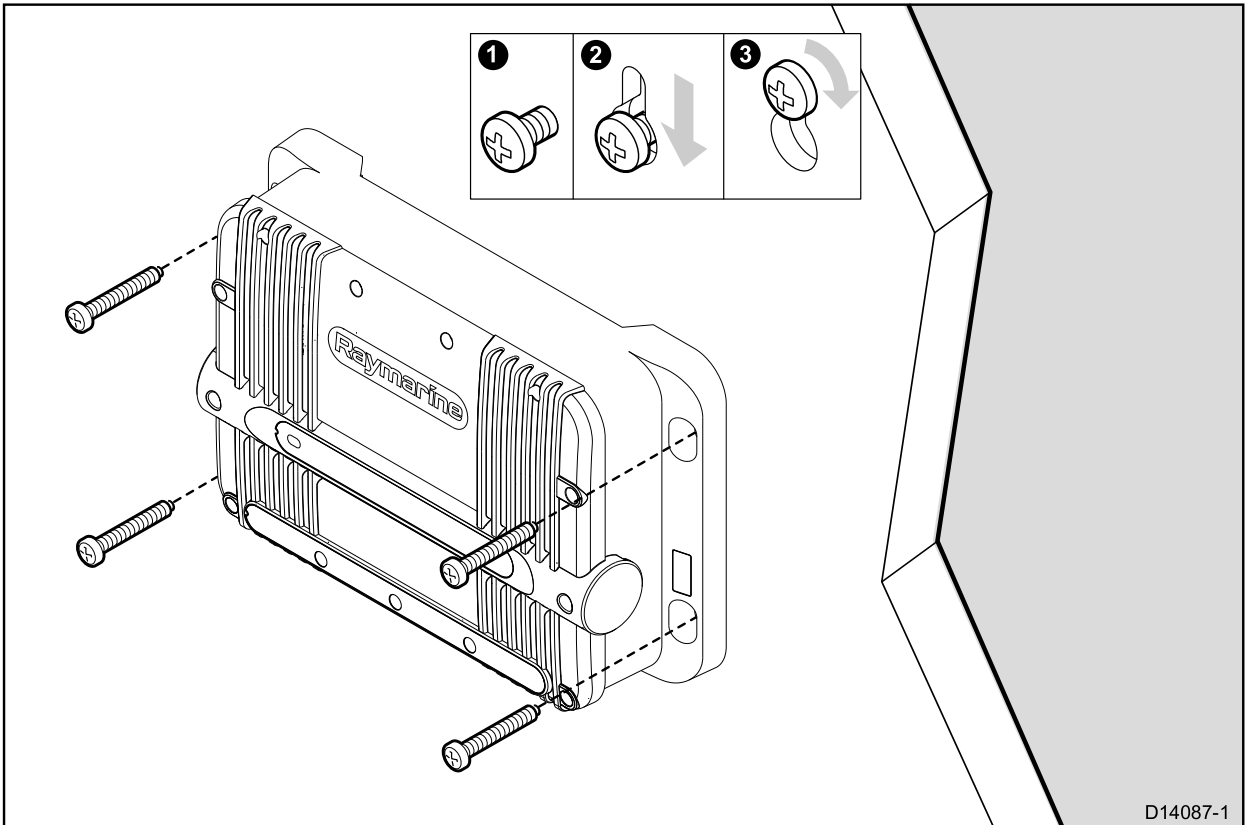


2. Drill 4 holes at the marked location on the template.



D12241-1

3. Remove the mounting template.
4. Screw in the fixing screws about half way into the holes.
5. Place the unit onto the fixing screws.
6. Push the unit down to engage the key slots in the unit.
7. Tighten the screws.



D14087-1

Note: Drill bit, tap size and tightening torque is dependent on the thickness and type of material the unit is to be mounted on.

Chapter 6: System checks and troubleshooting

Chapter contents

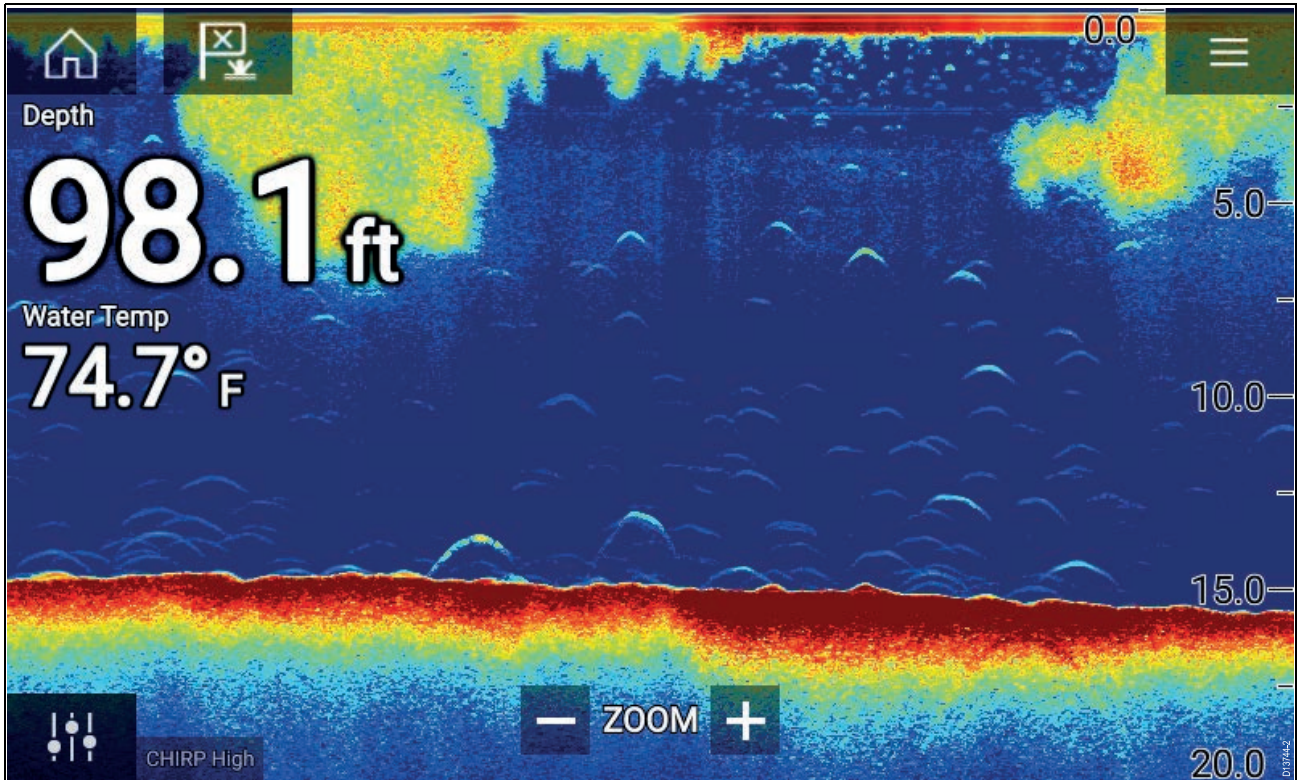
- 6.1 Initial power on test on page 80
- 6.2 Troubleshooting on page 81

6.1 Initial power on test

Once the unit has been correctly installed check that it is operating correctly.

After powering on, the unit takes less than 1 minute to start up. From powering on through to normal operation, the LED status indicator is solid green, changing to blinking green when normal operation is underway. If the LED status indicator is not blinking green then refer to the troubleshooting section of this handbook.

Open the Fishfinder application on your connected multifunction display and ensure that it is operating correctly.



Operation instructions

For detailed operation instructions for your product, refer to the documentation that accompanies your display.

All product documentation is available to download from the Raymarine website:
www.raymarine.com/manuals.

6.2 Troubleshooting

The troubleshooting information provides possible causes and corrective action required for common problems associated with installation and operation of your product.

Before packing and shipping, all Raymarine products are subjected to comprehensive testing and quality assurance programs. If you do experience problems with your product this section will help you to diagnose and correct problems in order to restore normal operation.

If after referring to this section you are still having problems with your product, please refer to the Technical support section of this manual for useful links and Raymarine Product Support contact details.

Sonar troubleshooting

Scrolling image is not being displayed

| Possible causes | Possible solutions |
|---|---|
| Sonar disabled | Enable Ping from the Sonar app's sounder tab: Menu > Settings > Sounder > Ping . |
| Incorrect transducer selected | Check that the correct transducer is selected in the Sonar app's Transducer tab: Menu > Settings > Transducer > Ping . |
| Damaged cables | <ol style="list-style-type: none"> 1. Check that the transducer cable connector is fully inserted and locked in position. 2. Check the power supply cable and connectors for signs of damage or corrosion, replace if necessary. 3. With the unit turned on, try flexing the cable near to the display connector to see if this causes the unit to re-boot/lose power, replace if necessary. 4. Check the vessel's battery voltage, the condition of the battery terminals and power supply cables, ensuring connections are secure, clean and free from corrosion, replace if necessary. 5. With the product under load, using a multi-meter, check for high voltage drop across all connectors/fuses etc (this can cause the Fishfinder applications to stop scrolling or the unit to reset/turn off), replace if necessary. |
| Damaged or fouled transducer | Check the condition of the transducer ensuring it is not damaged and is free from debris/fouling, clean or replace as necessary. |
| Wrong transducer fitted | Check product and transducer documentation and ensure that the transducer is compatible with your system. |
| External sonar module: SeaTalkhs / RayNet network problem. | <ul style="list-style-type: none"> • Check that the unit is correctly connected to the MFD or network switch. Check all connections ensuring connections are secure, clean and free from corrosion, replace if necessary. |
| External sonar module: Software mismatch between equipment may prevent communication. | Ensure all Raymarine products contain the latest available software, check the Raymarine website: www.raymarine.com/software for software compatibility. |

No depth reading / lost bottom lock

| Possible causes | Possible solutions |
|----------------------|--|
| Transducer location | Check that the transducer has been installed in accordance with the instructions provided with the transducer. |
| Transducer angle | If the transducer angle is too great the beam can miss the bottom, adjust transducer angle and recheck. |
| Transducer kicked-up | If the transducer has a kick-up mechanism, check that it has not kicked up due to hitting an object. |

| Possible causes | Possible solutions |
|--------------------------------|---|
| Power source insufficient | With the product under load, using a multi-meter, check the power supply voltage as close to the unit as possible to establish actual voltage when the current is flowing. (Check your product's Technical specification for power supply requirements.) |
| Damaged or fouled transducer | Check the condition of the transducer ensuring it is not damaged and is free from debris / fouling. |
| Damaged cables | <ol style="list-style-type: none"> 1. Check the unit's connector for broken or bent pins. 2. Check that the cable connector is fully inserted into the unit and that the locking collar is in the locked position. 3. Check the cable and connectors for signs of damage or corrosion, replace if necessary. 4. With the unit turned on, try flexing the power cable near to the display connector to see if this causes the unit to re-boot/loose power, replace if necessary. 5. Check the vessel's battery voltage, the condition of the battery terminals and power supply cables, ensuring connections are secure, clean and free from corrosion, replace if necessary. 6. With the product under load, using a multi-meter, check for high voltage drop across all connectors/fuses etc (this can cause the Fishfinder applications to stop scrolling or the unit to reset/turn off), replace if necessary. |
| Vessel speed too high | Slow vessel speed and recheck. |
| Bottom too shallow or too deep | The bottom depth may be outside of the transducers depth range, move vessel to shallower or deeper waters as relevant and recheck. |

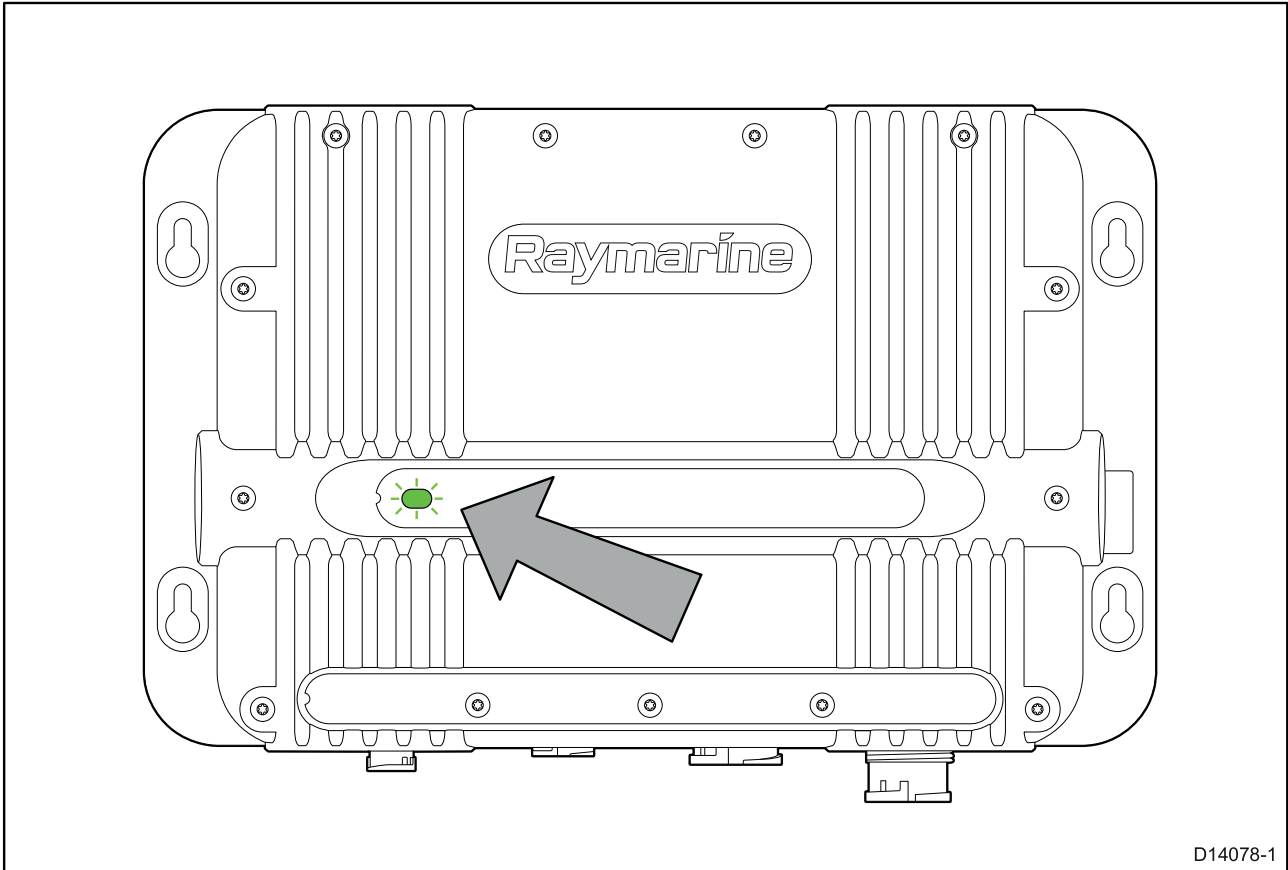
Poor / problematic image

| Possible causes | Possible solutions |
|---|---|
| Targets will appear differently if your vessel is stationary (e.g.: fish will appear on the display as straight lines). | Increase vessel speed. |
| Scrolling paused or speed set too low | Unpause or increase sonar scrolling speed. |
| Sensitivity settings may be inappropriate for present conditions. | Check and adjust sensitivity settings or perform a Sonar reset. |
| Damaged cables | <ol style="list-style-type: none"> 1. Check the unit's connector for broken or bent pins. 2. Check that the cable connector is fully inserted into the unit and that the locking collar is in the locked position. 3. Check the cable and connectors for signs of damage or corrosion, replace if necessary. 4. With the unit turned on, try flexing the power cable near to the display connector to see if this causes the unit to re-boot/loose power, replace if necessary. 5. Check the vessel's battery voltage, the condition of the battery terminals and power supply cables, ensuring connections are secure, clean and free from corrosion, replace if necessary. 6. With the product under load, using a multi-meter, check for high voltage drop across all connectors/fuses etc (this |

| Possible causes | Possible solutions |
|---|--|
| | can cause the Fishfinder applications to stop scrolling or the unit to reset/turn off), replace if necessary. |
| Transducer location | <ul style="list-style-type: none"> • Check that the transducer has been installed in accordance with the instructions provided with the transducer. • If a transom mount transducer is mounted too high on the transom it may be lifting out of the water, check that the transducer face is fully submerged when planing and turning. |
| Transducer kicked-up | If the transducer has a kick-up mechanism, check that it has not kicked up due to hitting an object. |
| Damaged or fouled transducer | Check the condition of the transducer ensuring it is not damaged and is free from debris / fouling. |
| Damaged transducer cable | Check that the transducer cable and connection is free from damage and that the connections are secure and free from corrosion. |
| Turbulence around the transducer at higher speeds may affect transducer performance | Slow vessel speed and recheck. |
| Interference from another transducer | <ol style="list-style-type: none"> 1. Turn off the transducer causing the interference. 2. Reposition the transducers so they are farther apart. |
| Unit power supply fault | Check the voltage from the power supply, if this is too low it can affect the transmitting power of the unit. |

LED Diagnostics

RVX1000












D14078-1





The LED on the front panel of the unit provides information on the status of the sonar module and notifies users of any problems within the unit. The LED blinks the following colors:

- **Green** — shows the unit is operating normally.
- **Amber** — warns of a problem in the unit.
- **Red** — shows that there is an error in the unit.

The number of times the LED blinks is a code which represents the errors or warnings as shown in the LED indication status table. If there are multiple warnings or errors, the codes are given in sequence with a 2 second pause between blink patterns.

LED indication status

| LED color | LED code | Status | User action | |
|---|--|----------------|---------------------|---|
|  |  —————  ○ | Solid Green | Power On | <ul style="list-style-type: none"> • None (normal power up takes <1 minute). |
|  |  □  ○ | Green 1 blink | Normal operation | <ul style="list-style-type: none"> • None. |
|  |  □□  ○ | Amber 2 blinks | No network detected | <ul style="list-style-type: none"> • Ensure network is powered. • Ensure network cable and connections are secure and free from damage. • If problem persists contact Raymarine technical support. |

| LED color | LED code | Status | User action | |
|---|---|-------------------|------------------------|--|
|  |  | Amber 3 blinks | Under voltage (<10.2V) | <ul style="list-style-type: none"> • Ensure power cable and connections are secure and free from damage. • Ensure power supply cabling is consistent with recommendations. • If problem persists contact Raymarine technical support. |
|  |  | Red 3 blinks | Over voltage (>34.2V) | <ul style="list-style-type: none"> • Ensure power supply levels are consistent with recommendations. • If problem persists contact Raymarine technical support. |

Note: During a software upgrade process the LED will be solid Green and change to blinking Green on successful completion.

Note: If any other LED sequence other than described above is seen and persists please contact Raymarine technical support.

Resetting the sonar

The reset function restores the unit to its factory default values.

Note: Performing a factory reset will clear speed and temperature calibration settings and the depth offset.

1. Using a compatible Raymarine multifunction display, open the Sonar app.
2. Open the **Settings** page.
3. Select the **Sounder** tab.
4. Select **Reset sounder**.
5. Select **Yes** to confirm.

The unit will now be reset to factory default settings.

Chapter 7: Maintenance

Chapter contents

- [7.1 Routine checks on page 88](#)
- [7.2 Unit cleaning instructions on page 89](#)

7.1 Routine checks

The following periodic checks should be made:

- Examine cables for signs of damage, such as chafing, cuts or nicks.
- Check that the cable connectors are firmly attached and that their locking mechanisms are properly engaged.

Note: Cable checks should be carried out with the power supply switched off.



Warning: High voltage

This product contains high voltage. Adjustments require specialized service procedures and tools only available to qualified service technicians. There are no user serviceable parts or adjustments. The operator should never remove the cover or attempt to service the product.

7.2 Unit cleaning instructions

The unit does not require regular cleaning. However, if you find it necessary to clean the unit, please follow the steps below:

1. Ensure power is switched off.
2. Wipe unit clean with a damp cloth.
3. If necessary, use a mild detergent solution to remove grease marks.

Transducer cleaning

Growth can collect on the bottom of the transducer, this can reduce performance. To prevent the build up of sea growth, coat the transducer with a thin layer of water based antifouling paint, available from your local marine dealer. Reapply paint every 6 months or at the beginning of each boating season. Certain smart transducers have restrictions on where antifouling paint is applied. Please consult your dealer.

Note: Transducers with a temperature sensor may not work properly if painted.

Note: Never use ketone based paint. Ketones can attack many plastics possibly damaging the sensor.

Note: Never use spray paint on your transducer. Spraying incorporates tiny air bubbles, and a marine transducer cannot transmit properly through air.

Use a soft cloth and mild household detergent to clean the transducer. If the fouling is severe, remove the growth with a green scotch brite™ pad. Be careful to avoid scratching the transducers face.

If your transducer has a paddlewheel you can wet sand with fine grade wet/dry paper.

Note: Harsh cleaning solvents such as acetone may damage the transducer.

Chapter 8: Technical support

Chapter contents

- 8.1 Raymarine product support and servicing on page 92
- 8.2 Viewing product information on page 94

8.1 Raymarine product support and servicing

Raymarine provides a comprehensive product support service, as well as warranty, service, and repairs. You can access these services through the Raymarine website, telephone, and e-mail.

Product information

If you need to request service or support, please have the following information to hand:

- Product name.
- Product identity.
- Serial number.
- Software application version.
- System diagrams.

You can obtain this product information using the menus within your product.

Servicing and warranty

Raymarine offers dedicated service departments for warranty, service, and repairs.

Don't forget to visit the Raymarine website to register your product for extended warranty benefits:

<http://www.raymarine.co.uk/display/?id=788>.

| Region | Telephone | E-mail |
|---|---------------------|--|
| United Kingdom (UK), EMEA, and Asia Pacific | +44 (0)1329 246 932 | emea.service@raymarine.com |
| United States (US) | +1 (603) 324 7900 | rm-usrepair@flir.com |

Web support

Please visit the "Support" area of the Raymarine website for:

- **Manuals and Documents** — <http://www.raymarine.com/manuals>
- **FAQ / Knowledgebase** — <http://www.raymarine.com/knowledgebase>
- **Technical support forum** — <http://forum.raymarine.com>
- **Software updates** — <http://www.raymarine.com/software>

Telephone and e-mail support

| Region | Telephone | E-mail |
|---|--|--|
| United Kingdom (UK), EMEA, and Asia Pacific | +44 (0)1329 246 777 | support.uk@raymarine.com |
| United States (US) | +1 (603) 324 7900 (Toll-free: +800 539 5539) | support@raymarine.com |
| Australia and New Zealand | +61 2 8977 0300 | aus.support@raymarine.com (Raymarine subsidiary) |
| France | +33 (0)1 46 49 72 30 | support.fr@raymarine.com (Raymarine subsidiary) |
| Germany | +49 (0)40 237 808 0 | support.de@raymarine.com (Raymarine subsidiary) |
| Italy | +39 02 9945 1001 | support.it@raymarine.com (Raymarine subsidiary) |
| Spain | +34 96 2965 102 | sat@azimut.es (Authorized Raymarine distributor) |
| Netherlands | +31 (0)26 3614 905 | support.nl@raymarine.com (Raymarine subsidiary) |
| Sweden | +46 (0)317 633 670 | support.se@raymarine.com (Raymarine subsidiary) |
| Finland | +358 (0)207 619 937 | support.fi@raymarine.com (Raymarine subsidiary) |

| Region | Telephone | E-mail |
|---------------|--------------------|--|
| Norway | +47 692 64 600 | support.no@raymarine.com (Raymarine subsidiary) |
| Denmark | +45 437 164 64 | support.dk@raymarine.com (Raymarine subsidiary) |
| Russia | +7 495 788 0508 | info@mikstmarine.ru (Authorized Raymarine distributor) |

8.2 Viewing product information

You can view information about your unit from the **Diagnostics** menu on a compatible multifunction display. This option displays information such as product serial number and software version.

With the Homescreen displayed:

1. Select **Set-up**.
2. Select **Maintenance**.
3. Select **Diagnostics**.
4. Select the **Select Device** option.
A list of connected devices is displayed.
5. Select the product for which you want to view information. Alternatively, select **Show All Data** to display information for all connected products.

Chapter 9: Technical specification

Chapter contents

- [9.1 RVX1000 Technical specification on page 96](#)

9.1 RVX1000 Technical specification

Physical specification

| | |
|-------------------|---|
| Dimensions | <ul style="list-style-type: none"> • Width: 299.4 mm (11.79 in). • Height: 188.0 mm (7.40 in). • Height (including connectors): 209.9 mm (8.26 in). • Depth: 84.4 mm (3.32 in). |
| Weight | 1.585 kg (3.49 lbs) |

Power specification

| | |
|--------------------------------|-----------------------|
| Nominal supply voltage | 12 V / 24 V dc |
| Operating voltage range | 10.8 V to 31.2 V dc |
| Power consumption | 10.4 W (Maximum) |
| Current | 2.4 A Peak; 1.2 A RMS |
| Fuse / breakers | 5 A |

Environmental specification

| | |
|------------------------------|---------------------------------|
| Operating temperature | -25°C (-13°F) to +55°C (+131°F) |
| Storage temperature | -30°C (-22°F) to +70°C (+158°F) |
| Relative humidity | 93% at 40°C |
| Waterproof rating | IPX6/IPX7 |

Sonar specification

| | |
|---------------------|---|
| Power output | Up to 1 kW RMS |
| Depth | 0.9 m (3 ft) to 1,524 m (5,000 ft) (in optimum conditions using a 1 kW transducer) |
| Transducer | Transom-mount, in-hull, thru-hull, pocket/keel mount |
| Connections | <ul style="list-style-type: none"> • 1 x Power connection • 1 x network connection (RayNet connector) 10 / 100 Mb/s • 2 x Transducer connections |

Conformance specification

| | |
|--------------------|---|
| Conformance | <ul style="list-style-type: none"> • EN 60945:2002 • EMC Directive 2014/30/EU • EN 60950-1:2006+A2:2013 • Australia and New Zealand: C-Tick, Compliance Level 2 |
|--------------------|---|

Chapter 10: Spares and accessories

Chapter contents

- 10.1 Spares and accessories on page 98
- 10.2 Network hardware on page 99
- 10.3 Network cable connector types on page 100
- 10.4 **RayNet** to **RayNet** cables and connectors on page 101
- 10.5 RayNet to RJ45 adapter cables on page 102
- 10.6 **RJ45 SeaTalk^{hs}** network and patch cables on page 104

10.1 Spares and accessories

The following accessories and spare parts are available:

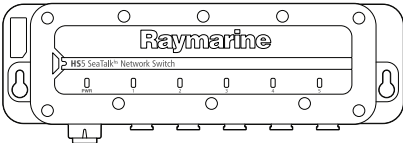
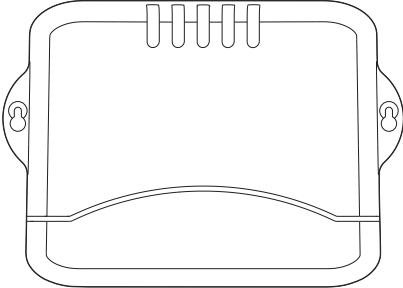
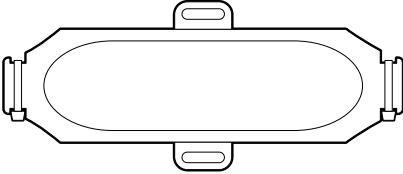
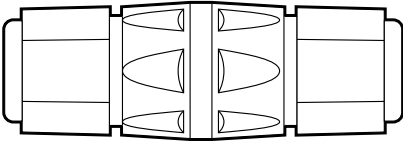
| Item | Part number |
|---|-------------|
| 3 m (10 ft) RealVision™ transducer extension cable | A80475 |
| 5 m (16.4 ft) RealVision™ transducer extension cable | A80476 |
| 8 m (26.2 ft) RealVision™ transducer extension cable | A80477 |
| 0.3 m (1 ft) RealVision™ 90-degree adapter cable | A80515 |
| Paired RealVision™ transducer Y-cable | A80478 |
| 25-pin to 9-pin DownVision™ transducer adapter cable | A80490 |
| 11-pin to 8-pin CP370-style transducer adapter cable | A80496 |
| 3 m (10 ft) CHIRP transducer extension cable | A102148 |
| 5 m (16.4 ft) traditional transducer extension cable | E66010 |
| 5 m (16.4 ft) CHIRP transducer extension cable | A102150 |
| 10 m (32.8 ft) CHIRP transducer extension cable | A80327 |
| Note: For use with Wide Beam transducers only. | |
| Dual Speed and Temperature traditional transducer cable | E66022 |
| Dual Speed and Temperature CHIRP transducer cable | A80345 |
| Single B75/B175 operation cable | A80328 |
| Paired CHIRP transducer Y-cable | A102146 |
| ST800–P120 Plastic low-profile speed/temp sensor | E66071 |
| ST800–B120 Bronze low-profile speed/temp sensor | E66072 |

Transducers

See [3.5 Compatible transducers](#) for information about transducers that are compatible with your sonar module.

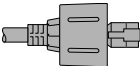
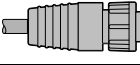
The Raymarine website (www.raymarine.com) also has information about transducers that are compatible with your sonar module.

10.2 Network hardware

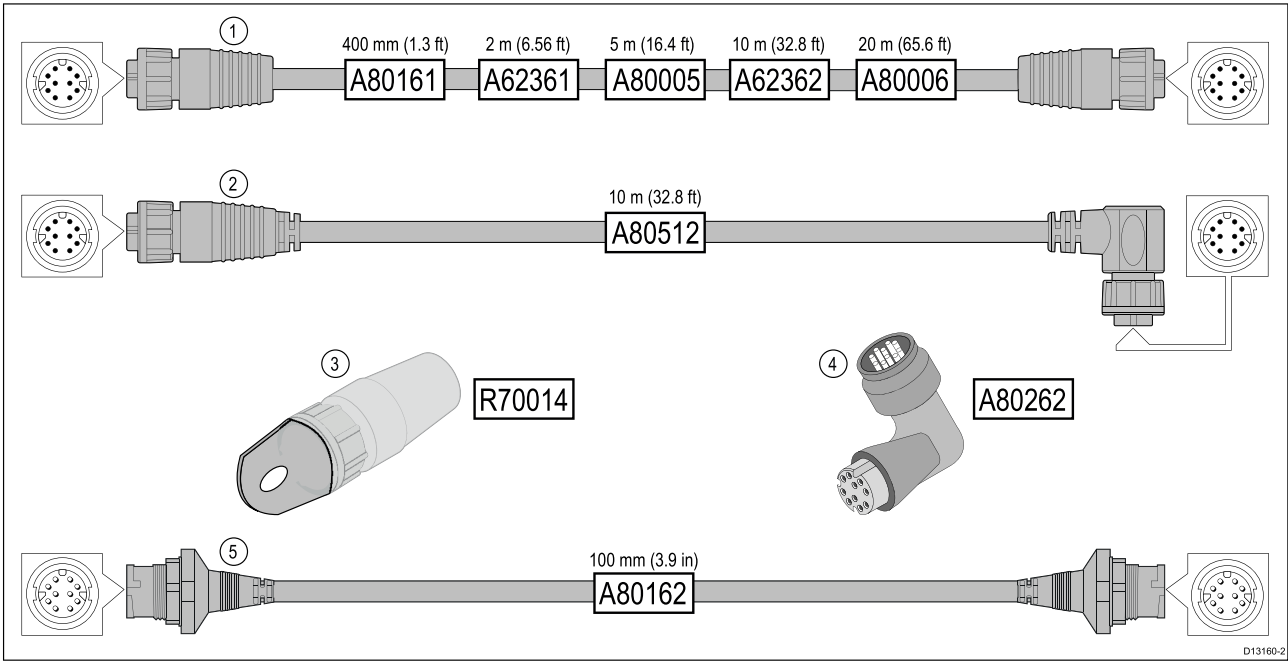
| Item | Part number | Notes |
|---|-------------|--|
| <p>HS5 RayNet network switch</p>  | A80007 | <p>5–port switch for network connection of multiple devices featuring RayNet connectors. Equipment with RJ45 SeaTalk^{hs} connectors can also be connected using suitable adapter cables.</p> |
| <p>RJ45 SeaTalk^{hs} network switch</p>  | E55058 | <p>8–port switch for network connection of multiple SeaTalk^{hs} devices featuring RJ45 connectors.</p> |
| <p>RJ45 SeaTalk^{hs} crossover coupler</p>  | E55060 | <ul style="list-style-type: none"> • Enables direct connection of RJ45 SeaTalk^{hs} devices to smaller systems where a switch is not required. • Enables the connection of RJ45 SeaTalk^{hs} devices to a HS5 RayNet network switch (in conjunction with suitable adapter cables). • Enables 2 RJ45 SeaTalk^{hs} cables to be connected together to extend the length of the cabling. <p>Recommended for internal installations.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Important: Do NOT use crossover devices for POE (Power Over Ethernet) connections.</p> </div> |
| <p>Ethernet RJ45 coupler</p>  | R32142 | <ul style="list-style-type: none"> • Enables direct connection of RJ45 SeaTalk^{hs} devices to smaller systems where a switch is not required. • Enables the connection of RJ45 SeaTalk^{hs} devices to a HS5 RayNet network switch (in conjunction with suitable adapter cables). • Enables 2 RJ45 SeaTalk^{hs} cables to be connected together to extend the length of the cabling. <p>Recommended for external installations.</p> |

10.3 Network cable connector types

There are 2 types of network cable connector — RayNet, and RJ45 SeaTalk^{hs}.

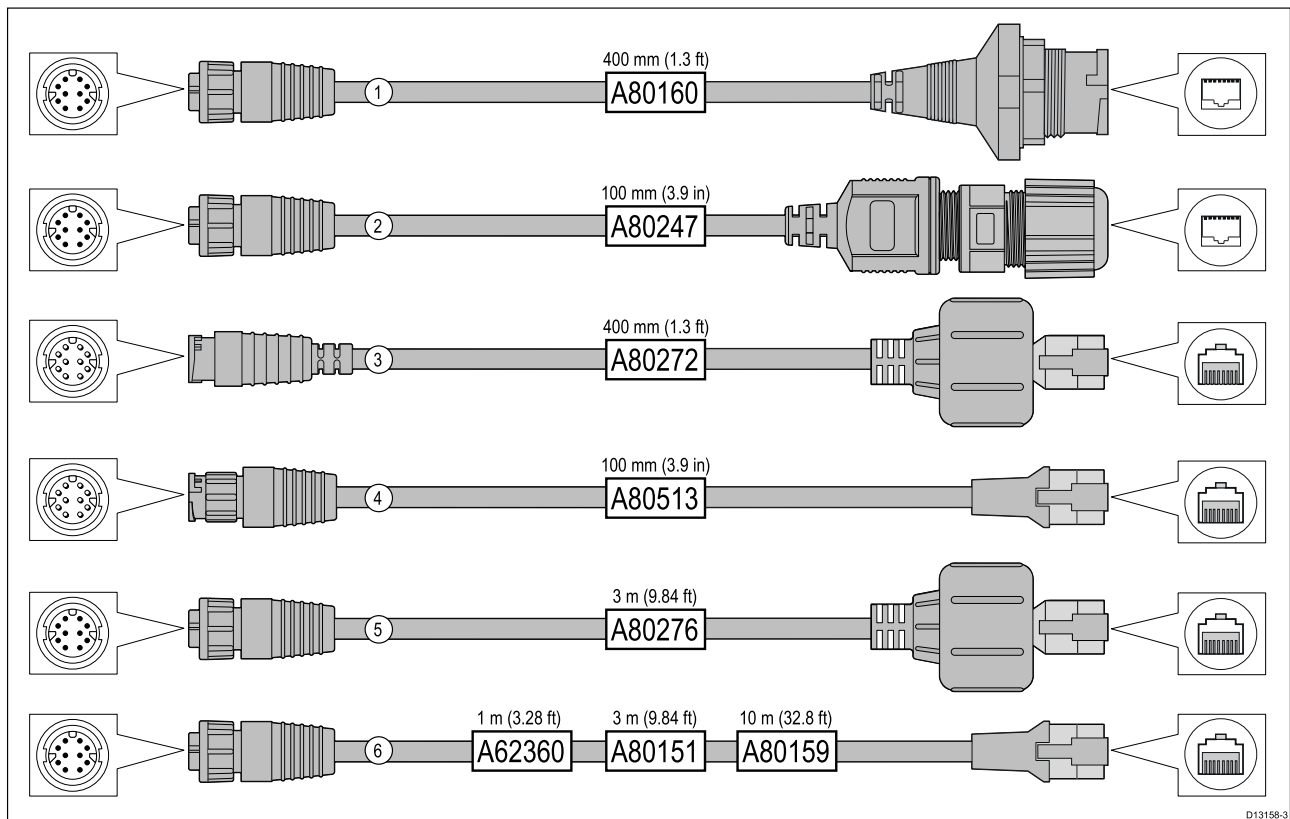
| | |
|---|---|
|  | RJ45 SeaTalk^{hs} connector. |
|  | RayNet connector. |

10.4 RayNet to RayNet cables and connectors



| | Description | Typical use | Quantity |
|---|--|---|----------|
| 1 | Standard RayNet connection cable with a RayNet (female) socket on both ends. | Suitable for connecting all RayNet equipment directly to Lighthouse multifunction displays featuring a RayNet connector. Can also be used to connect RayNet equipment via a RayNet network switch (e.g. HS5). | 1 |
| 2 | Right-angle RayNet connection cable with a straight RayNet (female) socket on one end, and a right-angle RayNet (female) socket on the other end. | Suitable for connecting at 90° (right angle) to a device, for installations where space is limited. For example, use this cable to connect to a multifunction display when there is not enough space behind the display for the usual cable bend radius required by a standard RayNet cable. | 1 |
| 3 | RayNet cable puller (5 pack). | These “handles” securely attach to the twist-lock on RayNet cables, enabling you to pull the cables through conduits and other obstacles. | 5 |
| 4 | RayNet to RayNet right-angle coupler / adapter. | Suitable for connecting RayNet cables at 90° (right angle) to devices, for installations where space is limited. For example, use this adapter to connect a RayNet cable to a multifunction display when there is not enough space behind the display for the usual cable bend radius required by a standard RayNet cable. This adapter features a RayNet (female) socket at one end, and a RayNet (male) plug at the other end. | 1 |
| 5 | Adapter cable with a RayNet (male) plug on both ends. | Suitable for joining (female) RayNet cables together for longer cable runs. | 1 |

10.5 RayNet to RJ45 adapter cables

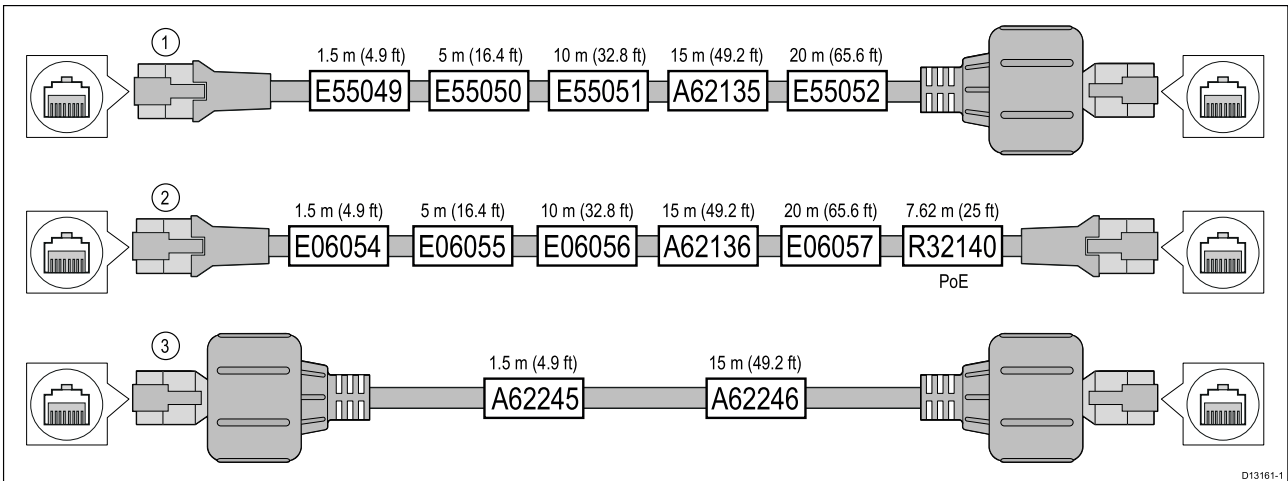


D13158-3

| | Description | Typical use | Quantity |
|---|--|---|----------|
| 1 | <p>Adapter cable with a RayNet (female) socket on one end, and a waterproof (female) socket on the other end accepting the following cables with an RJ45 SeaTalk^{hs} waterproof locking (male) plug:</p> <ul style="list-style-type: none"> • A62245 (1.5 m). • A62246 (15 m). | <p>A typical use for this adapter cable is to connect a DSM300 sonar module to a LightHouse MFD, using all-waterproof cable connections. This adapter cable will also accept the following RJ45 SeaTalk^{hs} cables, although the RJ45 plug that connects at the equipment end (e.g. DSM300) will NOT be waterproof:</p> <ul style="list-style-type: none"> • E55049 (1.5 m). • E55050 (5 m). • E55051 (10 m). • A62135 (15 m). • E55052 (20 m). | 1 |
| 2 | <p>Adapter cable with a RayNet (female) socket on one end, and a waterproof (female) RJ45 socket on the other end, along with a locking gland for a watertight fit.</p> | <p>Directly connect a Raymarine radar scanner with an RJ45 SeaTalk^{hs} (male) cable to a RayNet network switch (e.g. HS5) or LightHouse MFD.</p> | 1 |
| 3 | <p>Adapter cable with a RayNet (male) plug on one end, and an RJ45 SeaTalk^{hs} waterproof (male) plug on the other end.</p> | <p>Connect a legacy G-Series GPM-400, C-Series Widescreen or E-Series Widescreen MFD to a Raymarine radar scanner supplied with a RayNet power / data cable.</p> | 1 |
| 4 | <p>Adapter cable with a RayNet (male) plug on one end, and an RJ45 SeaTalk^{hs} (male) plug on the other end.</p> | <p>Connect a RayNet thermal camera to an Ethernet network switch with RJ45 ports.</p> | 1 |

| | Description | Typical use | Quantity |
|---|---|---|-----------------|
| 5 | Adapter cable with a RayNet (female) socket on one end, and an RJ45 SeaTalk^{hs} waterproof (male) plug on the other end. | Connect a legacy G-Series GPM-400 , C-Series Widescreen or E-Series Widescreen MFD to a RayNet network switch (e.g. the HS5). | 1 |
| 6 | Adapter cable with a RayNet (female) socket on one end, and an RJ45 SeaTalk^{hs} (male) socket on the other end. | Connect a LightHouse MFD to a legacy SR6 switch / weather receiver or a legacy 8–port SeaTalk^{hs} network switch. Another common use for the cable is in conjunction with a crossover coupler (E55060 or R32142) to connect Raymarine products with an RJ45 connection (e.g. radar scanner, thermal camera or DSM300) to a LightHouse MFD or RayNet network switch (e.g. the HS5). | 1 |

10.6 RJ45 SeaTalk^{hs} network and patch cables



D13161-1

| | Description | Typical use | Quantity |
|---|--|--|----------|
| 1 | RJ45 SeaTalk^{hs} network cables have an RJ45 SeaTalk^{hs} (male) plug on one end, and a waterproof RJ45 SeaTalk^{hs} (male) plug with locking collar on the other end. | <p>Typical uses for these cables include:</p> <ul style="list-style-type: none"> Connecting a device with a RJ45SeaTalk^{hs} socket (e.g. the DSM300, or an E-Series Widescreen E90W, E120W or E140W legacy MFD) to a SeaTalk^{hs} 8–port network switch. Connecting a thermal camera with an RJ45 (male) plug to an E-Series Widescreen E90W, E120W or E140W legacy MFD, via an RJ45 coupler (R32142). This assumes that PoE (Power over Ethernet) connections are not required, because there is no JCU (Joystick Control Unit) in the system. | 1 |
| 2 | RJ45 SeaTalk^{hs} patch cables have an RJ45 SeaTalk^{hs} (male) plug on each end. | <p>Typical uses for these cables include:</p> <ul style="list-style-type: none"> Connecting multiple SeaTalk^{hs} 8–port network switches. Connecting a PC or laptop computer running Voyager Planner software to a SeaTalk^{hs} 8–port network switch. Connecting a JCU (Joystick Control Unit) to a thermal camera, via a PoE injector. For this particular connection the R32140 cable is required, as this supports PoE (Power over Ethernet). | 1 |
| 3 | RJ45 SeaTalk^{hs} patch cables have an RJ45 SeaTalk^{hs} (male) plug on each end. Each plug features a locking collar for a fully waterproof connection. | <p>A typical use for these cables is:</p> <ul style="list-style-type: none"> Connecting a device with a locking-type RJ45SeaTalk^{hs} socket (e.g. the DSM300), to a legacy MFD with a locking-type RJ45SeaTalk^{hs} socket (e.g. the E-Series Widescreen E90W, E120W or E140W). | 1 |

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Raymarine

Marine House, Cartwright Drive, Fareham, Hampshire.
PO15 5RJ. United Kingdom.

Tel: +44 (0)1329 246 700

www.raymarine.com

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