



Wireless speaker

Obtain the complete documentation for your product

The supplied printed documentation is a subset of the full documentation available for your product.

Important: The latest versions of all English and translated handbooks are available on the Raymarine website. Please check the website to ensure you have the latest and complete documentation and safety information for your product.

www.raymarine.com/manuals

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: 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.

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.

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.

Compliance Statement (Part 15.19)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference.

- 2. This device must accept any interference received, including interference that may cause undesired operation.

FCC Interference Statement (Part 15.105 (b))

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- 1. Reorient or relocate the receiving antenna.
- 2. Increase the separation between the equipment and receiver.
- 3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4. Consult the dealer or an experienced radio / TV technician for help.

Innovation, Science and Economic Development Canada (ISED)

This device complies with ISED licence-exempt RSS standard (s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference,including interference that may cause undesired operation of the device.

Innovation, Sciences et Développement économique Canada (Français)

Le présent areil est conforme aux CNR d'ISED licables aux areils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:
(1) l'areil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Radiation Exposure Statement:
This equipment complies with FCC/ISED RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

Cet appareil est
Conforme aux limitesd'exposition de rayonnement RF FCC/ISED établiespour un environnement non contrôlé.
Cetémetteur ne doit pas être co-implanté oufonctionner en conjonction avec toute autreantenne ou transmetteur.
Cet équipement doit être installé et utiliséavec une distance minimale de 20cm entre leradiateur & votre corps.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Additional information - wireless speaker

IC:	4069B—RAYSPK
FCC ID:	PJ5—RAYSPK
Frequency	2402MHz to 2480MHz
RF Output power	0.97dBm

Declaration of Conformity

EU Compliance Statement: FLIR Belgium BVBA hereby declares that the radioequipment type Wireless Speaker is in compliance with the essential requirements and other relevant provisions of the RED Directive

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

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:

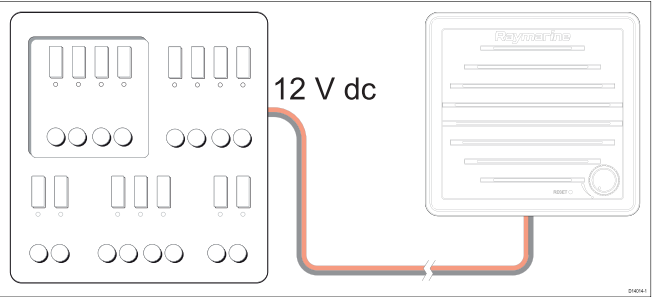
Region	Website	Region	Website
AT	www.ara-plus.at	IT	www.erp-recycling.org/it-it
BE	www.recu-pel.be	LT	www.eei.lt
BG	www.green-tech.bg	LU	www.ecotrel.lu, https://aev.gouvernement.lu/fr.html
CY	www.elec-trocyclo-sis.com.cy	LV	www.lze.lv
CZ	www.retela.cz	MT	http://www.green-pak.com.mt
DE	www.earn-service.com	NL	www.wecycle.nl
DK	www.elre-tur.dk	PL	www.electro-system.pl
EE	www.elektroo-nikaromu.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.electro-cycle.gr	SK	www.erp-recycling.sk
IE	www.weeeire-land.ie	UK	www.waste-care.co.uk/compliance-services/weeecare

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.

Wireless speaker – power connection

The wireless speaker is an active speaker that requires a 12 V dc power supply. The power cables should be connected via a distribution panel or, if required directly to a battery.



Refer to the [Power distribution](#) section for guidance on connecting to a power supply.

Warning: 12 Volt dc only

This product must only be connected to a **12 volt dc** power source.

In-line fuse and thermal breaker ratings

The wireless speaker is internally fused, however it is recommended that you fit an inline fuse on the positive wire of your product's power cable or connect using a thermal breaker.

In-line fuse rating	Thermal breaker rating
2 A	2 A (refer to note below)

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 Raymarine® dealer.

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:

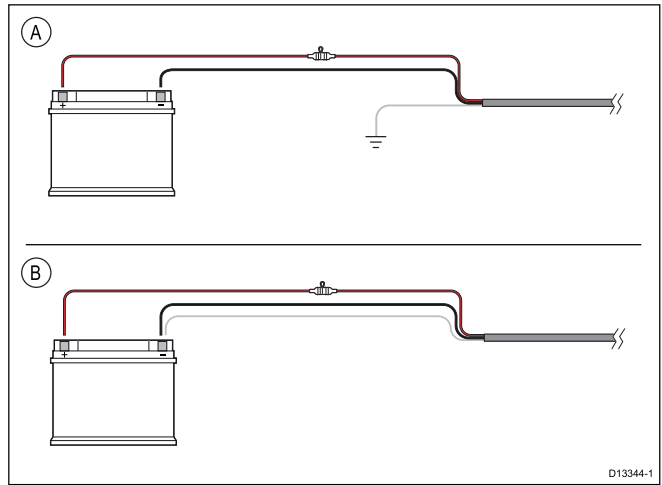
When planning and wiring, take into consideration other products in your system, some of which (e.g. sonar modules) may place large power demand peaks on the vessel's electrical system.

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.

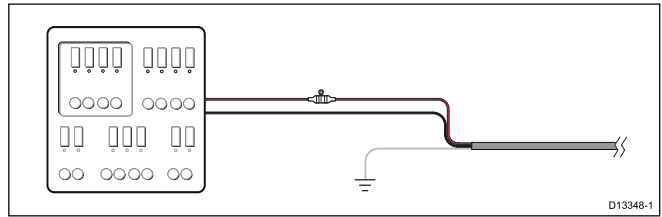
Implementation — direct connection to battery

- 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.



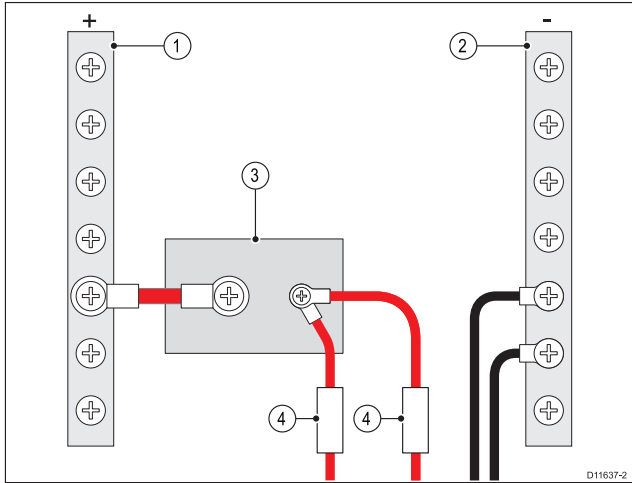
A	Battery connection scenario A: suitable for a vessel with a common RF ground point. In this scenario, if your product's power cable is supplied with a separate drain wire then it should be connected to the vessel's common ground point.
B	Battery connection scenario B: suitable for a vessel without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

Warning: Product grounding

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

Warning: Positive ground systems

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

Technical specification - Wireless (Active) speaker

Power specification

Nominal supply voltage	12 V dc (with over voltage protection)
Operating voltage range	10.2 V dc to 16 V dc
Fuse requirements	• Inline fuse = 1.25 A • Thermal breaker = 1.25 A
Current consumption	1 A nominal
Max speaker power output	5 W (8 Ω)

Environmental specification

Operating temperature	-25°C (-13°F) to +55°C (131°F)
Storage temperature	-25°C (-13°F) to +70°C (158°F)
Relative humidity	95%
Water proofing	IPx6 & IPx7

Connections

Connection	x 1 Wireless handset connection via Bluetooth connection
VHF radio compatibility	• Ray90 / Ray91