

SP160 AIS / VHF / FM Splitter - Installation Guide

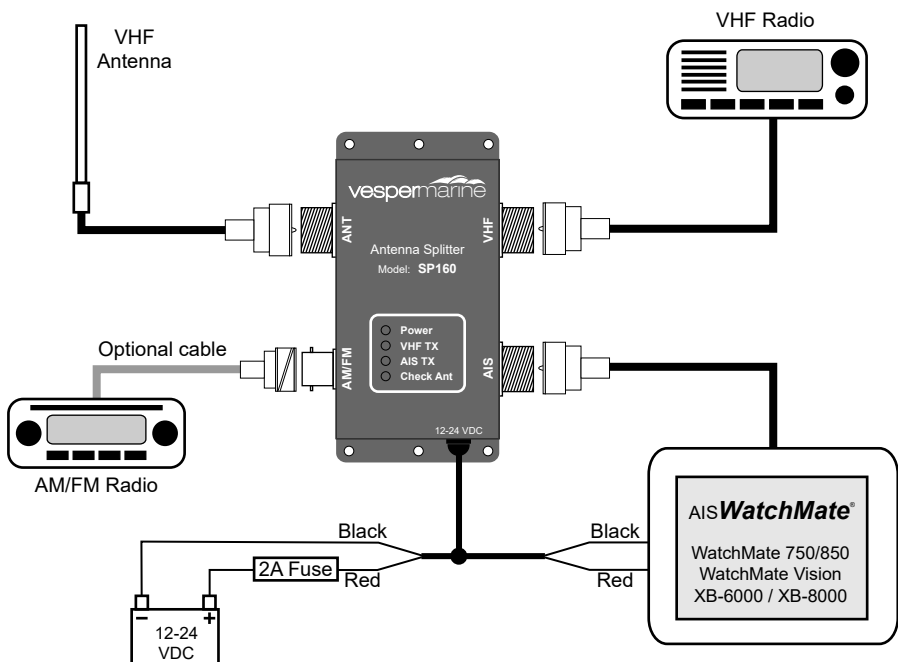
The Vesper Marine AIS / VHF / FM Antenna Splitter is used to share a single VHF antenna for both VHF radio and an AIS receiver or transponder. It can also supply a feed for your AM/FM radio.

Items needed to install:

- 12-24V DC power. Always install a 1A fuse and/or circuit breaker.
- Four 3mm (#4) screws for mounting.
- Two standard 50 Ω VHF patch cables (PL259) of adequate length to reach from your selected installation location to your VHF radio and AIS receiver or transponder.
- An optional BNC-to-Motorola Plug cable is available for connecting to most AM/FM radios.

Installation:

- Select a suitable location. Often this is near an existing VHF radio since the antenna cable is located there.
- The unit is water resistant to protect it against the marine environment, however it is recommended to install it in a dry location.
- If power will be switched with a circuit breaker, ensure the splitter always has power whenever the AIS is active. This may be easily accomplished by using the same circuit breaker as the AIS receiver or transponder.



Features:

- Ultra low insertion loss.
- Low noise amplifier improves AIS receive performance.
- AIS sensitivity is increased to -119dBm when used with Vesper Marine transponder.
- Fail-safe, always gives priority to VHF radio even if the power is switched off.

Indicators:

- Green power indicator. The splitter must have power for the AIS to work.
- Amber VHF TX is illuminated whenever the VHF radio is transmitting.
- Amber AIS TX is illuminated briefly whenever the AIS transponder is transmitting.
- Red "Check Ant" indicates an antenna problem such as a short or open circuit. This indicator will light only when the VHF is transmitting on high power. You can check your installation by switching to high power and pressing the talk button. Although this indicates a potential antenna problem, it is only an indicator and does not affect the splitter's functions.

VHF In-Use Indicator on *WatchMate* 850 and *WatchMate* Vision:

The SP160 splitter may be used with any AIS receiver or transponder. However, when used with a *WatchMate* a symbol is displayed on the screen whenever the VHF radio is transmitting. See your *WatchMate* manual for details.



Specifications:

Size (including connectors)	135mm (5 3/8") x 107mm (4 1/4") x 56mm (2 1/4")
Power	10-32 VDC, <0.8 W (nominal)
Maximum current	270 mA
Operating temperature	-25°C to +55°C (-13°F to 131°F)
Frequency range	156 MHz to 163 MHz
Insertion loss, VHF transmit	1 dB
Insertion loss, VHF receive	1.5 dB
Insertion loss, AIS transmit	1 dB
Gain, AIS receive	12 dB
Noise figure	<1.5 dB
Antenna port impedance	50 Ω, SO239 connector
VHF & AIS port impedance	50 Ω, SO239 connector
AM/FM port impedance	75 Ω, BNC connector
Switching time	<10 μS
Max. VHF transmit power	25 W
Max. AIS transmit power	12.5 W
Limited warranty	Two years from date of purchase. Includes parts and labor. Excludes freight. See www.vespermarine.com for details.

Vesper Marine declares that this product is in conformity with the essential requirements of EMC Directive 2014/30/EU. For details and a copy of the Declaration of Conformity see www.vespermarine.com/compliance.


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