SP160 AIS / VHF / FM Splitter - Installation Guide

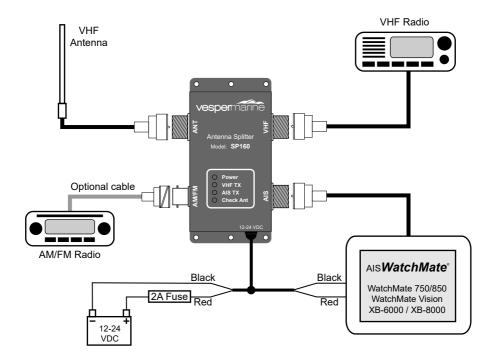
The Vesper Marine AIS / VHF / FM Antenna Splitter is used to share a single VHF antenna for both VHF radio and an AIS receiver or transponder. It can also supply a feed for your AM/FM radio.

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

Gain, AIS receive 12 dB Noise figure <1.5 dB Antenna port impedence 50Ω , SO

Antenna port impedence 50 Ω , SO239 connector VHF & AIS port impedence 50 Ω , SO239 connector AM/FM port impedence 75 Ω , BNC connector

Switching time $<10 \ \mu S$ 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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