



Apollo™ MS-WB670 Installation Instructions

Important Safety Information

⚠ WARNING

Failure to follow these warnings and cautions could result in personal injury, damage to the vessel, or poor product performance.

See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.

This device must be installed according to these instructions.

Disconnect the vessel's power supply before beginning to install this product.

Before applying power to this product, make sure it has been correctly grounded, following the instructions in the guide.

⚠ CAUTION

Always wear safety goggles, ear protection, and a dust mask when drilling, cutting, or sanding.

NOTICE

When drilling or cutting, always check what is on the opposite side of the surface.

You must read all installation instructions before beginning the installation. If you experience difficulty during the installation, contact FUSION® Product Support.

What's In the Box

- Four 8-gauge, self-tapping screws
- Power and speaker wiring harness
- Auxiliary-in, line-out, and subwoofer-out wiring harnesses
- NMEA 2000® drop cable

Tools Needed

- Phillips screwdriver
- Electric drill
- Drill bit (size varies based on surface material and screws used)

Mounting Considerations

⚠ CAUTION

In high ambient temperatures and after extended use, the device enclosure may reach temperatures deemed dangerous to touch. As a result, the unit must be installed in a location where it cannot be touched during operation.

NOTICE

This device should be mounted in a location that is not exposed to extreme temperatures or conditions. The temperature range for this device is listed in the product specifications. Extended exposure to temperatures exceeding the specified temperature range, in storage or operating conditions, may cause device failure. Extreme-temperature-induced damage and related consequences are not covered by the warranty.

When selecting a mounting location for the device, observe these considerations.

- You must mount the device in a location where it is not submerged.
- You must mount the device in a location with adequate ventilation where it is not exposed to extreme temperatures.
- You should mount the device so the cables can be connected easily.
- To achieve IPX2 water ingress protection, you must mount the device on a vertical surface with the connectors pointing downward.
- You can mount the device on a horizontal surface, but such positioning might not achieve IPX2 water ingress protection.
- To avoid interference with a magnetic compass, you must mount the device at least 15 cm (6 in.) away from a compass.

Mounting the Device

NOTICE

If you are mounting the device in fiberglass, when drilling the pilot holes, use a countersink bit to drill a clearance counterbore through only the top gel-coat layer. This will help to avoid cracking in the gel-coat layer when the screws are tightened.

NOTE: Screws are included with the device, but they may not be suitable for the mounting surface.

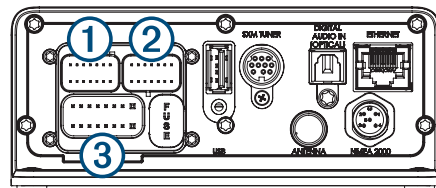
Before you mount the device, you must select a mounting location, and determine what screws and other mounting hardware are needed for the surface.

- 1 Place the device in the mounting location, and mark the location of the pilot holes.
- 2 Drill a pilot hole for one corner of the device.
- 3 Loosely fasten the device to the mounting surface with one corner, and examine the other three pilot-hole marks.
- 4 Mark new pilot-hole locations if necessary, and remove the device from the mounting surface.
- 5 Drill the remaining pilot holes.
- 6 Secure the device to the mounting location.

Connection Considerations

For the stereo to function correctly, you must connect it to power, to speakers, and to input sources. You should carefully plan the layout of the stereo, speakers, input sources, optional NMEA 2000 network, and optional FUSION PartyBus™ devices or network before making any connections.

Port Identification

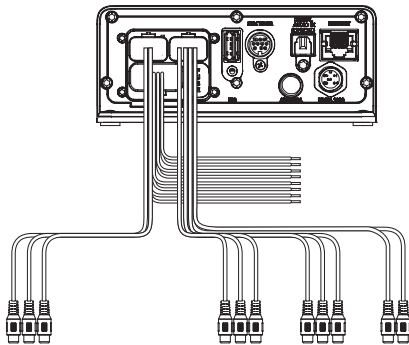


Item	Description
①	Connects the stereo to the wiring harness for zone 3.
②	Connects the stereo to the wiring harness for auxiliary input 1, and for the line and subwoofer outputs for zones 1 and 2.
③	Connects the stereo to the power and speaker wiring harness.



Item	Description
FUSE	Contains the 15 A fuse for the device.
USB	Connects the stereo to a USB source.
SXM TUNER	Connects the stereo to a SiriusXM® Connect Tuner to receive SiriusXM stations where available (not included). Connects to a FUSION DAB module to receive DAB stations where available (not included).
DIGITAL AUDIO IN (OPTICAL)	Connects the stereo to an optical digital audio source, such as TV or DVD player.
ETHERNET	Connects the stereo to another FUSION PartyBus stereo, zone stereo, or network (<i>FUSION PartyBus Networking, page 4</i>).
ANTENNA	Connects the stereo to a typical AM/FM antenna. If you are installing the stereo on a boat with a metal hull, you must use a ground-dependent antenna. If you are installing the stereo on a boat with a non-metal hull, you must use a ground-independent antenna. See the installation instructions provided with your antenna for more information.
NMEA 2000	Connects the stereo to a NMEA 2000 network (<i>NMEA 2000 System Wiring Diagram, page 3</i>).

Wiring Harness Wire and Connector Identification



Wire or RCA Connector Function	Bare Wire Color or RCA Label Name	Notes
Ground (-)	Black	Connects to the negative terminal of a 12 Vdc power source capable of supplying 15 A. You should connect this wire before connecting the yellow wire. All accessories connected to the stereo must share a common ground location (<i>Connecting to Power, page 2</i>).
Power (+)	Yellow	Connects to the positive terminal of a 12 Vdc power source capable of supplying 15 A.
Ignition	Red	Connects to a separately-switched, 12 Vdc connection, such as an ignition bus, to turn the stereo on and off. If you are not using a switched 12 Vdc connection, you must connect this to the same source as the yellow (power) wire
Amplifier on	Blue	Connects to optional external amplifiers, enabling them to turn on when the stereo turns on. A connected amplifier must use the same ground (-) as the stereo for this signal wire to function correctly.

Wire or RCA Connector Function	Bare Wire Color or RCA Label Name	Notes
Telemute	Brown	Activates when connected to ground. For example, when you connect this wire to a compatible, hands-free mobile kit, the audio mutes or the input switches to AUX when a call is received and the kit connects this wire to ground. You can enable this functionality from the settings menu.
Dim	Orange	This wire is not used when installing this device.
Speaker zone 1 left (+)	White	
Speaker zone 1 left (-)	White/black	
Speaker zone 1 right (+)	Gray	
Speaker zone 1 right (-)	Gray/black	
Speaker zone 2 left (+)	Green	
Speaker zone 2 left (-)	Green/black	
Speaker zone 2 right (+)	Purple	
Speaker zone 2 right (-)	Purple/black	
Zone 1 line out (left) Zone 1 line out (right) Zone 1 subwoofer out	ZONE 1 ZONE 1 SUB OUT	Provides output to an external amplifier, and is associated with the volume control for zone 1. Each subwoofer cable provides a single mono output to a powered subwoofer or subwoofer amplifier.
Zone 2 line out (left) Zone 2 line out (right) Zone 2 subwoofer out	ZONE 2 ZONE 2 SUB OUT	Provides output to an external amplifier, and is associated with the volume control for zone 2. Each subwoofer cable provides a single mono output to a powered subwoofer or subwoofer amplifier.
Auxiliary in left Auxiliary in right	AUX IN	Provides an RCA stereo line input for audio sources, such as a CD or MP3 player.
Zone 3 line out (left) Zone 3 line out (right) Zone 3 subwoofer out	ZONE 3	Provides output to an external amplifier, and is associated with the volume control for zone 3. Each subwoofer cable provides a single mono output to a powered subwoofer or subwoofer amplifier.

Connecting to Power

When connecting the stereo to power, you must connect both power wires. You should connect the yellow power wire directly to the battery. This provides power to the stereo and a constant trickle-power standby feed.

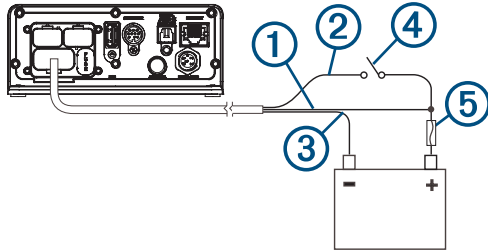
You should connect the red ignition wire to the same battery through the ignition or another manual switch to turn the stereo on and off. If you are not routing the red wire through the ignition or another manual switch, you can connect the red wire to the yellow wire, and connect them both to the positive (+) battery terminal.

You must connect the power wires to the battery through a 15 A fuse or a 15 A circuit breaker.

If it is necessary to extend the yellow power and black ground wires, use 14 AWG (2.08 mm²) wire. For extensions longer than 1 m (3 ft.), use 12 AWG (3.31 mm²) wire. If it is necessary to extend the red wire, use 22 AWG (0.33 mm²) wire.

- 1 Route the yellow power ①, red ignition ②, and black ground ③ wires to the battery, and route the wiring-harness plug to the stereo.

Do not connect the wiring harness to the stereo until all of the bare wire connections have been made.



- 2 Connect the black wire to the negative (-) battery terminal.
- 3 If you are routing the red wire through the ignition or another manual switch ④, connect the red ignition wire to the ignition or switch.
- 4 Connect the red wire to the yellow wire, install a 15 A fuse ⑤ as close to the battery as possible, and connect both wires to the positive (+) battery terminal.

NOTE: If you are running the red wire through a fused switch, it is not necessary to connect the red wire to the yellow wire or to add an another fuse to the red wire.

Speaker Zones

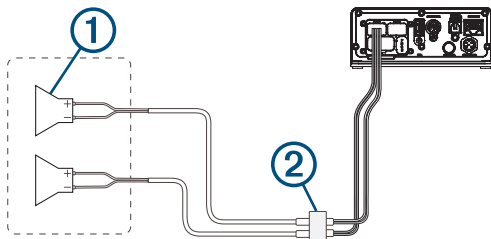
You can group speakers in one area into a speaker zone. This enables you to control the audio level of the zones individually. For example, you could make the audio quieter in the cabin and louder on deck.

Up to two pairs of speakers can be connected per channel of each zone, in parallel. One zone can support no more than four speakers using the on-board amplifier.

Zones 1 and 2 are powered by the on-board amplifier. Zone 3 is available as a line-level output only. To use the RCA line output and the RCA subwoofer output for zone 3, you must connect an external amplifier.

You can set the balance, volume limit, tone, subwoofer level, subwoofer frequency, and name for each zone, and configure other zone-specific settings.

Single-Zone System Wiring Example

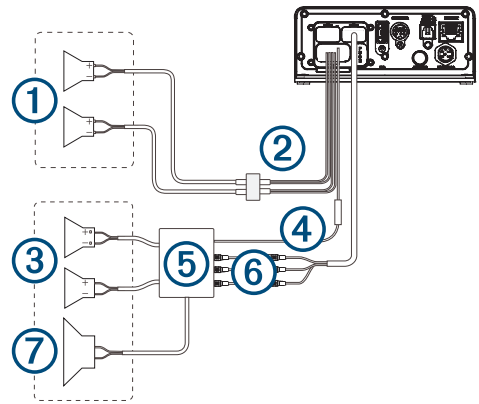


①	Speakers
②	Water-tight connection

Speaker System Wiring Using a Line Out

This diagram illustrates a system installation with an external amplifier and subwoofer connected to zone 2 on the stereo using a line out. You can connect an amplifier and subwoofer to any or all of the available zones on the stereo.

NOTE: You can connect speakers to the speaker wires for the internal stereo amplifier while using the line out on zones 1 and 2, although adjusting the volume affects both the speakers connected to the internal amplifier and the line out. This may result in uneven volume levels.



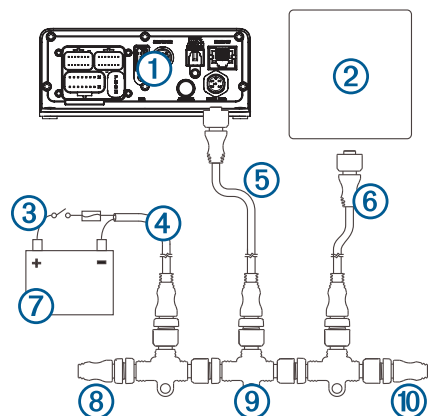
①	Zone 1 speakers
②	Water-tight connection
③	Zone 2 speakers
④	Amplifier-on signal wire You must connect this wire to each amplifier connected to a zone line out. A connected amplifier must use the same ground (-) as the stereo for this signal wire to function correctly.
⑤	Powered amplifier connected to the zone 2 line out
⑥	Zone 2 line out and subwoofer out Each subwoofer cable provides a single mono output to a powered subwoofer or subwoofer amplifier. You may need to use an RCA splitter to connect this to an amplifier.
⑦	Subwoofer

Connecting a SiriusXM Tuner Module

This device is compatible with a SiriusXM SXV300 or newer vehicle tuner module.

- 1 If you have already connected a USB source, disconnect it from the stereo.
- 2 Connect the cable from the SiriusXM tuner module to the SXM TUNER port on the back of the stereo.
- 3 Follow the instructions provided with the SiriusXM tuner module and antenna to complete the SiriusXM installation.
- 4 If necessary, reconnect the USB source.
- 5 Complete the stereo installation.

NMEA 2000 System Wiring Diagram



①	Stereo
②	Supported chartplotter MFD or compatible FUSION NMEA 2000 remote control
③	In-line switch

④	NMEA 2000 power cable
⑤	NMEA 2000 drop cable from the stereo, up to 6 m (20 ft.)
⑥	NMEA 2000 drop cable from the chartplotter MFD or compatible FUSION NMEA 2000 remote control
⑦	9 to 16 Vdc power supply
⑧	NMEA 2000 terminator or backbone cable
⑨	NMEA 2000 T-connector
⑩	NMEA 2000 terminator or backbone cable

FUSION PartyBus Networking

The FUSION PartyBus networking feature allows you to connect multiple compatible stereos together on a network, using a combination of wired or wireless connections.

You can group a compatible stereo, such as the Apollo WB670 stereo, with other compatible stereos connected to the network. Grouped stereos can share available sources and control media playback on all of the stereos in the group, which allows for a synchronized audio experience across the vessel. You can quickly create, edit, and break up groups as needed from any compatible stereo or remote control on the network.

NOTE: A zone stereo, such as the Apollo ERX400, can create or join a group to control and play sources from other stereos, but it cannot share its sources with the group.

For additional considerations when sharing sources, see the owner's manual.

You can use compatible stereos and remote controls, whether they are grouped or not, to adjust the volume of the available speaker zones for any stereo on the network.

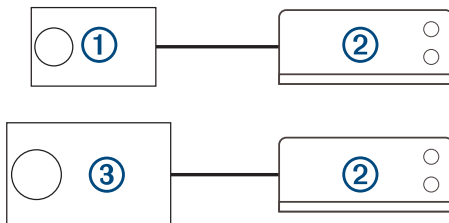
Wired Networking Considerations

When you are planning your network installation, observe the following considerations for all wired connections.

- You must connect devices using standard Cat5e or Cat6 network cables with RJ45 connectors.
- You can use one network cable to directly connect two compatible devices.
- You must use wired network switches and wired or wireless network routers when you connect more than two compatible devices to a network.
- If you install a router on the network, it should be configured to be a DHCP server by default. See your router instructions for more information.
- If you do not install a router, and there are no other DHCP servers on the network, you should configure one FUSION PartyBus stereo to be a DHCP server.

Wired Network Example for Direct Connections

No network setting changes are needed when connecting two devices together directly.

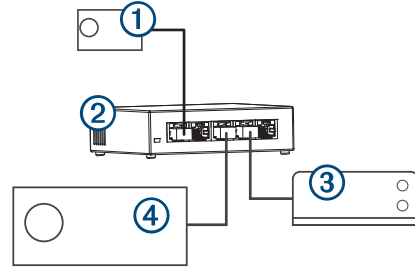


①	FUSION PartyBus zone stereo or remote control
②	Apollo MS-WB670 stereo
③	FUSION PartyBus stereo

Wired Network Example with a Switch or Router

You must use wired network switches, a wired network router, or both to connect more than two FUSION PartyBus devices.

No network setting changes are needed when connecting multiple FUSION PartyBus devices using a switch, but if you are using a router, you may need to configure it to be a DHCP server. See your router instructions for more information.



①	FUSION PartyBus zone stereo or remote control
②	Wired network switch or wired network router
③	Apollo MS-WB670 stereo
④	FUSION PartyBus stereo

Constructing a Network

You should have a basic understanding of networking when building a network for FUSION PartyBus devices.

These instructions guide you through the basics of building and configuring a network, and should apply to most situations. If you need to perform advanced networking tasks, such as assigning static IP addresses to devices on the network or configuring advanced settings on a connected router, you may need to consult a networking professional.

- Determine the installation location of the FUSION PartyBus devices you want to connect to the network.

NOTE: Wired connections are more reliable than wireless connections. When planning your network, you should run network cables instead of using wireless connections when possible.

- Determine the installation location of any needed network routers or switches.
- Route Cat5e or Cat6 network cable to the installation locations of the stereos, switches, and router.
- Connect the network cables to the stereos, switches, and router.

NOTICE

Do not completely install the stereos yet. You should test the network before you install the stereos.

- Turn on all devices connected to the network, including wireless devices.
- If you are using a network router (wired or wireless), consult the documentation provided with your router to configure the router as the DHCP server, if necessary.
All stereos should use their default configuration (DHCP CLIENT).
- Test the network by viewing the list of FUSION PartyBus devices from the **CONTROL** screen on each device on the network and select an option:

- If any devices are not available to the network, troubleshoot the network ([Network Troubleshooting](#), page 5).
- If all devices are available to the network, complete the installation for each stereo, if necessary.

Network Configuration

Setting the Stereo as the DHCP Server

If you connected more than two network devices together directly or using a network switch or wireless access point and did not install a router, you should configure only one FUSION PartyBus stereo to be a DHCP server.

- 1 Select **SETTINGS > NETWORK > STATIC IP > SAVE.**
- 2 Select **ADVANCED > DHCP SERVER > DHCP ENABLED > SAVE.**

Configuring the Stereo for use with a Garmin® Marine Network

You can connect this stereo to a Garmin Marine Network in order to view and control the stereo using a compatible Garmin chartplotter.

NOTE: When you configure the stereo for use with a Garmin Marine Network, you are limited to using only Garmin and FUSION devices. You cannot use third-party routers, phones, storage devices, or other network products with this stereo.

Select **SETTINGS > NETWORK > GARMIN MARINE NETWORK.**

Resetting Network Settings

You can reset all network settings for this stereo to the factory default values.

Select **SETTINGS > NETWORK > RESET > YES.**

Advanced Network Configuration

You can perform advanced networking tasks on a FUSION PartyBus device, such as defining DHCP ranges and setting static IP addresses. See the owner's manual for more information.

Network Troubleshooting

If you cannot see or connect to FUSION PartyBus devices on the network, check the following:

- Verify that only one device, either a stereo or a router, is configured as a DHCP server.
- Verify that all FUSION PartyBus devices, network switches, routers, and wireless access points are connected to the network and turned on.
- Verify that wireless FUSION PartyBus devices are connected to a wireless router or wireless access point on the network.

NOTE: Wired connections are more reliable than wireless connections. If possible, you should connect devices to the network using an Ethernet cable.

- You may experience wireless interference if there are many nearby wireless access points. Change the channel on your router or wireless access point to test for and correct interference.
- Connecting a Bluetooth® device to a stereo configured as a wireless access point or client may reduce wireless performance. Disconnect Bluetooth devices to test for and correct interference.
- If you configured static IP addresses, verify that every device has a unique IP address, that the first three sets of numbers in the IP addresses match, and that the subnet masks on every device are identical.
- If you have made configuration changes that might be causing networking issues, reset all network settings to the factory default values.

Stereo Information

Specifications

Weight	475 g (16.75 oz.)
Water rating	IEC 60529 IPX2 ¹

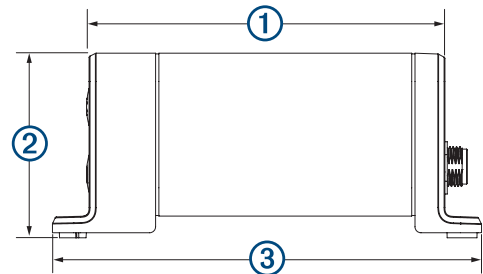
Operating temperature range	From 0 to 50°C (from 32 to 122°F)
Storage temperature range	From -20 to 70°C (from -4 to 158°F)
Input voltage	From 10.8 to 16 Vdc
Current (max.)	15 A
Current (muted)	Less than 700 mA
Current (off)	Less than 100 mA
Fuse	15 A mini blade-type
NMEA 2000 LEN @ 9 Vdc	1 (50 mA)
Bluetooth wireless range	Up to 10 m (30 ft.)
ANT® wireless range	Up to 3 m (10 ft.)
Wireless frequencies/protocols	Bluetooth 2.4 GHz @ 12 dBm nominal ANT 2.4 GHz @ 7 dBm nominal
Compass-safe distance	15 cm (6 in.)

On-board, Class D amplifier

Output music power per channel	4 x 70 W max. 2 ohm
Total output peak power	280 W max.
Output power per channel	4 x 43 W RMS at 14.4 Vdc input, 2 ohm, 10% THD ² 4 x 26 W RMS at 14.4 Vdc input, 4 ohm, 10% THD ²
Line output level (max.)	5.5 V (peak to peak)
Aux input level (typical)	1 V RMS

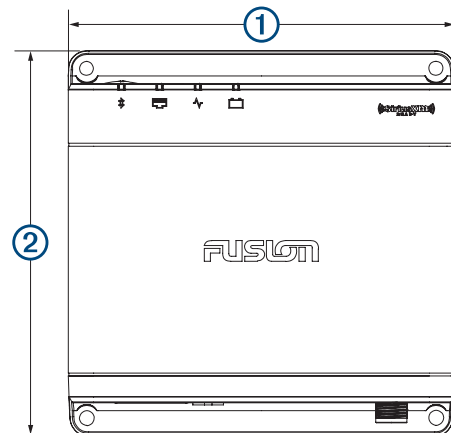
Stereo Dimension Drawings

Side Dimensions



①	107 mm (4.21 in.)
②	55 mm (2.17 in.)
③	130 mm (5.10 in.)

Top Dimensions



¹ Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle of 15° from its normal position.

² The stereo may limit the output power to prevent the amplifier from overheating, and to maintain the audio dynamics.

①	130 mm (5.10 in.)
②	130 mm (5.10 in.)