FUSION® MS-BB300 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.

Software Updates

For best results, you should update the software in all FUSION devices at the time of installation to ensure compatibility.

Go to www.fusionentertainment.com/marine to download the latest software. Software updates and instructions are available on your device product page.

Mounting Considerations

⚠ CAUTION

In high ambient temperatures and after extended use, the device enclosure may reach temperatures deemed dangerous to touch. Therefore the unit must be installed in a location where it will not 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.

- The device must be mounted in a location where it is not submerged.
- The device must be mounted in a location with adequate ventilation where it is not exposed to extreme temperatures.
- The device should be mounted so that the cables can be connected easily.
- To achieve IPX3 water ingress protection and optimal heat sink cooling, the device must be mounted on a vertical surface with the connectors pointing downward.
- The device can be mounted on a horizontal surface, but such positioning might not achieve IPX3 water ingress protection.
- To avoid interference with a magnetic compass, the device should be installed at least 203 mm (8 in.) away from a compass.

Mounting the FUSION BB300 Device

NOTICE

If you are mounting the device in fiberglass, when drilling the pilot holes, it is recommended to 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: Stainless-steel screws may bind when screwed into fiberglass and overtightened. It is recommended to apply an anti-seize lubricant to the screws before installing them.

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

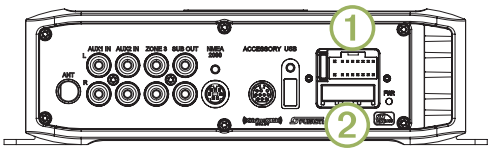
Before you mount the device, you must select a mounting location and determine what screws and other mounting hardware are needed for the surface.

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

The device must be connected to power, either the boat ignition or an external switch, a NMEA 2000® network, speakers, and media input sources to function correctly. You should carefully plan the layout of the device, the NMEA 2000 network, the speakers, and your input sources before making any connections.

Connector Identification



Connector	Connects to
ANT	External AM/FM antenna
AUX IN 1	Stereo line-level RCA auxiliary source
AUX IN 2	Stereo line-level RCA auxiliary source
ZONE 3	Separate amplifier and speakers
SUB OUT	Mono line-level subwoofer (tied to ZONE 3) for amplifier
WIRED REMOTE NMEA 2000	FUSION NRX or NMEA 2000 network
SXM TUNER	SiriusXM® tuner
USB	USB-compatible media device
①	Power and speakers
②	Reserved for future use

Wire Identification

Wire Function	Wire Color	Notes
Power (+)	Yellow	This should be connected to a constant 12 Vdc source capable of supplying 15 A.
Ground (-)	Black	

Wire Function	Wire Color	Notes
Ignition	Red	This should be connected to a separate switched 12 Vdc connection, such as an ignition bus, to turn the device 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/white	This is connected only when using an external amplifier on ZONE 3 and on SUB OUT (optional).
Mute	Brown/white	When connected to ground, this mutes the audio or switches the input to AUX2. This is available in the settings menu.
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	

Connecting to Power

When connecting the stereo to power, you must connect both power wires. The yellow power wire should be connected directly to the battery, or connected using a 15 A isolator switch. This provides power to the stereo and a constant trickle-power standby feed. The red signal wire should be connected to the same battery through the ignition or another manual switch to turn the stereo on and off.

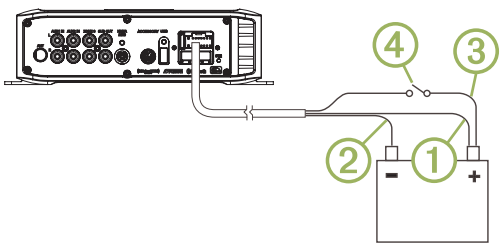
If you are not routing the red wire to the ignition or another manual switch, you can connect the yellow to the red, and connect them to the positive (+) battery terminal. You should put a fuse on the red wire.

If it is necessary to extend the yellow power and black ground wires, use 14 AWG (2.08 mm^2) wire. For extensions longer than 1 m (3 ft.), use 12 AWG (3.31 mm^2) wire.

If it is necessary to extend the red signal wire, use 22 AWG (0.33 mm^2) wire.

1 Route the yellow power ① and black ground ② 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 Select an option:

- Connect the yellow wire to the positive (+) battery terminal, and route the red signal wire ③ to the ignition or another manual switch ④.
- Connect the yellow wire to the red, and connect them to the positive (+) battery terminal.

NMEA 2000 Connection Considerations

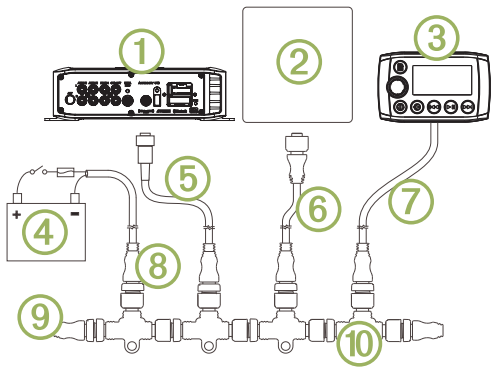
NOTICE

If you purchased the stereo and remote as a bundle (FUSION MS-BB300R), do not use the included adapter cable (CAB000862) to connect the FUSION BB300 stereo to an existing NMEA 2000 network. Existing networks are normally powered separately. You must obtain a non-powered drop cable (CAB000863) from FUSION to connect to existing NMEA 2000 networks.

The FUSION MS-BB300 stereo can connect to an existing NMEA 2000 network or to a FUSION NRX remote control. Through the NMEA 2000 network, you control the FUSION MS-BB300 device using a compatible chartplotter or FUSION NRX remote control.

The FUSION MS-BB300R stereo and remote bundle package includes the cables needed to connect the FUSION BB300 stereo to a stand-alone FUSION remote control network. If you need to connect the FUSION MS-BB300R stereo and remote bundle to an existing NMEA 2000 network, you must obtain a non-powered drop cable (CAB000863) from FUSION.

The FUSION MS-BB300 stereo package includes a NMEA 2000 drop cable to connect the FUSION BB300 stereo to an existing NMEA 2000 network. A standard NMEA 2000 drop cable is not compatible with the connector on the device, although the included cable can be extended to a maximum length of 2 m (6 ft.) using a standard NMEA 2000 cable.



Item	Description
①	FUSION BB300 device
②	Compatible chartplotter
③	FUSION NRX remote control
④	12 Vdc power source with an ignition or in-line switch
⑤	FUSION BB300 NMEA 2000 drop cable This can be extended to a maximum length of 2 m (6 ft.) using a standard NMEA 2000 cable.
⑥	NMEA 2000 drop cable
⑦	FUSION NRX remote control drop cable. This can be extended to a maximum length of 2 m (6 ft.) using a standard NMEA 2000 cable.
⑧	NMEA 2000 power cable
⑨	NMEA 2000 terminator or backbone cable
⑩	NMEA 2000 T-connector

Subwoofer Connection Considerations

This device supports output to a powered subwoofer from ZONE 3 (optional).

The subwoofer port on the device outputs a mono line-level signal from both RCA connectors. The port output audio level is linked to ZONE 3.

- If your subwoofer amplifier has two RCA input connectors, you should connect both connectors to the device.
- If your subwoofer amplifier has one RCA input connector, you can connect it to either subwoofer output RCA connector on the device, because the two RCA subwoofer outputs are parallel.
- Because the subwoofer output is linked to the ZONE 3 output, you must connect the blue wire from the wiring harness to the subwoofer amplifier to provide a signal to turn it on.

Speaker Amplifier Connection Considerations

In addition to the two stereo speaker zones available through the wiring harness, this stereo can be connected to a separate amplifier and speakers through the ZONE 3 connection (optional).

- The blue wire from the wiring harness must be connected to the amplifier to provide a signal to turn on the amplifier with the stereo. If it is necessary to extend this blue signal wire, use 22 AWG (0.33 mm^2) wire.
- The audio output is a stereo line-level output over standard RCA cable.

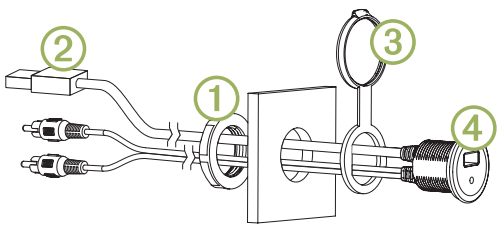
Installing the USB and 3.5 mm Socket

The USB and 3.5 mm socket is provided only with the FUSION MS-BB300R stereo and remote bundle. You may purchase the USB and 3.5 mm socket as an accessory (MS-CBUSB3.5).

Before installing the socket, make sure the cables will reach the mounting location and the ports on the back of the device. If needed, the RCA cables can be extended using a standard stereo RCA extension cable.

To allow for a proper seal, the mounting surface should be no thicker than 15 mm ($^5/_8$ in.).

1. Remove the nut ① from the socket and separate it from the connected cable by pulling through one connector ② at a time.



   Do not remove the protective cover ③ from the socket.
2. Mark the mounting location of the socket and drill a 30 mm (1 $^3/_{16}$ in.) hole through the mounting surface.
3. From the front of the mounting surface, feed the cables through the hole by inserting one connector at a time, and pull the cables through until the socket rests in the hole.

   To ensure proper orientation, the USB socket ④ should be on the top.
4. Place the nut over both the USB and 3.5 mm audio cables, thread it along the cables to the USB and 3.5 mm socket, and fasten the socket to the surface.
5. If necessary, route the USB cable to the stereo and connect it to the USB port.
6. If necessary, route the 3.5 mm connector cable to the stereo and connect it to the AUX IN 1 or AUX IN 2 port.

Stereo Information

Specifications

General	
Dimensions (L × W × H)	99.6 × 235 × 66 mm (3.94 × 9.25 × 2.63 in.)
Weight	0.88 kg (1.96 lb.)
Water resistance	IPX3: Protected against spraying water when tilted up to 60 degrees vertically.
Operating temperature	From 0 to 50°C (from 32 to 122°F)
Storage temperature	From -20 to 70°C (from -4 to 158°F)
Input voltage	10.8 to 16 Vdc negative ground
Fuse rating	15 A
NMEA 2000 LEN	1 (50 mA)
Compass-safe distance	203 mm (8 in.)

Audio Amplifier	
Output music power per channel	50 W
Total output music power	200 W
Speaker impedance	4 Ohm per channel
Total harmonic distortion (1 W output, 4 ohm load, from 20 Hz to 20 kHz)	0.04 typical < 0.1% max.
Pre-output voltage	3 V peak
Current (standby with ignition off)	< 3 mA
Current (max.)	15 A
Current (muted)	< 800 mA

Inputs and Outputs	
AUX IN 1 and AUX IN 2	RCA stereo line input for sources such as CD, DVD, and MP3 player
ZONE 3	RCA stereo line output
SUB OUT	RCA dual mono line output (ZONE 3)
ANT	Motorola connector (standard AM/FM antenna connector)
USB	USB-A industry standard Compatible with USB flash drives audio playback with supported audio formats and MTP devices USB works with iPod touch® (2nd through 5th generation), iPod classic®, iPod nano®(4th through 7th generation), iPhone® 5, iPhone 4s, iPhone 4, iPhone 3Gs, iPhone 3G

Tuner	Europe and Australasia	USA	Japan
FM radio frequency range	87.5 to 108 MHz	87.5 to 107.9 MHz	76 to 95 MHz
FM frequency step	50 kHz	200 kHz	50 kHz
AM radio frequency range	522 to 1620 kHz	530 to 1710 kHz	522 to 1620 kHz
AM frequency step	9 kHz	10 kHz	9 kHz

Registering Your FUSION MS-BB300

Help us better support you by completing our online registration today.

- Go to www.fusionentertainment.com.
- Keep the original sales receipt, or a photocopy, in a safe place.

Getting the Owner's Manual

You can get the latest owner's manual and translations of manuals from the web.

1. Go to www.fusionentertainment.com/marine.
2. Select your product.
3. Select **Manuals & Downloads**.

4 Select a manual.

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Made for iPhone 5, iPhone 4s, iPhone 4, iPhone 3GS, iPhone 3G, iPod touch (2nd through 5th generation), iPod classic, and iPod nano (4th through 7th generation).

"Made for iPod and iPhone" means that an electronic accessory has been designed to connect specifically to an iPod or an iPhone respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with an iPhone may affect wireless performance.

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