



# FUSION® BB100 Black Box Entertainment System with Wired Remote Control 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](http://www.fusionentertainment.com/marine) to download the latest software. Software updates and instructions are available on your device product page.

## Tools Needed

- Phillips screwdriver
- Electric drill
- Drill bit (size varies based on surface material and screws used)
- Rotary cutting tool or jigsaw
- Marine sealant (optional)

## 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 black box device, observe these considerations.

- 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 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 15 cm (5.91 in.) away from a compass.

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

- The remote control must be mounted in a location where there is at least 70 mm (2.75 in.) of clearance behind the mounting surface and you can access the controls after it is mounted.
- If you need to mount the remote control outside the cabin, it must be mounted in a location well above the waterline, where it is not submerged.
- If you need to mount the remote control outside the boat, it should be mounted in a location where it will not be damaged by a docks, pilings, or other pieces of equipment.

## Mounting the BB100 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.

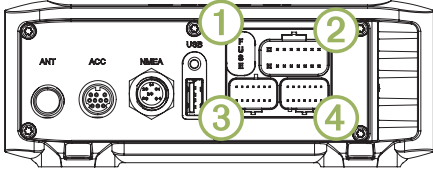
## Mounting the Wired Remote Control

- 1 At the mounting location, use a 57 mm (2.25 in.) hole saw to cut through the mounting surface.
- 2 Apply marine sealant around the cutout (optional).
- 3 Place the gasket on the back of the remote control.
- 4 Feed the attached cable through the cutout.
- 5 Place the remote control in the cutout.
- 6 Secure the remote control to the mounting surface using the mounting nut.
- 7 Route the cable away from sources of interference.
- 8 Connect the cable to the port on the BB100 black box.

## Connection Considerations

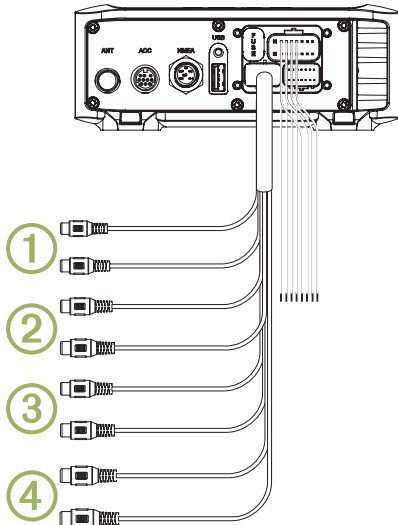
The stereo must be connected to power, to speakers, and to media input sources to function correctly. You should carefully plan the layout of the stereo, wired remote, speakers, optional NMEA 2000 network, and your input sources before making any connections.

### Port Identification



Port	Connects to
ANT	External AM/FM antenna
ACC	Connects to a FUSION DAB module to receive DAB stations where available (not included).
NMEA	NMEA 2000 network
USB	USB-compatible media device
①	15 A fuse
②	Power and speakers
③	Subwoofer, zone 1, zone 2, and auxiliary device
④	Remote control <b>NOTE:</b> You must connect the remote control to the stereo for the stereo to function properly.

### Wiring Harness Wire and Connector Identification



Wire Function	Wire Color/ Number	Notes
Power (+)	Red (yellow on some wire harnesses)	Connects to the positive terminal of a 12 Vdc power source capable of supplying 15 A.
Ground (-)	Black	Connects to the negative terminal of a 12 Vdc power source capable of supplying 15 A. This wire should be connected before connecting the red (or yellow) wire. All accessories connected to the stereo must share a common ground location.
Amplifier on	Blue	Connects to an optional external amplifier to turn it on when the stereo turns on.

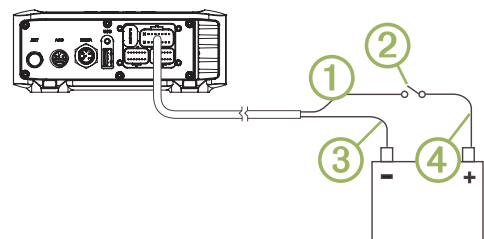
Wire Function	Wire Color/ Number	Notes
Mute	Brown	Activates when connected to ground. For example, when connected to a compatible hands-free mobile kit, the audio mutes or the input switches to AUX IN when a call is received and the kit connects this wire to ground. This functionality can be configured from the settings menu.
Dim	Orange	This wire is not used by 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	
Auxiliary in left Auxiliary in right	①	Provides a red and white RCA stereo line input for audio sources, such as a CD or MP3 player.
Zone 1 line out (left) Zone 1 line out (right)	②	Provides a full-range output to an external amplifier, and is associated with the volume control for zone 1.
Zone 2 line out (left) Zone 2 line out (right)	③	Provides a full-range output to an external amplifier, and is associated with the volume control for zone 2.
Subwoofer out	④	Each cable provides a single mono output to a powered subwoofer or subwoofer amplifier, and one or both cables can be used, depending on the connection requirements of the subwoofer or amplifier. A connected subwoofer is associated with the volume control for zone 1.

### Connecting to Power

When connecting the stereo to power, you should connect it through the ignition or another manual switch.

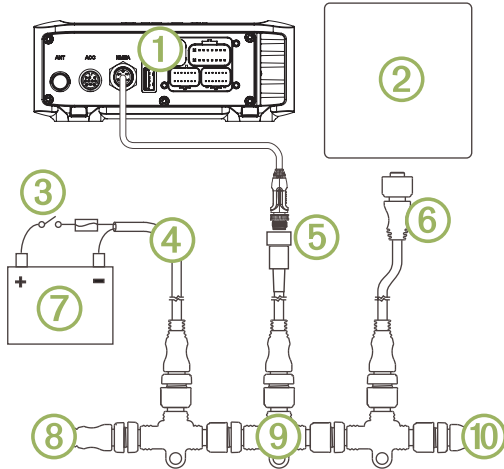
If it is necessary to extend the power and ground wires, use 14 AWG (2.08 mm<sup>2</sup>) wire. For extensions longer than 1 m (3 ft.), use 12 AWG (3.31 mm<sup>2</sup>) wire.

- 1 Route the power wire ① to the ignition or another manual switch ②, and route the black ground wire ③ to the battery.



- 2 If necessary, route a wire ④ between the switch and the battery .
- 3 Route the wiring-harness plug to the stereo.
- Do not connect the wiring harness to the stereo until after all of the bare wire connections have been made.
- 4 Connect the black wire to the negative (-) battery terminal.
- 5 Connect the power wire to the ignition or another manual switch, and connect the switch to the positive (+) battery terminal if necessary.
- 6 Connect the wiring harness plug to the stereo.

### NMEA 2000 System Wiring Diagram



①	Stereo
②	NMEA 2000, such as a supported chartplotter MFD or NRX200i remote
③	In-line switch
④	NMEA 2000 power cable
⑤	NMEA 2000 cable from the stereo This can be extended to a maximum length of 6 m (20 ft.) using a NMEA 2000 cable.
⑥	NMEA 2000 drop cable from the chartplotter MFD
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

## Stereo Information

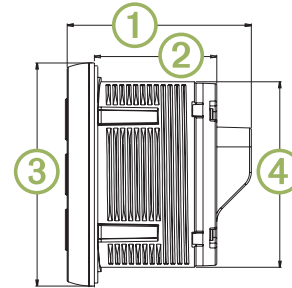
### Specifications

Specification	Measurement
Dimensions (black box stereo) (W × H × D)	Approximately 155 mm (6.10 in.) × 60 mm (2.63 in.) × 94 mm (3.70 in.)
Water resistance (black box stereo)	IEC 60529 IPX3
Water resistance (remote control)	IEC 60529 IPX7 (front), IEC 60529 IPX3 (rear)
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	From 10.8 to 16 Vdc negative ground
Fuse rating	15 A
NMEA 2000 LEN	1 (50 mA)
ANT <sup>®</sup> wireless range	Up to 3 m (10 ft.)
Compass-safe distance	15 cm (5.91 in.)
Pre-output voltage	3 V peak

Specification	Measurement
Current (standby)	less than 15 mA
Current (max.)	15 A
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 Less than 0.1% max.

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 1,710 kHz	522 to 1,620 kHz
AM frequency step	9 kHz	10 kHz	9 kHz

### Remote Control Dimensions



Item	Measurement
①	54 mm (2.13 in.)
②	46 mm (1.81 in.)
③	65 mm (2.56 in.)
④	56.5 mm (2.22 in.)

### USB Device Compatibility

You can use a USB flash drive or the USB cable included with your media player to connect a media player or mobile device to the USB port.

The stereo is compatible with iAP2 Apple<sup>®</sup> devices such as the iPhone<sup>®</sup> 7 Plus, iPhone 7, iPhone 6s Plus, iPhone 6s, iPhone 6 Plus, iPhone 6, iPhone 5s, iPhone 5c, iPhone 5, and iPod touch<sup>®</sup> (5th and 6th generation).

The stereo is compatible with Android<sup>™</sup> devices that support the Android Open Accessory (AOA) protocol.

**NOTE:** The stereo is not compatible with Android devices in MTP or PTP mode. See the instructions for your Android device to connect using AOA, if necessary.

The stereo is compatible with media players and other USB mass storage devices, including USB flash drives. Music on USB drives must meet these conditions:

- The USB mass storage device must be formatted using the FAT32 file system.
- The music files must be formatted as MP3 files.
- Each folder on the storage device can contain a maximum of 250 MP3 files.

### Registering Your BB100

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

- Go to [www.fusionentertainment.com](http://www.fusionentertainment.com).
- Keep the original sales receipt, or a photocopy, in a safe place.

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