FUSION®

Signature Series Speakers Installation Instructions

Important Safety Information

⚠ WARNING

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

⚠ WARNING

This device must be installed according to these instructions.

Disconnect the vehicle's or vessel's power supply before beginning to install this device.

⚠ CAUTION

Continuous exposure to sound pressure levels over 100 dBA may cause permanent hearing loss. The volume is typically too loud if you cannot hear people speaking around you. Limit the amount of time you listen at high volume. If you experience ringing in your ears or muffled speech, stop listening and have your hearing checked.

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.

It is strongly recommended that you have your audio system installed by a professional installer to ensure optimum performance.

You must read all installation instructions before beginning the installation.

Tools Needed

- Electric drill
- Drill bit (size varies based on surface material)
- Phillips screwdriver
- Appropriate saw or utility knife to cut surface material
- 18 AWG (0.82 mm^2) or larger speaker wire
- 4.8 mm and 6.3 mm female speaker spade connectors (recommended)
- 22 AWG (0.33 mm^2) or larger wire for the LEDs (sports models only)
- 4 mm male and female bullet connectors for the LED wires (recommended, sports models only)
- Wire strippers (optional)
- Crimping tool (optional)
- Electrical tape (optional)
- Marine sealant (optional)

NOTE: For customized installations, additional tools and materials may be needed.

Mounting Considerations

NOTICE

When mounting the speaker in an area exposed to weather or water, you must mount the speaker on a vertical surface. If you mount the speaker on a horizontal surface facing up, water can gather in and around the speaker, causing damage over time.

If you intend to mount the speakers outside the boat, you must mount them in a location well above the waterline, where they are not submerged or damaged by docks, pilings, or other pieces of equipment. When mounted correctly, these speakers are rated for protection from the front of the speaker. Water exposure and damage to the rear of the speaker voids the warranty. This includes situations when the speakers are mounted in a sealed enclosure, especially if they are exposed to wash down. Using an enclosure with a port or vent exposed to the outside environment may allow water to collect and damage the speaker.

You must turn off the audio system before making any connections to the source unit, amplifier, or speakers. Failure to do so could result in permanent damage to the audio system.

You should protect all terminals and connections from grounding and from each other. Failure to do so could result in permanent damage to the audio system and void the product warranty.

When selecting a mounting location for the speakers, observe these considerations:

- You must select mounting locations that provide sufficient clearance for the mounting depth of the speakers as specified in the product specifications.
- You should select a flat mounting surface for the best seal.
- You should protect the speaker wires from sharp objects and always use rubber grommets when wiring through panels.
- To avoid interference with a magnetic compass, you should not mount the speakers closer to a compass than the compass-safe distance value listed in the product specifications.
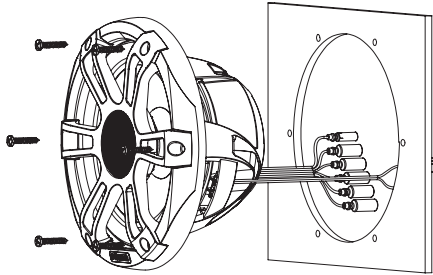
Selecting the correct mounting location optimizes the performance of each speaker. FUSION® speakers are designed to perform in the widest possible range of mounting locations, but the more you plan the installation, the better the speakers' sound will be.

Mounting the Speakers

Before mounting the speakers, you must choose a location following the guidelines above.

1 Route the speaker wires (and LED wires, if applicable) from the source to the speaker location.

2 Trim the template and make sure it fits in the selected location.

3 Orient the template with the FUSION logo at the bottom of the template.

4 Secure the template to the selected location.

5 Using a drill bit appropriate for the mounting surface, drill a hole inside the dashed line on the template to prepare the mounting surface for cutting.

6 Using a jigsaw or rotary tool, cut the mounting surface along the inside of the line on the template.

7 Place the speaker in the cutout to test the fit.

8 If necessary, use a file and sandpaper to refine the size of the cutout.

9 After the speaker fits correctly in the cutout, ensure the mounting holes on the speaker line up with the pilot holes on the template.

10 If the mounting holes on the speaker do not line up, mark the new hole locations.

11 Using an appropriately sized drill bit for the mounting surface and screw type, drill the holes.

12 Remove the template from the mounting surface.

13 Connect the speaker wires while observing polarity (*Speaker Wiring*, page 2).

14 If necessary, connect the LED wires to the Sports model speakers (*LED Wiring*, page 2).

15 Place the speaker in the cutout.

16 Secure the speaker to the mounting surface using the included screws.

NOTE: Do not over tighten the screws, especially if the mounting surface is not flat.

For Classic model speakers, attach the grille to the speaker front.

Speaker Wiring

When connecting the speakers to your stereo, observe these considerations.

* Speaker wire is not included with the speakers. You should use 18 AWG (0.82 mm^2) or larger speaker wire to connect the speakers to the stereo.
* The leads on the speakers are terminated using male spade connectors. You should use female spade connectors (not included) to connect the speaker wire to the speaker leads for the best connection.
* You can use this table to identify the polarity and spade-connector sizes of the leads on the speaker.

Speaker wire color	Speaker wire polarity	Spade connector size
White	Positive (+)	6.3 mm
White with a black stripe	Negative (-)	4.8 mm

LED Wiring

Connecting the LED Wires

You can control the color of the LEDs by connecting the colored LED wires to the negative (-) terminal of a 12 VDC power source. You can splice the negative (-) wire to multiple LED wires to customize the LED color and tone. You must connect the black LED wire to the positive (+) terminal of the same 12 VDC power source to complete the circuit.

NOTE: This feature is available only on the sports model.

NOTE: Instead of connecting the LED wires for one dedicated color, you can install a remote control to turn the LEDs on and off, change the color, and create lighting effects.

The black wire on the LED cable is terminated with a 4 mm female bullet connector, and the color wires are terminated with 4 mm male bullet connectors. You can connect these to 4 mm bullet connectors on your wires (not included), or remove the bullet connectors to connect to the bare wires instead.

1 Connect the positive (+) wire from a 12 VDC power source to

the black wire on the LED cable.

2 Connect the negative (-) wire from the same 12 VDC power source to the colored wire or wires on the LED cable according to the preferred LED color.

LED Color	LED Wire Color
Red	Red
Green	Green
Blue	Blue
Yellow	Red and green
Magenta	Red and blue
Cyan	Blue and green
Cool white	Turquoise
Warm white	Yellow

NOTE: You can connect the cool white or warm white wire to change the tone of any LED color combination.

3 If necessary, route the positive and negative wires, and connect them to a 12 VDC power source (*Connecting the LED Wires to Power*, page 2).

Connecting the LED Wires to Power

NOTE: This feature is available on only the sports model.

You must connect all 12 Vdc wiring to the LEDs to a 3 A fuse at the power-source end of the cable. You should connect the positive (+) power wire to a 12 Vdc power source through an isolator switch or circuit breaker to turn the LEDs on and off. You can use the same isolator or circuit breaker controlling the power supply to your stereo, which allows you to turn the LEDs and the stereo on and off at the same time.

You should use 22 AWG (0.33 mm^2) or thicker wire to connect the LEDs to the battery.

1 Route the positive power (+) and negative ground (-) wires from the LED-wire connections to the battery.

2 Connect the negative wire to the negative (-) battery terminal.

3 Connect the positive wire to the positive (+) terminal through a 3 A fuse and isolator switch or circuit breaker.

Attaching the Grille to the Classic Model Speakers

NOTE: This feature is available only on the Classic model speakers.

1 With the speakers mounted, hold the grille with the FUSION logo at the bottom, or at the 6 o'clock position.

2 Turn the grille counter-clockwise about 10°, so the FUSION logo is at the 5 o'clock position.

3 Place the grille on the rim of the speaker.

4 Twist the grille clockwise to secure it.

Speaker Information

True-Marine™ Products

True-Marine products are subjected to rigorous environmental testing under harsh marine conditions to surpass industry guidelines for marine products.

Any product that bears the True-Marine stamp of assurance has been designed for simplicity of use and combines advanced marine technologies to deliver an industry leading entertainment experience. All True-Marine products are supported by the FUSION 3-year worldwide limited consumer warranty.
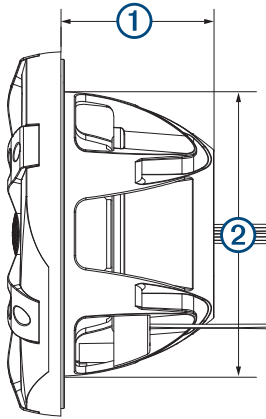
Registering Your Speakers

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

* Go to fusionentertainment.
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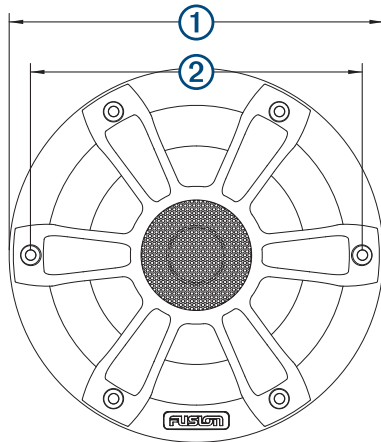
Dimension Drawings

Signature Series Side View

Dimension	6.5" Speakers	7.7" Speakers	8.8" Speakers
①	76 mm (3 in.)	83 mm (3 $\frac{1}{4}$ in.)	103 mm (4 in.)
②	133 mm (5 $\frac{1}{4}$ in.)	153 mm (6 in.)	185 mm (7 $\frac{1}{4}$ in.)

A Sports model speaker is shown, but the dimensions are the same for the Classic model speaker.
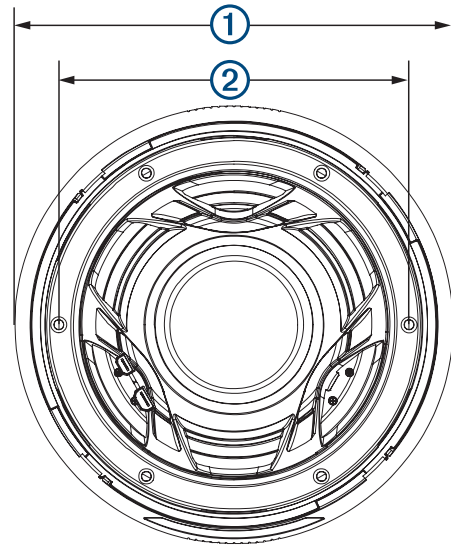
NOTE: You must allow at least 3 mm ($\frac{1}{8}$ in.) of clearance beyond the depth of the speaker.

Sports Model Front View

Dimension	6.5" Speakers	7.7" Speakers	8.8" Speakers
①	176 mm (6 $\frac{15}{16}$ in.)	196 mm (7 $\frac{11}{16}$ in.)	224 mm (8 $\frac{13}{16}$ in.)
②	156 mm (6 $\frac{1}{8}$ in.)	176 mm (6 $\frac{15}{16}$ in.)	202 mm (7 $\frac{15}{16}$ in.)

Classic Model Back View

Dimension	6.5" Speakers	7.7" Speakers	8.8" Speakers
①	200 mm (7 $\frac{7}{8}$ in.)	220 mm (8 $\frac{11}{16}$ in.)	247 mm (9 $\frac{3}{4}$ in.)
②	156 mm (6 $\frac{1}{8}$ in.)	176 mm (6 $\frac{15}{16}$ in.)	202 mm (7 $\frac{15}{16}$ in.)

Cleaning the Speakers

NOTE: When mounted correctly, these speakers are rated IP65 for dust and water ingress protection under normal conditions. They are not designed to withstand high pressure water spray, which may occur when you wash down your vessel. Failure to carefully spray-clean the vessel may damage the product and void the warranty.

NOTICE

Do not use harsh or solvent-based cleaners on the speakers. Using such cleaners may damage the product and void the warranty.

1 Clean all salt water and salt residue from the speaker with a damp cloth soaked in fresh water.
2 Use a mild detergent to remove a heavy buildup of salt or stains.

Specifications

6.5" Speakers

Max. power (Watts)	230 W
RMS power (Watts)	75 W
Sensitivity (1 W/1 m)	90 dB
Frequency response	70 Hz to 22 kHz
Min. mounting depth (clearance)	79 mm (3 $\frac{1}{8}$ in.)
Mounting diameter (clearance)	136 mm (5 $\frac{3}{8}$ in.)
Compass-safe distance	310 cm (122 in.)

7.7" Speakers

Max. power (Watts)	280 W
RMS power (Watts)	100 W
Sensitivity (1 W/1 m)	91 dB
Frequency response	60 Hz to 22 kHz
Min. mounting depth (clearance)	86 mm (3 $\frac{7}{16}$ in.)
Mounting diameter (clearance)	156 mm (6 $\frac{1}{8}$ in.)
Compass-safe distance	358 cm (141 in.)

8.8" Speakers

Max. power (Watts)	330 W
RMS power (Watts)	130 W
Sensitivity (1 W/1 m)	91 dB
Frequency response	50 Hz to 20 kHz
Min. mounting depth (clearance)	106 mm (4 $^3/_{16}$ in.)
Mounting diameter (clearance)	188 mm (7 $^7/_{16}$ in.)
Compass-safe distance	412 cm (162 in.)

All models

Impedance	4 ohms
LED Supply Voltage (Sports Model Speakers only)	From 10.8 to 16 Vdc
LED Load Current at 14.4 Vdc (Sports Model Speakers only)	300 mA
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)
Cone material	CURV cone with rubber surround
Tweeter type	Silk dome
Water and dust rating	IEC 60529 IP65

Amplifier Power Rating Recommendations

6.5" Speakers	From 30 to 90 W RMS, playing music
7.7" Speakers	From 25 to 120 W RMS, playing music
8.8" Speakers	From 25 to 140 W RMS, playing music

Optimum Enclosure Recommendations

Specification	6.5" Speakers	7.7" Speakers	8.8" Speakers
Sealed enclosure volume[1]	18 L (0.64 ft.[3])	20 L (0.71 ft.[3])	22 L (0.78 ft.[3])
Ported (Vented) enclosure volume[2]	25 L (0.88 ft.[3])	30 L (1.06 ft.[3])	35 L (1.23 ft.[3])
Port diameter	76 mm (3 in.)	76 mm (3 in.)	76 mm (3 in.)
Port length	162 mm (6.4 in.)	160 mm (6.3 in.)	170 mm (6.7 in.)