



## JL AUDIO® CF-690W SPEAKERS

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### 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.

You must install this device securely according to these instructions. Failure to install this device in accordance with these instructions could result in serious personal injury, damage to the device and/or vehicle, or poor product performance.

To avoid possible serious personal injury or damage to the device and the vehicle, you must disconnect the power supply to the vehicle's audio system before beginning to install the device.

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.

The product contains magnets that may interfere with medical devices. Consult your physician and medical device manufacturer with questions.

##### **CAUTION**

To avoid possible personal injury, always wear safety goggles, ear protection, and a dust mask when drilling, cutting, or sanding.

##### **NOTICE**

The product contains magnets that may cause damage to some electronic devices. Use caution using the product near electronic devices.

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

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. If you experience difficulty during the installation, go to [support.garmin.com](https://support.garmin.com) for product support.

#### Tools Needed

- Drill and drill bits
- Phillips screwdriver
- Wire cutter
- Wire strippers
- Crimping tool
- Speaker wire (*Speaker Wire Gauge Guide, page 4*)

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

## Mounting Considerations

### NOTICE

This device is designed for installation only in a dry location. Installing this device in a location where it may come in contact with water or become submerged may result in damage. Water damage is not covered by the warranty.

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.

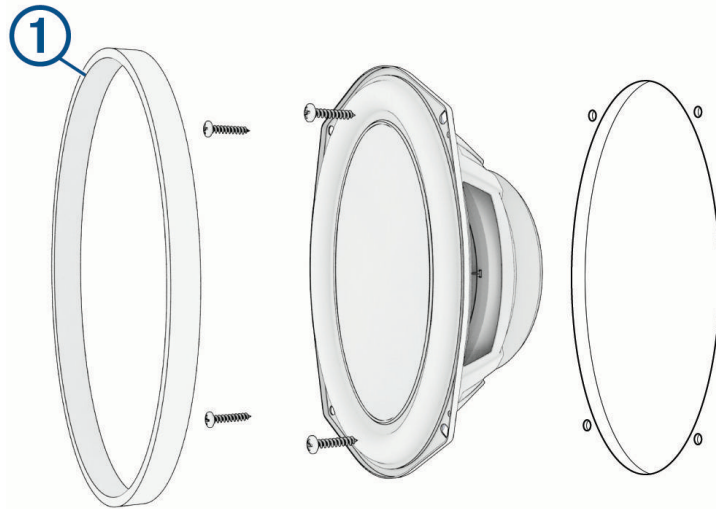
The mounting method and materials used can vary depending on the vehicle application.

When mounting the speakers, observe these considerations.

- There must be sufficient clearance for the mounting depth of the speakers as specified in the product specifications.
- The mounting surface should be flat for the best seal.
- You should protect the speaker wires from sharp objects, and always use grommets when wiring through panels.

### Mounting the CF-690w: Option 1

Install the supplied foam gasket ① for optimum performance.



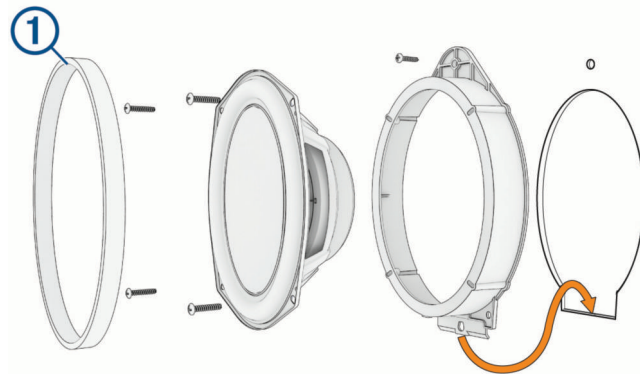
### Mounting the CF-690w: Option 2

Install the supplied foam gasket ① for optimum performance.



### Mounting the CF-690w: Option 3

Install the supplied foam gasket ① for optimum performance.



### CF-690w Wiring for Use with the Built-in Low-Pass Filter

You must connect to these terminals in passive system applications to use the built-in low-pass filter (550 Hz, at a rate of 18 dB/octave).



### CF-690w Wiring for Use without a Filter

You must use these terminals in active system applications. For optimum performance, you should use a high-quality digital signal processor (DSP) or an active crossover and a dedicated amplifier channel. You should set your filter to low-pass at 550 Hz, at a rate of 18 dB/octave.



### Speaker Wire Gauge Guide

You should use 16 AWG (1.3 through 1.5 mm<sup>2</sup>) oxygen-free copper (OFC) speaker wire. You can use these tables to determine if you need to use a larger gauge of wire. These tables account for terminal connection resistance.

**NOTE:** Copper-clad aluminum (CCA) wire is not recommended.

#### 4 Ohm Load (1 Speaker)

| Distance between the amplifier and speaker | Wire gauge                                |
|--------------------------------------------|-------------------------------------------|
| From 0 to 28 ft. (from 0 to 8.5 m)         | 16 AWG (1.3 through 1.5 mm <sup>2</sup> ) |
| From 28 to 69 ft. (from 8.5 to 21 m)       | 12 AWG (3 through 4 mm <sup>2</sup> )     |

#### 2 Ohm Load (2 Speakers in Parallel)

| Distance between the amplifier and speaker | Wire gauge                                |
|--------------------------------------------|-------------------------------------------|
| From 0 to 14 ft. (from 0 to 4 m)           | 16 AWG (1.3 through 1.5 mm <sup>2</sup> ) |
| From 14 to 35 ft. (from 4 to 10.5 m)       | 12 AWG (3 through 4 mm <sup>2</sup> )     |

### Troubleshooting

Before you contact your JL Audio dealer or service center, you should perform a few simple troubleshooting steps to help diagnose the problem.

If the JL Audio speaker has been installed by a professional installer, you should contact the installer so a technician can assess the problem and advise you about possible solutions.

#### There is no sound coming from the speakers

- Verify that all connections from the source device and/or the amplifier are connected correctly to the speaker terminals.

**The system lacks bass or high frequencies**

- Verify that the correct wire polarity is observed between the source and speakers.  
The wires should be connected positive to positive and negative to negative.
- Verify that the speakers are attached firmly to the mounting surface.

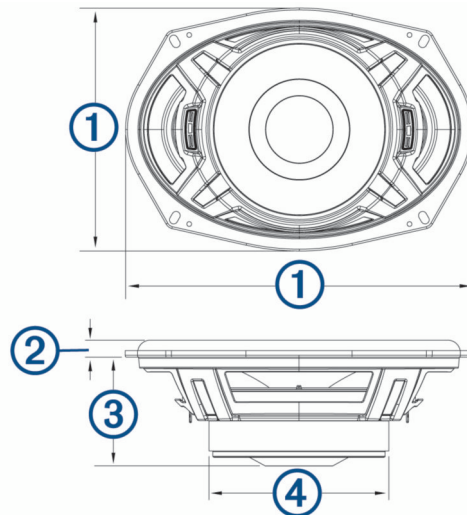
**The audio is distorted**

- Verify that the source volume is not too loud for the speaker, and reduce the volume if necessary.
  - Verify that the panels surrounding the speaker are not rattling.
  - Verify that the source device or the amplifier are connected to the speaker terminals correctly.
  - If the speaker is connected to an amplifier, verify that the input level of the amplifier is matched to the output level of the stereo.
- For more information, see the owner's manual for the amplifier.

**Specifications**

|                                   |                         |
|-----------------------------------|-------------------------|
| RMS power                         | 100 W                   |
| Recommended amplifier power (RMS) | 50 to 150 W per channel |
| Efficiency (1 W/1 m)              | 84.8 dB                 |
| Nominal impedance                 | 4 ohms                  |
| Frequency response                | 36 to 610 Hz            |

**CF-690w Speaker Dimensions**



|   |                                |
|---|--------------------------------|
| ① | 162 x 232 mm (6.38 x 9.13 in.) |
| ② | 11 mm (0.44 in.)               |
| ③ | 72 mm (2.85 in.)               |
| ④ | 120 mm (4.72 in.)              |

MN: CF690w