

# EVID C12.2 User Manual

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## Safety First

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Suspending any object is potentially dangerous and should only be attempted by individuals who have a thorough knowledge of the techniques and regulations of suspending objects overhead. Electro-Voice strongly recommends all loudspeakers be suspended taking into account all current national, federal, state, and local laws and regulations. It is the responsibility of the installer to ensure all loudspeakers are safely installed in accordance with all such requirements. When loudspeakers are suspended, Electro-Voice strongly recommends the system be inspected at least once per year or as laws and regulations require. If any sign of weakness or damage is detected, remedial action should be taken immediately. The user is responsible for making sure the wall, ceiling, or structure is capable of supporting all objects suspended overhead. Any hardware used to suspend a loudspeaker not associated with Electro-Voice is the responsibility of others.



**Caution!**

The seismic tab (auxiliary support ring) is not intended for primary suspension of the loudspeaker. The seismic tab should only be used as a secondary safety point.



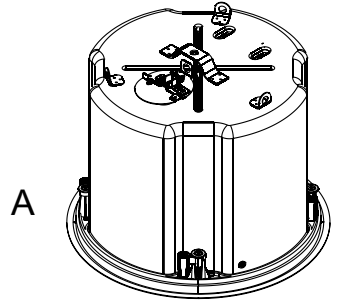
**Caution!**

Ceiling mount speaker's safety cable  
 The safety cable should be installed with a minimum of 3-inches (76.2 mm) of slack.



# Packing List

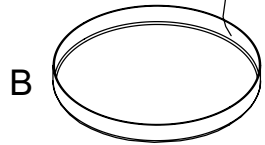
Figure	Quantity	Part
A	1	Speaker System
B	1	Grille
C	1	Owner's Manual
D	1	Terminal Connector
E	1	Warranty Card
F	1	Ceiling Cutout Template
G	1	Paint Shield
H	2	Tile Rails
I	1	C-Ring Support
J	2	Support Ring Screws



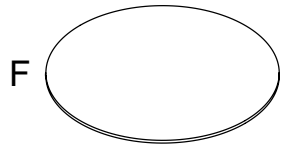
A



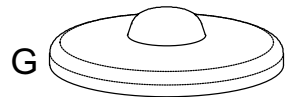
D



B



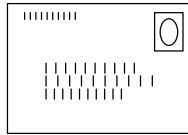
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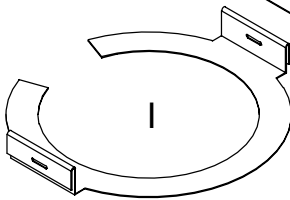
G



C



E



I

J (x2)

H (x2)

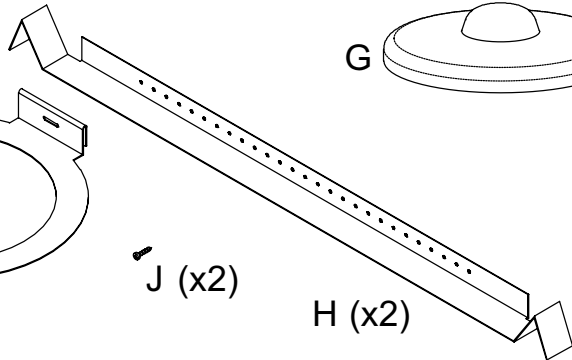


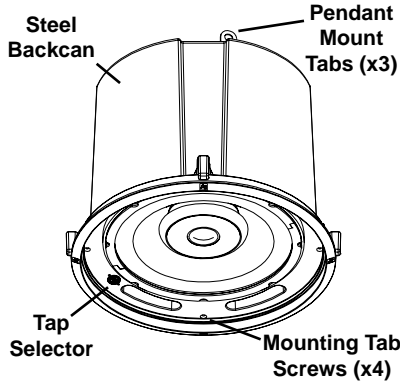
Figure 1: EVID C12.2 Packing List

# EVID C12.2 Models

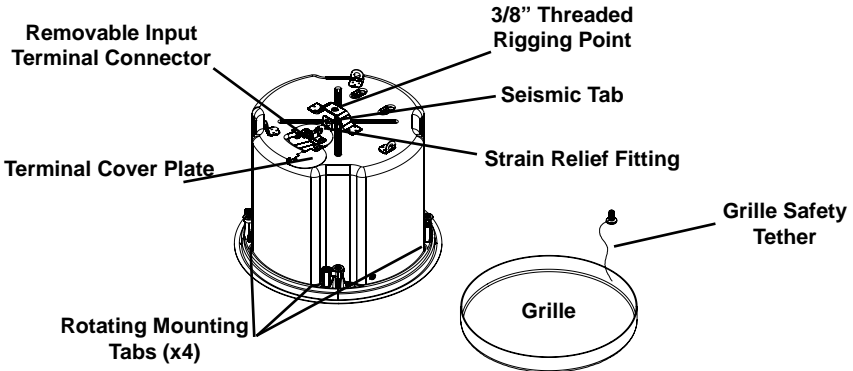
Model Part No.	Description
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EVID C12.2 Integrated 12-inch ceiling mount speaker

## Product Feature Identification



**Figure 2: Bottom of Speaker**

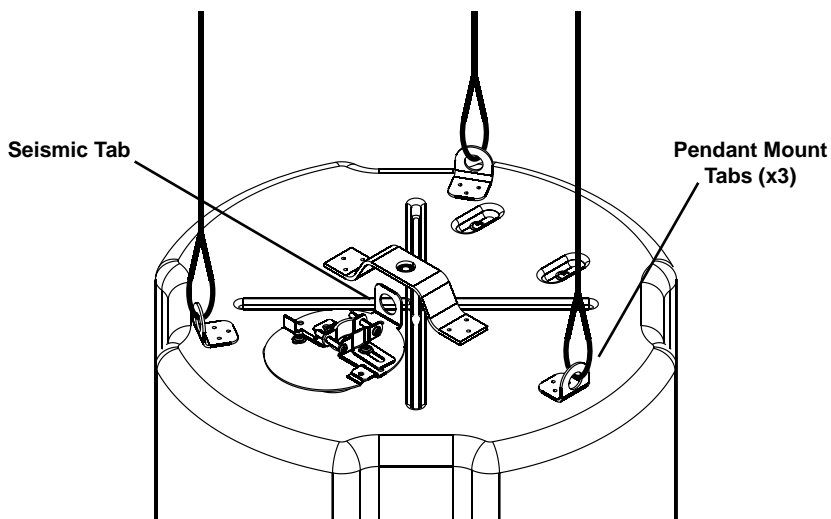


**Figure 3: Top of Speaker**

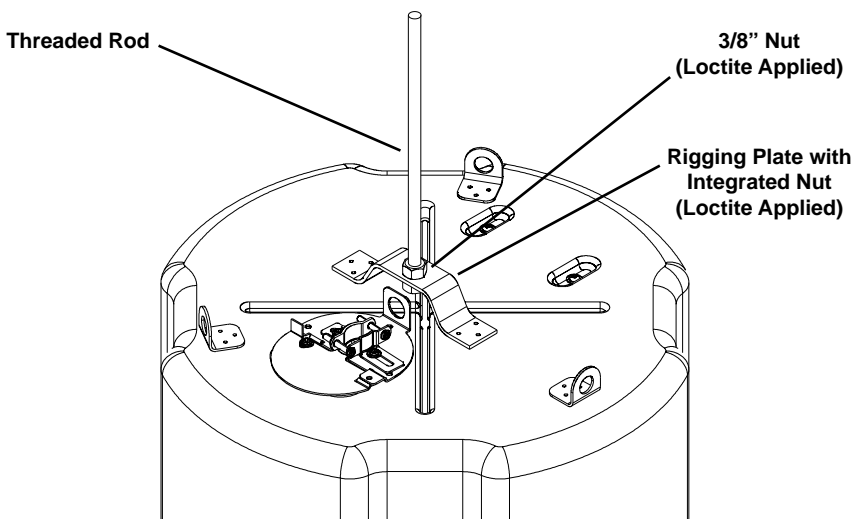
## Open Ceiling Installation

The EVID C12.2 must be suspended from the back of the can in both open ceiling and ceiling tile applications, using either the three (3) pendant mount tabs or the 3/8" threaded rigging point. To prevent rattles, rotate the four (4) mounting tabs towards the can, then tighten the mounting tab screws.

The seismic tab may be used in addition to the pendant mounts as a redundant safety point.



**Figure 4a: Pendant Mount Suspension**



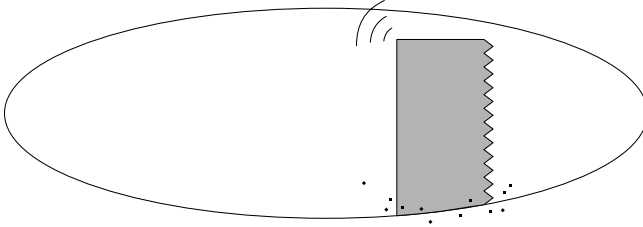
**Figure 4b: 3/8" Threaded Rod Suspension**

# Ceiling Tile Installation

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## Step 1: Cut the Hole

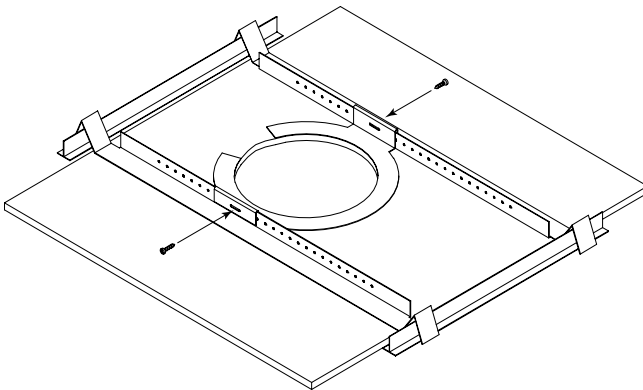
Cut out the hole by tracing the cardboard template or with a circular cutter set to the appropriate cutout size. If the wire has been pre-installed, pull the wiring through the cutout hole.



**Figure 5: Cut Ceiling Hole**

## Step 2: Install C-Ring and Tile Rails

For suspended ceiling installations, insert the C-ring through the hole cut in the ceiling tile. Place the C-ring around the hole with the tabs located as shown in Figure 6. Insert the tile rails through the cut hole in the ceiling tile. Snap the two rails into the two tabs in the C-ring and align the rails so that the ends extend OVER the T-channel grid on the side of the tile. Secure the rails onto the C-ring tabs by inserting a screw through each tab into the rail, as shown in Figure 6.



**Figure 6: Secure Rails to C-Ring**

### Installation Note: Tile Rails and C-Ring



The tile rail accessory is designed to fit either standard 24-inch-wide or 600-mm-wide tiles. It is important to note that the tile rail pieces do not actually attach to the T-grid struts. The ends of the rails sit OVER the T-grid strut. Normally, the tile supports the rails. The tile rails are pre-punched at regular intervals with holes along their length. This allows the C-ring to be positioned at any point along the rail. If the tile comes out or falls apart, the ends of the support rails fall onto the T-grid, which prevents the speaker assembly from falling. Always use all included support hardware when installing into suspended ceiling tiles to make sure the installation is secure. For sheetrock ceiling installations, the tile rail is not needed, but the C-ring should be used to reinforce the ceiling material and to spread out the pressure from the speaker hold-down tabs. Guide the C-ring through the cut hole in the ceiling, and place it on the back side of the hole before inserting the speaker.

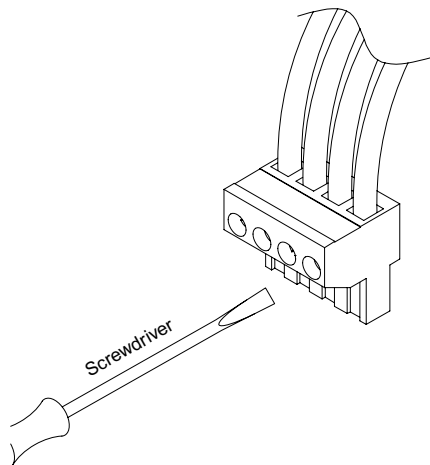
### Installation Note: Ceiling Tile Caution



When mounting the C12.2 into 2'x2' or 2'x4' suspended ceiling tiles or sheetrock ceilings, DO NOT install the C12.2 without using either the 3/8" threaded rod rigging point or the pendant mounts. Ceiling tiles are not designed to support any substantial weight and will cause the tile to sag and distort, even with the tile bridge installed. If the cables are used, they MUST be strung taut. The threaded rod or cables MUST support most of the weight of the speaker to ensure that the C12.2 does not deform the ceiling.

### Step 3: Attach Wiring to the Terminal Connector

Insert the bare end of wire into the appropriate connector terminals as described below and screw down the hold-down screw until tight, using a small screwdriver.



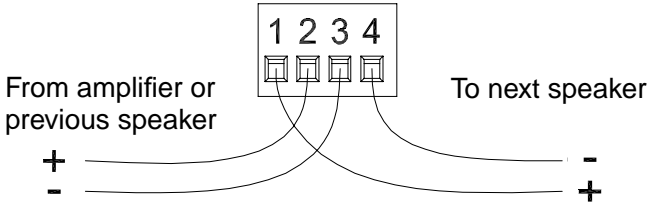
**Figure 7:** Tighten with Screwdriver

**Installation Note: Connector Wiring Guidelines**

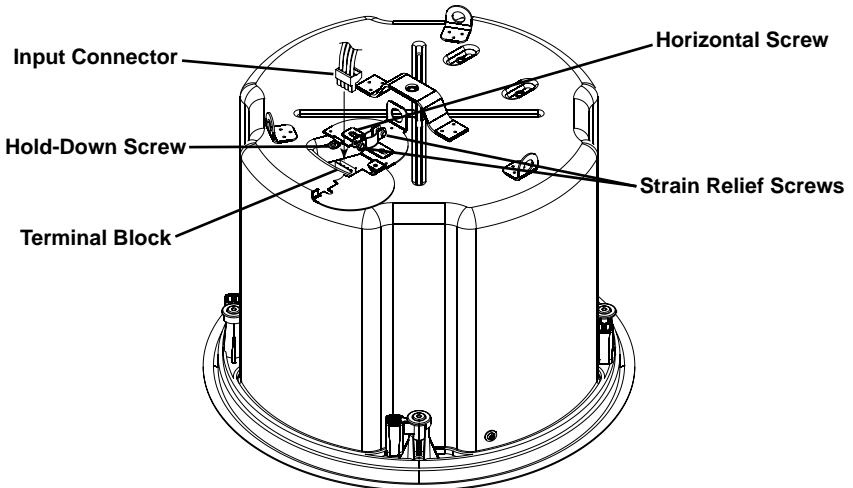
The input connector's 4 terminals are numbered and marked on the connector. Pins 1 and 2 are positive (+); pins 3 and 4 are negative (-). (Pin 1 is connected to Pin 2 and Pin 3 is connected to Pin 4 inside the speaker.) Pins 1 and 4 are used as daisy-chain connections to other loudspeakers.

For wiring in parallel, connect the wire pair of the subsequent speaker to pins 1 and 4. When one input connector is removed, subsequent speakers will also be disconnected. See Figure 8.

When all wiring has been completed to the connector, plug the connector into the socket in the speaker's terminal cup. See Figure 9. Tighten all screws to eliminate vibration.



**Figure 8: Parallel Wiring**



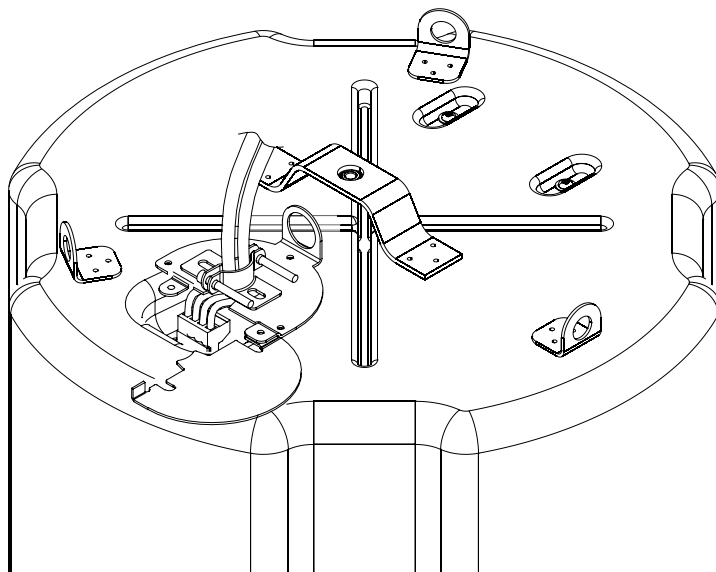
**Figure 9: Plug Connector into Socket**



## Step 4: Secure the Cable to the Speaker

Fully loosen the horizontal screw shown in Figure 9, then the strain relief screws. Run the wires through the opening in the fitting and plug the input connector into the speaker's terminal block. Then tighten the strain relief fitting as follows:

If plenum cable is used, slide the cable through the strain relief fitting on the terminal cover plate (Figure 10). Hold the strain relief fittings tight around the cable. Tighten the strain relief screws first, then the horizontal screw. In the cases of insulated speaker wire and plenum cable, it is often possible to provide acceptable strain relief force by simply tightening the strain relief screws onto the terminal cover plate.



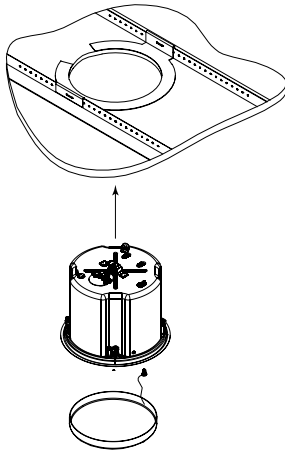
**Figure 10:** Secure Cable through Fitting

## Step 5: Mount the Speaker Into the Ceiling

Push the speaker into the ceiling hole until the front baffle rim is flush with the ceiling. Tighten the mounting tabs by turning the screw clockwise until the speaker is secure. Please note that the first clockwise quarter turn rotates the attachment tabs outward. The remaining turns tighten the tabs down onto the back of the ceiling surface (see Figure 12).

### Installation Note:

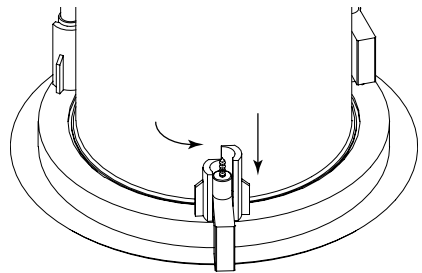
See Figures 4a and 4b for possible installation methods. If 3/8" threaded rod is to be used in a ceiling tile installation, the threaded rod must be installed to the threaded rigging point before installing into the ceiling.



**Figure 11:** Mount Speaker into Ceiling

### Installation Note: Mounting Tabs

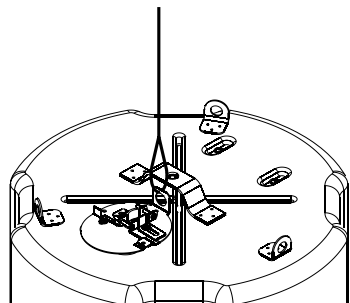
For each attachment screw, first turn one half turn counterclockwise to release the counting tab from its guide.



**Figure 12:** Tighten Mounting Tabs

## Step 6: Connect a Safety Support Line

Note the support ring on the back of the speaker. The ring allows for connection to an independent and secure anchor point. Construction codes often require the use of this secondary support point.



**Figure 13:** Attach Safety Support Line

## Step 7: Adjust Tap Selector

The tap selector switch is located on the front baffle. Adjust the speaker to the appropriate tap setting before installing the grille. In some 70V/100V constant voltage installations it is advisable to leave the grilles off if final speaker audio level balance adjustments are to be made later. After the levels are adjusted the grilles can then be installed.

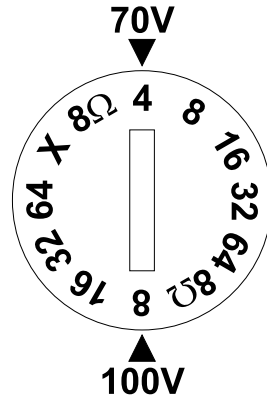


Figure 14: Adjust Tap Selector

## Step 8: Attach the Grille

### Installation Note: Grille Safety Feature

EVID grilles features a unique safety tether to prevent the grille from falling if the grille is removed or comes loose after installation.

First, install the grille's safety tether by pushing the grille fastener into the hole in the front of the baffle (see Figure 15). Second, press the grille into place until the front of the grille is flush with the rim of the baffle. Make sure the grille is securely seated to prevent it from vibrating loose. If you need to remove the grille, the easiest way is to insert two bent paper clips or other pointed objects into holes in the grille, then apply slow even pressure to pull down on the grille until that section of the grille comes out slightly. Continue the same procedure around the perimeter of the grille, loosening a portion at a time until the grille is removed.

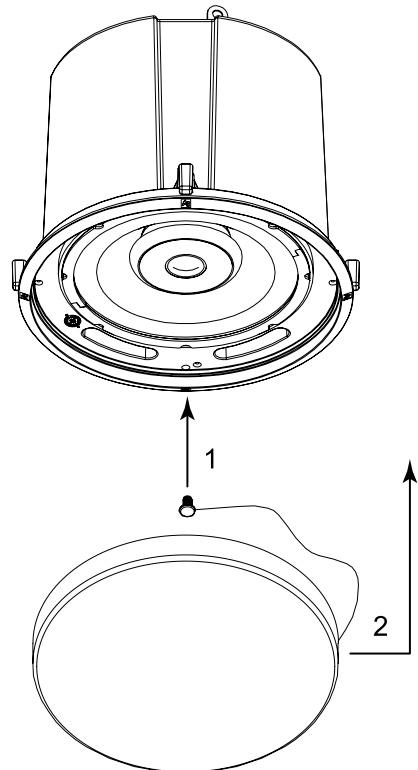


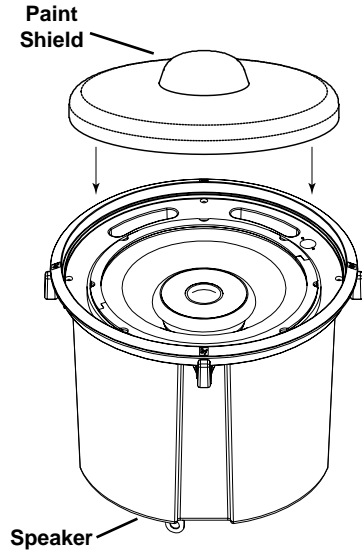
Figure 15: Attach the Grille

## Appendix A - Painting the Speaker

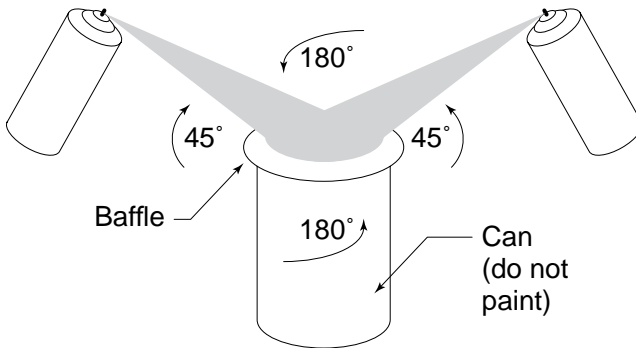
If the speaker is installed in an area where the interior design requires a color match, the EVID C12.2 is simple to paint. The speaker can accommodate almost any type of latex or oil based paint. The bezel/rim can be painted before installation or after mounting into the ceiling.

### Painting Process

Clean the rim and grille with mineral spirits or other light solvent. Do not use harsh solvents such as gasoline, kerosene, acetone, or other chemicals. If you use these cleaners you may permanently damage the enclosure. Also, don't use abrasives products such as sandpaper or steel wool. Either by rolling or spraying, apply two or more thin coats of paint. If you are spraying, hold the spray can at the angles shown in Figure 17. If you are painting the grille also, you must first remove the internal grille cloth. Spray painting is strongly recommended. If the grille is rolled or brush painted, the grille may become clogged with paint and the sound quality will suffer. After the paint has dried, replace the internal grille cloth. If you wish to paint the speaker along with the ceiling after installation, insert a plastic or cardboard paint shield into the front of the speaker (see Figure 16) to mask the drivers and internal baffle, paint the speaker, then remove the shield.



**Figure 16: Installing Paint Shield Before Painting**



**Figure 17: Spray-Painting Angles**



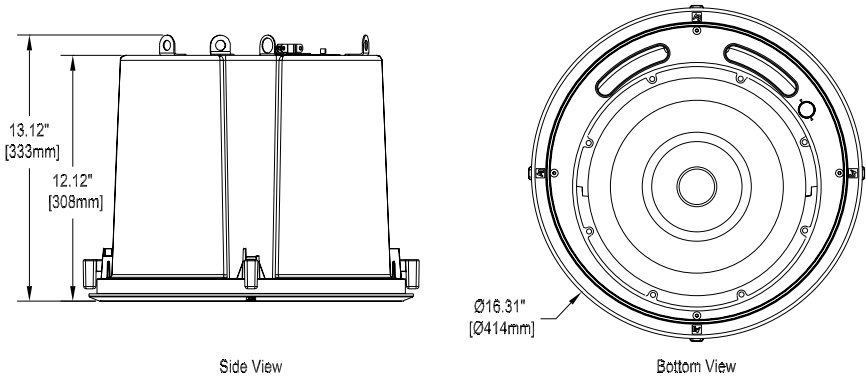
## Appendix B - Troubleshooting

Problem	Possible Causes	Action
No Output	Amplifier	Make sure the amplifier channel is being fed an input signal (preferably via a "signal input" indicator on the amp).
		Check that the amplifier channel's volume is turned up.
		Connect the speaker and cable, which had no output to another amplifier channel, making sure an input signal is fed to the new ampl channel. If you then get output, the problem was the amplifier channel. If not, then the problem may be in the cable or speaker.
	Speaker Cable(s)	Replace the cable(s) connecting the loudspeaker system and amplifier.
Questionable or Intermittent Output such as Crackling	Faulty Connection	Check all cabling for proper connector contact. A bad connection can result in intermittent contact or dramatically increased resistance, which in turn can cause reduced output or noises unrelated to the signal.
	Improper Power Tap Setting	Check the power tap setting under the speaker grille to ensure the setting is appropriate for the installation and amplifier chosen.
Constant Noise such as Buzzing, Hissing or Humming	A Faulty Electronic Device in the Signal Chain	Since loudspeakers cannot generate these sounds by themselves, you may have a faulty electronic device in the signal chain.
	Poor System Grounding	Check and correct the system grounding, as required.
Poor Low-Frequency Output	Out-of-Polarity Hookup Between Multiple Speakers	When two speakers are hooked up out of polarity (out of phase), the low frequencies cancel each other out. Try reversing the polarity of one of the speakers either by turning around a dual-banana plug at the amplifier or by reversing the tip/sleeve leads on the jack. Whichever condition results in greater low-frequency output is the in-polarity condition.
<b>If none of the suggestions solves your problem, contact your nearest Electro-Voice service center or Electro-Voice distributor.</b>		

## Appendix C - Specifications

Dimensions (Depth x Diameter):	333 mm x 414 mm (13.12 in x 16.31 in)
Cutout Diameter:	386 mm (15.20 in)
Weight:	12.3 kg (27.0 lb)
Cabinet Construction:	Powdercoated Steel Enclosure and UL94V-0 Rated Baffle and Bezel
Transducer:	EVID 920-8B, 12 in. (305 mm) High-Efficiency Coaxial Driver
Mounting System:	Integrated 4-Point Toggle Anchors, Integrated 3-Point Pendant Mount, Additional Secondary Mount
Available Colors:	White Baffle (Paintable Surface) with Black Rear Can
Grille Construction:	Powder Coated Steel with Safety Tether
Acoustic Design:	Ported Cabinet, Two-Way Design, Internally Damped, Passive Crossover, 64W Transformer with ASC
Frequency Response:	75 Hz - 20 kHz
Power Handling (8 ohms):	100W RMS
Power Handling (70V):	Up to 64W
Power Handling (100V):	Up to 64W
Sensitivity (SPL 1W/1m):	100 dB
Input Configuration:	8 Ohm; 70V/100V
70V Power Taps:	4W, 8W, 16W, 32W, 64W
100V Power Taps:	8W, 16W, 32W, 64W
Accessories:	Tile Bridge, Mounting Ring

## Specifications (continued)



**Figure 18: Dimensions**

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