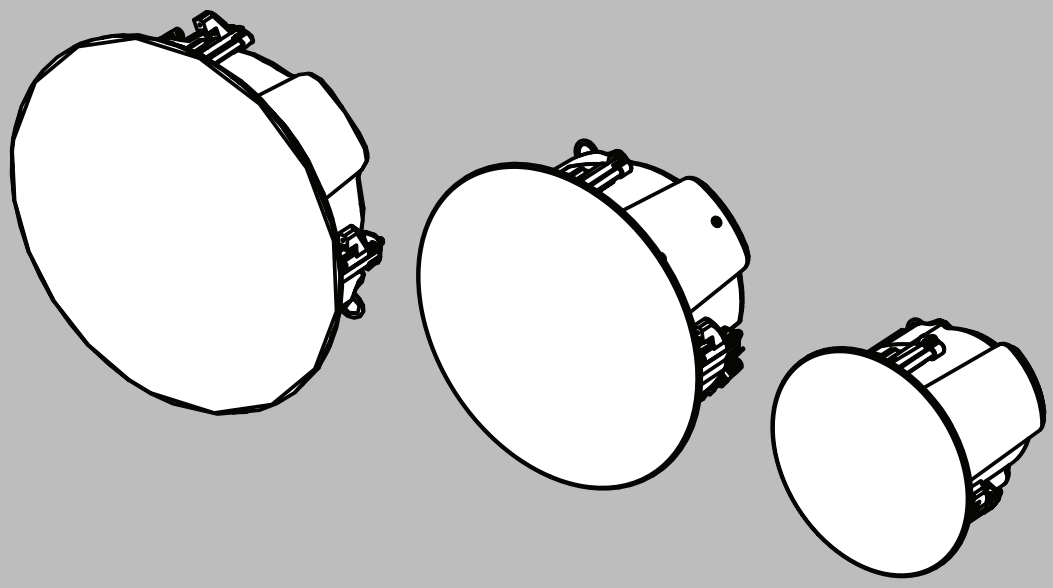
Electro-Voice

EVIDn PoE Ceiling Speakers

EVIDn-C4, EVIDn-C4LP, EVIDn-C6, EVIDn-C6LP, EVIDn-C8



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Installation manual

PRELIMINARY

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1 Safety

Warning!

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 that 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.

Safety point

As an added safety measure, it is strongly recommended to utilize a properly rated secondary safety cable (provided by the installer) to securely fasten the speaker from the safety point on its back to a secondary mounting structure on the building.

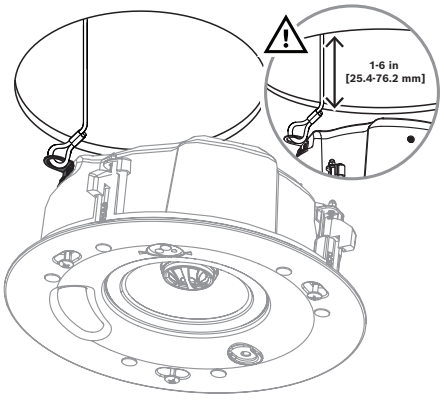
Caution!

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

Caution!

Ceiling mount speaker's safety cable

The safety cable should be installed with 1 - 6 inches (25.4 - 152.4 mm) of slack.



Notice!

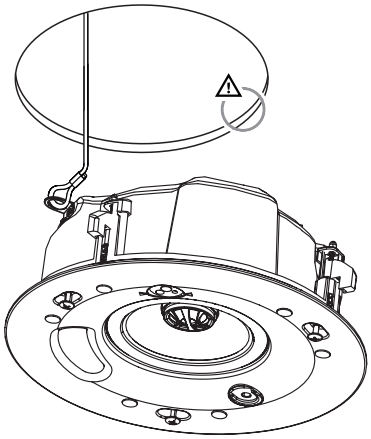
ATTENTION: UL SAFETY LISTING

All EVIDn Ceiling speaker models are suitable for use in air handling spaces per UL 2043.

Caution!

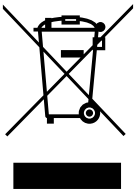
Risk of speaker detachment

Install the speaker only in ceilings with a thickness of 12.5 to 38 mm (0.5 to 1.5 in). Installing the speaker in a ceiling outside this range may prevent the mounting tabs from securing the speaker properly and could result in the speaker falling.



1.1 Notices

Old electrical and electronic equipment



This product and/or battery must be disposed of separately from household waste. Dispose such equipment according to local laws and regulations, to allow their reuse and/or recycling. This will help in conserving resources, and in protecting human health and the environment.

Copyright and disclaimer

FCC Supplier's Declaration of Conformity

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

2 Introduction

Thank you for purchasing EVIDn Ceiling Loudspeakers. Read through this manual to familiarize yourself with features, applications, and precautions before you use these products.
EVIDn is a family of PoE-enabled loudspeakers for professional installed-audio applications. Each loudspeaker uses a single Ethernet connection for power, audio, control, and monitoring, reducing system complexity and simplifying installation on standard network infrastructure.
Each EVIDn loudspeaker includes onboard amplification and DSP for model-specific tuning and everyday system optimization. The built-in Web UI provides direct access to core device settings such as level, EQ, input selection, zones, network settings, logs, and diagnostics.
EVIDn loudspeakers can be used as standalone endpoints or as part of a larger networked audio system. Compatibility with standard PoE switching and Audio-over-IP protocols such as Dante and AES67 supports both distributed installations and scalable multi-room deployments.
During commissioning, the Web UI supports device discovery, verification, and local configuration. Once settings are stored in the loudspeaker, the device operates independently and recalls the stored configuration at startup.
EVIDn Ceiling Loudspeakers use innovative design and materials to provide premium-level performance in a flush-mount ceiling format.
Five models comprise the EVIDn Series Ceiling Loudspeakers:

- EVIDn-C4 with a 4-inch LF driver and a 0.75-inch, soft-dome tweeter.
- EVIDn-C4LP with a 4-inch LF driver and a 0.75-inch, soft-dome tweeter in a low profile.
- EVIDn-C6 with a 6.5-inch LF driver and a 1-inch titanium tweeter.
- EVIDn-C6LP with a 6.5-inch LF driver and a 1-inch titanium tweeter in a low profile.
- EVIDn-C8 with an 8-inch LF driver and a 1-inch titanium tweeter with waveguide.

2.1 Model description

EVIDn-C4
Excellent bandwidth in a clean and unobtrusive profile, with a flat-grille and a rimless design.
4-inch woofer and soft-dome tweeter give a smooth sound and wide coverage angle, making it excellent for lower ceiling heights, and anywhere were wider coverage is needed. Features our new 3-point SwiftLock System for quick, easy, and safe installations.

EVIDn-C4LP
The EVIDn-C4LP is similar to the EVIDn-C4, but in a low profile.
4-inch woofer and soft-dome tweeter give a smooth sound and wide coverage angle, making it excellent for lower ceiling heights, and anywhere wider coverage is needed. Its shallow enclosure design makes it ideal for locations where installation space is limited. Features our new 4-point SwiftLock System for quick, easy, and safe installations.
The EVIDn-C4LP shares the same mounting hole and grille as the EVIDn-C6, EVIDn-C8, making it an excellent choice to fit in those unexpected shallow mounting locations.

EVIDn-C6
Excellent bandwidth in a clean and unobtrusive profile, with a flat-grille and a rimless design.
6.5-inch woofer and titanium tweeter give an extended frequency response, perfect for use almost anywhere a flush-mounted design is desired, with demand for high-quality audio. Features our new 4-point SwiftLock System for quick, easy, and safe installations.
The EVIDn-C6 shares the same mounting hole and grille as the EVIDn-C4LP, EVIDn-C8, making these an excellent choice for any space, even when shallow mounting locations are present.

EVIDn-C6LP

The EVIDn-C6LP is similar to the EVIDn-C6, but in a low profile.
Excellent bandwidth in a clean and unobtrusive profile, with a flat-grille and a rimless design.
6.5-inch woofer and titanium tweeter give an extended frequency response, perfect for use almost anywhere a flush-mounted design is desired, with demand for high-quality audio. Its shallow enclosure design makes it ideal for locations where installation space is limited.
Features our new 4-point SwiftLock System for quick, easy, and safe installations.

EVIDn-C8

Excellent bandwidth in a clean and unobtrusive profile, with a flat-grille and a rimless design.
8-inch woofer and waveguide-loaded titanium tweeter give an extended frequency response with a more powerful bass response, perfect for use in applications where higher output or more controlled coverage is desired. Features our new 4-point SwiftLock System for quick, easy, and safe installations.
The EVIDn-C8 shares the same mounting hole and grille as the EVIDn-C4LP, EVIDn-C6, making these an excellent choice for any space, even when shallow mounting locations are present.

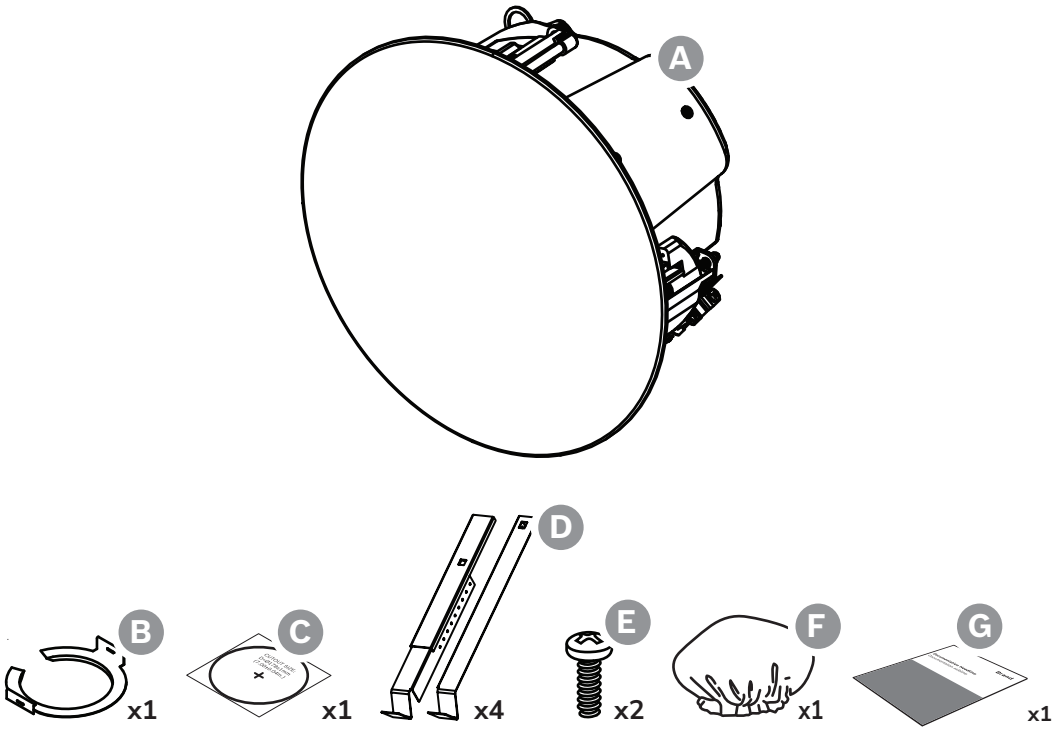
3 System overview

3.1 System features

- Designed for PoE+ and PoE
- SwiftLock mounting system for quick, safe, and reliable installation
- Bezel-less design with easy-attach magnetic grille
- Includes tile rail and C-Ring for easy installation
- UL 2043 and IEC 62368-1 certified

3.2 Parts included

Make sure that all parts are included and not damaged. If the packaging or any parts are damaged, contact your shipper. If any parts are missing, contact your Sales or Customer Service Representative.



Item	Quantity	Component
A	1	Ceiling loudspeaker with terminal cover (installed) and magnetic grille
B	1	C-Ring
C	1	Cutout template
D	4	Ceiling tile rail[1]
E	2	Screw
F	1	Paint cover

Item	Quantity	Component
G	1	Quick installation guide

Table 3.1: Components list

[1] The ceiling tile rail is supplied in two connecting parts.

3.3 Network and PoE requirements

EVIDn loudspeakers require a PoE-enabled Ethernet network connection for power, audio, control, and monitoring.

The system requires:

- A PoE+ (IEEE 802.3at) network switch or PoE+ injector.
  - A PoE (IEEE 802.3af) network switch or PoE injector can also be used.
- Category 5e or higher Ethernet cable (RJ45).
- Maximum Ethernet cable length: 100 m (328 ft).

For full acoustic performance, Electro-Voice recommends a PoE+ (IEEE 802.3at) power source.

4 Installation and connection

Our new SwiftLock System allows for quick, simple, and reliable mounting of the ceiling speaker, leaving both hands free to complete tightening the speaker to the ceiling. The wiring is on the side of the speaker, reducing the clearance space required to install the speaker, and making it easier to access while mounting the speaker from underneath, as well as on suspended ceiling grids where the speaker can be accessed from a side ceiling tile.
EVIDn Ceiling Loudspeakers include typical installation hardware for either suspended ceilings or sheetrock ceilings. Mounting tabs securely grip the ceiling material and hold the ceiling speaker assembly in place.

Use of optional rough-in accessories
For most installations, no additional hardware is required. However, RR Series mounting plates aid in the installation of the EVIDn Series Ceiling Loudspeakers in sheetrock or plaster ceiling installations. The rough-in accessories provide a cutout guide when many holes are to be made in a production-line style installation and to ensure the speakers are positioned correctly as the holes are cut in the sheetrock.

RR Series mounting plates
RR series mounting plates are made of flat sheet metal with holes to attach to the joists or trusses of a building structure.
The mounting holes are provided for nails or screws at 16 inches (406 mm), 20 inches (508 mm) and 24 inches (610 mm) on-center. The installer can drill other holes as needed up to a maximum of 24-3/4 inches (630 mm) apart.
The sheetrock installs over the plate and the plate provides a template for a blind cutout of the hole in the sheet rock. A router-type cutting tool cuts the ceiling material using the plate ring as a cutout guide.

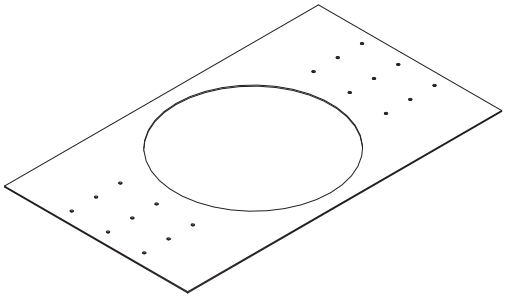


Figure 4.1: Speaker mounting plate

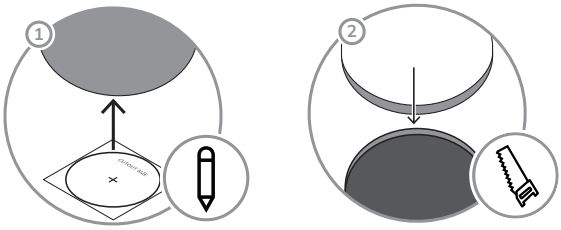
Notice!
Controlling vibration
Because of their high performance, EVIDn Ceiling Loudspeakers can generate substantial vibration, which can cause buzzing in loose sections of the ceiling structure. Depending on the character of the ceiling tile and related components, dampening material may be required under the tile rails or the edges of the tiles to eliminate rattles.

4.1 Cutting the hole

Cutting the ceiling hole
To cut the hole in suspended tile or sheetrock ceilings:
– Trace the cutout template
Or

– Use a circular cutter set to the appropriate cutout size.

If the wire has been pre-installed, pull the wiring through the cutout hole.



Cutout dimensions

	EVIDn-C4	EVIDn-C4LP EVIDn-C6 EVIDn-C8	EVIDn-C6LP
Mounting cutout (in)	7.2 in	10.7 in	12.7 in
Mounting cutout (mm)	183 mm	272 mm	322 mm

4.2 Installing C-Ring and/or tile rails

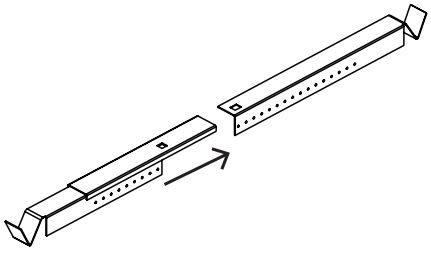
All EVIDn Ceiling Loudspeakers include two types of backing hardware:

– One (1) C-Ring
– Two (2) tile rails

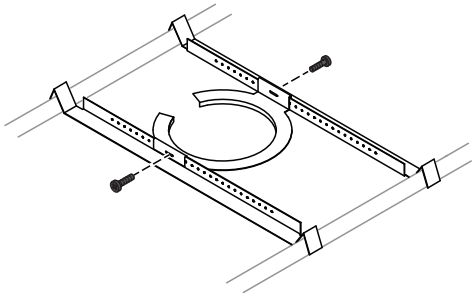
Suspended ceiling installations

To install the C-Ring and the tile rails:

1. Insert the C-Ring through the hole cut in the ceiling tile.
2. Place the C-Ring around the hole with the tabs located.
3. Snap the two connecting parts of the tile rails together until they securely connect.



4. Insert the tile rails through the cut hole in the ceiling tile.
5. 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.
6. Secure the rails onto the C-Ring tabs by inserting a screw though each tab into the rail.



The tile rails fit either standard 24-inch-wide or 600-mm-wide tiles. 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.

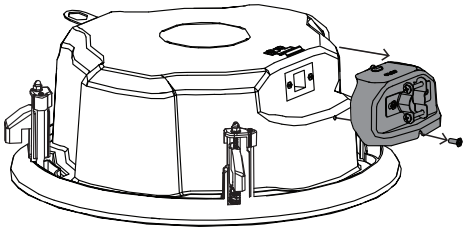
Warning!
Always use all included support hardware when installing into suspended ceiling tiles to make sure the installation is secure.

Sheetrock ceiling installations
For sheetrock ceiling installations, use the C-Ring by itself to reinforce the ceiling material and to spread out the pressure from the speaker hold-down tabs.

To install the C-Ring:
1. Guide the C-Ring through the cut hole in the ceiling.
2. Place the C-Ring on the back side of the hole before inserting the speaker.

4.3 Connecting the speaker

Removing the terminal cover
1. Remove the terminal cover locking screw.
2. Remove the terminal cover.



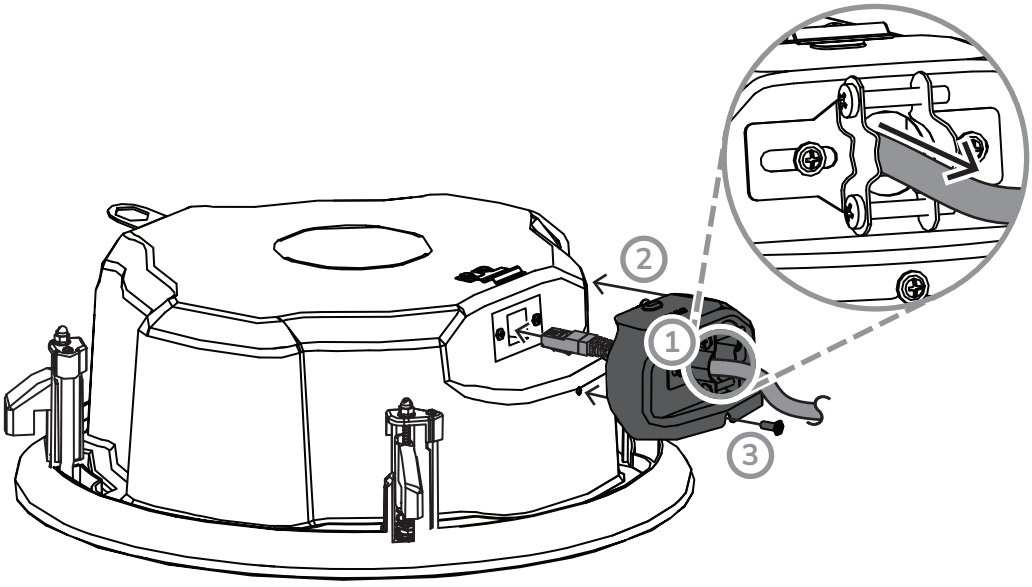
Connecting the Ethernet cable

Warning!
Disconnect PoE power from the network cable before installing, removing, or servicing the speaker.

1. Fully loosen the horizontal screw in the strain relief fitting.
2. Fully loosen the strain relief screws.
3. Route the Ethernet cable through the strain relief fitting.
4. Connect the Ethernet cable to the RJ45 connector on the speaker.

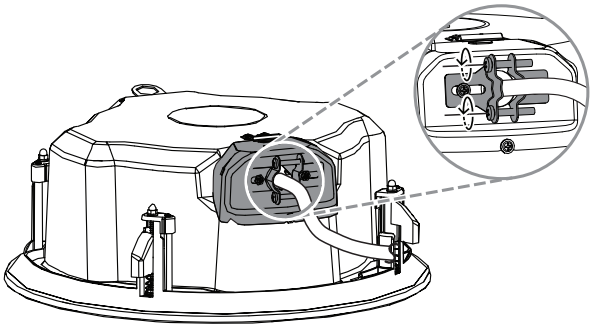
4.4 Reinstalling the terminal cover

To reinstall the terminal cover:
1. Guide the terminal cover into the terminal cover latch.
2. Insert the terminal cover locking screw into the terminal cover.
3. Tighten the terminal cover locking screw.
   Ensure the terminal cover is secure. Do not over tighten the terminal cover locking screw.



4.5 Securing the cable to the speaker

To secure the cable to the speaker:



– Tighten the strain relief fitting as appropriate to the cable used:
  – Plenum cable
  – Alternate conduit fitting

Plenum cable

1. Route the Ethernet cable through the strain relief fitting in the terminal cover plate.
2. Follow instructions on *Connecting the speaker, page 13*.
3. Hold the strain relief fittings tight around the cable.
4. Tighten the strain relief screws first, then the horizontal screw.

Alternate conduit fitting

If the installation uses flexible (BX) conduit, it is possible to use an alternate conduit fitting.

Notice!

Alternate fittings are available through most electrical suppliers.

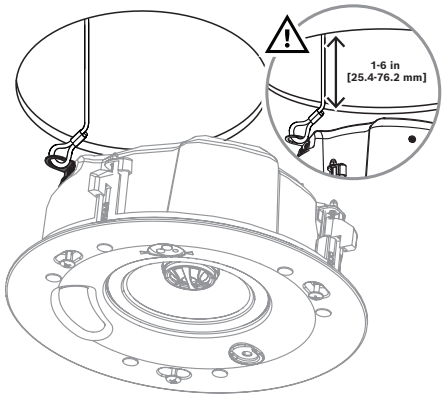
1. Remove the existing fitting by unscrewing the two hold-down screws.
   This will expose a 7/8-inch (22 mm) knockout hole.
2. Install the alternate fitting.

Warning!
Always use a listed fitting in accordance with your area's building codes and regulations.

4.6 Mounting the speaker into the ceiling

Safety point
As an added safety measure, it is strongly recommended to utilize a properly rated secondary safety cable (provided by the installer) to securely fasten the speaker from the safety point on its back to a secondary mounting structure on the building.

Caution!
Ceiling mount speaker's safety cable
The safety cable should be installed with 1 - 6 inches (25.4 - 152.4 mm) of slack.

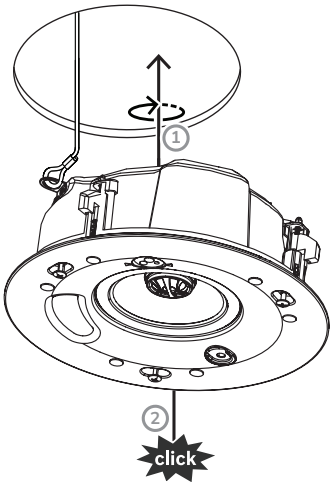


Caution!
Verify that the ceiling structure is capable of supporting the combined weight of the loudspeaker, mounting hardware, and any secondary safety attachment.

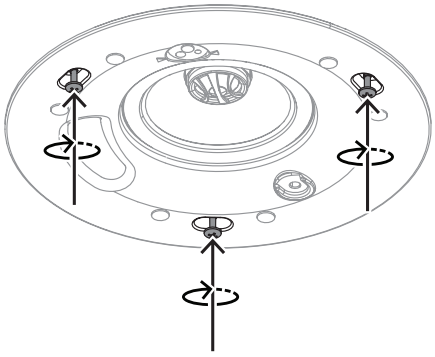
To mount the speaker into the ceiling:

Notice!
Ensure the Ethernet cable is routed so that it is not pinched and that the cable bend radius complies with the cable manufacturer's recommendations.

1. Push the speaker into the ceiling hole until the front baffle is flush with the ceiling and you hear the mounting tabs click.
   Make sure that the mounting tabs are loose before installing.
   Once the speaker is in the ceiling, it will hold in place without additional help, allowing both hands to be removed from the speaker.



2. Tighten the mounting tabs by turning the screws clockwise until the speaker is tight against the ceiling surface.
   Do not overtighten.



4.7 Attaching the grille

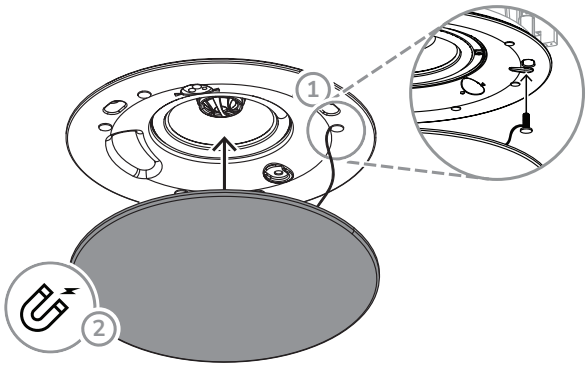
Notice!

Grille safety tether

EVIDn Ceiling Loudspeakers grilles feature a safety tether to prevent the grille from falling if the grille is removed or comes loose after installation. The safety tether comes attached to the grille and must be installed on the speaker.

To attach the grille:

1. Push the fastener of the safety tether into the hole in the front of the baffle.
2. Push the grille against the baffle, making sure that it is centered and flat against the baffle.
   The magnetic grille will attach to the speaker.



To remove the grille:

1. Grasp the edges of the grille with your fingertips.
2. Pull down.

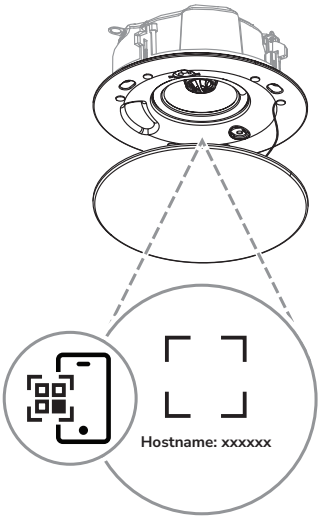
5 Operation

The loudspeaker includes an integrated web server for system monitoring and basic configuration.

- To access the Web UI, connect the loudspeaker to a PoE-enabled network.

Each EVIDn loudspeaker includes:

– A sticker on the device with a unique URL and QR code for the specific loudspeaker



– A sticker on the box with a unique URL and QR code for the specific loudspeaker

The unique URL is based on the device's MAC address and is added during manufacturing.

To access the web server, scan the QR code on the speaker or enter one of the following in a web browser:

– **http://<hostname>.local**

– The device IP address

The hostname is printed on the device and has the following format: EVIDn-xxxxxx.

For more information on operating the speaker, refer to EVIDn Operating manual.

6 Troubleshooting

Problem	Possible causes	Action
Loudspeaker does not power on	No PoE power available	Verify that the network switch or PoE injector supports IEEE 802.3af or IEEE 802.3at PoE and is powered on.
	Ethernet cable not connected properly	Verify that the Ethernet cable is fully inserted into the RJ45 connector and connected to the PoE source.
	Faulty Ethernet cable	Test with a known-good Cat5e or higher Ethernet cable.
	Switch power budget exceeded	Verify that sufficient PoE power is available for all connected loudspeakers.
Loudspeaker powers on but no audio is heard	Audio stream not routed to the loudspeaker	Verify Dante or AES67 routing in Dante Controller.
	Audio source muted	Verify the audio source and loudspeaker mute settings. Check signal indicators in the Web UI.
	Incorrect input configuration	Verify the selected input configuration and routing settings in the Web UI.
	Signal source unavailable	Ensure the amplifier channel is being fed an input signal (preferably via a signal input indicator on the amplifier). Verify the amplifier channel's volume is turned up. Connect the loudspeaker and cable, which had no output to another amplifier channel, ensuring an input signal is fed to the new amplifier channel. If you then get output, the problem was the amplifier channel. If not, then the problem is either the cable or the loudspeaker.
Loudspeaker powers on but output level is lower than expected	Loudspeaker operating with standard PoE (802.3af)	Use a PoE+ (802.3at) power source for full acoustic performance.
Questionable or intermittent output	Ethernet cable damaged or does not meet specifications	Inspect the Ethernet cable for damage. Replace the cable with a shielded Cat5e or higher Ethernet cable.
	Loose RJ45 connection	Verify that the Ethernet cable is fully inserted into the RJ45 connector at the loudspeaker and network equipment.
	Audio stream interruptions	Verify network connectivity and audio routing. Check Dante Controller and the loudspeaker Web UI for stream or fault indications.
	Unstable PoE power source	Verify that the connected PoE switch or PoE injector provides sufficient power and is operating correctly.
Buzzing, rattling, or unwanted noise	Loose ceiling hardware or ceiling components	Verify that the loudspeaker, C-Ring, tile rails, ceiling tiles, and surrounding hardware are securely installed.
	Ceiling structure vibration	Apply suitable damping material as necessary to eliminate rattles.

Problem	Possible causes	Action
	Faulty upstream audio source or network audio device	Verify operation of the audio source and other devices in the audio signal path.
	Excessive gain or incorrect DSP settings	Review gain, EQ, and DSP settings in the Web UI and adjust as required.
Intermittent audio or network connectivity	Ethernet cable damaged or does not meet specifications	Use a shielded Cat5e or higher Ethernet cable. Replace damaged cables.
	Excessive cable length.	Verify that the cable length does not exceed 100 m (328 ft).
Loudspeaker not accessible through the Web UI	Network connection not established	Verify Ethernet connections and network settings.
	Device IP address unknown	Use the hostname printed on the loudspeaker or access the device through the Rescue IP address.
	Corporate network restrictions.	Verify that local network policies permit access to the loudspeaker. Contact your IT administrator if necessary.
Loudspeaker cannot be discovered on the network	Network device not initialized	Verify that the loudspeaker receives PoE power and has completed startup.
	Network configuration issue	Verify switch operation, IP addressing, and physical network connections.
Configuration changes lost	Factory reset performed	Reconfigure the device and save settings as required.
Firmware update failed	Power or network connection interrupted during update	Repeat the firmware update procedure with a stable PoE and network connection. Do not interrupt power during the update.

If these suggestions do not solve your problem, contact your nearest Electro-Voice dealer or Electro-Voice distributor.

7 Technical data

EVIDn-C4

Frequency range (-10 dB) (Hz) [1]	80 Hz – 20,000 Hz
Maximum SPL (continuous) (dB)[2]	95 dB
Maximum SPL (peak) (dB)[2]	111 dB
Coverage angle conical (°)	130°
LF transducer size (in)	4 in
HF transducer size (in)	0.75 in
Protocols / standards	Dante; AES67
Connector type	Shielded RJ45 (100 base-TX, 1000 base-TX)
Amplifier type	15W Class D amplifier
DSP features	Ducker, Delay, PEQ, Low Shelf, High Shelf, Low Pass, High Pass, Notch, Low Shelf Q, High Shelf Q
PoE input	PoE IEEE 802.3af; PoE+ IEEE 802.3at
Power consumption (W) (max)	PoE+: 30 W PoE: 15.4 W
Power on Idle (W)	4.5 W
Material	Steel
Grille material	Powder coated steel
Color	White; Customized colors
Color (RAL)	RAL 9003 Signal white
Dimensions (Ø x D) (in)	8.4 in x 6.40 in
Dimensions (Ø x D) (mm)	212 mm x 163.6 mm
Weight (lb)	7.5 lb
Weight (kg)	3.4 kg
Shipping weight (lb)	10.4 lb
Shipping weight (kg)	4.72 kg
Mounting cutout (in)	7.20 in
Mounting cutout (mm)	183 mm
Mounting depth (in)	6.2 in
Mounting depth (mm)	158 mm
Ceiling thickness (in)	0.5 in - 1.5 in
Ceiling thickness (mm)	12.5 mm - 38 mm
IP rating	IP34
Usage	Indoor

Operating temperature (°F)	32 °F – 122 °F
Operating temperature (°C)	0 °C – 50 °C
Safety agency ratings	UL 2043, IEC 62368-1, UL/CSA 62368-1
EMC agency ratings	EN 55035, EN 55032, EN 50121-4, FCC Part 15 Class B, ICES-003
Protection	RMS output power limiter; Peak current limiter; Thermal fuse; Clip limiter; Rail limiter; Power limiter
LED indication	Off - OK Green Blinking - Identification Red - Error

[1]Half-space (in-ceiling mounted)
[2]Calculated

EVIDn-C4LP

Frequency range (-10 dB) (Hz) [1]	90 Hz – 20,000 Hz
Maximum SPL (continuous) (dB)[2]	95 dB
Maximum SPL (peak) (dB)[2]	109 dB
Coverage angle conical (°)	130°
LF transducer size (in)	4 in
HF transducer size (in)	0.75 in
Protocols / standards	Dante; AES67
Connector type	Shielded RJ45 (100 base-TX, 1000 base-TX)
Amplifier type	15W Class D amplifier
DSP features	Ducker, Delay, PEQ, Low Shelf, High Shelf, Low Pass, High Pass, Notch, Low Shelf Q, High Shelf Q
PoE input	PoE IEEE 802.3af; PoE+ IEEE 802.3at
Power consumption (W) (max)	PoE+: 30 W PoE: 15.4 W
Power on Idle (W)	4.5 W
Material	Steel
Grille material	Powder coated steel
Color	White; Customized colors
Color (RAL)	RAL 9003 Signal white
Dimensions (Ø x D) (in)	11.9 in x 3.6 in
Dimensions (Ø x D) (mm)	302 mm x 91 mm

Weight (lb)	8.6 lb
Weight (kg)	3.9 kg
Shipping weight (lb)	12 lb
Shipping weight (kg)	5.45 kg
Mounting cutout (in)	10.70 in
Mounting cutout (mm)	272 mm
Mounting depth (in)	3.4 in
Mounting depth (mm)	86 mm
Ceiling thickness (in)	0.5 in - 1.5 in
Ceiling thickness (mm)	12.5 mm - 38 mm
IP rating	IP34
Usage	Indoor
Operating temperature (°F)	32 °F – 122 °F
Operating temperature (°C)	0 °C – 50 °C
Safety agency ratings	UL 2043, IEC 62368-1, UL/CSA 62368-1
EMC agency ratings	EN 55035, EN 55032, EN 50121-4, FCC Part 15 Class B, ICES-003
Protection	RMS output power limiter; Peak current limiter; Thermal fuse; Clip limiter; Rail limiter; Power limiter
LED indication	Off - OK Green Blinking - Identification Red - Error

[1]Half-space (in-ceiling mounted)
[2]Calculated

EVIDn-C6

Frequency range (-10 dB) (Hz) [1]	80 Hz – 20,000 Hz
Maximum SPL (continuous) (dB)[2]	99 dB
Maximum SPL (peak) (dB)[2]	114 dB
Coverage angle conical (°)	110°
LF transducer size (in)	6.5 in
HF transducer size (in)	1 in
Protocols / standards	Dante; AES67
Connector type	Shielded RJ45 (100 base-TX, 1000 base-TX)
Amplifier type	15W Class D amplifier

DSP features	Ducker, Delay, PEQ, Low Shelf, High Shelf, Low Pass, High Pass, Notch, Low Shelf Q, High Shelf Q
PoE input	PoE IEEE 802.3af; PoE+ IEEE 802.3at
Power consumption (W) (max)	PoE+: 30 W PoE: 15.4 W
Power on Idle (W)	4.5 W
Material	Steel
Grille material	Powder coated steel
Color	White; Customized colors
Color (RAL)	RAL 9003 Signal white
Dimensions (Ø x D) (in)	11.9 in x 6 in
Dimensions (Ø x D) (mm)	302 mm x 153.8 mm
Weight (lb)	10 lb
Weight (kg)	4.52 kg
Shipping weight (lb)	14 lb
Shipping weight (kg)	6.31 kg
Mounting cutout (in)	10.70 in
Mounting cutout (mm)	272 mm
Mounting depth (in)	5.9 in
Mounting depth (mm)	149 mm
Ceiling thickness (in)	0.5 in - 1.5 in
Ceiling thickness (mm)	12.5 mm - 38 mm
IP rating	IP34
Usage	Indoor
Operating temperature (°F)	32 °F – 122 °F
Operating temperature (°C)	0 °C – 50 °C
Safety agency ratings	UL 2043, IEC 62368-1, UL/CSA 62368-1
EMC agency ratings	EN 55035, EN 55032, EN 50121-4, FCC Part 15 Class B, ICES-003
Protection	RMS output power limiter; Peak current limiter; Thermal fuse; Clip limiter; Rail limiter; Power limiter
LED indication	Off - OK Green Blinking - Identification Red - Error

[1]Half-space (in-ceiling mounted)
[2]Calculated

EVIDn-C6LP

Frequency range (-10 dB) (Hz) [1]	70 Hz – 20,000 Hz
Maximum SPL (continuous) (dB)[2]	98 dB
Maximum SPL (peak) (dB)[2]	112 dB
Coverage angle conical (°)	110°
LF transducer size (in)	6.5 in
HF transducer size (in)	1 in
Protocols / standards	Dante; AES67
Connector type	Shielded RJ45 (100 base-TX, 1000 base-TX)
Amplifier type	15W Class D amplifier
DSP features	Ducker, Delay, PEQ, Low Shelf, High Shelf, Low Pass, High Pass, Notch, Low Shelf Q, High Shelf Q
PoE input	PoE IEEE 802.3af; PoE+ IEEE 802.3at
Power consumption (W) (max)	PoE+: 30 W PoE: 15.4 W
Power on Idle (W)	4.5 W
Material	Steel
Grille material	Powder coated steel
Color	White; Customized colors
Color (RAL)	RAL 9003 Signal white
Dimensions (Ø x D) (in)	13.9 in x 5.3 in
Dimensions (Ø x D) (mm)	353 mm x 133.1 mm
Weight (lb)	11.4 lb
Weight (kg)	5.16 kg
Shipping weight (lb)	15.6 lb
Shipping weight (kg)	7.06 kg
Mounting cutout (in)	12.70 in
Mounting cutout (mm)	322 mm
Mounting depth (in)	4.8 in
Mounting depth (mm)	122 mm
Ceiling thickness (in)	0.5 in - 1.5 in
Ceiling thickness (mm)	12.5 mm - 38 mm

IP rating	IP34
Usage	Indoor
Operating temperature (°F)	32 °F – 122 °F
Operating temperature (°C)	0 °C – 50 °C
Safety agency ratings	UL 2043, IEC 62368-1, UL/CSA 62368-1
EMC agency ratings	EN 55035, EN 55032, EN 50121-4, FCC Part 15 Class B, ICES-003
Protection	RMS output power limiter; Peak current limiter; Thermal fuse; Clip limiter; Rail limiter; Power limiter
LED indication	Off - OK Green Blinking - Identification Red - Error

[1]Half-space (in-ceiling mounted)
[2]Calculated

EVIDn-C8

Frequency range (-10 dB) (Hz) [1]	55 Hz – 20,000 Hz
Maximum SPL (continuous) (dB)[2]	99 dB
Maximum SPL (peak) (dB)[2]	113 dB
Coverage angle conical (°)	90°
LF transducer size (in)	8 in
HF transducer size (in)	1 in
Protocols / standards	Dante; AES67
Connector type	Shielded RJ45 (100 base-TX, 1000 base-TX)
Amplifier type	15W Class D amplifier
DSP features	Ducker, Delay, PEQ, Low Shelf, High Shelf, Low Pass, High Pass, Notch, Low Shelf Q, High Shelf Q
PoE input	PoE IEEE 802.3af; PoE+ IEEE 802.3at
Power consumption (W) (max)	PoE+: 30 W PoE: 15.4 W
Power on Idle (W)	4.5 W
Material	Steel
Grille material	Powder coated steel
Color	White; Customized colors
Color (RAL)	RAL 9003 Signal white

Dimensions (Ø x D) (in)	11.9 in x 6 in
Dimensions (Ø x D) (mm)	302 mm x 153.8 mm
Weight (lb)	14.1 lb
Weight (kg)	6.38 kg
Shipping weight (lb)	18.8 lb
Shipping weight (kg)	8.53 kg
Mounting cutout (in)	10.70 in
Mounting cutout (mm)	272 mm
Mounting depth (in)	9.6 in
Mounting depth (mm)	244 mm
Ceiling thickness (in)	0.5 in - 1.5 in
Ceiling thickness (mm)	12.5 mm - 38 mm
IP rating	IP34
Usage	Indoor
Operating temperature (°F)	32 °F – 122 °F
Operating temperature (°C)	0 °C – 50 °C
Safety agency ratings	UL 2043, IEC 62368-1, UL/CSA 62368-1
EMC agency ratings	EN 55035, EN 55032, EN 50121-4, FCC Part 15 Class B, ICES-003
Protection	RMS output power limiter; Peak current limiter; Thermal fuse; Clip limiter; Rail limiter; Power limiter
LED indication	Off - OK Green Blinking - Identification Red - Error

[1]Half-space (in-ceiling mounted)
[2]Calculated

8 Appendices

8.1 Painting the speaker grille

If the speaker is installed in an area where the interior design requires a color match, our bezel-less design makes this painting process very simple.
To paint the speaker grille:

- Simply remove the grille and paint it using an enamel-based spray paint.

Painting Process

1. Remove the grille from the speaker.

Warning!
Do not use gasoline, kerosene, acetone, or other harsh solvents or chemicals, and do not use abrasive products such as sandpaper or steel wood.

2. Spray the grille at a 45-degree angle, applying a single light coat moving from left to right, and then a secondary coat from right to left.
3. Let the paint dry and, if needed, repeat the step above.

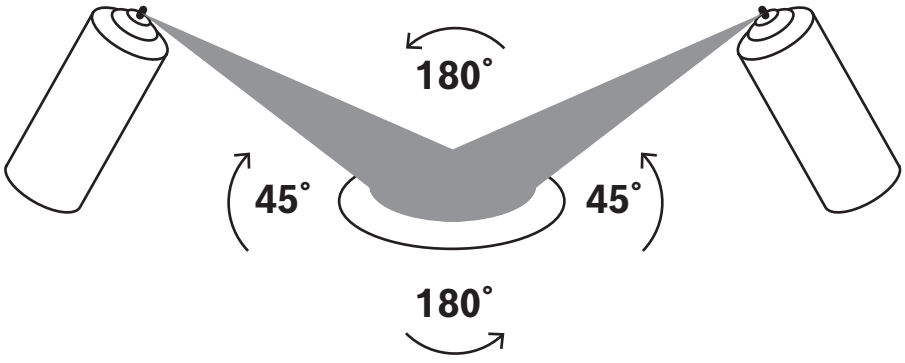


Figure 8.1: Spray painting angles

4. Reinstall the grille on the speaker.

8.2 Protecting the speaker grille while painting the room

To protect the speaker grille from paint:

1. Remove the grille from the speaker.
2. Cover the grille with the paint cover.
3. Reinstall the grille with the cover.

After painting the room:

1. Remove the grille from the speaker.

1. Remove the paint cover from the grille.
2. Reinstall the grille on the speaker.

8.3 System design guide

8.3.1 Selecting and positioning ceiling loudspeakers

Several key criteria determine the type and quantity of ceiling speakers to employ in a job. Specific EVID Ceiling Series models accommodate each job, depending on how these criteria are specified.

- Room size
- Coverage density desired
- Coverage angle specification of the speaker
- Ceiling height
- Audio program material being played

This information, and the free design program downloadable from www.electrovoice.com, will help you optimize your EVID design.

In the traditional approach to overhead distributed systems, loudspeakers are placed in a grid whose dimensions are dictated by the room height and the directivity of the speaker elements.

Two basic placement patterns prevail:

- Square spacing
- Hexagonal (or crisscross) spacing

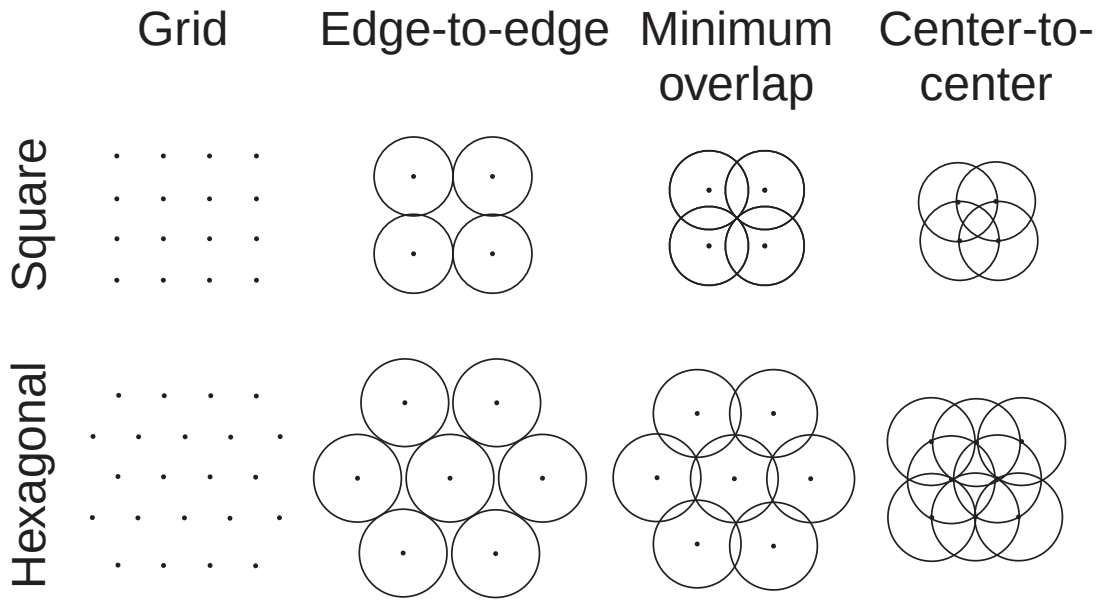


Figure 8.2: Coverage patterns

In addition to the spacing pattern, the designer must choose between three coverage density types:

- Edge-to-edge
- Minimum overlap
- Center-to-center

The greater the overlap, the more uniform the coverage. The , page 30 illustration shows these various layout patterns.

8.3.2 Ceiling systems: size vs. coverage

In the past, system designers usually specified 8-inch cone loudspeakers for distributed overhead systems, at least in part because they represented the traditional choice. EVIDn Ceiling systems, however, allow for far more flexible options.

In many cases, you can achieve excellent results — at a significant savings — by using 4-inch transducers. This is especially true in jobs that do not require extended low-end response or high SPL levels. Four-inch transducers, such as those used in the EVIDn-C4, offer wider dispersion to allow for fewer speakers to be employed in the job. For example, due to its smaller cone diameter, the EVIDn-C4 exhibits significantly wider dispersion (130 degrees) than the EVIDn-C8 (110 degrees) at the -6 dB points.

The effect of this characteristic on an overhead system is indicated in the , page 30 illustration. In replacement applications where existing speaker positions are used, the EVIDn-C4 (shown in angle A) offers greater overlap and, thus, more uniform coverage than an older conventional 8-inch unit (shown

in angle B). When specifying a new system, you can take advantage of the EVIDn-C4's wider dispersion to decrease the number of speakers required to cover a given area. This will result in even greater savings.

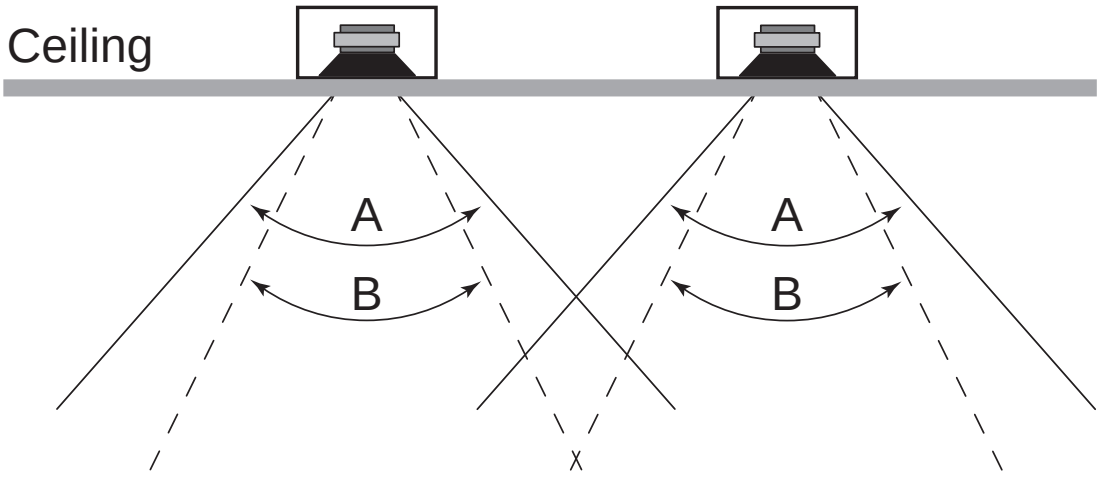


Figure 8.3: Size vs coverage

Of course, the EVIDn-C4 is somewhat less sensitive than the 8-inch EVIDn-C8. The difference is - 5 dB. The EVIDn-C4 will also have slightly reduced low-frequency capabilities below 65 Hz. However, neither of these factors is a significant problem in many distributed systems. The EVIDn-C4 is conservatively rated to handle 80 watts of continuous power equal to or greater than most other brands of 8-inch units, so its continuous SPL output will be more than adequate. Moreover, its low-frequency output can easily be augmented with the addition of the subwoofer. For these reasons, the EVIDn-C4 represents a great way for you to provide good audio coverage while maintaining a competitive edge in price quotes in installations that do not need the extended performance of the larger models.

SPL requirements: how loud?

The EVIDn-C8 is a great speaker to use when higher SPL is required. The fidelity and bandwidth of the unit is substantial and is ideal for applications requiring high quality foreground music reproduction. The EVIDn-C8 has substantial low frequency energy down below 60 Hz. This is more than sufficient for most applications.

Layout: how many?

The **Coverage diameter by ceiling height** table shows the effective coverage diameter of the EVIDn Ceiling models assuming a 4-foot listening plane height. Using these figures you can lay out a coverage pattern for the job after deciding the overlap criteria.

	Ceiling height				
Model	**8'**	**12'**	**16'**	**20'**	**24'**
EVIDn-C4 **EVIDn-C4LP**	17'	34'	51'	69'	86'
EVIDn-C6 **EVIDn-C6LP**	11'	23'	34'	46'	57'
EVIDn-C8	8'	16'	24'	32'	40'

Table 8.1: Coverage diameter by ceiling height[1]

[1] Coverage calculated at 4-foot listening height

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