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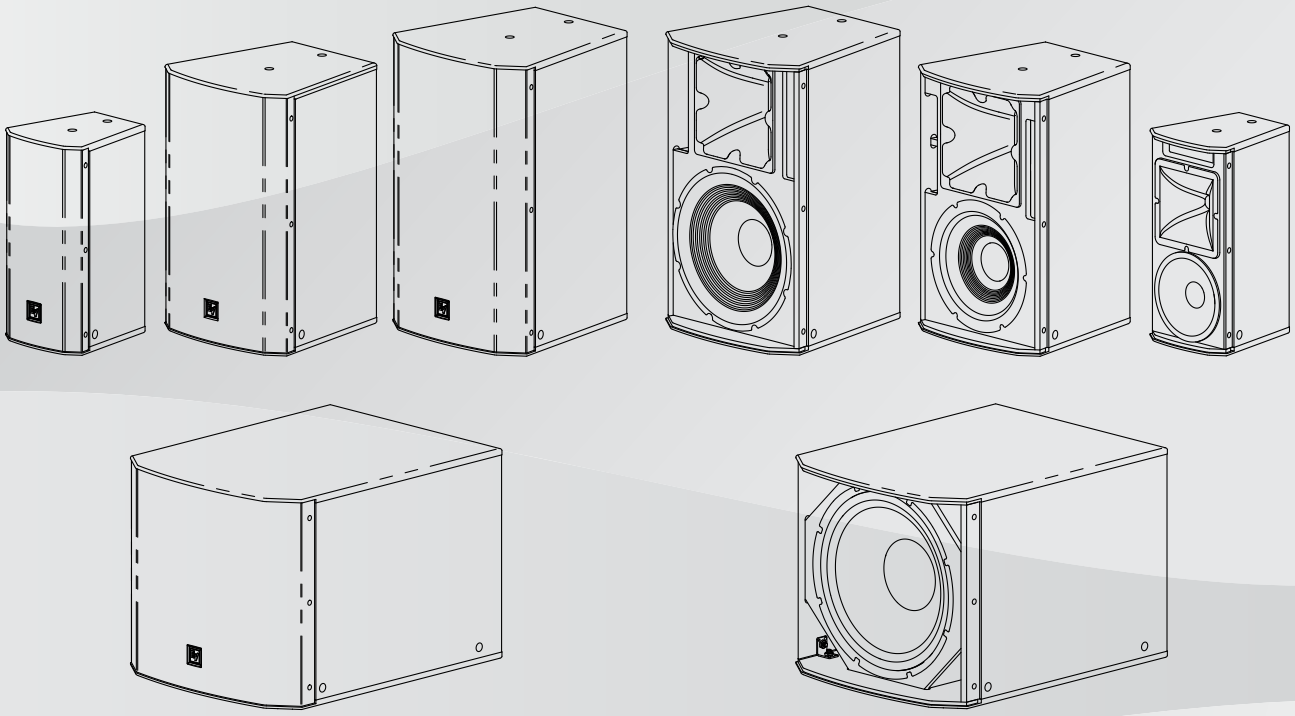
EVC Compact Front-Loaded Loudspeakers



en Installation manual

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1 Safety

1.1 Important safety instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Clean only with a dry cloth.
6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

1.2 Suspension

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.

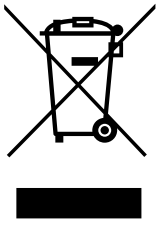
Caution!
It is the installer's responsibility to determine and use the proper mounting hardware for the wall construction type.
Disregarding this caution could result in damage to the product and personal injuries may occur.

Redundant seismic safety cable
As an added safety measure, when the loudspeaker is suspended or mounted, the user should connect an unused rigging point to a solid structural point using an appropriate safety cable. The cable should have a small amount of slack, but no more than ¾ inch.

1.3 Precautions

	These Electro-Voice loudspeakers were designed for use in an environment with ambient temperatures between -20°C (-4°F) and +50°C (122°F).
	These Electro-Voice loudspeakers are not rated for continuous outdoor conditions. However, they may be exposed to occasional short-term rain, water, or high humidity.
	Electro-Voice loudspeakers are easily capable of generating sound pressure levels sufficient to cause permanent hearing damage to anyone within normal coverage distance. Caution should be taken to avoid prolonged exposure to sound pressure levels exceeding 90 dB.

1.4 Notices



Old electrical and electronic appliances

Electrical or electronic devices that are no longer serviceable must be collected separately and sent for environmentally compatible recycling (in accordance with the European Waste Electrical and Electronic Equipment Directive).

To dispose of old electrical or electronic devices, you should use the return and collection systems put in place in the country concerned.

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All content including specifications, data, and illustrations in this manual are subject to change without prior notice.

2 Short information

The following table lists products in a family, with CTN (Commercial Type Number) and identifying product name DESCRIPTION.

CTN	DESCRIPTION
EVC-1082-96B	8" speaker, 90x60 indoor, black
EVC-1082-96W	8" speaker, 90x60 indoor, white
EVC-1082-96PIB	8" speaker, 90x60 weatherized, black
EVC-1082-96PIW	8" speaker, 90x60 weatherized, white
EVC-1082-00B	8" speaker, 100x100 indoor, black
EVC-1082-00W	8" speaker, 100x100 indoor, white
EVC-1082-00PIB	8" speaker, 100x100 weatherized, black
EVC-1082-00PIW	8" speaker, 100x100 weatherized, white
EVC-1122-64B	12" speaker, 60x45 indoor, black
EVC-1122-64W	12" speaker, 60x45 indoor, white
EVC-1122-64PIB	12" speaker, 60x45 weatherized, black
EVC-1122-64PIW	12" speaker, 60x45 weatherized, white
EVC-1122-95B	12" speaker, 90x55 indoor, black
EVC-1122-95W	12" speaker, 90x55 indoor, white
EVC-1122-95PIB	12" speaker, 90x55 weatherized, black
EVC-1122-95PIW	12" speaker, 90x55 weatherized, white
EVC-1152-64B	15" speaker, 60x45 indoor, black
EVC-1152-64W	15" speaker, 60x45 indoor, white
EVC-1152-64PIB	15" speaker, 60x45 weatherized, black
EVC-1152-64PIW	15" speaker, 60x45 weatherized, white
EVC-1152-95B	15" speaker, 90x55 indoor, black
EVC-1152-95W	15" speaker, 90x55 indoor, white
EVC-1152-95PIB	15" speaker, 90x55 weatherized, black
EVC-1152-95PIW	15" speaker, 90x55 weatherized, white
EVC-1181S-B	18" subwoofer indoor, black
EVC-1181S-W	18" subwoofer indoor, white
EVC-1181S-PIB	18" subwoofer weatherized, black
EVC-1181S-PIW	18" subwoofer weatherized, white

3 Introduction

EVC loudspeakers from Electro-Voice include five basic models. Three of them are two-way trapezoidal loudspeaker systems that can be used in a wide variety of applications where wide bandwidth, vertical and horizontal directivity control, and high efficiency are required in a compact, cost-effective package. The EVC Variable Intensity model is a two-way design with a unique compound waveguide that can evenly cover a defined rectangular audience area with almost no variation in sound quality and minimal change in level. The 18” subwoofer will complement any of the full-range systems. EVC loudspeakers are voiced so that they can be seamlessly used in systems with other EV-Innovation models (EVF, EVH, and EVA).
The high frequency section of EVC loudspeakers comprises a single 1¼-inch pure titanium dome compression driver directly coupled to a rotatable constant directivity waveguide that delivers uniform pattern control and smooth, linear response. The low frequency section employs a high-output woofer that was developed using state-of-the-art, computer-aided optimization to provide low distortion, high efficiency, and maximum intelligibility at high sound pressure levels. The passive crossover implements an enhanced fourth-order design with slopes of greater than 24 dB per octave for smooth off-axis response and improved definition through the critical vocal range. The subwoofer requires an external high-pass filter or crossover; it is the only model without an internal passive filter network.
The EVC series is an extremely cost effective solution for many fixed-install applications. The enclosures are constructed of 15-mm plywood and finished with EVCoat for enhanced durability. The loudspeakers have been designed with multiple M10 rigging points as well as attachment points for an optional U-bracket or multi mount style pan/tilt wall mount. There are no bracket options for the subwoofer. All EVC loudspeakers accept wire gauges up to 10 AWG. The input panel also accepts optional covers with NL4-type connectors or weatherized gland-nuts.
For 70V/100V operation, the input panel has an internal landing pad for mounting EV's high-quality TK-150 audio transformer. When the transformer is installed, it engages EV's patented Automatic Saturation Compensation (ASC), which preserves low frequency performance while presenting a stable load to the amplifier - regardless of the number of speakers connected in parallel. As a result, EVC loudspeakers - including the subwoofers - sound virtually identical, whether they are used with a transformer or without.

Numbering scheme

The numbering scheme for EVC models is similar to that of other EV-Innovation loudspeakers. It denotes the number and diameter of the woofers, the number of passbands, the coverage pattern, level of weatherization, and the enclosure color. EVC speakers are available in black or white and in your choice of robust EVCoat and partially weatherized versions. For example, the EVC-1082-96PIW employs a single eight-inch woofer in a two-way configuration with a 90° x 60° waveguide coverage pattern, and has a white, weatherized enclosure. Similarly, the EVC-1181S-B uses a single 18” woofer to cover a single passband. In other words, it is a subwoofer or low-frequency system in a black enclosure.

Finishes and colors available

EVC loudspeakers are finished in tough EVCoat. In addition, PI versions are rated for indirect outdoor exposure in protected areas, such as under a roof overhang, and feature a stainless-steel grille backed with acoustically-transparent hydrophobic cloth and a water-tight dual-

gland-nut input-panel cover. External fasteners on PI systems are stainless steel. All EVC systems are available in black or white. Black is indicated by B at the very end of the model number and white is indicated by W.

To find current user documentation visit our product related information at www.electrovoice.com.

Refer to

– *Technical data, page 21*

4 Installation

4.1 Tools list

The tools required to prepare the system for installation are:
- 3/16-inch (5 mm) flat blade screwdriver
- 6 mm Allen wrench
- Phillips #2 screwdriver

4.2 General aiming and placement guidelines

Loudspeakers should be pointed at the people and away from reflective room surfaces. Since people are excellent absorbers of sound and room surfaces are often not, this practice ensures not only that the audience will perceive the high frequencies necessary for good voice and musical clarity, but also that acoustic reflections do not excessively degrade intelligibility. Loudspeakers for sound reinforcement are usually located above a stage or platform and aimed down and out into the audience. This minimizes the difference between the longest throws to the rear of a venue and the shortest throws to the front rows, promoting uniform coverage. Note that a typical portable loudspeaker on a short, 6-foot stand cannot duplicate such uniformity since the distant seats are so much farther away than the front rows. The direct sound from a loudspeaker drops 6 dB every time the distance from it doubles, according to the formula:

$$\text{Level loss (dB)} = 20\log_{10} (\text{closest distance/farthest distance}).$$

4.3 Preparing the EVC loudspeakers for installation

4.3.1 Unpacking and inspection

Carefully open the packaging and take out the loudspeaker. Inspect the loudspeaker's enclosure for any damage that might have happened during transportation. Each loudspeaker is examined and tested in detail before leaving the manufacturing site. Please inform the transport company immediately if the loudspeaker shows any damage. Being the addressee, you are the only person who can claim damages in transit. Keep the cardboard box and all packaging materials for inspection by the transport company.
Keeping the cardboard box including all packing materials is also recommended, even if the loudspeaker shows no external damage.
When shipping the loudspeaker, make sure to always use its original box and packaging materials. By packing the loudspeaker exactly as it was packed by the manufacturer, you will guarantee optimum protection from transport damage.

4.3.2 Scope of delivery

Keep the original invoice that states the purchase/delivery date in a safe place.

4.3.3 Recommended pre-installation procedures

For any sound system, certain checks made at the installer’s place of business can prevent expensive on-site delays. EV recommends that you take the following steps:
1. Unpack all loudspeakers in the shop.
2. Check for proper model numbers.
3. Check the overall condition of the loudspeakers.
4. Check for continuity at the loudspeaker inputs.

Once you are on site and the loudspeakers are connected, it is a good idea to check again for continuity at the power-amplifier end of each cable run.

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