

# Control 25AV-LS

Professional Compact Loudspeaker for  
Life Safety Applications





# PRODUCT OVERVIEW

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The Control<sup>®</sup> 25AV-LS is built on the same platform as our popular Control 25AV and is UL 1480 UUMW Listed for use in fire alarm and/or emergency communication systems. The Control<sup>®</sup> 25AV utilizes a deep cabinet, high power components and complex network to achieve extremely smooth high fidelity performance from a compact 2-way loudspeaker. Premium performance capability and even coverage ensures excellent sound quality throughout the listening area.

The top-quality transformer, with reduced saturation, allows the loudspeaker to be used on either 70 volt or 100 volt distributed speaker lines, with similar fidelity performance to the 8 ohm bypass position.

The patented InvisiBall<sup>®</sup> mounting method is simple to install, aims easily, and provides a high degree of theft deterrence. The cabinet accepts a variety of paints to match any décor. Weather resistance is maximized by utilizing an aluminum grille featuring polyester powder coating.

Coating the woofer cone in polypropylene and terminating its circumference in JBL's WeatherEdge<sup>™</sup>, a seamless, butyl rubber extension of the woofer surround, protects critical transducer elements. The polycarbonate tweeter diaphragm is reinforced with a thin film of titanium for added rigidity and endurance. Nickel/zinc rust-resistant terminals ensure a secure input connection.

JBL's exclusive SonicGuard<sup>™</sup> overload protection is virtually inaudible to the listener, ensuring reliability while providing full fidelity sound.

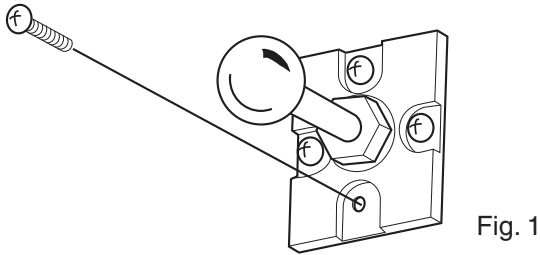
- **UL 1480 UUMW Listed for Use in Fire Alarm and/or Emergency Communication Systems**
- **Extremely Smooth Frequency Response**
- **Aluminum Grille with Polyester Powder Coating for Enhanced Durability**
- **60 Watt Transformer for 70V or 100V Lines, with 8 ohm Bypass**
- **SonicGuard<sup>™</sup> Overload Protection**
- **130 mm (5¼") Polypropylene Coated Woofer, 20 mm (¾") Titanium Coated Horn-Loaded Tweeter**
- **Includes InvisiBall<sup>®</sup> Mounting Hardware and Sealed Input Panel Cover**
- **Captive Screw-Down Input Terminals**
- **110° x 85° High Frequency Horn**

# INVISIBALL MOUNTING INSTRUCTIONS

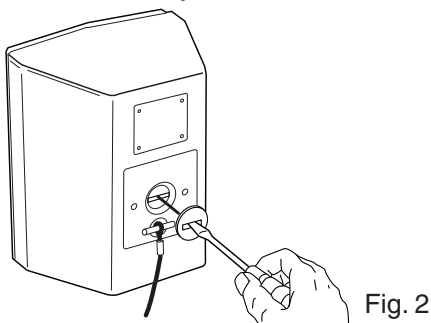
Designed to be unobtrusive, offer theft deterrence, and simplify the installers job, the patented InvisiBall® mounting system features a unique method for installing a loudspeaker onto a wall or other flat surface.

Installing this Commercial Sound product must be done in accordance with local building codes and regulations. Consult with a licensed contractor or professional engineer regarding any installation in which the loudspeakers are mounted to a wall or ceiling. For outdoor applications, be sure to use a mounting support system which has sufficient wind load strength in accordance with local building codes and regulations. JBL Professional is not responsible for damages resulting from the negligent installation of any bracket or speaker.

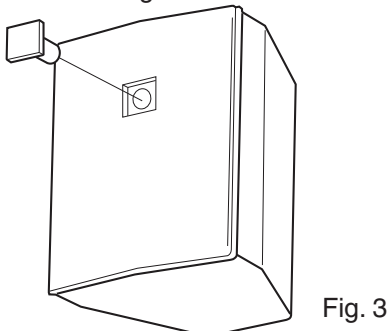
1. Install the InvisiBall mounting bracket plate on the mounting surface as shown in Fig. 1. **Be sure to use anchor hardware that is appropriate for the mounting surface and that the mounting surface will adequately support the loudspeaker assembly.**



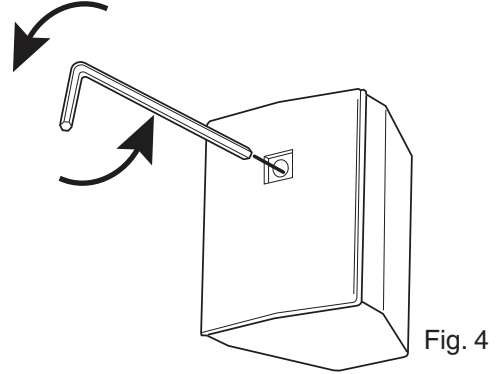
2. Using a wide-tipped, slotted screwdriver, remove the plastic InvisiBall knock-out plug by pushing downward as shown in Fig. 2. Remove any residual plastic around the hole to ensure the ball assembly will fit into the hole.



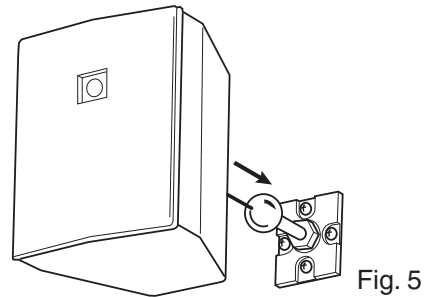
3. Remove the logo badge on the speaker grill by pulling it straight out as shown in Fig. 3.



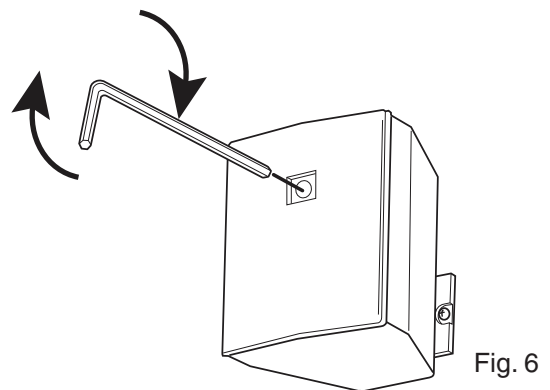
4. Insert the supplied hex key into the hole exposed by the logo badge. Lightly push and slowly rotate the hex key until you feel the key fall into place. Loosen the InvisiBall clamp as shown in Fig. 4.



5. Mount the speaker on the InvisiBall as shown in Fig. 5.



6. Tighten the clamp just enough to hold the speaker while it is positioned in its desired orientation. When the speaker is in the desired direction, tighten the InvisiBall clamp as shown in Fig. 6 and replace the logo badge. **CAUTION: DO NOT OVERTIGHTEN.**



# WIRING INSTRUCTIONS

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Control 25AV-LS Loudspeakers feature barrier strip input connectors. **When wiring Control 25AV-LS loudspeakers, always use proper electrical wiring practices in accordance with your local building codes and regulations.**

To wire the Control 25AV-LS, connect the positive lead (+) from your power amplifier to the positive input on the Control 25AV-LS and the negative lead (-) from your power amplifier to the negative input on the Control 25AV-LS as shown in Fig. 7.

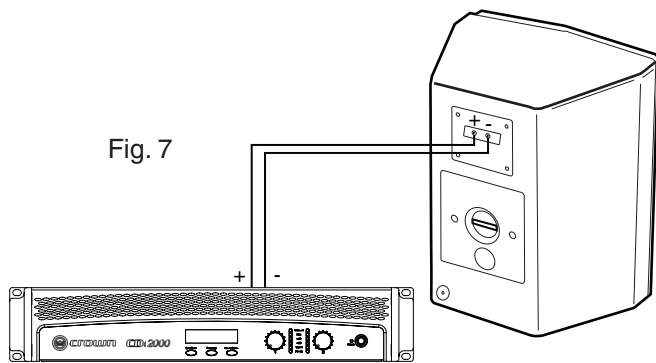


Fig. 7

Before turning on the amplifier, make sure the speaker tap switch is set to the proper selection. **Sending a 70/100V feed to the Control 25AV-LS in its bypass mode may result in permanent damage to the loudspeaker.**

## DISTRIBUTED LINE SYSTEMS

The Control 25AV-LS includes a transformer for use on 70V / 100V distribution lines as shown in Fig. 8. Be sure to use a line distribution amplifier when using the Control 25AV-LS units with the transformer tap settings.

As with conventional 8 ohm loudspeakers, simply connect the amplifier's "+" and "-" outputs directly to the red (+) and black (-) input jacks on the back of the enclosure. Set the transformer tap (located on the lower left rear side of the cabinet) to the desired wattage.

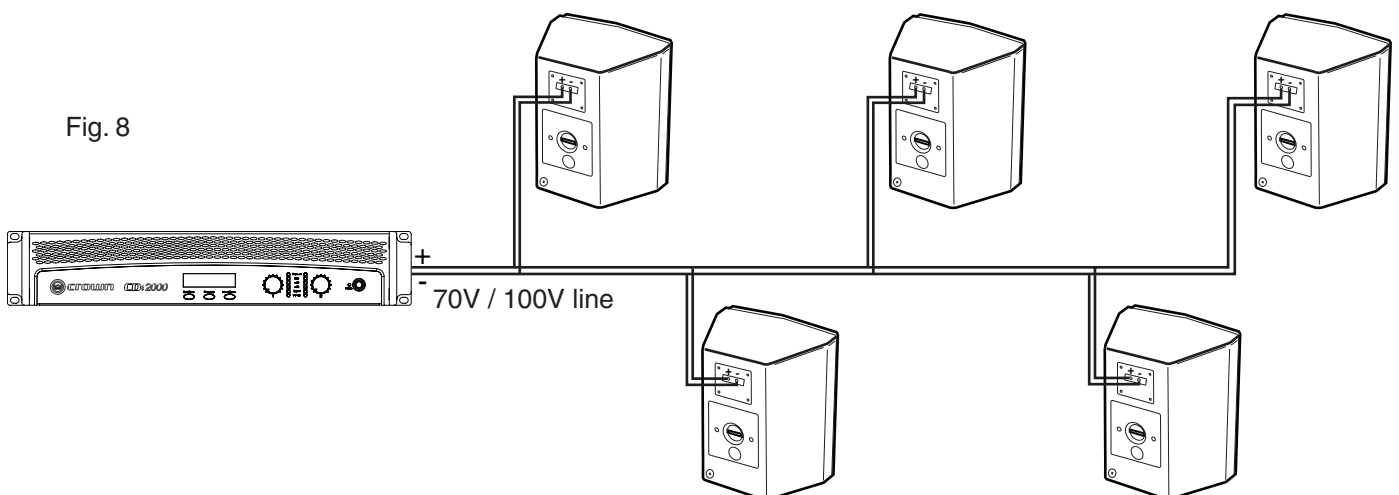


Fig. 8

The advantage of using a 70V / 100V distribution line is the ability to connect multiple Control 25AV-LS loudspeakers to one amplifier channel providing that all the speaker taps do not add up to more than the amplifier channel's power rating.

A conservative rule-of-thumb is to try to keep the sum of the speaker loads (watts) under 80% of the power amp rating. (e.g. A 100 watt amplifier channel will then drive 10 speaker set to 7.5 watts each, i.e.  $10 \times 7.5 = 75$  watts).

## TROUBLESHOOTING

### If there is no sound from your speakers:

- Make sure your power amplifier is on and the gain is set above its minimum setting.
- Make sure there is a signal to your amplifier from your mixer.
- Ensure all wires are connected and that none are cut or frayed.
- If more than one pair of speakers is being used, check the minimum impedance requirements of your amplifier (overloading your amplifier may result in damage to your amplifier).

### If there is no sound from one of your speakers:

- Check the balance control on your mixer.
- Check the channel output gains of your amplifier.
- Ensure all wires are connected and that none are cut or frayed.

### If there is no (or weak) bass output or a poor stereo image:

- Make sure the polarities (+ and -) of the speakers inputs are properly connected

**For General Signaling Use Only. For Fire Alarm use refer to Fire Alarm Panel's Installation Manual.**

The Control 25AV-LS has passed extensive testing and is in compliance with the following specifications and uses:

- **Listed UL-1480, category UUMW** when installed with a junction box (on-wall or in-wall). **For use with non-DC supervised systems.**
- General Purpose Use Listed UL-1480, Category UEAY
- Control 25AV-LS is suitable for use outdoors in wet locations
- Control 25AV-LS is suitable for use indoors in damp locations
- Suitable for installation using Class 1, Class 2 or Class 3 wiring methods in accordance with NFPA 70, National Electric Code, 2002, Article 640, and with NFPA 72 for use with non-DC supervised control panels / amplifiers.
- Suitable with fire alarm circuit wiring methods in accordance with NFPA 70, National Electric Code, 2002, Article 760, and with NFPA 72 for use with non-DC supervised control panels / amplifiers.
- EMC Directive 89/336/EEC and Article 10 (1) of the directive EN50081-1 and EN50082-1
- Tested to IEC 60268-5

Measured audibility for the Control 25AV-LS at 10 feet (3.1 meters) is:

Tap	Sound Pressure Level dB(A)
70V, 7.5W	80 dB
70V, 15W	83 dB
70V, 30W	86 dB
70V, 60W	88 dB
100V, 15W	83 dB
100V, 30W	86 dB
100V, 60W	88 dB
8 ohm	90 dB

## PAINTING THE CONTROL 25AV-LS

The polystyrene speaker enclosure of the Control 25AV-LS can be painted to match almost any decor.

1. Remove the grille and mask the woofer, tweeter, & ports on the front, and the wire terminals on the back, being careful that no tape comes in direct contact with the drivers.

2. Clean the enclosures with a light solvent such as mineral spirits by rubbing the components with a lightly dampened cloth. Do not, however, use abrasives such as sandpaper or steel wool on the enclosures. Nor should you use gasoline kerosene, acetone, MEK, paint thinner, harsh detergents or other chemicals. Use of these cleaners may result in permanent damage to the enclosures.

3. After cleaning, apply two or more thin coats of either latex or oil-based paints. Latex paints will adhere better if an oil-based primer is used first. Application can be by rolling, brushing, or spraying. The grilles require masking of the logo plug, then spray painting. If the grill is rolled or brush painted, the mesh may become clogged with paint, and poor sound quality may result.

The InvisiBall mount may also be painted, but because it is metal, latex paints will not adhere as well as other finishes.

## MAINTENANCE

No maintenance is required when assembled in accordance with the instructions and wiring guidelines described in this manual. The cabinet on the Control 25AV-LS is designed to be weather resistant but it is **NOT WEATHERPROOF**.

## CONTACTING JBL PROFESSIONAL

These products are designed and backed by JBL Professional, the world leader in professional sound reinforcement. For complete warranty information, to order replacement parts or to ask for clarifications to this manual, contact JBL Professional.

Within the United States:

Applications Department, JBL Professional  
8400 Balboa Blvd., PO Box 2200  
Northridge, CA 91329 USA

In the USA you may call Monday through Friday 8:00am to 5:00pm Pacific Coast Time (800) 894-8850.

Outside the USA:

Contact the JBL Professional Distributor in your country.

A list of JBL Professional Distributors and US Service Centers can be obtained from the JBL Professional website at: [www.jblpro.com](http://www.jblpro.com)

# SPECIFICATIONS

Frequency Range (-10 dB) <sup>1</sup> :	70 Hz – 23 kHz
Frequency Response (±3 dB) <sup>1</sup> :	130 Hz – 14 kHz
Coverage Pattern <sup>2</sup> :	110° x 85°
Long-Term System Power Rating, IEC <sup>3</sup> :	200 W Continuous Program Power 100 W Continuous Pink Noise
Sensitivity (2.83V@ 1m) <sup>4</sup> :	87 dB measured half-space
Nominal Impedance :	8 ohms
Directivity Factor (Q) :	4.9, averaged 500 Hz to 4 kHz
Directivity Index (DI) :	6.9 db, averaged 500 Hz to 4 kHz
Transformer Taps :	100V: 60W, 30W & 15W (plus 7.5W at 70V)
Transducers :	130mm (5.25 in) polypropylene-coated paper with WeatherEdge surround, 25mm (1 in) voicecoil 20mm (.75 in) titanium coated PEI
Input Connector :	Barrier Strip
Enclosure :	High Impact Polystyrene
Safety :	UL-1480 UUMW Listed, for use with non-DC supervised control panels / amplifiers.
Dimensions (H x W x D) :	236 x 186 x 159 mm (9.3 x 7.4 x 6.3 in)
Net Weight :	4.0 kg (9 lbs)



- Optional Accessories :**
- MTC-25V** for vertical columnar mounting of up to 3 speakers.
  - MTC-25/23H** for horizontal splaying of 2 speakers. Three brackets array either 3 or 6 speakers in a hanging array module for 360° horizontal coverage.
  - MTC-28/25CM** to install speaker down from the ceiling. Check JBL Control Contractor Bracket and Adapter Handbook.
  - MTC-25WVG** WeatherMax™ Stainless Steel Grille with a three-layer backing, including vapor barrier to break up driving precipitation.

<sup>1</sup> In half space (on wall)

<sup>2</sup> In full space

<sup>3</sup> IEC standard, full bandwidth pink noise with 6 dB crest factor for 100 Hours.

<sup>4</sup> Half-space (on wall) averaged 100 Hz to 10 kHz.

JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy.