

ZXA1 Series Loudspeaker

ZXA1-90, ZXA1-SUB

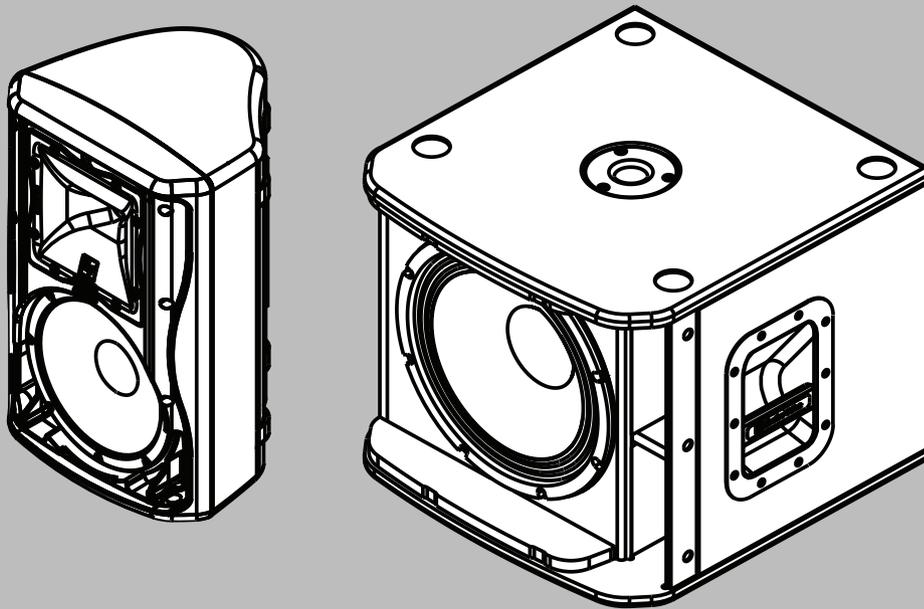


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1 Safety

1.1 Important safety instructions

**Warning!**

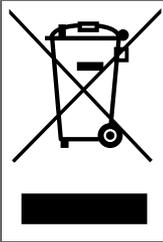
To reduce the risk of fire or electric shock, do not overexpose this appliance to rain or moisture.

**Warning!**

Connect only to mains socket with protective earthing connection.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug the apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. To completely disconnect AC power from this apparatus, the power supply cord must be unplugged.
15. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus should not be exposed to dripping or splashing. Objects filled with liquids, such as vases should not be placed on apparatus.
16. The AC plug of the power supply cord shall remain readily operable. The plug of the power supply cord is used as a disconnect device.

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.

1.2 FCC information

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 A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

1.3 Precautions

	<p>If an Electro-Voice loudspeaker is used outdoors on a sunny day, place the loudspeaker in a shaded or covered area. The loudspeaker amplifiers have protection circuits that temporarily shut the loudspeaker off when extremely high temperatures are reached. This can happen on hot days when the loudspeaker is in direct sunlight.</p>
	<p>Do not use Electro-Voice loudspeakers in an environment where temperatures are below 0°C (32°F) or exceed +35°C (95°F).</p>
	<p>Never expose an Electro-Voice loudspeaker to rain, water, or high moisture.</p>
	<p>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.</p>

2 Description

Thank you for choosing an Electro-Voice portable loudspeaker system. Please take time to consult the manual to understand all the features built into your EV system and fully utilize its performance capabilities.

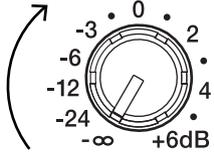
Only to be expected from Electro-Voice, the ZxA1 packs a big-stage punch. Electro-Voice drivers, components, and amplifiers are legendary - all proven at the highest levels of live performance. ZxA1 wraps Electro-Voice technology in a durable, lightweight cabinet, resulting in the most powerful and versatile compact loudspeaker available today. Match ZxA1 with the ZxA1-Sub to create a truly exceptional professional sound system.

2.1 Quick setup

The ZLX series loudspeakers from Electro-Voice are fully integrated audio systems with carefully matched electronics and transducers. These products make it easy to setup a high quality sound system quickly with a minimum amount of cables and external electronics.

To get the ZXA1 loudspeaker into operation as quickly as possible:

Step	ZXA1	ZXA1-SUB
1. Turn knob to $-\infty$.		
2. Connect the AC power cord from a grounded line receptacle to MAINS IN.		
3. For ZXA1, connect an XLR Mic cable to MIC IN or connect an audio source to LINE IN . OR For ZXA1-SUB, connect the XLR cables to IN A .		
4. Switch POWER to ON .		

Step	ZXA1	ZXA1-SUB
5. Slowly increase knob to the desired level.		

2.2

Features

ZXA1 8" 2-way powered speaker

The ZXA1 is a compact, powerful, and versatile choice for sound reinforcement and stage monitoring applications, lightweight and durable, with an 800 W amp.

- Lightweight and durable ABS enclosure.
- Two-way loudspeaker with EV8L 8-inch woofer and DH2005 titanium compression driver.
- Rotatable high frequency waveguide.
- Class D lightweight amplifier.
- Bi-amplified design with 24 dB/octave filter slopes and transducer protection.
- Selectable 100 Hz high pass filter for use with an external subwoofer.
- XLR/TRS combo line input.
- XLR microphone input with gain control.
- XLR summed output.
- LED indicators for power on and limit.
- Pole mount.
- 45° monitor angle.

ZXA1-SUB 12" powered subwoofer

Optimized for performance with ZXA1, the ZXA1-SUB adds a deep, low-frequency, amplified punch you can hear and feel.

- 15 mm plywood enclosure, internally braced, with textured paint.
- EVS-12S 305 mm (12-inch) woofer for powerful, engaging bass response.
- Class D lightweight amplifier.
- Pole mount for full-range systems.
- Dual XLR inputs and outputs.
- Switchable EQ modes for different applications.
- LED indicators for **Power On** and **Limit**.

3 Installation

3.1 Floor monitor, tripod and pole mount

Floor monitor

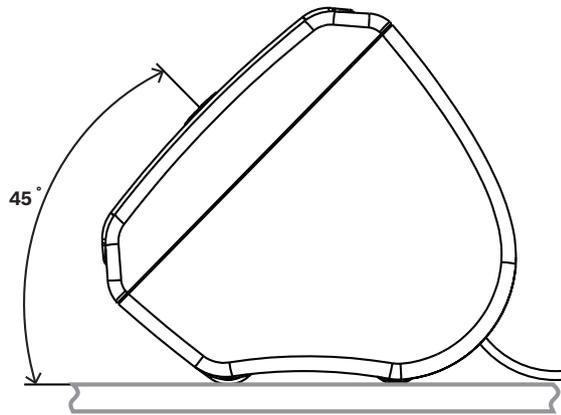


Figure 3.1: ZXA1 monitor position

Tripod

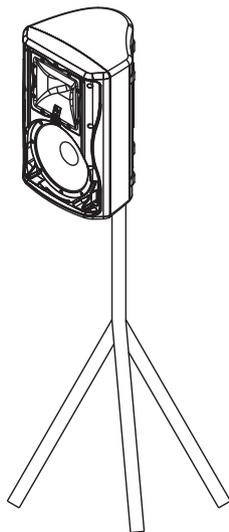


Figure 3.2: ZXA1 on tripod stand

Pole mount

Electro-Voice ZXA1-SUB loudspeakers include 35 mm (1-3/8 inch) pole mount cups to allow mounting a full range speaker above it.

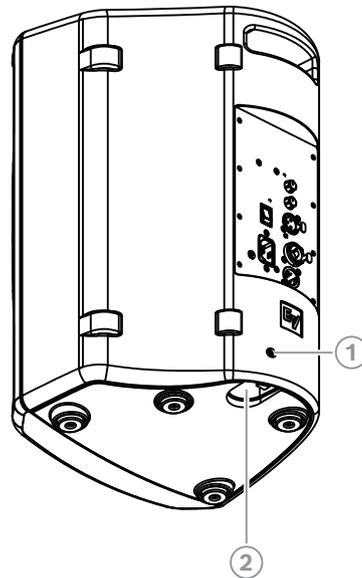


Figure 3.3: ZXA1 pole mount location

1	Set screw	2	Pole mount recess
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Make sure to:

- Use a speaker pole that is no longer than 1.2 m (4 ft) and mount a speaker weighing no more than 11.3 kg (25 lb).
- Check that the ZXA1-SUB is placed on a flat and stable surface.

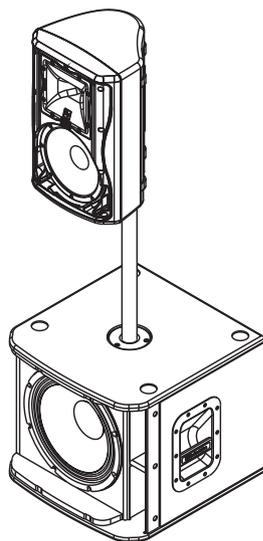


Figure 3.4: ZXA1 and ZXA1-SUB full-range/sub stack with pole mount

3.2 Suspending the loudspeakers

Electro-Voice ZXA1 loudspeakers may be safely suspended with single stud fittings by using the MP1 suspension kit, or quickly attached to a truss by using the CA-Zx truss clamp adaptor (both sold separately). See MP1 or CA-Zx instruction sheets for proper assembly and use.

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 rigging objects overhead.

Electro-Voice strongly recommends that ZXA1 speakers be suspended taking into account all current national, federal, state, and local regulations. It is the responsibility of the installer to ensure that ZXA1 speakers are safely installed in accordance with all such regulations. If ZXA1 speakers are suspended, Electro-Voice strongly recommends that the system be inspected at least once a year. If any sign of weakness or damage is detected, remedial action should be taken immediately. There are instruction sheets for each EV Suspension and Array Kit that should also be consulted prior to suspending speakers.



Figure 3.5: MP1-B mounting plate accessory

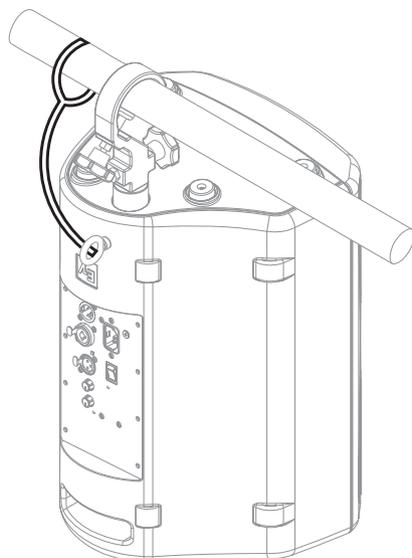


Figure 3.6: CA-ZX truss clamp accessory

3.3 Rotating the horn

The ZXA1 allows for the horn to be rotated for more effective coverage if desired. The horn is factory-installed with the 90° coverage in the horizontal plane and the 50° coverage in the vertical plane.

To **rotate the horn**:

1. Remove the grille screws/grille assembly.
2. Remove the horn screws/horn assembly.
3. Rotate the horn assembly 90°.
4. Secure the horn assembly with the horn mounting screws.
5. Secure the grille assembly with the grille mounting screws.

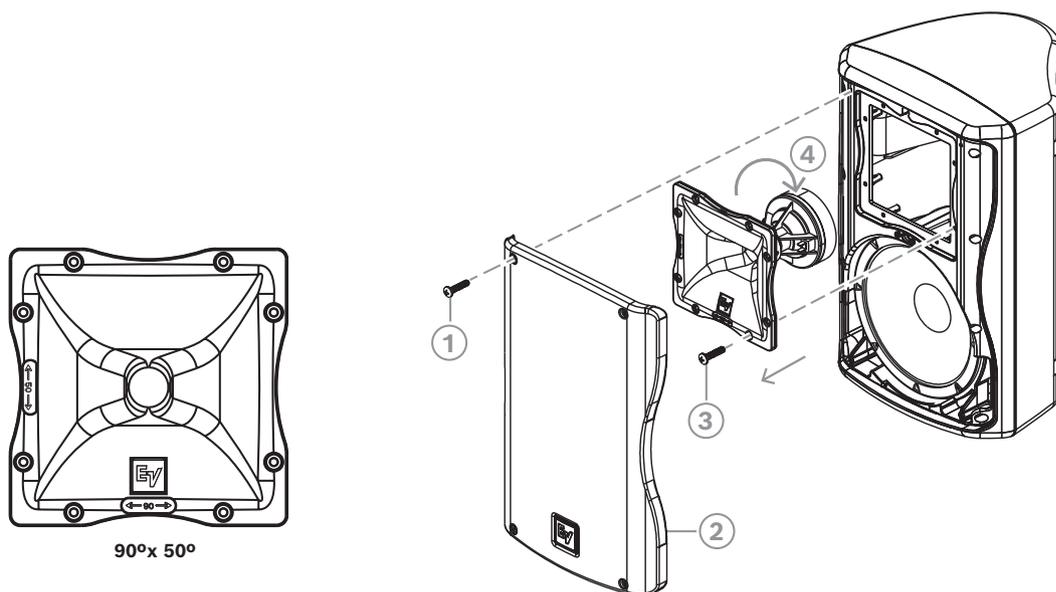


Figure 3.7: Rotating the ZXA1-90 horn

1	Grille mount screws	2	Grille assembly
3	Horn mount screws	4	90° x 50° horn

3.4 Rotating the logo

All versions of the ZXA1 (except the ZXA1-SUB) allow for the logo to be rotated, if required. The logo badge is square and can be rotated in 90° increments.

To **rotate the logo badge**:

1. Using a finger or flat-edge screwdriver (using care not to scratch grille), grip under the logo badge.
2. Pull the logo badge outwards from the logo recess until it fully clears the front surface of the grille.
3. Rotate the logo badge, in 90° increments, to the desired orientation.
4. Release the logo badge and let it “spring” back into the logo recess.

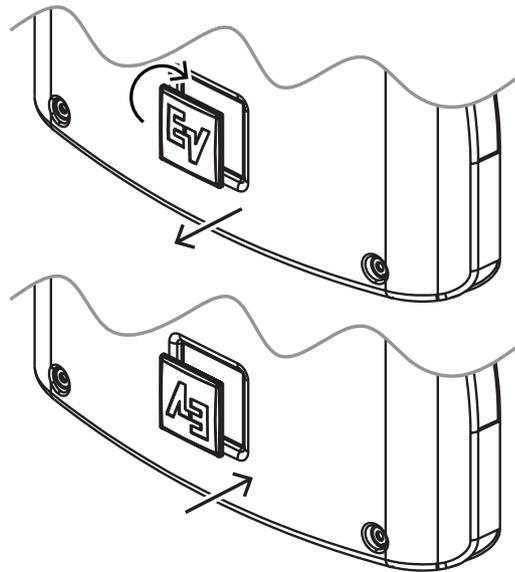


Figure 3.8: Rotating the ZXA1 logo

4 Amplifier controls

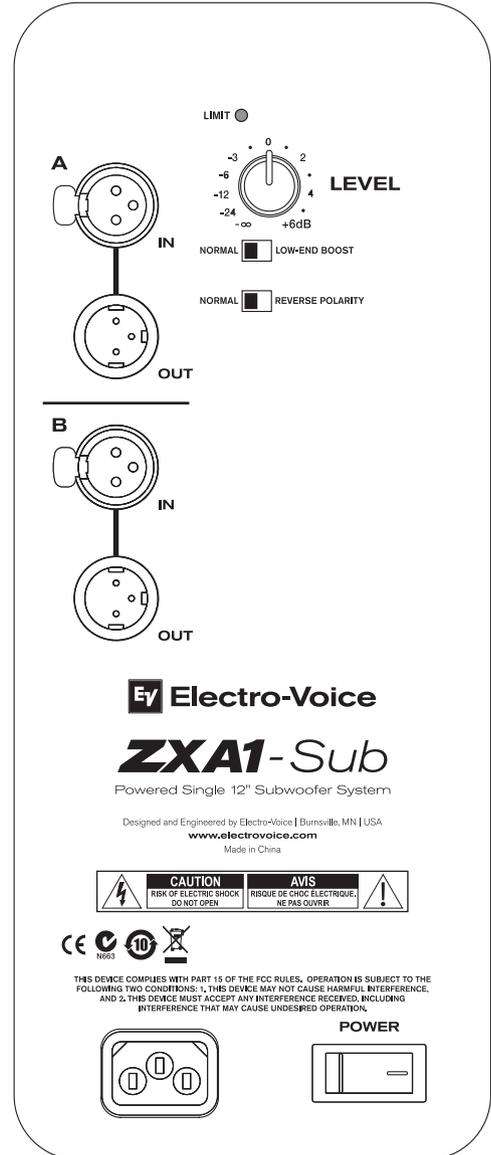
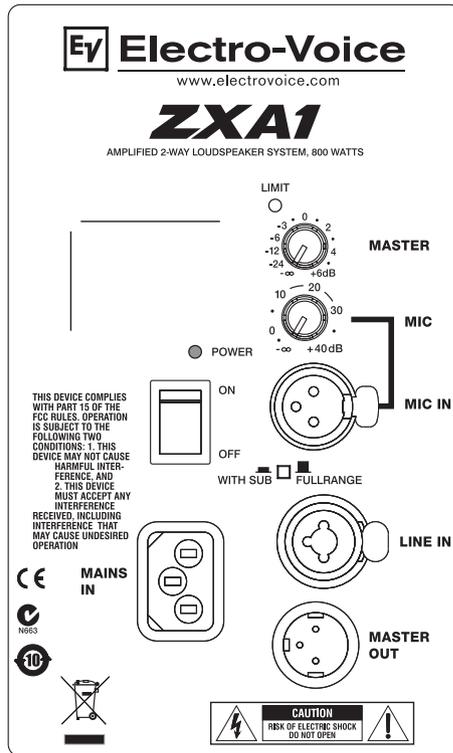
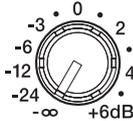
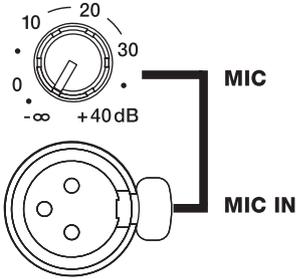
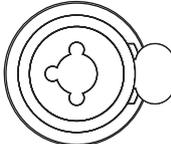
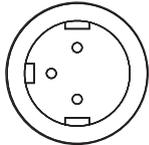
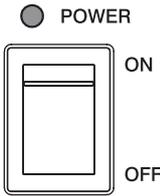


Figure 4.1: ZXA1 and ZXA1-SUB amplifier panels

Control	Function
<p>LIMIT</p> 	<p>LIMIT</p> <p>The LED brief blinking indicates the power amplifier is operated at its limits. Short-term blinking is not critical because the integrated limiter keeps distortion under control. Constant lighting of the LED indicates the sound is negatively affected. Reducing the output volume is strongly recommended.</p>

Control	Function
 <p>MASTER</p>	<p>MASTER Level control for adjusting the power amp’s overall amplification. The level control affects the volume of the line input and microphone input. To prevent distortion and clipping of pre-linked mixing consoles, the control should generally be set to a value between 0 dB and +6 dB.</p>
 <p>MIC MIC IN</p>	<p>MIC Level control for adjusting the microphone input level independent of the master level.</p> <p>MIC IN XLR input for low level signals like microphones. The MIC IN and LINE IN may both be used at the same time as a 2-channel mixer.</p>
 <p>WITH SUB FULLRANGE</p>	<p>WITH SUB/FULL RANGE When depressed, activates a 100 Hz high pass for use with a subwoofer, or if the ZxA1 is used as a floor monitor. A pen or paperclip is needed to depress the switch to WITH SUB mode.</p>
 <p>LINE IN</p>	<p>LINE IN Electronically balanced input for the connection of high-level signal sources like mixing consoles or signal processors. Connections can be established using 1/4-inch TRS or XLR-type connectors.</p>
 <p>MASTER OUT</p>	<p>MASTER OUT Output connector to send the signal to another speaker or subwoofer. The output is the sum of both the MIC IN and LINE IN.</p>
 <p>POWER ON OFF</p>	<p>POWER AC switch for switching the ZxA1’s power ON or OFF. The LED lights after turning the power ON. If the LED is not lit upon turning the power on, make sure the AC cord is correctly connected and the outlet is properly working.</p>

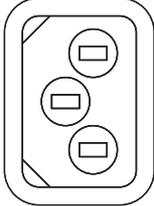
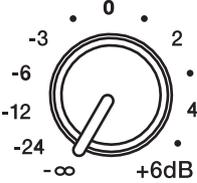
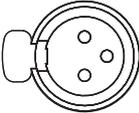
Control	Function
 <p>MAINS IN</p>	<p>MAINS IN AC connection is established via an IEC-connector. A 10 ft (3 m) long AC cord with fitting IEC-plug is supplied. Locking IEC power cords may also be used.</p>

Table 4.1: ZXA1 amplifier controls

Control	Function
 <p>LIMIT</p>	<p>LIMIT The LED brief blinking indicates the power amplifier is operated at its limits. Short-term blinking is not critical because the integrated limiter keeps distortion under control. Constant lighting of the LED indicates the sound is negatively affected. Reducing the output volume is strongly recommended.</p>
	<p>LEVEL Level control for adjusting the volume of the subwoofer. The level control affects the volume of both Channels A and B.</p>
<p>NORMAL  LOW-END BOOST</p>	<p>BOOST The BOOST switch controls the low-frequency extension of the subwoofer. NORMAL works best when the subwoofer is used under normal applications. LOW-END BOOST provides additional low-frequency extension and works best for applications requiring enhanced bass performance.</p>
<p>NORMAL  REVERSE POLARITY</p>	<p>POLARITY The POLARITY switch controls the acoustic polarity of the subwoofer. When using with a ZxA1 and in most applications, the switch should always be set to NORMAL. If the bass output is low when using with other loudspeaker systems and subwoofers, try setting the switch to REVERSE POLARITY.</p>
	<p>XLR INPUT XLR input connector to receive the signal from another speaker or subwoofer.</p>

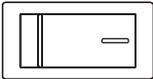
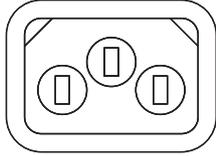
Control	Function
	<p>XLR OUTPUT XLR output connector to send the signal to another speaker or subwoofer.</p>
<p>POWER</p> 	<p>POWER AC switch for switching the ZxA1-Sub's power ON or OFF. The LED lights after turning the power ON. If the LED is not lit upon turning the power on, make sure the AC cord is correctly connected and the outlet is properly working.</p>
	<p>MAINS IN AC connection is established via an IEC-connector. A 10 ft (3 m) long AC cord with fitting IEC-plug is supplied.</p>

Table 4.2: ZXA1-SUB amplifier controls

5 Recommended configurations

5.1 Daisy-chaining full-range systems

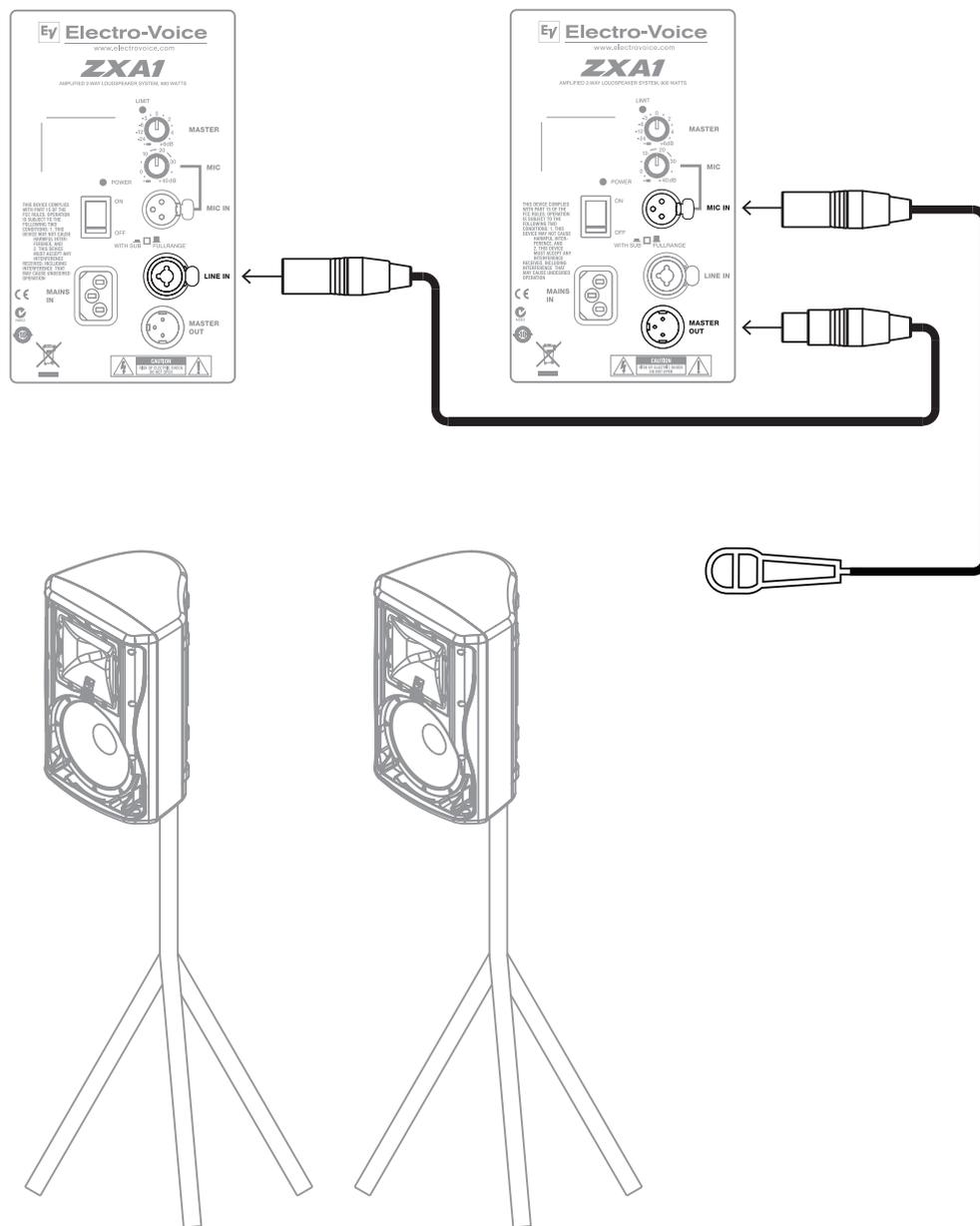


Figure 5.1: Dual ZXA1s

5.2 Using full-range systems as monitors

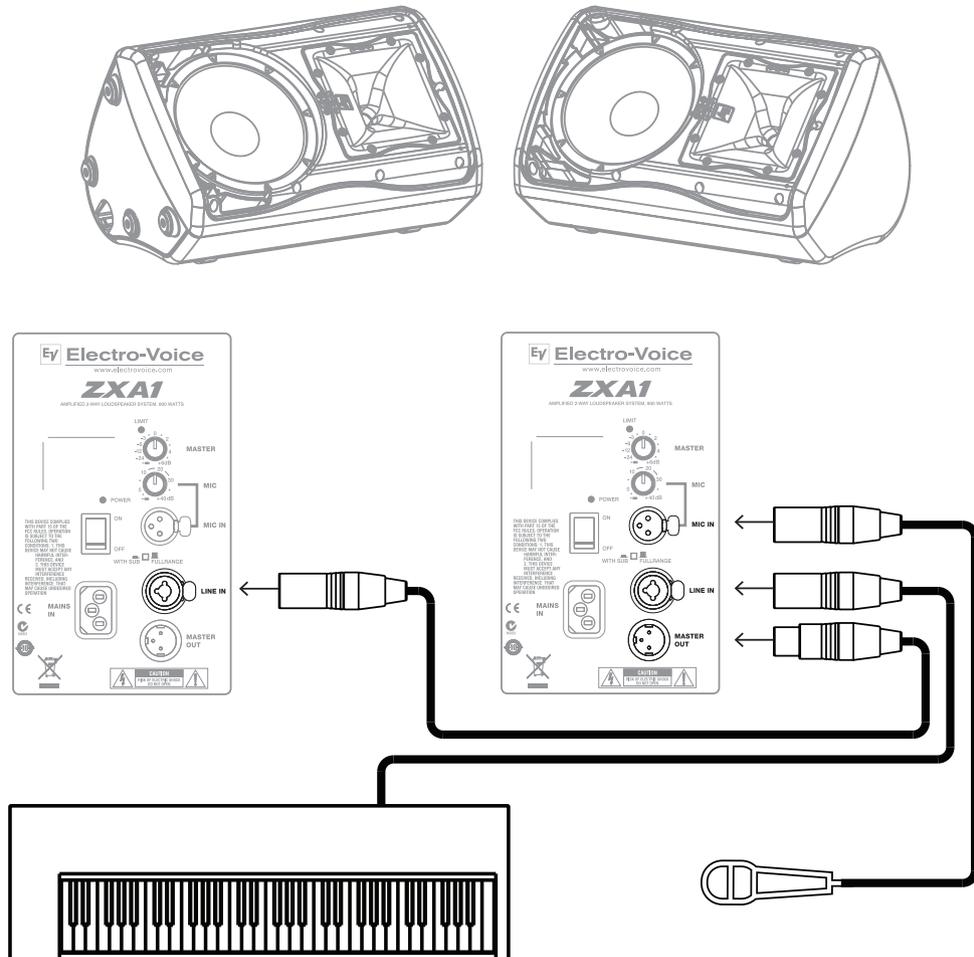


Figure 5.2: Dual ZXA1s

5.3 Stereo full-range systems with subwoofers

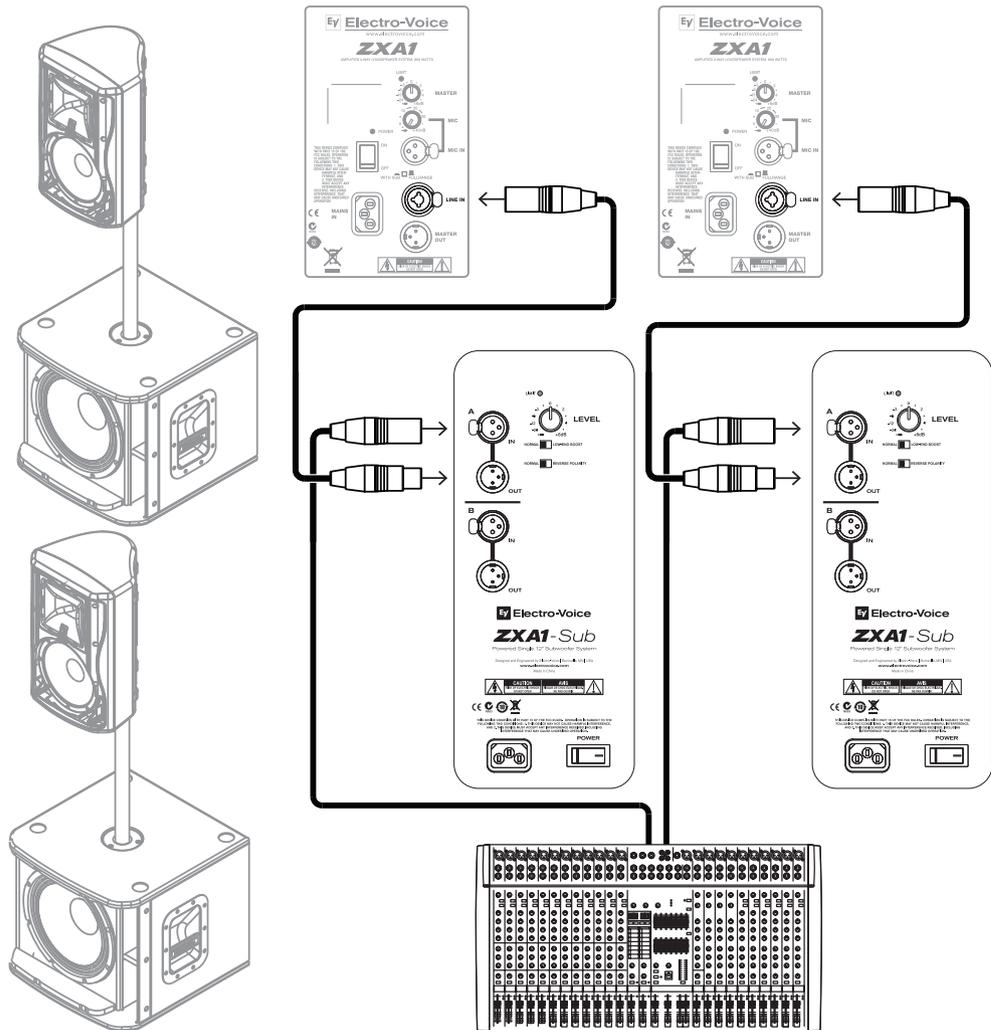
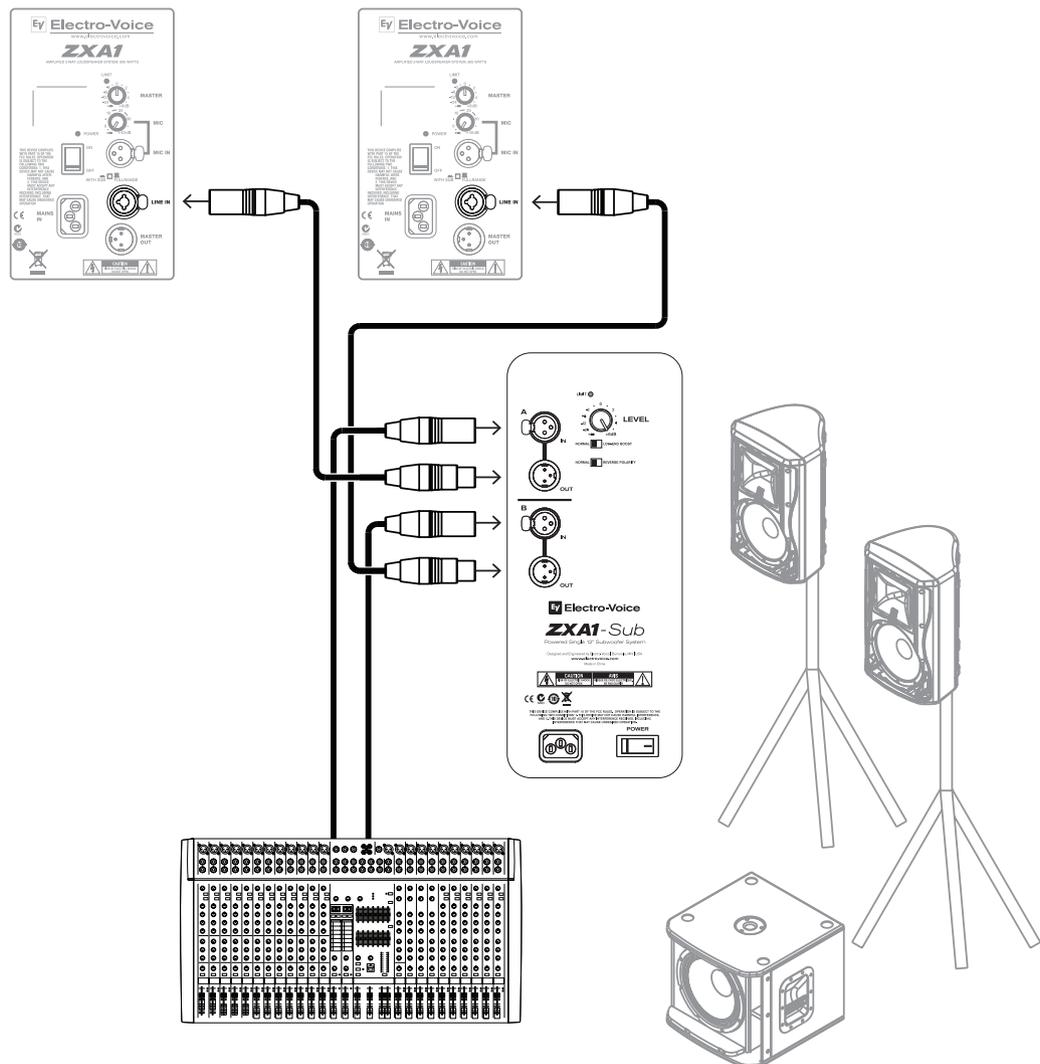


Figure 5.3: Dual ZXA1s with dual ZXA1-SUBs

5.4 Stereo full-range systems with mono subwoofer



Dual ZXA1s with a single ZXA1-SUB

6 Troubleshooting

Problem	Possible Cause(s)	Action
1. No sound	Amplifier	Connect a known working signal source to the amplifier inputs. If there is no sound, check all the electronics are on, the signal routing is correct, the source is active, the volume is turned up, and so on. If there is sound, the problem is in the wiring, or a component further up the signal chain.
	Wiring	Verify you have connected the correct cables to the amplifier. Play something at a low level through the amplifier (for example, from a CD player or tuner). Connect the test speaker in parallel with the malfunctioning line. If the sound level is gone or is very weak, the line has a short in it (possibly a severe scrape, pinch, or staple puncture). If the sound level is normal, the wire is open (possibly a cut wire or a missed connection). Using the test speaker, move down the line and test each connection/junction until you find the problem and correct it. Observe proper polarity.
2. Poor low-frequency response with ZXA1	WITH SUB switch activated	Set the FULL RANGE/WITH SUB switch to the FULL RANGE position.
3. Poor low-frequency response with ZXA1-SUB	Incorrect polarity	Set the NORMAL/REVERSE POLARITY to the opposite position.
4. Intermittent output such as cracking or distortion	Faulty connection or damaged cable	Check all connections in the signal chain to ensure they are all clean and tight. If the problem persists, it may be in the amplifier or wiring. See problem 1.
5. Constant noise such as buzzing, hissing or humming	Defective source or other electronic device	If noise is present, but no program material is playing, the likely cause is the signal chain in the electronics. Evaluate each component as necessary to isolate the problem.
	Poor system grounding or ground loop	Check and correct the system grounding, as required.
	Incorrect gain structure	Verify level controls of the source are properly structured. Verify microphone cables are plugged into MIC IN and line level cables are plugged into LINE IN .

Problem	Possible Cause(s)	Action
6. No sound produced with microphone connected to MIC IN	Microphone requires phantom power.	Use a dynamic microphone that does not require phantom power. If using a microphone requiring phantom power, an external phantom power source is needed.
7. Sound is distorted. LIMIT LED is constantly on or flashing regularly	Excessive input level	Reduce the MASTER level or loudspeaker level knobs to prevent limit.
	Line level source plugged into MIC IN	Plug line level source into LINE IN .
8. Sound is distorted. LIMIT LED is not blinking	Source input (mixing console/ preamp) is overdriven	Verify level controls of the source are properly structured.
9. Microphone produces acoustic feedback when input level is amplified	Incorrect gain structure	Reduce the microphone levels at the mixing console or input source. If the microphone is connected directly to the speaker, reduce the MIC LEVEL on the speaker. Positioning the microphone close to the sound source will increase gain-before-feedback.
	Microphone position is too close to the front of the speaker	Whenever possible setup the speakers so the microphone is behind them. If using the speakers in a monitor position, aim the speaker to the back of the microphone.

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

7 Technical data

Model	ZXA1-90	ZXA1-SUB
Frequency response (-3 dB) ¹ :	60 Hz - 20 kHz	53 Hz - 93 Hz ²
Frequency range (-10 dB) ¹ :	48 Hz - 20 kHz	44 Hz - 118 Hz ²
Max. measured SPL ^{1,3} :	126 dB	126 dB ^{2,3}
Coverage (H x V):	90° x 50°	Omnidirectional
Power rating:	800 W	700 W
LF transducer:	(1) EV-8L, 204 mm (8 in) woofer	(1) EV-12S, 305 mm (12 in) woofer
HF transducer:	DH-2005, 25 mm (1 in) exit compression driver	n/a
Crossover frequency:	1.8 kHz	100 Hz
Connectors:	(1) XLR mic input with gain control (1) XLR/TRS combo jack (1) XLR link output	(2) XLR stereo input (2) XLR stereo output
Enclosure material:	ABS	9-ply, 15 mm plywood, internally braced, with textured paint
Grille:	18 GA steel with black powdercoat	16 GA steel with black powdercoat
Mains requirements:	100 V: 80 V - 110 V, 0.7 A ⁴ , 50 Hz - 60 Hz 120 V: 95 V - 132 V, 0.6 A ⁴ , 50 Hz - 60 Hz 230 V: 190 V - 264 V, 0.4 A ⁴ , 50 Hz - 60 Hz	120 V: 90 V - 132 V, 1.0 A ⁴ , 50 Hz - 60 Hz 230 V: 190 V - 264 V, 0.6 A ⁴ , 50 Hz - 60 Hz
Dimensions (H x W x D):	457 mm x 282 mm x 264 mm (17.99 in x 11.10 in x 10.39 in)	400 mm x 444.5 mm x 457.2 mm (15.75 in x 17.50 in x 18.00 in)
Net weight:	8.6 kg (19 lb)	20.9 kg (46.0 lb)
Shipping weight:	10.3 kg (22.7 lb)	26.5 kg (58.5 lb)

1) Full-space.

2) Half-space.

3) Typical maximum SPL value at one meter over the usable frequency range, measured with a pink-noise burst signal, using internal signal processing and amplifier driven to peak output.

4) 1/8 power.

7.1 Dimensions

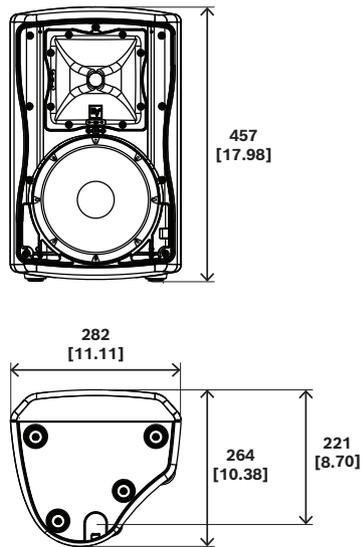


Figure 7.1: ZXA1

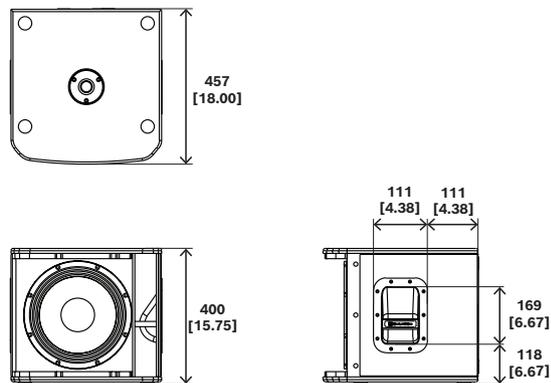


Figure 7.2: ZXA1-SUB

7.2 Frequency response graphs

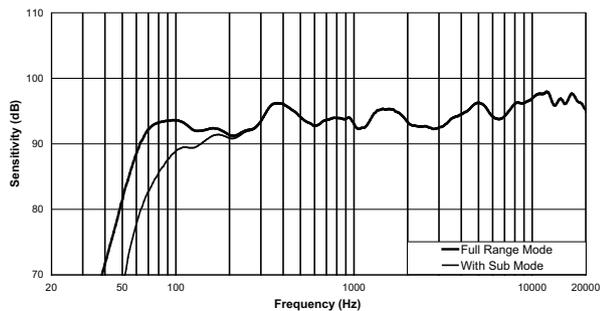


Figure 7.3: ZXA1-90

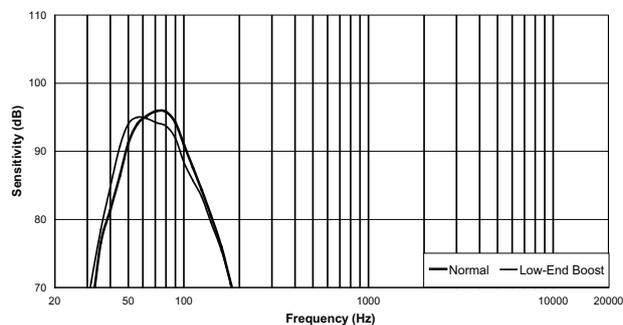


Figure 7.4: ZXA1-SUB

7.3

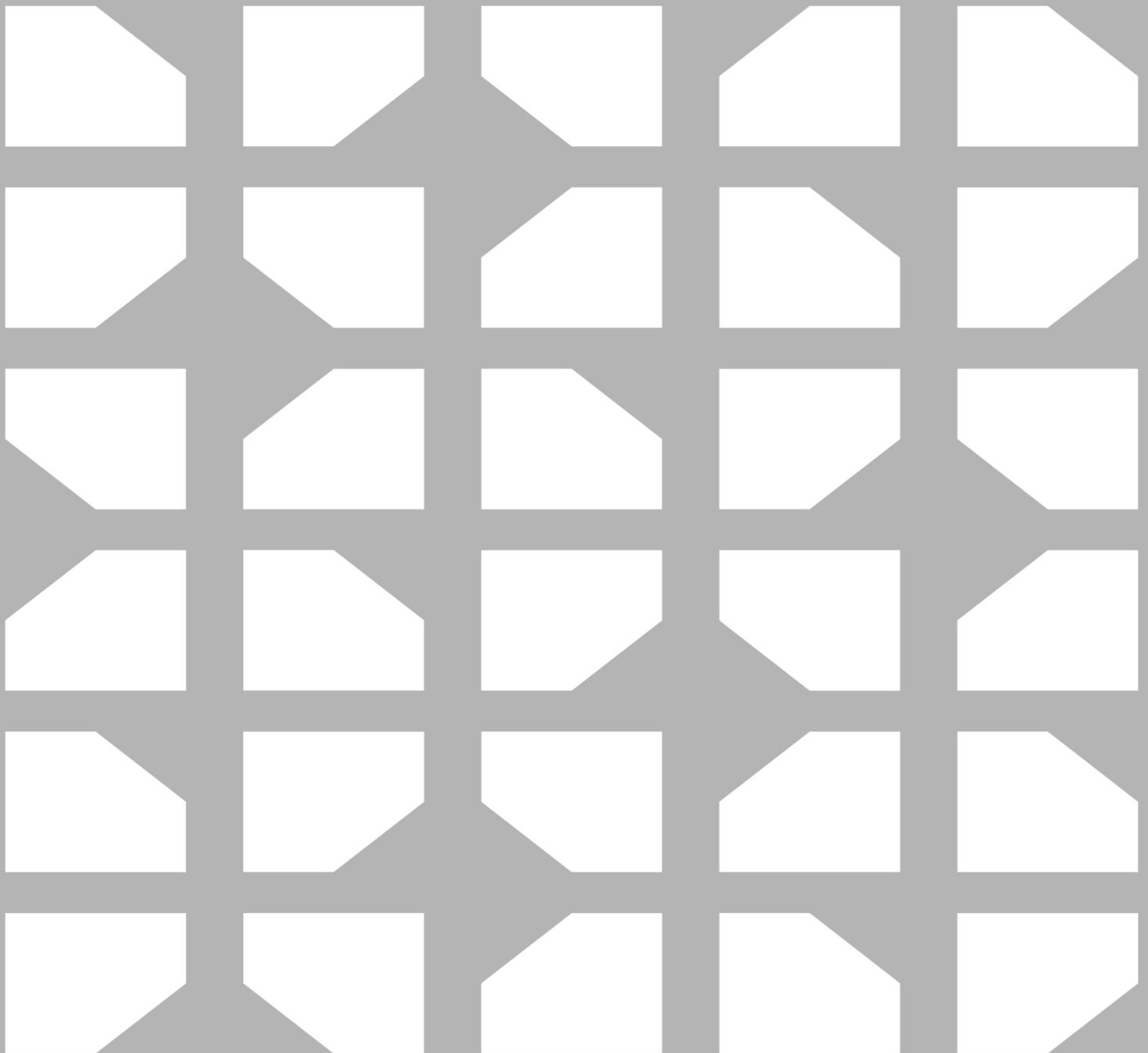
ZXA1 models and accessories

System model / CTN	Coverage	Finish	Voltage
ZxA1-90B-100V	90° x 50°	Black	100 V
ZxA1-90W-100V	90° x 50°	White	100 V
ZxA1-90B-120V	90° x 50°	Black	120 V
ZxA1-90W-120V	90° x 50°	White	120 V
ZxA1-90B-230V	90° x 50°	Black	230 V
ZxA1-90W-230V	90° x 50°	White	230 V
ZxA1-SUB-120V	Omnidirectional	Black	120 V
ZxA1-SUB-230V	Omnidirectional	Black	230 V

Accessory model / CTN	Description
MP1-B	Mounting Plate Kit, Black Finish
CB1	Carrying Bag, Convertible, Black Finish
SC-ZX1	Slip Cover, Black Finish
CA-ZX	Truss Clamp Adapter, Black Finish
TSS-1	Tripod Speaker Stand
TSP-1	(2) TSS-1 Tripod Speaker Stands with Carrying Case

8 **Warranty information**

Visit Electro-Voice [Warranty & Warranty Extension](#) page for warranty information.



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