

ZxA1

ZxA1 Series Loudspeaker Owner's Manual



**ZxA1-90
ZxA1-100**

Live For Sound
www.electrovoice.com



ZXA1

Important Safety Instructions



WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
AVIS: RISQUE DE CHOC ELECTRIQUE. NE PAS OUVRIR.

WARNING: CONNECT ONLY TO MAINS SOCKET WITH PROTECTIVE EARTHING CONNECTION.



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



The asterisk within an equilateral triangle is intended to inform the user to necessary installation or removal instructions regarding equipment or hardware use relating to the system.

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 manufacturers 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 are 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 this 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. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on this apparatus.
16. The AC plug of the power supply cord shall remain readily operable.



▪ Electro-Voice does not recommend use of ZxA1 speakers outdoors in direct exposure environments.



▪ Electro-Voice ZxA1 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.



▪ For trouble-free operation, exceeding a maximum ambient temperature of +40°C (104°F) is not permissible.

This is a Class A product according to FCC rules. In a domestic environment this product may cause radio interferences in which case the user may be required to take adequate measures.



Management of WEEE (waste electrical and electronic equipment) (applicable in Member States of the European Union and other European countries with individual national policies on the management of WEEE) The symbol on the product or on its packaging indicates that this product may not be treated as regular household waste, but has to be disposed through returning it at an Electro-Voice dealer.



FCC Information

1. IMPORTANT: Do not modify this unit! Changes or modifications not expressly approved by the manufacturer could void the user’s authority, granted by the FCC, to operate the equipment.

2. 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 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.

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ZxA1

Description

Thank you for choosing the Electro-Voice ZxA1 loudspeaker system. Please take time to consult this manual so that you can understand all the features built into your EV system and fully utilize all its performance capabilities.

The Electro-Voice ZxA1 powered loudspeaker is a fully integrated audio system with carefully matched electronics and transducers. This product makes it easy to setup a high quality sound system quickly with a minimum amount of cables and external electronics.

System Features - ZxA1

- Two-way loudspeaker with EV8L 8" Woofer and DH2005 Titanium Compression Driver
- Rotatable High Frequency Waveguide with Two Coverage Patterns: 90° x 50° or 100° x 100°
- Integrated Amplifier with 800W Total Output
- Biampified Design with 24 dB/Octave Filter Slopes and Transducer Protection
- Selectable 100 Hz High Pass Filter for use with an External Subwoofer
- XLR and 1/4" TRS Combo Input
- XLR Microphone Input with Gain Control
- XLR Parallel Output
- LED Indicators for Power On and Limit

Specifications

	ZxA1-90	ZxA1-100
Freq. Response ¹ (-3 dB):	60 Hz - 20 kHz	
Freq. Range ¹ (-10 dB):	48 Hz - 20 kHz	
Max. Calculated SPL:	123 dB	
Horizontal Coverage:	90° or 50°	100°
Vertical Coverage:	50° or 90°	100°
Amplifier Power Output:	800W	
LF Transducer:	EV8L, 203mm (8 in) Driver	
HF Transducer:	DH2005, 25mm (1 in) Exit Compression Driver	
Crossover Frequency:	1.8 kHz	
High Pass Frequency:	100 Hz, User Selectable	
Power Requirement (120V):	95V - 132V, 50 - 60 Hz, 0.6A	
Power Requirement (230V):	190V - 264V, 50 - 60 Hz, 0.4A	
Line Input:	XLR and TRS Combo	
Mic Input:	XLR with Independent Gain	
Line Output:	XLR (Mic and Line Sum)	
Enclosure Material:	High Impact Polystyrene	
Grille:	Polyester Powder Coated, 18GA Galvanized Steel	
Dimensions (H x W x D):	457mm x 282mm x 264mm (17.98" x 11.12" x 10.38")	
Net Weight:	19.0 lbs (8.6 kg)	
Shipping Weight:	22.7 lbs (10.3 kg)	

¹ Full Range Mode.

Tripod and Floor Monitor Operation

Floor Monitor

Electro-Voice ZxA1 loudspeakers may be used as a floor monitor by placing the speaker on the integral monitor angle. Make sure to:

- Place the speaker on a level, stable surface that is solid and secure.
- Route cables and position the stand so that performers, production crew and audience members will not trip over the stand or cables and pull the speaker system over. Secure cables with wire ties or tape whenever possible.

Tripod

Electro-Voice ZxA1 speakers include 35mm (1-3/8 inch) stand mounts to allow mounting on tripod stands. Make sure to:

- Check the specifications of the speaker stand to be certain it is capable of supporting the weight of the speaker.
- Check that the speaker stand is placed on a flat, stable surface and be sure to fully extend the legs of the stand. Do not try to make the stand “taller” and compromise its structural integrity.
- Route cables and position the stand so that performers, production crew and audience members will not trip over the stand or cables and pull the speaker system over. Secure cables with wire ties or tape whenever possible.
- Do not attempt to suspend more than one speaker on a stand designed for a single speaker
- Unless you are confident that you can safely handle lifting the weight of the speaker onto the stand, ask another person to help you place it.
- Tighten the set screw to minimize rattling and to prevent the speaker from rotating during use.

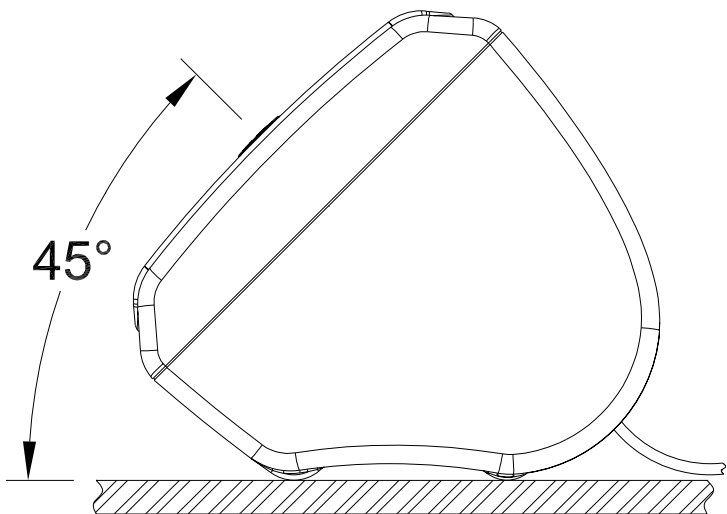


Figure 1:

ZxA1 Monitor Position

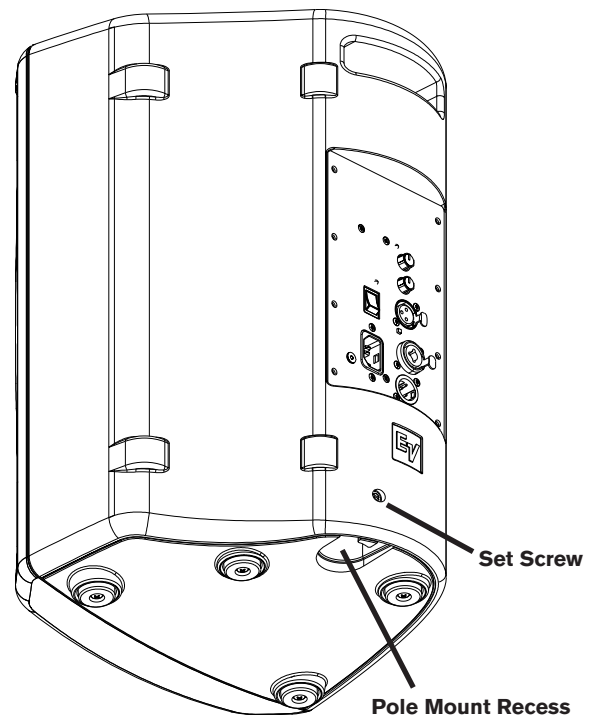


Figure 2:

ZxA1 Pole Mount Location

ZxA1

Suspending ZxA1 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.

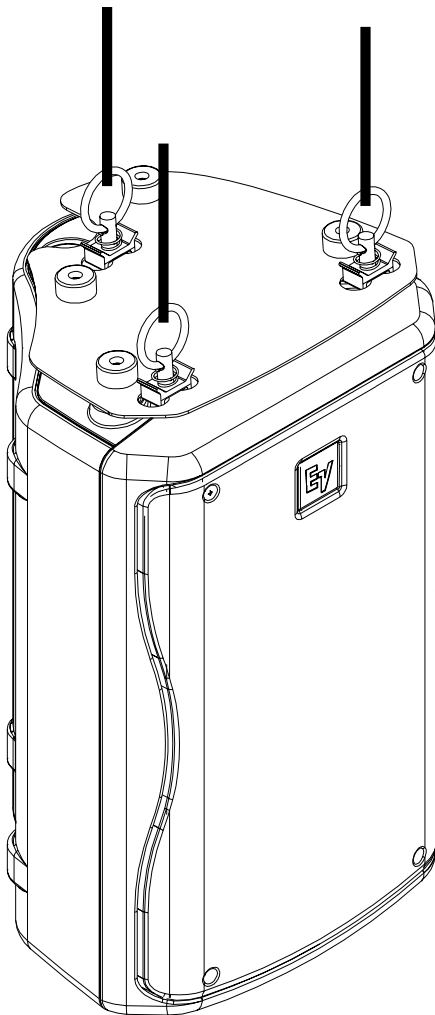


Figure 3:
MP1-B Mounting Plate Accessory

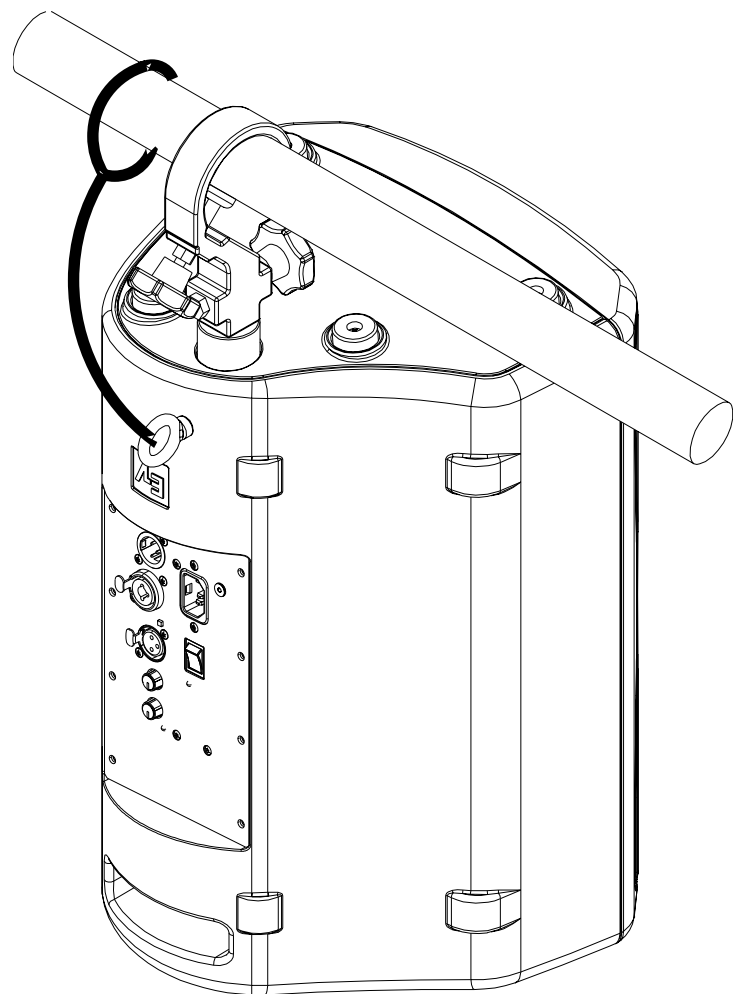


Figure 4:
CA-ZX Truss Clamp Accessory

Rotating the 90° Horn

The 90° version of 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. The 100° version of the ZxA1 has the same coverage pattern in both the horizontal and vertical planes, so rotating the horn will not change the coverage pattern. To rotate the horn follow the steps below:

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.

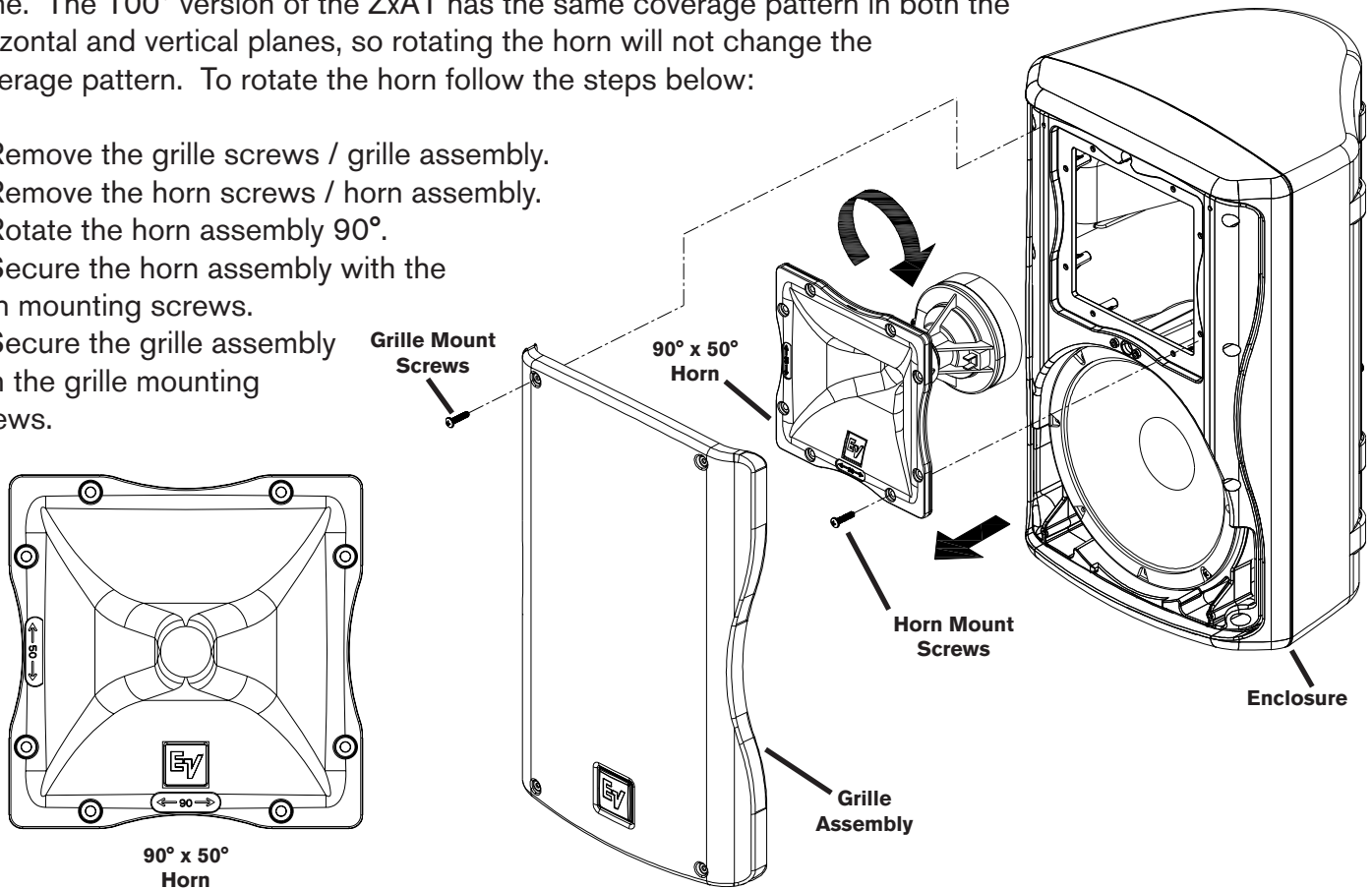


Figure 5:
Rotating the ZxA1-90 Horn

Rotating the Logo

All versions of the ZxA1 allow for the logo badge to be rotated if desired. The logo badge is square and can be rotated in 90° increments. To rotate the logo badge, follow the steps below:

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.

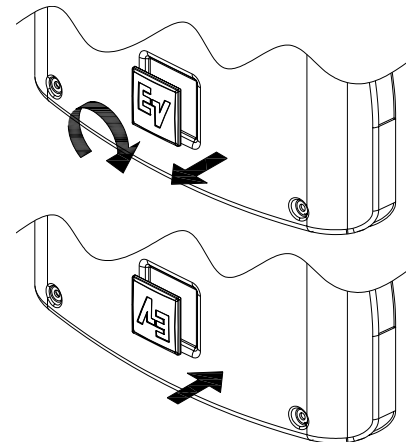


Figure 6:
Rotating the ZxA1 Logo

ZxA1

Amplifier Controls

Quick Setup

To get the ZxA1 into operation as quickly as possible, please observe the following steps and precautions:

- Make sure power switch is in the off position before plugging in power cord.
- Plug the 3-terminal IEC-standard AC cable into a grounded line receptacle. Extension cords can be used to lengthen the AC cable as necessary but make sure that they are 3-conductor cables of the proper gauge, and that they are properly grounded to avoid electrical hazards and extraneous noise.
- Be sure that the ZxA1 is plugged into an AC power source that is capable of supplying the correct voltage. If the line voltage drops too much, the built-in amplifiers won't be able to develop their rated power and sound quality will suffer.
- Under high signal conditions, the 120V ZxA1 amplifier can draw 0.6 amps of current (0.4 amps at 230V). Be cautious of what else is plugged into the same electrical service line to avoid electrical problems and poor performance.

CAUTION: Before turning the power on, make sure that the level controls are down to avoid transients or unexpected loud sound.

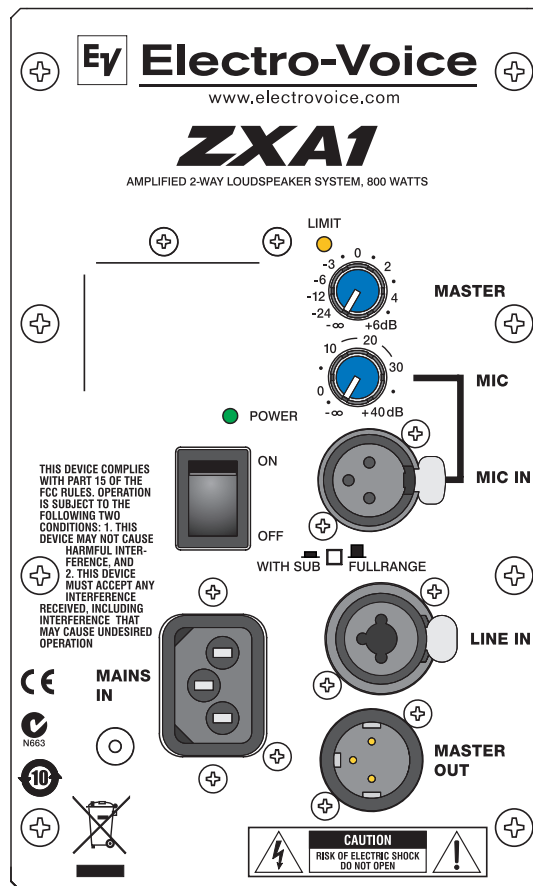
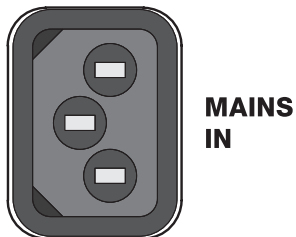
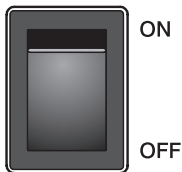
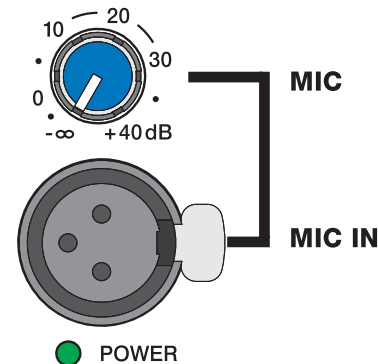
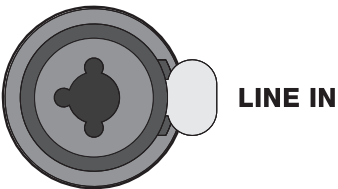
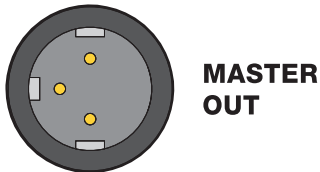
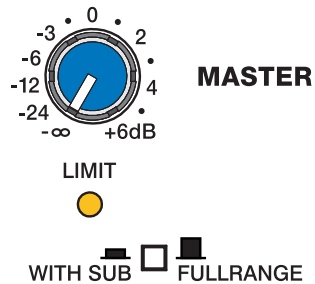


Figure 7:
ZxA1 Amplifier Panel

Amplifier Controls (cont')



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 0dB and +6dB.

LIMIT

The LED brief blinking indicates that the power amplifier is operated at its limits. Short-term blinking is uncritical, because the integrated limiter keeps distortion under control. Constant lighting of the LED indicates that the sound is negatively affected. Reducing the output volume is strongly recommended.

WITH SUB/FULLRANGE

When depressed, activates a 100 Hz highpass 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.

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.

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" TRS or XLR-type connectors.

MIC

Level control for adjusting the microphone input level independent of the master level.

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.

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 that the AC cord is correctly connected and the outlet is properly working.

MAINS IN

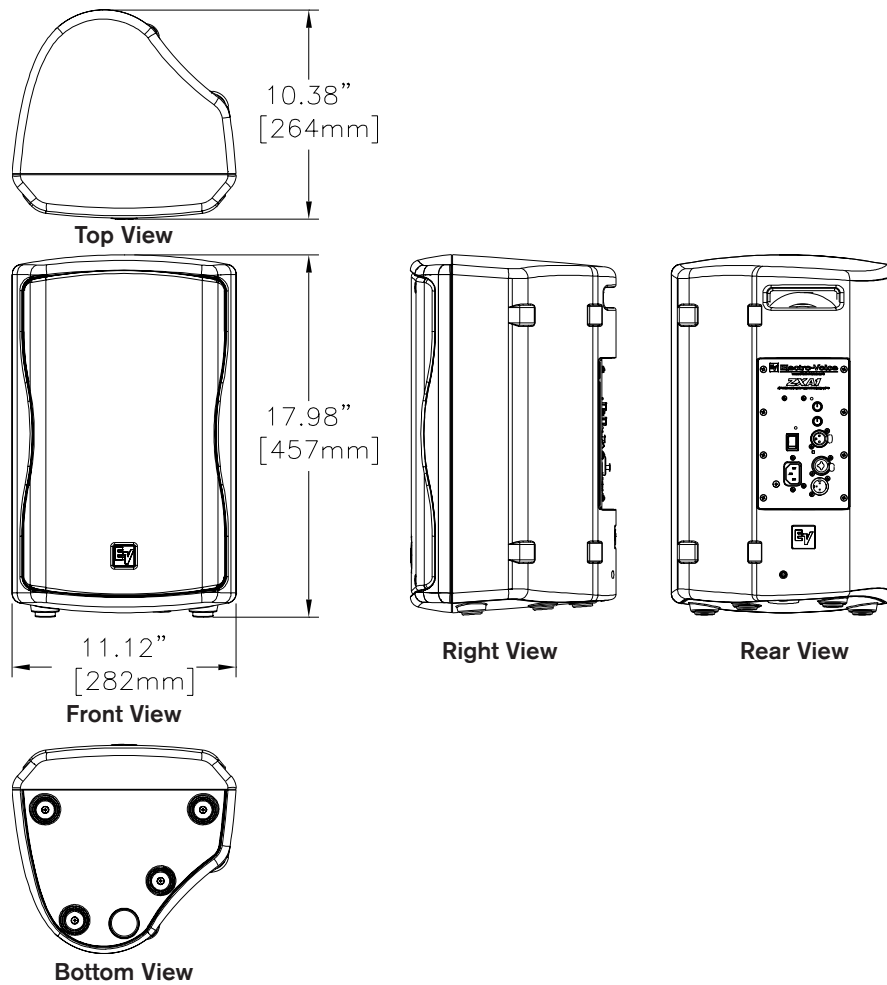
AC connection is established via an IEC-connector. A 10' (3m) long AC cord with fitting IEC-plug is supplied. For 120V operation, the AC voltage must be 95V - 132V. For 230V operation, the AC voltage must be 190V - 264V. Locking IEC power cords may also be used.

Figure 8:

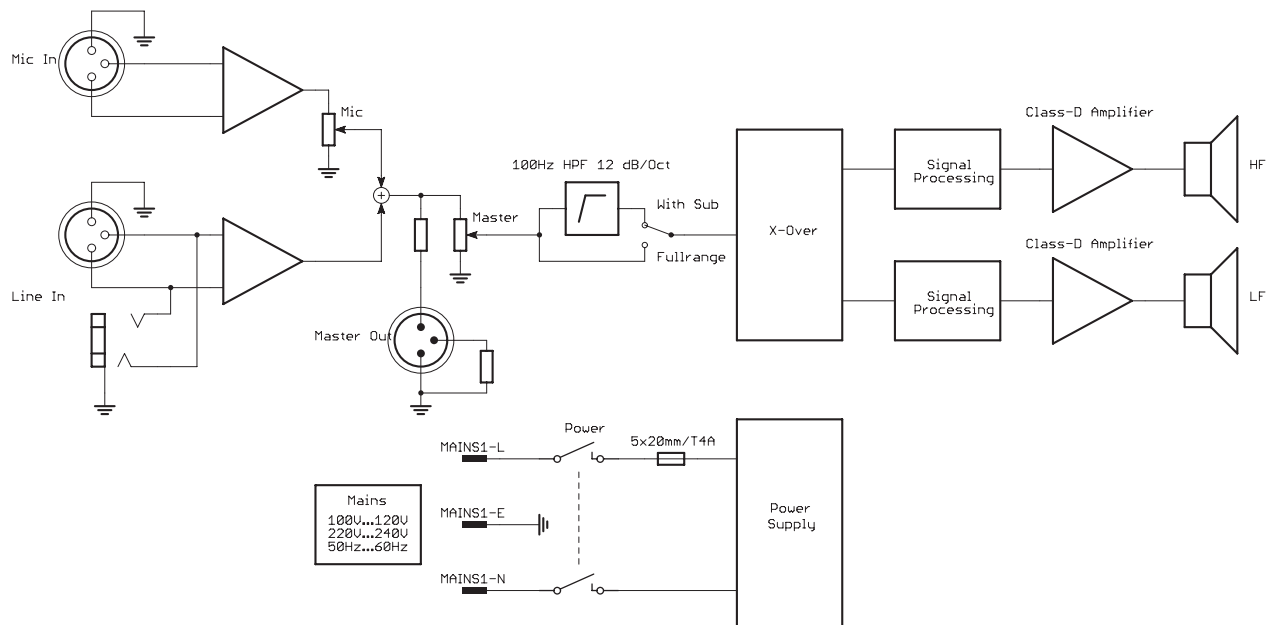
ZxA1 Amplifier Controls

ZXA1

Dimensions



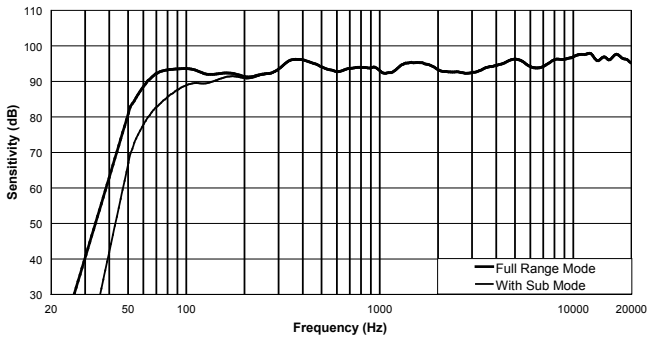
Block Diagram



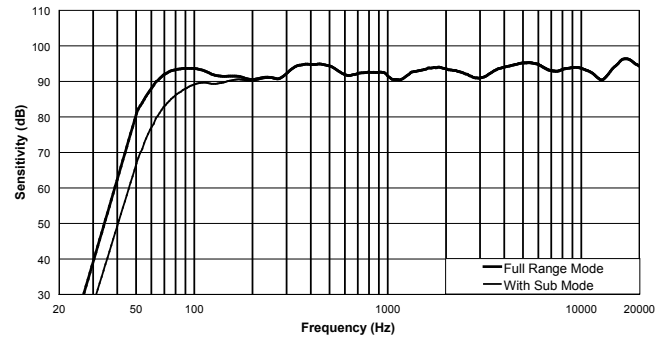


Frequency Response Graphs

ZxA1-90 Series Frequency Response



ZxA1-100 Series Frequency Response



ZxA1 Models and Accessories Reference Table

System Model	Coverage	Finish	Voltage	Part No.
ZxA1-90B (120V)	90° x 50°	Black	120V	PRD000261-001
ZxA1-90W (120V)	90° x 50°	White	120V	PRD000261-002
ZxA1-100B (120V)	100° x 100°	Black	120V	PRD000261-003
ZxA1-100W (120V)	100° x 100°	White	120V	PRD000261-004
ZxA1-90B (230V)	90° x 50°	Black	230V	PRD000261-005
ZxA1-90W (230V)	90° x 50°	White	230V	PRD000261-006
ZxA1-100B (230V)	100° x 100°	Black	230V	PRD000261-007
ZxA1-100W (230V)	100° x 100°	White	230V	PRD000261-008

Accessory Model	Description	Part No.
MP1-B	Mounting Plate Kit, Black Finish	301916-001
CB1	Carrying Bag, Convertible, Black Finish	301917-001
SC-ZX1	Slip Cover, Black Finish	301919-001
CA-ZX	Truss Clamp Adapter, Black Finish	302023-001
TSS-1	Tripod Speaker Stand	302053-001
TSP-1	(2) TSS-1 Tripod Speaker Stands with Carrying Case	302053-000

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Part Number LIT000395 Rev 02

U.S.A. and Canada only. For customer orders, contact Customer Service at:
800/392-3497 Fax: 800/955-6831

Europe, Africa, and Middle East only. For customer orders, contact Customer Service at:
+ 49 9421-706 0 Fax: + 49 9421-706 265

Other International locations. For customer orders, Contact Customer Service at:
+ 1 952 884-4051 Fax: + 1 952 887-9212

For warranty repair or service information, contact the Service Repair department at:
800/685-2606

For technical assistance, contact Technical Support at: **866/78AUDIO**

Specifications subject to change without notice.