

ZLX Series

ZLX-12P-UX, ZLX-15P-UX, ZLX-12P-EX, ZLX-15P-EX, ZLX-12P-AX, and ZLX-15P-AX

en | User Manual

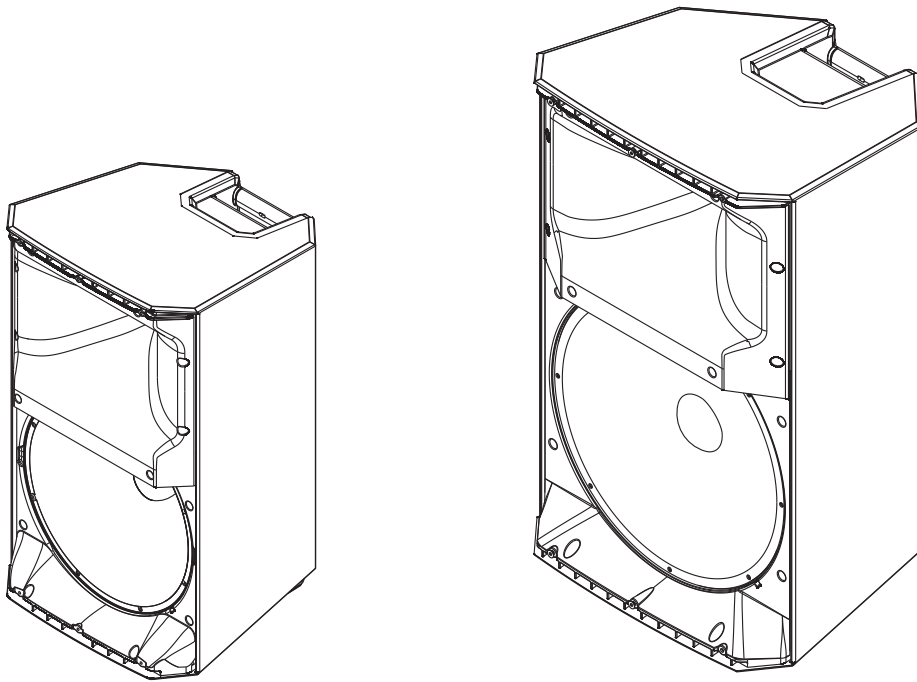






Table of contents

1	Safety	4
1.1	Important Safety Instructions	4
1.2	Suspension	5
1.3	FCC Information	5
1.4	Precautions	6
1.5	Notices	6
2	Description	7
3	System Overview	8
3.1	System features	8
3.2	Quick Setup	9
4	Tripod, pole mount, and floor monitor operation	10
4.1	Tripod or pole mount	10
4.2	Floor monitor	12
5	Amplifier DSP	13
5.1	Amplifier DSP controls	13
5.2	System Status	14
5.3	DSP controls	15
5.3.1	Full-Range loudspeaker DSP control menu	16
6	Recommended configurations	20
6.1	Powered loudspeakers	20
6.1.1	Daisy-chaining full-range systems	20
6.1.2	MP3 player MONO configuration	21
6.1.3	Using full-range systems as monitors	22
6.1.4	Stacking full-range systems with subwoofers	23
6.2	Passive loudspeakers	24
6.2.1	Basic stereo system using full-range systems	24
6.2.2	Using full-range systems as stage monitors	25
6.2.3	Stacking full-range systems with subwoofers	26
7	Troubleshooting	27
8	Technical data	29
8.1	Frequency response	30
8.2	Dimensions	31
9	Notes	33

1 Safety

1.1 Important Safety Instructions

 <p>WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT OVEREXPOSE THIS APPLIANCE TO RAIN OR MOISTURE</p> <p>AVIS: RISQUE DE CHOC ELECTRIQUE, NE PAS OUVRIR.</p> <p>WARNING: THE MAINS PLUG OR AC INLET IS USED AS A DISCONNECT DEVICE. THE DISCONNECT DEVICE SHALL REMAIN READILY OPERABLE.</p> <p>WARNING: CONNECT ONLY TO MAINS SOCKET WITH PROTECTIVE EARTHING CONNECTION.</p> <p>WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) AS THERE ARE NO USER-SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.</p>	 <p>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 sufficient magnitude to constitute a risk of electric shock to persons.</p>
	 <p>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.</p>
	 <p>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.</p>

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 install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
8. Only use attachments/accessories specified by the manufacturer.
9. 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.
10. Do not block any ventilation openings. Install in accordance with the manufacturers instructions.
11. 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.
12. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
13. Unplug the apparatus during lightning storms or when unused for long periods of time.

14. 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.
15. To completely disconnect AC power from this apparatus, the power supply cord must be unplugged.

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 all 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.



Warning!

Do not suspend this product in any other manner than explicitly described in this manual, or Electro-Voice installation guides. Suspending any object (loudspeaker) is potentially dangerous and should only be done by individuals with thorough knowledge of techniques, materials, and regulations for suspending objects overhead. Electro-Voice loudspeakers can only be suspended using accessories and hardware described in Electro-Voice manuals and installation guides. **Do NOT use handles to suspend the loudspeaker. Handles on Electro-Voice loudspeakers are intended to only be used for temporary transport by people. Items, such as fiber rope, wire rope, cables, or other types of materials cannot be used to suspend loudspeaker from the handles.** Any hardware used to suspend a loudspeaker not associated with Electro-Voice is the responsibility of others.

1.3 FCC Information

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.



Notice!

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 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:

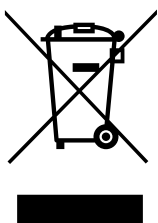
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician.

1.4

Precautions

	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.
	Do not use Electro-Voice loudspeakers in an environment where temperatures are below 0°C (32°F) or exceed +40°C (104°F).
	Never expose an Electro-Voice loudspeaker to rain, water, or high moisture.
	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.

1.5



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.

2 Description

Thank you for choosing a ZLX series powered or passive loudspeaker system from Electro-Voice. Please take time to consult the manual to understand all the features built into your EV system and fully utilize its performance capabilities.

ZLX models cut through the competition with the most complete and innovative package of features in their class—all of which work together to make it quicker and easier than ever to take control of your sound, whatever the gig. When choosing a loudspeaker, it's always wise to ask "What's inside the box?" Then take a listen and hear the EV difference for yourself. Featuring custom drivers housed in an innovative new cabinet design, the two compact and versatile ZLX models make EV's renowned sound quality and rugged reliability more accessible than ever before.

3 System Overview

3.1 System features

ZLX-12P and ZLX-15P—Powered Loudspeaker Systems

The only loudspeaker in its class that matches EV-engineered drivers with a custom-built Class-D amplifier module and powerful DSP. Whether pole-mounted or used as a floor monitor, ZLX delivers stunning sonic impact and intelligibility—the legendary “EV Sound” the pros trust.

- ZLX-12P:50 Hz - 20 kHz; 126 dB max SPL; 1000 W (Class D).
- ZLX-15P:42 Hz - 20 kHz; 127 dB max SPL; 1000 W (Class D).
- 12 inch and 15 inch woofer for low-end punch in a compact enclosure and 1.5 inch high-frequency titanium compression driver.
- LCD display and 1-knob DSP control with presets for precise and speedy setup.
- Input level meters and independent amplifier control to ensure optimal gain structure.
- Front LED for power on and limit indication.
- Patented split-baffle design for superior driver time alignment.
- Durable composite construction with innovative hi/lo grip design for easy pole mounting.
- LCD display allows for application and location EQ optimization.
- Innovative industrial design allows for professional look to match professional sound.
- Three handles including hi/lo grip ultimately makes for the most portable professional sound speaker on the market.
- Composite structure is built to last and provides road tested ruggedness.

EV offers the best-in-class sound, design, and control using LCD controlled DSP that is inspired by concert tour grade products.

ZLX-12—12 inch Passive Loudspeaker System

A compact and versatile loudspeaker featuring EV-engineered drivers in a rugged enclosure. Whether pole-mounted or used as a floor monitor, ZLX delivers stunning sonic impact and intelligibility—the legendary “EV Sound” the pros trust.

- 12 inch woofer for low-end punch in a compact enclosure and 1.5 inch high-frequency titanium compression driver.
- Durable composite construction with innovative hi/lo grip design for easy pole mounting.
- Exclusive split-baffle design for superior driver time alignment.
- 55 Hz - 20 kHz frequency range.
- 250 W Continuous, 1000 W Peak power handling.
- 95 dB SPL sensitivity; 125 dB max SPL.

ZLX-15—15 inch Passive Loudspeaker System

A compact and versatile loudspeaker featuring EV-engineered drivers in a rugged enclosure. Whether pole-mounted or used as a floor monitor, ZLX delivers stunning sonic impact and intelligibility—the legendary “EV Sound” the pros trust.

- 15 inch woofer for extended low-frequency response and 1.5 inch high-frequency titanium compression driver.
- Durable composite construction with innovative hi/lo grip design for easy pole mounting.
- Exclusive split-baffle design for superior driver time alignment.
- 44 Hz - 20 kHz frequency range.
- 250 W Continuous, 1000 W Peak power handling.
- 96 dB SPL sensitivity; 126 dB max SPL.

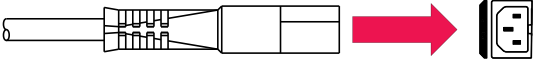
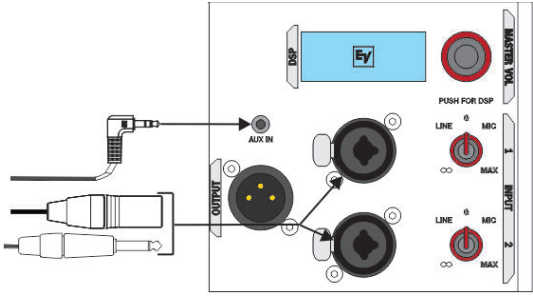

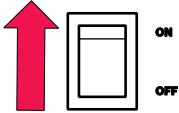


3.2 Quick Setup

The ZLX series loudspeakers from 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.

Full-Range powered loudspeaker

Models: ZLX-12P and ZLX-15P

To **set up a full-range powered loudspeaker**, do the following:

Step	Illustration
1. Connect the AC power cord from a grounded line receptacle to the MAINS IN.	
2. Connect the 3.5 mm mini jack, XLR or TRS cable from an audio source to AUX IN, INPUT 1 or INPUT 2.	
3. Adjust the input gain to $-\infty$ (infinity).	
4. Switch POWER to ON.	
5. From the DSP home screen, increase the input gain to the desired signal level.	
6. Adjust the MASTER VOL knob to the desired volume.	

See also

- *Amplifier DSP, page 13*

4 Tripod, pole mount, and floor monitor operation

4.1 Tripod or pole mount

ZLX-12P and ZLX-15P loudspeakers mount on a tripod stand or on a pole above a subwoofer.

Mounting a loudspeaker on a tripod stand

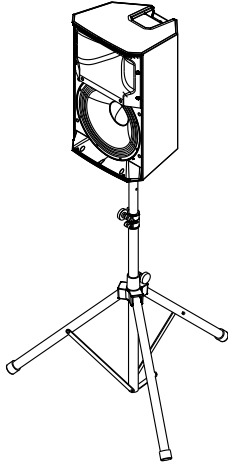


Figure 4.1: Full-Range models on a tripod stand



Caution!

Tripod is not evaluated for safety with this loudspeaker. Check the specifications of the tripod stand to be certain it is capable of supporting the weight of the loudspeaker.

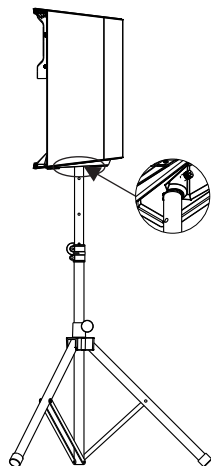


Caution!

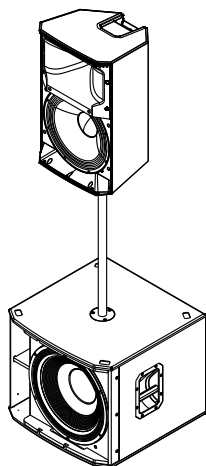
Two (2) person lift and placement is recommended for the heavier loudspeakers. Single person lift and placement of heavier loudspeakers could cause injury.

To **mount a loudspeaker on a tripod stand**, do the following:

1. Place the **tripod stand** on a level stable surface.
 - Fully extend the legs on the tripod stand.
 - Do not compromise the tripod stands structural integrity by trying to make the stand taller.
 - Do not attempt to suspend more than one (1) loudspeaker on a stand designed for a single loudspeaker.
2. Using two (2) hands lift the **loudspeaker**.
3. Set the **pole cup** located on the bottom of the loudspeaker onto the pole.



Mounting a loudspeaker on a pole



Caution!

Two (2) person lift and placement is recommended for the heavier loudspeakers. Single person lift and placement of heavier loudspeakers could cause injury.

To **mount a loudspeaker on a pole**, do the following:

1. Place the **subwoofer** on a level stable surface.
2. Insert the **pole** into the pole cup on the top of the subwoofer.
3. If you are using a threaded pole mount, turn the **pole** clockwise to secure the pole to the subwoofer.
OR
If you are not using a threaded pole mount, continue to the next step.
4. Using two (2) hands lift the **loudspeaker**.
5. Set the **pole cup** located on the bottom of the loudspeaker onto the pole.

4.2 Floor monitor

ZLX-12P and ZLX-15P loudspeakers may be used as a floor monitor by placing the loudspeaker on the integral monitor angle.

Setting up as a floor monitor

To **set up a loudspeaker as a floor monitor**, do the following:

1. Place the **loudspeaker** on a level stable surface.
2. Safely route **cables** to prevent injury to performers, production crew, and audience members.



Notice!

Secure cables with wire ties or tape whenever possible.

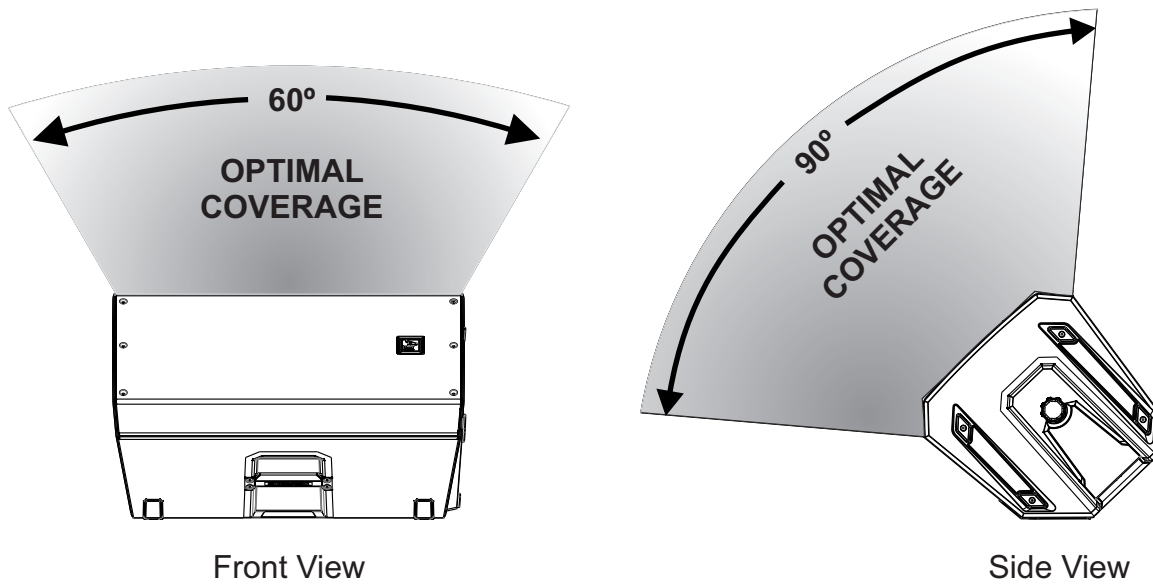


Figure 4.2: Optimum coverage in monitor position

5 Amplifier DSP

5.1 Amplifier DSP controls

The amplifier has a combination of controls and connectors to ensure the most versatile loudspeaker system.

Full-Range loudspeaker control and monitoring interface

The full-range loudspeaker DSP control menu selections are available for the ZLX-12P and ZLX-15P.

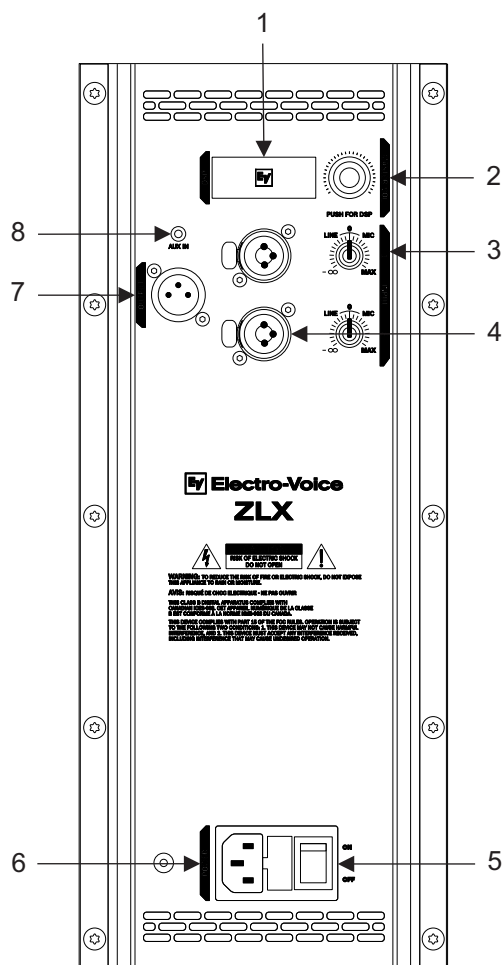


Figure 5.1: Full-Range loudspeaker amplifier panel

1. **LCD** – DSP control and monitoring interface.
2. **MASTER VOL** – Adjusts the sound level.
DSP – Scroll through the menu and select the available choices. Push the MASTER VOL knob to enter the DSP menu.
3. **AUX IN** – 3.5 mm audio jack input for connecting external audio media devices, such as MP3 players.
4. **INPUT LEVEL** – Level control for adjusting the individual inputs' level. The 12 o'clock position is unity gain (no gain or attenuation), the range to the left of zero (0) is for adjusting line level sources, and the range to the right of zero (0) is for adjusting microphone levels. LINE and MIC input level control is available for both INPUT 1 and INPUT 2.

5. **OUTPUT** – XLR output sends the mix of both input signals to another loudspeaker or subwoofer. INPUT LEVEL controls the signal level to OUTPUT. The MASTER VOL or DSP control settings do not affect OUTPUT.
6. **INPUT** – Balanced input for the connection of signal sources like mixing consoles, instruments, or microphones. Connections can be established using ¼ inch TRS or XLR connectors.
7. **MAINS IN** – AC connection is established via an IEC-connector.
8. **POWER** – AC switch or switching the power ON or OFF. The LCD screen lights up when the power is turned ON, after approximately 3 seconds.

5.2

System Status

Normal



Figure 5.2: Normal system status home screen

1. **LEVEL** – Indicates the master gain of the system in dB. The range is from mute to +10 dB, in 1 dB increments.
2. **IN1** – VU meter displays the signal level of INPUT 1 into the amplifier INPUT 1 XLR connector. IN1 and IN2 are independent of each other.
3. **IN2** – VU meter displays the signal level of INPUT 2 into the amplifier INPUT 2 XLR connector. IN1 and IN2 are independent of each other.

System protection

System protection limiters indicate when a system is exceeding recommended usage by indicating CLIP or LIMIT on the LCD display.

CLIP



Figure 5.3: Clipping system status

CLIP indicates the signal to the loudspeaker is too high, resulting in a clipped signal into the loudspeaker. If CLIP is shown, reduce the input gain knob and/or the signal on the mixer or source equipment.

LIMIT



OR

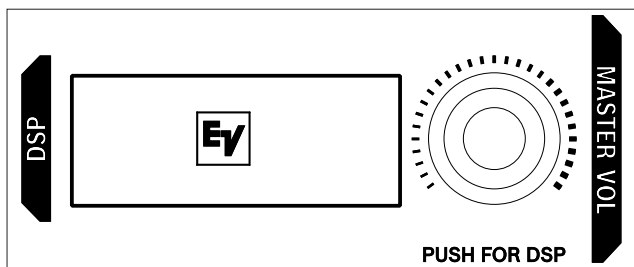


Figure 5.4: Limit system status

LIMIT protects the loudspeaker from short-term peaks which can cause distortion. When LIMIT is shown small on the screen, the limiter is active but keeps distortion under control. The large LIMIT indicates the sound is negatively affected. Reducing the output volume (MASTER VOL) is strongly recommended when the large limit indication is shown.

5.3 DSP controls

An integrated DSP control menu allows the user to select multiple DSP system settings on the loudspeaker.

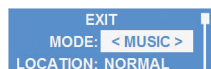


To **access the DSP controls menu**, do the following:

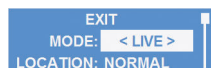
1. Push the **MASTER VOL knob**.
The DSP Control menu appears.



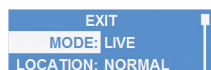
2. Using the MASTER VOL knob, scroll through the **menu items**.
3. Push the **MASTER VOL knob** to select the menu item you want to modify.
The focus moves to the parameters on the right side of the DSP menu.



4. Using the MASTER VOL knob, scroll through the **parameters**.



5. Push the **MASTER VOL knob** to confirm the selected parameter.
The setting is saved. The focus returns to the menu items on the left side of the DSP menu.



6. Repeat **steps 2** through **5** to modify additional DSP and system settings.
7. Select **EXIT** to return to the home screen.

5.3.1 Full-Range loudspeaker DSP control menu

The full-range loudspeaker DSP control menu selections are available for the ZLX-12P and ZLX-15P loudspeakers.

EXIT	
MODE	MUSIC (Default)
	LIVE
	SPEECH
	CLUB
LOCATION	POLE (Default)
	MONITOR
	BRACKET
SUB	OFF (Default)
	80Hz
	100Hz
	120Hz
	150Hz
	EKX-15SP
	EKX-18SP
	ELX118P
TREBLE	0 db (Default)
	-10 dB to +10 dB
BASS	0 db (Default)
	-10 dB to +10 dB
LED	ON (Default)
	OFF
	LIMIT
LCD DIM	ON (Default)
	OFF
CONTRAST	0 zero (Default)
	-10 to +10
STORE	EXIT, 1, 2, 3, 4, 5, EXIT
RECALL	EXIT, 1, 2, 3, 4, 5, EXIT
RESET	NO (Default)
	YES

INFO	[PRODUCT NAME]
	[FIRMWARE VERSION]
EXIT	

Table 5.1: Full-Range Loudspeaker DSP Control Menu

EXIT Menu

The **Exit** menu is used to return to the home screen.



Notice!

The display returns to the home screen after two (2) minutes of inactivity.

MODE Menu

The **Mode** menu is used to configure the type of sound the loudspeaker delivers.

Available options for this selection are: MUSIC, LIVE, SPEECH and CLUB.

- **MUSIC** – is used for recorded music playback and EDM applications. (Default)
- **LIVE** – is used for live sound applications.
- **SPEECH** – is used for spoken word applications.
- **CLUB** – is used for recorded electronic music playback.

LOCATION Menu

The **Location** menu is used to optimize the loudspeaker for different boundaries.

Available options for this selection are: POLE, MONITOR and BRACKET.

- **POLE** – is used when the loudspeaker is placed on a tripod stand or placed on a pole. (Default)
- **MONITOR** – is used when the loudspeaker is placed on the angled monitor panel in monitor position. This setting compensates for the amount of low frequency boost created by placing the speaker close to the floor.
- **BRACKET** – is used when the loudspeaker is mounted to the wall using the mounting bracket (Mounting Bracket accessory sold separately). This setting compensates for the amount of low frequency boost created by placing the loudspeaker close to the wall.

SUB Menu

The **Sub** menu is used to select a high pass frequency for use with a subwoofer or a matched subwoofer.

Available options for this selection are: OFF, 80Hz, 100Hz, 120Hz, 150Hz, EKX-15SP, EKX-18SP, and ELX118P. The high passes are 24 dB/octave Linkwitz/Riley crossovers. The 80 Hz, 100 Hz, 120 Hz, and 150 Hz choices are generic high pass settings for use with other subwoofers. The EKX-15SP, EKX-18SP, and ELX118P settings are specifically optimized for subwoofers by including delay for best summation.

The default is *OFF*.

TREBLE Menu

The **Treble** menu is used to adjust the high frequency performance of the loudspeaker for different applications or personal preference. The parameter controls a high shelving filter that is centered on 6 kHz.

The range is -10 dB to +10 db.

The default is *zero (0)*.

BASS Menu

The **Bass** menu is used to adjust the low frequency performance of the loudspeaker for different applications or personal preference. The parameter controls a parametric EQ filter that is centered on 60 Hz.

The default is *zero (0)*.

LED Menu

The **LED** menu shows power on and indicates limit. Available options for this selection are: ON, OFF or LIMIT.

- **ON** – turns the LED on when the power to the loudspeaker is ON. (Default)
- **OFF** – turns the LED off.
- **LIMIT** – turns the LED off under normal operation. The LED brief blinking indicates the limiter is activating. 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. If the LED is constantly lit, check the rear LCD for more information. Reducing the output volume is strongly recommended.

LCD DIM Menu

The **LCD Dim** menu is used to dim the display when the display is idle for two (2) minutes. Available options for this selection are: ON or OFF.

The default is *ON*.

CONTRAST Menu

The **Contrast** menu is used to determine the contrast on the LCD.

The range is -10 dB to +10 db.

The default is *zero (0)*.

STORE Menu

The **Store** menu allows you create up to five (5) customized user settings. Available options for this selection are: EXIT, 1, 2, 3, 4, and 5.



Notice!

The customized user setting name can contain a combination of alphanumeric characters including spaces. The alphanumeric character range is A to Z and 0-9.

The name field length is 12 characters.

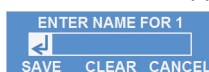
To **store customized user settings**, do the following:

1. From the DSP menu, scroll to **STORE**.
2. Push the **MASTER VOL** knob to select STORE.

The store screen appears.



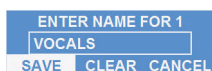
3. Push the **MASTER VOL knob** to select 1.
The Enter name for 1 screen appears.
4. Use the **MASTER VOL knob** to scroll through the characters.
The characters appear.



5. Push the **MASTER VOL knob** to select the desired character.
6. Turn the **MASTER VOL knob** to move to the next character entry.
Continue selecting characters until the desired name is entered.



7. Use the **MASTER VOL knob** to scroll to SAVE.
8. Push the **MASTER VOL knob** to select SAVE.



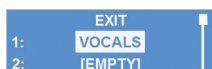
9. Repeat steps **3** through **8** to store additional customized user settings.
10. Select **EXIT** to return to the home screen.

RECALL Menu

The **Recall** menu allows you retrieve up to five (5) customized user settings. Available options for this selection are: EXIT, 1, 2, 3, 4, and 5.

To **recall customized user settings**, do the following:

1. From the DSP menu, scroll to **RECALL**.
2. Push the **MASTER VOL knob** to select RECALL.
The recall screen appears.
3. Push the **MASTER VOL knob** to select 1.
The selected item is loaded.



4. Select **EXIT** to return to the home screen.

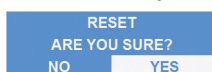
RESET Menu

The **Reset** menu is used to reset the loudspeaker to original factory settings. Available options for this selection are: NO or YES.

The default is *NO*.

To **reset the system to original factory settings**, do the following:

1. From the DSP menu, select **RESET**.
The reset are you sure message appears.



2. Select **YES**.
The loudspeaker restarts and resets the system to the original factory settings.



Notice!

Performing a reset erases the user customized settings saved under the STORE menu. The five (5) user customized settings in the STORE and RECALL menus return to <EMPTY>.

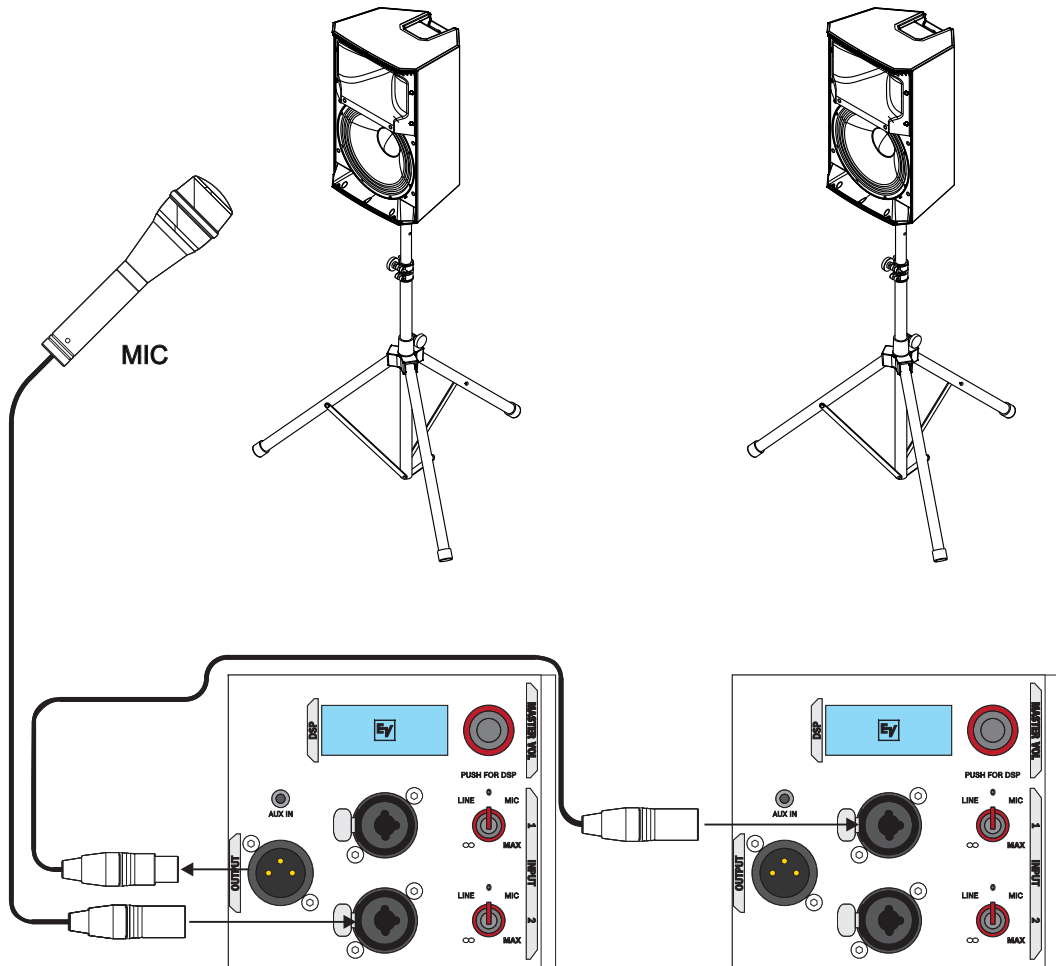
INFO Menu

The **Information** menu is used to display the product name and firmware version.

6 Recommended configurations

6.1 Powered loudspeakers

6.1.1 Daisy-chaining full-range systems



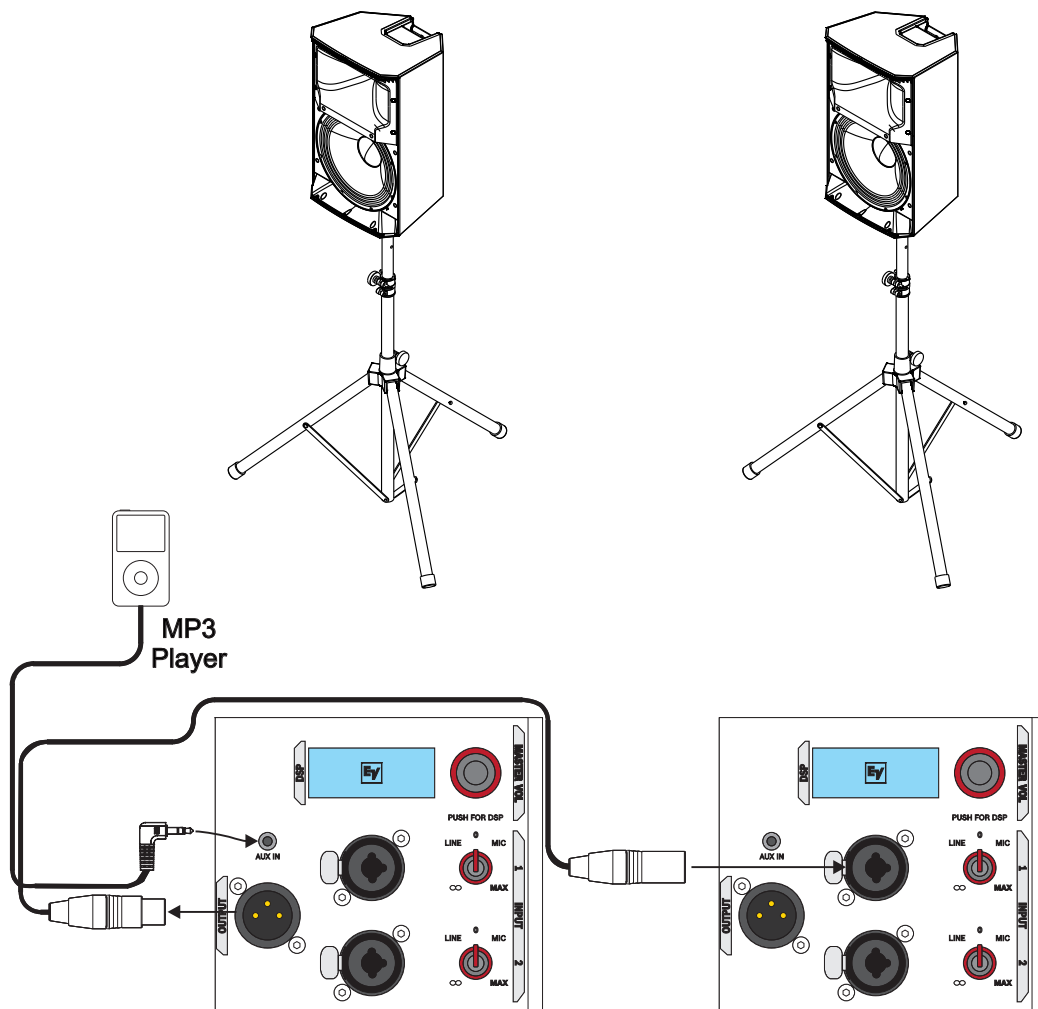
Notice!

The direction of the arrow indicates the signal path.

Mode:	Speech
Location:	Pole
Sub:	Off

Table 6.1: DSP settings loudspeaker on a tripod

6.1.2 MP3 player MONO configuration

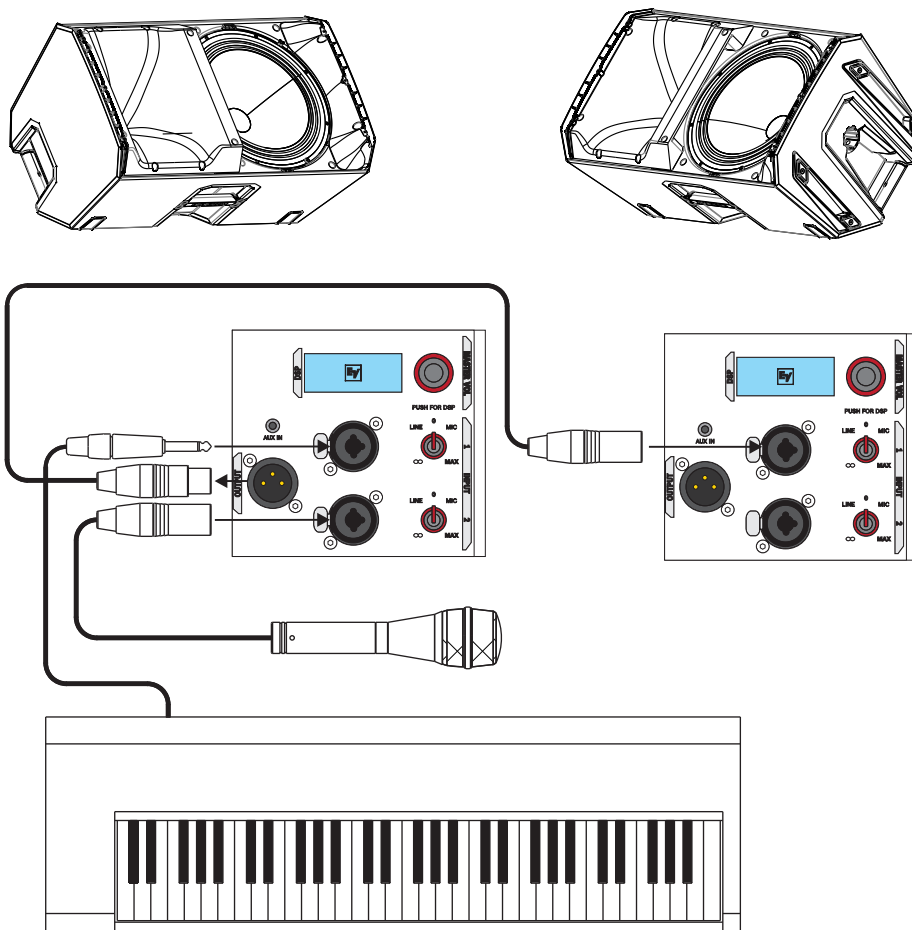


Notice!
The direction of the arrow indicates the signal path.

Mode:	Music
Location:	Pole
Sub:	Off

Table 6.2: DSP settings loudspeaker on a tripod

6.1.3 Using full-range systems as monitors



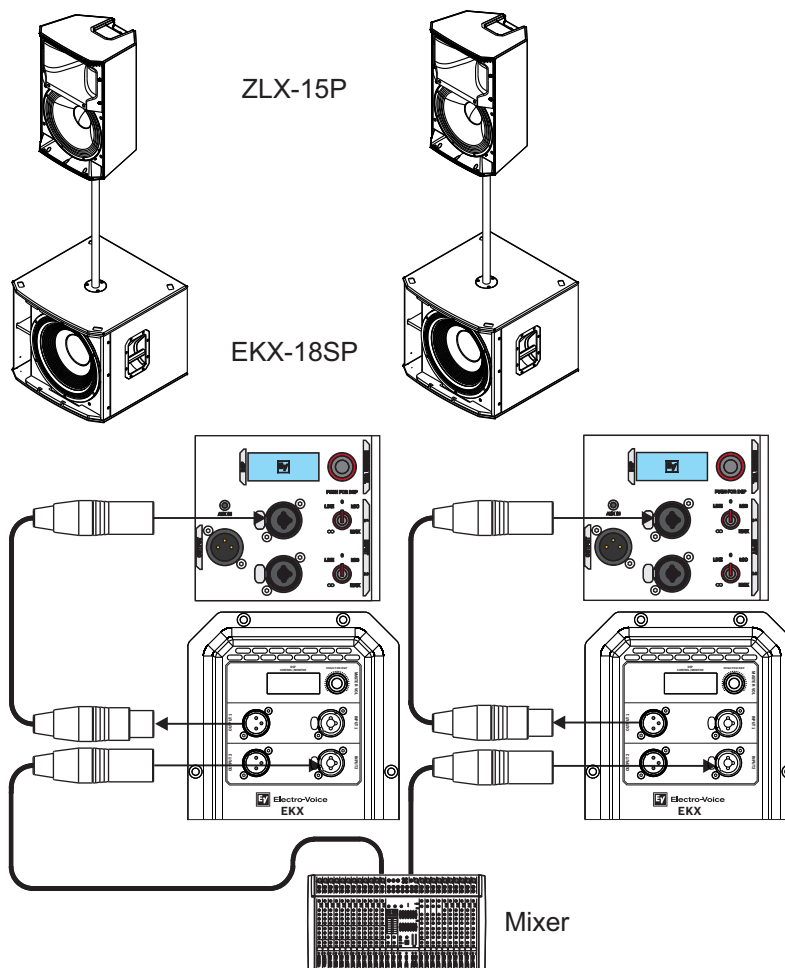
Notice!

The direction of the arrow indicates the signal path.

Mode:	Live
Location:	Monitor
Sub:	Off

Table 6.3: DSP settings loudspeakers as monitors

6.1.4 Stacking full-range systems with subwoofers



Notice!

The direction of the arrow indicates the signal path.

ZLX-15P	
Mode:	Live
Location:	Pole
Sub:	EKX-18SP
EKX-18SP	
Mode:	Live
Location:	Normal
Low Pass:	ZLX-15P

Table 6.4: DSP settings loudspeaker and subwoofer stacked

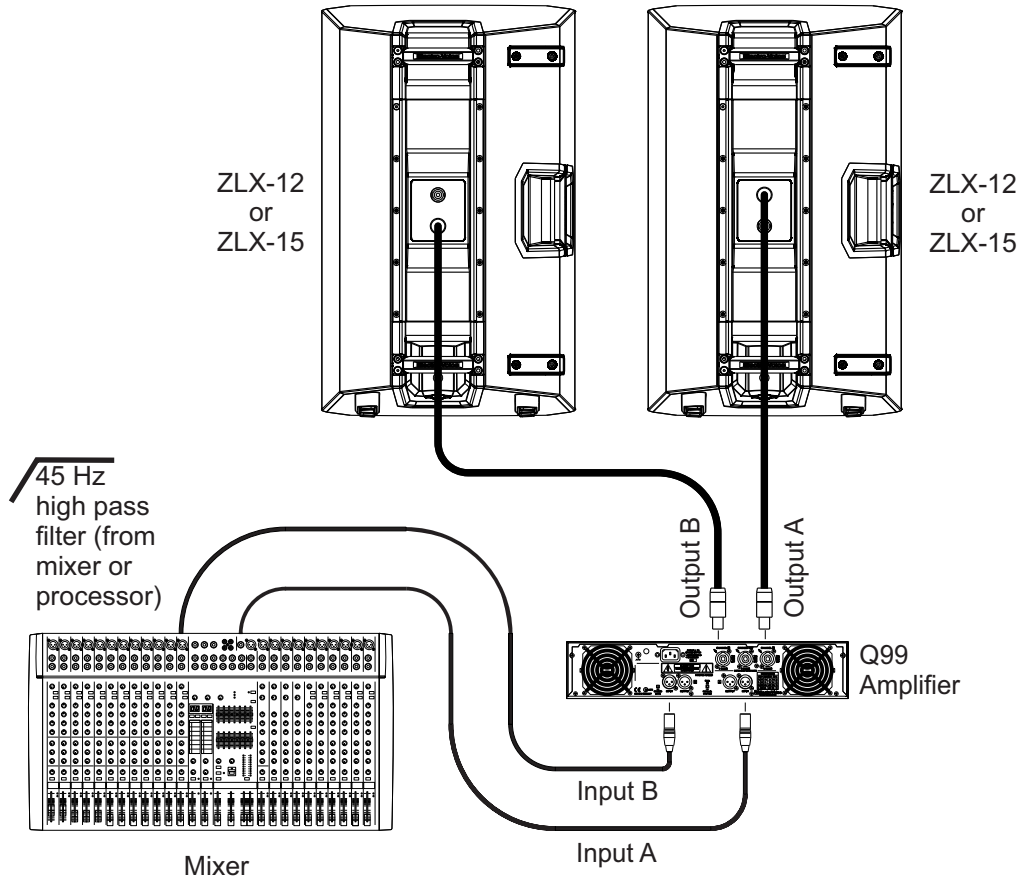
See also

- *Full-Range loudspeaker DSP control menu, page 16*

6.2 Passive loudspeakers

6.2.1 Basic stereo system using full-range systems

Basic stereo system using ZLX-12 or ZLX-15 systems (ZLX-15 versions shown).



NL4 Pin Configuration	
Pin 1+ and 1-	Used
Pin 2+ and 2-	Not used



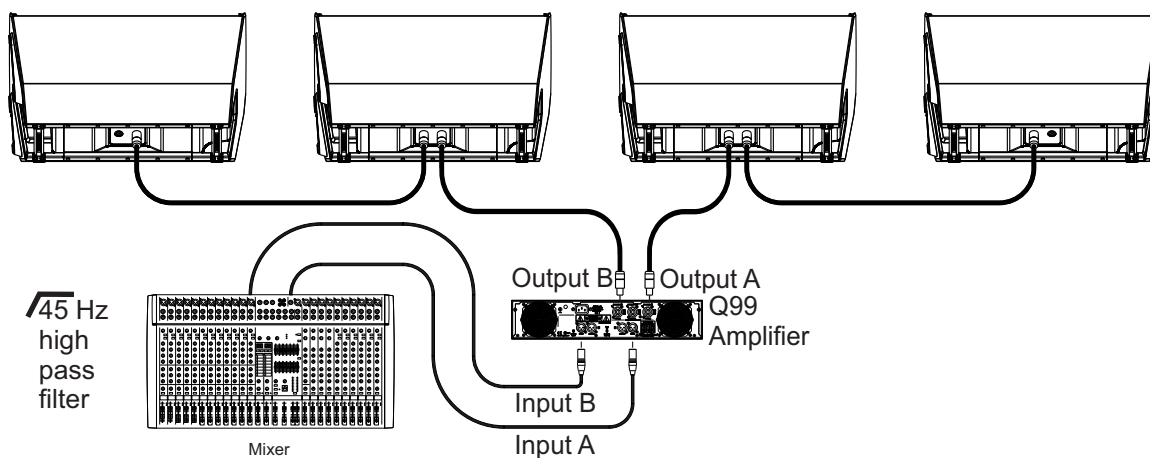
Caution!

Do not exceed the maximum load rating of the amplifier.

Amplifier Load (per Output Channel)		
# of Speakers	Nominal	Minimum
1	8 Ohms	7.2 Ohms
2	4 Ohms	3.6 Ohms
3	2.7 Ohms	2.4 Ohms
4	2 Ohms	1.8 Ohms

6.2.2 Using full-range systems as stage monitors

Multiple ZLX-12 or ZLX-15 systems in monitor position (ZLX-15 versions shown).



NL4 Pin Configuration	
Pin 1+ and 1-	Used
Pin 2+ and 2-	Not used



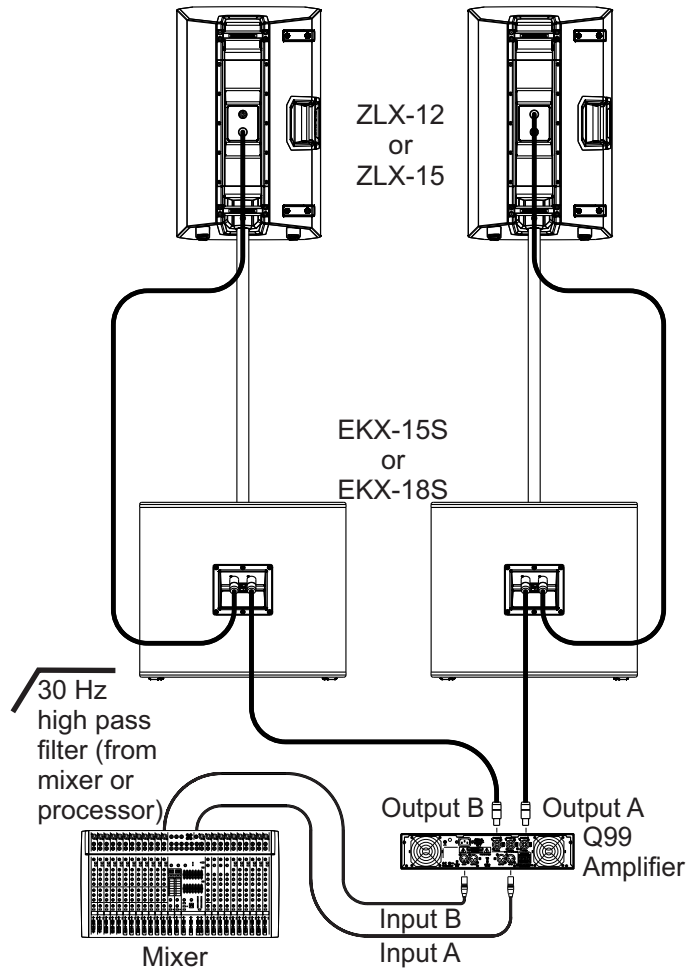
Caution!

Do not exceed the maximum load rating of the amplifier.

Amplifier Load (per Output Channel)		
# of Speakers	Nominal	Minimum
1	8 Ohms	7.2 Ohms
2	4 Ohms	3.6 Ohms
3	2.7 Ohms	2.4 Ohms
4	2 Ohms	1.8 Ohms

6.2.3 Stacking full-range systems with subwoofers

This configuration allows a user to increase the low frequency performance without using additional amplifier channels (ZLX-15 and EKX-18S versions shown).



NL4 Pin Configuration	
Pin 1+ and 1-	Used
Pin 2+ and 2-	Not used



Caution!

Do not exceed the maximum load rating of the amplifier.

Amplifier Load (per Output Channel)		
# of Subwoofer/Full-Range Combinations	Nominal	Minimum
1	4 Ohms	3.8 Ohms
2	2 Ohms	1.9 Ohms

7 Troubleshooting

Problem	Possible Cause(s)	Action
1. No sound	Amplifier	Connect a known working test loudspeaker to the amplifier outputs. If there is no sound, verify all the electronics are on, the signal routing is correct, the source is active; the volume is turned up, etc. Correct/repair/replace as necessary. If there is sound, the problem is wiring.
	Wiring	Verify you have connected the correct cables to the amplifier. Play something at a low level through the amplifier. Connect the test loudspeaker 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 a missed connection). Using the test loudspeaker, 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 SUB menu cross-over frequency activated	If no subwoofers are used with the system, select the OFF position.
3. Intermittent output such as cracking or distortion	Faulty connection	Check all connections at amplifier and loudspeakers to ensure they are all clean and tight. If the problem persists, check the wiring. See problem 1.
4. Constant noise such as buzzing, hissing or humming	Defective source or other electronic device	If noise is present, but no program material is playing, evaluate each component as necessary to isolate the problem. Most likely there is a break in the signal path.
	Poor system grounding or ground loop	Check and correct the system grounding, as required.
	Input gain knob is not in the MIC position	Slowly increase the input gain knob level to engage the microphone pre-amp.
5. No sound produced with microphone connected to INPUT 1 or INPUT 2	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
	Input gain knob is not in the MIC position	Slowly increase the input gain knob level to engage the microphone pre-amp.
6. Sound is distorted front LED is OFF, LCD screen LIMIT is ON	Excessive input level	Reduce the input level or loudspeaker level knobs to prevent limit.

Problem	Possible Cause(s)	Action
	Incorrect gain structure or source input (mixing console/preamp) is overdriven	Verify level controls of the source are properly structured by using the VU meter indicator on the LCD screen. If the VU meter bar is solid or the system indicates LIMIT, the input or source level is too high.
7. 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 input level on the speaker. Positioning the microphone close to the sound source increases gain-before-feedback. See problem 6.
	MODE is set to MUSIC	Change the MODE to LIVE or SPEECH.
	Microphone position is too close to the front of the loudspeaker	Whenever possible setup the loudspeakers so the microphone is behind them. If using the loudspeaker in a monitor position, aim the loudspeaker to the back of the microphone.
8. DSP menu is locked	The Menu Lock function has been turned on. A lock symbol displays on the LCD screen.	Press and hold the MASTER VOL knob for 5 seconds.
If these suggestions do not solve your problems, contact your nearest Electro-Voice dealer or Electro-Voice distributor.		

See also

- *DSP controls, page 15*
- *System Status, page 14*
- *Full-Range loudspeaker DSP control menu, page 16*

8 Technical data

ZLX-12P and ZLX-15P

	ZLX-12P	ZLX-15P
Freq. Response (-3 dB):	65 Hz - 18 kHz ¹	55 Hz - 18 kHz ¹
Freq. Range (-10 dB):	50 Hz - 20 kHz ¹	42 Hz - 20 kHz ¹
Maximum SPL:	126 dB ²	127 dB ²
Coverage (H x V):	90° x 60°	
Power Rating:	1000 Watts	
LF Transducer:	EVS-12K, 300 mm (12 in) Woofer	EVS-15L, 380 mm (15 in) Woofer
HF Transducer:	DH-1K	
Connectors:	(2) XLR/TRS Combo Jack (1) 3.5 mm Input, and (1) XLR link Output	
Enclosure:	Polypropylene	
Grille:	18 Gauge Steel with Black Powder Coat	
Dimensions (H x W x D):	610 mm x 356 mm x 356 mm (24 in x 14 in x 14 in)	685 mm x 423 mm x 383 mm (27 in x 17 in x 15 in)
Net Weight:	15.6 kg (34.3 lb)	17.3 kg (38.0 lb)
Shipping Weight:	19.0 kg (41.8 lb)	23.0 kg (50.7 lb)
Power Consumption:	100 – 240 V~, 50 – 60 Hz, 0.8 – 0.5 A ³	

1. Full-Space measurement using the MUSIC DSP preset.
2. Maximum SPL is measured at 1 m using broadband pink noise at maximum output.
3. Current rating is specified at 1/8 full output power.

ZLX-12 and ZLX-15

	ZLX-12	ZLX-15
Freq. Response (-3 dB):	82 Hz - 18 kHz ¹	56 Hz - 18 kHz ¹
Freq. Range (-10 dB):	55 Hz - 20 kHz ¹	44 Hz - 20 kHz ¹
Axial Sensitivity:	95 dB	96 dB
Maximum SPL:	125 dB ²	126 dB ²
Recommended High-Pass Freq.:	40 Hz	
Coverage (H x V):	90° x 60°	
Power Handling:	250 W Continuous, 1000 W Peak	
LF Transducer:	EVS-12K, 300 mm (12 in) Woofer	EVS-15L, 380 mm (15 in) Woofer
HF Transducer:	DH-1K	
Crossover Freq.:	2.1 kHz	1.7 kHz

	ZLX-12	ZLX-15
Nominal Impedance:	8 Ω	
Minimum Impedance:	7 Ω	
Connectors:	Dual NL4	
Enclosure:	Polypropylene	
Grille:	18 Guage Steel with Black Powder Coat	
Dimensions (H x W x D):	810 mm x 356 mm x 356 mm (24 in x 14 in x 14 in)	685 mm x 423 mm x 383 mm (27 in x 17 in x 15 in)
Net Weight:	14.9 kg (32.8 lb)	16.6 kg (36.5 lb)
Shipping Weight:	18.0 kg (39.6 lb)	22.0 kg (48.3 lb)

1. Full Space Measurement, will have low frequency extension when mounted on floor or wall.
2. Maximum SPL is measured at 1 m using broadband pink noise at maximum output.

8.1 Frequency response

Powered loudspeakers

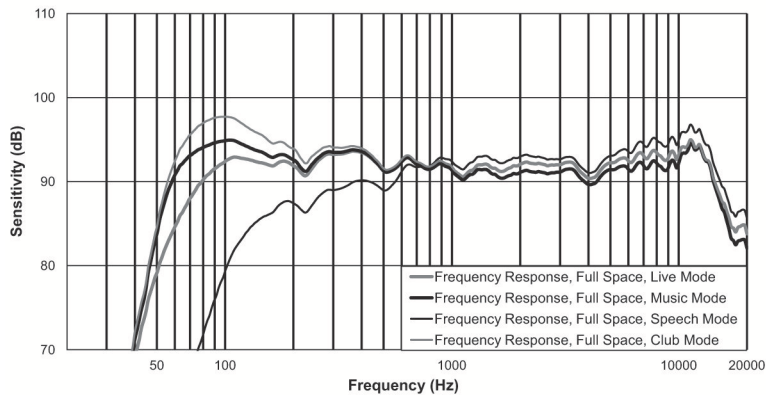


Figure 8.1: ZLX-12P Frequency Response

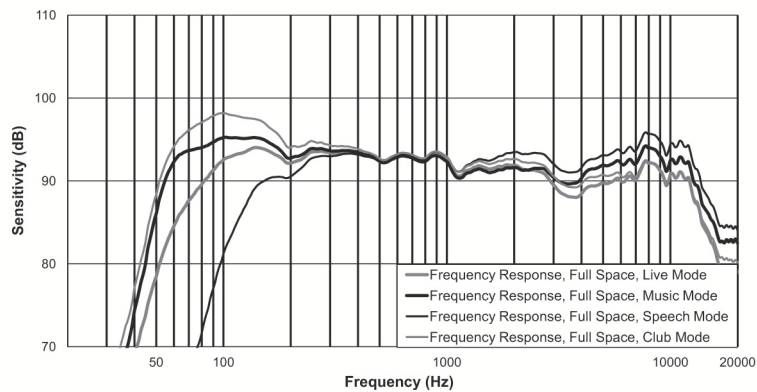


Figure 8.2: ZLX-15P Frequency Response

Passive loudspeakers

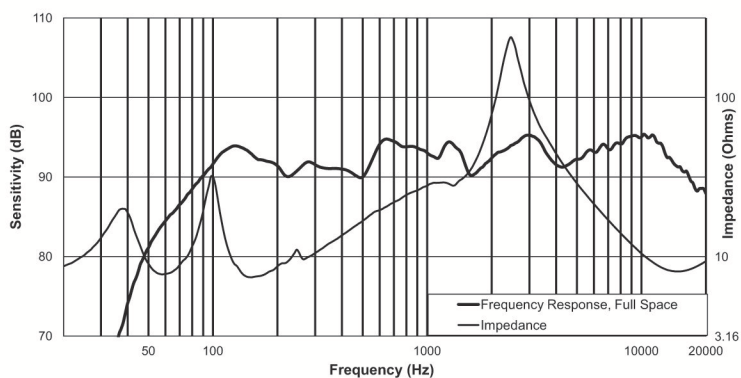


Figure 8.3: ZLX-12 Frequency Response

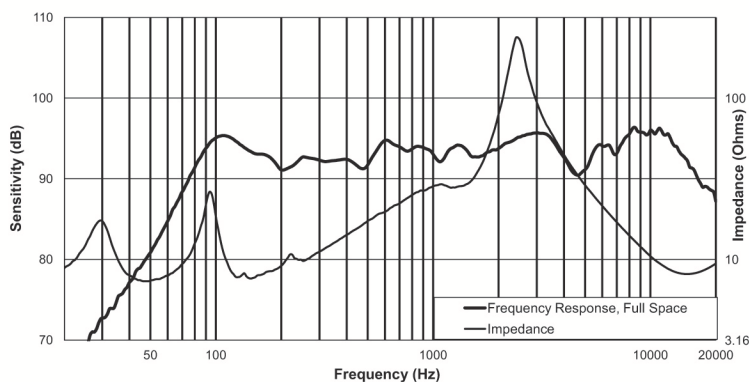


Figure 8.4: ZLX-15 Frequency Response

8.2

Dimensions

Powered loudspeakers

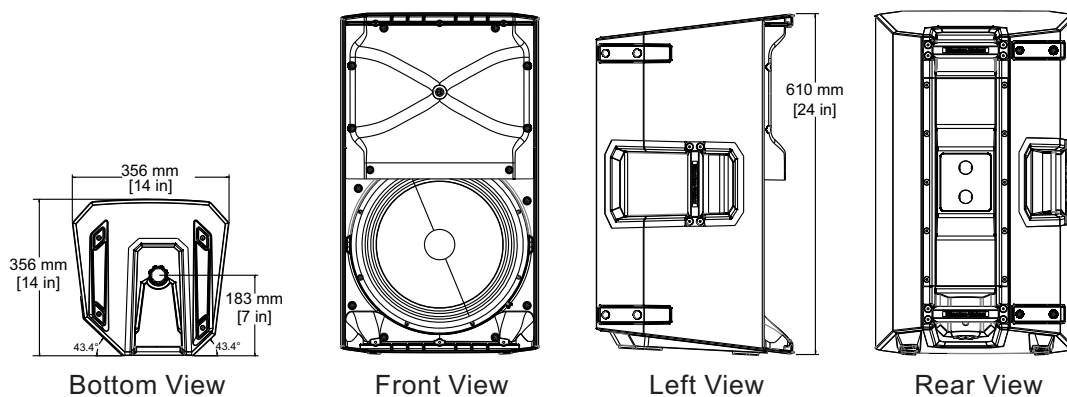


Figure 8.5: ZLX-12P Dimensions

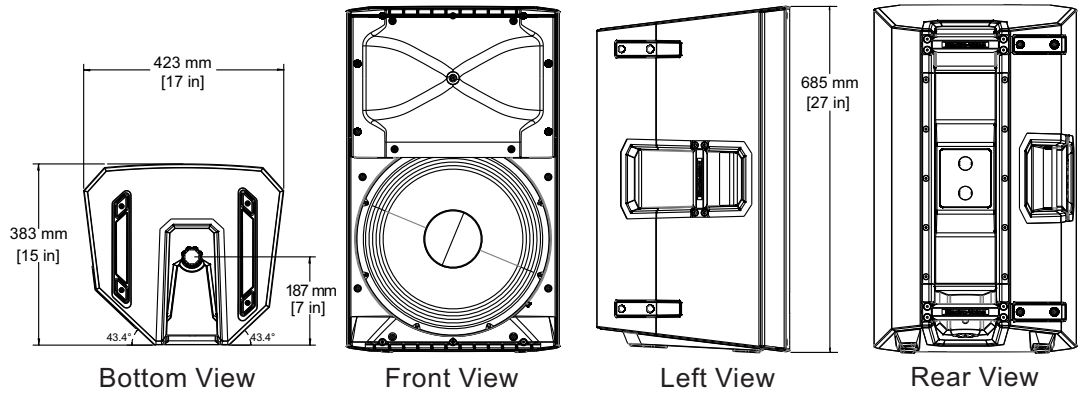


Figure 8.6: ZLX-15P Dimensions

Passive loudspeakers

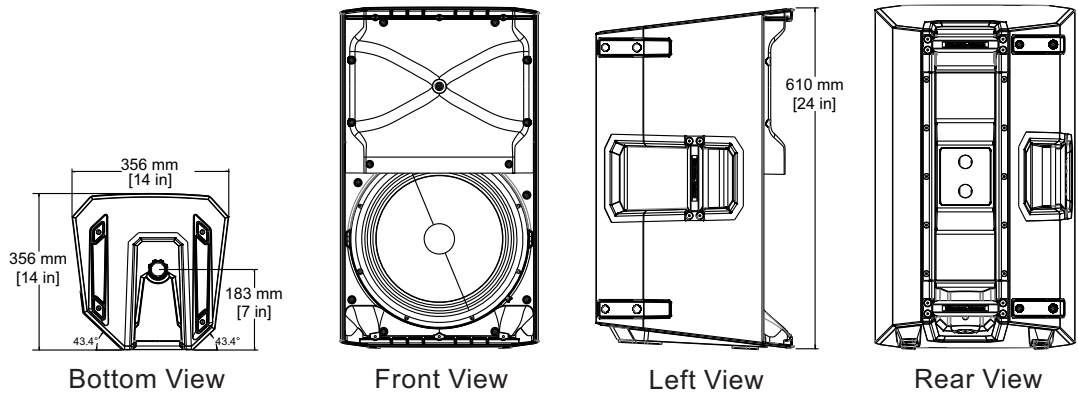


Figure 8.7: ZLX-12 Dimensions

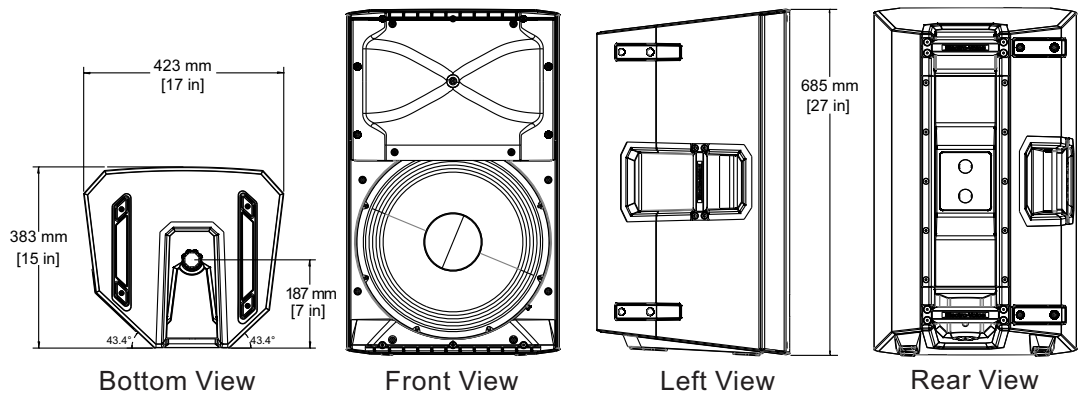


Figure 8.8: ZLX-15 Dimensions

9

Notes

Bosch Security Systems, Inc

12000 Portland Avenue South

Burnsville MN 55337

USA

www.electrovoice.com

© Bosch Security Systems, Inc, 2016
