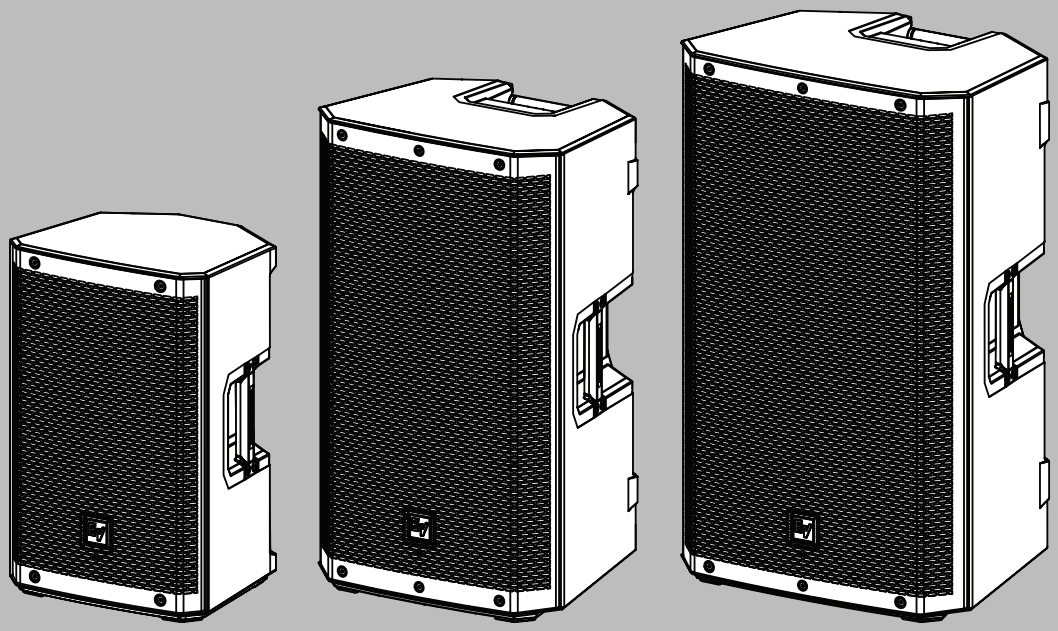
Electro-Voice

ZLX-G2 Full-range loudspeaker

ZLX-8-G2, ZLX-12-G2, ZLX-15-G2, ZLX-8P-G2, ZLX-12P-G2, ZLX-15P-G2



en User manual

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1 Safety

1.1 Important safety instructions

<table>
<tr>
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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: THE MAINS PLUG OR AC INLET IS USED AS A DISCONNECT DEVICE. THE DISCONNECT DEVICE SHALL REMAIN READILY OPERABLE.
WARNING: CONNECT ONLY TO MAINS SOCKET WITH PROTECTIVE EARTHING CONNECTION.
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.</td>
<td>  </td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>  </td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>  </td>
<td>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.</td>
</tr>
</table>

1. Read and keep these safety instructions. Follow all instructions and heed all warnings.
2. Download the latest version of the applicable installation manual from www.electrovoice.com for installation instructions.

Information
Refer to the Installation Manual for instructions.

3. Follow all installation instructions and observe the following alert signs:

Notice!
Containing additional information. Usually, not observing a notice does not result in damage to the equipment or personal injuries.

Caution!
The equipment or the property can be damaged, or persons can be injured if the alert is not observed.

Danger!
Risk of electric shock.

4. **Clean only with dry cloth. -** Unplug the apparatus from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.

5. **Condensation -** In order to avoid condensation; wait a few hours before turning on the equipment when it is transported from a cold to a warm space.
6. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Danger!
To reduce the risk of fire and electric shock, do not expose this apparatus to rain or moisture.

7. **Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. -** Openings in the enclosure, if any, are provided for ventilation and to ensure reliable operation of the apparatus and to protect it from overheating. These openings must not be blocked or covered. This apparatus should not be placed in a built-in installation unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat or in direct sunlight**.**
9. No naked flame sources, such as lighted candles, should be placed on the apparatus.
10. **Power cord options**:

– **Mains plug**
  – Use a 3-pin mains plug that is registered with the Safety Authority.
  – Use a 2-pin mains plug that is certified[1] to EN 50075/IEC 60083 Standard C5 (shown in the Appendix S of Singapore Consumer Protection (Safety Requirements) Registration Scheme Information).
– **Flexible cord**
  – Use a double insulated flexible cord that is certified[1] to the relevant IEC standards.
    [1]Certified by member of IECEE CB Scheme.
– **Appliance connector**
  – Use an appliance connector certified[1] to IEC 60320.
    [1]Certified by member of IECEE CB Scheme.

11. **Do not defeat the safety purpose of the polarized or ground-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 wider 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.
12. Mains powered equipment shall be connected to a mains power outlet socket with a protective earthing connection. An external, readily operable, mains plug or all-pole mains switch shall be installed.
13. To completely disconnect AC power from this apparatus, the power supply cord must be unplugged.

Warning! To prevent a shock hazard disconnect all power sources prior to system installation.

14. Unplug the apparatus during lightning storms or when unused for long periods of time.
15. Protect the power cord from being walked on or pinched particularly at plug, convenience receptacles, and the point where they exit from the apparatus**.**

Danger!

Overloading - Do not overload outlets and extension cords as this can result in a risk of fire or electric shock.

16. **Only use attachments/accessories specified by the manufacturer. -** Any mounting of the apparatus should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
17. **Use only with the cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus**. - When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

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.

18. System installation and servicing by qualified personnel only, in accordance with applicable local codes. No user-serviceable parts inside.
19. Devices installed above 2 m height may cause injury when falling down. Preventive measures must be taken.
20. **Replacement parts -** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or having the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
21. Only replace the mains fuse of an apparatus with a fuse of the same type.
22. **Safety check -** Upon completion of any service or repairs to this apparatus, ask the service technician to perform safety checks to determine that the apparatus is in proper operating condition.

1.2 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 +35°C (95°F).
- 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. To prevent hearing damage do not listen at high volume levels for long periods.

1.3 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.

Warning!
Use of non-authorized accessories or attachments with this or any Electro-Voice product is at your own discretion. Use of non-authorized accessories or attachments can result in product malfunction, injury, or death.
The user assumes all liability and may result in the warranty being voided.

2 Product registration

Register your ZLX-G2: electrovoice.com/register

3 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.
ZLX-G2 is a composite enclosure point source speaker family and features several upgrades over the previous ZLX family. This includes the refresh of the existing four models as well as the addition of compact 8-inch models (powered and passive) for weight and size conscious users.
The ZLX-G2 family includes 8, 12, and 15-inch models in both powered and passive versions, featuring an improved angled cabinet design allowing for a 55º monitor angle.
The powered versions feature a **POWERED BY DYNACORD** amplifier with built in digital mixer and FX. The mixer and all speaker functions will be easily controlled from the Electro-Voice QuickSmart Mobile app.

Integration and compatibility
ZLX-G2 is compatible with all other portable speakers from Electro-Voice and most other speakers on the market. ZLX-G2 uses industry standard connections, such as XLR and TRS or NL4, at common signal levels to be compatible with other products on the market.
ZLX-G2 contains Electro-Voice specific subwoofer presets. These presets adjust for both gain and time alignment for full acoustic optimization. This allows ZLX-G2 to be incorporated into larger audio systems with subwoofers from other Electro-Voice product lines, such as ELX200, EKX, ETX, at maximum performance.
Additionally generic high pass (HP) filters are available in the DSP. This allows a user to set the appropriate HP filter on their ZLX-G2 speaker to work with a third-party subwoofer with corresponding low pass (LP) filter settings. However, the user does not benefit from the gain and time alignment parameters set in the Electro-Voice subwoofer presets. The user must adjust these separately in their third-party subwoofer. Incorrect adjustments can result in sub-optimal acoustic performance of the speaker system.

Accessories
The ZLX-G2 family includes a select complement of accessories.
- Padded covers are available for all sizes of speakers.
- A “U” style wall bracket allows both vertical and horizontal mounting of 12 and 15-inch models.
- A universal pole-mount style wall bracket with a short arm is offered for the 8-inch models and will be limited to vertical orientation only. Additionally, a second universal pole-mount style bracket with a longer arm will work with other speaker models in the Electro-Voice line-up.

3.1 Short information

This manual is applicable to these products:

CTN	Description
ZLX-8P-G2-US	8" 2-way powered speaker, US cord
ZLX-12P-G2-US	12" 2-way powered speaker, US cord
ZLX-15P-G2-US	15" 2-way powered speaker, US cord
ZLX-8P-G2-EU	8" 2-way powered speaker, EU cord

CTN	Description
ZLX-12P-G2-EU	12" 2-way powered speaker, EU cord
ZLX-15P-G2-EU	15" 2-way powered speaker, EU cord

CTN	Description
ZLX-8-G2	8" 2-way passive speaker
ZLX-12-G2	12" 2-way passive speaker
ZLX-15-G2	15" 2-way passive speaker

3.2 System features

Powered loudspeakers

- **High Quality Stereo Bluetooth® streaming**
  Bluetooth® stereo streaming and linking for true wireless stereo (TWS) setup. Users are able to pair and link to two ZLX-G2 powered loudspeakers in a stereo system wirelessly via Bluetooth® for music streaming.
- **Easy to use with QuickSmart Mobile app and Electro-Voice's Intuitive User Interface**
  ZLX-G2 powered loudspeakers feature Electro-Voice's intuitive QuickSmart DSP with single encoder and push key interface for simple and quick setup. ZLX-G2 can be paired via Bluetooth® to a mobile device with the QuickSmart Mobile app installed to provide easy remote control of all audio functions. The QuickSmart Mobile app allows pairing and grouping of up to six loudspeakers, in any combination, including EVERSE , ELX200 powered family, and the EVOLVE family.
- **POWERED BY DYNACORD with built-in digital 4-channel mixer**
  ZLX-G2 powered loudspeakers feature a built-in 4-channel mixer with FX, EQ, automatic feedback suppression and ducking functions. The mixer includes two XLR/TRS combo jacks, including 24V phantom power on **INPUT 1** (XLR) and Hi-Z instrument compatibility on **INPUT 2** (¼-inch Hi-Z connector). The mixer also includes Stereo Bluetooth®.
- **Full color LCD display**
- **Easy control access in monitor mode and dual monitor angle**
  Improved angled cabinet design allows for a 55-degree monitor angle, saving up to two feet of stage space. The amp panel is easy to access in monitor position. Low-angle 23-degree kickback position provides a second monitor orientation.
- **Mix and match inventory**
  Traditional ZLX grille and EV black chrome logo makes it easier to mix and match inventory.
- **Accessories**
  ZLX-G2 family accessories include slip covers, a U-bracket for wall mounting 12- and 15-inch models, and short and long wall mount brackets for use with the speaker pole mounts.

Passive loudspeakers

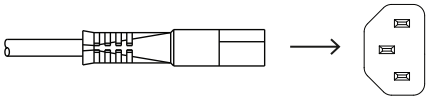
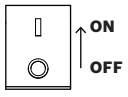
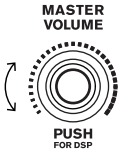
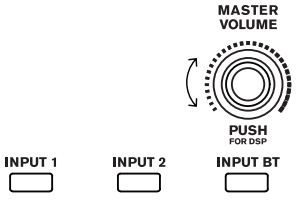
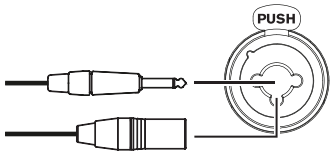
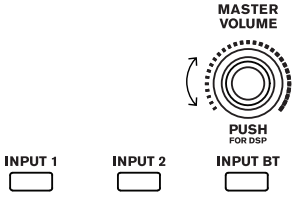
- ZLX-G2 is the next generation of the best-selling pro-audio loudspeaker series from Electro-Voice
- Increased maximum SPL output and extended frequency response
- Robust and ergonomic design for day-to-day durability and portability
- Recommended to use with Dynacord DSP power amplifiers

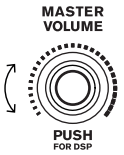
– SONICUE integration - optimized speaker settings for best performance

4 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.

Full-Range powered loudspeaker
Models: ZLX-8P-G2-US, ZLX-12P-G2-US, ZLX-15P-G2-US, ZLX-8P-G2-EU, ZLX-12P-G2-EU, and ZLX-15P-G2-EU.

Step	Illustration
1. Connect the AC power cord from a grounded receptacle to the **MAINS IN**.	
2. Switch power to **ON**.	
3. Adjust the volume to 0 dB by using the **MASTER VOLUME** knob.	
4. Push the input selection soft key for **INPUT 1** or **INPUT 2** if using an XLR or ¼-inch (6.35 mm) cable. Use the **MASTER VOLUME** knob to adjust **INPUT LEVEL** to **MUTE**. Repeat for each input channel as needed.	
5. Connect an audio source using an XLR, TRS, or TS cable to **INPUT 1** or **INPUT 2**. Ensure audio source is **MUTE** or at a low level before making connection. After connection is made, increase the source's output to a reasonable level. Ensure that the source is not being clipped.	
6. Adjust the **INPUT LEVEL** by using the **MASTER VOLUME** knob until the signal peaks are just below maximum level or the required output is achieved. If **PK** or **PEAK** is indicated, turn the level down until the **PK** or **PEAK** indication disappears. Press the input selection soft key again to exit the channel menu. Use the same process for other inputs if in use. Adjust the input levels of each input to achieve the desired mix.	

7. Using the **MASTER VOLUME** knob, adjust the volume until you get the required output from the loudspeaker.	

5 Pairing the QuickSmart Mobile app

The EV QuickSmart Mobile app for tablets and smartphones is available for download from the Apple App Store and the Google Play Store.

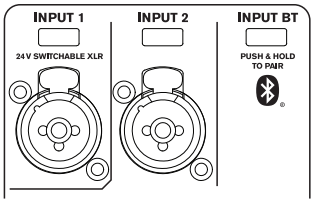
Notice!
The EV QuickSmart Mobile app is designed to only find loudspeakers from Electro-Voice featuring Bluetooth® control functionality.
The EV QuickSmart Mobile app will not display other types of Bluetooth® devices, e.g. phones, laptops, tablets, or headsets.

Prior to pairing the EV QuickSmart Mobile app with Electro-Voice loudspeakers:

1. Ensure that Bluetooth® is enabled on the smartphone or tablet.
2. Ensure that pairing mode is enabled on the loudspeaker.

To place the loudspeaker in pairing mode for both control and streaming:

1. Press and hold **INPUT BT** until **Pairing Mode On** and the 4-digit ID is shown on the LCD.
   Pairing mode can be enabled through the LCD menu for control and streaming separately.
   The loudspeaker remains in control pairing mode for about 2 minutes. If control pairing fails, repeat this step.



2. Navigate to your mobile device's Bluetooth® settings menu, find the ZLX-G2 loudspeaker with the matching 4-digit ID and ensure you are paired to the loudspeaker. This will pair the mobile device to the ZLX-G2 loudspeaker for audio streaming.
3. Continue to the next step to pair for control.

Notice!
For Android devices running Android version 11 or older, ensure location services are allowed. Electro-Voice does not collect, store, or track user location data or personal information.

First time pairing

1. Open the EV QuickSmart Mobile app.
2. **Select your Speakers** is displayed on the screen.
   The EV QuickSmart Mobile app is looking for available Bluetooth® enabled Electro-Voice loudspeakers.
   The available loudspeakers are displayed on the screen.
3. Tap the loudspeaker you want to pair with the app.
   The selected loudspeaker will have a line under it acknowledging it is selected.
4. Repeat the previous step until all of the required loudspeakers are selected.
5. Tap the **CONNECT** button.
6. The app connects with the selected loudspeaker.
   You will get a message from iOS/iPadOS/Android about pairing for each device which has to be accepted.

Notice!
If the message "Bluetooth Connection failed" appears, ensure that control pairing mode is enabled in the loudspeaker.

7. Tap **PAIR** on the device to accept pairing to the loudspeakers.
   The app can connect to up to six loudspeakers.

Subsequent pairing

To pair additional loudspeakers with the EV QuickSmart Mobile app:

1. Tap the EV QuickSmart Mobile app icon.
2. **Select your Speakers** is displayed on the screen.
   The EV QuickSmart Mobile app is looking for available Bluetooth® enabled Electro-Voice loudspeakers. The available loudspeakers are displayed on the screen.
3. Tap the loudspeaker you want to pair with the app.
   The selected loudspeaker will have a line under it acknowledging it is selected.
4. Repeat the previous step until all of the required loudspeakers are selected.
5. Tap the **CONNECT** button.
   The app connects with the required loudspeaker.
   The app can connect to up to six loudspeakers.

6 Tripod, pole mount and floor monitor operation

6.1 Tripod or pole mount

ZLX portable loudspeakers mount on a tripod stand or on a pole above a subwoofer.

Mounting a loudspeaker 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!
Do not stack additional loudspeakers.

Caution!
We recommend that two or more persons lift and place 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 and stable surface.
   - Fully extend the legs on the tripod stand.
   - Do not compromise the tripod stand's structural integrity by trying to make the stand taller.
   - Do not attempt to mount more than one loudspeaker on a stand designed for a single loudspeaker.
2. Loosen the set screw.

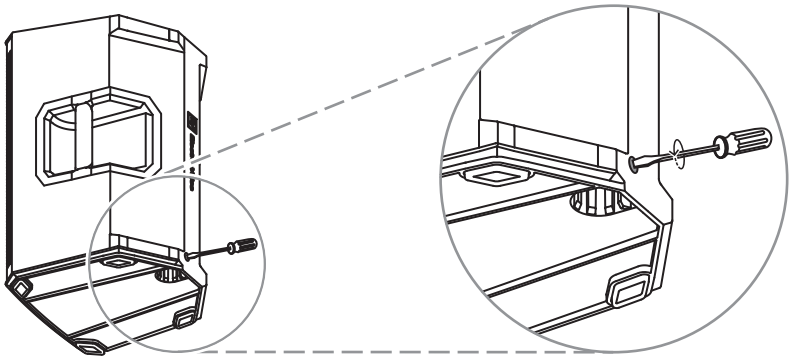


Figure 6.1: 8-inch models

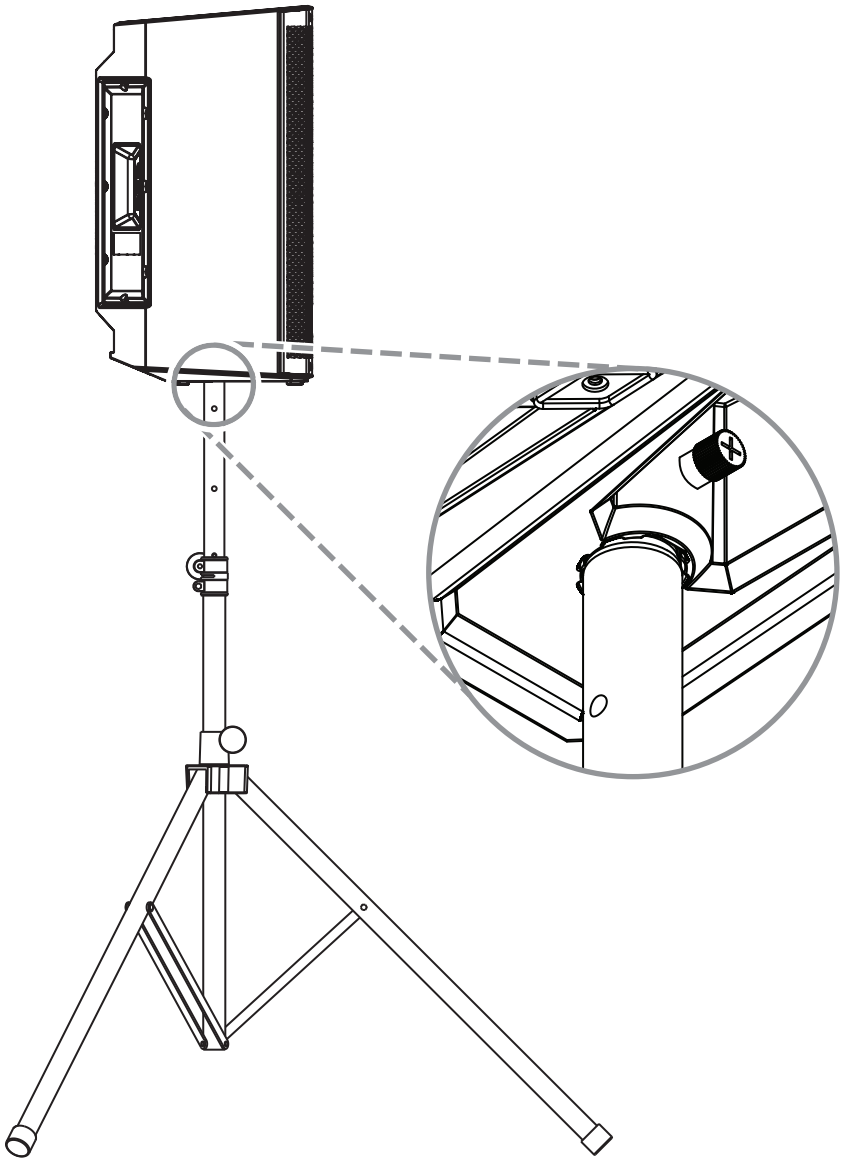
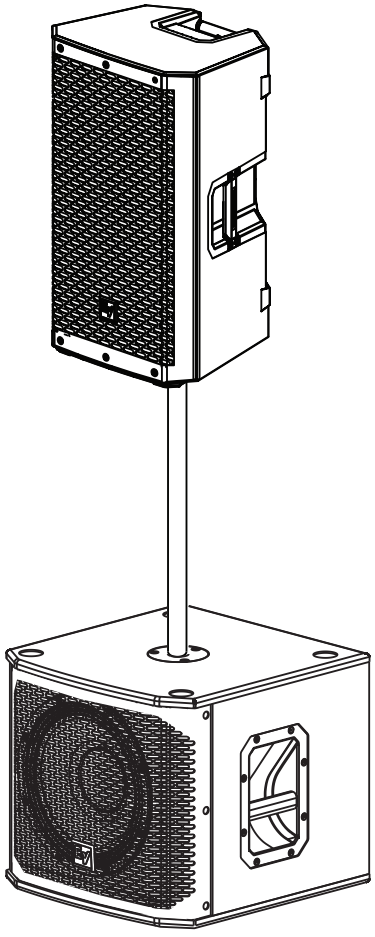


Figure 6.2: 12- and 15-inch models

3. Lift the loudspeaker using two hands.
4. Set the pole cup located on the bottom of the loudspeaker onto the pole.
5. Tighten the set screw to secure the loudspeaker to the pole.

Mounting a loudspeaker on a pole



Caution!
We recommend that two or more persons lift and place 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. Loosen the set screw.
5. Lift the loudspeaker using two hands.
6. Set the pole cup located on the bottom of the loudspeaker onto the pole.
7. Tighten the set screw to secure the loudspeaker to the pole.

Caution!
Do not stack additional loudspeakers.

6.2 Floor monitor & kickback

ZLX-G2 loudspeakers may be used as a floor monitor or in kickback position by placing the loudspeaker on one of the two integrated monitor angles.

Setting up a loudspeaker as a floor monitor

To set up a loudspeaker as a floor monitor:

1. Place the loudspeaker on a level and stable surface.
2. Safely route cables to prevent injury to performers, production crew, and audience members.
3. Set the loudspeaker location to **MONITOR** in the DSP control menu.

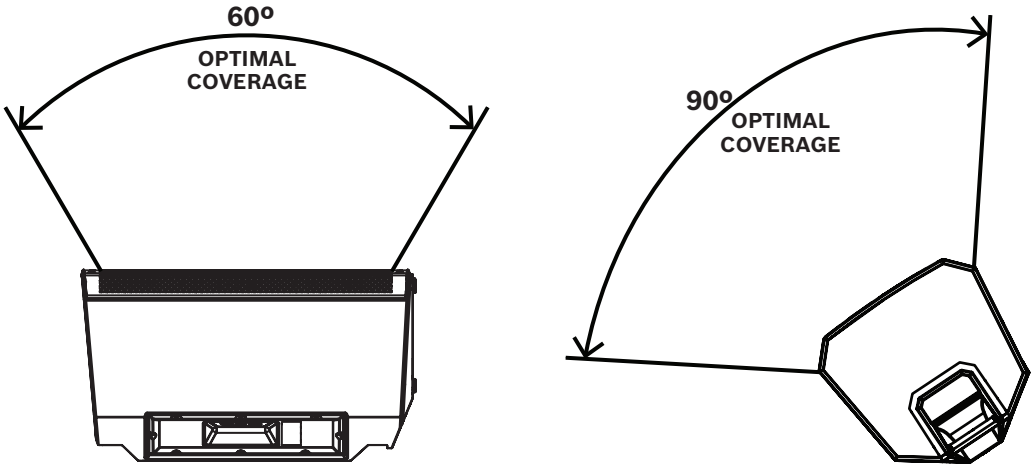


Figure 6.3: Optimum coverage in MONITOR position (side view left and front view right)

Setting up a loudspeaker in kickback position

Kickback monitor position is only available in 12-inch and 15-inch ZLX-G2 models.

To set up a loudspeaker in kickback position:

1. Place the loudspeaker on a level and stable surface.
2. Tilt the loudspeaker rearward to rest securely in the kickback position.
3. Safely route cables to prevent injury to performers, production crew, and audience members.
4. Set the loudspeaker location to **KICKBACK** in the DSP control menu.

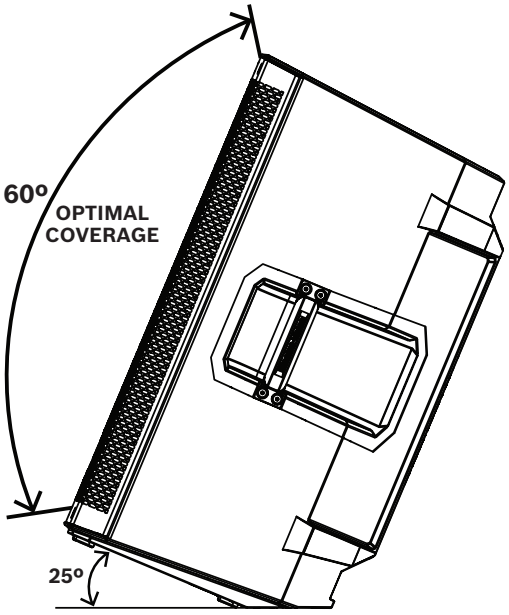


Figure 6.4: Optimum coverage in KICKBACK position

Notice!

Secure cables with wire ties or tape whenever possible.

7 Amplifier DSP

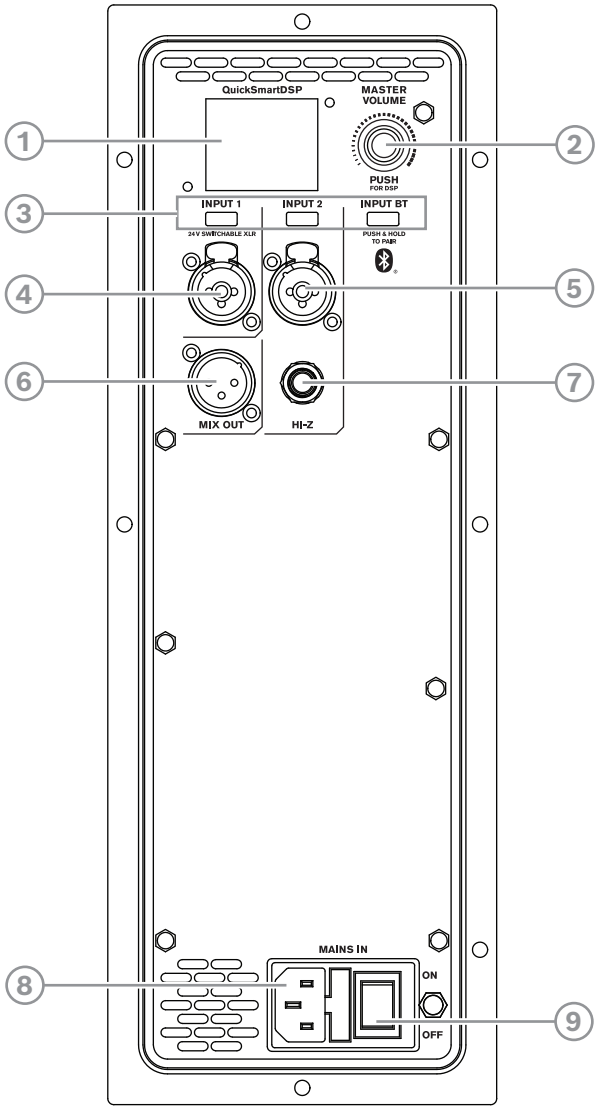
ZLX-G2 powered loudspeakers feature a built-in 4-channel mixer with FX, EQ, automatic feedback suppression and ducking functions. The mixer includes two XLR/TRS combo jacks, including 24V phantom power on **INPUT 1** (XLR). **INPUT 2** includes an unbalanced ¼-inch Hi-Z connector for instruments or high impedance microphones. The mixer also includes Stereo Bluetooth®.

7.1 Amplifier DSP controls

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

Loudspeaker control and monitoring interface

These DSP control menu selections are available for the ZLX-G2 .

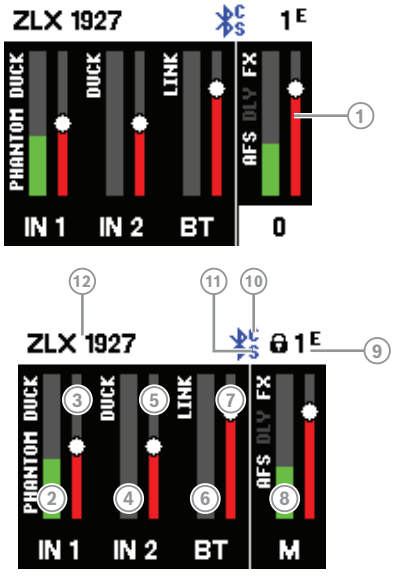


1. **LCD** – DSP control and monitoring interface.
2. **MASTER VOLUME** - Adjusts the sound level and navigates the DSP control menu. **DSP** - Scroll through the menu and select the available choices. Push the **MASTER VOLUME** knob to enter the DSP control menu.

3. **Input selection soft keys** - Press the soft key to select the input and access the DSP control menu for the channel. Press the softkey a second time to deselect the channel and return to the main DSP.
4. **INPUT 1** - 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. The XLR connector is switchable for 24V phantom power.
5. **INPUT 2** - 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
6. **MIX OUT** - XLR output sends either the mix of all input signals or the stereo L or stereo R signal to another loudspeaker or subwoofer.
7. **Hi-Z** - High impedance connection to connect an instrument or high impedance microphone via a ¼-inch TS cable. Shared with INPUT 2.
8. **MAINS IN** – AC connection is established via an IEC-connector.
9. **POWER** - Switch for power **ON** or **OFF** of the loudspeaker. The LCD screen lights up when the power is turned **ON**, after approximately three seconds.

7.2 System status

Normal

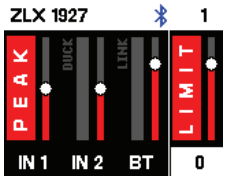


1. Indicates the master gain of the system in dB. The range is from -80 dB to +10 dB, in 1 dB increments.
2. **IN 1** - VU meter displays the signal level of INPUT 1 into the amplifier INPUT 1 connector. The display of **PHANTOM** indicates 24V phantom power is switched on.
3. Input level control for **IN 1**.
4. **IN 2** - VU meter displays the signal level of INPUT 2 into the amplifier INPUT 2 connector.
5. Input level control for **IN 2**.
6. **BT** - VU meter displays the signal level of INPUT BT into the amplifier from Bluetooth® streaming connection.
7. Input level control for **BT**.
8. **M** - VU meter displays the signal level of the MAIN output.

9. **Status display** - Alternately shows the following:
   1 - Indicates the selected preset number. There are five user-defined presets available.
   E - Edited. Indicates the preset is not saved. When the preset is saved, the **E** is not displayed.
   Lock status - Indicates that the LCD display and controls are locked. Press the **MASTER VOLUME** knob or channel select soft key to unlock.
10. **C** - Control app. The available options are:
    OFF - DISABLED
    FLASHING - PAIRING MODE
    SOLID - CONNECTED
11. **S** - Audio streaming. The available options are:
    OFF - DISABLED
    FLASHING - **PAIRING MODE (120s)**
    SOLID - CONNECTED
12. Loudspeaker 4-digit ID to pair via Bluetooth®.

System protection

System protection limiters indicate when a system is exceeding recommended usage by indicating input **PEAK (PK)** or output **LIMIT** on the LCD display.

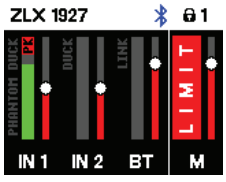


PEAK (PK)

PEAK (PK) indicates that the signal to the loudspeaker is too high, resulting in a clipped signal into the loudspeaker.

If **PEAK (PK)** is shown:

- Reduce the **INPUT GAIN** and/or the signal on the mixer or source equipment.



LIMIT

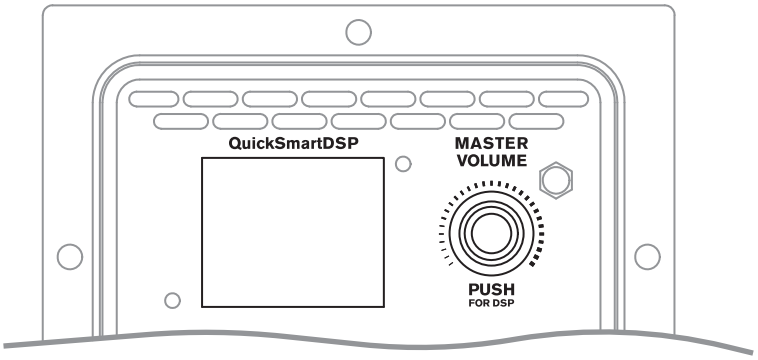
LIMIT protects the loudspeaker from short-term peaks and long-term overload, which can cause distortion. When **LIMIT** is displayed on the screen, the limiter is active.

If the **LIMIT** indication is shown often or continuously:

- Reduce the output volume (**MASTER VOLUME**). This is strongly recommended.

7.3 DSP controls

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



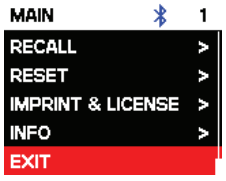
Accessing the DSP control menu

To access the DSP control menu:

1. Push the **MASTER VOLUME** knob.
   The DSP control menu appears.
2. Using the **MASTER VOLUME** knob, scroll through the menu items.
3. Push the **MASTER VOLUME** knob to select the menu item you want to modify.
   The focus moves to the parameters on the right side of the DSP control menu.
4. Using the **MASTER VOLUME** knob, scroll through the parameters.
5. Push the **MASTER VOLUME** knob to confirm the selected parameter.
   The setting is saved. The focus returns to the menu items on the left side of the DSP control menu.
6. Repeat steps 2 through 5 to modify additional DSP and system settings.
7. Select **EXIT** to return to the home screen.

7.3.1 Loudspeaker DSP control menu

The loudspeaker DSP control menu selections are available for the ZLX-G2 loudspeakers. Refer to *OUTPUT list, page 53* for the complete menu list.

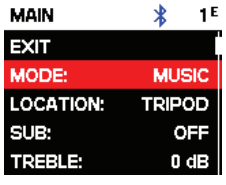


EXIT menu

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

Notice!

The display returns to the home screen after 30 seconds 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.
- **LIVE** – is used for live sound applications.
- **SPEECH** – is used for spoken word applications.
- **CLUB** - is used for recorded electronic music playback when more bass response is desired.
- **FRFR** -

The default is **MUSIC**.

LOCATION menu

The **LOCATION** menu is used to optimize the loudspeaker for different boundaries.
Available options for this selection are: **TRIPOD**, **KICKBACK, MONITOR**, and **WALL**.

- **TRIPOD** - is used when the loudspeaker is placed on a tripod stand or placed on a pole.
- **KICKBACK** - is used when the loudspeaker is placed on the angled rear kickback position. This setting compensates for the amount of low frequency boost created by placing the loudspeaker on a level and stable flat surface.

- **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 loudspeaker on a level and stable flat surface.
- **WALL** – 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. If used on a column, it is recommended to use the SUSPEND mode.

The default is **TRIPOD**.

SUB menu

The **SUB** menu is used to select a high pass frequency for use with a subwoofer.
Available options for this selection are: **OFF**, **80 Hz**, **100 Hz**, **120 Hz**, **150 Hz**, **ELX118SP**, **ETX-15SP**, **ETX18-SP**, **80 Hz**, **and ZXA1-SUB**. The **100 Hz**, **120 Hz**, and **150 Hz** choices are generic high pass settings for use with other subwoofers. The **ELX200-12SP**, **ELX200-18SP**, **EKX-15SP** and **EKX-18SP** settings are specifically optimized for subwoofers by including delay for best summation.
The default is **OFF**.

TREBLE control

The **TREBLE** control is used to adjust the high frequency performance of the loudspeaker for different applications or personal preference. The parameter controls a high shelving filter.
The default is **0 dB**.

MID control

The **MID** control is used to adjust the midrange frequency performance of the loudspeaker for different applications or personal preference.
The default is **0 dB**.

BASS control

The **BASS** control is used to adjust the low frequency performance of the loudspeaker for different applications or personal preference. The parameter controls a low shelving filter.
The default is **0 dB**.

MAIN GEQ menu (default)

The **MAIN GEQ menu** is used to adjust the frequency response of the loudspeaker for different applications or personal preference. There are seven different EQ filters available centered at the following frequencies: 63, 160, 400, 1.0K, 2.5K, 6.0K & 12K Hz.
The range of each filter is -12 dB to +12 dB.
The default value for each filter is **0 dB**.

MAIN PEQ menu

The **MAIN PEQ** is used to adjust the frequency response of the loudspeaker for different applications or personal preference. There are seven equalization filters available.
The filter type is selectable between the following:
PEQ - Parametric Equalization Filters shape the sound using peak/dip bell shaped filters which have three controls.

- **Q** - Quality Factor defines the bandwidth width of the filter. A lower **Q** provides a wider bandwidth and a higher **Q** provides a narrower bandwidth.

- **FREQ** - selects the center frequency of the EQ filter.
- **GAIN** - sets the amount of increase or reduction of the equalization filter.

LOW/HI SHELF - Shapes the sound using a shelving type filter that can be applied to the low frequency or high frequency response using two controls:

- **FREQ** - sets the center frequency of the filter. For the **LOW SHELF** filter the **GAIN** of the filter tapers off above the frequency selected. For the **HIGH SHELF** filter the **GAIN** of the filter tapers off below the frequency selected.
- **GAIN** - sets the amount of increase or reduction of the signal below or above the **FREQ** setting.

LOW/HI PASS - Pass band filters that shape the sound by only passing signal above or below the selected frequency.

- **FREQ** - sets the corner frequency for the pass band filter. For **HI PASS** filters all frequencies above the selection will be passed through. Frequencies below the setting will be tapered off. For **LOW PASS** filters all frequencies below the selection will be passed through. Frequencies above the selection will be tapered off.

FX & FX ENABLE

The **FX** control is used to select the desired effect (e.g. reverb, chorus, delay, etc.) to apply to the FX send. The FX send level is independently controlled in the INPUT 1 and INPUT 2 FX control. The **FX ENABLE** turns **ON** or **OFF** the effect globally. **FX ENABLE** can be toggled with a footswitch.

AFS (automatic feedback suppression)

The 12-band automatic feedback suppression (AFS) can be engaged to reduce unwanted feedback frequencies when microphones or instruments with pickups are used. Feedback occurs when sound from the loudspeaker enters the microphone or pickup and is amplified by the loudspeaker and played back again. High levels or extended periods of feedback can damage hearing and equipment.
Available options for this selection are **OFF** and **ON**.

Reducing feedback

To reduce feedback:

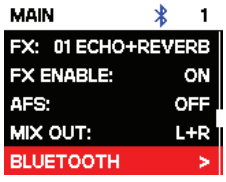
1. Set the loudspeaker and microphone or instrument according to your performance. Follow appropriate microphone placement and use practices:
   - Do not place the microphone directly in front of the loudspeaker. Refer to the user manual of your microphone to know the pickup and rejection patterns of your microphone.
   - Avoid placing music stands, tablets, or other large flat objects near the microphone such that they can cause audio reflections into the microphone.
   - Use proper microphone technique when speaking, singing or placing by an instrument to avoid using excessive input gain. For example, hold the microphone close to your mouth when performing.
   - Engage appropriate input channel **PRESET** for your application: **LOW CUT 80 Hz**, **LOW CUT 120 Hz**, **VOCAL MIC**, **VOICE FILTER**, **SPEECH**, **ACOUSTIC GUITAR**, etc. Refer to INPUT DSP control menu.
   - Do not cup the microphone element with your hands while speaking or singing. Only hold the microphone by the handle or body as per the microphone manufacturer's recommendation.

2. Enable automatic feedback suppression (AFS) in the DSP control menu or FX section of the QuickSmart Mobile app. This will enable **AFS** on **INPUT 1** and **INPUT 2**.
3. Slowly turn up the output of the loudspeaker, and begin sound checking your microphone or instrument.
4. As you hear feedback, allow a few seconds for the automatic feedback suppression (AFS) to detect and to reduce the feedback.
5. Continue sound check until no additional feedback tones are generated.

MIX OUT menu

The **MIX OUT** menu is used to select which signal(s) should be output at **MIX OUT** and which signal should be delivered by the loudspeaker.

– **L+R** - The left and right signals of all inputs are summed. The sum is output at **MIX OUT** and is delivered by the loudspeaker (default).
– **L** - Only the panned left signal of all inputs is output at **MIX OUT**. The loudspeaker will deliver only the right signal.
– **R** - Only the panned right signal of all inputs is output at **MIX OUT**. The loudspeaker will deliver only the left signal.



BLUETOOTH menu

The **BLUETOOTH** menu is used to set the Bluetooth® functionality of the loudspeaker.
ON/OFF - The **ON/OFF** menu controls whether Bluetooth® functionality is enabled or disabled on the loudspeaker.
CONTROL PAIR - The **CONTROL PAIR** menu is used to enable the QuickSmart Mobile app wireless control and monitoring application. Available options for this selection are: ON or OFF.
The default is **OFF**.
AUDIO PAIR - The **AUDIO PAIR** menu is used to stream audio from your Bluetooth® enabled device to the loudspeaker system. Available options for this selection are: **PAIRING**, **ON** or **OFF**.
The default is **OFF**.

LINK SPEAKERS

The **LINK SPEAKERS** function allows two ZLX-G2 loudspeakers to be linked over Bluetooth® in true wireless stereo for Bluetooth® audio streaming only.
To link two ZLX-G2 loudspeakers:

1. Pair one of the ZLX-G2 loudspeakers via Bluetooth® to a mobile device. Refer to *Pairing the QuickSmart Mobile app, page 15* for pairing instructions.
2. In both ZLX-G2 loudspeakers, navigate to the **BLUETOOTH** menu in the Main DSP menu.
3. In both ZLX-G2 loudspeakers, select **LINK SPEAKERS**.
   The LCD display will show **LINKING SPEAKERS...** while establishing connection between both ZLX-G2 loudspeakers. When the connection is established, the menu will display **UNLINK SPEAKERS**.
   In the **BLUETOOTH** menu below the **LINKING SPEAKERS**, the stereo channel selection will appear.
4. Select the appropriate stereo channel selection for each ZLX-G2 loudspeaker: **L+R** (mono), **L**, or **R**.
   Note: This is stereo image from the audience's perspective, also known as House L & R.

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 switch is set to ON.
- **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.

The default is **ON**.

LCD DIM menu

The **LCD DIM** menu is used to dim the display when the display is idle for 30 seconds. Available options for this selection are: **ON** or **OFF**.
The default is **ON**.

BRIGHT menu

The **BRIGHT** menu is used to determine the brightness of the LCD.
The range is 1 (darkest) to 10 (brightest).
The default is **5**.

CONTRAST menu

The **CONTRAST** menu is used to increase or decrease the visibility of the LCD screen based on lighting conditions.
The range is 1 (less contrast) to 10 (more contrast).
The default is **5**.

STORE menu

The **STORE** menu allows you to create up to five customized user settings. Available options for this selection are: **BACK**, **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.

Storing customized user settings

To store customized user settings:

1. From the DSP control menu, scroll to **STORE.**
2. Push the **MASTER VOLUME** knob to select **STORE**.
   The **STORE** screen appears.
3. Push the **MASTER VOLUME** knob to select **1**.
   The **Enter name for 1** screen appears.
4. Use the **MASTER VOLUME** knob to scroll through the characters.
   The characters appear.
5. Push the **MASTER VOLUME** knob to select the required character.
6. Turn the **MASTER VOLUME** knob to move to the next character entry.

Continue selecting characters until the required name is entered.

7. Use the **MASTER VOLUME** knob to scroll to **SAVE**.
8. Push the **MASTER VOLUME** 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 to retrieve up to five customized user settings. Available options for this selection are: **BACK**, **1**, **2**, **3**, **4**, and **5**. In addition, setting **6** is available to recall a default setting. This setting cannot be used to store user settings.

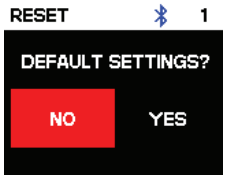
Recalling customized user settings

To recall customized user settings:

1. From the DSP control menu, scroll to **RECALL.**
2. Push the **MASTER VOLUME** knob to select **RECALL**.
   The **RECALL** screen appears.
3. Push the **MASTER VOLUME** knob to select **1**.
   The selected item is loaded.
4. After the preset is loaded, the menu will 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**.



Resetting the system

To reset the system to original factory settings:

- From the DSP control menu, select **RESET**.
  The **DEFAULT SETTINGS?** message appears.
- Select **YES**.
  The **ERASE USER PRESETS?** message appears.
- Select **YES**.

Notice!
The **RESET** menu item is used to revert the loudspeaker to the original factory default settings.

INFO menu

The **INFO** menu is used to display the firmware version.

8 Input & Mixer operation

8.1 INPUT DSP control menu

The loudspeaker INPUT DSP control menu selections are available for the ZLX-G2 powered loudspeakers.
Refer to *INPUT list, page 56* for the complete menu list.

To control the mixer channels:
1. Press the input selection soft key to select the input channel.
   The softkey will illuminate once selected.
2. Use the **MASTER VOLUME** knob to adjust the level.
3. Press the **MASTER VOLUME** knob to enter the input channel's DSP control menu.
4. Press the input selection soft key again to deselect the input channel for control.
   The soft key will no longer be illuminated.

INPUT control adjustments
Caution is advised when adjusting the **INPUT LEVEL** and EQ. Usually minor changes are sufficient to produce the best results in the overall sound.

To adjust the incoming sound:
– Set all EQ controls to **0 dB** or **FLAT**.
– Avoid setting the EQ controls to extreme positions.
– Use natural reproduction as a starting point.
– Rely on your musically trained ear.

INPUT LEVEL control
The **INPUT LEVEL** control adjusts the sensitivity of the incoming signals to the internal operation level of the mixer.

To achieve a good signal input level:
1. Set the volume (**VOL**) to **MUTE** using the **MASTER VOLUME** knob.
2. Press the input selection soft key and use the **MASTER VOLUME** knob to set the **INPUT LEVEL** to **MUTE**.
3. Connect the sound source (microphone, instrument, etc) to the selected input.
4. Start the sound source at the highest volume level to be expected. Sing or speak as loudly as possible directly (close up) into the microphone.
5. While playing the sound source or singing into the microphone:
   – Increase the **INPUT LEVEL** by selecting the input channel using the input selection soft key and using the **MASTER VOLUME** knob, so that during the loudest part, the **PEAK (PK)** does not show. Press the input selection soft key again to deselect the input channel.
   – Increase the **MASTER VOLUME** until you get the required output from the loudspeaker. This is the basic channel setting.

If further adjustments to the EQ setting of the channel are necessary, perform these steps again. Changes in the sound shaping section also have an influence on the overall level of the channel.

24V (INPUT 1 only)

+24V DC phantom power is available on the XLR connector of **INPUT 1** only. Phantom power can be used to power certain devices such as DI boxes and condenser microphones (non-electret). Consult the user manual of your device before using. There is no phantom power on the TRS connectors. Phantom power is switchable.

Notice!

Switch off phantom power (default) for sources which do not require phantom power such as dynamic microphones and mixer outputs.

Notice!

Never connect a mobile device to **INPUT 1** with phantom power activated.

PRESET

The input **PRESET** adjusts the EQ and compressor settings to provide a starting point for adjusting the sound for different input types.

COMP control

The **COMP** control controls the onboard compressor to adjust the input signal processing during operation. Compressors are available on **INPUT 1** and **INPUT 2**.

- Use the **COMP** control to adjust the compressor threshold and the compression ratio simultaneously.

Adjusting the **COMP control** from 0 to 100 will result in the following:

– The gain below the threshold will increase from 0 dB to +6 dB.
– The compression ratio will increase from 1:1 to 8:1.
– The compressor will reduce the dynamic range of the audio signal proportional to the compressor setting.

Once the signal exceeds a certain threshold, the signal gets compressed. Major input level changes result in minor output level changes. Narrowing the dynamic range often allows for easier recording or mixing of the audio signal. It is recommended to start with low to moderate levels of compression (25 - 40) and increase slowly if necessary.

TREBLE/MID/BASS controls

The EQ section of the input channel allows for a broad difference in the shaping of the incoming audio signal within three frequency bands:

– **TREBLE** control - provides cymbals and vocals with more treble for a more transparent sound.
– **MID** control - increasing this level provides higher output in the vocal range, reducing this level can help reduce acoustical feedback.
– **BASS** control - adds more “punch” to the sound of a kick drum or adds “body” to the vocals.

FX

The **FX** control is used to set the amount of effect you require on that channel. Using the **FX** controls lets you easily assign an effect for musical instruments or vocals.

To determine the required level of effect:

1. Set the controls to minimum.
2. Increase the level individually and gradually until the required sound is achieved.

PAN

The **PAN** control adjusts the amount of the signal coming out of the stereo L or stereo R loudspeaker in a stereo setup. The **PAN** is not engaged for mono (single loudspeaker) setups.

DUCKER

The **DUCKER** reduces the level of the signal(s) on the other inputs whenever a signal is detected at the selected MIC/LINE input (**INPUT 1** or **INPUT 2**). If no signal is detected at the selected MIC/LINE input, the level of the signal(s) on the other inputs will return to the previous set levels.

The **DUCKER** is useful to speak over background music:

– When signal is detected on the selected MIC input, the music on the other input channel will be reduced.
– When signal is no longer detected on the selected MIC input, the music will return to the previous level.

Engaging the DUCKER

To engage the ducker:

1. Select **INPUT 1** and/or **INPUT 2**.
2. Adjust the **DUCKER** level to set the detection threshold for the selected input channel. When signal is detected on the selected input, the signal on the other inputs will be reduced by 12 dB. Typical values are -10 to -20 dB.

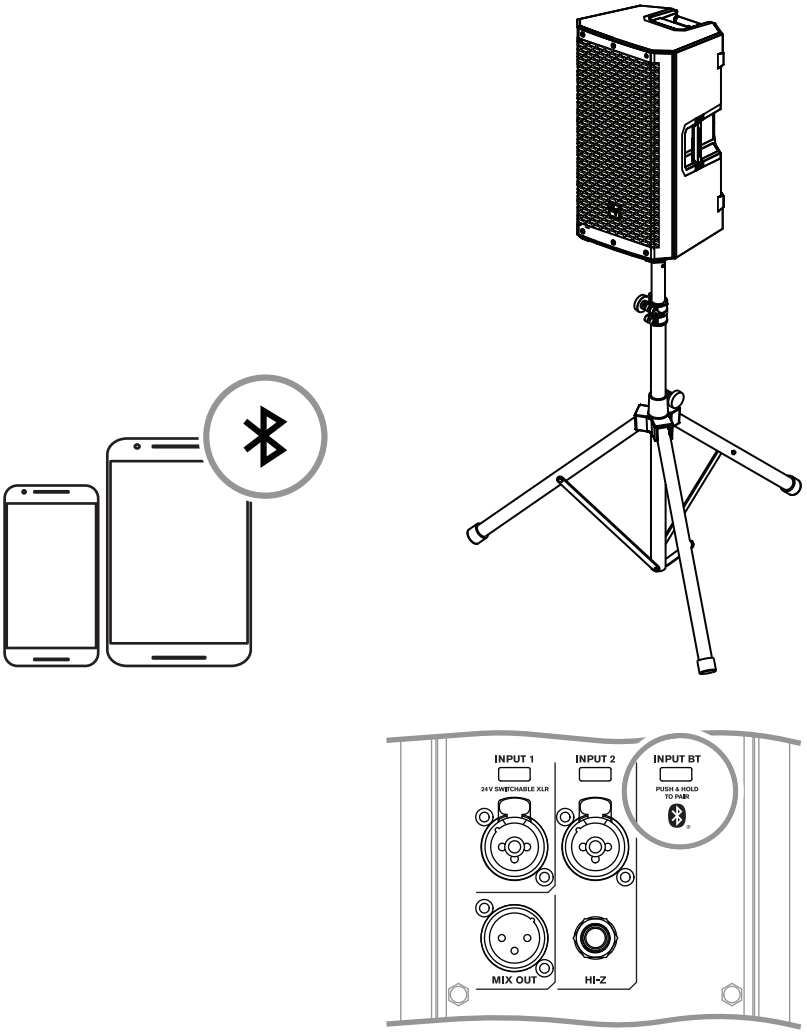
The table below describes the **DUCKER** operation logic. The **DUCKER** setting is the detection threshold selected on **INPUT 1** and/or **INPUT 2**. The ducked channels are the input signals that are reduced by 12 dB.

	INPUT 1	**INPUT 2**	**Reduced channels**
DUCKER SETTING	-1 dB - -40 dB	OFF	INPUTS 2 & BT
	OFF	-1 dB - -40 dB	INPUTS 1 & BT
	-1 dB - -40 dB	-1 dB - -40 dB	INPUT BT
	OFF	OFF	NONE

9 Recommended configurations

9.1 Powered loudspeakers

9.1.1 Connecting with mobile device

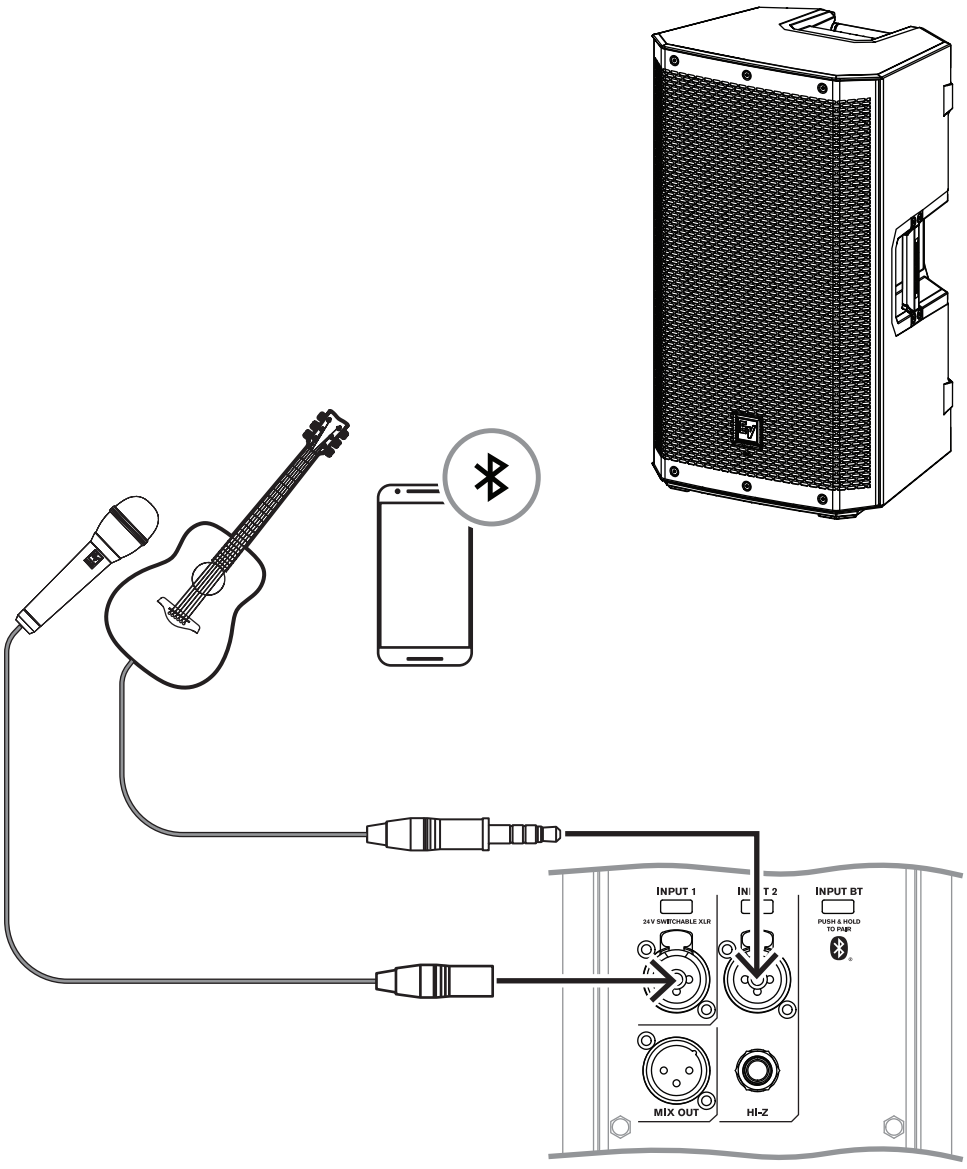


Notice!
The direction of the arrow indicates the signal path.

MODE	MUSIC
LOCATION	TRIPOD
SUB	OFF

Table 9.1: DSP settings loudspeaker on a tripod

9.1.2 Street musician performance



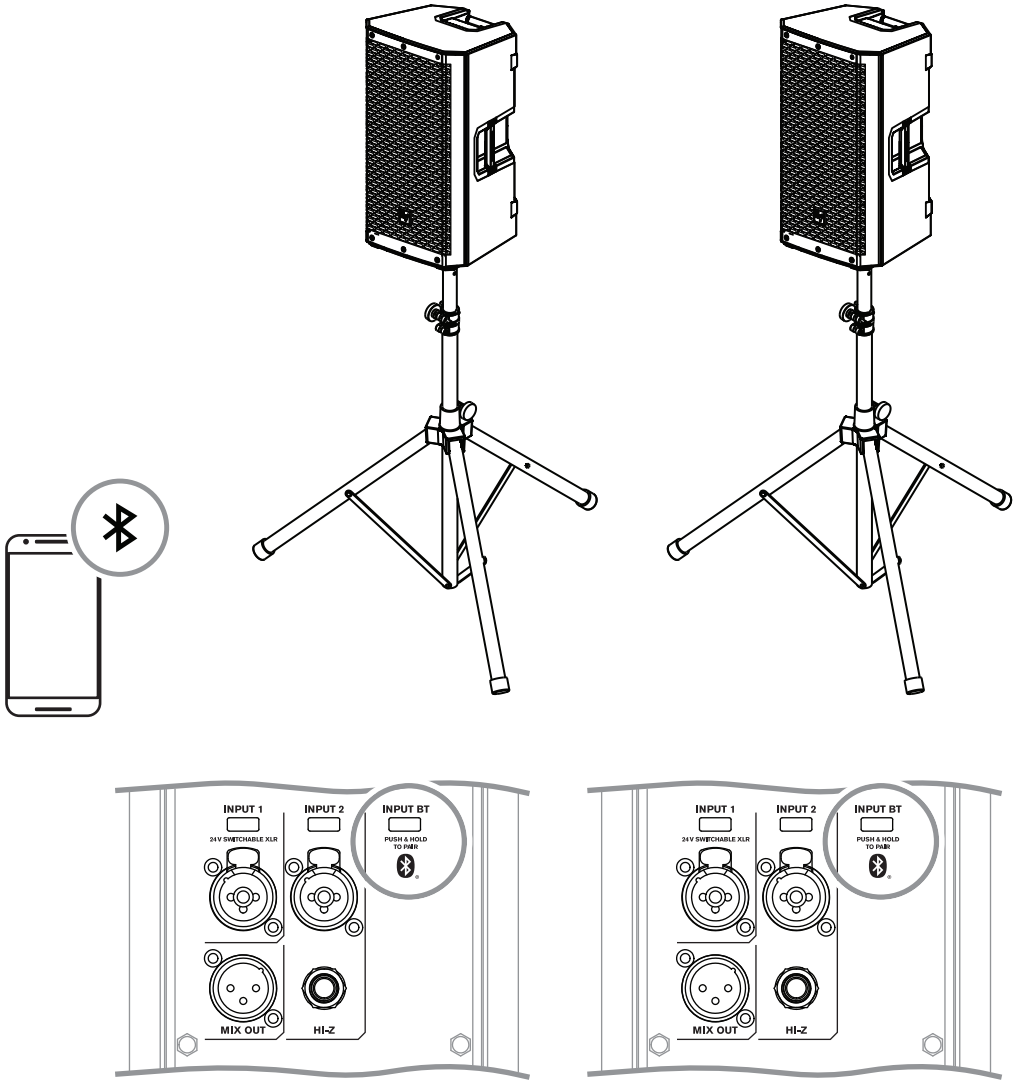
Notice!
The direction of the arrow indicates the signal path.

MODE	LIVE
LOCATION	KICKBACK
SUB	OFF

INPUT 1 PRESET	VOCAL MIC
INPUT 2 PRESET	ACOUSTIC GTR

Table 9.2: DSP settings loudspeaker in kickback position

9.1.3 Bluetooth true wireless stereo (TWS)



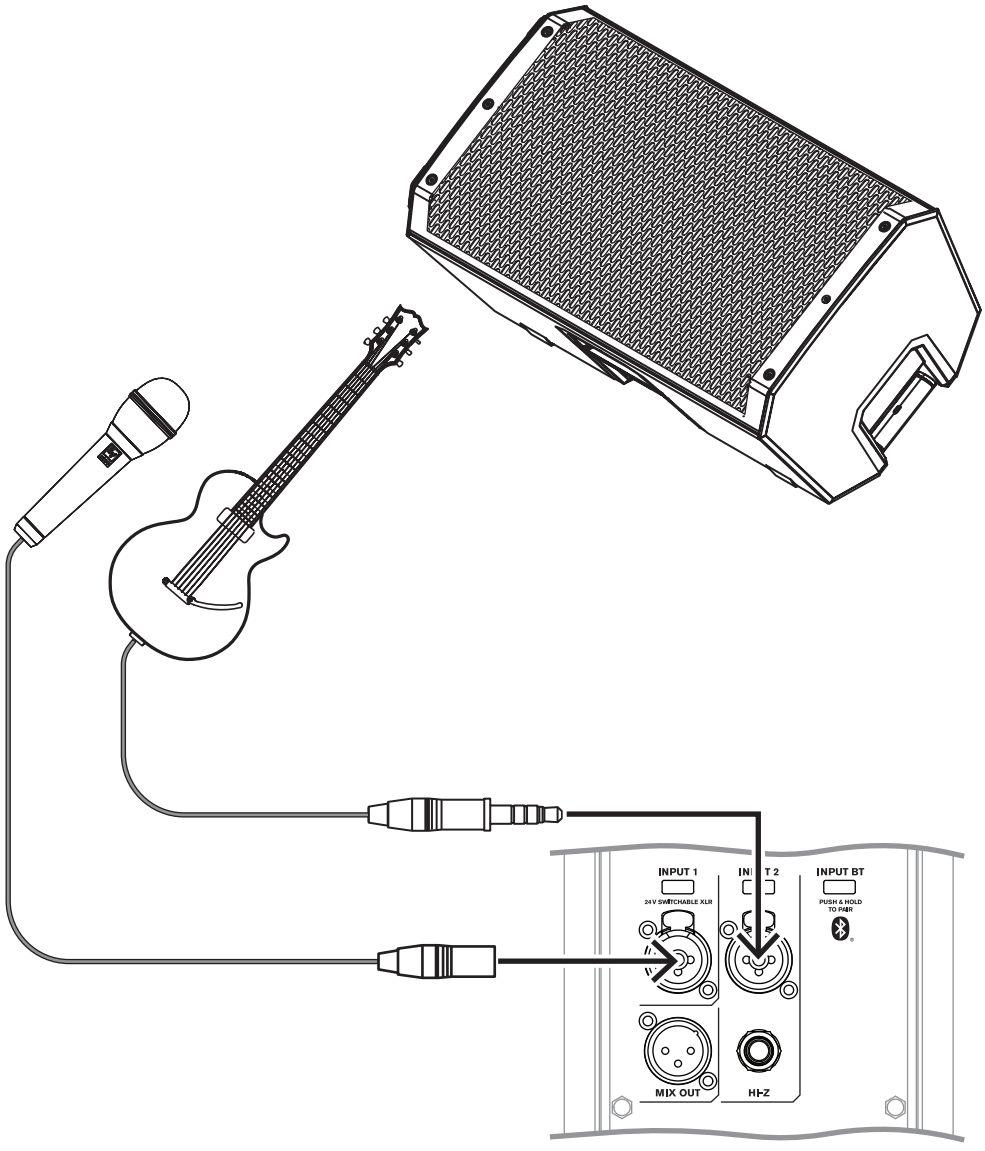
MODE	MUSIC
LOCATION	TRIPOD
SUB	OFF
INPUT PRESET	NONE

Table 9.3: DSP settings loudspeaker on a tripod

To connect two loudspeakers via TWS:

1. Connect one of the loudspeakers to your streaming device via Bluetooth®.
2. Select **LINK SPEAKERS** in the **BLUETOOTH** control menu on both loudspeakers.

9.1.4 Using as monitor



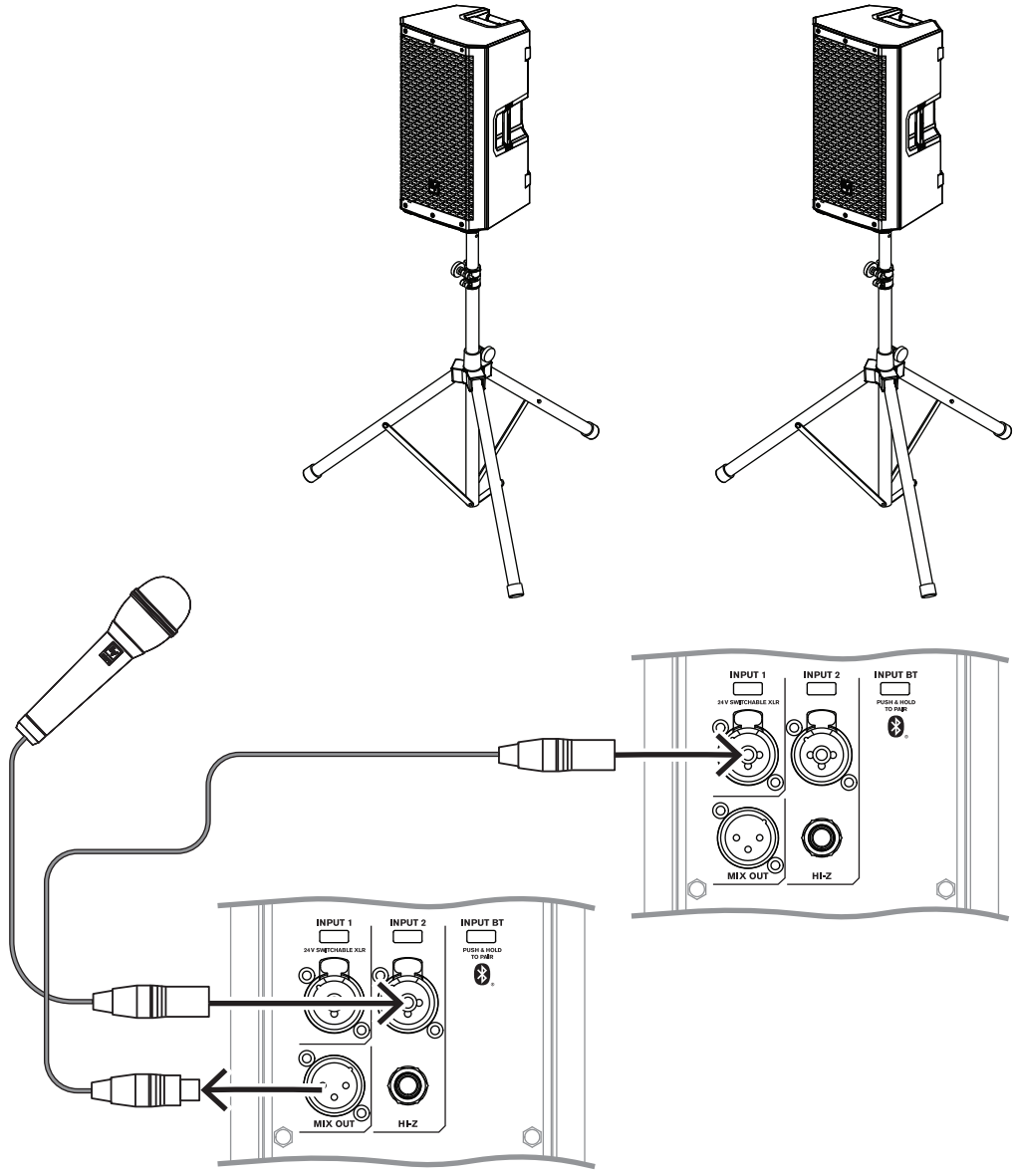
Notice!
The direction of the arrow indicates the signal path.

MODE	LIVE
LOCATION	MONITOR
SUB	OFF
INPUT 1 PRESET	VOCAL MIC
INPUT 2 PRESET	ELECTR GUIT

Table 9.4: DSP settings loudspeakers as monitors

9.1.5 Daisy-chaining full-range systems

LINE and MIC input level control is available for both INPUT 1 and INPUT 2. The 12 o'clock position is unity gain (no gain or attenuation) and the range to the right of zero (0) is for adjusting microphone levels.



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

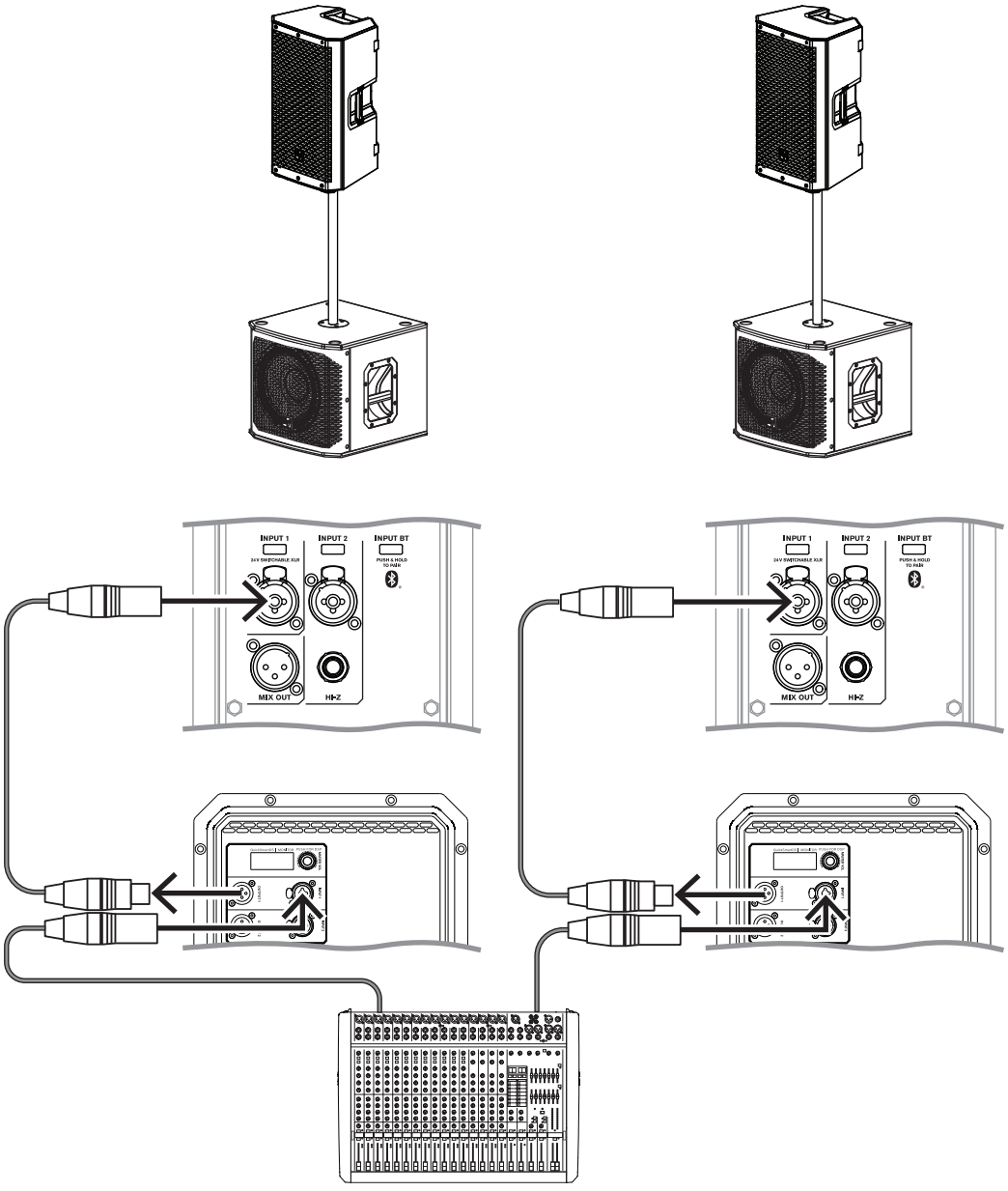
Mode:	Speech
Location:	Pole
Sub:	Off

Table 9.5: DSP settings loudspeaker on a tripod

9.1.6 Stacking full-range systems with subwoofers

The configuration includes:

– ZLX-8P-G2, ZLX-12P-G2, or ZLX-15P-G2 loudspeakers.
– ELX200-18SP subwoofer.



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

	ZLX-12P-G2	ELX200-18SP
Mode:	Live	Live
Location:	Pole	n/a
Sub:	ELX200-18SP	n/a

	ZLX-12P-G2	ELX200-18SP
Low Pass:	n/a	ZLX-12P-G2

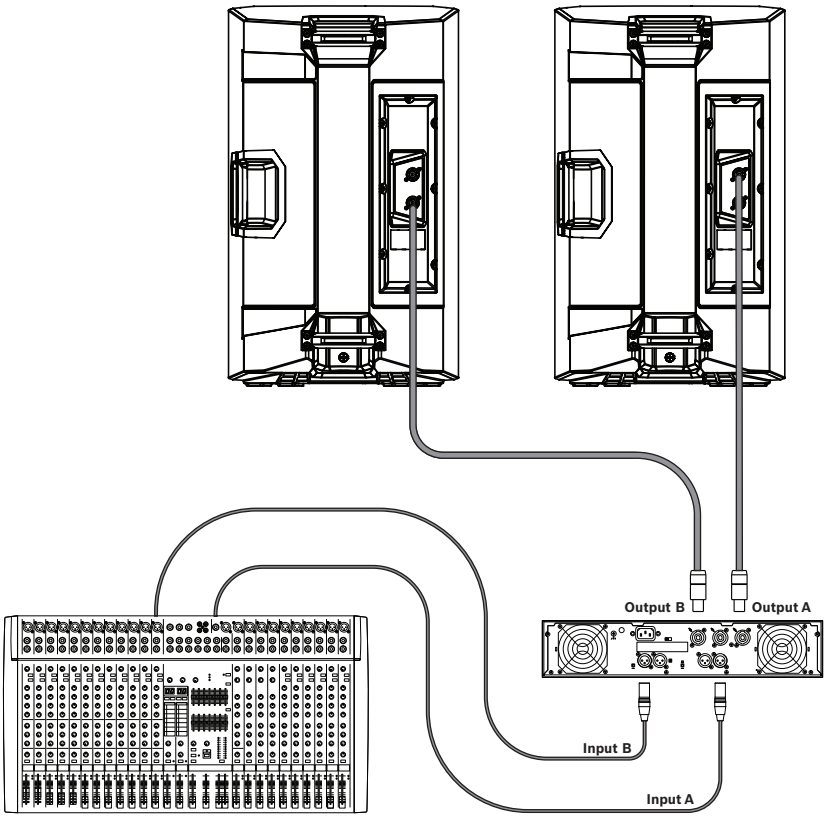
Table 9.6: DSP settings loudspeaker and subwoofer stacked

9.2 Passive loudspeakers

Caution!
For optimal acoustics and performance, we recommend using the ZLX-G2 with a Dynacord DSP power amplifier, programmed with the appropriate speaker settings included in the EV Speaker Database for SONICUE. Failure to use the proper amplifier and speaker settings may result in poor acoustic performance, cause permanent damage, and void of warranty.

9.2.1 Basic stereo system using full-range systems

The configuration includes:
- ZLX-8-G2, ZLX-12-G2 or ZLX-15-G2 loudspeakers.
- Dynacord L1800FD amplifier programmed with the appropriate speaker settings from SONICUE.



NL4 Pin Configuration	
Pin 1+ and 1-	Used
Pin 2+ and 2-	Not used (pass-through)