# 5 Amplifier DSP

## 5.1 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 EVERSE .

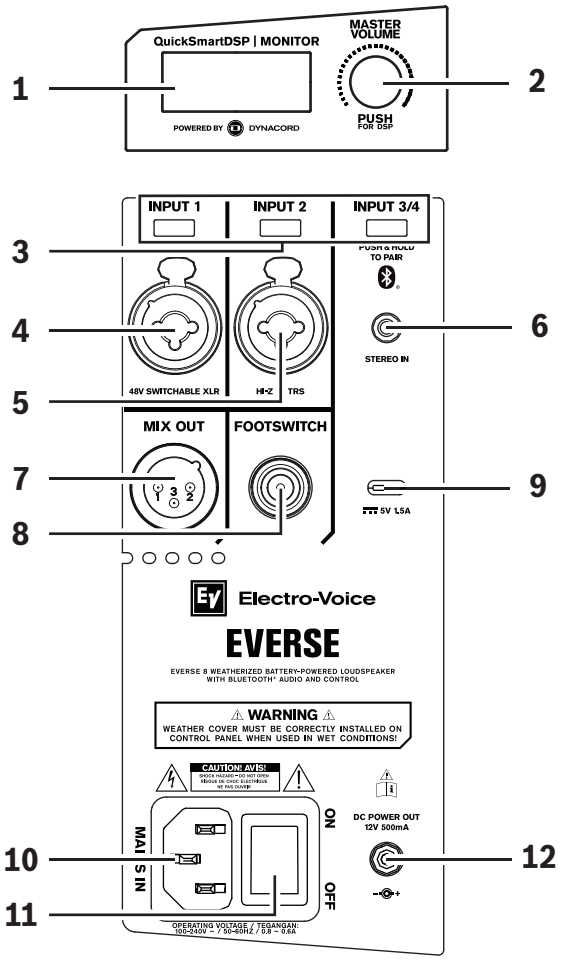



**Figure 5.1:** Loudspeaker amplifier panel

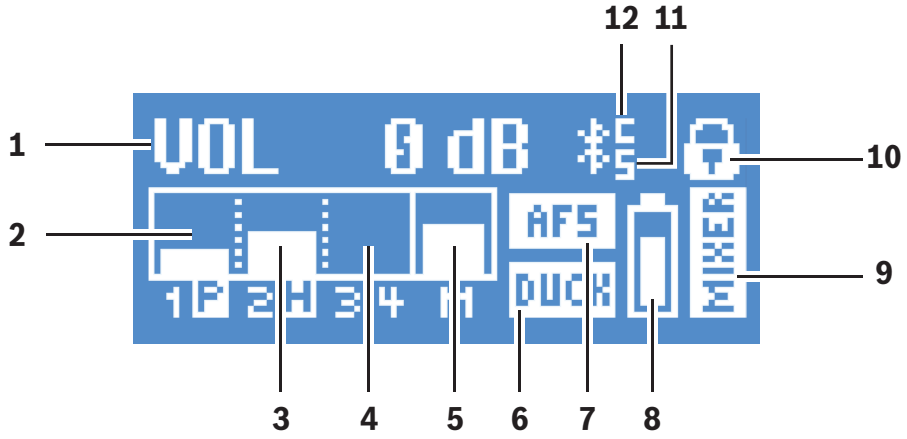
1. **LCD** – DSP control and monitoring interface.
2. **MASTER VOL** - Adjusts the sound level and navigates the DSP control menu.
   **DSP** - Scroll through the menu and select the available choices. Push the **MASTER VOL** knob to enter the DSP control menu.
3. **Input selection soft keys** - Press 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 selectable for 48V phantom power.
5. **INPUT 2** - Balanced INPUT for the connection of input sources like mixing consoles, or microphones via XLR connector or Hi-Z instrument connection via TRS.
6. **INPUT 3/4** - Bluetooth® stereo INPUT for audio streaming or analog stereo INPUT via 3.5 mm mini-jack.

7. **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.
8. **FOOTSWITCH** - ¼-inch TRS connector for connecting footswitch control to toggle FX on/off.
9. **Mobile device charging port** - 5 V 1.5 A charging for mobile devices.
10. **MAINS IN** – AC connection is established via an IEC-connector.
11. **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.
12. **DC POWER OUT** - DC power output jack for use with the 5.5 mm outer diameter and 2.5 mm inner diameter DC power cable included with the EVERSE-TRAY accessory. The DC POWER OUT jack is capable of powering a wireless microphone receiver which uses a center pin positive polarity and draws 500mA or less at 12 Volts DC, such as the Electro-Voice RE3 or R300 wireless microphone receiver.

**Warning!**
The DC power jack is a power output. **THIS IS NOT A CHARGING PORT. DO NOT** connect a DC power adapter or attempt to re-charge the EVERSE loudspeaker's battery with this connector. Doing so may cause damage to the loudspeaker and void of warranty.

## 5.2 System status

**Normal**




1. **VOL** - Indicates the master gain of the system in dB. The range is from -80 dB to +10 dB, in 1 dB increments.
2. **INPUT 1** - VU meter displays the signal level of INPUT 1 into the amplifier INPUT 1 connector. The display of **P** indicates 48V phantom power is switched on.
3. **INPUT 2** - VU meter displays the signal level of INPUT 2 into the amplifier INPUT 2 connector. The display of **H** indicates Hi-Z instrument connection is present on the INPUT 2 TRS connector.
4. **INPUT 3/4** - VU meter displays the signal level of INPUT 3/4 into the amplifier from either Bluetooth® streaming or 3.5 mm mini jack connection.
5. **MAIN** - VU meter displays the signal level of the MAIN output.
6. **DUCK** - Ducking is activated on either or both INPUT 1 and INPUT 2.
7. **AFS** - Automatic feedback suppression is enabled.
8. **BATTERY status** - Indicates the battery level of the loudspeaker and if the battery is charging (when **MAINS** is connected).
9. **FUNCTION indicator** - Indicates whether the system is in **MIXER** or **BASIC** mode.

10. **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 VOL** knob or channel select soft key to unlock.
11. **S** - Audio streaming. The available options are:
    **OFF - DISABLED**
    **FLASHING - PAIRING MODE (120s)**
    **SOLID - CONNECTED**
12. **C** - Control app. The available options are:
    **OFF - DISABLED**
    **FLASHING - PAIRING MODE**
    **SOLID - CONNECTED**

**System protection**

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

**CLIP**

**CLIP** indicates that the signal to the loudspeaker is too high, resulting in a clipped signal into the loudspeaker.

If **CLIP** is shown:

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


**LIMIT**

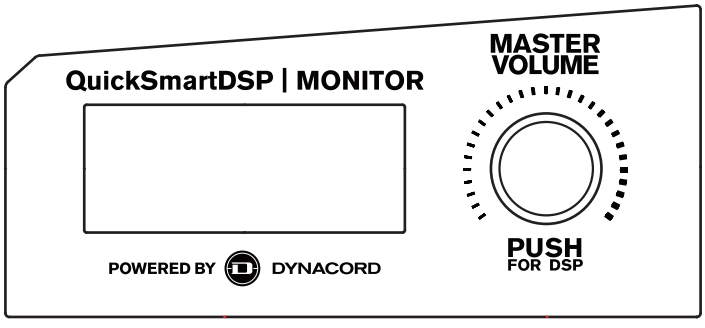
**LIMIT** protects the loudspeaker from short-term peaks and long-term overload, which can cause distortion. When **LIMIT** is displayed on the screen, the limiter is active.

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

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

## 5.3 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 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 control 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 control 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 Loudspeaker DSP control menu

The loudspeaker DSP control menu selections are available for the EVERSE loudspeakers.

**DSP control menu for MIXER mode**

| | | |
|---|---|---|
| VOLUME | | 0 dB (Default) |
| | | MUTE, -80 dB - +10 dB (1 dB) |
| | EXIT | |
| | FUNCTION | MIXER (Default) |
| | | BASIC |
| | MODE | MUSIC (Default) |
| | | LIVE |
| | | SPEECH |
| | | CLUB |
| | MAIN LEVEL | 0 dB (Default) |
| | | MUTE, -80 dB - +10 dB (1 dB) |
| | LOCATION | TRIPOD (Default) |
| | | KICKBACK |
| | | MONITOR |
| | SUB | OFF (Default) |
| | | 100 Hz |
| | | 120 Hz |
| | | 150 Hz |
| | | ELX200-12SP |
| | | ELX200-18SP |
| | | EKX-15SP |
| | | EKX-18SP |
| | TREBLE | 0 dB (Default) |

| | | |
|---|---|---|
| | | -12 dB - +6 dB |
| MID | | 0 dB (Default) |
| | | -12 dB - +6 dB |
| BASS | | 0 dB (Default) |
| | | -12 dB - +6 dB |
| MAIN PEQ | BACK | |
| | ENABLE ALL | ON (Default) |
| | | OFF |
| | RESET ALL | NO (Default) |
| | | YES |
| | PEQ # | 1 (Default) |
| | | 1 - 7 |
| | BYPASS | OFF (Default) |
| | | ON |
| | TYPE | PEQ (Default) |
| | | LOW SHELF |
| | | HI SHELF |
| | | LOW PASS |
| | | HI PASS |
| | Q<br>(PEQ only) | 0.7 (Default) |
| | | 0.5 - 10.0 |
| | FREQ | 120 Hz (Default) |
| | | 50 - 20 kHz |
| | GAIN<br>(PEQ, LOW SHELF and HI SHELF only) | 0 dB (Default) |
| | | -12 dB - +6 dB |
| | RESET | NO (Default) |
| | | YES |
| | BACK | |
| MAIN GEQ | BACK | |
| | 63 Hz | 0 dB (Default)<br>-12 dB - +12 dB<br>(1 dB) |
| | 160 Hz | 0 dB (Default) |

| | | | |
|---|---|---|---|
| | | 400 Hz | -12 dB - +12 dB (1 dB) |
| | | 1 kHz | 0 dB (Default) |
| | | 2.5 kHz | -12 dB - +12 dB (1 dB) |
| | | 6 kHz | 0 dB (Default) |
| | | 12 kHz | -12 dB - +12 dB (1 dB) |
| | | RESET | RESET ALL BANDS? YES/NO |
| | | BACK | |
| | FX | | 01 (Default) |
| | | | 00 to 30 |
| | FX Delay (FX 20 only) | | 427 ms (Default) |
| | | | 30 ms - 550 ms |
| | FX ENABLE | | ON (Default) |
| | | | OFF |
| | AFS (automatic feedback suppression) | | OFF (Default) |
| | | | ON |
| | MIX OUT | | L+R (Default) |
| | | | L |
| | | | R |
| | BLUETOOTH | BACK | |
| | | BLUETOOTH | ON (Default) |
| | | | OFF |
| | | ID (4-digit unique device number) | |
| | | CONTROL PAIR | |
| | | AUDIO PAIR | |
| | | LINK SPEAKERS | |
| | | LINK ROUTE | L+R (Default) |
| | | | L |
| | | | R |
| | | BACK | |
| | LED | | ON (Default) |
| | | | OFF |

| | | | |
|---|---|---|---|
| | | | LIMIT |
| | DISPLAY | BACK | |
| | | LCD DIM | ON (Default) |
| | | | OFF |
| | | BRIGHT | 5 (Default) |
| | | | 1 - 10 |
| | | CONTRAST | 5 (Default) |
| | | | 1 - 10 |
| | | BACK | |
| | STORE | | BACK, 1, 2, 3, 4, 5, BACK |
| | RECALL | | BACK, 1, 2, 3, 4, 5, 6 (Default), BACK |
| | STANDBY | | 15 min (Default) |
| | | | 15 min - 60 min, OFF |
| | RESET | DEFAULT SETTINGS? | NO (Default) |
| | | | YES |
| | | ERASE USER PRESETS? | NO (Default) |
| | | | YES |
| | INFO | | [FIRMWARE VERSION] |
| | | | ©2021 Electro-Voice |
| | EXIT | | |

**Table 5.1:** Loudspeaker DSP control menu MIXER mode

### DSP control menu for BASIC mode

| | | | |
|---|---|---|---|
| VOLUME | | | 0 dB (Default) |
| | | | MUTE, -80 dB - +10 dB (1 dB) |
| | EXIT | | |
| | FUNCTION | | MIXER (Default) |
| | | | BASIC |
| | MODE | | MUSIC (Default) |
| | | | LIVE |

| | | |
|---|---|---|
| | | SPEECH |
| | | CLUB |
| LOCATION | | TRIPOD (Default) |
| | | KICKBACK |
| | | MONITOR |
| SUB | | OFF (Default) |
| | | 100 Hz |
| | | 120 Hz |
| | | 150 Hz |
| | | ELX200-12SP |
| | | ELX200-18SP |
| | | EKX-15SP |
| | | EKX-18SP |
| DELAY | | OFF (Default) |
| | | 0.1 m - 100.0 m |
| TREBLE | | 0 dB (Default) |
| | | -12 dB - +6 dB |
| MID | | 0 dB (Default) |
| | | -12 dB - +6 dB |
| BASS | | 0 dB (Default) |
| | | -12 dB - +6 dB |
| MIX OUT | | L+R (Default) |
| | | L |
| | | R |
| BLUETOOTH | BACK | |
| | BLUETOOTH | ON (Default) |
| | | OFF |
| | ID (4-digit unique device number) | |
| | CONTROL PAIR | |
| | AUDIO PAIR | |
| | LINK SPEAKERS | |
| | BACK | |
| LED | | ON (Default) |
| | | OFF |

| | | |
|---|---|---|
| | | LIMIT |
| DISPLAY | BACK | |
| | DIM | ON (Default) |
| | | OFF |
| | BRIGHT | 5 (Default) |
| | | 1 - 10 |
| | CONTRAST | 5 (Default) |
| | | 1 - 10 |
| | BACK | |
| STORE | | BACK, 1, 2, 3, 4, 5, BACK |
| RECALL | | BACK, 1, 2, 3, 4, 5, 6 (Default), BACK |
| STANDBY | | 15 min (Default) |
| | | 15 min - 60 min, OFF |
| RESET | DEFAULT SETTINGS? | NO (Default) |
| | | YES |
| | ERASE USER PRESETS? | NO (Default) |
| | | YES |
| INFO | | [FIRMWARE VERSION] |
| | | ©2021 Electro-Voice |
| EXIT | | |

**Table 5.2:** Loudspeaker DSP control menu BASIC mode

**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.

**FUNCTION menu**

The **FUNCTION** menu is used to configure between **MIXER** and **BASIC** functions:

- **BASIC** - provides input and output gain controls, 3-band EQ, and system delay for simplified audio setups or used as satellite or R-channel stereo setup.
- **MIXER** - provides full access and control of the mixer.

**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 electronic dance music applications.
- **LIVE** – is used for live sound applications.
- **SPEECH** – is used for spoken word applications.
- **CLUB** – is used for recorded electronic music playback.

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**.

- **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.

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**, **100 Hz**, **120 Hz**, **150 Hz**, **ELX200-12SP**, **ELX200-18SP**, **EKX-15SP** and **EKX-18SP**. 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 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.

**MAIN GEQ menu**

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 filter is also independent of the **MAIN GEQ** setting if **AUX OUT** is set to **MAIN MIX**.
The range of each filter is -12 dB to +12 dB.
The default value for each filter is **0 dB**.

**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, page 45*.

- 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 EVERSE loudspeakers to be linked over Bluetooth® in true wireless stereo.

To link two EVERSE loudspeakers:

1. Pair one of the EVERSE loudspeakers via Bluetooth® to a mobile device. Refer to *Pairing the QuickSmart Mobile app, page 19* for pairing instructions.
2. In both EVERSE loudspeakers, navigate to the **BLUETOOTH** menu in the Main DSP menu.
3. In both EVERSE loudspeakers, select **LINK SPEAKERS**.
   The LCD display will show **LINKING SPEAKERS...** while establishing connection between both EVERSE 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 EVERSE 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 and system is not in standby mode.
- **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 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 required character.
6. Turn the **MASTER VOL** knob to move to the next character entry.
   Continue selecting characters until the required 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 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 VOL** knob to select **RECALL**.
   The **RECALL** screen appears.
3. Push the **MASTER VOL** knob to select **1**.
   The selected item is loaded.
4. After the preset is loaded, the menu will return to the home screen.

**STANDBY menu**

To extend battery life, the EVERSE loudspeaker will enter **STANDBY** mode after a set amount of time. The **STANDBY** menu allows you to set the idle time (time with no audio or control signal present) before the loudspeaker enters **STANDBY** mode.

To return to normal operation mode:

- Apply an audio signal, BLE control signal via the QuickSmart Mobile app.

Or

- Press any button on the loudspeaker.

**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.

**Refer to**

– *Effects (FX) list, page 58*

# 6 Input & Mixer operation

## 6.1 INPUT DSP control menu

The loudspeaker INPUT DSP control menu selections are available for the EVERSE loudspeakers.

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 VOL** knob to adjust the level.
3. Press the **MASTER VOL** 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 DSP control menu for MIXER mode**

| **INPUTS 1 & 2** | | |
|---|---|---|
| LEVEL | | 0 dB (Default) |
| | | MUTE, -80 dB - +42 dB |
| | EXIT | |
| | 48V (INPUT 1 only) | OFF (Default) |
| | | ON |
| | PRESET | FLAT (Default) |
| | | LOW CUT 80 |
| | | LOW CUT 120 |
| | | VOCAL MIC |
| | | VOICE FILTER |
| | | ND76 VOCAL |
| | | RE520 |
| | | ND86 VOCAL |
| | | ND86 VOCAL |
| | | SPEECH |
| | | ACOUST GUITAR |
| | | ND66 A-GTR |
| | | ELECTRIC GUITAR |
| | | BASS GUITAR |
| | | PERCUSSION |
| | | LINE INPUT |
| | COMP | OFF (Default) |
| | | OFF, 1 - 100 |

| | | |
|---|---|---|
| | TREBLE | 0 dB (Default) |
| | | -12 dB - +12 dB |
| | MID | 0 dB (Default) |
| | | -12 dB - +12 dB |
| | BASS | 0 dB (Default) |
| | | -12 dB - +12 dB |
| | FX | 0 dB (Default) |
| | | -80 dB - +10 dB |
| | PAN | C (Default) |
| | | 10 L - 10 R |
| | DUCKER | OFF (Default) |
| | | OFF, -1 - -40 |
| | EXIT | |

**Table 6.3:** INPUTS 1 & 2 DSP control menu MIXER mode

| **INPUT 3/4** | | | |
|---|---|---|---|
| LEVEL | | | 0 dB (Default) |
| | | | MUTE, -80 dB - +42 dB |
| | EXIT | | |
| | TREBLE | | 0 dB (Default) |
| | | | -12 dB - +12 dB |
| | MID | | 0 dB (Default) |
| | | | -12 dB - +12 dB |
| | BASS | | 0 dB (Default) |
| | | | -12 dB - +12 dB |
| | BAL (stereo operation only) | | C (Default) |
| | | | 10 L - 10 R |
| | BLUETOOTH | BACK | |
| | | BLUETOOTH | ON (Default) |
| | | | OFF |
| | | ID (4-digit unique device number) | |
| | | CONTROL PAIR | |
| | | AUDIO PAIR | |

| | | |
|---|---|---|
| | | LINK SPEAKERS |
| | | BACK |
| | EXIT | |

**Table 6.4:** INPUT 3/4 DSP control menu MIXER mode

### INPUT DSP control menu for BASIC mode

1) Default

2) INPUT 1 only

| INPUTS 1 & 2 | | |
|---|---|---|
| LEVEL | MUTE<br>-80 dB<br>0 dB [1]<br>+42 dB | |
| INPUT 1 | EXIT | |
| | 48V [2] | OFF [1] |
| | | ON |
| | EXIT | |

1) Default

2) 4-digit unique device number

| INPUT 3/4 | | |
|---|---|---|
| LEVEL | MUTE<br>-80 dB<br>0 dB [1]<br>+42 dB | |
| | BACK | |
| | BLUETOOTH | OFF |
| | | ON [1] |
| | BACK | |

| |
|---|
| BACK<br>ID [2]<br>CONTROL PAIR<br>AUDIO PAIR<br>LINK SPEAKERS<br>BACK |

**Adjusting the incoming sound**

Caution is advised when adjusting the incoming sound. 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 VOL** knob.
2. Press the input selection soft key and use the **MASTER VOL** 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 VOL** knob, so that during the loudest part, the **CLIP** does not show. Press the input selection soft key again to deselect the input channel.
– Increase the **MASTER VOL** 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.

**48V (INPUT 1 only)**

+48V 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 - provides higher output and reduces acoustical feedback by lowering the level.
- **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:

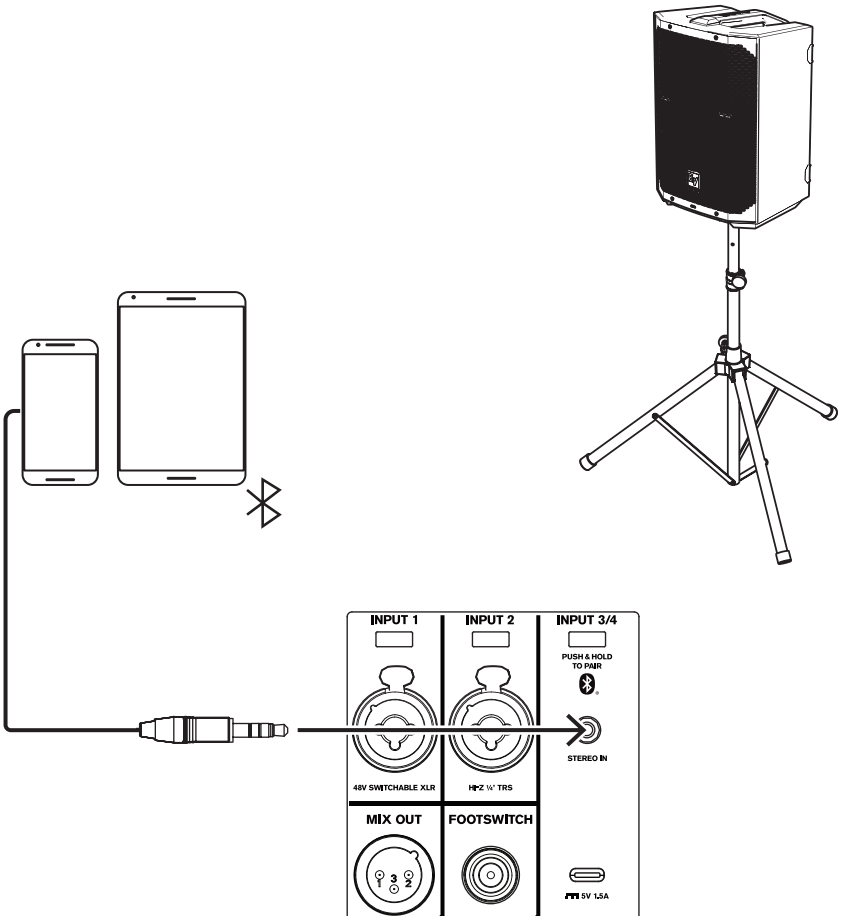
1. Select **INPUT 1** and/or **INPUT 2**.
2. Adjust the **DUCKER** level to set the detection threshold for the selected input channel. When signal is detected on the selected input, the signal on the other inputs will be reduced by 12 dB. Typical values are -10 to -20 dB.

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 & 3/4 |
| | OFF | -1 dB - -40 dB | INPUTS 1 & 3/4 |
| | -1 dB - -40 dB | -1 dB - -40 dB | INPUT 3/4 |
| | OFF | OFF | NONE |

# 7 Recommended configurations

## 7.1 Connecting with mobile device

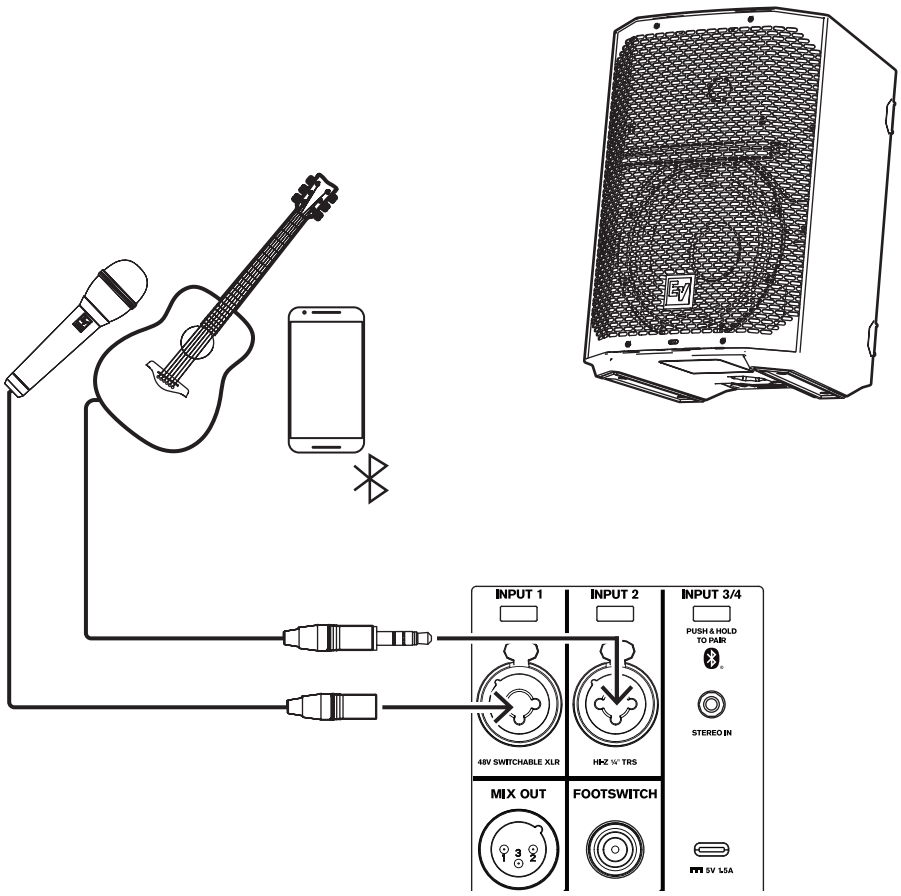



**Notice!**
The direction of the arrow indicates the signal path.

| | |
|---|---|
| MODE | MUSIC |
| LOCATION | TRIPOD |
| SUB | OFF |

**Table 7.5:** DSP settings loudspeaker on a tripod

## 7.2 Street musician performance

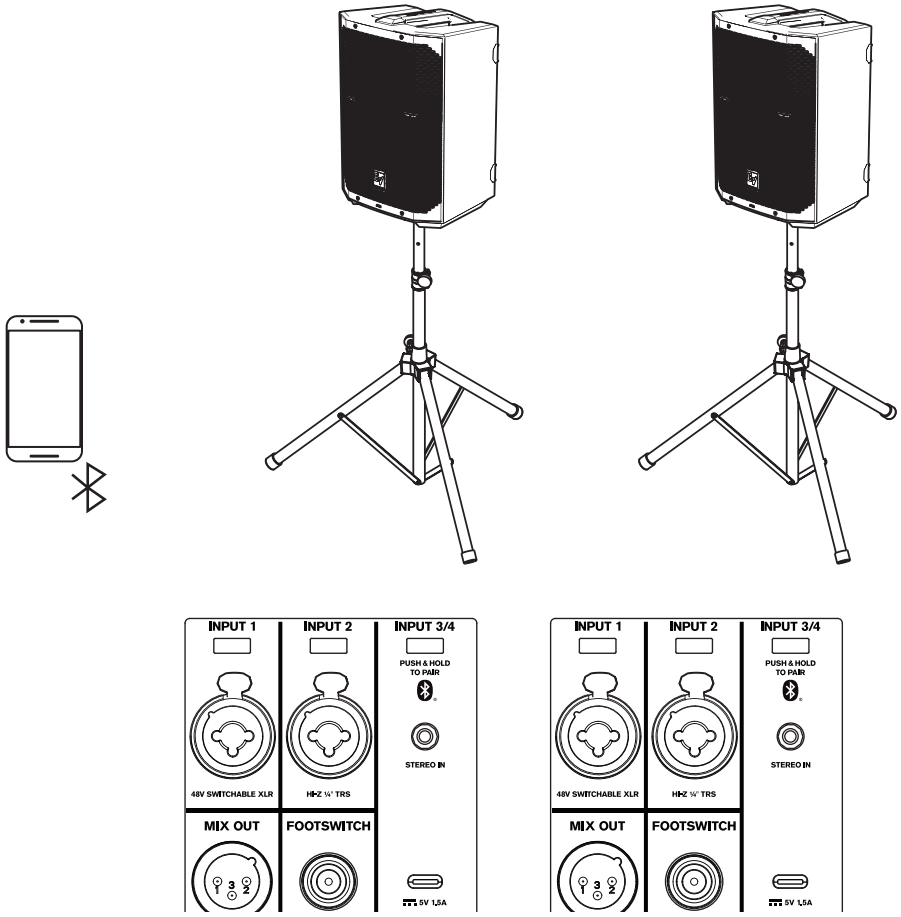



**Notice!**
The direction of the arrow indicates the signal path.

| | |
|---|---|
| MODE | LIVE |
| LOCATION | KICKBACK |
| SUB | OFF |
| INPUT 1 PRESET | VOCAL MIC |
| INPUT 2 PRESET | ACOUSTIC GTR |

**Table 7.6:** DSP settings loudspeaker in kickback position

## 7.3 Bluetooth true wireless stereo (TWS)



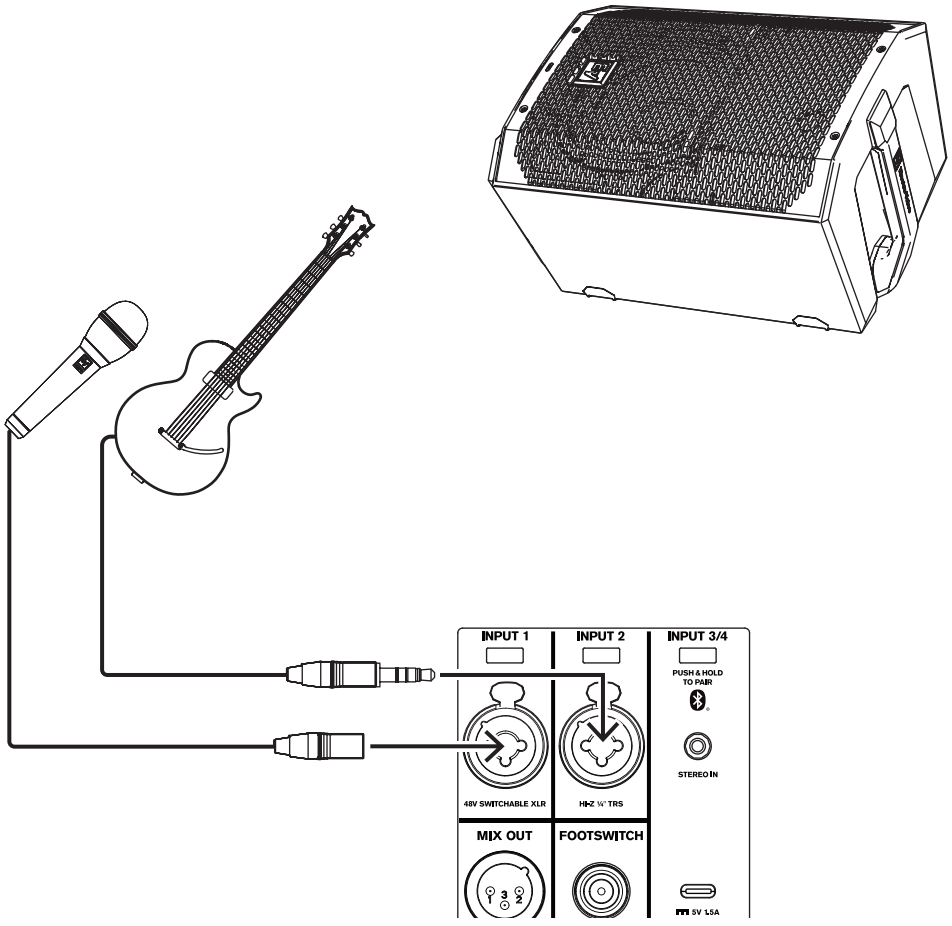

| | |
|---|---|
| MODE | MUSIC |
| LOCATION | TRIPOD |
| SUB | OFF |
| INPUT PRESET | NONE |

**Table 7.7:** 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.

## 7.4 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 7.8:** DSP settings loudspeakers as monitors