LINE 6

POWERCAB FAMILY
POWERCAB 112
POWERCAB 112 PLUS

PILOT'S GUIDE ▶

POWERCAB SPECIFICATIONS		
Features	**Powercab 112**	**Powercab 112 Plus**
Peak Wattage	250 watts	250 watts
Speaker Size	12"	12"
Speaker Type	Coaxial Custom by Eminence®	Coaxial Custom by Eminence®
Speaker Impedance	8Ω	8Ω
Compression Driver	Celestion® CDX 1-1010	Celestion® CDX 1-1010
Compression Driver Impedance	8Ω	8Ω
Frequency Response	70Hz - 20kHz	70Hz - 20kHz
Loudness SPL	125dB SPL @ 1m	125dB SPL @ 1m
XLR Direct Outs	1	1
Combination Input Jacks	1	2
L6 LINK™ / AES/EBU	No	Input and Output
USB Audio Interface	No	Yes - Stereo/Out
Presets	No	128
Display	No	Yes
Speaker Emulations	6	6 (expandable)
Impulse Response Support	No	Yes
MIDI DIN	No	Yes
External Speaker Outs	No	No
Kick Stands	Yes	Yes
Weight	15.08 kg (33 lb 4 oz)	16.10 kg (35 lb 8 oz)
Dimensions (mm)	567 x 462 x 305	567 x 462 x 305

Overview

Congratulations on your purchase of the Line 6® **Powercab 112** active guitar speaker system. This ***Powercab Family Pilot's Guide*** contains details of the Powercab device's features and functionality.

The Powercab device includes a first-of-its-kind powered speaker unit, designed specifically for users of digital guitar amp modelers that desire a compact, lightweight amplification solution. This provides full-range, flat-response sound reproduction and offers the feel of playing through a real amplifier "in-the-room" with you, through a variety of classic and modern speakers. It is also designed to be intuitive and easy to setup and operate - whether you're on stage or in the studio.

Features:

Powercab 112 & Powercab 112 Plus

- 12" coaxial drivers custom by Eminence®, designed by Line 6
- High frequency compression driver by Celestion® CDX 1-1010
- Full-range, flat-response (FRFR) mode
- 6 "real feel" guitar speaker modes
- 250 watts peak power, 125dB SPL loudness
- Combination Line Input (Balanced, 1/4" TRS and XLR)
- XLR Line Output
- High Pass Filter switch
- Ground Lift switch

Powercab 112 Plus

- Additional combination Line Input
- L6 LINK / AES In/Out
- Daisy-chainable for stereo configuration
- MIDI DIN In/Out
- 128 Presets
- Bright, auto-dimming display
- USB audio interface functionality (stereo, low latency)
- Support for up to 128 user Impulse Responses

Package includes: Powercab 112 or Powercab 112 Plus active guitar speaker system, power cable, Pilot's Guide and amp-top Quickstart Guide.

Background

Typically, users of digital modeling gear have two choices when it comes to amplifying their signal when playing live or in the studio; plug into a traditional amplifier and utilize their modeler primarily for effects, or use speaker cabinet emulation and play through full-range monitor speakers. While this latter option may be simpler and provide a more direct translation to a recording or the front-of-house PA, it can often sound more like a recording and lack the feel and playability of a traditional amplifier. The Powercab 112 and Powercab 112 Plus products aim to bridge this gap by providing both modes of operation.

Speakers

The Powercab product is an active speaker cabinet with an internal power supply designed to faithfully reproduce a modeled guitar signal chain. The cabinet is fitted with a 12" low frequency driver, including a 1" high frequency compression driver mounted in a coaxial configuration. This speaker system has been carefully engineered with a very distinct concept in mind; to be very loud and consistent like a PA, but also provide the fast or "tight" transient response and natural breakup of a guitar speaker. To achieve this goal, we've specified a custom driver with components built by Eminence and Celestion to our exact specifications.

Amplifier

The Powercab 112 active guitar speaker system utilizes a specially designed, Class D amplifier, which generates 250 watts into 8 ohms. The amplifier was chosen specifically to provide the optimum wattage for the driver to achieve the maximum throughput and efficiency. The passive cooling design means no noisy cooling fans are required, and no bulky heat sinks are exposed on the unit.

Powercab 112 Plus - Top Panel Controls

1. **Volume Knob** - Controls the output level of the power amp to the speaker system. 12 o'clock is -6dB from maximum.

2. **Signal LED** - Bright green indicates the presence of an input signal, orange indicates that it is approaching the limit of the unit's output capabilities, and red indicates digital clipping. If you encounter clipping, try turning down the level of the source device (e.g. - your amp modeling device).

3. **HOME Button** - If you ever get lost, press this button to return to the main Home screen, or press and hold it for 2 seconds to enter the Global Settings. See "Global Settings" on page 10.

4. **Backlit Display** - This backlit display is your window the to Powercab unit's... power! The display backlight will dim automatically after a short period of time of inactivity.

5. **SAVE Button** - Once you've modified the settings of a given preset, press save to confirm the changes, re-name, or copy it to a new preset location.

6. **Select Knob** - This is the main control for changing the Powercab device's parameter values or presets. Press to select and turn to edit the value of the currently highlighted parameter. From the Home screen, turning this knob will cycle through the presets.

7. **LED Ring** - This ring indicates the "Color" of the parameter assigned to the current preset for easy identification.

TIP: Assign different colors for user IR-based presets to see them from afar. The LED ring will dim automatically after a short period of time of inactivity.

Powercab 112 Plus - Rear Panel Controls
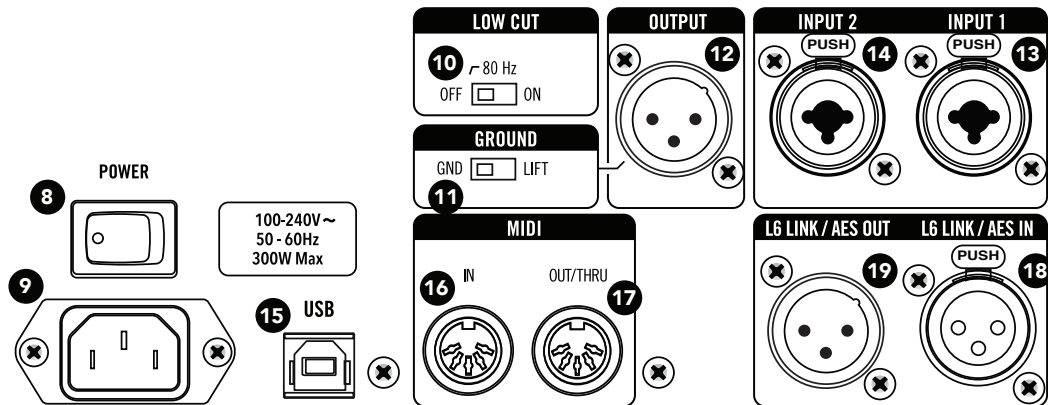
8. **Power Switch** - Turns the Powercab device on or off.

9. **AC In** - Connect the included IEC power cable here.

10. **Low Cut Switch** - Toggles the 80Hz Low Cut Filter on/off, useful for removing unwanted low end vibration (does not apply to the XLR or L6 LINK - AES/EBU Outputs' signals).

11. **Ground Lift Switch** - Controls whether the ground circuit is lifted for the XLR Output Jack. Can be useful for identifying ground loops, which can cause an unwanted hum.

12. **XLR Output Jack** - Connect to an analog mixer's input. This output is Line Level with a maximum of +13dBu.

TIP: This XLR Output is not affected by 48V phantom power.

13. & 14. **Combo Input Jacks 1 and 2** - Connect the Line Level output(s) of your amp modeler to these balanced 1/4" TRS/XLR inputs (e.g. - Line 6 Helix® or POD® devices, etc.). A Helix device should be set to **Line Level**. A POD® HD device should be set to **+4dB**.

Analog preamp pedals may require a D.I. Box to achieve the appropriate Line Level for these inputs (maximum +13dBu).

15. **USB-B Jack** - Connect to a Mac or PC to use the *Powercab Edit* software to load IRs or customize & backup/restore all presets, or to use the *Line 6 Updater* software. Both are available free from at www.line6.com/software.

16 & 17. **MIDI IN, OUT/THRU Jacks** - Connect to your MIDI gear for sending and receiving program changes, continuous controllers, and other MIDI messages. Connect a second Powercab 112 Plus unit to send patch changes to both units.

18. **L6 LINK, AES/EBU IN** - L6 LINK provides easy digital audio connectivity and remote control capability between Helix and Powercab 112 Plus devices. Alternatively, digitally connect your amp modeler that supports AES using an AES/EBU (110Ω XLR) cable. (See "L6 LINK" on page 11.)

19. **L6 LINK, AES/EBU OUT** - Connect one Powercab 112 Plus device to another Powercab 112 Plus device to automatically configure them as a stereo pair.

Powercab 112 - Rear Panel Controls
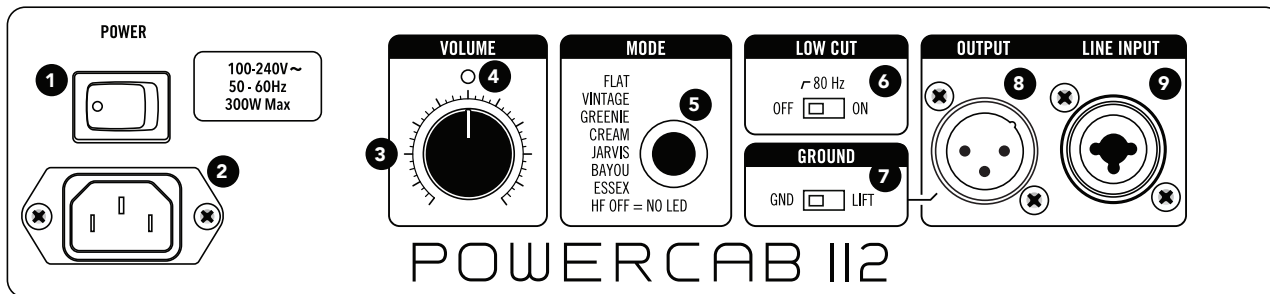
1. **Power Switch** - Turns the Powercab 112 unit on or off.

2. **AC In** - Connect the included IEC power cable here.

3. **Volume Knob** - Controls the output of the power amp to the speaker system. 12 o'clock is -6dB from maximum.

4. **Signal LED** - Bright green indicates the presence of an input signal, orange indicates that it is approaching the limit of the unit's output capabilities, and red indicates digital clipping. If you encounter clipping, try turning down the level of the source device (e.g. - your amp modeling device).

5. **Mode Button and LED Ring** - Push the button to cycle through different speaker modes. The button's LED color indicates the speaker mode in use. See "Powercab Speaker Emulation Modes."

6. **Low Cut Switch** - Toggles the 80Hz Low Cut Filter on/off, useful for removing unwanted low end vibration (does not apply to the XLR Out).

7. **Ground Lift Switch** - Controls whether the ground circuit is lifted for the XLR Output Jack. Can be useful for identifying ground loops, which can cause an unwanted hum.

8. **XLR Output Jack** - Connect to an analog mixer's input. The output is Line Level with a maximum of +13dBu.

TIP: This XLR Output is not affected by 48V phantom power.

9. **Combo Input Jack** - Connect the Line Level output of your amp modeler to this balanced 1/4" TRS/XLR input (e.g. - Line 6 Helix or POD device, etc.). A Helix device should be set to **Line Level**. A POD HD device should be set to **+4dB**. Analog preamp pedals may require a D.I. Box to achieve the appropriate Line Level for this input (maximum +13dBu).

Powercab Speaker Emulation Modes

These modes are meant to sound like taking a boutique speaker and wiring it up in your own custom 1x12 cabinet. To achieve the most realistic tone, we've designed the Powercab active guitar speaker system to sound like a high-powered 1x12 cabinet rather than emulate the sound of a 4x12 cabinet. To use these Speaker Modes, disable cabinet emulation blocks in your digital modeler and let the Powercab active guitar speaker system take over to provide the accurate speaker sound and feel. An added benefit is that these modes provide a variety of speaker tones that can be captured through a traditional microphone at any placement, thanks to the coaxial speaker system design.

FLAT – (Speaker emulation is disabled) This "full-range, flat-response" mode is ideal for simply plugging in as if you were connecting directly to a PA, active monitor, or recording interface. It provides a flat frequency response, ideal for guitar signals that already include cabinet emulation or for playing back music and backing tracks.

VINTAGE – Based on* the ubiquitous Celestion Vintage 30, ironically, used for a more modern tone.

GREEN – Based on* the Celestion Greenback speaker, typically paired with vintage Marshall® Plexi amplifiers for a signature classic rock tone.

CREAM – Based on* the Celestion G12M-65, a higher powered version of the ceramic C12N with a brighter top end.

JARVIS – Based on* the Jensen® P12Q, often paired with Fender® amps for great rich and full clean tones.

BAYOU – Based on* the Eminence Swamp Thang Patriot Series, which provides big aggressive bottom end with classic American tone, perfect for blues and jazz.

ESSEX – Based on* the Blue Bell speakers often paired with Vox® amplifiers and Class A style amps for a "chimey" tone.

HF OFF – This is the natural sound and feel of the speaker in the Powercab device with the high-frequency compression driver disabled and no EQ of any kind applied.

Powercab 112 Plus Presets

A preset allows you to store and recall your complete speaker tone, which consists of the Speaker Mode in use (Flat, Speaker, or IR), its color and parameter settings. To change presets, turn the **Select Knob**. To edit a preset, press the **Select Knob**. Presets can also be selected or automated via L6 LINK or MIDI - please see these respective sections.

Preset Parameters

MODE - Selects between the three supported modes, **Flat**, **Speaker** or **IR**, and provides access to available mode parameters.

FLAT MODE - Essentially full-range, flat-response, and equivalent to the signal being sent to a front-of-house mixer. This mode is most helpful for simple plug-and-play compatibility, letting your amp modeler do all the work.

Voicing – Selects the final post-processing EQ and crossover settings for the speaker system.

FRFR - Uses the high-frequency compression driver with a flattened frequency-response EQ for full-range operation.

LF Solo - Uses only the woofer with no EQ applied, allowing it to be utilized like a typical guitar speaker.

LF Flat - Uses only the woofer with a flattened frequency response EQ. This voicing is used for the Speaker Mode.

SPEAKER MODE - Intended to respond like a real guitar speaker for a traditional "amp-in-the-room" experience. This mode applies different tonal characteristics of the selected speaker model to the device's coaxial driver, with the following 3 adjustable parameters.

Speaker Model - Selects which speaker model is being applied.

DI Mic Model - Selects the microphone model that is applied to the XLR output signal while in Speaker Mode, intended to emulate placing the selected mic type in front of the Powercab 112 Plus active guitar speaker system.

Mic Distance - Sets the distance between the simulated microphone and the simulated cabinet.

USER IR MODE - This mode allows for the use of third-party cabinet simulation IRs that reproduce the sound of a "miked up" cabinet. See the "Impulse Responses" and "Powercab Edit Software" sections.

IR # - Selects which user IR is used by the preset. The selected IR's name is displayed on the screen.

Low Cut - Tone too muddy or boomy? Apply the Low Cut Filter to clean it up.

High Cut - Guitar speakers typically roll off well below the range of a full-range reproduction system. Tone too harsh and unnatural? Apply the High Cut Filter to reduce the higher frequencies.

Level - Controls the volume of the current preset and can be adjusted to match levels between presets. When an IR is in use, the default is -18dB to compensate for the higher amplitude common to IR files. When the **FLAT Mode** is in use, this is set to 0.0 dB for maximum headroom.

Color - Allows you to customize the color of the Select Knob's LED Ring. This can be helpful for identifying which speaker model or user IR you've selected for your preset if automating or remotely controlling it with a Helix device or other MIDI gear.

Impulse Responses

The Powercab 112 Plus active guitar speaker system allows you to import 128 Impulse Response (IR) files for an even greater variety of speaker cabinet models. By default, the excellent Line 6 Allure Pack of IRs is already included, and you can optionally load your choice of third-party IRs. This can be a great way to off-load some of the DSP usage from your Helix or POD device, making room for additional effects on your modeler.

The Powercab 112 Plus device can import IRs by way of the *Powercab Edit* software (see next section). It is possible to import any mono or stereo .wav file IR, regardless of its bit depth, length, or sample rate frequency. Once imported, the .wav files are automatically conformed to the compatible IR properties (48kHz, 24-bit, mono, 2048 samples). While this is very convenient, please be careful not to load just any .wav file as an IR or you may experience unexpected sonic results. SysEx files are not supported.

TIP: You can also load Acoustic Guitar IRs for enhancing the tone of your acoustic guitar. It is recommended that a preamp or D.I. box is used to achieve proper impedance when connecting a Line Level input signal.

Powercab Edit Software

Powercab Edit is the free editor software for Mac and PC that allows you to customize & manage presets and load your own IRs into a Powercab 112 Plus device. The latest *Powercab Edit* application version is always available at http://line6.com/software/.

Once you've downloaded the application to your computer, launch it and follow its easy installation steps.

Connect your Powercab 112 Plus device to your computer's USB 2 or USB 3 port and launch the *Powercab Edit* application. You'll see a list of 128 presets and all adjustable parameters available. Click on the **Impulses** tab to see and manage IRs. You may drag and drop IR .wav files to the list to add IRs, or select a particular slot and click "import."

USB Audio

The Powercab 112 Plus active guitar speaker system functions as a USB 2.0, low latency, stereo input/output, 16-bit, 44.1 kHz or 48 kHz, audio interface for Mac or PC, and is also capable of being used as an audio interface for iPad and iPhone mobile devices.* It is compatible with all major DAW software.

📌 ***NOTE:** Connectivity with iPad & iPhone mobile devices requires an Apple Camera Connection Kit USB adapter (sold separately). There is no driver installation necessary for Mac or Windows® computers or for Apple iPad or iPhone mobile devices. (See the **ASIO Driver** section below for Windows low-latency audio performance.)

Flat Mode is recommended for USB audio playback to ensure that the full-range speaker system is utilized.

This USB audio functionality allows you to jam along with YouTube™, iTunes, or to record high quality audio within your DAW software. By configuring your DAW software track to record from the Powercab 112 Pro device's USB 1/2 source, you'll capture your processed signal from the Powercab device within the DAW track - with zero-latency monitoring, since you are hearing your input from the Powercab hardware outputs before it is routed through your software.

ASIO Driver (Windows only)

When using the Powercab active guitar speaker system as an audio interface for Windows DAW applications, it is highly recommended to download and install the **Line 6 Powercab ASIO driver**, available free from line6.com/software. This ASIO driver offers the superior, low-latency USB audio performance required for DAW recording on a PC. It is also necessary to configure your DAW software to utilize the Powercab ASIO driver. This setting is typically found within your DAW software's Preferences or Options dialog - please see your software's documentation.

USB Audio Modes

The Powercab 112 Plus active guitar speaker system offers two different **USB Modes** for using it as your computer or mobile device interface. You can access these options in the **Global Settings** (see next section).

Normal - In this mode, incoming USB audio remains unprocessed, and is routed directly to the Powercab 112 Plus device's speaker system for playback.

Processed - In this mode, incoming USB audio is processed by the Powercab 112 Plus device, adding even greater flexibility when used as your computer's audio interface for amp modeling software, such as the Line 6 Helix Native plug-in or POD Farm application.

Global Settings

These global parameters allow you to optimize the Powercab 112 Plus active guitar speaker system for your particular needs, whether it be for practice, on stage or in the studio. These settings are persistent (automatically saved) and not part of the preset data.

About Input 2 Monitor Mode

This mode is intended for running a monitor feed that may include vocals or other instruments from a mixing board back into Input 2 of your Powercab 112 Plus device. This signal goes straight to the power amplifier system and does not loop back out to the XLR Output.

GLOBAL SETTINGS				
Name	**Value**	**Range**	**Default**	**Function**
Input 1 Gain	dB	Off, -95.5 to +12.0	0.0	Adjustable input gain level for Input 1.
Input 2 Gain	dB	Off, -95.5 to +12.0	0.0	Adjustable input gain level for Input 2.
Input 2 Type	Normal Monitor	N/A	Normal	**Normal:** Processes input as mono and routes signal through the XLR Output. **Monitor:** No processing is applied and the signal is not rerouted to XLR Output.
Link Inputs	Off On		On	Selects whether or not both Input 1 & Input 2 gain levels are matched to the same value.
MIDI Channel	#	1-16, Omni	1	Selects the MIDI channel to which the Powercab 112 Plus unit responds and transmits to the MIDI DIN (when MIDI Thru is set to "On").
MIDI Thru	Off On		On	Determines whether or not incoming MIDI is passed through the unit.
MIDI PC Receive	Off On		On	Determines whether or not this unit responds to incoming MIDI Program Change (PC) messages.
MIDI PC Send	Off On		On	Determines whether or not MIDI PC messages are transmitted whenever a local PC change event occurs (when a preset change is made via the unit's Select Knob).
HF Trim	dB	Off, -95.5 to +12.0	0.0	Independent gain adjustment for the compression driver that outputs the high frequency audio.
USB Mode	Normal Processed		Normal	Select **Normal** for playback purposes. Select **Processed** to apply IR processing or speaker modes with mic modeling to the USB audio stream (see "USB Audio Modes").
Auto Dim	Always On 5 seconds 10 seconds 30 seconds		Always On	Selects whether the Backlit LCD and Illuminated Knob automatically dim after a period of inactivity, or how long before it dims.

L6 LINK

For Powercab 112 Plus devices, the **L6 LINK / AES** XLR input and output jacks provide easy digital audio connectivity between a Line 6 Helix modeling device and two Powercab 112 Plus devices for stereo operation (use of a 110Ω XLR cable is recommended). Two Powercab 112 Plus devices can be connected in series via L6 LINK and your stereo L6 LINK or AES signal is intelligently split, with the left channel going to the first unit, and the right channel to the second. If you have only one device connected via L6 LINK, the L6 LINK or AES signal is collapsed to mono and fed to the device.

L6 LINK and Helix

For information about the specific functionality for using L6 LINK connectivity between Helix and Powercab devices, please see the *Helix Owner's Manual*, available from http://line6.com/support/manuals/.
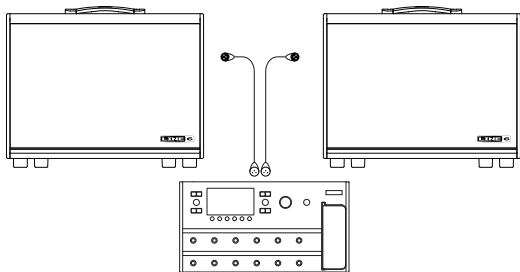
Supported Configurations

Powercab 112 Mono Setup

If using a modeler device, connect the modeler's mono output to the Powercab 112 unit's input using either a 1/4" or XLR audio cable. Or, if using pedals, connect the pedals to the Powercab unit with a 1/4" audio cable. Send a direct signal to a P.A. or mixer using the Powercab unit's XLR Output.

Direct out to front-of-house
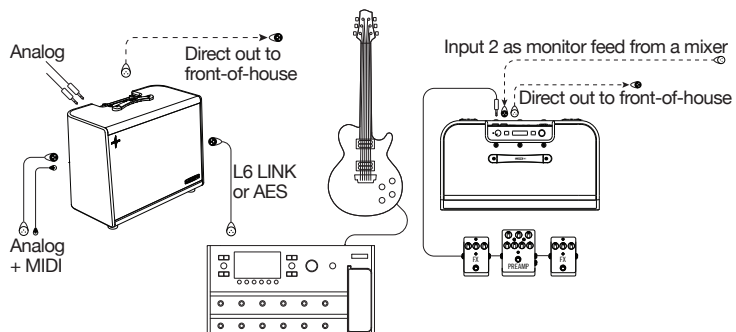
or
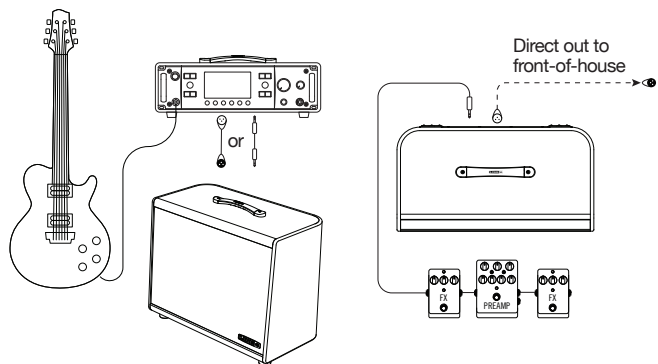
Powercab 112 Stereo Setup

Connect the left and right analog outputs of your modeler (or stereo effects unit) separately to two Powercab devices.

Powercab 112 Plus Mono Setup

If using a modeler device, connect the modeler's analog mono output to the Powercab 112 Plus unit's input using either a 1/4" or XLR audio cable, or connect digitally via L6 LINK or AES/EBU.* If using pedals, connect the pedals to the Powercab 112 Plus unit with a 1/4" audio cable. To use a remote MIDI Controller device, connect it to the Powercab device's MIDI IN.

Send a direct signal to a P.A. or mixer using the Powercab unit's analog XLR Output. Optionally, you can use the Powercab 112 Plus devices' combo Input 2 to receive a monitor feed from a mixer.


Analog

Direct out to front-of-house

Input 2 as monitor feed from a mixer

Direct out to front-of-house

L6 LINK or AES

Analog + MIDI

*__Note:__ A 110Ω type XLR cable should be used for all L6 LINK and AES connections.

Powercab 112 Plus Stereo Setup

To achieve a stereo configuration with two Powercab 112 Plus devices, follow the same instructions as shown in the preceding "Powercab 112 Stereo Setup".

If using the L6 LINK or AES connection from your modeler, additionally connect from the Powercab 112 Plus unit's L6 LINK Output to the L6 LINK Input of a 2nd Powercab 112 Plus unit. This allows audio and remote control data to be sent to each Powercab 112 Plus device independently.
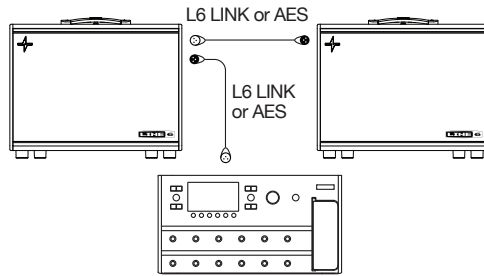
AES/EBU

The Powercab 112 Plus active guitar speaker system can also accept AES/EBU with 48kHz sample rate. When an AES signal is detected by the first Powercab unit in the chain, the chain will split the signal's left channel going to the first Powercab unit or Line 6 StageSource® speaker and the right channel to the second. If you have one Powercab or StageSource unit connected, the AES/EBU signal is collapsed to mono and fed to the single device.

MIDI

MIDI Program Changes

The Powercab 112 Plus active guitar speaker system responds to traditional MIDI Program Change messages from an external MIDI device (or from MIDI software via USB) and will recall presets 000-127 accordingly.

NOTE: To configure the MIDI Channel on which your Powercab device will respond and transmit MIDI, use the **Global Settings** > **MIDI Channel** parameter (MIDI Ch. 1 is the default).

MIDI CC

The Powercab 112 Plus device has reserved specific MIDI CC values for global functions and preset editing, as listed in the following tables.

MIDI CC - Global Functions		
MIDI CC#	**Value**	**Function**
1	0-127	Input 1 volume level
2	0-127	Input 2 volume level
3	0-63: Normal 64-127: Monitor	Input 2 type
4	0-63: Off 64-127: On	Link Input 1 & Input 2 gain levels
5	0-127	HF Trim level
6	0-63: Normal 64-127: Process	USB Audio Mode
7	0-127	Master volume level of the Powercab device

MIDI CC - Preset Editing

MIDI CC#	Value	Function
20	0: Flat 1: Speaker 2: IR	Selects the current preset mode
21	0: FRFR 1: LF Solo 2: LF Flat	Sets the current preset voicing (if applicable)
22	0: Vintage 1: Green 2: Cream 3: Jarvis 4: Bayou 5: Essex	Selects a Line 6 speaker model when Mode is set to Speaker by #
23	0: 57 Dynamic 1: 409 Dynamic 2: 421 Dynamic 3: 30 Dynamic 4: 20 Dynamic 5: 121 Ribbon 6: 160 Ribbon 7: 4038 Ribbon 8: 414 Cond 9: 84 Cond 10: 67 Cond 11: 87 Cond 12: 47 Cond 13: 112 Dynamic 14: 12 Dynamic 15: 7 Dynamic	Selects a microphone model for the XLR Output when Mode is set to Speaker
24	0-22	Sets the microphone distance value between 1"-12" (in 0.5" increments)
25	0-127	Selects the preset's user IR # when Mode is set to User IR

MIDI CC - Preset Editing

MIDI CC#	Value	Function
26	0-127	Sets the value of the preset's Low Cut parameter
27	0-127	Sets the value of the preset's High Cut parameter
28	0-127	Sets the level of the preset
29	0: 0ff 1-18: White 19-36: Red 37-54: Blue 55-72: Green 73-90: Yellow 91-108: Cyan 109-127: Magenta	Sets the color of the LED Ring

SERIAL NO:_____