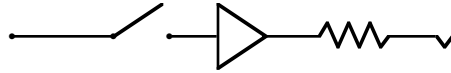


CUSTOM AUDIO ELECTRONICS INC.



AMP SELECTOR v.1

Operating Guide

Introduction

Imagine having a multiple amplifier system with each amp having its own sonic character. Perhaps one set clean, another for a slight amount of crunch, then maybe one for heavy rhythms, then one with your favorite high gain sound. They could all be different, even from different manufacturers, Let's take this a step further. How about safely and silently switching these amps into the same cabinet?? And how about a line level from each to drive effects?? You can have all that more with the Amp Selector v.1 from Custom Audio Electronics, Inc.

Features:

- Safely and silently switch up to 4 amplifiers into the same cabinet or load device!
- Unique priority circuit only allows 1 amp on at a time!
- Protection circuitry safely guards unselected amps.
- Provides multiple line level outputs with a level control for each amp to drive effects and power amps.
- Front panel LED's indicate status of each amp.
- Super low noise buffer circuit provides impedance matching and eliminates passive pickup loading. Can be bypassed using the passive instrument input.
- Remote controlled from simple latching footswitches or controlled by a wide variety of MIDI system controllers utilizing latching footswitch type functions.
- Remote power supply for lowest noise.
- 2 auxiliary line inputs. Useful for mixing external preamps with the selected amp.
- Line level volume loop can be used to remote control line level volume or for patching in noise reduction units, effects, etc.

Benefits:

- Sonically transparent passive switching elements provide unsurpassed clarity while uniquely switching up to four amplifiers (one at a time) into a common speaker system or load device.
- Easily allows for the popular system configuration of a center dry cabinet with stereo effects cabinets (a stereo power amp and effects would be required). See Diagram.
- Provides a line out for each amp regardless of type. No need to modify amps for line outs and effects loops. Even non-master volume amps work fine!!
- Eliminates the need for multiple speaker cabinets and/or load devices when using multiple amps.
- No elaborate switching system required. Simple latching footswitches are all that are needed to control status of amps.

WARNING!!!

The Amp Selector v.1 switches high (speaker) level signals. Failure to properly connect this device may cause damage to the amplifiers and/or the Amp Selector itself.

Always use high quality speaker cable when connecting the amplifier speaker outs to the Amp Selector and from the Amp Selector to the speaker cabinet or load device.

Use high quality shielded cable to connect the Amp Selector to the amplifier inputs. Custom Audio Electronics, Inc. accepts NO responsibility for damage caused by improper connecting to and from this device.

Grounding the Amp Selector

Care must be taken to adequately ground the Amp Selector, not only to provide shielding from hum and noise, but also to prevent any shock hazard. Since the Amp Selector utilizes an isolated 9VAC remote power supply, it's chassis is connected to AC ground via it's connection to the mounting rails of a rack, or from the connection to a grounded amplifier. Custom Audio Electronics, Inc. recommends that the Amp Selector be fastened to a rack enclosure utilizing a power conditioner, such as a Furman PL-8 or Juice Goose PD-2, insuring it's chassis is connected to AC (third pin) power ground. In some cases, it may be necessary to lift AC ground on multiple amplifiers connected to the Amp Selector, to eliminate ground loops (hum). This can be done as long as the Amp Selector is connected to a grounded rack - and the guitar strings are at the same potential (grounded) to the AC (third pin) power ground. In some cases it may be necessary to remove the paint from the back of the Amp Selector's rack ears to insure a positive connection to the rack rails it is secured to. The same is true for the rack rails themselves - proper connection here should provide adequate shielding and shock protection. Audio isolation transformers can be utilized to insure a safely grounded system, while eliminating ground loops (hum). Contact the factory for details.

Description of Amp Selector v.1 Front Panel

1. 1/4" phone jack. Connect to input of Amp 1. This jack sends signal present at either rear panel active or passive input to Amp 1 when activated Amp 1 remote control.
2. 1/4" phone jack. Connect to input of Amp 2. This jack functions the same as Amp 1 when selected by Amp 2 remote control.
3. 1/4" phone jack. Connect to input of Amp 3. This jack functions the same as Amp 1 when activated by Amp 3 remote control.
4. 1/4" phone jack. Connect to input of Amp 4. This jack functions the same as Amp 1 when activated by Amp 4 remote control.
5. Line Level Control 1. Provides continuously variable line level adjustment from Amp 1 output when selected. Range of adjustment is from Off to -12db.
6. Line Level Control 2. Functions the same as Level 1 for Amp 2, when selected.
7. Line Level Control 3. Functions the same as Level 1 for Amp 3, when selected.
8. Line Level Control 4. Functions the same as Level 1 for Amp 4, when selected.
9. 1/4" phone jack. Connect to Amp1 extension speaker out jack. ***Warning! A speaker or load device must be connected to either or both of the "to load cabinets" jacks (13.) or damage to the selected amp will result!!*** Also, the impedance of the amp must be the same as that of the load (speakers) connected. This connection also allows you to take a line level signal from the entire amp, including its output stage, for post amp effects processing via power amps. Or for distribution of your amp sound to multiple locations on large stages. The speaker level signal present at this jack (when selected by the Amp 1 Line Level Control) to a summing circuit. loop to the 4 line out jacks.
10. 1/4" phone jack. Connect to Amp 2 speaker jack. Functions the same as Amp 1, when selected.
11. 1/4" phone jack. Connect to Amp 3 speaker jack. Functions the same as Amp 1, when selected.
12. 1/4" phone jack. Connect to Amp 4 speaker jack. Functions the same as Amp 1, when selected.
13. 1/4" phone jacks (in parallel), connect to cabinet(s) or load device. Be sure the total load connected matches the amps. Ex: Two 16ohm cabinets would equal an 8ohm load (set all amps to 8ohm). Two 8ohm cabinets would be a 4ohm load (set amps to 4ohm). Of course you can connect just one cabinet. Just be sure to match the cabinet impedance to the amps.

Description of Amp Selector v.1 Rear Panel

14. 1/4" phone jack. Active (buffered) input to the Amp Selector. This input provides a high input impedance (500K Ω) to prevent excessive loading of passive instrument pickups. Recommended when multiple amps are selected. Low noise and sonically transparent, the buffer can be internally adjusted to provide from 0 to +10 db of gain.
15. 1/4" phone jack. Passive input to the Amp Selector. This input has priority over the active input. Using this input bypasses the buffer circuit, eliminating any active electronics between the instrument and the selected amplifier inputs.
16. 1/4" phone jack. Line Level input #1 to the mixer circuit of the Amp Selector. Input impedance is 47K Ω . Perfect for mixing preamp outputs along with selected amplifier line level signals. No internal switching is provided for this input.
17. 1/4" phone jack. Line Level input #2 to the Amp Selector. This jack functions the same as Line input #1.
18. 1/4" phone jack. Volume pedal loop send. Signal present at this jack is the sum (mix) of all amp lines selected as well as any signal present at either or both line in jacks. Use this jack to send the mix to volume pedals, noise reduction units, or any other signal processing units prior to the 4 line out jacks.
19. 1/4" phone jack. Volume pedal loop return. Accepts signal processed from the loop send jack prior to the 4 line out jacks.
20. 4 - 1/4" phone jacks. Amp Selector line outputs (4) signal present at these jacks is the same as that at the volume pedal loop return. Useful for splitting the signal to multiple effects processors or power amp inputs.
21. 1/4" phone jack. Footswitch input for controlling status of Amp 4. Normally open latching footswitch function required. Shorting Amp 4 tip to sleeve = amp "on". Tip to sleeve open circuit = amp "off".
22. 1/4" phone jack. Footswitch input for controlling the status of Amp 3. Functions the same as Amp 4 remote control jack.
23. 1/4" phone jack. Footswitch input for controlling the status of Amp 2. Functions the same as Amp 4 remote control jack.
24. 1/4" phone jack. Footswitch input for controlling the status of Amp 1. Functions the same as Amp 4 remote control jack.
25. AC power jack. Accepts 9 volts AC from external power adapter supplied with the unit. Current required is at least 500ma.

Priority Feature

The Amp Selector v.1 utilizes a unique priority circuit which protects the amps that are not selected as well as only allowing one amp to be used at a time. Amp 1 has the highest priority, then Amp 2, etc.

Ex 1: You have selected Amp 1. Then you try to select Amp 2 via its footswitch function. The Amp Selector will not allow Amp 2 to be selected until you turn off Amp 1, via the footswitch control. At this time, Amp 2 will come on as long as it was still selected.

Ex 2: You have selected Amp 4. Selecting any other amp will cause Amp 4 to go "off" and the selected amp to come "on" since Amp 4 has lowest priority.

THIS CIRCUIT KEEPS YOUR AMPS FROM BEING DAMAGED AS LONG AS PROPER CONNECTIONS TO THE AMP SELECTOR HAVE BEEN MADE!!!