Introduction

Trying to drive multiple amplifiers can typically be a frustrating experience. The Decibel Eleven Split Personality is an active AB/Y switcher that enables musicians to run multiple amplifiers without loss of signal or tone, and without induced noise from ground loops. The input buffer is an all discrete, Class A circuit with exceptionally low distortion, low noise, and high drive capability. Its high input impedance is matched to that of the vast majority of amplifiers. The buffer's output impedance is very low which allows it to drive multiple amps without signal degradation and without high frequency tone loss.

Ground loops can cause obnoxiously loud hum, and amp polarity mismatches can cause phase cancellations. The Split Personality provides solutions to both these problems through its transformer coupled 'B' output. The high quality transformer provides isolation from the 'A' output, and allows the ground of the 'B' output to be 'lifted' when ground loop problems occur. The Phase Invert switch can reverse the polarity of the 'B' output to correct for amp polarity mismatches.

MIDI control allows the Split Personality to be used remotely in rack systems, or integrated into MIDI controlled setups for easy preset recall.
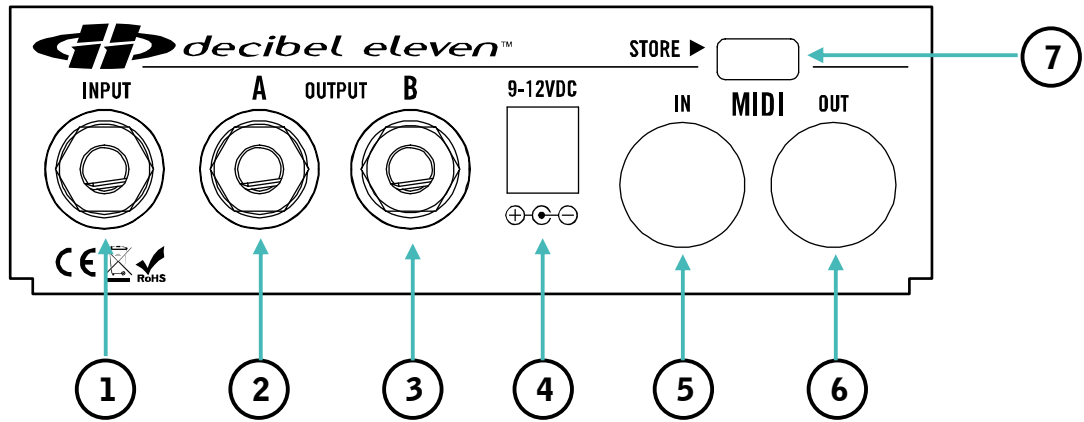
The Split Personality includes the following features:

- **Custom designed, fully discrete, Class A, buffer circuit** – prevents signal loss from signal splitting and provides a low impedance output capable of driving long cables without high frequency loss.
- **Classic AB/Y format** makes it easy to see selected output when switching between "both" and "single" outs.
- **Selectable mute function** for muting both outputs.
- **Transformer coupled 'B' output** allows **Ground Lift** isolation to eliminate any ground loop associated hum.
- **Phase Invert** switch on output 'B allows for easy alignment of Amplifier polarities.
- **Extended Headroom** ensures clean audio with active pickups or line level signals.
- **MIDI I/O** and 128 presets allows easy integration in MIDI controlled and remote setups.
- **Compact** minimum size takes less pedal board space.

Box Contents

- Split Personality Amp Switcher
- 12V power adapter
- Manual
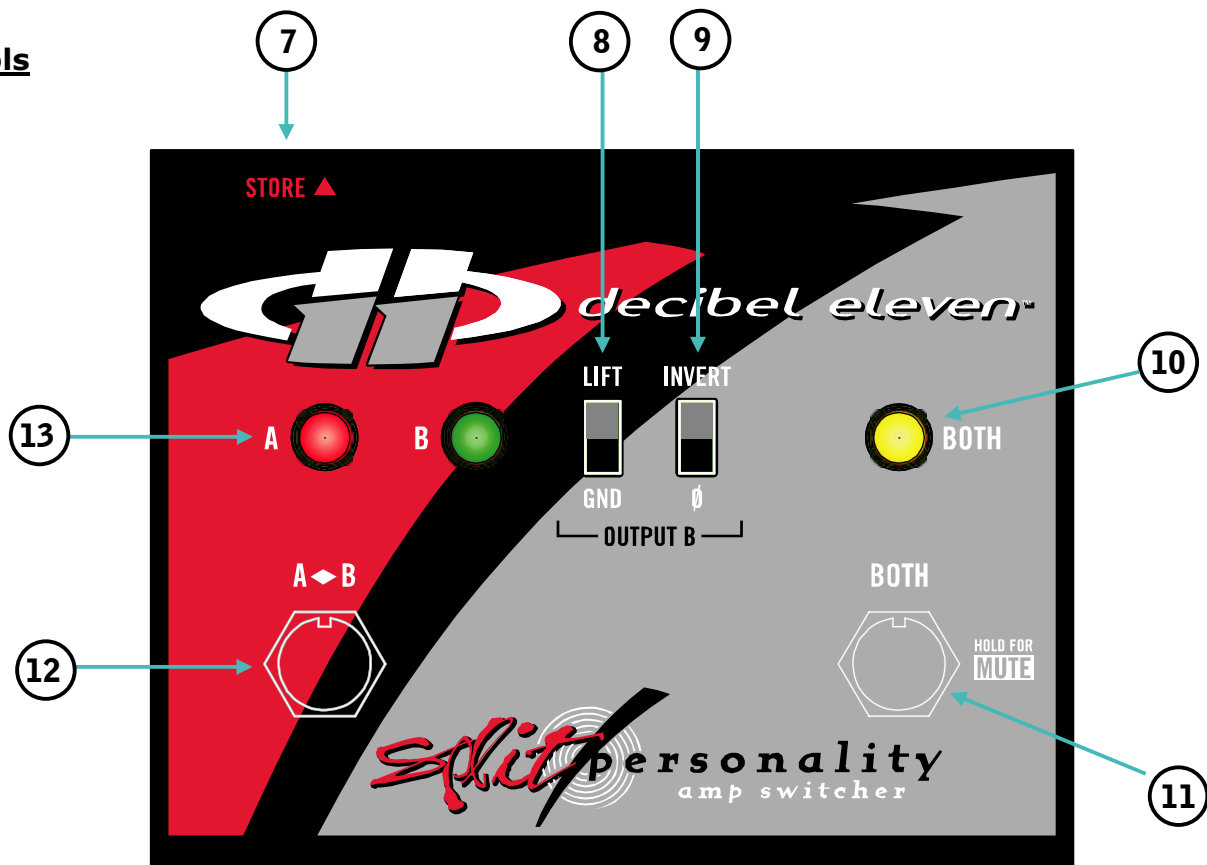- Warranty Card

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Connections

Rear Panel:

1. **Input:** Instrument Input
2. **Output A:** Output to amp-A
3. **Output B:** Output to amp-B
4. **Power In:** Connect 9-12VDC regulated power (center negative)
5. **MIDI In:** Connect to MIDI out of controller
6. **MIDI Out:** Connection for passing MIDI thru
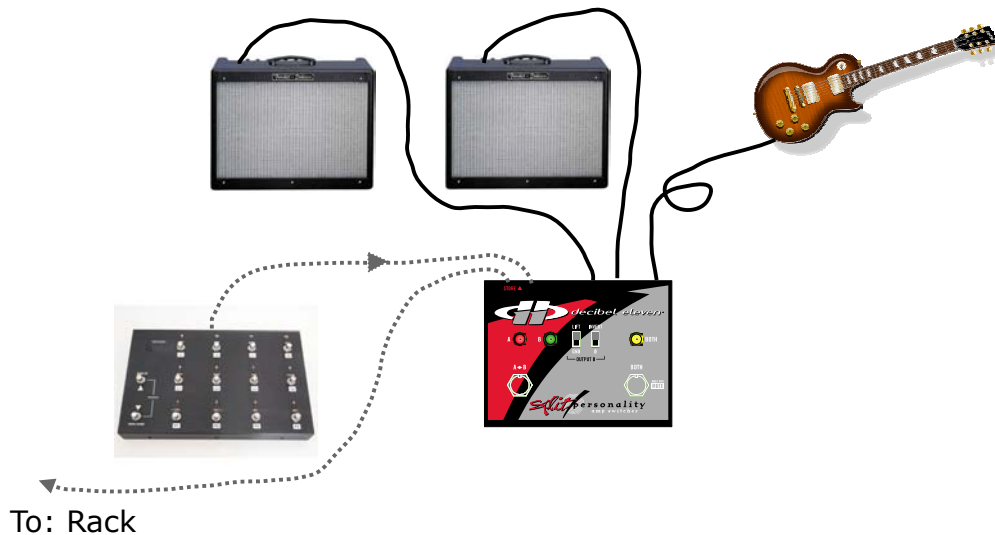7. **Store button:** When using MIDI, press to store preset

Controls

8. **Ground Lift switch:** Disconnects the ground connection for output-B
9. **Phase Invert switch:** Reverses polarity of output-B
10. **'Both' output indicator:** Indicates when both outputs are activated
11. **'Both' switch:** Toggles between single output active and both outputs active. Holding for >1 second mutes both outputs (when Mute Function is enabled - see Mute Function section below).
12. **A-B switch:** Toggles between output-A active and output-B active.
13. **A-B indicators:** Shows selected output.

Operation

Typical Setup:

To: Rack

Turn on the Split personality by using the supplied power adapter or by connecting a 9-12VDC regulated voltage (center negative) to the power jack (4). The 'A' LED (13) should now be lit.

Start with the output-B GND Lift (8) and Phase Invert (9) switches in the down positions.

Connect your guitar to the input jack (1) and connect output-A (2) to one of your amplifiers. Connect output-B (3) to your second amplifier. Set your amplifier volumes to your liking. If there is hum or buzz, set the output-B GND Lift switch (8) to "LIFT", and compare. Use the setting with the least noise.

Check the amplifiers' polarities by setting the output-B Phase invert switch (9) to "INVERT" and compare the sound. When the amplifiers are in phase, the sound should be full. When the amplifiers have different polarities, the sound will suffer from phase cancellations which will make the sound thin or hollow.

If you are using MIDI to control the Split Personality, connect the MIDI out from your controller to the MIDI IN jack (5). The MIDI OUT jack (6) will act as a MIDI thru and will echo all incoming messages. See the Function Setup, MIDI Channel Setup, and MIDI Functionality sections for details on using MIDI to control the Split Personality.

Function Setup

The Function Setup mode is used for setting up MIDI functionality and for enabling/disabling the Mute Function. To enter Function Setup: with power off, hold down the BOTH switch (11) while powering on. All LEDs will flash four times, followed by a display of the current settings.

The **A-B switch** (12) selects the type of MIDI control desired:
>   'A' LED = MIDI Program change enable (default is enabled)
>   'B' LED = MIDI Continuous Controller enable (default is enabled)

The **BOTH switch** (11) controls the Mute Function enable (see Mute Function section below).
>   'BOTH' LED = Mute Function enable (default is disabled)

To exit Function Setup, disconnect the power. Your settings will be saved.

MIDI Channel Setup

The Split Personality can respond to MIDI on 1 of 8 possible MIDI channels. To set the MIDI channel: with power off, hold the A-B switch (12) while powering up. All LEDs will flash three times and then display the current MIDI channel. MIDI channels are set as follows:

MIDI CHANNEL	A	B	BOTH
1	○	○	○
2	🔴	○	○
3	○	🟢	○
4	🔴	🟢	○
5	○	○	🟡
6	🔴	○	🟡
7	○	🟢	🟡
8	🔴	🟢	🟡

To exit MIDI Channel Setup, disconnect the power. Your settings will be saved.

MIDI Functionality

The Split Personality can be MIDI controlled using MIDI Program Change messages and/or MIDI Continuous Controller messages. All MIDI data received at the MIDI Input is conveniently passed thru to the MIDI Output.

MIDI Program Changes are used to access the 128 internal user presets of the Split Personality. Each MIDI Program Change Number (0..127) correlates to a unique preset in the Split Personality. When receiving a Program Change Number on it's selected MIDI channel, the Split Personality loads it's corresponding preset. After receiving a Program Change message, a preset can be edited and saved by making the desired switch changes, and then pressing and holding the 'STORE' button (7) for 2 seconds. All LEDs will flash twice indicating the preset has been saved. If a MIDI Program Change message has not been received, pressing the 'STORE' button will do nothing since there is no preset number to save to.

MIDI Continuous Controller (CC) messages can be used to directly control the output states of the Split Personality as shown in the following chart:

CC Number	Function	CC Value	State
102	A Toggle	< 64 > 63	A OFF A ON
103	B Toggle	< 64 > 63	B OFF B ON
104	A/B Toggle	< 64 > 63	A B
105	BOTH Toggle	< 64 > 63	not BOTH BOTH
106	Mute Toggle	< 64 > 63	not MUTED MUTED

<u>System Exclusive (sysex) Backup</u>

The preset memory of the Split Personality can be exported and imported via MIDI sysex messages for convenient backup. To enter MIDI Sysex Mode, with power turned off, hold the A-B switch and the Store buttons simultaneously and apply power. All LEDs will flash twice and then alternate flashing between the A LED and the BOTH LED.

To export the memory as MIDI sysex data, first connect the MIDI Output to a MIDI capable computer or other device that can receive and store MIDI sysex data (a second Split Personality can be used). To initiate the export, press the A-B switch. The A LED should stay lit for a moment during the send, and then it will revert to the alternating LED cycle (MIDI Sysex Mode).

To import the memory as MIDI sysex data, enter Sysex Mode as above. Then, connect the Split Personality MIDI Input to the MIDI out of the sending device. Press the BOTH switch. The BOTH LED will flash, awaiting MIDI data. Export the data from the sending device. If correct MIDI data is received and stored, all LEDs will flash twice indicating success. Incorrect MIDI data will cause the Split Personality to revert to the alternating LED cycle (MIDI Sysex Mode).

To return to normal operating mode, disconnect and reconnect the power cable.

<u>Mute Function</u>

The Split Personality has the ability to completely mute both outputs. It is possible to enter this "Mute Mode" using MIDI continuous controller messages, either by setting each output to OFF or by using the dedicated Mute Toggle message (see MIDI Functionality chart).

It is also possible to enter Mute Mode by holding down the 'BOTH' switch for at least 1 second. This function <u>must</u> first be enabled in the Function Setup mode (see Function Setup section).

When in Mute Mode, the LED(s) will cycle on and off to indicate that <u>all</u> outputs are muted. Pressing the 'BOTH' switch will <u>always</u> exit Mute Mode, regardless of the method used to mute.

Specifications

<u>Input:</u>

Input Impedance: 1 M**Ω**
Maximum Input Signal: +16dBu (without clipping)

<u>Outputs (A and B):</u>

Output Impedance: 240**Ω**
Frequency Response: +/-0.5dB, 20-30kHz
THD+N: <0.005% @1kHz, -10dBV
                         <0.01% @1kHz, +4dBu
S/N Ratio: >97dB, A weighting, 0dBV ref.

Power: 9-12VDC, 60mA
Dimensions (WxDxH): 4.8 x 3.75 x 1.58" (122 x 95 x 40mm)
Weight: 1.59lb. (0.72kg)

Declaration of Conformity

Decibel Eleven declares that this product complies with the European Union Council Directives and Standards requirements for the Low Voltage Directive (2006/95/EC) and the EMC Directive (2004/108/EC).

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