

## **Bogner Helios Input Switching Modification**

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### **Project Description:**

The desire to enable footswitch control of hot and plexi input selections led to this modification project. The Bogner Helios has wonderful clean and heavy gain channel sounds, but to access both channels one must unplug and switch the inputs of the amp. For studio work this is no problem, but to use this as a true gigging amp on a live stage it is a necessity. The manufacturer was contacted regarding this concept, and they indicated no future plans for inclusion.

The requirements for this project include preserving and maintaining a seamlessly high level of quality sound, commensurate with the caliber of this model. High-end, quality silver Teflon input wiring and a quality relay with silver contacts for switching duties were key parts requirements.

### **Parts List:**

- 1) High-end quality silver or silver-plated solid-core, teflon insulated wire
- 2) DPDT relay with silver-plated contacts and appropriate coil voltage for power source
- 3) 3 channel footswitch, with one stereo and one mono plug, and internal power supply

### **3 Button Footswitch Details:**

The triple footswitch unit is probably the best option for ease of use in one package, instead of two separate footswitches. The stereo plug of the footswitch plugs into the footswitch jack designated on the back of the amp. This enables the channel and FX loop switching to operate as designed. The mono jack controlled by the third button is what controls the input selection, which must be plugged into an extra jack on the amp for the connection of the added switch. If both configured and used carefully, one of the existing speaker output jacks can be suitably marked and used for the additional switch's connection. This way, you do not have to mill an extra hole in the amp chassis to access the mono footswitch jack.

### **Input Jack Details:**

The input jacks were reconfigured to produce the same result plugging into either plexi or hot input jack. Care must be taken to ensure that the proper wiring configuration is

executed in order to ensure seamless and transparent operation; IE the two input jacks functioning in exactly the same way as one.

### **Relay power source selection:**

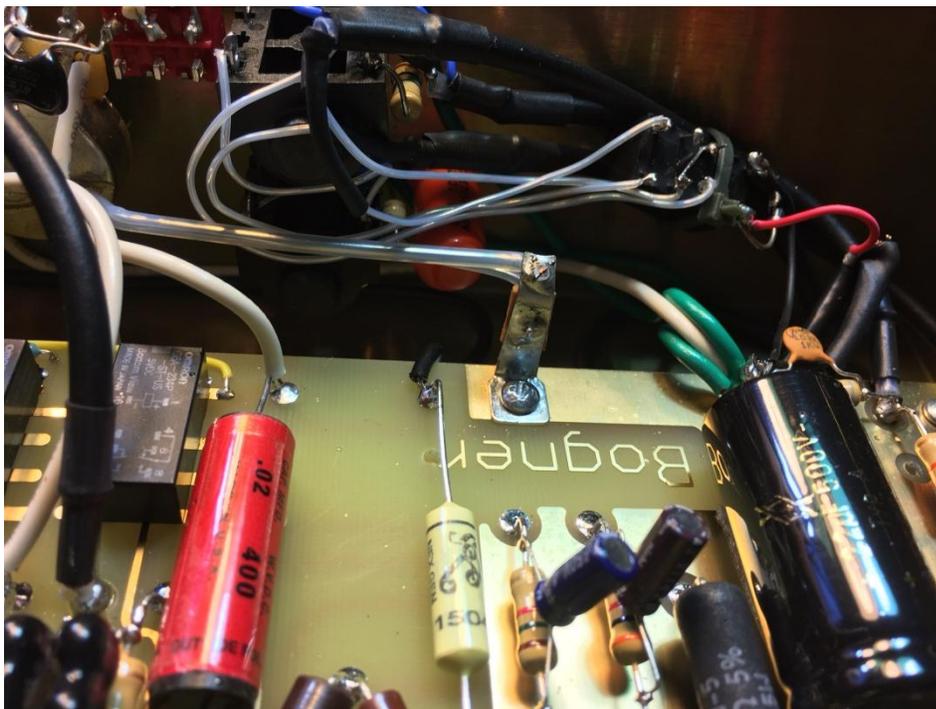
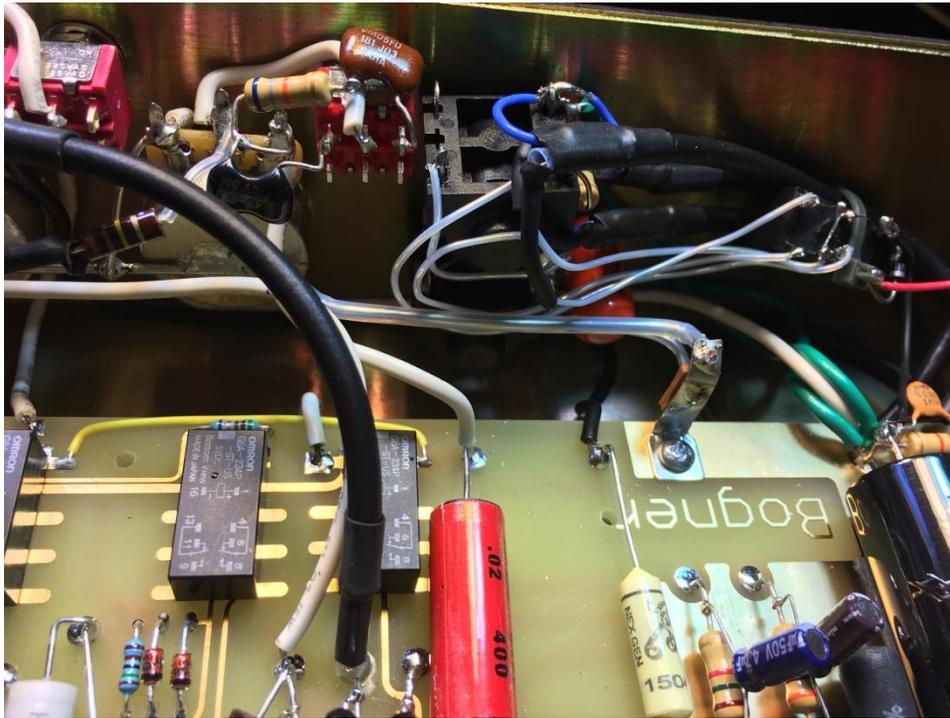
The chosen power source for the relay ended up as a completely isolated, separate source in the form of a battery in the footswitch. The obvious alternative would be to configure a simple voltage divider, although this could result in loading issues or possible anomalies for the section of whichever source supply was chosen.

The separate, isolated battery power source built into the footswitch was the best choice in this case, as no hum, noise, or tone changes were encountered when the described configuration was completed.

### **Operation:**

Be sure to leave the "CH I, II" switch in the 1 position for effective and expected results after this upgrade modification. Test the results carefully after the work has been competently completed. Plug into either input jack and use the footswitch to change channel, fx loop, and input. You now effectively have a four channel amp with the two combinations of inputs and channels, ranging over every type and style of tone.

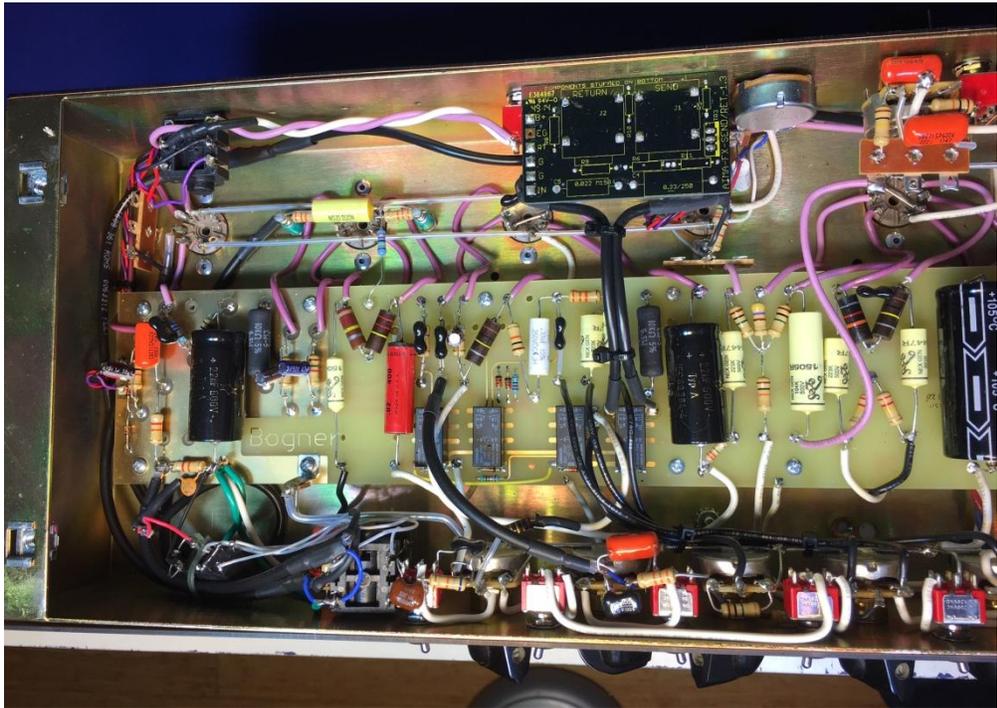
## Images:



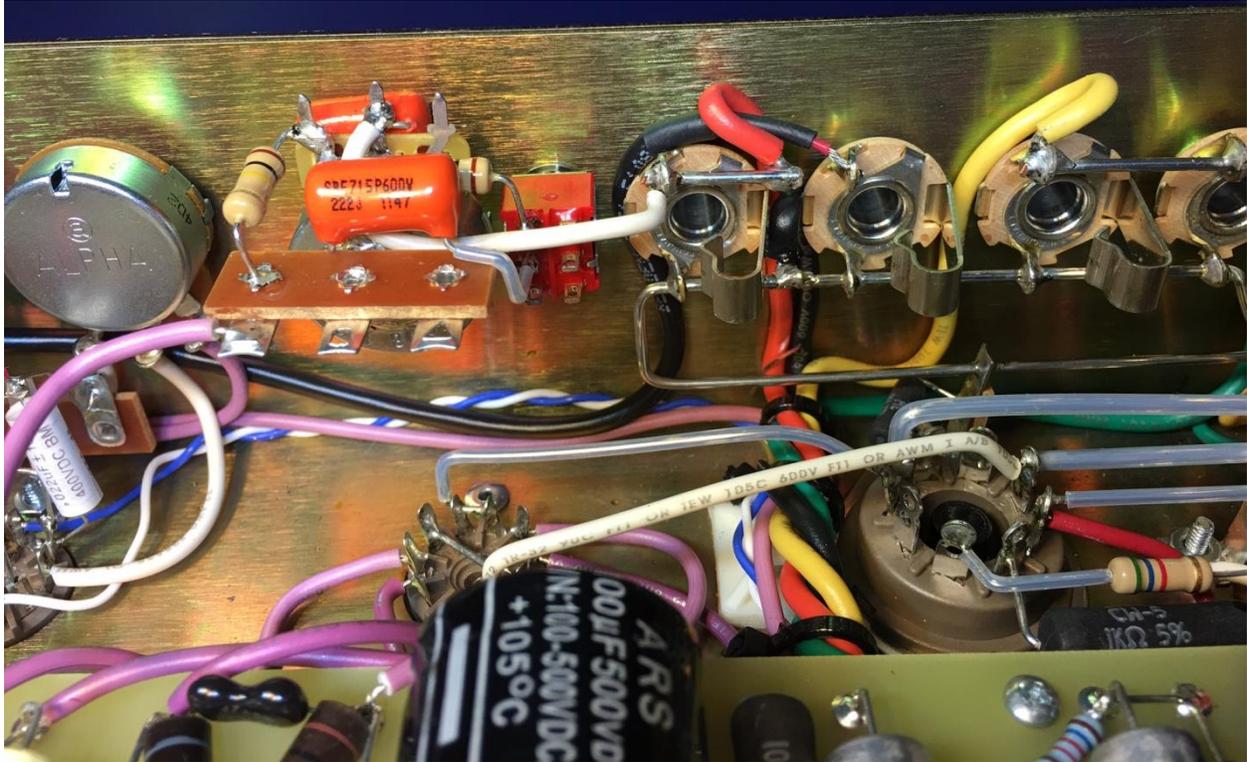
DPDT relay installed via solid core silver/Teflon wires, secured to the shielded input cables located beside the two input jacks. Two input jacks rewired as paralleled inputs so both are identical, selection is entirely via relay. Relay selects plexi or hot via the two input cables that formerly connected to the jacks.



Left section overview



Right section overview



Shielded wire connected to repurposed speaker output jack for new footswitch input, external power actuation for relay



Custom three button footswitch wired for a stereo plug for the loop and channel functions, with a mono plug for the input function