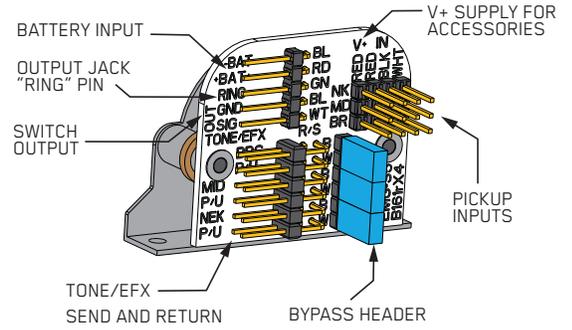
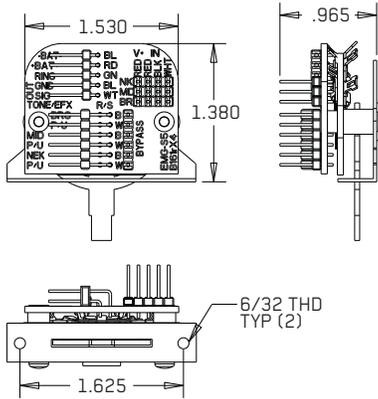




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## INSTALLATION INFORMATION

### EMG MODEL: B161(X4) 5 POSITION SWITCH BUSS FOR 3 PICKUPS (ACTIVE EMG PICKUPS ONLY)

#### GENERAL INFORMATION:

The EMG B161(X4) 5-Position Switch Buss provides a convenient way to install EMG Pickups without soldering. The buss includes an input section for three pickups, a Supply buss for distributing 9V+ battery power to the pickups and accessories. A tone/effects send and return buss with bypass and an input/output section for signal output and battery power on/off.

#### Wiring Note:

##### Daisy Chained Controls:

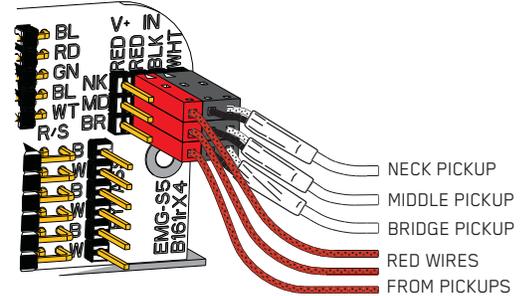
If you are going to "daisy-chain" your controls, i.e. master volume, master tone (passive or active) and/or any other EMG Controls in series, you will not use the send and return feature the B161. If the diagram you need is not on the S/S/S or S/S/S (X) instructions go to the top of page 3 for further information about wiring the controls in series.

**The EMG B161 (V4) Switch Buss has 4 primary sections.**  
**Read the instructions and use the diagrams for assistance.**

#### Section 1) Pickup Inputs:

Diagram #1 shows the 3 pickups plugged into the Input section of the Switch Buss. Be sure the pickup cables match the color legend on the PC Board. Neck Pickup (NK) on top, Middle Pickup (MD) in the center and Bridge Pickup (BR) on the bottom 3 pins. Plug the Red wires from the pickups onto the pins marked RED.

Diagram #1



#### Section 2) Bypass, Tone / EFX Send (S) and Return (R)

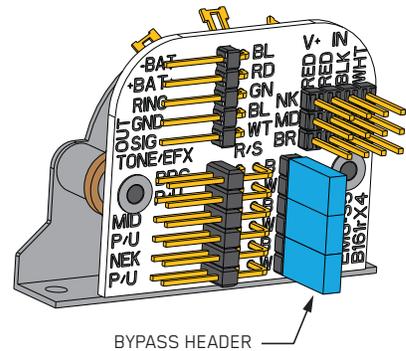
Each Pickup has a send and return for tone controls or effects. This feature allows you to choose any pickup and have a tone control on it, either passive or active. You can use any EMG effects like the VLPF, SPC, EXG, PA2 or RPC on any individual pickup.

##### Bypass

##### Refer to Diagram #2

The 6 pin header labeled Bypass has 3 removeable shunts, one for each pickup signal. The shunt bypasses the EFX Send (S) and Return (R) headers and sends the pickup signals directly to the selection switch terminals. Only remove a shunt if you are using the Send and Return feature of the Switch Buss. If you are using passive tone controls the shunts need to be left in place.

Diagram #2



##### Tone / EFX Send (S) and Return (R)

##### Send (S)

##### Refer to Diagram #3

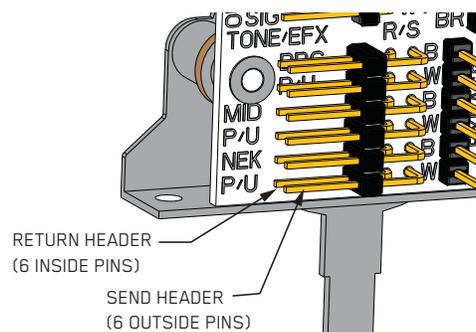
The outer row of pins of the stacked header is the Signal Send (S) for each pickup. There are two pins for each pickup Black (Ground) and White (Signal). This row sends the signal of the pickup to the input of whatever effect or tone control you are using.

##### Return (R)

##### (Diagram #3)

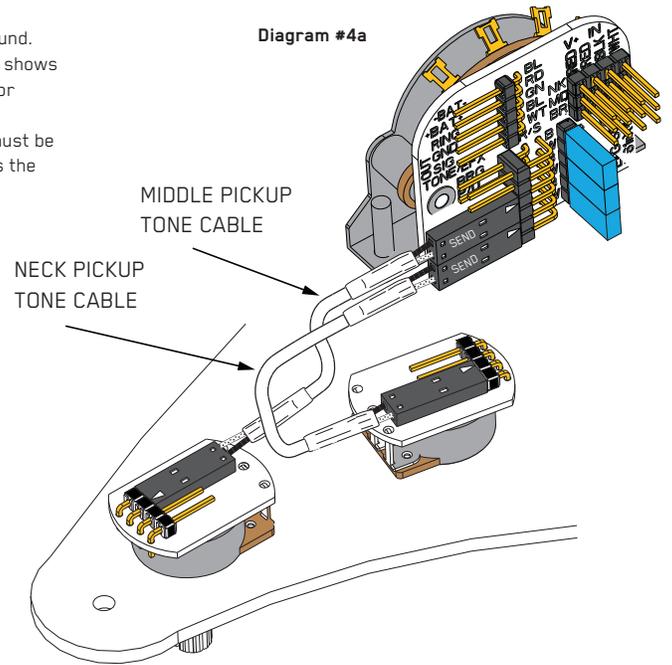
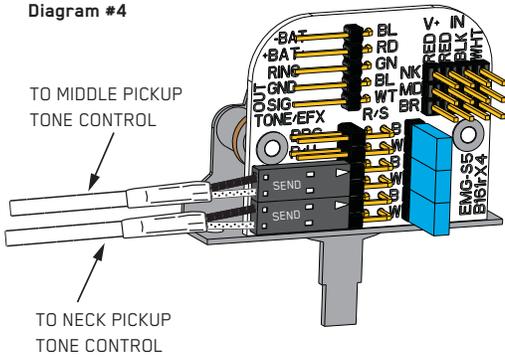
The inside row of pins of the stacked header is for the output signal Return (R) for each pickup. Like the Send Header there are two pins for each pickup Black (Ground) and White (Signal). The Return Header sends the pickup signal from the tone control back to the selection switch. There are a lot of options if you decide to use the Tone/EFX section. The diagrams included illustrate only a few of the options available.

Diagram #3



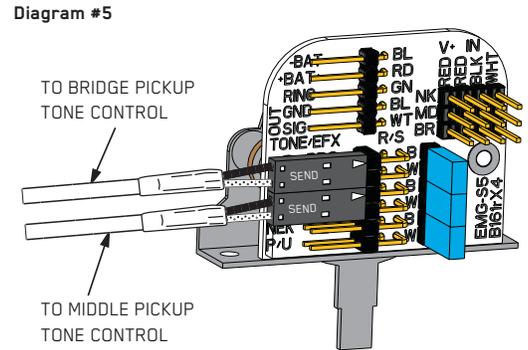
**Using passive tone controls: (Diagrams #4 and 4a)**

Passive tone controls consist of only a pot and capacitor and operate in parallel to ground. They have an input, but no output, they are "tacked onto" the pickup signal. Diagram #4 shows two passive tone controls plugged into the buss. One for the Neck Pickup (NEK) and one for the Middle Pickup (MID) like standard Stratocaster\* style wiring. It is only necessary to "send" the signal to a passive tone control, no "return" is necessary. The 3 shunts must be in place for all 3 pickups to work when using passive tone controls. Diagram #4a shows the coax cables plugged into the tone controls.



**Choose any tone control for any pickup:**

Diagram #5 shows how to use one of the tone controls on the Bridge pickup. Simply move one of the cables to the BRG P/U pins on the Tone/EFX Header as shown.

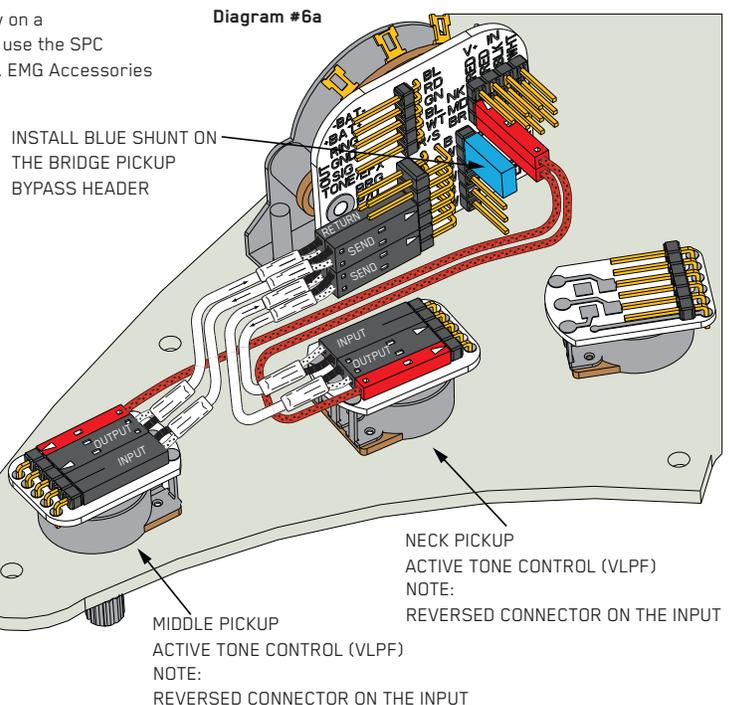
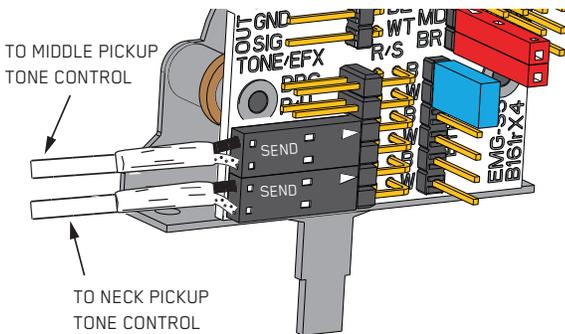


**Using Active Tone Controls:**

If you are using an Active tone control like the VLPF, SPC or other EMG Accessory on a single pickup then using the Tone / EFX Header is for you. For example, you could use the SPC Control on only the bridge pickup, and perhaps put the EXG on the Rhythm pickup. EMG Accessories can also be used in series, so you can put more than one effect on any pickup.

Diagrams #6 and #6a show 2 passive tone controls plugged into the buss. One for the Neck Pickup (NEK) and one for the Middle Pickup (MID) like standard Stratocaster\* style wiring.

**Diagram #6**



**Daisy Chained Controls:**

If you are going to "daisy-chain" your controls in a row, i.e. master volume, master tone (either active or passive), and an SPC Control or other EMG Active control, you won't use the send and return feature, refer to Diagrams #7 and #8. Install all three shunts on the bypass header, sending the pickup signals directly to the switch terminals.

Diagram #7 has a master volume, passive tone control, and an SPC or any other EMG Active control.

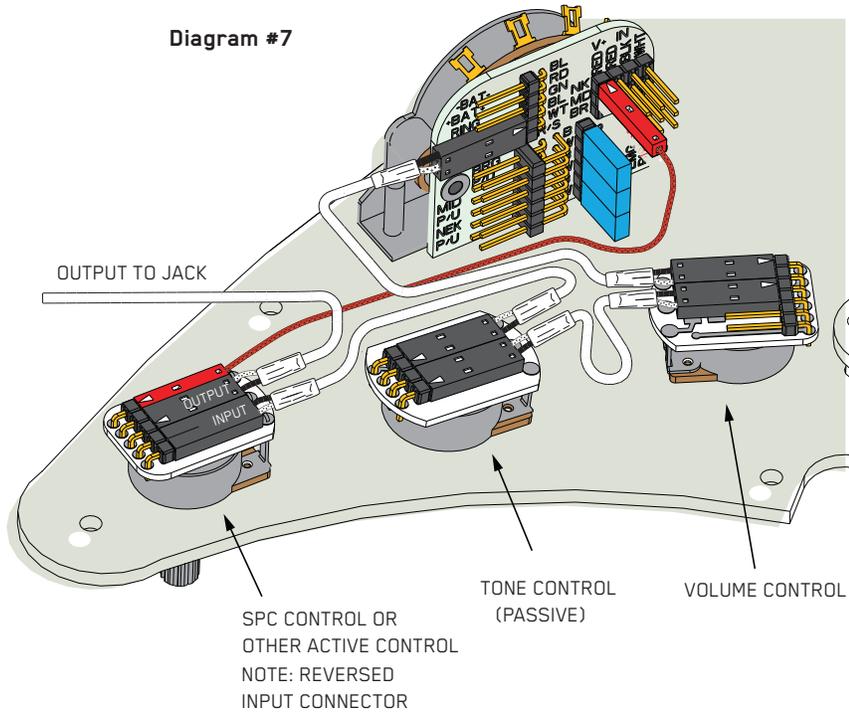
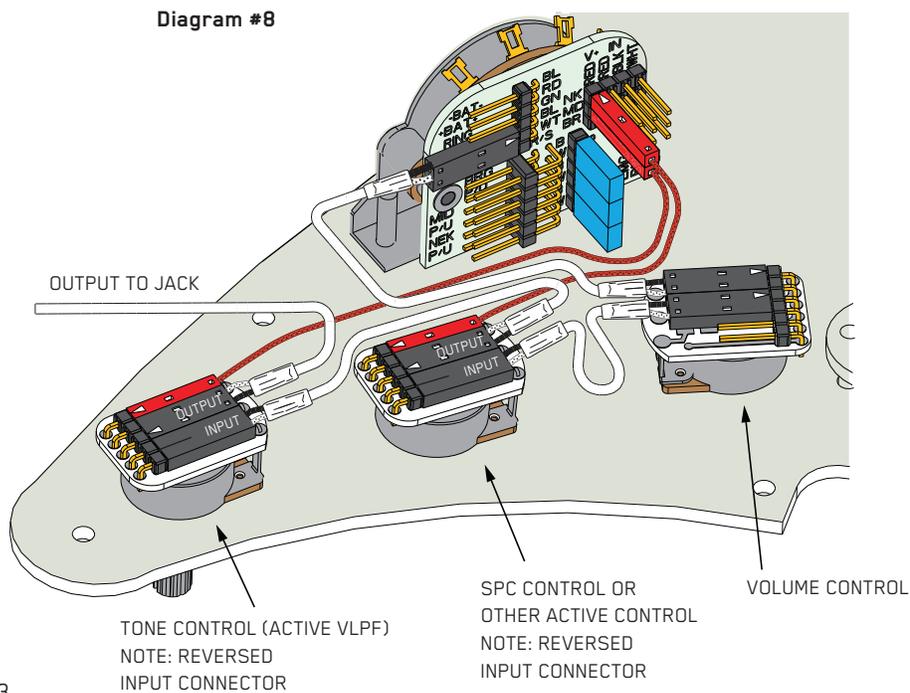


Diagram #8 has a master volume control, but features two active tone controls. This would be similar to an EMG-X Series wiring that doesn't use a passive tone control. Any EMG Active tone control could be used in either tone control position, i.e. VLPF, SPC, RPC, or EXG, the choice is yours.

Notice the reversed input connectors on the Active controls!!

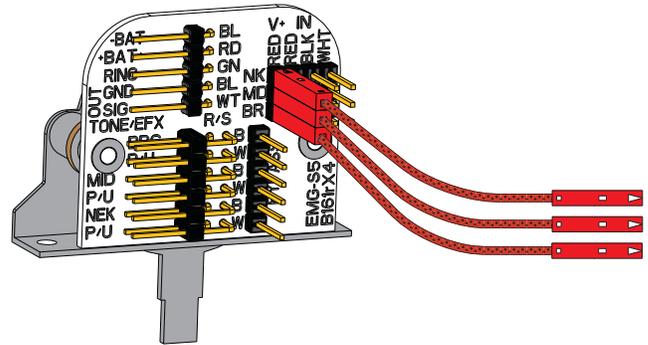


### Section 3) V+ Supply Buss for EMG Accessories

Diagram #9

Three pins are available to supply +9V for up to 3 EMG Accessory circuits such as the VLPF, SPC, EXG, PA2, or RPC. Plug the RED wire(s) of those accessories onto the V+ Buss as shown.

Diagram #9



### Section 4) Output / Ring and Battery Supply

Diagram #10 and Diagram #11

The 5-pin Header near the top of the switch provides:

**Output of the switch:**

The OUT pins marked GND and SIG go to the master volume control as shown in Diagram #XX

**Ring to the Output Jack (Battery Negative):**

The Ring pin goes directly to the Ring terminal of the output jack to ground the battery negative turning the instrument on when inserting the Guitar Cable

**Battery:**

These 2 pins are for the 9 Volt Battery Clip. The battery supplies the pickups and accessories and only one battery is required.

Diagram #10

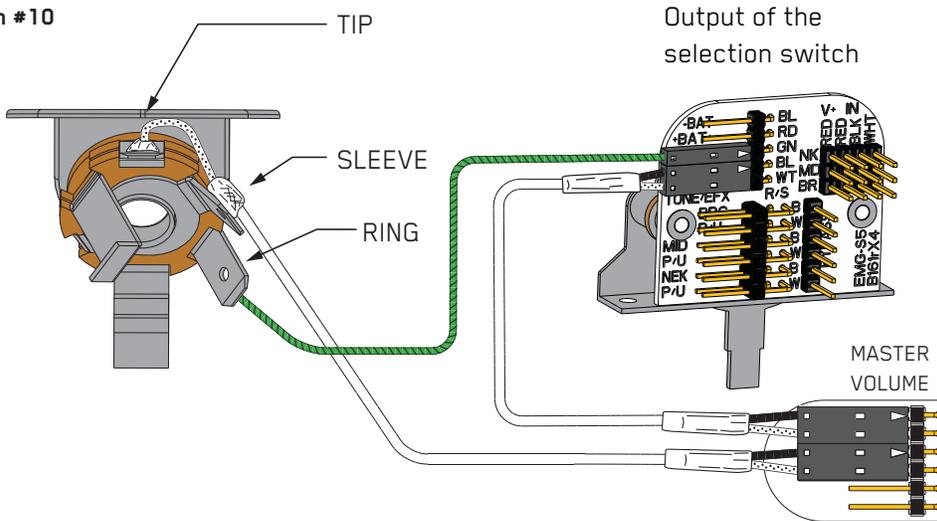
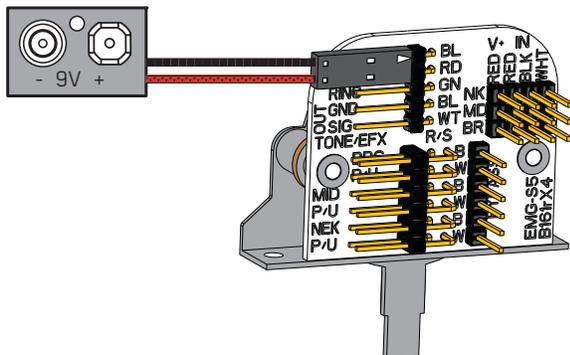


Diagram #11



**If the instrument has a Battery Holder:**

If your instrument has a 9 or 18-Volt battery holder you can still use the EMG Connectors to supply power to the pickups. Simply cut and strip the wires from the battery clip provided. Twist the wires together and use the shrink tubing included to cover the connections. Soldering the wires is the preferred.

Cover these connections with the shrink tubing provided.

