

Beginner Series #1:



The
Passive
Attenuator

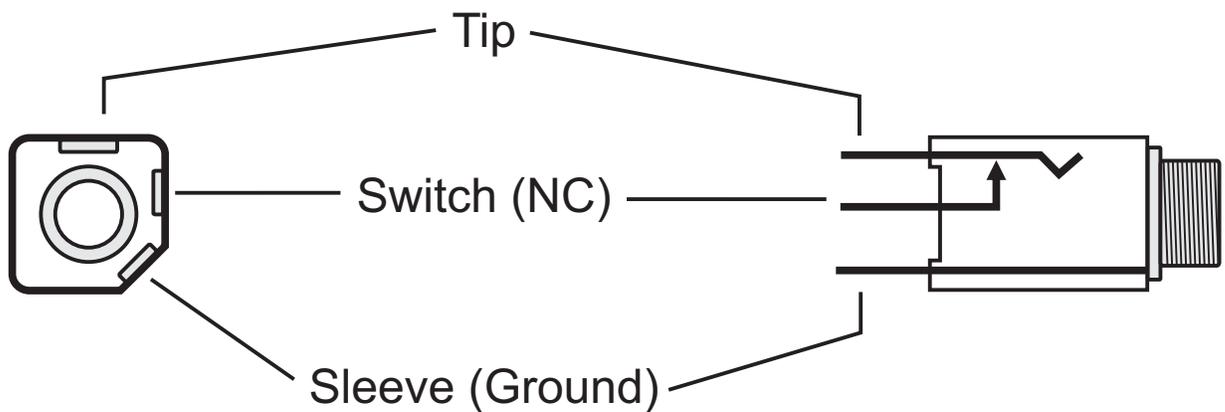
- and -

The
Jack
Multiple

Two views of enclosed jack (Switchcraft 112A):

rear view

side view



NC stands for normally closed. This means that the SWITCH pin is shorted (connected) to the TIP pin if there is no patch cord inserted. Plugging a patch cord into the jack will “break” (open) the connection between the SWITCH pin and the TIP pin.

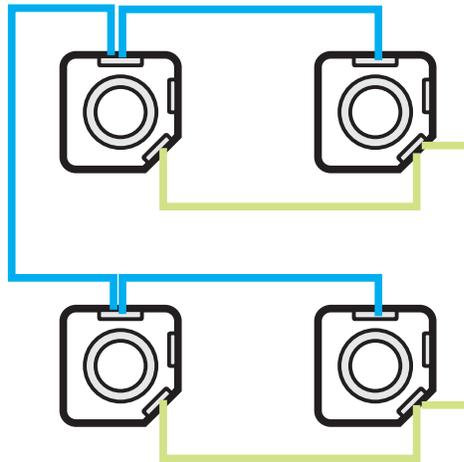
Simple Multiple

Connect all of the TIP pins together.

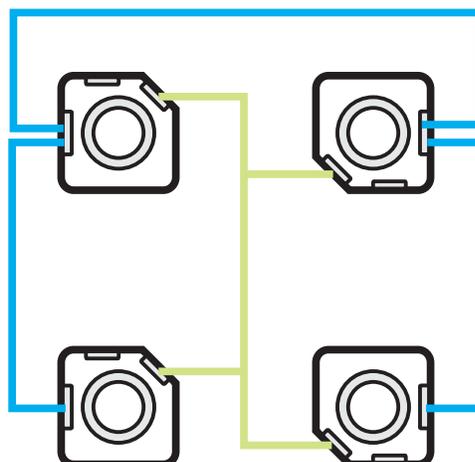
Connect all Ground pins together.

Any signal patched into one jack will appear at the other three jacks.

Commonly used to distribute Gate and CV outputs from a keyboard controller. Use it anytime you need to distribute one output to multiple inputs.



Feel free to rotate the jacks in either direction to make wiring easier for you. Below, the jacks are turned so that the Tip pins are on the outside and the Ground pins are in the middle. This makes it easy to run a bare wire down the middle for the Ground pins without the risk of shorting it out on any of the Tip or NC Switch pins.



Potentiometers can be confusing for the beginner. If you can't figure out which pin ground attaches to or where the wiper (that's pin 2) goes to on your pcb, don't feel foolish. "What goes to where?" may be the most common beginner's question.

In this next section we will build a Passive Attenuator.

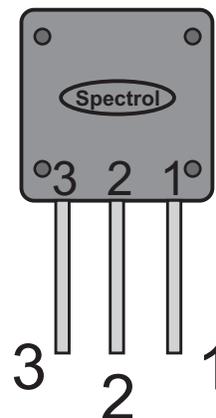
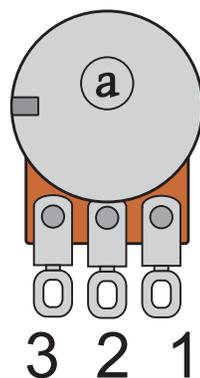
Passive meaning no power required.

Attenuator meaning any input signal will be let through unchanged or turned down to zero by rotating the pot counter clockwise. It does not boost the input signal.

It is very useful as part of a utility module.

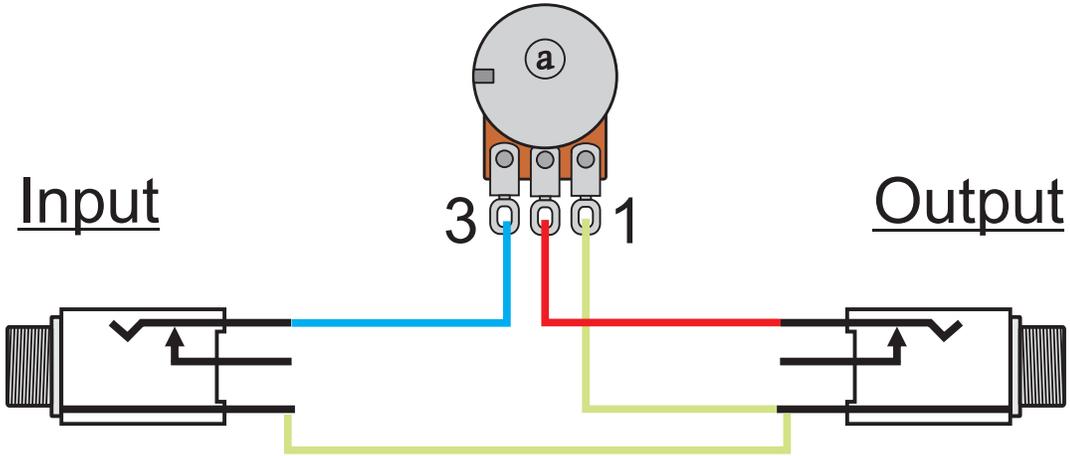
Also, the passive attenuator (minus the output jack) is found on almost every module. Common examples are input controls for mixer modules and CV inputs for VCFs, VCOs, and VCAs.

Rear view of an Alpha pot (left) and a sealed pcb mount pot (right). Pins are numbered in descending order when looking at the back of a pot.



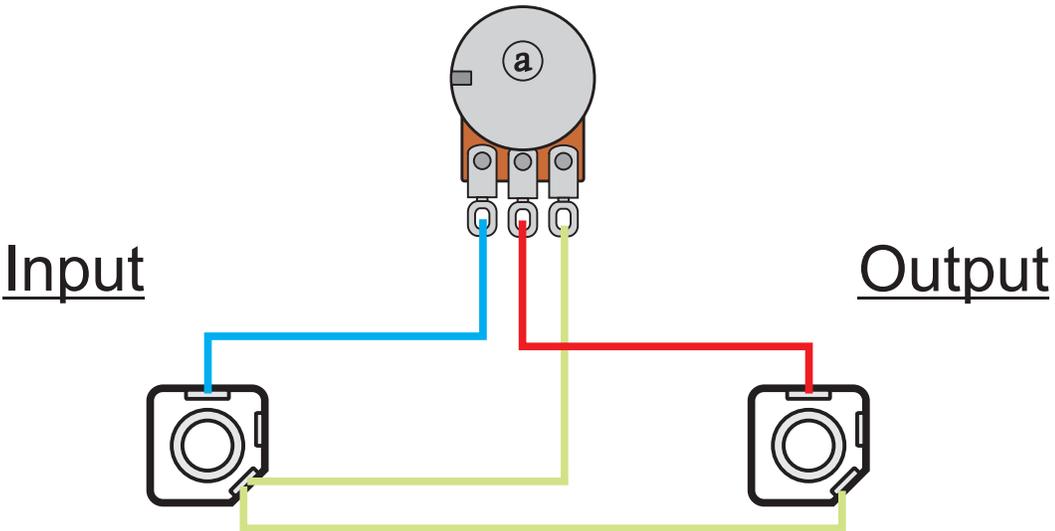
Passive Attenuator

Jacks sides view



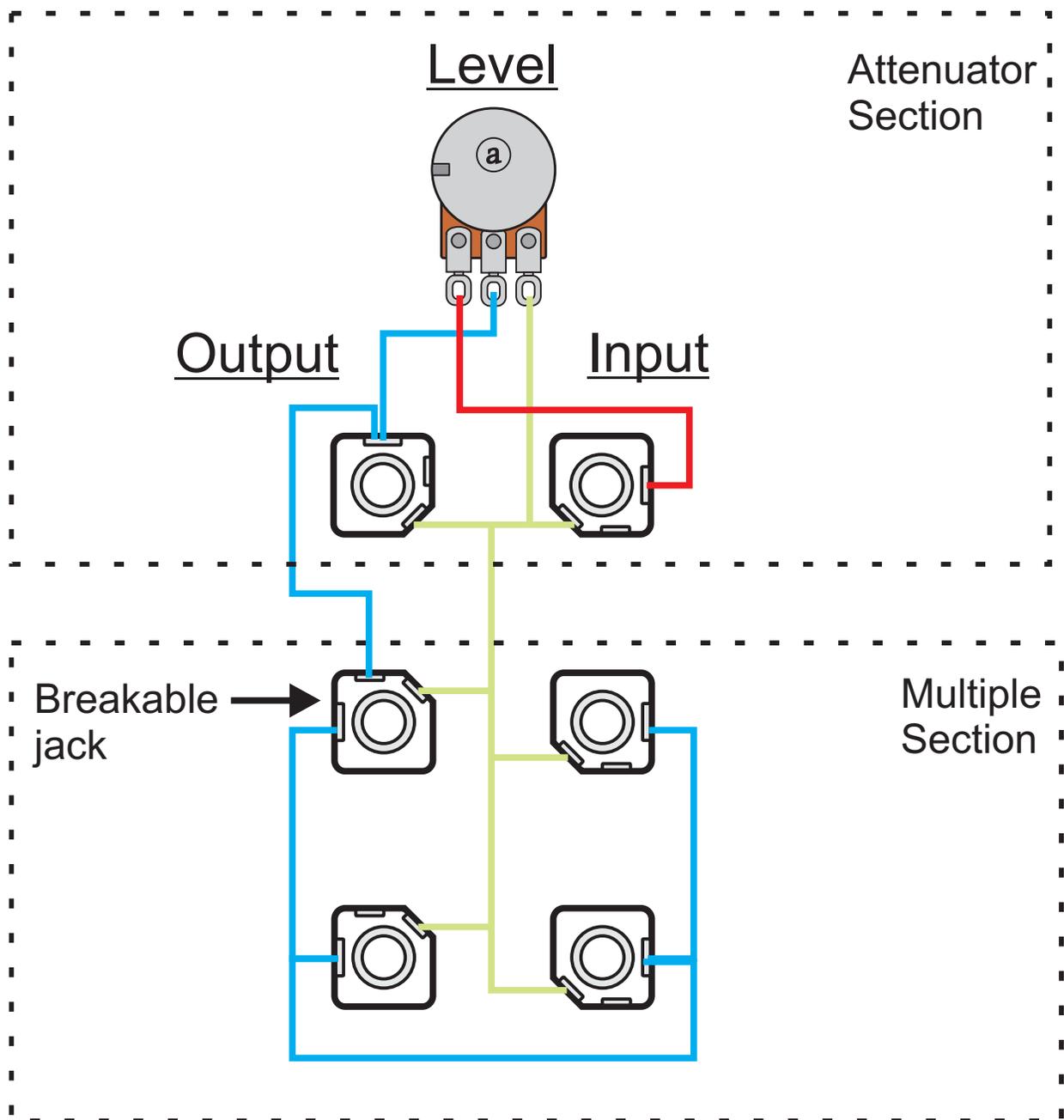
Passive Attenuator

Jacks rear view



Pin 1 of the pot and the Ground pins of the Input and Output jacks are tied together.

Passive attenuator with “breakable” Mult output.
The jacks have been turned to allow easier wiring.



The Multiple and Attenuator are linked together by the Switch pin on the “breaking jack”. When there is no patch cord plugged into the breaking jack the Output of the Attenuator is normalled/connected to the three jacks in the Multiple Section. Patching into the breaking jack will make the two sections independent. In this case, make sure to use the breaking jack as the input for the signal you want to distribute.