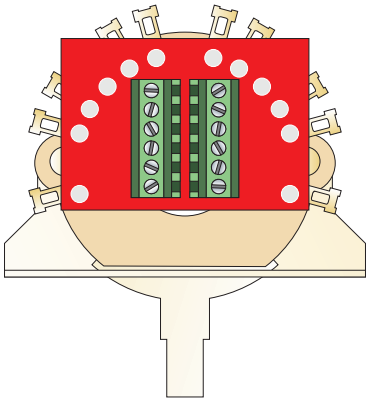
CORE 5-Way Switch Function



That's our CORE 5-way switch above. It can be a little intimidating if you're not sure how to use it, but it's actually very simple. And it works just like our 3-way and 4-way switches, so once you understand this one you'll understand all of them. Let's have a look.

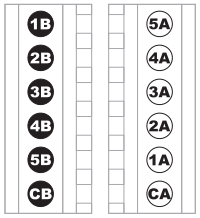
The illustration above shows how the switch lugs are arranged into two poles, with white being pole **A** and black being pole **B**. When we say that the switch has two poles, we mean that the switch is really two switches that share a single chassis. Each pole has five numbered lugs that correspond to the five switch positions. And each pole also has a sixth lug that's called a common lug.

When you move the switch lever, you're simply making connections between the numbered lugs and the common lugs:

Position 5: 5A and 5B connect to their common lugs
Position 4: 4A and 4B connect to their common lugs
Position 3: 3A and 3B connect to their common lugs
Position 2: 2A and 2B connect to their common lugs
Position 1: 1A and 1B connect to their common lugs

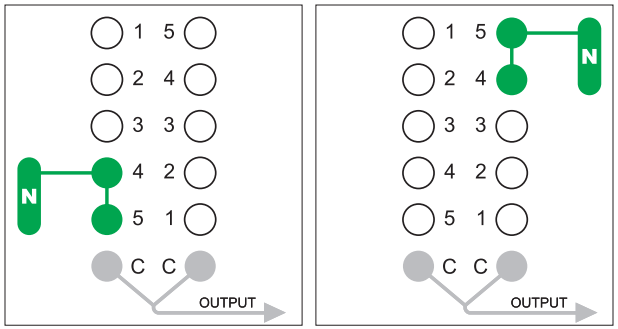
An aside: We use Fender's numbering convention, so when we speak about switch positions on the guitar, the bridge pickup is position 1, and the neck pickup is position 5.

On our CORE switches you won't solder to the lugs, you'll make connections to the green terminal blocks, and these are configured like this:



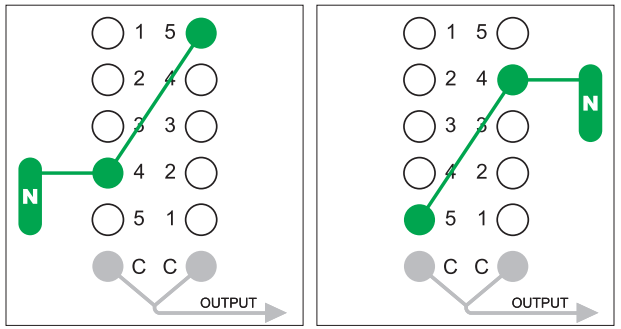
So let's say you want to wire a Stratocaster® in the traditional way. First, you would connect the two commons together, and these would then become your switch output, and (in most cases) would connect to the volume pot.

Then, you would connect each pickup to numbered lugs where you want it to come on. For instance, if you want the neck pickup to come on in positions 4 & 5, then you would connect that pickup's hot wire to either of the number 4 lugs, and either of the number 5 lugs. It doesn't matter which way you connect them, just make sure that the hot wire connects to a number 4 lug and a number 5 lug, like this.



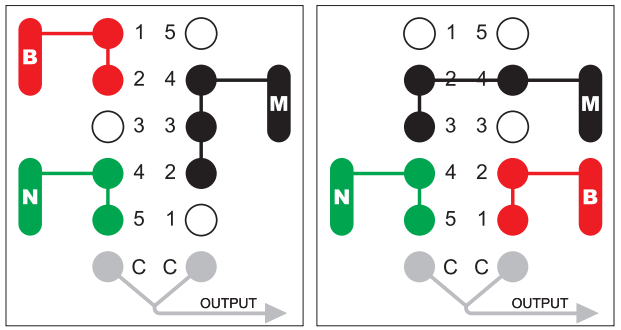
The pickup's ground wire would go to ground, of course. But the hot wire is connected to lugs 4 and 5, so the pickup will come on in positions 4 and 5, so long as the two common lugs are tied to each other and then go out to the volume pot.

But you don't even need to make the connections to the same pole, you can use both poles if you want:



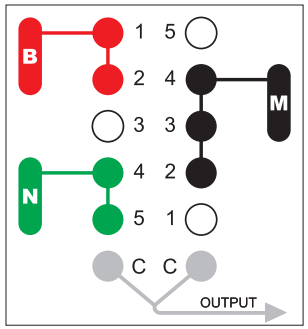
In any of these four connection schemes, the neck pickup will come on in positions 4 and 5. Simple!

So now let's add the other two pickups. We want the bridge on in positions 1 and 2, and the middle on in positions 2, 3, and 4:

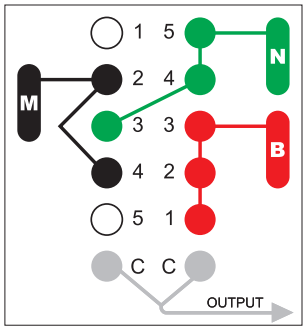


Again you can see that there are multiple ways to accomplish the same thing. In both examples above you'll get the neck on in 4/5, the bridge on in 1/2, and the middle on in 2/3/4.

But this switch allows for more granular operation than the normal Strat® 5-way, whether CRL (the original), or Oak-Grigsby (as used for the last several decades). Flip the page for a cool example.



Normal Strat Wiring



"Nashville" Wiring

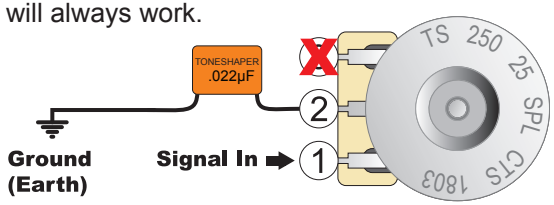
On the left is the straight-up Strat wiring we explored previously. On the right is "Nashville" wiring, which is a term that's typically reserved for Teles, but will work here too. Note the difference in position 3:

Position 5: neck
Position 4: middle + neck
Position 3: neck + bridge
Position 2: middle + bridge
Position 1: bridge

Cool, huh?

Tone Controls

Here's a passive tone control. There are other ways to wire tone controls, but this way is common and will always work.



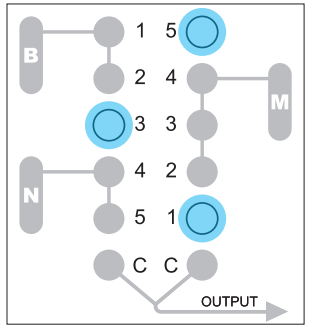
Note that you're only using lugs 1 & 2 on the tone control. The cap could be grounded by connecting it to lug 1 on the volume control (which is always grounded), or by connecting it to the back of the tone pot's casing (which should be grounded via shielding on the back of the pickguard). Doesn't matter, so long as one end of the cap is grounded.

By the way, pot lugs are numbered following a convention that is consistent in the industry. The pot numbering we're using here (1/2/3) may be applied consistently to pots purchased from Tone Shapers.

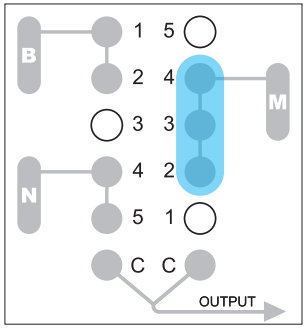
Okay, so how do you connect tone controls to your CORE switch? You have two options:

(1) Connect a tone control to one or more of the unused switch lugs, and that tone control will be active in that switch position(s).

(2) Connect a tone control to any of the lugs that a pickup is connected to, and the tone control will be active when that pickup is active.



(1) Tied To Switch Position



(2) Tied To Pickup

In example (1) above, connecting a wire from lug 1 of the *tone pot* to one or more of the unused switch lugs (blue circles) will make the tone control active in those switch positions. If you connected the tone control to lug 1, it will be active in switch position 1 and only position 1. If you connect it to lugs 5 & 3, it will be active in positions 5 & 3 only.

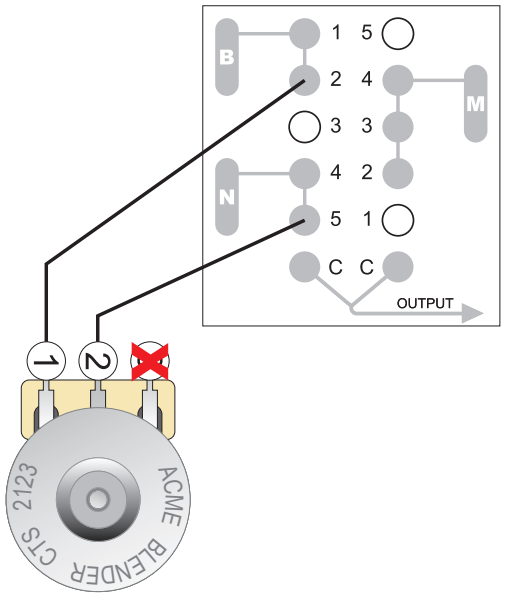
In example (2) above, connecting the tone control to any of the three lugs where the middle pickup is connected (blue highlight), the tone control will be active in all three of those positions.

In example 1 you can connect a tone control to more than one unused lug. If using example 2, you *must not* connect it to more than one pickup, or you'll get unforeseen consequences. However, you can use more than one tone control. For instance, if you have a tone control (T1) connected as shown in example 1, and another control (T2) connected as shown in example 2, then T1 would be active in positions 1/3/5, and T2 would be active in 2/3/4.

If you want a master tone control, then you would just connect the switch output (the common lugs) to both the input (lug 3) of the volume pot and to lug 1 of the tone pot.

Blender Control

If you want to add a blender control so you can combine your neck/bridge pickups together, it's super easy. The diagram below is the standard Strat setup we showed earlier, all you're going to add is the two wires from the blender pot, one to either of the bridge connections, and the other to either of the neck connections. Super easy!



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George Ellison	10/28/2021	CORE 5-Way Switch
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