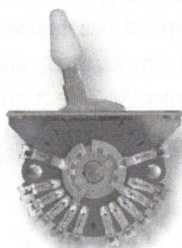


Super Switch

4-Pole, 5-Way Lever Action Pickup Selector

This switch allows a level of flexibility and control that is not possible with traditional lever switches. These instructions are designed to give you an understanding of how the switch works and how to develop your own custom ideas and set-ups. Coil cuts, series/parallel combinations, phase reversal and more can all be done.



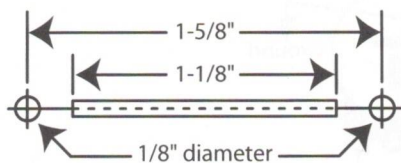
Terminal assignment

Terminal assignment: There are a total of 24 solder terminals (lugs) on this switch. The switch is divided into four separate circuits, or poles, and each pole has six lugs. Lug "0" is the "common" which is connected to other lugs depending on the lever's position. The five other terminals on each pole correspond to the five positions of the switch. Lug #1 = position 1, Lug #2 = position 2, etc.

Many lever switches use the commons as outputs for the switch, but with this switch this is not necessarily going to be the case. The commons of this switch can be used to connect pickups together in ways not possible with other switches. This is an important concept to understand when designing custom wiring for this switch.

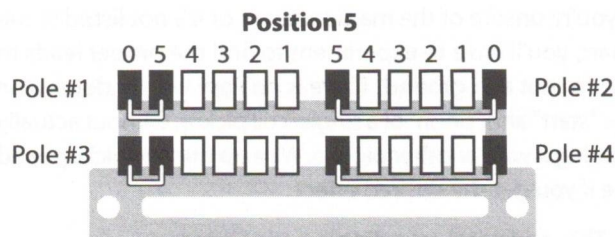
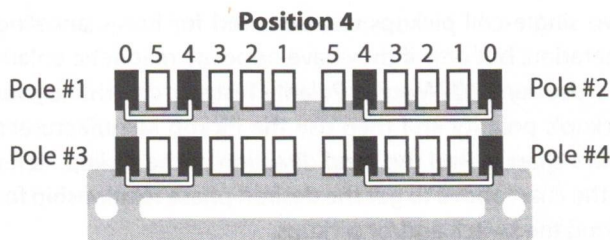
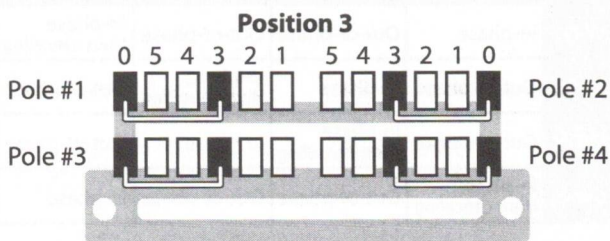
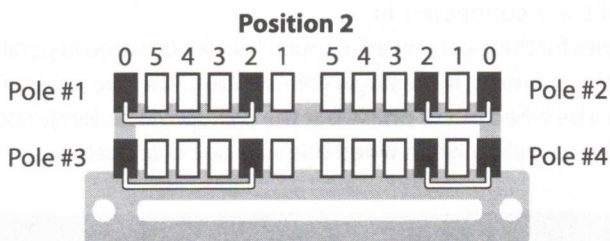
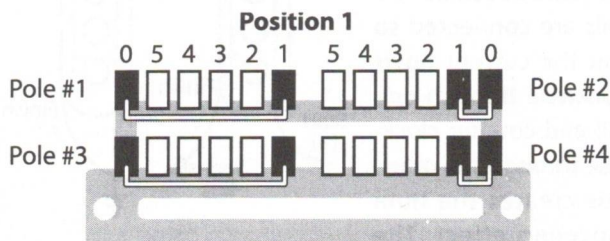
Installation

The switch requires a 1/16" x 1-1/8" long slot and two 1/8" diameter mounting holes located 1-5/8" on center. The switch requires a minimum of 1-7/16" deep rout for adequate clearance for the wiring.



Soldering tips

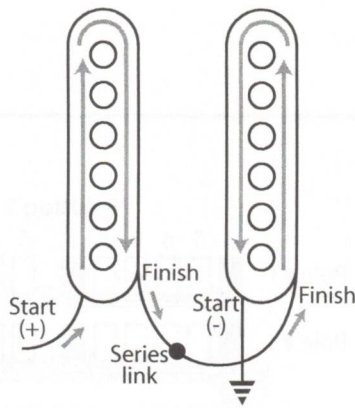
When soldering to the switch, be careful not to overheat the terminal lugs. This could damage the switch, or cause other intermittent problems. We recommend pre-tinning all connections prior to soldering—for improved contact and better solder joints. Be sure to use small diameter rosin-core



solder (DO NOT USE ACID CORE SOLDER!) and a 25-45 watt soldering pencil. Soldering guns are much too large for the small, delicate contacts of the components used in guitar electronics.

Humbucking pickups, phasing & magnetic polarities

A standard humbucker has two coils with opposite magnetic polarity, wound with the same number of turns and in the same direction. The coils are connected so that the current flows clockwise through one coil and counter clockwise through the other. This creates the hum canceling effect. The coils are connected in series for the most powerful sound but can be wired in parallel for a thinner, more single coil-like tone. The two coils can also be wired out of phase but the pickup will no longer be hum canceling when wired this way (see chart below).



	CW-N	CW-S	CCW-N	CCW-S
CW-N	In-phase	Out-of-phase	Out-of-phase	In-phase Hum-canceling
CW-S	Out-of-phase	In-phase	In-phase Hum-canceling	Out-of-phase
CCW-N	Out-of-phase	In-phase Hum-canceling	In-phase	Out-of-phase
CCW-S	In-phase Hum-canceling	Out-of-phase	Out-of-phase	In-phase

Two single-coil pickups can be wired for hum-canceling operation, but only if they have opposite magnetic polarities. Use our #5127 Magnet Polarity Tester to determine your pickup's polarity and then use the Pickup Manufacturer's Specs chart to find the wind direction of the pickup. Refer to the chart above to get the desired phase relationship for wiring the switch and/or pickups.

If you're unsure of the manufacturer, or it's not listed in the chart, you'll have to experiment to find the proper leads to use for hot and ground. There is no easy way to determine the "start" and "finish" of a single-coil pickup without actually hearing it with another pickup. Wire up the two pickups and see if you get the desired effect:

- Thin and nasal sounding = out-of-phase
- Warm and full, but with a buzz = in-phase
- Warm and full, and no buzz = in-phase, hum-canceling.

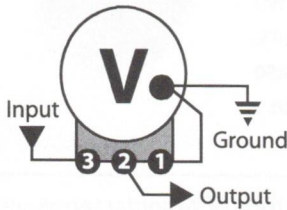
If the output sounds wrong, simply swap the two output wires of one of the two pickups.

Volume & tone potentiometer basics:

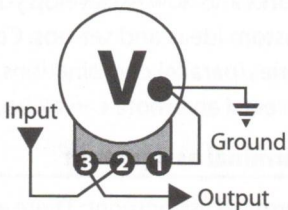
It's up to the user to determine if controls will be used, and how many. Volume and tone controls use the same type of potentiometer but are wired differently to achieve the desired result.

Volume pots are wired in one of two ways. The traditional method (**variation 1**) is used most of the time. The second method (**variation 2**) is used if you have more than one volume control, and you don't want one pickup's volume control to effect another pickup's output.

Volume pot (variation 1)



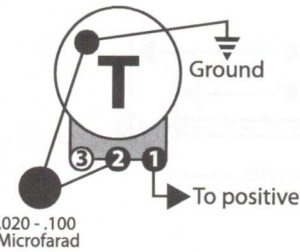
Volume pot (variation 2)



In many cases, you may only be able to incorporate a single or master volume control. Often the output(s) from the pickups must be sent to the switch prior to controlling the volume. Depending upon how the switching circuit is designed, you may or may not be able to access the outputs of the pickups independently. Analyze your circuit, and see where you can insert the volume controls. Often, from a player's standpoint, the fewer controls on a guitar, the better.

Tone controls use a capacitor in conjunction with a variable resistor (pot) to bleed off treble frequencies. Typically, guitars use .020-.100 microfarad caps—experiment to see what value pot and cap gives you the desired effect with your pickups and amp. The higher the value of the capacitor, the more it affects the signal. This is subjective, there is no right or wrong, just what works best for the individual.

Typical tone pot wiring



Pickup manufacturer's & specs

Key to Symbols: + = Manufacturers hot output

⏚ = Manufacturers ground

CW = Clockwise

M.P. = Magnetic Polarity

NA = Not Applicable

CCW = Counter-clockwise

Winding Direction = direction of wraps around the coil, looking at the top-face of the coil.

Pickup Manufacturer	Adjustable Pole			Slug Pole			Winding Direction	Notes and Special Instructions
	Start "A"	Finish "B"	M.P.	Start "C"	Finish "D"	M.P.		
Tom Anderson Humbucker	Black ⏚	White	South	Green	Red +	North	B-W coil is CCW G-R coil is CW	Anderson winds one coil opposite the other; therefore they tie a finish with a start. Both coils are slugs—no adjustable polepieces. Inspect bottom of pickup and trace colored wires to their coils.
Tom Anderson Single-coil	NA	NA	NA	Black ⏚	White, Red, Purple or Yellow +	North	CW	Reverse-wound reverse-polarity pickups are opposite these specs. Tapped single-coils are black ⏚, white +, and red ++, RW/RP black ⏚, yellow+ and purple++.
WD/Kent Armstrong Humbucker	Red (Pink) +	Blue (Black)	South	Green ⏚	White	North	CW	
WD/Kent Armstrong Single-coil	NA	NA	NA	Black ⏚	White +	South	CW	RW/RP has north top polarity.
Joe Barden Humbucker	Green ⏚	Red	South	Black +	White	North	CW	Output wire always exits under south polarity coil. All pickups are humbucking with stainless steel blade polepieces. Ceramic magnet applies magnetic field.
Benedetto Humbucker	Green ⏚	White	South	Red +	Black	North	CCW	Coil above "Benedetto" in the cover has a south polarity.
DiMarzio Humbucker	Green ⏚	White	South	Red +	Black	North	CCW	Output wire always exits pickup's baseplate under the south polarity coil.
DiMarzio Single-coil	NA	NA	NA	Black ⏚	White +	South	CW	
Seymour Duncan Humbucker	Green ⏚	Red	South	Black +	White	North	CW	
Seymour Duncan Single-coil	NA	NA	NA	Black ⏚	White +	South	CW	Antiquity pickups are wound CCW. RW/RP single-coil pickups are opposite the given specs.
Fender Stratocaster	NA	NA	NA	Black ⏚	White +	South	CW	First few production years have north polarity.
Fender Telecaster Lead	NA	NA	NA	Black (or blue) ⏚	White (or yellow) +	South	CCW	Magnetic polarities varied during early production years.
Fender Telecaster Rhythm	NA	NA	NA	Black ⏚	White +	South	CCW	Magnetic polarities varied during early production years.
Gibson Humbucker	Black ⏚	Green	South	Red +	White	North	CCW	For 2-conductor humbuckers the outer-braid is ground, inner is hot.
Gibson P-90	Black ⏚	White +	North	NA	NA	NA	CCW	
Gibson P-100	Black +	White ⏚	North	Black +	White ⏚	North	CCW	Coils are wired in parallel, in-phase. This allows the pickup to be hum-canceling, but retain single-coil type tones. The lower coil is inverted (rotated 180°) to achieve the reverse wind direction and electron flow.
Lindy Fralin Humbucker	Black ⏚	Red	South	White +	Red	North	CCW	Lindy ties the finishes together into a single tapped output (red). Some models may have opposite magnetic poles.
Lindy Fralin Single-coil	NA	NA	NA	Black +	White ⏚	North or South	CW or CCW	50's model pickups are wound CW and have "N" top polarity. 60's model pickups are wound CCW and have "S" polarity.
Schaller Humbucker	White	Green ⏚	South	Brown	Yellow +	North	CW	
Schaller Single-coil	NA	NA	NA	Black ⏚	White +	South or North	CW	South polarity for S6 and T6, North on S6 Vintage. The output wire is coaxial, so black (outer-braid) is ground and the white (inner-wire) is hot.