

DiMarzio® 4-Conductor Pickup Instructions

Please Note

If you have no previous experience with wiring or feel uncertain how to proceed, we strongly recommend having a professional do the pickup installation. The expense should not be very great, and it will help ensure you have a properly functioning instrument.

General Instructions

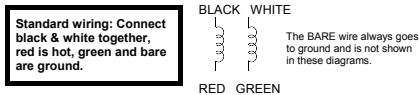
If you have purchased our pickup to replace one that is currently in your guitar, do the following:

- Remove your old pickup carefully. Installing your new pickup will be much easier if you unsolder your original pickup cleanly, rather than cut its wire. Make a note of exactly where the old pickup was connected as, in most cases, the new one will connect to the same place.
- Use a soldering iron with a fine tip (25 to 45 watts) and thin rosin core solder for all connections. If you intend to use a miniature switch with the pickup, use a high quality switch and try to be as clean as possible with the solder connections to avoid short circuits or damage to the switch.
- To take full advantage of your new pickup, we strongly recommend using DiMarzio parts and hardware. DiMarzio offers two push/pull Potentiometers, the EP1200PP (250K) and the EP1201PP (500K). Both of these controls are suitable for volume or tone, with double-pole, double-throw miniature switches built in. The switches perform exactly like separate miniature switches, and we recommend them in situations where you do not want to drill extra holes in the face or pick guard of your instrument.

IMPORTANT: although other brands of pickups may have the same color wires as ours, the connections are not necessarily the same. For our pickup to function properly, you must follow these instructions.

Standard Humbucking Series Wiring

All DiMarzio 4-conductor pickups have red, black, green and white wires. The actual color code for the coils is shown in this diagram:



The standard wiring for most humbuckers is series humbucking. To do this, solder the **BLACK** and **WHITE** wires together. Cover the solder connection with tape so it does not touch any other part of the circuit. Solder the **RED** wire to the hot connection in the guitar's circuit. In most cases where you are replacing a pickup, the **RED** wire will be soldered to the same place as the hot, or center wire of the original pickup. The **GREEN** and **BARE** wire are soldered to ground. Usually, this connection is made to the back of a control. When connecting the **BARE** wire to ground, make sure it does not come in contact with any other connections.

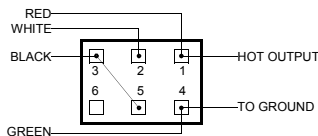
If you install a DiMarzio pickup in a two-pickup instrument and find the pickups to be out of phase (weak and thin) when they are on together, you must reverse the phase of one of the pickups. This applies to all DiMarzio pickups with side-by-side coils or blades when installed in guitars with single-coil pickups similar to Stratocasters. To reverse the phase of the DiMarzio pickup, reverse the red and green wires. Solder the **RED** wire to ground, and the **GREEN** wire to hot.

Standard Humbucking Parallel Wiring

There is a second way to wire a humbucking pickup, with the two coils in parallel. The pickup will still cancel hum, but it will be slightly less powerful, with more highs and an overall cleaner sound. To do this, solder the **RED** and **WHITE** wires together. This will be the hot connection. Solder the **GREEN** and **BLACK** wires together. This will be the ground connection. The bare wire will also be grounded. If you need to wire the pickup for reverse phase, the **GREEN** and **BLACK** connection will be hot and the **RED** and **WHITE** connection will be ground. The bare wire will still be grounded.

Dual Sound

This wiring will produce two sounds. One is with the pickup coils in series for maximum power. The second sound is with the coils in parallel. *Parallel wiring is not the same as turning off one coil.* Turning off a coil means the pickup is no longer humbucking, and no longer cancels hum. Dual Sound wiring cancels hum in both positions. A double-pole, double-throw (DPDT) miniature switch (DiMarzio EP1106) or a push-pull pot (EP1200PP or EP1201PP) is required for this option, and the wiring looks like this:



Be sure to make the jumper connection between poles 3 and 5 of the switch. The wire labeled **HOT OUTPUT** should be connected to the same place as your original pickup. The wire labeled **TO GROUND** is soldered to ground.

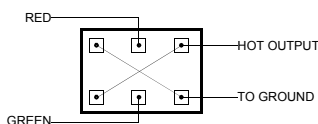
To reverse the phase of the pickup, use pole 4 as the **HOT OUTPUT** and connect pole 1 **TO GROUND**. The bare wire from the 4-conductor cable is always soldered to ground.

Dual Sound with Single-Coil Switching

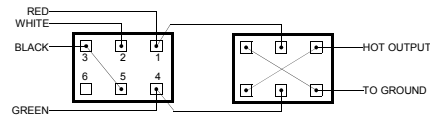
Following the same diagram above, you can use a three-position (on-on-on) DPDT mini switch (DiMarzio EP1108). The two outside positions will be series and parallel; the center position will be single-coil.

Phase Switch

Phase switching can only function in an instrument with two or more pickups. The effect will only occur when both pickups are on, and will be most obvious when the pickups are at approximately the same volume. Only one of the pickups should be wired to the phase switch, and it makes no audible difference which pickup you choose. The switch should be DPDT, the same type as for Dual Sound switching (DiMarzio EP1106) or push-pull pot (EP1200PP or EP1201PP).



If you want to wire the pickup to both a Dual Sound switch and a phase switch, first wire the pickup to the Dual Sound switch the same way as shown in the Dual Sound instructions; then connect the Dual Sound switch to the phase switch like this:

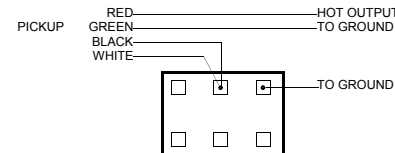


The wire labeled **HOT OUTPUT** is connected to the same spot as the original pickup. The wire labeled **TO GROUND** is soldered to a ground connection, such as the back of a control. The bare wire from the 4-conductor cable should also be soldered to ground.

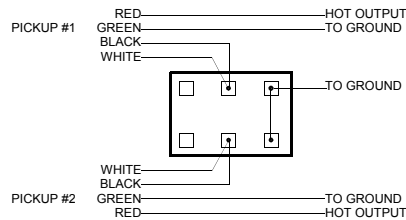
Single-Coil Switching (Coil Tapping, Coil Splitting)

Single-coil switching will produce a brighter, cleaner sound. With all side-by-side humbuckers, the volume will be less than with standard humbucking series wiring. With vertical humbuckers, such as the HS- and Virtual Vintage® series, the volume will be slightly greater as long as the coil closest to the strings (the one with red and black wires) remains on.

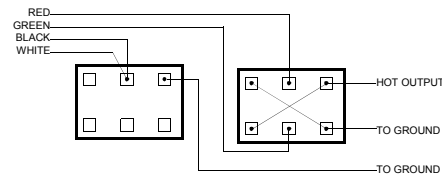
A switch is required for single-coil switching. It can be the same type of DPDT as is used for Dual Sound or phase switch, or a simpler single-pole, double-throw switch. The diagram shows the DPDT type.



The **BARE** wire is always soldered to ground. As only one side of the DPDT mini-switch is used, you may choose to have two pickups go from double- to single-coil on one switch, like this:



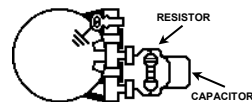
If you want to combine a phase switch with a single-coil switch, the diagram is this:



An interesting feature of this arrangement is that the phase switch has two functions. When two pickups are on together, it performs its normal task. When the pickup shown above is on alone and the single-coil switch is on, the position of the phase switch determines which of the two coils is turned off, giving a subtle variation in tone. Phase switching should not be combined with coil tapping on HS- and Virtual Vintage® models. In one position, it will turn the bottom coil on alone, producing almost no signal.

Treble Compensation

Many players notice a loss of high frequencies when the volume control is turned down. To avoid this, install a 560pF capacitor alone or with a 300K ohm resistor (270K or 330K will also work) in parallel across the two "hot" legs of the volume control, as shown in the drawing. Try to solder these components cleanly to the legs of the volume control, without breaking the solder connections that are already present.



Component Values

500 Kohm is the most common resistance value most guitar companies and players employ with humbuckers for both volume and tone controls. Using 250 Kohm controls will result in a little warmer sound and a slight drop in power. DiMarzio also offers a 1 Megohm tone control (DiMarzio EP1202) which slightly increases treble response and power. This control can be combined with either 250 Kohm or 500 Kohm volume controls. We recommend .022 µfd for the capacitor on the tone control.

Additional Notes

Wiring diagrams and technical information may be found on our website:

www.dimarzio.com

All DiMarzio pickups have been potted in an exclusive wax formula to eliminate squeal and subdue extraneous noise. For further noise reduction, we recommend shielding the entire guitar internally with DiMarzio Shielding Tape (EP1000). This will eliminate stray hum fields from the circuitry of your guitar.

If you have any problems or questions, please call our tech line, (718) 816-8112 between 12:00 PM and 5:00 PM Eastern Time or submit a request for technical support on our website.

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