

# DiMarzio Virtual Vintage<sup>®</sup>, Virtual T<sup>™</sup> and VirtuAL 2<sup>™</sup>

**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.

**IMPORTANT**—Virtual T<sup>™</sup> owners see **Special Notes on other side before installing pickups.**

## General Instructions

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

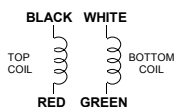
- Remove your old pickup carefully. Installing your new pickup will be much easier if you unsolder your original pickup cleanly, rather than cut its wires. Make a note of exactly where the old pickup was connected as, in most cases, the new one will go to the same place.
- Use a soldering iron with a 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, try to be as clean as possible with the solder connections to avoid short circuits or damage to the switch. DiMarzio offers two Push/Pull Potentiometers, the EP1200PP (250K) and the EP1201PP (500K) 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 pickguard of your instrument.

## Standard Series Humcancelling Wiring

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

The wires on all DiMarzio Virtual Vintage<sup>®</sup> models are red, black, green, white and bare. The actual arrangement of the coils is shown to the right.

The **BARE** wire always goes to ground. When connecting the **BARE** wire to ground, make sure it does not come in contact with any other connections.



Looking at your pickup, you will see that we have soldered the **BLACK** and **WHITE** wires together. This connects the two coils in humcancelling series mode, the standard operating mode for all Virtual Vintage<sup>®</sup> models. The solder connection is insulated 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 wire of the original pickup. The **GREEN** and **BARE** wires are soldered to ground. This ground connection is usually made to the back of a control.

If you install this pickup in a guitar with other pickups and find the pickups to be out of phase when they are on together, solder the **RED** wire to ground, and the **GREEN** wire to hot.

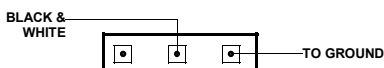
## Parallel Wiring

Because of the way the Virtual Vintage<sup>®</sup> line cancels hum, parallel (Dual Sound) wiring is not a useful option and is not recommended.

## Single-Coil Switching (Coil Splitting)

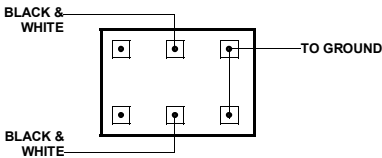
Single-coil mode will produce a slightly brighter and louder sound than series humcancelling mode, as long as the coil closest to the strings (the one with red and black wires) remains on. Single-coil mode is not humcancelling. We don't recommend using the bottom coil by itself under any circumstances, because the sound will be extremely weak.

To turn off one pickup coil, you can use the same type DPDT as is used for phase switching, or a simpler SPDT switch, or a push-pull pot. This diagram shows the SPDT type:



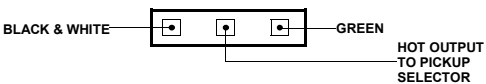
The **RED** wire is the hot output. The **GREEN** and **BARE** wires

are soldered to ground. Carefully remove the insulation from the black/white connection and solder a single wire to the connection. This will be the coil-split wire, which will connect to the split switch. Be sure to insulate this connection. 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:



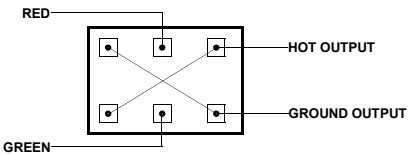
Again, the **GREEN** and **BARE** wires from both pickups go to ground. The **RED** wires on both pickup are the hot outputs.

To wire a split switch to a reverse-phase Virtual Vintage<sup>®</sup> using a SPDT switch (or one side of a DPDT switch), solder the RED and BARE wires to ground and wire the switch like this:



## 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 is a double-pole, double-throw type: DPDT (DiMarzio catalog number EP1106) or push-pull pot (EP1200PP or EP1201PP):



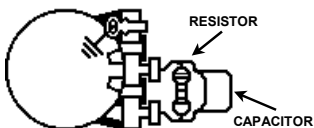
## Component Values

The Virtual Vintage<sup>®</sup> 2.1, 2.2, all VirtuAL 2<sup>™</sup> models and Virtual T<sup>™</sup> were designed to work with 250K controls. For a brighter overall sound, try 500K or 1 Meg tone controls (EP1202).

For all other Virtual Vintage<sup>®</sup> models we recommend 500K ohm (EP1201) pots for volume and tone. For more highs and overall 'cut', try a 500K volume with a 1 Meg tone pot. If you're mixing VirtuAL 2<sup>™</sup> and Virtual Vintage<sup>®</sup> models, it's usually best to use the higher resistance control value. For the tone controls, we recommend a capacitor value of .022  $\mu$ fd or .033  $\mu$ fd. The .033 value will roll off more high frequencies than the .022.

## Treble Compensation

Many players notice a loss of high frequencies when the volume control is turned down. To avoid this, install a 560 pF 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.



## Height Adjustment

Height adjustment is very much a matter of personal taste, and the following distances should only be taken as recommended starting points.

The Virtual Vintage<sup>®</sup> 2.1, 2.2, Virtual T<sup>™</sup> and VirtuAL 2<sup>™</sup> models have low magnet pull, and can be adjusted relatively close to the strings. At the highest fret (usually the 21<sup>st</sup> or 22<sup>nd</sup>), the closest recommended distances from the top of the magnet to the bottom of the string are: neck and middle pickups low E 3/32" (2.4 mm), high E 1/16" (1.6 mm), bridge pickup low E 1/16" (1.6 mm), high E 3/64" (1.2 mm). These settings will provide a lot of presence and attack. For a more open 1950s sound, try adjusting the

pickups 1/32" (0.8 mm) further from the strings.

All other Virtual Vintage® models use alnico 5 magnets with higher magnet pull. The closest recommended distances are: neck and middle pickups low E 1/8" (3.2 mm), high E 3/32" (2.4 mm), bridge pickup low E 3/32" (2.4 mm), high E 1/16" (1.6 mm).

### **Special Note for Virtual T™ Bridge Model**

Some older Telecaster® guitars and vintage reissues do not ground the bridge assembly with a wire. The grounding was accomplished via a metal plate on the bottom of many Tele bridge pickups. The Virtual T™ does not do this, but it is still important that the bridge be grounded to eliminate noise. If there is no independent ground wire running from the underside of the bridge to the control assembly, you should run an insulated wire from the back of the volume control through the bridge pickup cable exit and strip 1-2 inches (3-5 cm) of insulation from the end. Place the bare portion of the wire between the bridge and the face of the guitar so it is held securely when the bridge is screwed back to the guitar body after the new pickup is installed.

### **Special Note for Virtual T™ Neck Model**

The mounting dimensions of this model are based on U.S.-made Fender Telecasters®. Some pickguards from other sources may have a slot for the neck pickup that is too narrow to fit this pickup. The recommended width for the pickguard slot is .610" (15.5 mm). If the slot is too narrow, it should be widened with sandpaper or a file prior to pickup installation. Do not force the pickup through the slot if the slot is too narrow.

We have included two sets of mounting screws. The wood screws are for use with a pickup directly mounted to the body. Machine screws are for mounting through a pickguard.

### **Additional Notes**

Wiring diagrams and technical information may be found on our website: <http://www.dimarzio.com>

All DiMarzio pickups have been potted in an exclusive penetrating 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 email [tech@dimarzio.com](mailto:tech@dimarzio.com).

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