

Basic Pickup And Control Wiring

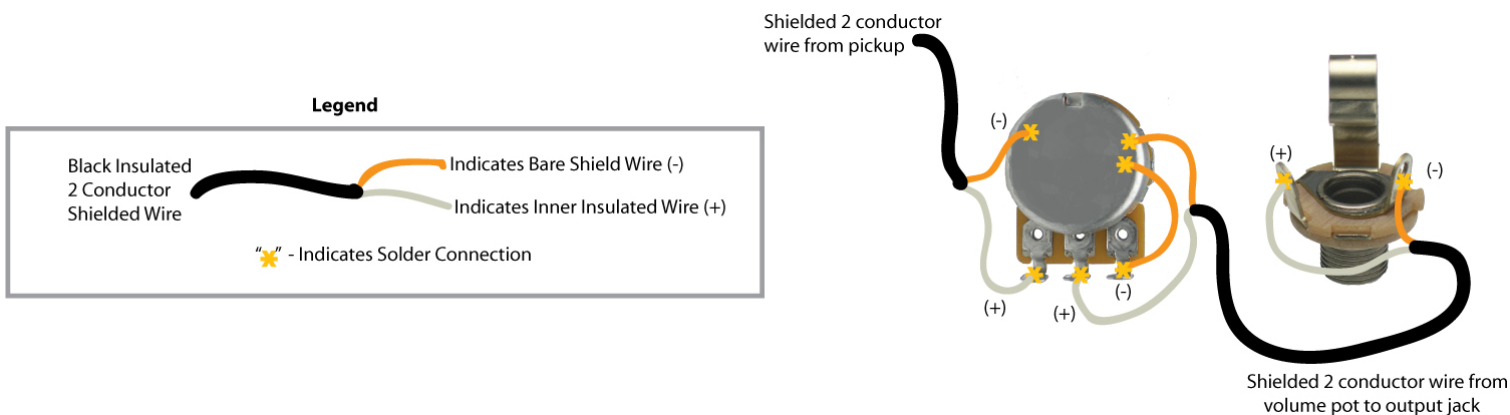
The lead wire that we use for all of our pickups is a two conductor shielded cable.

The cable is made up, from outside layer to inside layer, as follows:

- 1) Outer black covering.
- 2) Wrapped copper wire shielding - this is the ground or (-) lead.
- 3) Inner white insulated wire - this is the hot or (+) lead.

The diagram below shows how a pickup can be wired to a volume pot and output jack.

The volume pot should be a 500k audio taper pot (this is the same value and type of pot that is normally used in electric guitars with humbucking 2 coil pickups). All of our passive pickups have sufficient output to allow them to be wired to a volume pot without suffering any severe volume drop or tonal degradation. Wiring in a tone control is not advisable as one does not generally work well with any non-preamped piezo pickup.



About Pickups and Amplification

Terminology

Passive Pickup - A piezo pickup.

Impedance - To simplify things as much as possible we'll say that impedance refers to the range in which an amplifying device can 'hear' a pickup plugged into it.

Preamp - A device specifically designed for use with piezo pickups that increases the signal strength and lowers the impedance of a passive pickup.

Active Pickup - A piezo pickup with an attached preamp.

Microphone Preamp - a device that may be built into P.A. systems and mixers that is designed to work with microphones. These units will not generally work with passive pickups.

'Normal' Electric Guitar Amps: A passive pickup has an impedance of approximately 2 mega ohms (2 million ohms) which virtually all 'normal' electric guitar amps can generally handle without issue.

'Acoustic' Amps: may or may not require the use of a preamp with a pickup and that will depend upon whether or not there is a special built in preamp section to that amp that specifically allows for the choice in plugging in either a passive (non-preamped) or active (preamped) pickup. This choice is quite often in the form of pushbutton on the amp's control panel. Many acoustic amps show a selection that may indicate the choice of 'high impedance' and 'low impedance'.

Low impedance in these instances usually indicates that in this range the amp will handle an impedance of 1000 ohms or less - which will allow active pickups with preamps to be used.

High impedance in these instances may indicate an allowable impedance into the 2 or 3 mega ohm range - which will allow passive pickups to be used. Or it may indicate a maximum input impedance allowed of 20,000 ohms or less - which will handle magnetic electric guitar pickups but not passive pickups. You should carefully read the technical specifications of your acoustic amp in order to see what it will do.

P.A. Systems, Mixers: all of these units will require the use of a preamp between themselves and a passive pickup.

Microphone preamps built into P.A.'s and mixers are not designed for use with passive pickups and will not work properly.

Computers: Due to the vagaries and variables inherent in the sound cards found in computers, the only thing that we can advise is that a preamp will almost certainly be necessary.