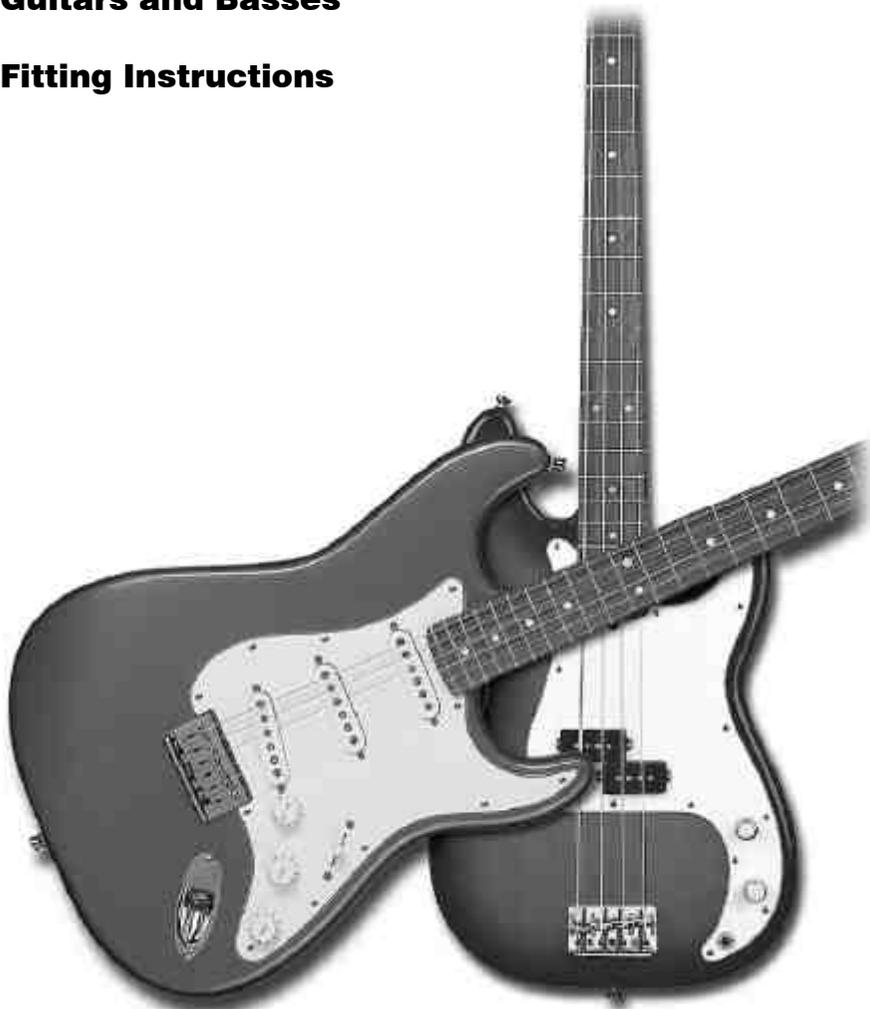


Activator 2

**JFET Preamp Kit for
Guitars and Basses**

Fitting Instructions



www.guitar-repairs.co.uk

Activator - Retrofit musical instrument preamp kit.

Thank you for purchasing an Activator Preamp kit, this simple to fit unit will, if fitted correctly, give your instrument added power (An extra 5dB - Virtually twice the output!), enable you to use long cables and masses of pedals without loss of level or tone and prevent treble loss when the volume control is turned down.

The module is epoxy encapsulated for reliability and ease of mounting, and contains state of the art JFET electronics to give low noise, low distortion performance.

Please note that the Activator Preamp is designed to be fitted to instruments with a single volume control, and will give its best performance in this configuration. The Activator can be fitted to instruments with two volume controls, however the pickups will not be buffered from the volume pots when used in this configuration (See Note a)

Before you start

Before you eagerly reduce your beloved instrument to a pile of bits, you will need to organise a suitable place to work and a few basic tools.

You will need an area large enough to lay your instrument on with sufficient space left over to accommodate your tools, and any dismantled parts laid out in a logical manner. It is a good idea to use a blanket or towel to rest your instrument on to prevent any damage to the back of the guitar. Similarly, a few strategically placed soft cloths will protect the front from solder splashes and dropped tools.

The tools required to fit the Activator module to your instrument are:

- Small Phillips Screwdriver,
- A Pair of Small Wire Cutters,
- Craft Knife (Or Wire Stripper),
- Pliers or Spanners to fit nuts on Pots and Jack Socket,
- Soldering Iron (A 25 Watt Model is ideal).

Before you commence fitting, please check the contents of the package to ensure there are no components missing - the pack should contain the following items:

- The Activator Module
- 1 Replacement Jack Socket (With wires attached)
- 1 Battery Clip
- 4 Pieces of Heat Shrink Sleeving,
- 1 Length of Cored Solder.
- 2 Lengths of Hookup Wire (To practice your soldering with!)
- 2 Cable ties.
- 2 Double Sided Adhesive Pads
- 1 1M Resistor (See Note e)
- This Instruction Manual.

Soldering

The success of any electronic project depends on your skill with a soldering iron, it is with this in mind that we have included a couple of lengths of spare hookup wire to practice with.

Always keep your soldering iron bit clean and tinned. Do not use a file or sandpaper, the tip is coated and will not last very long once the coating is worn away, occasionally wiping the tip on a piece of damp sponge as you work will do the trick. To tin the bit, touch the end of a piece of cored solder to the tip until the metal flows over the bit, then wipe off the excess.

To make a soldered joint of, for example, a piece of hook-up wire to a component tag, first strip about 3mm of insulation from the end of the wire, then tin the exposed copper. To do this touch the soldering iron and the solder to the wire for a second or two until the solder melts and flows into the wire - do not use so much solder that you end up with a blob! Repeat this tinning process on the component tag (To practice, use your old jack socket) Now lay the tinned end of the wire on the component tag and apply the iron to the joint for a couple of seconds until the solder flows nicely over both parts. You will have to practice this to get it just right, aim for a nice shiny finish to the joint with the edge of the solder looking as though it is "wetting" the metal underneath. Try not to move the joint for a second or two as this will result in a "dry" joint that has a matt grey appearance and will not give a reliable connection.

Installation

Note - these instructions apply to a Strat type instrument, see the appropriate notes for fitting the Activator to other styles of instrument.

- 1 - Remove or loosen strings sufficiently to allow removal of scratchplate.
- 2 - Remove all screws and carefully lift out the scratchplate - the wires to the jack socket and bridge/trem earth connection will still be attached so it will not be possible to completely remove the assembly at this point.
- 3 - At this stage, you should make a rough sketch of all the connections to the controls on the scratchplate, noting the colours of wires, if appropriate.
- 4 - Unsolder the wire to the and the bridge / trem earth connection, It will now be possible to completely remove the scratchplate assembly from the instrument.
- 5 - Unsolder both ends of wire A that connects tag 4 of the pickup switch to tag x of the volume control pot (See Note b).
- 6 - Unsolder the wire from the volume pot to the jack socket (B). On most instruments the earth wire is soldered directly to the metal can of the pot at point C, when unsoldering this connection, "wet" the joint with a little fresh solder - this helps to transfer heat to the joint.

- 7 - Remove the jack socket and any wires attached to it. On most Strat type guitars, you will need to remove the chrome mounting plate to gain access to the socket.
- 8 - Fit the new jack socket, if the original socket had a shakeproof or "star" washer fitted, it is a good idea to re-use this.
- 9 - Cut the screened cable from the jack socket to a suitable length and strip the outer insulation - ensure that you leave enough spare cable to enable easy future removal of the scratchplate!
- 10 - Solder the "hot" centre core of the screened cable from the jack socket to tag y of the volume pot.
- 11 - Re-solder any earth wires that you previously removed to point C on the volume pot, together with the outer braid of the screened cable from the jack socket. Take care not to melt the insulation on the centre cores of any screened cables during this operation.
- 12 - Solder the yellow wire from the Activator module to tag x on the volume pot.
- 13 - Solder the the green wire from the Activator module to a convenient earth point (The metal can of any of the control pots will be ideal).

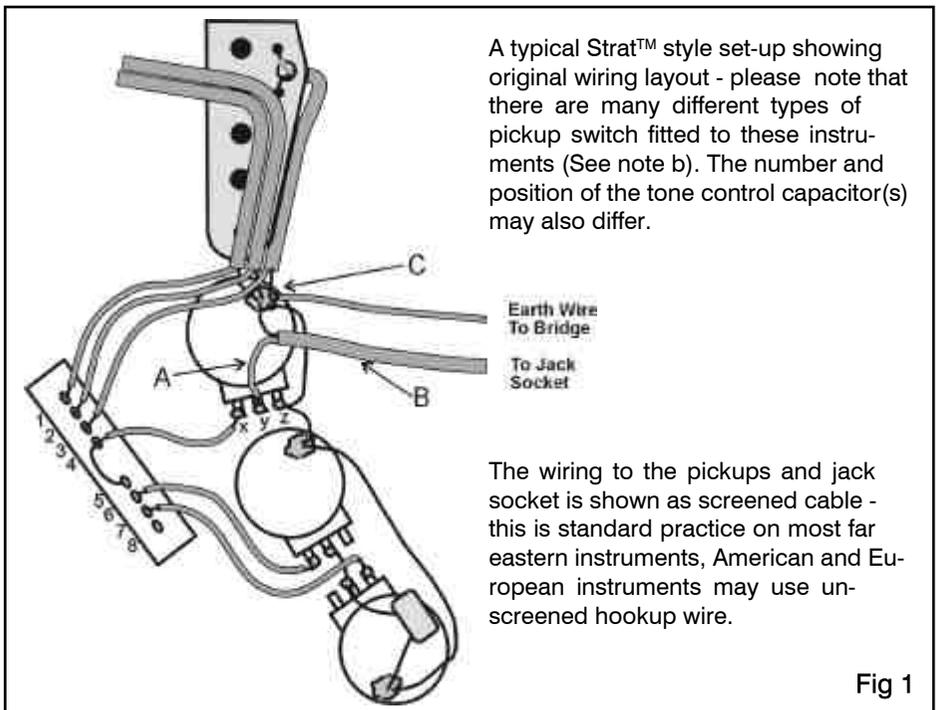
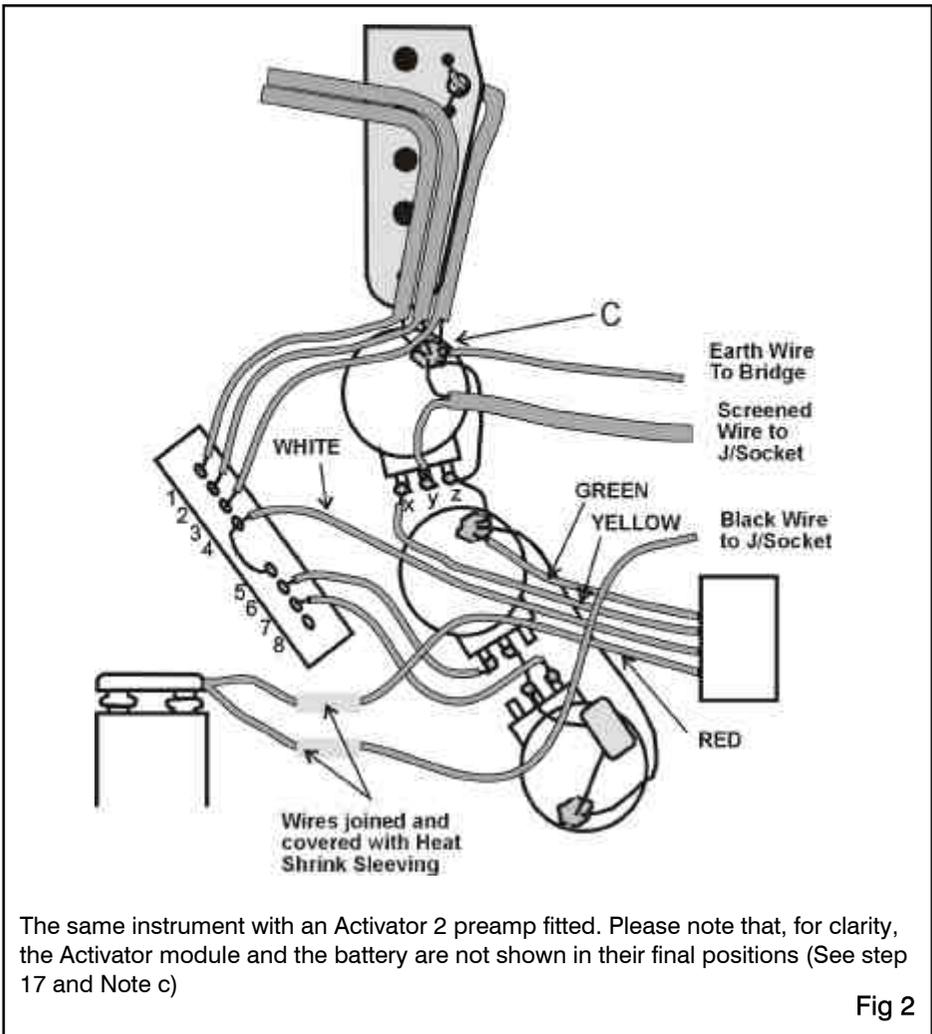


Fig 1

14 - Solder the the white wire from the Activator module to tag 4 on the pickup switch (See note b).

15 - Choose a suitable location for the battery (See note c), and place the battery clip in position, again leaving sufficient cable to allow easy removal of the scratchplate.

16 - Slide the 2 pieces of heatshrink sleeving over the two wires leading to the battery clip. Solder the red wire to the red wire from the Activator module, and the black wire to the black wire from the jack socket. Once you have soldered the joints, slide the pieces of heatshrink sleeving up to cover the joints and heat the sleeving over a flame for a couple of seconds to shrink it tightly over them.



The same instrument with an Activator 2 preamp fitted. Please note that, for clarity, the Activator module and the battery are not shown in their final positions (See step 17 and Note c)

Fig 2

17 - Choose a suitable location for the Activator module and fix it in place using either the double sided adhesive pad to stick it to a flat surface, or a small cable tie to tie it to the guitar wiring. On a Strat-type instrument, it will usually fit quite neatly between the 5-way switch and the volume pot.

18 - Reconnect the earth wire from the bridge/trem to its original location.

19 - If necessary, wrap a cable tie around any loose wiring to keep it neatly in place, then refit the scratchplate, ensuring that no wires are trapped between it and the body of the instrument.

20 - Treat your guitar to a new set of strings, tune up, turn your amp up to 11 and let rip - Enjoy!!

Notes

- a To fit the Activator module to instruments with more than one volume control (eg Les Pauls, Jazz Basses etc), the input (White) wire of the module should be connected to the wire that originally connected to the “hot” terminal of the jack socket (This usually comes from the pickup switch). The output (Yellow) wire should then be connected to the inner core of the cable from the new jack socket. Use two pieces of heatshrink sleeving to insulate these connections. The battery and earth connections should be made as detailed in the main instructions. Although the Activator will function perfectly well in this configuration, the pickups will not be buffered from the loading effect of the volume and tone pots, which will slightly reduce the high frequency response of the instrument.

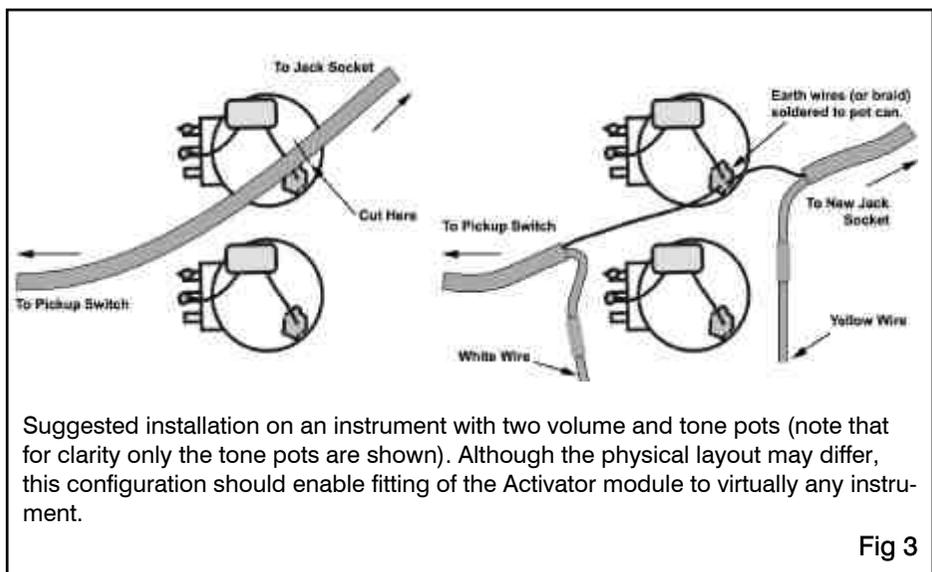


Fig 3

- b The physical layout of pickup switches will vary from one instrument to another, although their electrical function will always be similar. The switch fitted to most three pickup instruments will normally be a two pole, three way type, with the two poles being connected together as shown in fig 4. The only connection you will need to make to this switch is to the poles - if you spend a few minutes following the wiring in your instrument and comparing it to figures 1 and 4, all should become clear.

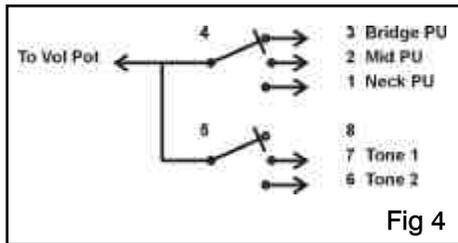


Fig 4

- c On a typical instrument, there are a few possible positions for the battery, the most obvious being in the bottom of the control cavity. This does however make battery replacement a chore if all the strings have to be removed for access!
- d On instruments with a fulcrum trem system, if the trem springs are mounted as shown in Fig 5, the battery will fit neatly under the backplate as shown - a small piece of foam will prevent any movement.

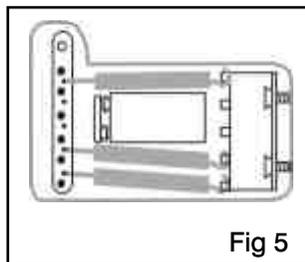


Fig 5

- e If the sound of the instrument is felt to have too much high frequency content (ie a "glassy" or "brittle" sound), this can be "tamed" by connecting a 1M resistor (supplied) between the input of the Activator module (The white wire) and earth as shown in fig 6. This will partially restore the loading effect of the guitar's controls, introducing a gentle high-frequency "roll-off".

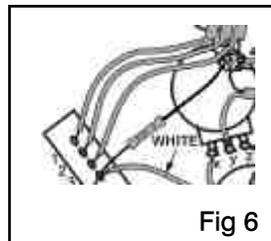


Fig 6

- f Check that all earth connections to bridge, tone pots etc are sound, and if there is no screening foil or finish in the control cavity or under the pickups, it strongly recommended that you fit some - Single coil pickups will always be liable to hum and noise, but screening will greatly reduce the level of this.
- g To obtain the best performance from your instrument, always ensure that the pickup pole pieces are as adjusted close to the strings as possible without rattles or "string pull" (A warbling sound usually heard on the G string, with "vintage" pickups with staggered magnets)
- h It is recommended that you always use an alkaline battery to ensure best performance from your Activator system. With normal usage, the battery life should be around 1000 hours. Please remember that the battery is switched on by inserting a plug into the jack socket, so always unplug the instrument when it is not in use.
- i Always turn down the volume on your amplifier when plugging in or unplugging the instrument, to avoid loud pops.

Specifications

Supply Voltage: 9v

Reverse Polarity Protection: yes

Freq Response: 20Hz - 20kHz

Input Impedance: 1M

Voltage Gain: 5dB

Max undistorted output: 5v pp

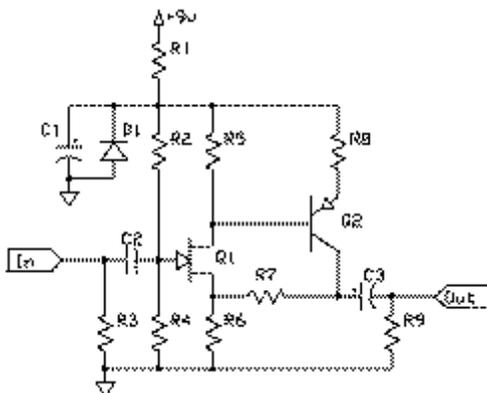


Fig 3

Warranty

The Activator Module is warranted for a period of twelve months.

This warranty does not cover failure due to improper installation, abuse or damage.

If at any time a module fails to work, return it postage prepaid with proof of purchase. If upon examination the module is determined to be defective, a replacement will be made at no charge.

Warranty replacement products are covered by this same warranty.

This warranty is not transferable and does not affect your statutory rights.

Contact

Henry Nurdin,
51 Garth Owen, Newtown, Powys, SY16 1JL, UK
Email: henry@guitar-repairs.co.uk
Website: www.guitar-repairs.co.uk