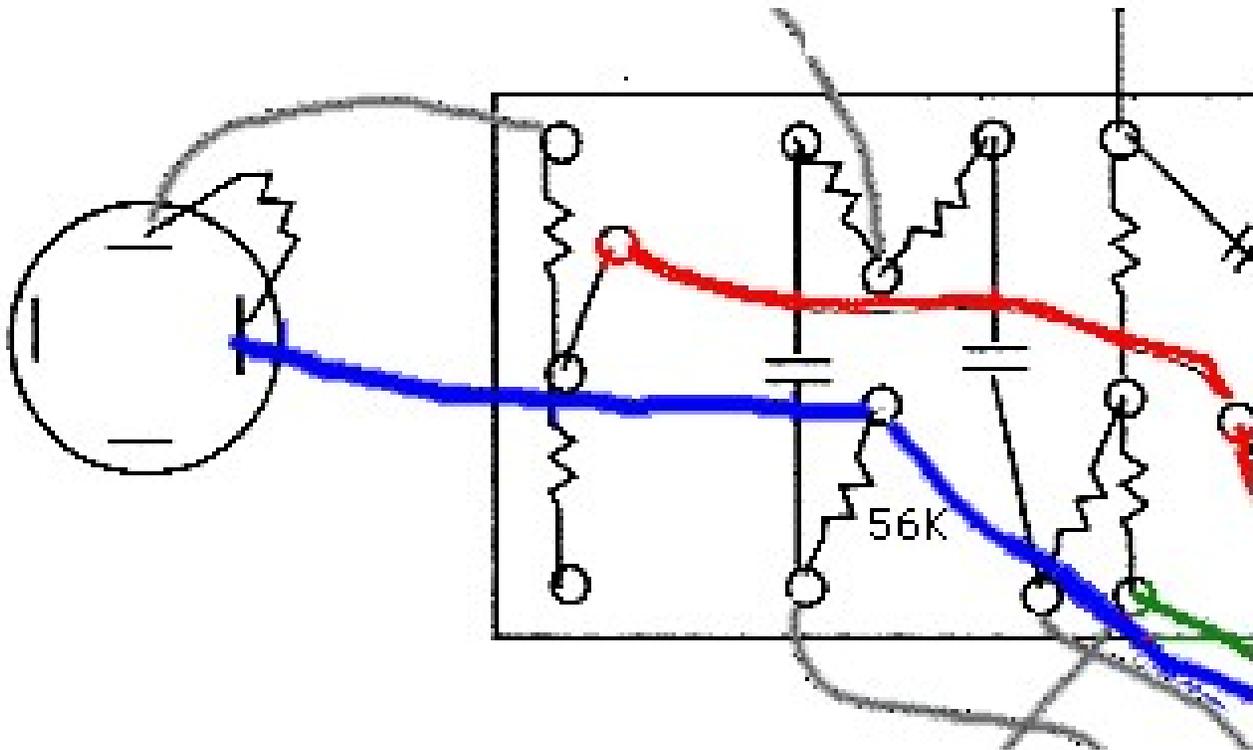


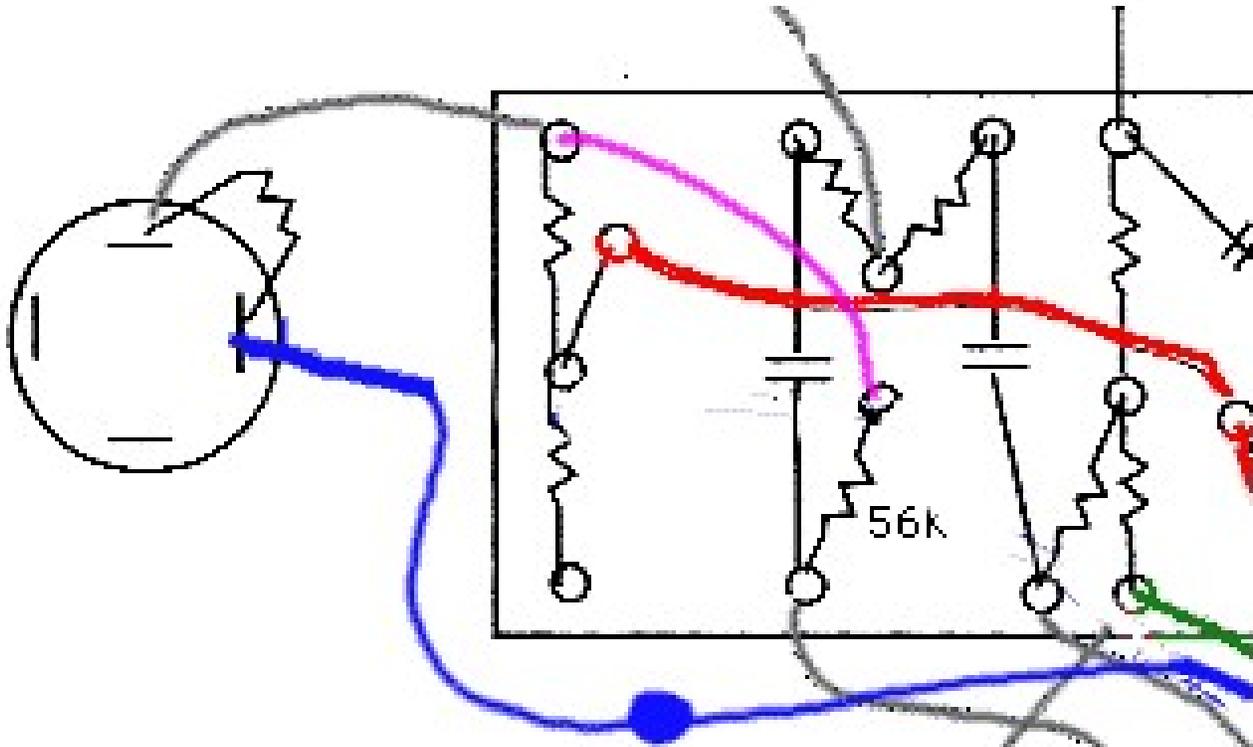
Increasing the plate voltage of a split-load phase inverter (Stokes mod)

John Stokes came up with this mod to get a little more volume out of Fender Princetons and Princeton Reverbs by raising the plate voltage on the split load phase inverter. In Princeton Reverbs there is an untapped filter stage that is ideal for this purpose. By moving the plate supply for the phase inverter back to the unused filter stage, the plate voltage changed from 195v to 250v. The higher voltage gives the phase inverter more headroom.

This is not a tremendous difference, but it may allow the phase inverter to drive the power tubes closer to saturation. And, unlike converting to a long-tailed pair phase inverter, it doesn't change the variety of tones that you can get out of this amp.



Locate the wires marked in blue on the above diagram (they won't necessarily be blue in the amp). These wires connect to the 56K resistor (green-blue-orange). Unsolder these two from the end of the 56K resistor, lift them off the board, solder them together and heat-shrink them.



Now, with a new short piece of wire (violet in the above diagram) connect this new wire between the end of the 1 watt 18K resistor at the top left of the fiber board to the 56K resistor where you just removed the 2 blue wires.

Note:

I read a post that warned about possible excessive voltage on the cathode when doing this mod. The poster said that a 12AX7 tube could take up to 100v on the cathode but not more. His schematic of a Princeton listed 65v being present on the phase inverter's cathode in the stock design, and thought there would be enough headroom so that the 100v max wouldn't be exceeded.

I didn't measure the PI's voltage before doing this mod, but my schematic listed its voltage at 50v. It's currently at 65v after doing this mod, so it doesn't appear that the tube is being stressed. It's also held up for over 10 years, so I am beginning to think it's OK.