

- This circuit is a "cascode". It is capable of high gain, is very linear and is non-microphonic.
- A comparison to triode: JFET Source = Cathode; JFET gate = grid; MOSFET Drain = Plate.
- The MOSFET is wired as a simple voltage regulator. The 1M resistor, zener and 10uf cap set the reference voltage. Use a 24v or less zener.
- A signal applied to the "grid" causes the current through the JFET, MOSFET and 100k "plate" resistor to vary. The output is tapped off the "plate" resistor, like a normal tube gain stage.
- Select a value for R_s that sets the "plate" voltage at approximately 50% of the supply voltage. Try typical 12AX7 cathode resistor values. Check the gain. If you want more gain, add bypass cap C_b . If that gives too much gain, put resistor R_b in series with bypass cap. The value of bypass cap can be used for tone shaping,

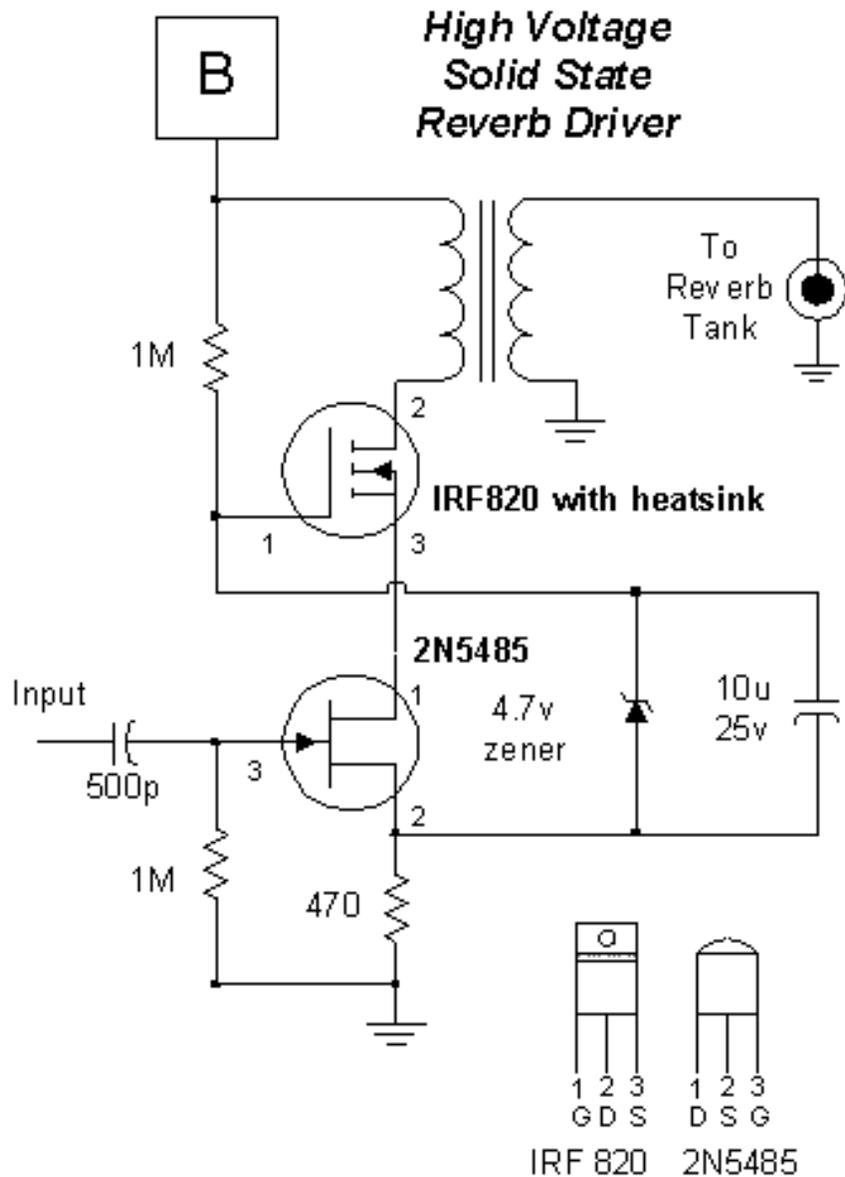
as in triode stage.

- The "plate" resistor can be varied over a wide range similar to 12AX7. The output cap can be varied for tone shaping purposes.
- This circuit works well as a 1st gain stage, or a reverb return amplifier.
- No heatsink is required for the IRF820 in this configuration.

This is similar to the High Voltage Solid State Preamp stage, with the following exceptions:

- The "plate" load is a standard Fender-style reverb transformer.
- The "cathode" is unbypassed.
- The zener value has been reduced to 4.7v
- The zener is tied to the "cathode" instead of ground. This allows a fairly large input signal to pass through

High Voltage Solid State Reverb Driver



- relatively clean.
- This circuit can be inserted anywhere you would put the standard 12AT7-based circuit.
- A small heatsink is required for the IRF820. Remember that the heatsink is connected to the MOSFET Drain and has high voltage on it.