

Regulated high voltage is self-contained on the driver board and is realized with a conventional LM317 floating regulator. The operation of this regulator has been described in this and other publications (the National Semiconductor 1982 *Voltage Regulator Handbook*).

De-construction

Since you will be starting with an amplifier that may have been assembled more than twenty years ago (and possibly with questionable construction techniques), the first step is to completely disassemble the original amplifier.

The hardware you will retain includes the four octal sockets, the input connector (RCA phono), speaker output terminals, fuse holder, power switch, pow-

er cord, and the 7-pin terminal strip. If any parts look dirty, worn, corroded or otherwise questionable, I strongly suggest you replace them. An attempt at cost cutting now can result in runaway output tubes (dirty pin 5) or other more extensive problems and headaches in the future. Therefore, carefully remove and clean all solder and wire remnants from the terminals of the salvaged hardware.

The electrical components we retain include the transformers, choke, filter capacitor (four-section electrolytic), 15.6Ω output tube cathode bias resistors, and the 0.02μF dual ceramic capacitor. The electrolytic capacitor is the most likely to be defective. Any of the four sections could be defective. A dead (pun intended) giveaway is a brown powdery

substance at the base of any of the lugs or around the diameter of the phenolic (near the phenolic aluminum intersection). If you see this, just replace it, since if it's not defective now, it soon will be.

The probability of a defective transformer is small, however the power transformer is the more likely candidate for failure. An easy go/no-go test of the power transformer is to apply AC line voltage to the primary through a ½A fuse with all the secondaries disconnected. If the fuse survives, the transformer is at least not shorted. If you think the chassis needs to be cleaned (and most do), then remove these items also. Otherwise, just remove and clean all solder/wire remnants from the filter capacitor. Be careful: solder "balls" can

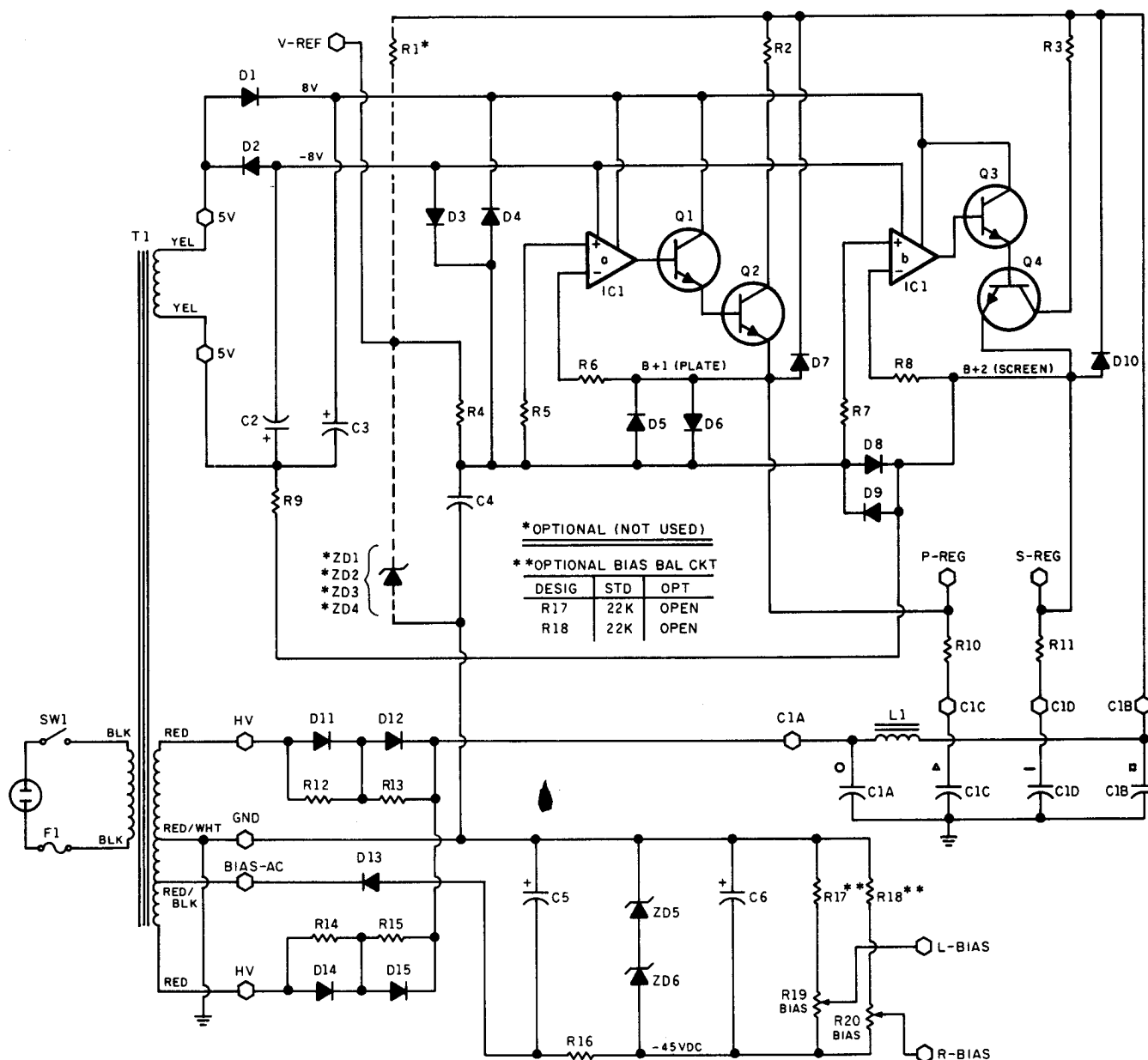


FIGURE 3: Schematic—power supply with plate, screen and bias regulators.