

NOT-SO-SIMPLE LASER POWER SUPPLY

Looking at the schematic for the "Simple Laser Power Supply" (**Popular Electronics**, September 1991), there seems to be something missing. What supplies base drive to the power transistor (Q2)? I see nothing to do that in either the schematic or the PC-board layout. Thinking that perhaps I was missing something, I built the PC board and circuit anyway. When I tried the board combined with the coil, there was no "whine," and looking with a scope showed, as I suspected, that the base of Q2 was not toggling. To fix the circuit I put a 330-ohm resistor from +6V to the base of Q2. That made the supply operate as advertised.

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The circuit as published suffers from a design error. However, despite that, an assembly error by the author allowed the submitted prototype to work; the 2N2222 (Q1) was installed backwards, an error that was carried through to the parts-placement guide. When Q1 is installed that way, Q2 is driven directly by the 555 through Q1's base-emitter junction. Assuming Q1 is installed correctly (as shown in the schematic), your fix is one of several that will allow proper operation. You could also eliminate Q1 altogether and tie the R3/C3 junction directly to Q2's base. We apologize for any inconvenience this error has caused.—
Editor