

Computer Controlled HeNe Laser Inverter PSU

This circuit takes the flyback section from Sam's (SG-HI4) PSU but replaces the 555 timer circuit with output from a computer sound card.

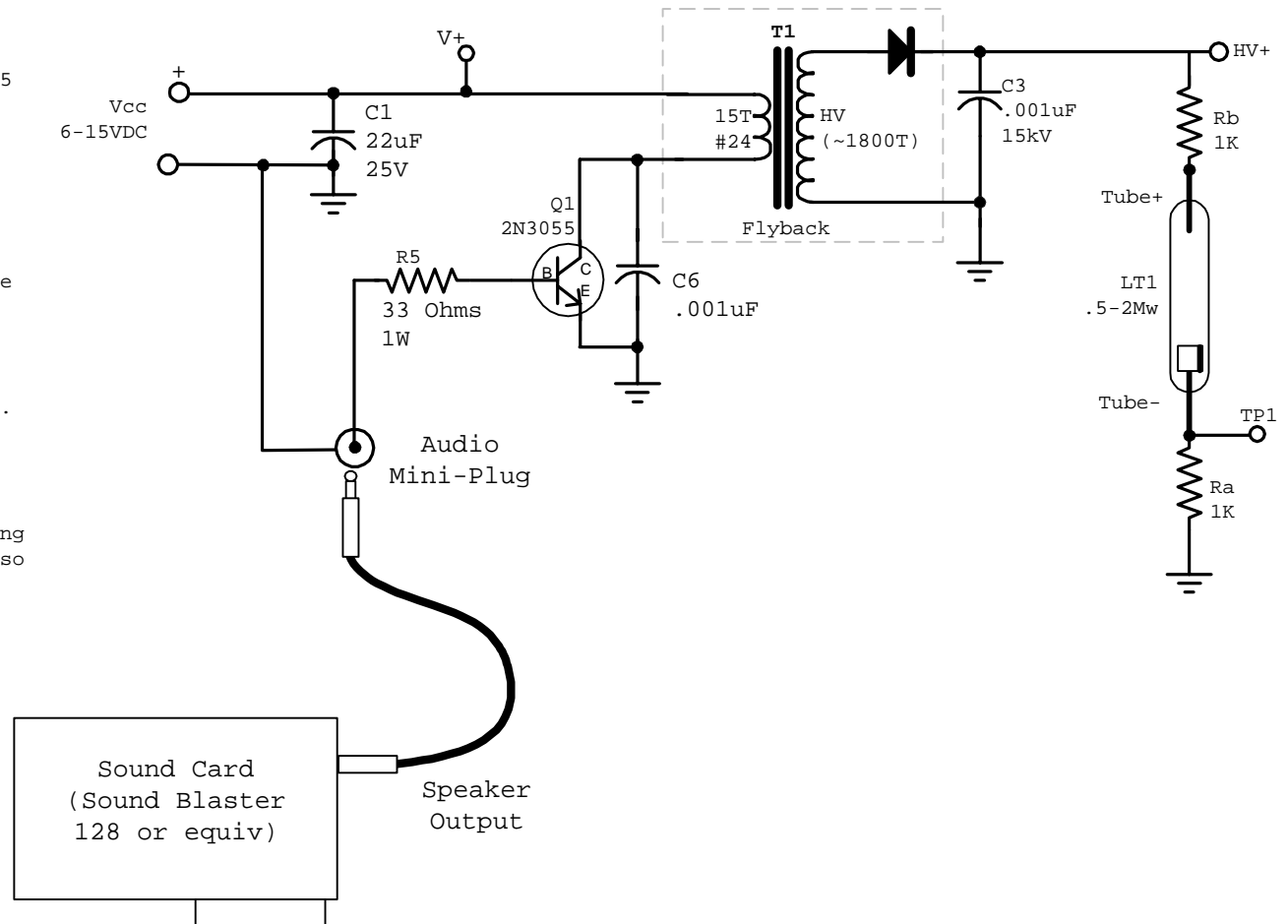
I used a small flyback transformer ripped out of a dead 5" B&W portable TV (one of those cheapies). I used 4 AA batteries for the Vcc supply for the flyback circuit. I connected it to Melles-Griot 1.2mw HeNe tube and it worked Great !

It measured out running at 1600Vdc on the output. I used a .005 2Kv cap from Radio Shack and 2 stacked 1N4007 diodes to be safe.

I used the Speaker output of the sound card from a "spare" computer I had laying around (you know, that one we all have in the closet). I was a little afraid of connecting my good computer up to an HV circuit. But so far I have been experimenting away with no problems.

The software I am using to drive it is a little Signal Generator App that I wrote using Borland C++ Builder. It allows you to try various waveforms, duty cycles, frequencies and etc.

With this set up, so far what I have found that is working the best is to use a square wave running at about 16Khz, with a 20% duty cycle.



Donna Polehn (C) 2003

Title Computer Controlled HeNe Laser
Inverter Power Supply

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