

# Re: Burning out an intermittent heater-cathode short in a CRT

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- *From:* "Arfa Daily" <[arfa.daily@xxxxxxxxxxxxx](mailto:arfa.daily@xxxxxxxxxxxxx)>
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"Wiebe Cazemier" <[wiebe@xxxxxxxxxxxxx](mailto:wiebe@xxxxxxxxxxxxx)> wrote in message  
[news:8468e\\$481d95b8\\$d4cc82be\\$22722@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](news:8468e$481d95b8$d4cc82be$22722@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

On Sunday 04 May 2008 02:54, Wiebe Cazemier wrote:

Thanks for your elaborate response.

I just had a revelation today, which also sheds light not only on this issue, but also with earlier issues I had with this monitor; that being that it turned brighter and brighter over time, resulting in a very washed out picture with visible retrace lines, when at default settings. The OSD menu allowed me to decrease cut-off and gain, but at some point that wasn't enough anymore, and I needed to decrease G2 value on the flyback. And now I think I know what's going on.

I think a leakage path between the cathodes and G1 has slowly been forming, which slowly increased beam current over the years, and therefore brightness. Now, I'm at a point where there is not just leakage, but a dead short now and again. Tapping therefore, will not solve the issue.

Another problem I had, was that the automatic color calibrator didn't correct for the washed out picture. And I suspect that is because the cathodes pulled the extra current directly from ground, and therefore the circuit which measures the beam current was oblivious to it. However, this is just speculation.

I think I will need a proper CRT rejuvenator to clear the leakage path between cathode and G1. I could do it myself, by using the G2 voltage for

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example, but googling reveals that modern CRTs are too fragile for this, and that professional rejuvenators are matched precisely for modern tubes.

It also appears that cathode-G1 shorts are one of the easier things to fix, so I think I can still avoid buying a TFT :). The only thing is, that it would be better to let a professional servicer do it, but I dread the likely outcome of it coming back with a calibration that is way off.

One more thing. I may just decide to try to fix it myself (I was planning to use the capacitor discharge method, starting with a few uF at about 230V or so). But I have a question:

Most pin-outs of CRTs I've seen, contain only one G1 pin. But the G1 connection on this neck board connects to two pins on the CRT. And, with the socket removed, I can also measure 0 Ohms resistance between those pins. Is it normal that there are two G1 pins? When zapping, should I connect them together?

Probably for no other reason than there being a 'spare' pin. If they read zero to one another, then it's pretty safe to assume that they are both connected to the same place. Can you not find a data sheet for the tube on the 'net somewhere, or a schematic for the whole monitor ?  
www.eserviceinfo.com might be a good place to look for one. As far as your calibration fears go, I would suggest that when these shorts are removed, it is going to want a good set-up anyway ...

Arfa