

Do power supplies in shut down come on briefly?

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- *From:* Dave <daveem@xxxxxxxx>
  - *Date:* Sun, 29 Jun 2008 11:29:51 -0700 (PDT)
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In the process of trying to determine if my power supply is defective, or the video board on an LCD TV. I checked the voltage output pins and found the 5 volts stand by voltage was working fine, but nevertheless the set does not turn on.

Some one suggested I put my oscilloscope probe on the switched outputs while pushing the power button to see if the other outputs attempt to come on before going in to shut down.

Is this a valid test? Can I really expect to see the other output pins briefly come up if something on the video board is causing my power supply to go in shut down?

Testing the switched outputs revealed there was not even a spike, so my hunch is I have a bad power supply.

Thanks in advance, and thanks much for the previous suggestions.  
"Dave" <dav...@xxxxxxxx> wrote in message

[news:3651c4bf-6211-4ba9-ad8d-7ed66fecdc87@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:3651c4bf-6211-4ba9-ad8d-7ed66fecdc87@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

I'm wanting to determine if my power supply voltages are correct on my dead LCD TV. On my power supply board the output voltages are printed, but since the set doesn't turn on, the only voltage I see present is 5 volts on the stand power supply pin.

I realize the power supply isn't completely turned on until the microprocessor on my video board sends it the correct turn on pulse, but isn't there more I can do aside from assuming the video board is likely defective. I checked ESR on all capacitors, looked for shorted diodes and transistors, burnt resistors, etc. What is a high failure item on the video board which might cause this? The set doesn't come on for even a second.

This is a Westinghouse model SK32H240S

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Thanks in advance.

On many, although not all, LCD TV sets that I've had the 'pleasure' to work on (!) the standby supply produces +5v and +3v3. Normally, when you have one that won't come out of standby (do you actually even get a standby light showing?) the first thing to do is to locate the standby switching line to see if that is toggling. If it is, you then need to look at each individual output rail from the power supply to see if they start to try to come up. Often, they will, but fall over again so quickly that you don't see any activity at all in terms of the set coming to life. The rails are normally something like +3v3 switched, +5v switched, +12v, +24v high current (for the backlight inverter) and +33v.

If the power supply is trying to start, then the next thing to do is to unplug the backlight inverter board. It is common for these to fail, and if they impose a heavy load on the 24v rail, the power supply will shut back down before it ever really gets going. Another common failure for a heavily loaded rail, is a failed audio IC.

In general, LCD TV power supplies are *\*very\** heavily self protecting, and they will either shut back down very quickly, or not even come up at all (as far as you can see) if they detect the slightest thing wrong with any of their rails – that's over-voltage, under-voltage, or excess load.

It can be very tricky to get to the bottom of what's causing an apparently dead LCD TV. I have also had system control micros fail, and also corrupted EEPROMs causing startup problems.

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