

## Re: LCD monitor won't turn on

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*Source:* <http://sci.tech-archive.net/Archive/sci.electronics.repair/2008-10/msg00158.html>

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- *From:* Franc Zabkar <[fzabkar@xxxxxxxxxxxxxxxxxxxxx](mailto:fzabkar@xxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Tue, 07 Oct 2008 07:06:04 +1000
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On Mon, 6 Oct 2008 09:51:14 -0700, "james" <[nospam@xxxxxxxxxxx](mailto:nospam@xxxxxxxxxxx)> put finger to keyboard and composed:

I have an old broken viewsonic VG150 LCD monitor. Basically, it cannot be turned on even though the adapter is supplying a healthy 12V DC (measured with load).

I opened the case and measured a pin labeled +12V and found only 2V when the power switch is held down, and goes to 0V when released.

The front panel power switch itself is functional — I short out the two contact points with a wire and got the same 2V as above.

This could mean the circuit that controls the main power (probably a power transistor) is bad, or there is a short circuit dragging down the voltage. Since there is no smoke when I held down the switch, I'm hopeful it's the first case.

The power supply (external adapter) is 12V 4A. The wires leading to the front panel power switch is very thin, and the switch itself is a push button with momentary contact. So I figure the power switch is not what's directly turning on the power; it must be controlling a semiconductor that turns on the full 12V 4A to the entire unit. However, I did not find any power semi-conductor that looks like it can switch on/off 4A of current. Here's a photo of the circuit board:

[http://www.smugmug.com/gallery/6159236\\_bYvW4/1/388058044\\_TTcnS](http://www.smugmug.com/gallery/6159236_bYvW4/1/388058044_TTcnS)  
(put mouse on the photo and click "original" to see full resolution)

Any idea which chip/transistor controls the 12V 4A to the rest of the system?

To further debug the problem, I need a circuit diagram. Any idea where/how to get a circuit diagram of a viewsonic monitor? I looked on viewsonic's web site and the phrase "circuit diagram" or "repair manual" returned zero hit.

Without circuit diagram, the only thing I can think of is to solder a wire directly from the input 12V DC to one of the +12V lead. If this works, it

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means the unit cannot be turn on/off via the front panel switch. If it doesn't work, it may generate some smoke...

It took my browser forever to render your X3 image (in fact I gave up waiting for it), but I finally worked out how to link directly to the photo:

[http://photos.smugmug.com/photos/388058044\\_TTcnS-X3-1.jpg](http://photos.smugmug.com/photos/388058044_TTcnS-X3-1.jpg)

The fact that the something is happening when you press the on/off button suggests that the uP is alive, and that the +5V(?) supply is OK. I suspect that one of the AmTRAN chips (AM30 or AM100B) controls the power to the backlights. It appears that Q15, the PNP (?) smt transistor near the lamp connector, switches the +12V power to an off-board inverter. I'd monitor the +12V supply on its Emitter (input) and Collector (output) pins. The Base should be getting an on/off signal from the uP via a resistor. Perhaps the inverter has a short circuit which has taken out Q15 and/or a fusible resistor.

BTW, the Mitsubishi M52743BSP chip is a "I2C BUS CONTROLLED 3-CHANNEL VIDEO PREAMPLIFIER", so I don't think it handles power control:

<http://www.datasheetarchive.com/pdf-datasheets/Datasheets-pdf-11/117670.html>

<http://www.datasheetarchive.com/pdf-datasheets/Datasheets-26/DSA-519289.html>

FWIW, a Nokia LCD 510L monitor appears to use the same chips, so maybe your Viewsonic is a rebadged unit.

See <http://www.elektroda.pl/rtvforum/topic1015418.html>

– Franc Zabkar

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Please remove one 'i' from my address when replying by email.

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