

Re: function of multisync relay

Source: <http://sci.tech--archive.net/Archive/sci.electronics.repair/2005-06/msg00730.html>

- *From:* Choreboy <choreboyREMOVE@xxxxxxxxxxxxx>
 - *Date:* Mon, 13 Jun 2005 09:46:50 -0400
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"William R. Walsh" wrote:

>
> Hi!
>
>> What is the function of this relay? NEC says it closes when you go to
>> 800x600 or higher. That seems to be true; of my five available
>> resolutions, there are two transitions where the relay doesn't click.
>> However, it clicks twice when I go to or from 1024x768.
>
> This relay is most likely used to activate different sections of the
> monitor's power supply as required by different resolutions and scan rates.
>
> As you may have noticed, some monitors use different methods of adjusting
> the voltages and outputs of their power supplies upon detecting a resolution
> change. Some use totally electronic methods that are usually silent (unless
> you can hear the deflection whine, which I can) and others use one or more
> relays. Some use "combination" designs...for example, I have a Dell 15"
> "UltraScan" (made by Sampo) monitor that will click in some resolutions or
> just change the pitch of the slight deflection/flyback whine in others.
>
> I doubt very much the problem is with the relay. If it were then the
> monitor's picture should not ever come up or it will have great difficulty
> in doing so. The monitor's electronics might even keep trying the relay to
> make it work, resulting in a "chattering" noise.
>
> If your monitor is anything like one of the NEC MultiSync 95 units I have,
> then you have capacitors working on going bad in the monitor. This will
> cause the display disturbance you are seeing. With my monitor it was fine at
> times and bad at others. Sometimes it would be working fine and start
> malfunctioning out of the blue, even after it had been on for a while. Some
> resolutions would work and others were unusable or at least took several
> minutes for the picture to stabilize. I replaced some of the capacitors in
> my monitor that tested out of spec and this brought it back to perfect
> working order. Ever since then it has been rock-solid and the application
> that it is used with switches display resolutions quite frequently.
>
> William

I used to hear flyback whine. When I was in sixth grade I was home from

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school with a severe cold. When I turned the TV off I still heard the whine. The infection must have given me tinnitus. I haven't heard a flyback since.

Your suggestion sounds good. In the early 1950s there was a popular TV that was notorious with repairmen for the failure of a capacitor. When a repairman had lunch with the manufacturer's head engineer, he asked why they didn't use a better capacitor. The engineer said a better one would have cost eight cents more. From the manufacturer's perspective, that was prohibitive.

How can I get a schematic? It would show me what capacitors are involved. If I discover that the problem affects only some resolutions, I might really narrow down the possibilities. It might also enable me to test most of them without unsoldering.

As the problem happens only briefly, I wonder if a bad capacitor could appear to be in specs.

• **Follow-Ups:**

- ◆ **Re: function of multisync relay**
◇ From: William R. Walsh

• **References:**

- ◆ **function of multisync relay**
◇ From: Choreboy
- ◆ **Re: function of multisync relay**
◇ From: William R. Walsh

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