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**Author**

**Topic: Tek PS2520 aka GW Instek PPT3615 schematics? (Read 1991 times)**

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**siggi**  
Regular Contributor  
  
Posts: 183  
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**Tek PS2520 aka GW Instek PPT3615 schematics?**  
« on: June 26, 2015, 12:52:48 am »

Hey y'all,

the other day a broken Tek PS2520 follwed me home from eBay. It's now busy blowing fuses on what appears to be the 5V supply to the front panel.

I'm not having any luck finding a service manual, though it looks like perhaps this supply is OEM by GWInstek. The PPT3615 looks identical in specs and appearance at first glance.  
I still find no SM for it, save perhaps for this <<http://www.ebay.com/itm/281710841827>>.

Does anyone here have a copy to share, or pointers to where I might find this. I tried emailing GW Instek, but so far no reply.

Thanks,  
Siggi

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**siggi**  
Regular Contributor  
  
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**Re: Tek PS2520 aka GW Instek PPT3615 schematics?**  
« Reply #1 on: June 28, 2015, 05:50:22 am »

Anyone, anyone, Bueller?

Sent from my iPad using Tapatalk

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 **siggi**  
Regular Contributor  
  
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 **Re: Tek PS2520 aka GW Instek PPT3615 schematics?**

« Reply #2 on: August 10, 2015, 03:10:52 am »

I'm just about done with this guy - I just need to sort a current/voltage readback problem on one of the channels.

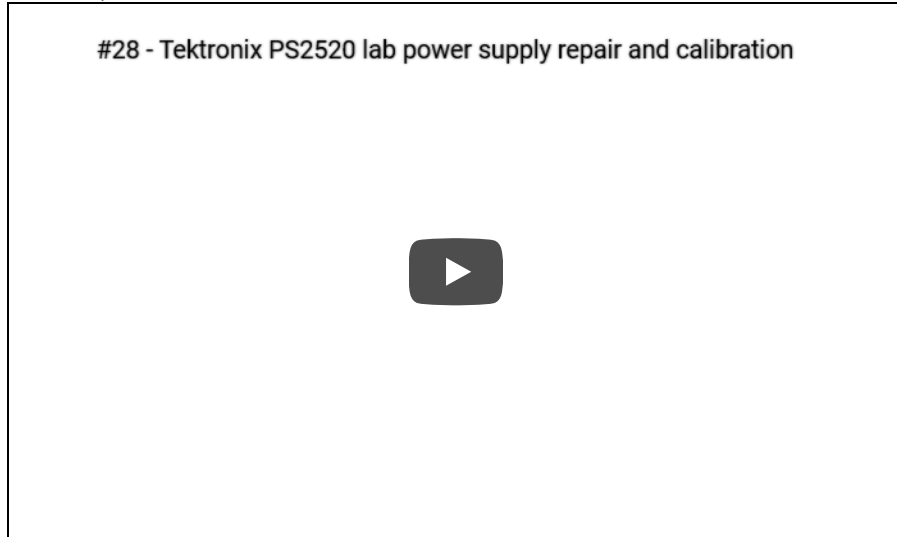
It's a pretty old-fashioned design (still found no schematic). Each channel has an ingoing pair of clock/data lines with two strobes. This feeds to two sets of shift registers one of which is 16 bits, the other is 8, that can be individually strobed to latch the incoming data. The back channel is a single bit that's multiplexed 8 ways.

There's a single multiplexed DAC on each channel. It feeds out to at least 3 sample and holds, one each for OVP, voltage and current setting. Additionally it has to feed to comparators for current/voltage readback, though I haven't traced that circuitry.

The tally so far is:

- A 74LS244 on the digital shorted the 5V rail.
- This took out the fuse and the diode bridge for same.
- A CD4093 shorted from 5V to one input on one of the channels.
- Some opto couplers were tired and no longer met the required current transfer ratio to make logic thresholds on the far side, so changed them all.
- All three AD7541As were gonsky.

After all of this, I'm now getting outputs on all three channels, and the dang thing seems to be in spec for accuracy on current limit and voltage on all channels. Incidentally I found this video



where there's a DAC that failed in a similar mode as two did in mine. It appears the AD7541A can fail by shorting the switch FETs gate to source, which causes the current from the inputs to get shunted straight to the output.

My unit is pretty clean, no sign of mechanical damage or trauma of any kind. It seems strange to me that I have various failures across 4 galvanically isolated domains. I'm wondering what sort of situation or event would cause that?

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