/ Topics (https://groups.io/g/Datron-Wavetek/topics?p=recentpostdate/sticky,,,20,2,0,81910532) / 4808 100V&1kV failure #4808 #DATRON 4808 Q

Wavetek/topic/81910532?

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4808 100V&1kV failure #4808 #DATRON 4808

#datron -



2021-04-07 **6** (https://groups.io/g/Datron-Wavetek/message/183)

hello, I have a problem with datron 4808.

when I try to turn on the 100v or 1000v range, calibrator displays fail 7.

At the same time, two lamps informing about the presence of + 400V and -400V voltage and the LED "400V enable" on "POWER AMPLIFIER ASSEMBLY" blink twice.

After switching the 400V / 50V switch, I can turn on the ranges 100 and 1000V, but the output shows -18VDC Regardless of the voltage set.

I suspect damaged transistors in "OUTPUT POWER AMPLIFIER". Does anybody have an idea?

Can I safely assume that you have the Service Manual (both parts)? If not they are in the "Files" section:

https://groups.io/g/Datron-Wavetek/files/Datron%204808

David

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Yes i Have the both parts. I'm looking at schematics right now. Unfortunately, I don't know where to look for a failure. A constant negative output voltage suggests damage to the Output Power Amplifier. I know that the 100v DC is created directly, while 1kV is created using a 16kHz converter and a high frequency transformer. A negative output voltage is present on output for both ranges. which makes me diagnose damaged transistors in "negative heatsink assembly".

Any suggest?



Look in part one (Maintenance Handbook) Section 7.7 and following describe the High Voltage output sections. FAIL 7 Says the 400V PSU is overloaded (see page 7-13).

David
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OK. i Think i found a problem. Transistors Q3 and Q4 in Negative heatsink assembly have a few ohm between drain-Source...

they are "VP0350N1" P-CHANNEL DMOS FETs. I will be looking if they are available for purchase. Possibly I will look for replacements.

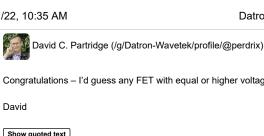
ok. Only one transistor have short between Drain-source.

Because they are connected in parallel, I ran the calibrator without a broken DMOS and it works. !!!!!!!!! the only problem is finding a replacement...

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Congratulations - I'd guess any FET with equal or higher voltagea and current ratings that fits will work fine.





I found one on Aliexpress - possibly other places have them too, but I've yet to stumble upon them. https://www.aliexpress.com/item/4000890423168.html (https://www.aliexpress.com/item/4000890423168.html) Just be aware that they offer the VPxxxxx and VNxxxxx varients - so you select the right one. -lan ZL1VFO



of course, the problem is that it is a 500V P-channel mosfet ... fortunately I found them on ebay :)

I still have a problem with mV AC. There is a lot of noise, the voltages are unstable and have large errors. Is it possible that the resistive attenuator would hum like that? Or will it be a capacity problem on the AC board?



for Datron calibrators repairing is always a good idea to check all the power supply rails first. especially, check the tantalum capacitors on +/- 15 Power rails.

David

Mariusz Marchwiński <marchwinski.mariusz@gmail.com (mailto:marchwinski.mariusz@gmail.com)> 于2021年4月8日周四 上午4:37写道:

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- → (https://groups.io/g/Datron-Wavetek/topic/78969748?p=%2C%2C%2C20%2C0%2C0%2C0%3A%3Arecentpostdate%2Fsticky%2C%2C20%2C20%2C2%2C0%2C78969748)