
Subject: New Thread for SD's A4

Posted by [Shaun_Musings](#) on Sat, 30 Jan 2016 17:42:26 GMT

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Starting a new thread to avoid irritating people

The problem with the Internet is anyone can write anything; when searching for a replacement for the three transistors on PC602, someone said NTE123. Now if I am searching, I immediately write 'NTE' instead of 'Substitute.' I am rarely brand loyal, but too much misinformation.

All three transistors on PC602 are NTE129. Two are new; the one on the bottom was an older one I reused from a different misplacement. I should have replaced that one, too, but somehow I didn't. Retested (rounded the numbers).

+10

-25

Before I had +9, so not sure where the extra volt came from. On PC502, the red wire connection is dubious, at best (It had a lifted pad, and when I went to put it back down it broke off.) I have new copper traces (tape) and so I'll replace that. At the very least the traces will be cleaner.

I will also double-check the resistors, as one of them did burn up a while ago, and who knows if some of them might have drifted or so over the years.

Subject: Re: New Thread for SD's A4

Posted by [stevem](#) on Sat, 30 Jan 2016 18:16:01 GMT

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It's irritating , it's just for some reason you can not get to the second page without going all the way to the last post to get the page 2 button , most other site software gives you the addition page chooses on top so you do not have to scroll down.

Subject: Re: New Thread for SD's A4

Posted by [pleat](#) on Sat, 30 Jan 2016 18:58:23 GMT

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I've been following this thread and on my screen I have 1 1/2 really dark space that if you get real close you can almost read Born on and then a long list of equipment. If that were removed, I think the pages would have half as long for scrolling.

pleat

Subject: Re: New Thread for SD's A4

Posted by [Shaun_Musings](#) on Sat, 30 Jan 2016 22:34:32 GMT

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Got rid of my signature, so it should be better now.

I'm taking a break from working on this. I had both PC502 and 602 off to double check for bridges. I noticed i had a 2N5088, which is a fine substitute for NTE123, but I wasn't sure if I had it in the correct pinout, so I swapped it for a metal-case NTE123. Plugged everything back in, and now I'm back to 39 volts and -13. Before, I had 25 volts and -10.

What I am wondering is what I am doing wrong, here.

There are two transistors that I replaced on PC702, which are Q701 and Q702. If the pinouts are wrong (swapped emitter and collector on one or both), would this give me the readings? Or is this problem absolutely isolated to PC502 and PC602?

Subject: Re: New Thread for SD's A4

Posted by [Shaun_Musings](#) on Sun, 31 Jan 2016 00:45:06 GMT

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Decided to swap out the TO-3 packages for PC502 and PC602. The one I was going to swap in place is shorted between collector and emitter, so that is going aside. I'll do a little more tomorrow.

Subject: Re: New Thread for SD's A4

Posted by [chicagobill](#) on Sun, 31 Jan 2016 04:31:44 GMT

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Nothing on PC702 will change the 23 volt readings unless it blows the fuse. If you don't have the +23 and -23 volt supplies working, then your problems are on PC502 and PC602.

Steve, I can click on the page number in the topic listing and go directly to that page.

Subject: Re: New Thread for SD's A4

Posted by [steven](#) on Sun, 31 Jan 2016 11:38:11 GMT

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I ment to post it's not irritating , so I am sorry and you can blame me I pad, I curse this thing as much as I love it!!

I must be blind, as I do not see where that page feature is on the top of the page ?

Subject: Re: New Thread for SD's A4

Posted by [Shaun_Musings](#) on Sun, 31 Jan 2016 13:11:49 GMT

Alright, I will continue work on PC502 and 602. There is one old NTE129 that might be a problem. Now with those old metal can transistors, it's pretty easy to see where the leads go; they match up with the placement of the holes on the board, correct?

Last resort I will sketch the traces, pull everything off the board, sand it down and recreate the traces. I don't think I will need to go that route though...

Subject: Re: New Thread for SD's A4

Posted by [Shaun_Musings](#) on Sun, 31 Jan 2016 19:03:04 GMT

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Don't worry about it, Stevem. My original signature had stuff that I don't even have anymore, and then I updated it. Now I'm realizing I don't want too many people to know what I have! Reducing our online presence protects us as well as others. I get the issue with iPad. My tablet will get hung up on many pages. Here, it will automatically resize it to get the whole site, and then the text will scroll across the screen so I have to constantly swipe to see it.

I took plenty of pictures of both sides of PC602 (it's easier for me to do this one and then move onto PC502), and removed all the components. I plan on testing each of the components, including the resistors, to make sure everything is in tip-top shape. I didn't see any solder bridges, but I did see a few holes after cleaning it off where a component was not touching the copper trace. Removed one trace that was lifting and appeared to be broken in a couple of places. Sanded down the board to get everything nice and shiny, and cleaned it off with rubbing alcohol.

And now I am done; my wife came down after this to inform me her father had a heart attack. Since she is from NJ and I am in Boston, we are awaiting word on whether or not we should be heading down. Keep him and us in prayer!

Subject: Re: New Thread for SD's A4

Posted by [Shaun_Musings](#) on Mon, 01 Feb 2016 02:28:12 GMT

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My wife's father is okay; the doctor's sent him home.

I finished rebuilding PC602; tomorrow I will rebuild PC502. I did test the green and red wires on PC602; I got 38.5v and -5v. I know, I know, PC502 needs to be rebuilt because it controls the power going to both.

The copper traces are easy to replicate with some electronic metal foil (3M, I think), that I picked up at the electronics store. I replaced the yellow and red wires, which may have had some internal crimps, with 20 gauge stranded wire. The ends were pretty rusted, and I feared it would bring about more problems in the future. 20 gauge because that's all they had for both red and yellow and green; I wish they had the light blue, too...
