Subject: Transistors?
Posted by Shaun_Musings on Mon, 16 May 2016 02:16:20 GMT
View Forum Message <> Reply to Message

Hello, all... You might remember me as the guy who had two broken A4 heads. I've gotten both up and running and they sound amazing, but the tremolo on both aren't working right. I've swapped transistors on both PC302A and PC302B and nothing seems to really get it working. I'm swapping the SE4002s and 2n3567s with 2n5088s. There is one 2n4249 (Q309) on PC302A I am swapping with 2n2222.

Now, on Q205, that's a 2n5088, right?

Are there any transistors on these boards that are not EBC pinout? Someone before me put a black mark on what I am guessing is the Emitter, but I can't be 100% sure...

Subject: Re: Transistors?
Posted by stevem on Mon, 16 May 2016 16:04:39 GMT
View Forum Message <> Reply to Message

A 2n4249 is a pNP type, the 2n2222 is a NPN type , so no swap with those .
Have replaced all of the electrolytic caps on both boards ?

Subject: Re: Transistors?
Posted by chicagobill on Mon, 16 May 2016 17:02:27 GMT
View Forum Message <> Reply to Message

I'm afraid to ask, but what does "not working right" mean?

Yes, as Steve points out, the 2n4249 is a PNP transistor that is part of the low frequency oscillator. You need to use another PNP transistor there.

All of the original transistors use the E-B-C pinout. You can figure out which lead goes where by looking at the schematic and comparing the pc board connections with the schematic connections.

Subject: Re: Transistors?
Posted by Shaun_Musings on Mon, 16 May 2016 20:13:44 GMT
View Forum Message <> Reply to Message

Alright, an update. I got so sick of confusing all three A4 heads I have that I decided to name them, and yes, I even painted their names on the back:

A4 - MKI - "Alice"
A4 - MKII - "Beth"

A4 - MKIII - "Cindi"

Which was in poor taste because the real A4, the first one, was the V-2 prototype. Blame Bud for the letter and number designations =)

So the first one I am working on is Cindi. Power amp section is fine, but when I activated the trem/vib, I could hear the trem/vib working, or at least, it was doing whatever it does to the signal, but the speed and intensity were doing nothing. I changed out the 2n4249 transistor (Q309) with a 2n3906. It was only then I realized I had removed the black mylar cap to clean around the speed pot (C316) and forgot to put it back.

Ahh... It's working, but with a catch: there's a tick in the speed knob, which I hear is not as rare as I thought. What should be the next step? I'm thinking of following the crazy signal path and remelting and soldering all the joints to make sure that all connections are good (which is always a good idea anyway), but are there any 'easy fixes' that you gentlemen are aware of that fixes this?

The other amp whose trem/vib isn't working is 'Alice' - the circuit breaker head. All I did with that head was replace a few transistors that were snapped off and recapped it. I'm not focusing on it right now; one amp at a time.

Finally seeing the end of the road here... I started fiddling with Beth back in December, working on it for three months before picking up Alice off CL for $100. Beth is still waiting for me to swap out the power section of an A-5 donor head kindly shipped to me by Terry =)

SDC

Subject: Re: Transistors?
Posted by stevem on Tue, 17 May 2016 10:21:01 GMT
View Forum Message <> Reply to Message

So how are the voltages checking in the trem section as compared to the schematic?

Subject: Re: Transistors?
Posted by Shaun_Musings on Tue, 17 May 2016 11:43:59 GMT
View Forum Message <> Reply to Message

Just checking on how I do that so I don't turn into Young Einstein (Yahoo Serious) at the end of the movie (great scene with the guitar).

I put the red lead on the resistor, transistor, etc., and the black lead on the chassis, correct? Set it for voltage, correct?

The amp itself sounds great, so I really haven't done much else to it, but one thing I did notice was that when I tested the big filter caps yesterday, I got a +40vdc, and the other one read -.01 and then zeroed out. That doesn't sound right, but the amp itself sounds so amazing that I'm reluctant

to mess with the power supplies.

Subject: Re: Transistors?
Posted by stevem on Tue, 17 May 2016 14:26:44 GMT
View Forum Message <> Reply to Message

If the amp is playing well then your rail voltages on the big main filters is fine, I am questioning the voltages on the 303 boards!