
Subject: Interchange

Posted by [kustomhead](#) on Mon, 23 Dec 2013 05:38:13 GMT

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Will a K200B-1 preamp board work in a K200A-1 amp?

Subject: Re: Interchange

Posted by [stevem](#) on Mon, 23 Dec 2013 10:54:11 GMT

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Unfortunately no.

They will not bolt in number 1, and number two the 200b model preamps are powered from a +8 and -8 volt supply and the A serie is powered by a higher DC voltage than that.

What do you need, parts for a A or a B amp and or a preamp board repaired?

Subject: Re: Interchange

Posted by [kustomhead](#) on Mon, 23 Dec 2013 18:30:51 GMT

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I didn't think they would. I changed out a 25 mfd cap on the left pre-amp board and the pop was less noticeable but now I've got a constant low buzz and the transformer side back panel is hot to the touch after the amp is on for a few minutes. It shuts off but the fuse is not blown. I can power it up again and it will do the same thing. This new development is not related to the pre-amp as the amp was going in and out of full volume and distorted sounds before the pre-amp repair so something has been on it's way out. Thanks, Jim

Subject: Re: Interchange

Posted by [kustomhead](#) on Mon, 23 Dec 2013 19:27:14 GMT

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Somebody previous bridged a broken trace on the upper left of the power board with a wire and solder between the 10mfd cap, 47n7 ceramic disc and the RCA 40408 but it looks like those connections are ok.

Subject: Re: Interchange

Posted by [kustomhead](#) on Mon, 23 Dec 2013 19:45:17 GMT

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What causes the amp to shut down with out blowing the fuse? It seems to be related to the heat issue.

Subject: Re: Interchange

Posted by [kustomhead](#) on Mon, 23 Dec 2013 21:33:32 GMT

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That silver RCA barrel shape bias diode? Is it a 1N3754? It clips to the floor of the chassis came loose from it's wires. It has a 4 and 8 B on the side. I'm thinking this is the problem. That would cause the overheating and shut-off.

Subject: Re: Interchange

Posted by [kustomhead](#) on Mon, 23 Dec 2013 23:19:30 GMT

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I purchased a 1N3754/D1300A RCA Silicon Bias Diode on ebay so I think that will fix everything except the input pop. Is that diode directional?

Subject: Re: Interchange

Posted by [steven](#) on Tue, 24 Dec 2013 14:43:12 GMT

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That diode is the temp sence diode and it is part of the output transistor bias circuit and sets the idle point of the output stage as the outputs go thru temperture changes in regards to wattage output.

Without that diode in circuit the output transistors go into full conductance (IE pull all the current the power transformer can output) run super hot, and from what I have always seen burn themselevs up and short out.

If yours are still not popped seing as your fuse has not blown, your are a lucky man!

Is the current fuse in the amp the right rating?

Also note that the new diode must be installed the right way otherwise it acts like its not in the circuit.

Keep us informed on your progress and we will help you get it fully back up and running.

Also make sure any electrolytic caps that you replace go back in circuit with the negative side and or the positive end installed the right way.

Good luck.

Subject: Re: Interchange

Posted by [kustomhead](#) on Tue, 24 Dec 2013 19:20:01 GMT

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It's a 3 amp fuse. Luckily I felt the heat right away when checking to see if the speaker was plugged in all the way and turned it off. Before that though, it shut down by itself after a couple of minutes. How do I know which direction to install the diode in? Is there a plus-minus marking on it or can I check with my meter? Thank you for your help on this.

Subject: Re: Interchange

Posted by [steve](#) on Tue, 24 Dec 2013 23:57:55 GMT

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What is the PC number on the driver board that the diode gets wired in to?

With that PC board number you can go into this site's tech section to the left here and view the schematic and find out where each side of the temp diode goes.

Subject: Re: Interchange

Posted by [kustomhead](#) on Wed, 25 Dec 2013 02:09:45 GMT

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I will look and get back to you-Thanks,Jim

Subject: Re: Interchange

Posted by [chicagobill](#) on Wed, 25 Dec 2013 03:00:48 GMT

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There is a thermal switch that will shut down the entire amp if the heatsink gets too hot. Once the heatsink cools off enough, the switch closes again and the amp turns back on.

At one point, there was a notice from the service department at Kustom regarding the bias diodes. If they get leaky the power amp will cycle on and off due to overheating.

The 1N3754 diode has 2 leads coming out of the bottom of the case. Close to one of the leads, there will be a red dot on the outer case. The red dot will identify which lead is which. Off the top of my head I don't recall if it's the anode or the cathode. In any case, the diode will test just like any other diode with your meter.

Subject: Re: Interchange

Posted by [kustomhead](#) on Wed, 25 Dec 2013 22:08:52 GMT

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Great, I think I'll be able to handle it. Thanks Bill! I was born in Chicago. My grandparents owned Dania Butter Co. in the early 40's through the mid 60's on Division Street and lived in an apartment above. Of course we are Danish.

Subject: Re: Interchange

Posted by [kustomhead](#) on Thu, 26 Dec 2013 01:12:04 GMT

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The board # is 702 which is listed under K400A-1

Subject: Re: Interchange
Posted by [kustomhead](#) on Fri, 27 Dec 2013 04:58:37 GMT
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I installed the diode per the PC 702 schematic and the amp is staying cool and working great, almost. There's an intermittent volume drop and hum and then it goes back to normal. It seems to still have a left channel issue but the volume drop thing happens on both channels. Any ideas?

Subject: Re: Interchange
Posted by [chicagobill](#) on Fri, 27 Dec 2013 06:50:03 GMT
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Did you test the other two bias diodes? You may need to take voltage readings and see what happens to the voltages when the amp goes into failure mode.

Fix the power amp problem first, then worry about the left channel problem.

Subject: Re: Interchange
Posted by [steven](#) on Fri, 27 Dec 2013 12:43:18 GMT
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When the amp starts to act and the hum starts sounding, hook up a voltmeter set for DC volts across the speaker output jack and see if it reads a DC voltage and post back as to what the meter read.

Also note that the 702 board grounds to the chassis in one or two spots where it bolts down, so make sure those hold down locations are tight.

Subject: Re: Interchange
Posted by [kustomhead](#) on Fri, 27 Dec 2013 16:54:03 GMT
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It's not going into failure mode now. Just that volume drop and hum every so often.

Subject: Re: Interchange
Posted by [chicagobill](#) on Fri, 27 Dec 2013 18:01:42 GMT
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That drop in volume and hum is a failure mode, just not as dramatic as the earlier one.

Subject: Re: Interchange

Posted by [kustomhead](#) on Fri, 27 Dec 2013 19:10:12 GMT

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Are you referring to the 2 barrel shape diodes with ground pointing arrows right above the neg. side of the 1N3754? Could one or both be causing the less dramatic failure? Are those in fact diodes?

Subject: Re: Interchange

Posted by [steven](#) on Fri, 27 Dec 2013 22:27:32 GMT

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The temp sence diode is in serise with the two others that is connects to.
Did you do the DC voltage test I posted about?

Subject: Re: Interchange

Posted by [kustomhead](#) on Fri, 27 Dec 2013 22:50:10 GMT

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It connects to the neg. right? I noticed that the board trace came loose when I put the new diode neg. side through. Now I don't know if it was connected to the screw female post for ground I need to know that before I fire it back up again. Then I'll check for DC at output jack.

Subject: Re: Interchange

Posted by [kustomhead](#) on Sat, 28 Dec 2013 01:12:41 GMT

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Steven,
The DC voltage measures 0.30 from tip of output jack to ground.

Subject: Re: Interchange

Posted by [kustomhead](#) on Sat, 28 Dec 2013 03:44:55 GMT

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The DC voltage I posted might not be right. I just noticed the - wire came loose from the diode. Originally I soldered it to the original lead wires and couldn't get a hot solder joint. I should have pulled the board out and done it right but got lazy and in the process the wire was pulled from the diode case. I ordered 2 more and now have the board out and will do it right this time. I played through it for a short time before the wire came loose and it sounded good and was running quiet. The left channel pop was gone so I'm encouraged.

Subject: Re: Interchange
Posted by [steven](#) on Sat, 28 Dec 2013 13:04:49 GMT
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Cool!keep at it.

Subject: Re: Interchange
Posted by [kustomhead](#) on Sat, 28 Dec 2013 16:19:58 GMT
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Is that brass screw receptacle a the bottom middle where the diode mounts to the board a ground point?

Subject: Re: Interchange
Posted by [steven](#) on Sat, 28 Dec 2013 22:10:06 GMT
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I do not have a amp with a 702 board you double check, but by the schematic the only grounding point to the chassis on the board should be near where the input wires come in from each preamp board.

The output signal from each preamp gets mixed thru 2 4700 resistors, and one of the resistors has a cap off of it(a 47 0r 470 pf cap) and that cap goes to ground thru one of the boards mounting stand offs.

Subject: Re: Interchange
Posted by [kustomhead](#) on Sun, 29 Dec 2013 01:50:41 GMT
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Yeah, I see that there's only one ground terminal on the PC702. I used some glue bottom copper guitar shielding to make a new trace where the diode - side goes since it tore loose. It's ready for the next new diode. That shielding works great!
