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Subject: K200B-2 Both Preamps bad?

Posted by [Saransk](#) on Mon, 09 Jul 2018 16:18:35 GMT

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Found a nice K200B-2 head for sale. Description lead me to believe it would be a simple fix.

"Low or No output"

Preamp Boards 105 and 303

Got the amp, pretty loud hiss from Power Amp. someone had tried some troubleshooting - found disconnected blue output wires and a jumper wire in cabinet.

Repaired the blue wires

Plugged in to both inputs from both boards - very low sound from Normal (105) and none from Bright (303) channel.

Voltages on both input transistors looked off (Q100/Q300) - just happened to have some.

Replaced both #1 transistors - hope for the best. No joy.

The rest of the voltages on the boards seem pretty good, I get the 2.3 volts on Q104's emitter.

Possible that the Tantilium caps are bad - replacements on the way but the front end voltages seem to be the culprit.

Here's what I see. Same issue on both boards. First, the Emitter of Q100/Q300, instead of the -.5 volts the schematics read, I'm getting @ +.9 volts. That causes the Q101/Q301 Collector to be off. moving the volume control doesn't change the reading. Unlike the usual failure it appears that the 2N3638 PNP is bad on both boards - is that a reasonable deduction - or could something else be causing the Emitter of Q100/Q300 to be off.

The amp, other than the loud hiss, seems to be in good shape - voltages are where they should be. I jumpered from the input jack to the input side of R700 (33K) on the Amp board and got a good output - low, but good.

This is not the first Kustom amp I've redone but it is the first that both preamp boards have the same failure.

Any ideas on some line of troubleshooting I've missed

Thanks

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Subject: Re: K200B-2 Both Preamps bad?

Posted by [chicagobill](#) on Tue, 10 Jul 2018 16:03:30 GMT

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It sounds like you are on the right track. I often find that I need to replace both input transistors to get a channel working.

The volume control is dc isolated from the circuit by the two caps C103/C104, so unless one of them is shorted, changing the volume control should not change the dc voltages on the input transistors.

What are the other voltages on Q100 and Q101? Are both 8 volt supplies working?

I would resist changing any caps until you prove them to be bad or until you have the channel working and want to upgrade for better sound or reliability. Too many changes can lead you in the wrong direction, which may make the repair harder.

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Subject: Re: K200B-2 Both Preamps bad?  
Posted by [Saransk](#) on Thu, 12 Jul 2018 02:01:11 GMT  
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Replaced the 2nd transistor in the input darlington pair - 2N3638 on both boards - sound - good sound.  
Normal channel sound just like it should - normal  
The "Bright" channel sounds like there is a an overdrive boost attached.  
But the volume control doesn't seem to change the it much  
The Reverb and Tremolo barely work so I suspect it will take some sleuthing to find the parts that are not working.

The couple of darlington pairs are suspects as well as the tremolo diodes.

Any other suggestions welcome

Mike

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Subject: Re: K200B-2 Both Preamps bad?  
Posted by [stevem](#) on Thu, 12 Jul 2018 09:58:45 GMT  
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There are many revisions of that PC 303 board so how is yours stamped?

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Subject: Re: K200B-2 Both Preamps bad?  
Posted by [Saransk](#) on Fri, 13 Jul 2018 02:26:52 GMT  
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The Board is marked KEI-1 PC303  
Is this the first revision?  
The circuit seems to be actually either revision 5 or 6 as there is a 2200 resistor on the collector of Q302.  
Looks like Q302 might be the next candidate for replacement.

Mike

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Subject: Re: K200B-2 Both Preamps bad?  
Posted by [chicagobill](#) on Fri, 13 Jul 2018 17:30:43 GMT  
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So the problem is that the FX channel is distorted and the volume control is not working?

Divide and conquer. Turn off the reverb and the trem/vib and turn off the bright switch, any change? With the reverb on, shake the tank to hear the springs rattle. Is the sound of the reverb

springs distorted? Is there background hiss? If there is, do the tone controls have any effect on the sound of the hiss?

Start reading voltages through the channel and compare to the schematic values. Now is where you start to look for leaky caps that cause voltage disruptions to the circuit.

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Subject: Re: K200B-2 Both Preamps bad? - Fixed  
Posted by [Saransk](#) on Fri, 20 Jul 2018 16:52:51 GMT

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Took a couple of swipes but it's working - mostly

1 - All three of the first stage transistors were toast - replaced and we were in business  
2 - Replaced all of the caps - I hate tantalums anyway - while not the cheapest the Elna Simlac are really smooth and clean - and fit great.

The Bright switch was gone - temporarily swapped with the one from the normal channel. Found some very similar switches from Electronic Surplus (same deck) - should be able to swap the bad switch deck for a working one.

The tremolo is a problem - but that's another thread  
Thanks for the help

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