
Subject: Bias voltage

Posted by [DocWaxham](#) on Thu, 24 Mar 2022 19:20:52 GMT

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What should it be on a k200 b1?

Subject: Re: Bias voltage

Posted by [stevem](#) on Fri, 25 Mar 2022 10:12:16 GMT

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Why do you ask this?

If your thinking of a specific bias voltage as in terms of a tube amp output stage, that's not how a sold state output stage circuit works.

Subject: Re: Bias voltage

Posted by [DocWaxham](#) on Fri, 25 Mar 2022 15:38:29 GMT

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Not according to my tech. You should be able to get a reading across each of the emitter resistors. If not how do you correct bias voltage going to your outputs so you dont fry them. You have bias diodes how do you make sure they are not sending to much voltage to the outputs.
Thanks

Subject: Re: Bias voltage

Posted by [chicagobill](#) on Fri, 25 Mar 2022 18:34:06 GMT

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Your tech is correct, solid state power amps should have their bias set at idle so that they will not draw too much current. That being said, Kustom power amps do not a trimmer pot or any other easy way to adjust the idle bias. I guess that the engineers felt that the random selection of parts would produce an amp that would have an average bias that would work well enough to make the amp work correctly.

I have replaced the bias diodes in some of these amps in order to reduce the idle current, because the output transistors tended to get too hot at idle. I guess that you could add a small resistor across one of the diodes in the bias string to trim the bias voltage.

As for actual voltage readings, I have never seen anything published on any of the Kustom service literature that I have seen.

Subject: Re: Bias voltage

Posted by [DocWaxham](#) on Fri, 25 Mar 2022 20:30:32 GMT

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What was the part numbers of the diodes did you use? I have 1n3754's, and some silicon diodes as well. My tech said my outputs were blown but i tested them and they checked fine. It didn't blow the fuse when it went down so I am stumped. I took out one of the drivers and it was ok. Really don't want to take them all out because my hunch is saying it is something else. Thanks

Subject: Re: Bias voltage

Posted by [stevem](#) on Fri, 25 Mar 2022 22:40:54 GMT

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I just popped open one of my 200B-1s
This amp has all original bias string diodes , drivers and outputs.
Across my temp senceing diode a read .648 volts.

You meter will read positive or negative depending on which lead you have where.

If your fuse is the right value and is not blowing then you have no bad output transistor, period!

Subject: Re: Bias voltage

Posted by [chicagobill](#) on Sat, 26 Mar 2022 16:55:09 GMT

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The more important bias voltage reading would be the voltage across the ballast resistors that connect the output transistors to the speaker out. The voltage there will help us to understand how much current the output transistors are drawing at idle.

Changing the diodes in the bias string will either increase or decrease the idle current reading.

Doc, what is the problem with the amp?

Subject: Re: Bias voltage

Posted by [DocWaxham](#) on Sun, 27 Mar 2022 14:37:24 GMT

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It made a loud noise then I shut it off. It did not blow the 3A fuse. I took it to a tech and he brought it up and tested it and said the outputs were bad. He declined to work on it. It is apart now. Checked outputs and all were ok. Took one driver out and it was ok. Removed bias diodes they were ok. Ballast resistors are ok as well. Just in a hold mode for now. Thanks

Subject: Re: Bias voltage

Posted by [stevem](#) on Sun, 27 Mar 2022 15:45:36 GMT

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If you fire it up again for a second with a voltmeter hooked up to the speaker jack the dc voltage it reads will give a idea as to what section of the output stage the problem lies.

A positive voltage would point to a issue in the top section of the output stage, like Q1 or Q2 and so on.

A negative voltage would be the bottom of the output section schematic wise.

You may also have a problem in the amp more up stream from the driver / output stage that is sending hum into this section.

To rule that possibility out unsolder the two blue wires that come into the driver board on its left side as you face it.

Subject: Re: Bias voltage

Posted by [DocWaxham](#) on Wed, 30 Mar 2022 18:25:13 GMT

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Got it fired back up checked voltage on the speaker jack and it came up with a negative voltage. So I decided to take it inside and check it out. Plugged in and it worked. I also found the green wire going to the board dangling. I didnt see that at all and neither did my tech. I did change out all of the bias diodes with correct ones. Also replaced 2 transistors and two diodes in the bias circuit. Thanks to all who chimed in. Made me keep plugging away at it.

Subject: Re: Bias voltage

Posted by [stevem](#) on Wed, 30 Mar 2022 21:42:50 GMT

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Which green wire to what board?

Subject: Re: Bias voltage

Posted by [DocWaxham](#) on Thu, 31 Mar 2022 11:03:21 GMT

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Lower right side of power board.
