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Subject: Kustom 200 Bright Channel is dead  
Posted by [malabarspyder](#) on Mon, 12 Oct 2009 00:03:46 GMT  
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The normal channel is fine but the bright is dead. Would appreciate tips? I have an oscscope and DVM.... I'm thinking the finals? But I'm a little surprized they dont share the same output, and just have different input preamp?

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [steven](#) on Mon, 12 Oct 2009 10:05:03 GMT  
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First try cleaning the brite switch with some contact cleaner, if that fails then check the first two transistors down stream from the input jacks. The first one is a commom NPN type, a 2n3904 or a NTE 123AP is a replacement.  
The second one is a PNP type, you can use a NTE 129 for a replacemennt.  
NOTE, that 5 watt resistor hanging off the pilot lamp gets real hot so steer clear!

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [malabarspyder](#) on Mon, 12 Oct 2009 11:11:26 GMT  
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malabarspyder wrote on Sun, 11 October 2009 20:03The normal channel is fine but the bright is dead. Would appreciate tips? I have an oscscope and DVM.... I'm thinking the finals? But I'm a little surprized they dont share the same output, and just have different input preamp?

Thank-you sir, I will try that..

To be sure I started the problem corrcctly- the BRIGHT switch seems OK- but the two Bright JACKS are dead.

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [chicagobill](#) on Mon, 12 Oct 2009 15:50:16 GMT  
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The bright channel has an additional stage at the output that acts as a boost. The "bright" switch is actually a bypass switch for the circuit and if the switch is dirty or oxidized, it can cause the entire channel signal to drop out.

Everything from the input jacks to the bright switch is nearly identical to the normal channel, so compare voltages etc. to help you find the problem.

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [malabarspyder](#) on Mon, 12 Oct 2009 16:03:43 GMT  
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Thanks again, I will test that all out..

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [Jc](#) on Tue, 13 Oct 2009 00:02:47 GMT  
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I'm sure Chicago Bill can explain this better. But I have had the input jack bent slightly. The input jack has a clip that either completes the circuit or defeats it. I bent mine to the appropriate position and all was well. Just a thought.

jc

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [malabarspyder](#) on Tue, 13 Oct 2009 00:46:43 GMT  
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thanks sir Ill look at the jacks too..

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [malabarspyder](#) on Mon, 19 Oct 2009 15:18:08 GMT  
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stevem wrote on Mon, 12 October 2009 06:05 First try cleaning the brite switch with some contact cleaner, if that fails then check the first two transistors down stream from the input jacks. The first one is a commom NPN type, a 2n3904 or a NTE 123AP is a replacement. The second one is a PNP type, you can use a NTE 129 for a replacemennt. NOTE, that 5 watt resistor hanging off the pilot lamp gets real hot so steer clear!

I'm gonna buy some contact-cleaner and try that.. I took apart the case last night and removed the BRITE input board (the one with the 4 pots)... I notice if I move the VOL knob on the brite side back and forth the amp makes some white noise, but the inputs are dead.

The jacks appear to be in fine shape and the contacts look excellent. One odd thing the LOW jack has nothing soldered to the small terminal that appears to be the ground! Perhaps another terminal is in parallel.

Do you have a board diagram so I can locate those components? I do see a couple of transistors near the top of this board. I flipped it over and looked for hot spots or cold joints but it all looked

pretty clean- nothing obvious!

Thanks!

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [malabarspyder](#) on Mon, 19 Oct 2009 15:23:21 GMT  
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I checked the gap and these SEEM ok- but you bring up a good point- Ill add a gator clip and see if I can notice any difference..

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [malabarspyder](#) on Mon, 19 Oct 2009 15:27:07 GMT  
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stevem wrote on Mon, 12 October 2009 06:05

NOTE, that 5 watt resistor hanging off the pilot lamp gets real hot so steer clear!

Sounds like you had a BAD experience with that resistor! I was actually being extra-careful around those two big CAPS they looked LETHAL!

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [chicagobill](#) on Mon, 19 Oct 2009 16:03:24 GMT  
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If the volume control causes the sound to change, then I'd suggest that you try the two transistors that Steve suggested to test. Just follow the wire from the input jacks, that will get you to the area you need to look at. Also check for loose connections, bad resistors and caps, etc.

For the unused input ground, the jack is grounded through the chassis so the contact doesn't need to be wired. As for what JC was talking about, both input jacks are grounded through a series connection switch, so that when neither jack is used both inputs are grounded and when either jack is used the ground connection is broken. It could be possible that the contacts could create a situation where the ground connection is not broken when either jack is used, killing the signal.

Hey JC the wife asked about you the other day. When are we gonna meet up for dinner?

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [malabarspyder](#) on Mon, 19 Oct 2009 16:47:16 GMT

chicagobill wrote on Mon, 19 October 2009 12:03 If the volume control causes the sound to change, then I'd suggest that you try the two transistors that Steve suggested to test. Just follow the wire from the input jacks, that will get you to the area you need to look at. Also check for loose connections, bad resistors and caps, etc.

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Hey JC the wife asked about you the other day. When are we gonna meet up for dinner?

Roger that sir, I will check it. It would be easy to check the contacts- just ohm out the other end of a guitar cord plugged in! If they are shorted we got problems

As far as the 2 input xistors they LOOK ok- no signs of heating, but with the plastic types sometimes its not EZ to tell. Give me a T03 anyday LOL.. I'll desolder them and check the diodes..

Thanks for the tips I'm very impressed with the knowledge here. Sounds to me like you guys know these Kustoms forwards and backwards!

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [malabarspyder](#) on Tue, 20 Oct 2009 16:56:35 GMT  
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ack.. This is harder than I thought..

OK did the contact cleaner on all 3 pots and the Brite switch. No difference.

Desoldered the 2 discrete transistors and at least on the ohm-meter they appear to have expected diode values. Still could be bad but certainly not open or shorted.

Ohmed out the input cable- like 50M, definitely not shorted to ground.

I then desoldered the volume pot and ohmed it out- very reasonable values like 1 ohm to some big value, and the opposite on the other 2 terminals.

If it was my repair shop and I had parts- at this point I think I would be replacing the whole BRITE CHANNEL board!

The other thing I found very odd- they connect that 200hm resistor (that goes to the 110v lamp) to the brite side input jack? Why on earth would you want 110v anywhere NEAR a hi-Z input jack!? Makes me wonder if someone didn't \*fiddle\* with that?

S

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [chicagobill](#) on Tue, 20 Oct 2009 18:20:03 GMT  
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The pilot lamp is a 28 volt bulb. It is powered by the negative dc power supply. The 200 ohm resistor is grounded at the input for convenience.

Have you been checking any voltage readings on the board?

In my experience, the transistors do not need to be removed from the board for basic diode testing. I will only remove them if something doesn't test right.

As for the pots, the volume is a 15K, bass and treble are 10K.

Have you tested any of the caps in the circuit? The tantalums should always be checked.

You stated that the volume control changed the sound of the hiss from the preamp. Do the tone controls affect the sound of the hiss at all?

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [malabarspyder](#) on Tue, 20 Oct 2009 18:53:18 GMT  
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good thought on the caps- particularly since the input looks to be capacitively coupled.. I will try those next..

The lamp assembly was labeled 110v so that's why I thought that.. oops!

The pots and switch all seem to have some effect- moving the brite switch to BRITE does seem to boost the treble in the white noise.

The volume result is interesting- it is silent, then POPS loudly at like 'clock position. Then makes a scratchy noise as moved from 8 to 4.

The bass and treble also seem to affect the white noise.

But your advise on the cap sounds right to me now- I just went through that on a Fender amp. I'm gonna test those tonight- I just bet that input cap is OPEN..

By the way- why are there BRITE and NORMAL channels, PLUS each as a BRITE and NORMAL

switch. Is BRITE channel set to Normal the same as Normal channel set to Brite?

Just seems a little odd?

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Subject: Re: Kustom 200 Bright Channel is dead  
Posted by [chicagobill](#) on Tue, 20 Oct 2009 21:30:12 GMT  
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There should be no dc voltage on the volume control pot. Check to see if there is any on yours, if there is then one of the 33uF tantalums is leaky. That would explain the pop and scratch.

I think the real odd thing is that there are Bright and Normal Inputs as well as Bright and Normal channels.

And yes, the Bright channel is wired like the Normal channel with the bright switch on. The Bright switch on the bright channel is really a boost circuit, more than just a bright switch.

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