
Subject: K100-2 term question - trem strength fades
Posted by [gui_tarzan](#) on Fri, 05 Jun 2015 01:56:51 GMT
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When I turn on the trem it sounds healthy, but after maybe 30 seconds it starts to get weak. Turning it off and back on makes it normal again but it gets weak again. I'm not real experienced with solid state circuit behavior (I work on mostly tube amps) so I'm reaching out for ideas. The reverb works fine, though it sounds kind of spacey cranked up. That could be the tank or just the nature of the beast, I'm not sure yet.

Subject: Re: K100-2 term question - trem strength fades
Posted by [chicagobill](#) on Fri, 05 Jun 2015 06:19:49 GMT
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My guess would be that the oscillator starts out fine and then loses strength. If you have a voltmeter read the voltage at the intensity control. Compare the levels when it starts and when it dies down.

If the oscillator voltage at the intensity control reduces as it warms up, check for the voltage levels at the output of the oscillator and see if the voltage dies out there. You need to see if the problem is with the oscillator or with the coupling caps.

Subject: Re: K100-2 term question - trem strength fades
Posted by [stevem](#) on Fri, 05 Jun 2015 10:22:43 GMT
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Also all the small electrolytic caps like the 10uf ones or whatever should just get shot gunned and replaced in that part of the circuit.
If you have a thermal gun then check these caps that go to ground, and you check them when the amp is first on and then after the issue starts up you will likely find one running hot and this will be the one pulling down the power supply voltage which is making for the slow fade out deal.

Subject: Re: K100-2 term question - trem strength fades
Posted by [gui_tarzan](#) on Fri, 05 Jun 2015 12:08:27 GMT
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I do have a thermal gun, I'll try that tonight (and the voltage test on the oscillator). Thanks!

Subject: Re: K100-2 term question - trem strength fades
Posted by [stevem](#) on Fri, 05 Jun 2015 12:16:08 GMT
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Yup if you have the time have at it, but like I posted once you have things apart enough to unsolder even just one cap you might as well just shot gun it!
It is interesting though to know which one bit the dust!

Subject: Re: K100-2 term question - trem strength fades
Posted by [chicagobill](#) on Fri, 05 Jun 2015 18:17:02 GMT
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I don't have a problem with replacing all of the electrolytic caps in there, but I personally really want to know what the problem is before I start changing anything.

I like to test things as best I can until I find something that doesn't seem right. That will lead me to the probable cause of the malfunction.

Let's say that the problem here is a bad coupling cap that sends the LFO signal to the intensity control. Shotgunning the caps will fix the problem, but what if the problem is a leaky transistor that is pulling too much current causing the voltage to drop as it warms up? And every time you start soldering parts on any board you start to risk damaging things that were not broken to begin with.

Just my 2 cents.

Subject: Re: K100-2 term question - trem strength fades
Posted by [pleat](#) on Fri, 05 Jun 2015 20:34:37 GMT
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Always fun to read the solutions, but I'm no tech. The second part of the original post got lost in the shuffle.

The reverb on the very early models could get real thick with the reverb even with the control turned down. I think Kustom did three revisions on the K100-2 amps. A serial number or date code on a control might shed some light on when the amp was made and what revision the circuit is. As long as the amp is apart, would be a good time to check to see if a change might want to be made on the reverb circuit. If the reverb is too much for the owner.

pleat

Subject: Re: K100-2 term question - trem strength fades
Posted by [gui_tarzan](#) on Sat, 06 Jun 2015 00:10:09 GMT
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s/n 33784

I take that back, the reverb sounds good up to about 3, then it gets real swampy real fast.

Subject: Re: K100-2 term question - trem strength fades

Posted by [stevem](#) on Sat, 06 Jun 2015 09:54:47 GMT

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Your right on that Bill it's just for me having to plow thru repairs fast to make a buck I go thru the process of elimination fast on a old amp that needs to get new caps anyway!

On the reverb issue, is the reverb still the original Gibbs manufactured pan and does the reverb pot look original like all the others ?

Subject: Re: K100-2 term question - trem strength fades

Posted by [gui_tarzan](#) on Tue, 23 Jun 2015 22:02:44 GMT

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So I'm looking at this board and I don't see any e-caps. Wait, I think I figured out that the dipped caps must be e-caps, they have 10-15 and a "+" above one lead. That's a new one on me.

Ah, it won't let me post a pic, I don't have enough posts yet. Sheesh.

Subject: Re: K100-2 term question - trem strength fades

Posted by [stevem](#) on Tue, 23 Jun 2015 22:58:51 GMT

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Yes, if it's marked with a plus then it's a tantalum type E cap.

Subject: Re: K100-2 term question - trem strength fades

Posted by [gui_tarzan](#) on Wed, 24 Jun 2015 00:22:24 GMT

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There are a bunch of them that's for sure. And yes, the reverb tank and pot are original. Sorry, I just saw that post.

Subject: Re: K100-2 term question - trem strength fades

Posted by [stevem](#) on Wed, 24 Jun 2015 10:15:46 GMT

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Replacing them with radial type E caps is the way to go, but axials will work too as they have long enough leads!

Subject: Re: K100-2 term question - trem strength fades

Posted by [gui_tarzan](#) on Thu, 25 Jun 2015 22:48:28 GMT

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Now I'm a little discouraged. I replaced all of the 10/15 caps and it's humming, and the hum gets louder as I turn the reverb up.

Subject: Re: K100-2 term question - trem strength fades

Posted by [chicagobill](#) on Fri, 26 Jun 2015 03:24:22 GMT

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Did you install all of the caps in the correct orientation/polarity? Is the tank plugged in correctly? Double check your soldering in the reverb return section. Any solder bridges?

Subject: Re: K100-2 term question - trem strength fades

Posted by [gui_tarzan](#) on Fri, 26 Jun 2015 14:17:20 GMT

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Yes. Yes. Did that. No.

It's not as bad with a guitar plugged in but it's there and it bugs me.

Subject: Re: K100-2 term question - trem strength fades

Posted by [gui_tarzan](#) on Fri, 26 Jun 2015 14:18:07 GMT

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And the reverb still sounds like aliens are coming in when you turn the reverb control up past 4 or so.

Subject: Re: K100-2 term question - trem strength fades

Posted by [chicagobill](#) on Fri, 26 Jun 2015 17:40:42 GMT

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If the hum is worse with no guitar plugged in, check the grounding of the input jacks and the grounding switch contacts on the jacks as well. For that matter, check the grounding of the pc board, the power supply, etc.

Is the reverb tank mounted with the output side as far away from the power transformer as possible? Is the tank the original one for the amp or could it have been replaced? There could be a ground loop caused by a wiring fault if the pc board jack wiring has been altered.

Subject: Re: K100-2 term question - trem strength fades
Posted by [gui_tarzan](#) on Fri, 26 Jun 2015 18:08:31 GMT
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Everything was original until I replaced a handful of the e-caps as written previously. I tried the thump and tap tests but I haven't replaced the reverb cables yet. I didn't even see any solder joints that looked like they had been touched since the factory did them.

Subject: Re: K100-2 term question - trem strength fades
Posted by [stevem](#) on Fri, 26 Jun 2015 18:13:17 GMT
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What brand caps did you get?
It is not unheard of to have bad new ones, so try swapping two or three of them and see if any of the new issues change.

Subject: Re: K100-2 term question - trem strength fades
Posted by [gui_tarzan](#) on Sat, 27 Jun 2015 00:35:47 GMT
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The amp sounds good now except for the reverb. It doesn't seem to be dropping out anymore but to put it bluntly, the reverb sucks. When it's all the way down it has a good tone and effect, but when you start turning it up it gets real muddy and quiet, like the dry signal is being turned down and the wet signal is being turned up real hard and fast. It sounds horrible. A different tank made no difference. The caps are just generic 10/35v electrolytics. My gut says it's not a cap just because it's not making any different noises than it did before, other than like I said it doesn't seem to be dropping out now.

Subject: Re: K100-2 term question - trem strength fades
Posted by [chicagobill](#) on Sat, 27 Jun 2015 01:45:31 GMT
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That's exactly how Kustom amps are designed to work, The reverb control works as a balance control. Unlike other amps where the reverb is added to the straight signal, the kustom circuit reduces the amount of straight signal as it increases the reverb signal.

I don't know if there were any circuit updates to the reverb on that model, but there are two versions of the schematic on the board here. Take a look at the two versions and see if there were any changes to the reverb circuit and see which version you have.

You could change a few resistor values to reduce the overall amount of reverb going into the reverb control.

Subject: Re: K100-2 term question - trem strength fades

Posted by [pleat](#) on Sat, 27 Jun 2015 12:26:39 GMT

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From the serial number you provided, the amp was manufactured between Jan. and March of 1969. There is a newer revision on the schematics page.

pleat

Subject: Re: K100-2 term question - trem strength fades

Posted by [gui_tarzan](#) on Sat, 27 Jun 2015 14:39:13 GMT

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The board says PC104 and that schematic isn't on the list here.

Subject: Re: K100-2 term question - trem strength fades

Posted by [chicagobill](#) on Sat, 27 Jun 2015 16:20:30 GMT

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Select amp by model number and scroll down to K100 series and it's there.
