
Subject: Kustom 100 noise

Posted by [redfarfisa](#) on Sun, 22 Aug 2010 16:31:58 GMT

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I have a White/Silver Kustom 100 Bass amp. I am the original owner and it has never had any work done on it. It works perfectly, but it makes a lot of background 'white noise' or hiss. I think it has always made this noise, but now I am using it in the studio and would like to get rid of it if possible. Any ideas?

Subject: Re: Kustom 100 noise

Posted by [chicagobill](#) on Mon, 23 Aug 2010 16:40:31 GMT

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Welcome to the place. If you play a red Farfisa then you will need to check out Rodak's Combo Organ site.

As for your amp, yes it probably did hiss all along. I have been experimenting with all of my amps, trying to find a simple cure for the background hiss, and have not really found one. I have found that there are as many causes of the background hiss as there are Kustom lovers out there. Sometimes it's the transistors, sometimes the tantalum caps and sometimes it's the carbon comp resistors.

My suggestion is to isolate the sections of the amp to see where the hiss is being generated, from the preamp or the power amp, etc. Then you could try replacing a few parts to see if it will quiet the noise down.

My current bench amp is a cut up K200B-1 chassis that I bought on eBay. Originally, I bought it for parts as I needed a Bright Channel PC board.

One day when I had a few hours to mess with the remains, I just started to rebuild the power amp and the remaining preamp board. The power amp had been completely cooked. And then to add insult to injury some idiot tried to fix it by replacing the output transistors with any random parts that he had on hand. This "fix" caused whatever wasn't cooked before to fry the second time around.

As an experiment, with the exception of the 4 driver transistors I just replaced every part on the power amp board with new modern components. When I fired it up I was shocked to hear (or not hear) the traditional hiss. I knew that it was working as I heard the power on thump. It is the quietest of all of my Kustom heads.

Subject: Re: Kustom 100 noise

Posted by [redfarfisa](#) on Mon, 23 Aug 2010 20:14:52 GMT

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Yeah! I love the Combo Organ site! I mostly play Combo Organs and old Electric Pianos through

the Kustom - it sounds great! Thanks for the ideas! I notice there are no schematics here anymore - do you know where I could get one for the Kustom 100 bass head?

Subject: Re: Kustom 100 noise
Posted by [steven](#) on Mon, 23 Aug 2010 22:36:04 GMT
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If you send me a self addressed stamped envelope I will send you a copy of the needed schematic. Also note that your K100 is not a bass head, these models were just a none effect type head. This is good in regards to tracking down the hiss problem you may or may not have as these heads(non-effect type) have two separate preamp circuit boards. If you look at both preamp boards mounted on the front inside wall of the amp you will see a blue wire going from each board to the output driver board, this is the audio output board for each channel. If you remove/dis-mount each board from the face of the amp and unsolder each blue wire you will kill the hiss that may be coming from each preamp, this will allow you to determine if it's the driver board that is hissy, or if it's one or the other preamp board.

My address to send the envelope is.
PO box 1160
Yorktown hts
NY 10598.

Subject: Re: Kustom 100 noise
Posted by [Huskerbay](#) on Fri, 24 Sep 2010 05:05:25 GMT
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Thanks for sharing tips on reducing amp noise.
Does simply updating the amp with a 3-prong, grounded power cord have a significant impact on reducing the hum associated with most vintage Kustoms?

Subject: Re: Kustom 100 noise
Posted by [chicagobill](#) on Fri, 24 Sep 2010 15:22:43 GMT
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In a word, maybe. And I don't really know of any hum that is associated with all Kustom amps.

Adding the three wire power cord just to bring the amp up to modern safety standards. If the original cord had a problem or if the original wiring had a problem, then changing the ac cord could reduce any hum or noise that may have been caused by the bad wiring.

There are typically two types of hum that all amps suffer from. The first is power supply related and the second is signal related. The power supply hum is caused by either a bad capacitor or a bad grounding scheme inside the amp. By now, all original Kustom amps are at least 40 years

old. Typical modern filter caps have an expected life span of approximately 10 years. So a lot of guys will replace the main filter caps in their amps and find a reduction in hum.

All of my amps currently still have their original filter caps. Maybe I'm not picky or maybe just lucky, but the original computer grade Mallory caps that were chosen to be used in the Kustom amps were one of the highest quality parts available at that time. It's no surprise that there are hundreds of these original caps still in service out there.

The second hum source is signal path related. If you just plug a guitar cord into your amp and move it around, you will hear a hum. This is hum that the amp is not making, it is just amplifying it. Everywhere around us are electromagnetic fields. The US power grid operates at 60hz, so most of the EMF you find will be either 60 hertz or some harmonic of 60, like 120, etc. If your amp is placed near an EMF source, then the amp will pick up this signal and amplify it. Having the metal chassis of your amp attached to the ground terminal of your ac wiring will help to block some of this signal from getting into the amp's signal path. This is what the original ground polarity cap did as well, but the 3-wire system is safer to the user.

Kustom amps were very carefully designed to try and eliminate different sources of hum. As the design evolved, they even changed the original chassis which was open on the sides and on the top, to a completely closed chassis that even had a metal top cover plate.

So to make this long story even longer, yes change the ac cord to a 3-wire one. But while you're in there be sure to tighten up all of the screws that mount the different circuit boards and other components. And check to see that if there is any corrosion on the chassis that interferes with a solid ground connections as well.

Subject: Re: Kustom 100 noise
Posted by [Huskerbay](#) on Fri, 24 Sep 2010 16:43:01 GMT
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ChicagoBill:

Thanks again for your excellent information! I guess that vintage Kustom designs vary too much from model to model for a "one-size-fits-all" hum remedy.

You mentioned vintage Kustom chassis were open on the sides and top, compared to later designs with a metal-enclosed chassis. Would stapling a metal mesh/screen to the inside of a vintage cabinet provide some added hum reduction? Would a "add-on" screen need a ground wire connection from the chassis itself?

Are there any general remedies for vintage Kustom "hiss" vs. "hum" that you haven't already mentioned?

Subject: Re: Kustom 100 noise

Posted by [stevem](#) on Fri, 24 Sep 2010 17:01:02 GMT

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Hi.

The amps hum level if the two main filter cans are in good condition should not be a problem. When you add a grounded ac cord to the amp you will introduce a buzz to the amp that will only go away when you hold the strings of the guitar.

With the old 2 prong set up you could flip the on/off switch to the other side and kill the buzz, but then you may have a shock condition present.

In regards to the hiss level you should do what Bill has posted about before, that being replacing the driver transistors with new ones for the sake of their much smaller noise/hiss level.

Note that the K100 only has two of these unlike the K200 that Bill posted about that has 4.

Also note that in regards to 60 hz ground loop hum problems, any stomp boxes you may be using that have a AC power cord with a ground will need to have that 3 prong lifted with a ground adapter.

Subject: Re: Kustom 100 noise

Posted by [chicagobill](#) on Fri, 24 Sep 2010 17:08:06 GMT

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You mean kinda like what Fender used on the inside top panel of their cabinets?

Yes and no, while better than nothing, screening will only work well for high frequency interference, like radio signals. It must make good contact with the chassis ground, and must not be allowed to sag or droop into the circuit area. Because of the design of the K200 series amps, where the chassis is bolted down to the bottom of the case, there will be gaps in the coverage if the screening is stapled to the inside of the cabinet.

Subject: Re: Kustom 100 noise

Posted by [Huskerbay](#) on Fri, 24 Sep 2010 20:51:41 GMT

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Steve & Bill:

Thanks for your excellent advice and info.

Yes Bill, the wire mesh question was based on a Fender Twin Reverb I owned years ago. I now own a vintage Music Man 110-RD... also with wire mesh inside the top of the cabinet. Not surprising, since Leo Fender was a co-founder of Music Man.

My first "larger-than-practice" amp was a Kustom 200, which I sold to buy the Twin. I've been considering a smaller Kustom 100 or 150 combo recently.

I liked my Kustom 200, but the cabinet had a 15" speaker with the round 15" treble horn on top. I

still remember the hiss, but maybe it was accentuated by the horn. The speaker + horn made the cabinet sound much different depending on where you stood. It was hard to dial-in the tone I wanted.

Subject: Re: Kustom 100 noise
Posted by [chicagobill](#) on Fri, 24 Sep 2010 21:17:00 GMT
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I've got a Music Man 100RD head with a 4x12 cabinet that I used to use back in the early eighties. It sounded great if you could back away from it, kinda like the Kustom cabinet that you had.

I always found that any of the guitar cabinets with the built in horns only worked well if you could stand maybe 10-15 feet away from them. That way the highs and lows could sort of blend together acoustically and even out. Otherwise you tended to hear too much of one or the other.

I've been reducing the amount of stuff that I have, so for me having heads with separate speaker cabs works best. I will use my Kustom 2x15 cabinet, or my 2x12 Bassman bottom with any of the heads that I have. I will keep all of my Fender combos, but that's a different story.
