Subject: Reverb Hiss Kustom Lead I
Posted by blindmouse on Sat, 22 Oct 2011 10:08:56 GMT
View Forum Message <> Reply to Message

I fixed and restored my recently purchased Kustom Lead I. The only thing I still need to do is replacing the big filter caps. (I did put in some new F&T's but one was open and blew two rectifiers) There still is a small issue: turning up the reverb from zero an increasing amount of hum is added to the signal. I cleaned all reverb connectors. Now the MC1458 dual opamp provides the reverb signal. Could it be this opamp that causes the hiss?

Subject: Re: Reverb Hiss Kustom Lead I
Posted by stevem on Sat, 22 Oct 2011 14:32:07 GMT
View Forum Message <> Reply to Message

Are you getting hiss and hum, or just hum, as you are not clear on this.
Hum is due to the return/output side of the reverb pan being too close to the power transformer and kustom always tryed to mount the pans in a way to keep the output side of the pan on the oposte side of the amp, Fender want so far with the first head with built in reverb as to add 6 inches to the height of the cabinet to back the pan away from the PT.
With any amp regardless of make turning up the reverb will always add some degree of hum unless the amp has digital effects.

Subject: Re: Reverb Hiss Kustom Lead I
Posted by blindmouse on Sat, 22 Oct 2011 16:10:32 GMT
View Forum Message <> Reply to Message

I'm so sorry. I wrote the word 'hum', I meant the word 'hiss'. There is no hum on the reverb. There is a hiss that troubles me.

Some updating:
- There is also that so called 'frying eggs popping' sound;
- The hiss and frying eggs sound stay when drive and volume are down to zero.

Subject: Re: Reverb Hiss Kustom Lead I
Posted by stevem on Sat, 22 Oct 2011 22:15:24 GMT
View Forum Message <> Reply to Message

That noise sticking around when those two controls are down means trouble in the driver/output stage. my moneys on the drive
.
The hiss means there is alot of gain going on for one or more reasons in the reverb send or recovery end of the circuit. It could be due to a electrolytic bypass cap shifting way up in value, or

it could be that IC going south.
If you pull the input jack from the pan and the hiss goes away then its coming from the input/drive side of the circuit.

Subject: Re: Reverb Hiss Kustom Lead I
Posted by blindmouse on Sun, 23 Oct 2011 14:37:39 GMT
View Forum Message <> Reply to Message

Well, some work to do.
I just ordered some 2200uF/63V Vishay filter caps, some 3A 1000V rectifier diodes and some 4558 dual op amps. When they come in I'll start working on the amp again. Played it through a reissue Jensen C12R. I really did like that sound.

Subject: Re: Reverb Hiss Kustom Lead I
Posted by blindmouse on Sat, 29 Oct 2011 10:33:54 GMT
View Forum Message <> Reply to Message

I got the stuff in and first started to replace the 1900uF/40V filtercaps with the new 2200uF/63V ones. Fired it up with a '100W lightbulb in series' and it all looked good. Then gave it the 230V and played the amp. Sound was good, a bit more bassy, but I adjusted that with the bass-knob. The I tried to put in the 3A 1000V rectifier diodes. The leads were too thick and I replaced the two original ones I hadn't replaced before with 1A 1000V ones. Now I noticed these four rectifiers came in two pairs: the blown ones are 500V and the ones that did not blow are 300V ones! The rectifiers done I fired up the amp and everything was ok. Now I put in a new dual op-amp for the reverb/tremolo circuit. The original one, a 1458 I replaced with an upgrade, a 4558, I also installed an op-amp adapter. When I fired the amp up I noticed a difference in sound. It sounded cooler, flat, the emotion had gone. I put back the original 1458 and that good old familiar sound was back again. Are my ears fooling me???

Changing out the op-amp didn't take away the 'frying eggs' sounds. Cleaning the reverb pot didn't either. When I disconnect the reverb pan completey (both input and output) the unwanted sound is still there. Any ideas????

Thanks and kind regards.

Subject: Re: Reverb Hiss Kustom Lead I
Posted by stevem on Sat, 29 Oct 2011 13:59:30 GMT
View Forum Message <> Reply to Message

Just because the new chip will drop in and work is no garranty its bias to the ideal level, also even chips with the same part number from different production runs and or makers will sound

somewhat different.
If you still cared to play around with the new chip you could measure the old chips idle current, install the new chip, take measuremnts and then change out the circuits bias resistors to match the current as seen with the old chip.
If you unplug the harness from the preamp board(s) to the driver board/output board and the hiss remains then the noise is in the driver board.
If thats the case I would just shot gun it will all new transistors, as in the end it saves time and cost less than 10 bucks.
Also replace any electrolytic caps on that board with ones with a higher voltage rating.

Subject: Re: Reverb Hiss Kustom Lead I
Posted by blindmouse on Sat, 29 Oct 2011 18:48:30 GMT
View Forum Message <> Reply to Message

No hiss, no 'frying eggs' sound with the pre amp board disconnected! So it is the pre amp board I guess. Could it be the 80848 IC (I3 on the PC5129 board) that's causing trouble?
Does solid state amps have 'plate resistors' like tube amps? Bad tube amp plate resistors can cause the weird frying eggs sounds.

Thanks

Subject: Re: Reverb Hiss Kustom Lead I
Posted by chicagobill on Sun, 30 Oct 2011 01:27:50 GMT
View Forum Message <> Reply to Message

Yes, the other chip can also be the cause of the noise. These solid state amps do not have plate resistors, but some of the resistors have a similar function and can also contribute to the noise.

Subject: Re: Reverb Hiss Kustom Lead I
Posted by blindmouse on Sun, 30 Oct 2011 18:16:04 GMT
View Forum Message <> Reply to Message

Well, I think it's about time I go to an old friend of mine. The guy has a scope and is a lot more into the transistor thing than I am.

Thanks
