Subject: Repair
Posted by stevem on Wed, 06 Apr 2022 14:12:47 GMT
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These amps always have a certain level of noise / gain hiss to them at around 2khz.
Does the volume control in either channel make a difference in the level of hiss being heard?

In terms of the reverb hum that is most likely due to the pan having been taken out of the amp and reinstalled the wrong way .
The end of the tank with the connection marked output can not be the end closest to the power transformer which is on the right side when viewing the open chassis from the front of the amp.

Subject: Re: Repair
Posted by NLKustom on Wed, 06 Apr 2022 21:29:33 GMT
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stevem wrote on Wed, 06 April 2022 10:12These amps always have a certain level of noise / gain hiss to them at around 2khz.
Does the volume control in either channel make a difference in the level of hiss being heard?

In terms of the reverb hum that is most likely due to the pan having been taken out of the amp and reinstalled the wrong way .
The end of the tank with the connection marked output can not be the end closest to the power transformer which is on the right side when viewing the open chassis from the front of the amp.
Stevem, is this a reply to my question?. if so, the volume control doesn't make a difference to the power hiss you hear, only if you turn them to max it increases a bit.
As for the reverb, I changed one RCA chord because it failed the ohm test on the shield side. The tank is in the right way with the output plug farthest away from the transformer. Actually it wont fit the other way, the rca outputs would hit the back of the amp making it impossible to install. Still think it's a ground issue though. When you turn up the reverb knob, you hear a loud hum, and the volume decreases. The volume also decreases a bit when you turn on the intensity knob.

Subject: Re: Repair
Posted by stevem on Thu, 07 Apr 2022 11:27:07 GMT
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In this model amp(and many other Kustom's) only the rca cable used on the output side of the tank should have its outer cable shield making a connection from end to end.

If the cable used on the input side is the same then you will have a problem making ground loop taking place.
The input cable should not show a connection being made from the outside of the preamp board mounted rca jack to the pan's rca jack.

If you look in this sites schematic section at PC1000 you will see how it needs to be wired.

The condition your having of the volume decreasing leads me to think that your tank has a problem, or it's a replacement tank of the wrong type .

Is there a date code on the tank?

With the output cable plugged in and the reverb turned up if you bang on the tank hard do you hear the reverb springs crash?

Let's get this issue ironed out before we go back and look at what may be a hiss problem.

Subject: Re: Repair
Posted by NLKustom on Thu, 07 Apr 2022 20:25:07 GMT
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Thanks for the help Steve.
So I checked the tank again, the RCA chord going to the "input" jack is not showing 0 on the ohm meter on the shield connectors.
The RCA chord going to the "output" jack is showing 0 on the ohm meter, so I'm assuming it's shielded.
The reverb tank has the "input" jack farthest away from the power transformers, looking at it from the front of the amp., and the "output" jack is closest to the transformers, or in the middle of the amp.
The tank is an Accutronics, these are the numbers stamped on it. 031-005-00. 25-75-301. 23572-0. 4FB2A1A. It looks like someone has peeled back the foam on both ends of the tank for some reason, to look inside I suppose. Everything looks fine in there, the foam is still in place.
When I shake the amp I can hear the reverb springs through the speakers.

Subject: Re: Repair
Posted by NLKustom on Thu, 07 Apr 2022 22:35:55 GMT
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Update:
So it turns out the reverb tank was put in backwards with the output by the power transformer. Switched it around all the reverb hum disappeared. With no loss of volume. Thanks for the valuable info Steve.
But I am getting a bit of loss in volume and a bit less clearer tone when I turn on the intensity effect.

Subject: Re: Repair
Posted by NLKustom on Thu, 07 Apr 2022 23:12:27 GMT

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Steve, another question.
I installed a 3 prong power chord to this amp, so should both RCA tank reverb cables be shielded?

Subject: Re: Repair
Posted by stevem on Fri, 08 Apr 2022 15:27:15 GMT
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The up grade to a 3 prong power cable has no impact on the reverb circuit .

Subject: Re: Repair
Posted by NLKustom on Fri, 08 Apr 2022 22:45:05 GMT
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Where can you get those short RCA cables with a 90 degree on one end?
From the numbers I gave you from the reverb tank, Is it the right one?
Thanks again.

Subject: Re: Repair
Posted by rodak on Sat, 09 Apr 2022 01:19:13 GMT
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I checked my two favorite cable sources, but neither had right-angle plug cables.
One did have a right-angle adapter:
https://www.mycablemart.com/store/cart.php?m=product_detail& amp;p=6001

They're cheap, anyway.

Subject: Re: Repair
Posted by stevem on Sat, 09 Apr 2022 14:11:46 GMT
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If I had to guess at the volume drop off issue your having it would be the two electrolytic caps at each end of the intensity control .
One is a 10 uf and if I recall right the other is a 33 Uf.
This circuit board is a good bit of a pain in the Ass to get out, so if you go thru the work to do that then replace all off the electrolytic type caps and get it done in one shot.

Is your reverb working right now?

Subject: Re: Repair
Posted by NLKustom on Sat, 09 Apr 2022 15:14:33 GMT
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Steve, the reverb is working with no volume drop, but it doesn't seem overly strong. I can live with it.
Turns out the volume drop is only when I used the effects, when I turn on the intensity and use trem-vib.
I thought it was the reverb but I had both effects on at the same time.
I have pedals that do trem and vib so I won't be tearing it down for that either I guess.

Subject: Re: Repair
Posted by NLKustom on Sat, 09 Apr 2022 20:57:37 GMT
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Should the reverb tank have a case ground to the amp chassis?
I've seen pictures of tanks in Kustom amps with a case ground. Just wondering.

Subject: Re: Repair
Posted by stevem on Sat, 09 Apr 2022 21:14:21 GMT
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That ground wire was only in the early amps.

Subject: Re: Repair
Posted by NLKustom on Mon, 11 Apr 2022 16:57:57 GMT
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Steve, this is info I found on the reverb tank.
Type 4FB2A1A, Accutronics, Geneva Ill.
4 = Long 2 springs
F = 1475 ohms input impedance
B = 2250 ohms output impedance
2 = 1.75-3 sec decay rate(medium)
A = grounded input, grounded output
1 = no lock
A = open side up.

Is this the right tank for my K150-8?
Concerned about the first "A" part, grounded input grounded output.

Other numbers on the tank are:031-0005-00, 25-75-301 & 23572-0.

Subject: Re: Repair
Posted by NLKustom on Mon, 11 Apr 2022 19:37:20 GMT
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Here's more info from amprepairparts.com
There are 3 different replacement reverb tanks listed for Kustom amps.
4FB2A1A replacement for K200-A (that's the one in my amp)
4FB2C1A replacement for K100-2,K100-5,K150-2,K200B5,K250-2,K250-4,K400-B5
4FB3D1A replacement for most Kustom amps from the 60's & 70's.

Which tank is the right one for the K150-8?

Thanks,
Greg.

Subject: Re: Repair
Posted by stevem on Mon, 11 Apr 2022 23:52:18 GMT
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The impeadence of your each end of your tank is right I can tell that.
Tomorrow evening I will take a look in my k100-8 to see how input is set up and I will let you know.

Subject: Re: Repair
Posted by NLKustom on Tue, 12 Apr 2022 00:52:38 GMT
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stevem wrote on Mon, 11 April 2022 19:52The impeadence of your each end of your tank is right I can tell that.
Tomorrow evening I will take a look in my k100-8 to see how input is set up and I will let you know.
Steve, the main difference in those three tanks is the 5th letter "A, C or D", which is:
A = input grounded, output grounded
B = input grounded, output insulated
C = input insulated, output insulated

Just need to figure which one goes with the K150-8

Subject: Re: Repair
Posted by chicagobill on Tue, 12 Apr 2022 14:30:51 GMT
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Most Kustom amps used a tank with the input and output grounded. The correct way to test to see which tank should be used in your amp, would be to test the ground connections on the RCA

jacks mounted to the pc board.

There are two jacks, one for send and one for the return. Normally the return jack has a connected ground circuit, meaning that the shell part of the jack is directly connected to the ground trace on the pc board. Usually the send jack is not directly connected to the ground circuit and therefore needs to be connected to the circuit by the ground connection inside the reverb tank.

Unplug the tank from the PC board. Take your ohmmeter and read the resistance from both RCA jacks shell connections and see if one or both are connected to the ground (chassis) circuit. If both are connected to ground, then your tank should be insulated input grounded output. If only the return jack is connected to ground, then both jacks should be be grounded.

All of this information is only for the older plexifront amps. The slant metal front amps of the 70's used an IC chip to drive the tank as part of its feedback loop, and therefore need an isolated input jack.

So long story short, in my opinion you have the correct tank.

Subject: Re: Repair
Posted by NLKustom on Sun, 26 Jun 2022 01:22:36 GMT
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On this amp, Can the "monitor output" jack, be used to plug in a external speaker or is it just a feed to the mixing board?

Subject: Re: Repair
Posted by rodak on Sun, 26 Jun 2022 18:51:14 GMT
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I'm sure it's line-level, meant for input into a mixing board or power amp. You wouldn't get anything plugged into a speaker - way too small a signal there to drive a speaker.

Subject: Re: Repair
Posted by stevem on Mon, 27 Jun 2022 09:38:52 GMT
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This monitor jack is set up to feed another power amp.
While it has close to 4 volts of output it does not have the needed current to drive a speaker.

This level of voltage outout is dependent on how loud you play the amp and with 3 to 4 volts of potential outout you will need to pad it down if you pump it into a mixing board.

Even 3 volts is hotter then zero DB line level input.

Subject: Re: Repair
Posted by NLKustom on Fri, 22 Jul 2022 02:32:19 GMT
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Steve
After playing this amp for a bit, the reverb starts to make a buzzing noise. If you turn the reverb off it goes away, but if you give the amp a slight tap or hit, it starts to make an awful rumble noise and the buzzing goes away also. Then after 5 minutes or so the buzzing is back again.
Any ideas? It seems to be a reverb issue, the amp is pretty quiet otherwise.
Also when you turn on the trem-vib effect, the overall volume decreases and gets a little muffled.

Subject: Re: Repair
Posted by stevem on Fri, 22 Jul 2022 20:25:29 GMT
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Have you peeled back the cover on the reverb tank to look in it ?

Your saying that your reverb is weak a long with this issue now makes me think that you have one busted spring of the two in the tank.

If so I can tell you how to fix it.

Your tremolo volume drop issue I will look into on Sunday or Monday when I get back from a short getaway

Subject: Re: Repair
Posted by NLKustom on Mon, 26 Sep 2022 00:46:00 GMT
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Sorry for the long delay in a reply. Been busy with work.
Finally got a look inside the amp tonight. The springs in the tank are fine. Replaced the RCA chord to the input side with a new one and the buzzing went away.

Subject: Re: Repair
Posted by stevem on Mon, 26 Sep 2022 11:11:51 GMT
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Good news to hear!

Just keep in mind that the connection points on the tanks RCA connectors and on the amps boards are Aluminum.
While these do not rust, they do tarnish up to a dull gray and May times make for connection issue that mimic a cable problem.

It's very easy to atleast clean up the outer ring with just steel whool,

Subject: Re: Repair
Posted by NLKustom on Tue, 27 Sep 2022 21:15:04 GMT
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Steve:
Update. Had the amp on today and the roaring came back. different than the buzz. But a roar. And if you hit the amp it roars more then stops.

Subject: Re: Repair
Posted by stevem on Wed, 28 Sep 2022 10:52:17 GMT
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If you turn the reverb off / down does this noise stop?
If not then does unplugging both connections from the tank stop this noise?

Your discribing of this sound as a roar kinda really does not help.

Does what your hearing sound like a AM radio tuned in between stations?

Subject: Re: Repair
Posted by NLKustom on Fri, 30 Sep 2022 02:03:35 GMT
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Yes, turning off the reverb stops the noise/roar.
The sound is not the normal hiss you hear from the power being on. It's hard to describe. It's like the reverb starts acting up and begins to roar. If you shake or hit the amp you hear the springs in the tank rattle and make a loud noise, then the "roar/echo hiss" stops. The reverb goes back to normal, then it will happen again. Almost like some electrical interference brings it on. I really don't know how else to explain it.
I never tried unplugging both connections from the tank, because the unit is all put together when it happened.
And, no the sound is not like an AM radio in between stations. The AM sound is there as soon as you turn on the power. When this noise is happening you can't hear the reverb effect while playing guitar. It's like a thunder and lightning storm. Give the amp a tap so you shake the reverb springs and the noise goes away and you can hear the reverb effect with the guitar again.

Subject: Re: Repair
Posted by stevem on Fri, 30 Sep 2022 15:27:39 GMT
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I would first suggest that you peal back the foam covering the top of the tank and see if both springs in there are still connected on each end to the transducer.

Subject: Re: Repair
Posted by NLKustom on Fri, 30 Sep 2022 20:00:41 GMT
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I've looked inside the tank. the sponge was been peeled back before I bought it. The springs are attached and everything looks fine inside.
Obviously something is weak somewhere in the reverb system.

Subject: Re: Repair
Posted by stevem on Sat, 01 Oct 2022 00:05:37 GMT
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Poor connections (metal to metal) with the jacks and plugs can make for a high impedance with can make the pan go nuts and feedback.

With one end of each rca cable unplugged spin the other end while it's plugged in a good number of times.
This will hopefully untarnish the connection points where there very had to
Get at.

Subject: Re: Repair
Posted by NLKustom on Sat, 01 Oct 2022 15:29:01 GMT
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Steve, it seems it also acts up with the least little amount of external vibration. And the amp picks up other electrical appliances, like the de-humidifier cutting in and out makes the amp pop. Also picks up the dimmer on my pot lights, especially if I'm using my 2015 Gibson Traditional with the 50's wiring.

Subject: Re: Repair
Posted by stevem on Sat, 01 Oct 2022 19:11:43 GMT
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So then if you totally unplug the tank does the issue go away?

Subject: Re: Repair
Posted by NLKustom on Fri, 07 Oct 2022 12:57:14 GMT

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Steve:
I haven't tried it with the tank unplugged, but with the reverb turned off, most of the noise isn't there.
With just the amp powered on, you can hear a low frequency "hiss", the thing is not quiet by no means. and every now and then you hear what I can only describe as low distant rolling thunder, and it still pops when the de-humidifier cuts in, but not as loud. But that might be a grounding issue with my electrical system.
I want to take it to my local dealer for a check up , but don't know if those young guys know much about these old amps and their inner workings. I don't want to be replacing things un-necessarily.
Also sometimes the reverb won't work at all until you give the amp a tap, then it makes a little roar and kicks in.
There is a loose connection there somewhere. Taking it to my music shop tomorrow, gotta leave it. Will let you know what I find out.

Subject: Re: Repair
Posted by stevem on Sat, 08 Oct 2022 16:05:02 GMT
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Sounds like a bad solder connection to me and it may be at the rca jack on the circuit board where the output of the tank plugs in.

Subject: Re: Repair
Posted by NLKustom on Sat, 04 Mar 2023 22:18:31 GMT
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Hi Steve,
Update on the amp.
Took it back from the shop after 4 months. The guy said there was no input going to the reverb tank, he replaced two resisters or something, now there's input going to the tank, but nothing coming out. He's saying a transducer is gone in the tank and I need a new tank. So I took the amp, everything works but no reverb.
So I need to get a new tank, the one in there is 4FB2A1A, which is "input grounded, output grounded", don't know if that's the right one, or should it be 4FB2C1A, which is "input insulated, output grounded".?
Which tank is right for the K150-8?
I just bought the schematics online and sent the pdf to him, but there is no mention of what is the proper tank for that unit.
Help please!!!

Subject: Re: Repair
Posted by stevem on Mon, 06 Mar 2023 11:48:35 GMT

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So the question is now which transducer or its wiring is open.
You may just have one off the very small wires the go from the transducer to the rca jack that have broken off at the jack.

Look very close for this because many times when they brake off they do not move far enough away for them too look like they are disconnected..

These can easily be soldered back on and then with a dab of bath tub caulk be reinforced so that vibration will not undue them ever again.

Please report back on what you find.

Subject: Re: Repair
Posted by NLKustom on Wed, 08 Mar 2023 15:05:48 GMT
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Can anyone here tell me which reverb tank goes in that K150-8?
I have the schematics but I can't read them.
Is it 4FB2A1A. 4FB2C1A or 4FB3D1A?
4FB2A1A is in it now, but I don't know if it was swapped out at some point.
It all depends on the grounding vs insulated connections.
Would like to know before I order one.

Subject: Re: Repair
Posted by NLKustom on Wed, 08 Mar 2023 23:01:54 GMT
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So I found some info on here that the Plexi K150-8 does indeed use the reverb tank 4FB3A1A.
So I ordered one from Tubes and More part # P-RMOD-4FB3A1A and a new angled rca wire connector set.

Subject: Re: Repair
Posted by rodak on Thu, 09 Mar 2023 19:35:48 GMT
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Where did you buy the schematics at? Was it a PDF or an actual physical copy? I have a PDF, but would love to have a nice, full size foldout copy.

Always happy to support anyone selling these old schematics (as long as it's not horribly over-priced)

Subject: Re: Repair
Posted by NLKustom on Sat, 11 Mar 2023 17:21:03 GMT
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rodak wrote on Thu, 09 March 2023 14:35Where did you buy the schematics at? Was it a PDF or an actual physical copy? I have a PDF, but would love to have a nice, full size foldout copy.

Always happy to support anyone selling these old schematics (as long as it's not horribly over-priced)
I bought the schematics from https://antiqueradioschematics.org/. It's in a PDF file. Price was $9.95US.
I printed them out on long paper(had to set my printer on legal).

Subject: Re: Repair
Posted by stevem on Sat, 11 Mar 2023 20:24:58 GMT
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If I am not mistaken any store like office max or staples can take your pdf file and print you out a larger then 8 x 11 copy of it.

Subject: Re: Repair
Posted by NLKustom on Tue, 14 Mar 2023 17:44:26 GMT
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What should the ohm readings be on the reverb tank?
I'm testing my old reverb tank with the ohm meter set on 200, the lowest setting.
I'm getting 168.3ohms on the input side and 169.1 on the output side.
Is this normal or is this tank gone?
Most videos on Youtube say the input should be way lower.
Any help here on this?

Subject: Re: Repair
Posted by chicagobill on Wed, 15 Mar 2023 16:13:49 GMT
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Those readings are normal for your reverb tank. They typically will read from 150-190 ohms.

Fender and some other amps use a tank that will read 1-2 ohms on the input side.

Subject: Re: Repair
Posted by NLKustom on Thu, 16 Mar 2023 01:50:29 GMT

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Steve,
So I put the reverb tank back in the amp, hooked it up and everything seems to be working fine. I don't know what the tech guy fixed or replaced, but it was something on the board where the intensity pot is, there is some heat burns on the board just under the pot where he did some soldering. But I will find out.
The reverb works, don't know if it as strong as it supposed to be. I have a new tank coming from Tubes&more, is has the long delay, which according to info on this site is the proper tank for that K150-8.
I will install that one when it arrives to see if the reverb is any different.
But so far so good.

Subject: Re: Repair
Posted by NLKustom on Tue, 21 Mar 2023 16:13:28 GMT
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So Update.
I still haven't found out what the tech repaired on this amp, but ever since the tone sounds different.
When playing guitar through the amp the low E, A & D strings sound muffled. And the high E, B & G strings sound very sharp.
What would cause this? if they say they never fooled with the tone part of the amp?

Other than that everything is working good.

Subject: Re: Repair
Posted by NLKustom on Thu, 05 Oct 2023 22:14:52 GMT
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NLKustom wrote on Tue, 21 March 2023 12:13So Update.
I still haven't found out what the tech repaired on this amp, but ever since the tone sounds different.
When playing guitar through the amp the low E, A & D strings sound muffled. And the high E, B & G strings sound very sharp.
What would cause this? if they say they never fooled with the tone part of the amp?

Other than that everything is working good.
This is a new post

Subject: Re: Repair
Posted by stevem on Thu, 05 Oct 2023 22:30:50 GMT
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If you unplug the input to the tank does the old tone return?

Subject: Re: Repair
Posted by NLKustom on Thu, 05 Oct 2023 23:19:21 GMT
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Never tried that

Subject: Re: Repair
Posted by NLKustom on Fri, 06 Oct 2023 13:03:05 GMT
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stevem wrote on Thu, 05 October 2023 18:30If you unplug the input to the tank does the old tone return?
Wouldn't just turning the reverb knob to the off position do the same thing?

Subject: Re: Repair
Posted by stevem on Fri, 06 Oct 2023 17:05:17 GMT
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No.
That's why I stated the way I did.

Subject: Re: Repair
Posted by NLKustom on Sat, 02 Mar 2024 19:15:34 GMT
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Steve,
Sorry for just getting back to you.
So I unplugged the tank and removed it. Tried the amp, the tone still sounds the same. Very sharp on the high strings and sorta muffled on the lower strings. It's like a really clean sound with the guitar selector switch in neck position. In bridge position it's really sharper.
I don't know, it just seems to sound different.
I can't seem to get any info from the repair shop. Other than he replaced something in the circuit board that's next to the plexi front near the bottom middle of the circuit board. That's where the original noise used to come from. They said they didn't replace anything that would have affected tone. He had that front board apart because he broke one of the knobs removing them, one was ceased up. And the board has burned marks on it from his soldering, they said everything was very fragile and easy to break.

Subject: Re: Repair
Posted by stevem on Sat, 02 Mar 2024 20:03:59 GMT
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At this point I am sorry to say that I do not think I can be of any more help to you because the amps circuits need to stepped thru by a tech that has the needed test equipment and experience.

Subject: Re: Repair
Posted by NLKustom on Sat, 02 Mar 2024 21:40:25 GMT
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Yes,
and that is a big problem nowadays. Finding a tech with knowledge of repairing these old amps. Especially where I live. There is no one.
The amps is working fine otherwise, I just have to tinker with the EQ's on it and the guitar to get a half decent tone.
It's not my main amp anyway, I have it more for the nostalgia and collectability, more than anything else.

Thanks

Subject: Re: Repair
Posted by stevem on Sun, 03 Mar 2024 10:21:45 GMT
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These are not difficulty amps to work on just because there old, they are very simple common circuits that where used even in HI FI amps of the era.
In fact in terms of HI FI and good techs you might try to locate a certified HI Fi repair and restoration shop that you could ship the chassis off to.