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Subject: I rescued this amp from my dads barn  
Posted by [corybrown](#) on Tue, 18 Aug 2015 21:41:47 GMT  
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First time poster, thanks in advance for any info you can give me.

I rescued an old Kustom bass amp from my dad's garage/barn. This thing has been in the weather and is in pretty bad shape but much to my surprise it turned on.

It is a model K150-6. I remember using this thing when I was a kid so I know it is older than the early 80's but I'm not sure how old.

The serial number is 64583. pat no 210,129.

Can anyone tell me how what year this was made or where I can find out?

Also in the center of the two sets of controls on the front is a little cap that screws off and appears to have a button inside of it. What is that?

Thanks

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Subject: Re: I rescued this amp from my dads barn  
Posted by [BrianBB](#) on Tue, 18 Aug 2015 21:52:59 GMT  
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Welcome Cory,

Your amp appears to be a 1x15 combo made between Oct. and Dec. 1970. The little cap that screws off is the pilot light. It should have a 28v bulb, I believe, and a blue or purple lense. Hope this helps.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [corybrown](#) on Wed, 19 Aug 2015 02:47:33 GMT  
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Thank you, it's great to finally know how old it is. The lens for the light is blue. Bulb is missing. Can you still get one of those bulbs anywhere?

Thanks

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Subject: Re: I rescued this amp from my dads barn  
Posted by [corybrown](#) on Wed, 19 Aug 2015 02:52:44 GMT  
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Also I think the original speaker is toast. I hooked up another 15 that I had lying around and it works but not great. What would be a good replacement speaker for this amp?

Thanks

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Subject: Re: I rescued this amp from my dads barn  
Posted by [BrianBB](#) on Wed, 19 Aug 2015 03:22:08 GMT  
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Let's see if someone else can chime on the bulb replacement and stock speaker it came with.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [chicagobill](#) on Wed, 19 Aug 2015 06:35:05 GMT  
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Welcome to the place. The replacement lamp for your amp is a #1829 bulb, 28 volts. They are available online from electronics suppliers like Mouser or Jameco. They can also be found on eBay and Amazon.

As for the speaker, it might help to know what style of music you play and what instrument you will be playing through the amp.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [stevenm](#) on Wed, 19 Aug 2015 10:32:12 GMT  
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I had a shed, not a Barn find K200 head some years ago and externally it looked dam good for being stowed away for the time that it was, however on the inside it was Feild mouse Hotel and then some!

If I where you I woukd pull the back off the cabinet, unplug the speaker and remove the 4 under shelf screws that hold the chassis in and get a good look in there!

On the one I just posted about the mice had peed so much that two gapping holes where rotted thru the bottom of the chassis and the two transformer output wires where dangling by one or two strands of wire each!

Oh, and Welcome to the place also!

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Subject: Re: I rescued this amp from my dads barn  
Posted by [pleat](#) on Wed, 19 Aug 2015 10:47:34 GMT  
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I agree with stevenm, if you've tried two speakers and neither one sounds that great, you may

have issues inside the amp from mice. I too had a K100-8 amp that mice decided to make a home inside the chassis and chewed a lot of wires.

You also may find that mice have attacked your speaker as well. Have to ask, what color is the T&R?

pleat

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Subject: Re: I rescued this amp from my dads barn  
Posted by [corybrown](#) on Wed, 19 Aug 2015 12:38:11 GMT  
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Thanks for all the help guys, I really appreciate it. Once I get this thing cleaned up a bit I'll post some pics.

The T&R is Gold metal flake. It has 5 or 6 cuts and some discoloration, but for the time this thing was out there isn't too bad. I've totally disassembled it and the wood and chassis for the amp are solid.

The first speaker didn't do anything, flip the switch and no sound not even a pop. I think the cone was frozen. The second speaker was just an old 15" I had lying around. It was from an old sub I had reloaded years ago. It was an 8ohm speaker so I figured it would work for a test to see if it was the amp or the speaker. When I first tried the second speaker the cone just sucked in and didn't move. Made a loud humming noise but nothing else. I tried it several times and no luck. I figured at least it was a sign of life.

Then I let it sit overnight and the next day figured I would try it one more time before I started trying to figure out how to fix it. This time when I turned it on I heard a familiar pop and a very quiet hiss that I remembered from my childhood. Plugged in my bass and it worked. The more I've messed with it now it may not sound that bad. I've just been so used to modern bass amps for the last 20 years.

When I took it apart there was a mouse hotel in the insulation that lined the walls of the speaker cab. I had to take it all out. Is it important that I put that back (It looked like fiberglass insulation to me)? The amp chassis other than being dusty looks good. All wires appear to be intact.

Thanks again

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Subject: Re: I rescued this amp from my dads barn  
Posted by [stevem](#) on Wed, 19 Aug 2015 15:06:20 GMT  
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Yes, you should replace the sound absorption / insulation material.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [Iowa Boy](#) on Wed, 19 Aug 2015 16:13:36 GMT  
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If you don't want to use fiberglass to reline your cabinet....which I think is a bad...itchy....thing to do, I bought the foam mattress pads you can use on top of beds to do a couple of cabinets. It has the egg carton shape to it and worked really well. You can also use the batting that comes in lengths to cut at fabric stores as well, just make sure you make it a few inches thick to absorb the sound and not reverberate off of the wood.

Welcome to the site as well. Glad to hear another Kustom has been saved.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [BrianBB](#) on Wed, 19 Aug 2015 18:46:12 GMT  
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"Then I let it sit overnight and the next day figured I would try it one more time before I started trying to figure out how to fix it. This time when I turned it on I heard a familiar pop and a very quiet hiss that I remembered from my childhood. Plugged in my bass and it worked. The more I've messed with it now it may not sound that bad. "

You gotta love Kustoms. They are so simple and reliable. If it doesn't work, just leave it alone and come back to it later.

Brian

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Subject: Re: I rescued this amp from my dads barn  
Posted by [Iowa Boy](#) on Wed, 19 Aug 2015 19:22:31 GMT  
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The guys on this site are the absolute best.....if they can't figure it out and get it up to speed.....it just can't be fixed. I doubt that has ever happened.

You want to get a replacement speaker I would suggest watch for one of the best two speakers I have ever heard.....Altec 421? or the JBL D-140. In my opinion these are the best. Both are vintage so you have to search for them online. If you want new, Eminence Delta's are very good and reasonably priced. Not sure what the ohm requirements are needed for your setup but I'm sure one of the guys here can tell you.

Careful, once the Kustom bug bites you, your hooked! You're now a member of a very special group.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [corybrown](#) on Wed, 19 Aug 2015 23:49:43 GMT

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I tried to post some pics but it says I need 10 posts before I can do that.

Sad news. The amp has stopped working again. Now when I turn it on it just makes a loud humming noise.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [corybrown](#) on Wed, 19 Aug 2015 23:54:10 GMT

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Thanks for the recommendation on the light bulb.

I think I will do the foam egg crate for sound absorption. I don't like the fiberglass either.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [corybrown](#) on Thu, 20 Aug 2015 00:41:33 GMT

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Ok, I'm not sure how to describe this so I'll do my best. When you turn on the amp. The speaker cone pulls in and holds there. At the same time it makes a loud humming noise but doesn't produce any other sound. When you turn it off the speaker pushes back out to a resting position and makes a popping sound as this thing always did when turning off. Any ideas or anything I can test to see what is up?

I tried another 8ohm speaker cab and just ran a speaker cable from the output jack of the amp to the other cab and it does the same exact thing.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [pleat](#) on Thu, 20 Aug 2015 01:05:55 GMT

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The amp needs to be serviced. Loud hum and the speaker cone only moves one direction, You have either AC or DC voltage driving the speaker and will burn out the voice coil. I'm not a tech, but I'm sure you have something that is not working correctly. I just don't remember if its AC or DC voltage.

The amp when working properly wants a 8 ohm speaker. Your amp either came with the standard CTS speaker or the upgraded Altec 421 bass speaker. There should be some marking on the speaker frame that will shed some light as to, if it still has the original speaker or maybe a replacement some time since it was new.

I know ChicagoBill or Stevenm will has some idea's on what direction to take to get it back up and running.

pleat

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Subject: Re: I rescued this amp from my dads barn  
Posted by [C4ster](#) on Thu, 20 Aug 2015 01:19:18 GMT

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Well, this is my 4th attempt. I keep getting kicked off for some reason. I can't comment on Altecs but I know JBL's pretty well. I have numerous Kustom rigs equipped with JBL E140's and E120's. I also have a K200-A4 with JBL D130's. I also have some JBL cabinets with E130's and 2225H's. I personally love the sound of the E140's for bass. They are very tight but do have limited high end. The D130's were designed in 1947 and continued until 1959 when Leo Fender came to JBL to modify the D130 because the surrounds were drying out. They also increased the voice coil gap but didn't want to create a new product so they added an F to indicate the Fender D130, hence the D130F. Fender also wanted a bass speaker so JBL took parts from the D130 and the D150 bass speaker and created the D140F. The ratings were then increased to 100 watts for the D310F and 150 watts for the D140F. The D130 had an aluminum flat wound voice coil and a stiff cone. The speaker didn't break up like other speakers. The D140F had a copper flat wound voice coil in the same frame as the D130F and a much heavier cone. The frequency response of the D130F was 50 to 6000 Hz and the D140F was 40 to 2500 Hz. Obviously, the voice coil and heavier cone of the D140F limited the speed of the cone, so the lower frequency response. The K series came out later and the E series in the 80's. The frequency response of the D, K, and E series speakers are the same due mostly the voice coils and cones. The power ratings increased with each series. The weight of the E series however is a robust 22 ¼ pounds versus 12 pounds for the D and K.  
Conrad

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Subject: Re: I rescued this amp from my dads barn  
Posted by [BrianBB](#) on Thu, 20 Aug 2015 01:21:01 GMT

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I sure wouldn't turn it on any more until you get some direction what to do. chicagobill is great. He will help you.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [pleat](#) on Thu, 20 Aug 2015 01:29:25 GMT

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I've been getting kicked off from one day to the next, so I type my message the highlight it and right click copy. Then I hit send, if it kicks me off, i just reopen the site and highlight the text box and right click paste and everything I typed before I got kicked off is right back where it was and I don't have to retype everything.

One thing I've noticed with JBL vs. other brands, JBL labels their terminals opposite most every other manufacturer. + voltage to the red terminal the cone moves inward. EV, CTS, Altec etc, the cone moves outwards.

Never knew why other than I figured a loud blast the cone moving inwards, you don't run the risk of the voice coil moving past the magnetic gap. I'm sure there is a reason JBL had to be different.

pleat

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Subject: Re: I rescued this amp from my dads barn  
Posted by [C4ster](#) on Thu, 20 Aug 2015 01:32:09 GMT  
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Hi Cory,

I was composing that screed above and then 4 more posts came in. For my money, your problem is probably very simple. Generally, solid state components don't go intermittent. They are either good or bad. That would mean that there is a problem in the power amp section. probably a loose connection or solder joint. What is happening that the connection is being lost and the output looses either side of the power supply. That would then place +40 or -40 on the speaker voice coil. That would do exactly what you said it does. Pleat is correct, if left too long, the speaker will be damaged and the only fix is recone. The hum you are getting is to power supply working overtime trying to deliver the voltage necessary. The capacitors would normally remove the hum, but in this condition, the current is so high, it depletes the charge before it can recharge from the rectifier. That can be trouble-shot without the speaker attached without damage if there is nothing shorted and it doesn't seem like it is. If you have a meter, and can use it, disconnect the speaker, power it up and read the voltage at the output jack. it should be around 0 volts. If it is anything else, then more needs to be checked. But don't be surprised if it reads 0. You said, it works then it doesn't. That makes it real hard to fix. You can't fix what isn't broken.

Conrad

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Subject: Re: I rescued this amp from my dads barn  
Posted by [C4ster](#) on Thu, 20 Aug 2015 01:39:30 GMT  
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Hi Pleat,

I actually composed that JBL documentary in Word and copied it in. This is the first day in a long time that I have had this dropout problem. I didn't know there was a timeout on this web site.

As far as the polarity is concerned, that only is important within the same cabinet or 2 cabinets in close proximity. Even across a stage, the phasing is less important. However, point well taken.

Thanks  
Conrad

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Subject: Re: I rescued this amp from my dads barn  
Posted by [corybrown](#) on Thu, 20 Aug 2015 01:57:33 GMT  
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Thanks again for all of your help guys. I tried it again before I read your posts and after turning it

off and on multiple times it worked for a good hour. Played and man it sounded good. Turned it off to see if it would fire back up and it didn't. I'll await some trouble shooting advice. I'm pretty good with soldering, just need to know what to go after.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [corybrown](#) on Thu, 20 Aug 2015 02:06:09 GMT  
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Thanks Conrad. I didn't see your post until after I wrote my last one. I do have a meter and I will check it. Thanks

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Subject: Re: I rescued this amp from my dads barn  
Posted by [pleat](#) on Thu, 20 Aug 2015 02:26:48 GMT  
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You can find the schematics for your amp on this site. Technical tab and look for the K150SC-6. One thing to look at is the diode that is clipped into clip on the power transistor rail. If this diode is out of its clip. The leads from the diode that are soldered to the circuit board are fragile and can break easy. Just a heads up.  
pleat

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Subject: Re: I rescued this amp from my dads barn  
Posted by [chicagobill](#) on Thu, 20 Aug 2015 04:32:44 GMT  
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Yes, check the thermal bias diode as Pleat has suggested.

There is dc voltage on the speaker and it will damage the voice coil, so unplug the speaker for the time being.

The first things to check are the power amp transistors. Normally if there is a direct short in one of the power transistors, the fuse would blow. So your problem could be one of the smaller transistors or one of the large ballast resistors.

Look at the boards in the amp and write down the pc numbers. Then you can look them up in the technical section of the site.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [stevem](#) on Thu, 20 Aug 2015 10:51:20 GMT  
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As Bill posted, a DC voltage hum problem without blowing fuses is a good thing as your issue is

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more than likely a connection problem.

A shorted Transistor could cause this issue but it would not be intermittent, it would be there all the time!

The first thing I would do is to confirm that the red, green and black wires on the two big main filter cans on the floor of the chassis are intact ( not mouse chewed) and making good connections at each end.

The next very simple thing to do is in regards to the black triangle slip on connectors on the two output Transistors.

Sliding these up and down can restore a good connection.

The output Transistors are mounted on the Aluminum C channel form that is riveted down on the floor of the chassis.

Be very careful working in this area as there is a metal cased diode that is held down in a clip on the center of this channel and its two wire leads are very fragile !

Also note that once the amp is turned off and unplugged from the wall you will have no issue with getting a shock from working inside it.

As posted you do not need the speaker hook up to work on the amp, since your issue is having a negative or positive DC voltage on the speaker Jack you can hook up a voltmeter across the speaker output and confirm when the issue is resolved without risking a blown speaker .

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Subject: Re: I rescued this amp from my dad's barn  
Posted by [corybrown](#) on Thu, 20 Aug 2015 12:13:20 GMT  
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Awesome guys. Thanks for all of the tips. I'm at work now but will definitely check it out when I get home.

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Subject: Re: I rescued this amp from my dad's barn  
Posted by [corybrown](#) on Thu, 20 Aug 2015 12:15:23 GMT  
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Here are some pics

<https://goo.gl/photos/ULksr3zjkRHeaz4L9> This is the speaker that came out of the cabinet when I found it. It does absolutely nothing. Does this look original?

<https://goo.gl/photos/5eDaKuipdPDFQYWz6>

<https://goo.gl/photos/HHpowuzKfsyZvgsY7>

<https://goo.gl/photos/R8FaguseJtC2LMmx7>

<https://goo.gl/photos/Mn1LxLYGiKamxR9U7>

<https://goo.gl/photos/Zx9Lroe6R1xJJU6N8>

<https://goo.gl/photos/5gKejEya3bBEiJcHA>

<https://goo.gl/photos/Te8QzYLjBPjP4v636>

<https://goo.gl/photos/5SppAbNEqrkBSvJbA>

<https://goo.gl/photos/MQxNUR8p5vUuZnA29>

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Subject: Re: I rescued this amp from my dads barn  
Posted by [pleat](#) on Thu, 20 Aug 2015 12:55:10 GMT

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The speaker is original. CTS brand 8 ohm. They can be re-coned, or maybe look for an Altec 421 or JBL D140F as a replacement.

pleat

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Subject: Re: I rescued this amp from my dads barn  
Posted by [corybrown](#) on Sat, 22 Aug 2015 13:11:41 GMT

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Quote:One thing to look at is the diode that is clipped into clip on the power transistor rail. If this diode is out of its clip. The leads from the diode that are soldered to the circuit board are fragile and can break easy. Just a heads up.

pleat

Checked and it is in the clip. One thing to note is that it slides back and forth a little in the clip, not sure how tight that is supposed to be.

Quote:The first thing I would do is to confirm that the red, green and black wires on the two big main filter cans on the floor of the chassis are intact ( not mouse chewed) and making good connections at each end.

The next very simple thing to do is in regards to the black triangle slip on connectors on the two output Transistors.

Sliding these up and down can restore a good connection.

All Wires seems to be intact and all solder joints are firm. I can't visibly see a wiring problem.

I re-seated all of the triangle slip on connectors.

Quote:As posted you do not need the speaker hook up to work on the amp, since your issue is having a negative or positive DC voltage on the speaker Jack you can hook up a voltmeter across the speaker output and confirm when the issue is resolved without risking a blown speaker .

I have a voltmeter but not really sure how to use it to check voltage on a speaker jack. How would I go about this?

Thanks guys.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [chicagobill](#) on Sun, 23 Aug 2015 06:52:20 GMT  
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Plug a guitar cord into the speaker jack. Set your meter to read dc volts. Connect the black meter lead to the sleeve of the plug at the free end of the cord and connect the red lead to the tip of the plug.

Turn on the amp. If there is dc on the output you will be able to read it on the meter. Note the reading that you get. The most that it could be is about 40 volts. In your case, I will guess that it is much lower than that.

The diode clip does not need to be tight, it just needs to hold the diode near the heatsink, so that it will track the temperature of the output transistors.

If the dc voltage on the output comes and goes, then there may be a cold solder joint on the output pc board. You could try tapping the board with an insulated probe to see if you can find loose part.

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Subject: Re: I rescued this amp from my dads barn  
Posted by [stevem](#) on Sun, 23 Aug 2015 11:50:34 GMT  
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When you stated that it did not fire back up when you turned it on, did the pilot lamp come on with no sound happening, or no light?

If the lamp did not come back on then it could simple be that the end of the power cable is intermitant, it could also be the the round black plastic thermal circiut braker is going bad.

This is mounted near that bias diode on the output Transistor C channel.

The two wires feeding it should be black and white striped. You can pull these off and tape them together to by pass the breaker and confirm it being bad or good, or pull at least one wire off and use a meter or even a Automotive continuity tester to see if it's open .

Be sure to unplug the amp if you choose to tape it up.

Subject: Re: I rescued this amp from my dads barn  
Posted by [corybrown](#) on Mon, 24 Aug 2015 00:26:20 GMT  
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Thanks again guys. I finally got to test the DC voltage on the output jack. The voltage does not stay constant. It seems to bounce between 14V and 19V.

<https://goo.gl/photos/1feVWnWUsF6nbfMj8>

Quote:When you stated that it did not fire back up when you turned it on, did the pilot lamp come on with no sound happening, or no light?

I can't ever remember this thing having a pilot light. I had to ask when I first joined the forum what it was. So no the pilot light does not light up but that is due to not having a bulb. I plan to order one soon. Since I rescued the amp it has worked twice. Every time you turn it on you get the humming noise but no instrument sound. The two times it worked, it worked great until I turned it off and back on and then the humming returned.

Thanks

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Subject: Re: I rescued this amp from my dads barn  
Posted by [stevem](#) on Mon, 24 Aug 2015 10:33:10 GMT  
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Ok , so it turns on and pumps out dc voltage which is not good!  
This is going to be a tuff one to trouble shoot from afar, so I let me put some thought into it and get back to you, but in the mean time Bill may very well have some suggestion to pass a long to you. In the mean time do not turn the amp on with the speaker plugged in!

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Subject: Re: I rescued this amp from my dads barn  
Posted by [chicagobill](#) on Mon, 24 Aug 2015 16:26:16 GMT  
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I'm still thinking that there is something loose in there. So that we are all on the same page, post the pc board numbers that you have in the amp.

It may be best to start a new thread in the repair section, as this one has gotten long and a bit off track here and there.