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Subject: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Thu, 06 Nov 2014 20:49:32 GMT  
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Hi,

I just found this site today. Hellos everyone.

A new friend, fellow bassist, is giving me a Kustom K250 amp head. This I all I know about it so far (below). I don't have much to say about it today except that I am excited to receive it. I am a moderately capable electronics hobbyist, so I hope to be able to get it going again! I'm sure I'll be engaging some of you here for help. First I'll be looking for a schematic. Anyway, all I know so far is the message he sent me which I will share with you here now:

- - -

It's a Kustom k 250 bass amp head. One of the old "tuck and roll" amps from back in the 70's.

It worked when I got it. I never used it much though. One day I plugged it in and it didn't do anything other than make some kind of machine gun sound. Really weird. Anyway, I opened it up, just to see if maybe it was something really obvious, but nothing stood out.

Anyway, those old tuck and roll amps are really popular in certain circles. If you could manage to fix it, you could probably sell it for a couple hundred bucks, or add it to your collection.

- - - -

So that's what I know. I'll receive it Tuesday. Will share pics and info when I receive it ..

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [chicagobill](#) on Thu, 06 Nov 2014 22:09:52 GMT  
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Welcome to the place. If you go to the technical section of the site, you will find the schematics that you need for this amp. There will be separate schematics for the preamps and for the poweramp, etc. Kustom organized their schematics by the PC board number, you can look them up once you know which boards your new amp has.

The first thing to look for in the metal front amps is the connectors that hook up the different pc boards. The contacts can become oxidized and will cause all sorts of noises and signal dropouts. I usually start by pulling off the connector and give the contacts a little spray of DeoxIt and then plug and unplug the connector a few times to burnish them clean.

Let us know what you find when you get the amp. Again welcome.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Thu, 06 Nov 2014 23:10:58 GMT  
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Super!! Great info already! Ok thank you .. more to come soon.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [stevem](#) on Fri, 07 Nov 2014 11:13:29 GMT  
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Many of these amps had the full schematic glued to the inside of the cover lid.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Mon, 24 Nov 2014 14:06:32 GMT  
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Thanks everyone. I received the amp .. no cover, but that is available and I'll be getting it later. So I don't have the schematic yet.

It's a K250-1 and serial number chart dates it to Spring of 1973.

Inside I found a disconnected fuseholder, one loose power transistor and disconnected wire from it (the red one), and loose and disconnected thermal cutoff switch. I fixed all that and turned it on.

I got the "pap-pap-pap" sound I've seen described before. I noticed it got louder when I turned up the volume on the channel labeled "1", but not the volume knob on "2". Inside I found a multi-conductor header plug going to the tone board for "1" and I pulled the plug.

Plugging my bass into "2" and into a 4 ohm cab this amp sounds great! I have a replacement op amp IC on the way for "1" in a blind attempt hoping to fix it.

But here is the unusual part:

When I first turn it on and start playing it has FANTASTIC thick deep bass tone .. my wife even commented on it. But then after a couple of minutes it suddenly "thins out" .. loses all the thick deepness, but keeps going with treble and midrange. Which still sounds really good, by the way.

I don't know if I'm enough of a tech to fix that .. any idea where to start looking? I do have an oscilloscope but I usually use that on digital circuits which for me are easier to understand.

Any idea where to start looking for the cause of that problem?

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [stevem](#) on Mon, 24 Nov 2014 14:13:40 GMT

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Like Bill posted earlier the pins in the molded plugs in these Amps are aluminum and they tarnish up and make for bad connections so one thing to do is to unplug and plug them a couple of times and also tighten up on the female portion of each pin set done and that may be enough to cure your fad out issue!

Also we have the schematics on the site here.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Mon, 24 Nov 2014 14:31:44 GMT

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Ahh yes, sorry .. re-reading his reply now. I read it before, of course, but not after receiving the amp. By then my poor mind remembered his post to mean pins on the board, like plug-in backplane-style boards, which I didn't see. And wouldn't probably make sense in a bass amp!

Yes, I'll do that tonight--thank you! And pull down the schematic from here too.

I've never had one of these .. this was an unexpected gift out of nowhere. So far I really love it! Can't wait to get the tuck n roll case that goes with it. I have no idea what color it is ..

Thanks for your help!

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [steven](#) on Mon, 24 Nov 2014 15:47:03 GMT

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Also check for bad solder connection on the front mounted preamp boards, sometimes the big orange colored caps come loose at one end.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [chicagobill](#) on Mon, 24 Nov 2014 17:47:16 GMT

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Glad to hear that you got the amp and are starting to fall under the spell of vintage Kustom amps!

Dirty connectors are always a problem, but so are broken solder joints and dirty pots. I'd start by checking all of the boards for loose parts and broken solder joints. Then clean all of the Molex connectors, the pots and the jacks with some DeoxIt.

Kustom learned early on how to avoid ground loop hums in these amps, but that means that if the one ground connection to the board becomes flaky, there can be all sorts of funky noise problems. So be sure that you tighten up all of the jacks and the pots and if there are signs of corrosion on the chassis, clean up the their mounting surfaces as well.

The preamps use an obsolete dual opamp that is not impossible to find, but is getting harder and harder to locate. In some cases, I will just remove it and its' compensation capacitors and rewire the board to use a standard 8 pin dip dual opamp like a NE4558 or a TL072.

Let us know what you find, and if there is anything else we can help you with, just let us know.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Mon, 24 Nov 2014 18:11:13 GMT  
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Thank you, all, very much! I will let you know how I get on.

One more question: when I restored my (late) father's 1967 Ampeg B-15, I replaced the power cord with a three-prong grounded cord. I grounded it to one of the power transformer mounting bolts.

This Kustom amp also has an ungrounded power cord. It looks original, but at first I thought it was a vacuum cleaner power cord -- this cord must be twenty feet long! Which would actually be very nice at some venues.

Anyway I was planning on replacing this cord with a grounded one. But after what you said about the careful design and ground loops I thought I should ask: would installing such a cord be detrimental to the amp's operation?

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [chicagobill](#) on Mon, 24 Nov 2014 19:39:31 GMT  
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It is the original cord and yes it was a vacuum cleaner type cord. Kustom amps were designed by a team of professional musicians that thought about things like having a 20 foot power cord.

Replacing the cord will not be a problem and in fact would be a good thing. In fact some guys will order 3-wire vacuum cleaner wires to replace the original ones. The ac ground connection is not really part of the audio grounding that I was referring to, it's more of a safety concern and will help bring the amp up to modern codes.

If you search the forum, there are posts about changing the cords, finding replacements, etc.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [stevem](#) on Tue, 25 Nov 2014 11:24:43 GMT  
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Take note of this.

Your issue with channel one may be due to channel two.

The output of channel one goes back into the second half of the IC chip on channel two before it goes out to the driver/ power amp board.

I would check pin two on that second channel connector as that is where the output of channel one goes into channel two.

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Subject: Re: Receiving a Kustom K250 amp head

Posted by [Kd5uwl](#) on Tue, 25 Nov 2014 13:54:36 GMT

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Thank you! I will check that out. It's difficult to solder the three conductor input wire back on to the board because the wire is so short but I'll do it because it will be much easier and smarter than blindly changing the IC.

Last night I totally got the channel labeled "2" working full tilt. No more fade out of the bass after running for a couple of minutes. I played it for a long time and it just sounds fantastic. You guys were right: I found one capacitor completely popped loose on one end and barely hanging by the other .. and in fact it fell completely out by the time I got the board out. And I found another cap with a cold solder joint on one end .. visibly cold.

Before putting that board back in I completely cleaned the amp inside and out. Now it looks like a new amp inside! If I figure out how to post pictures I'll share some photos.

I don't see any issues with any of the Molex connectors but I definitely had trouble with those capacitors, so if problems with board "2" can affect board "1" then I will definitely solder board "1" back in and try it again before blindly replacing that IC.

Thank you all for helping me fix this amp! Again, I've never had one of these and I'm in love with the tone. If I get board "1" working I will:

- replace the 2-prong cord with a 20' 3-prong cord.
- probably install a panel mount fuse holder on back. There is currently an inline fuseholder inside and it's installed in such a way that it's hard to believe it's original.
- find out about the two front panel switches .. are they supposed to light up? Mine don't. This should be visible on the schematic .. I'll check that as soon as I send this post.

Thanks again for helping me!

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Subject: Re: Receiving a Kustom K250 amp head

Posted by [steven](#) on Tue, 25 Nov 2014 15:24:13 GMT

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What I do fuse wise and since I have a big soldering iron is to solder a chassis mount twist off cap

type fuse holder to one side of the stock fuse holder and then re run the wire to the other side of the added chassis mount fuse holder.

The replacement type AGC fuse is then easy to find as compared to the Solder in fuse in the stock set up.

Lamp wise the bulb you need is a GE 335, to change the bulb push out the blue lens cover on each switch from the inside of the amp.

To get the bulb itself out sometimes I find that a small length of fish tank tubing or automotive vacuum hose slipped over the head of the bulb makes it a snap!

While you are in there it pays to re enforce each switch from breaking off as they do by placing a cable tie on each side of the switch around the mounting bracket .

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Subject: Re: Receiving a Kustom K250 amp head

Posted by [chicagobill](#) on Wed, 26 Nov 2014 00:30:48 GMT

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Kd5uwl wrote on Tue, 25 November 2014 07:54...I've never had one of these and I'm in love with the tone.

Just wait until you see it all together with the tuck and roll case. You'll be hooked forever just like the rest of us.

Steve brought up a very important point about the power switches and the dreaded cracked plastic mounting sleeves. The front panel switch parts are cast from very thin plastic and being 40 plus years old, they will crack at the threaded mounting sleeve, just behind the front panel. If this isn't dealt with, eventually the entire switch will fail and make your life a miserable living nightmare.

I have carefully removed them and reglued the threaded sections back together, but it isn't an easy task. Using two cable ties to hold the switch body to the metal mounting bracket will take a lot of the stress off of the threaded plastic sleeve and may save the switch for a few more years.

In any case push the buttons carefully and try not to put a lot of stress on the wiring that is soldered onto the switch in the back to keep from putting any side stress on the plastic.

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Subject: Re: Receiving a Kustom K250 amp head

Posted by [Kd5uwl](#) on Wed, 26 Nov 2014 01:59:30 GMT

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Thanks guys!! The power switch has already had the zip tie treatment you are recommending. I hope it was to extend the switch's life and not due to it being broken already. But I don't think it is. I'll be very careful with it.

Thanks for the fuse and bulb info, how to change the bulbs, and etc. You guys have been such a big help to me. It's really fun restoring this gem.

I'll update you with my progress over the next couple of days. This is quickly becoming my favorite amp. My Ric sounds SO good through it. I hope to get the channel labeled "1" going tomorrow.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [steven](#) on Wed, 26 Nov 2014 11:14:47 GMT  
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What speaker cabinet are you playing the amp through, and what impedance is it?

Also note that when you are inside one of these amps that the area at the rear of the power amp driver board, in between each set of output transistors you will find a small metal cased diode held down in a metal clip.

Be very careful when working around this diode as its leads are phosphor bronze or something and they can be broken off with little effort at times and getting a replacement with a metal case means paying through the nose for a surplus one!

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uw](#) on Wed, 26 Nov 2014 12:13:33 GMT  
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Thanks for the warning regarding the diode. I've never seen one like that and didn't realize the leads were fragile. Ok .. thanks!

The cabinet I'm using is a 2011 Ampeg 810 ("Heritage" version). This cab has jacks for half the cabinet at 8 ohms or the full 8x10 at 4 ohms. I'm using the full cabinet, so 4 ohms impedance.

I guess I'll quit mentioning how really good this thing sounds. I thought I had some sweet sounding amps but seriously, this sucker is REALLY nice!

I didn't get to work on it last night so nothing new to report regarding board "1". But I'm off work now until Monday so I'll be working on it. Next is wiring that board back in and seeing if the repair work I did to "2" fixes "1". I do have a replacement IC on the way but again, that was a blind idea based on a fix I read by someone who reported the (seemingly) same problem. They said it had a "pap-pap-pap" sound, kind of like a machine gun, and turning up the volume made the sound louder. They said they replaced that IC and the problem was solved. But who knows -- it might be that pulling the Molex connector to get the board out and plugging it back in is what really fixed that one.

Again, I found two capacitor problems with "2" .. one fell out, and the other had a visibly cold joint on one end.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Wed, 26 Nov 2014 13:15:17 GMT  
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I edited my previous post this morning about 5 or 10 minutes after first posting it. I made a correction and added some content. If anyone read it immediately after I first posted it you might check it again.

Thanks again to everyone for your help!

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [steven](#) on Thu, 27 Nov 2014 12:41:11 GMT  
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I have never played one thru 8-10s, I bet it sure does sound killer!!

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Tue, 02 Dec 2014 16:14:59 GMT  
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Well fellas, I totally fixed it. I now have Channel 1 working in addition to Channel 2. I found some loose caps on 1 just like I did on 2, but replacing the dual op-amp IC is what cured the machine-gun "pap-pap-pap" sound on Channel 1. I found a new RC4739 from the seventies to replace the original IC.

In all cases I cleaned up the soldering jobs on capacitors and any other components with suspect solder joints, and made sure the pots all operate cleanly. My goal is to make the amp as stable as new so someone could gig with it, or record. I think I have it operating that cleanly now.

I have some new bulbs coming for the switches, and I am going to look on this site for the pointers you guys mentioned to suitable replacement power cords. I'd like to find one just like it has .. like 20' long .. but the three-prong, grounded type.

I'd like to make this a 100% playable amp, something someone could use as their primary, not just a backup.

But to that end, could you mention again your suggestion regarding the fuse? Please see this picture .. this is how the fuse is done now. I can't believe this is original. I'm assuming there used to be clips where this is soldered in that once held a fuse?

-- oops .. nevermind .. the site would not let me post a link --

What would it do to the \$\$ value of this amp if I drill a hole in the back near there for a real panel mount fuse holder? If I were going to make this a primary amp it would seem that would be much more convenient. But would that seriously degrade the value of the amp?



Thank you again for all your help! It is so nice having this amp fully running! I am supposed to receive the upholstered shell this week. I hope it is in top notch condition, but I have no idea. I don't even know what color it is. I think I'm hoping for blue ..

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [chicagobill](#) on Tue, 02 Dec 2014 17:22:06 GMT  
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Glad to hear that it's working again.

The original pigtail fuse was soldered into a small black terminal block that is bolted to the chassis. This is normal for most Kustom amps or that era.

To make things easier for future repairs, I usually solder in a clip type fuse holder in place of an original blown fuse.

As for installing a fuse holder on the outside, I never do that on these amps. I find that when the fuse blows in these amps, it's for a good reason, like a shorted transistor or rectifier. When there is an external fuse holder, it will allow someone to install a fuse that may or may not be of the correct value and that can cause additional damage to the amp.

If you want to install one go ahead, it shouldn't really effect the value of the amp.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Wed, 03 Dec 2014 16:17:02 GMT  
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Hi,

Thanks for the fuse info. According to the message I received I should be able to send links now that I have made the required minimum 10 posts. I'll try that again here so you can see what is existing. Definitely not original. Has a 4 amp fuse installed. Looks like the original clips broke off.

I'll do something like you suggested. Here is what is there now:

<https://db.tt/ax9fkZS9>

Yes, this amp is more than just working again .. it seems "like new" to me now. When I first got it going you could hear inconsistencies in the high end with treble turned up and "bright" engaged. But I cleaned up the joints in the board as described previously and now it runs solid and clean.

The tone through my 810 is just fantastic. It has a very full-bodied, broad and rich thick tone but this of course can be modified with the EQ knobs to a great extent in either direction. It is also a very bright amp which, when played aggressively with my Ric 4003 and roundwounds really stands out and cuts through. I love it! This amp will be very hard to sell .. I may have to keep it.

The full-bodied, thick and rich aspect of the tone can almost be symbolized by the characteristic look of these tuck-n-roll amps. I told me wife that, to me, it sounds like it looks. At least like the pictures .. I don't have the upholstered shell yet.

Thanks to you guys for helping me get this going.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [chicagobill](#) on Wed, 03 Dec 2014 16:24:55 GMT  
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Now you know why so many of us love our Kustoms!

The photo shows the original fuse block where the pigtail fuse was soldered. Someone has soldered in an inline fuse holder in its place.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [pleat](#) on Thu, 04 Dec 2014 02:20:04 GMT  
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you will have to compare the top input to the lower input jack on each channel and see how it will come to life using the lower input jack on either channel.  
pleat

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [steven](#) on Thu, 04 Dec 2014 11:33:50 GMT  
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Note that the 4 mounting screws that you may need to get to hold the amp in the cabinet are NOT metric and should be 2 inches long!

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Thu, 04 Dec 2014 21:31:36 GMT  
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Thank you for your recommendation regarding the mounting screws. I was just wondering about that....I'm assuming the screws will have been separated from the shell and I won't receive them.

I should have the GE 335 bulbs tomorrow and will be glad to get those going. I still haven't found the source for the 20' 3-prong power cords suitable for replacing the original cord with. I believe that is on this site but haven't found it yet.

The only other thing I'm wondering about is what people do about the two big filter caps. How do you know if they are bad? The amp seems to run fine.

But I'm sure this has been asked and covered many, many times, so I will search for it ..

This thing sounds great .. I've been playing it every single day.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Thu, 04 Dec 2014 21:33:47 GMT  
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Oh and yes, much more presence in the lower input jacks on both channels! Sounds great! What's going on there? I haven't come across documentation yet that describes each channel and how they are different, and how the input jacks are different .

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [pleat](#) on Thu, 04 Dec 2014 21:55:31 GMT  
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If you go to the literature section and click on Kasino, then the catalog with the girl on the cover, it will have a section with some graphs on how the selectone works. I don't remember the K150 or K250's having a owners manual but I'm sure they did.  
The kustom rep told me that the lower input jack on each channel has more gain for guitars with single coils.  
pleat

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [stevem](#) on Fri, 05 Dec 2014 11:40:29 GMT  
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With the introduction of the metal face amps in 71 Kustoms went from having channels with each input having a different tone to each input have a different level of gain as on Fender amps and many others, with the number 2 input being 3 db lower as in having half the gain of the number 1 input.

Also Kustom got request for more gain from these new amps so in late late 1971 Kustom sent out a service bulletin for the 150 and 250 amps that was a 3 resistor and one cap mod that provided more gain on the preamp board 5066.

this mod became a running production change on all latter metal face amps, but for Bass use I can tell you that the added gain is not needed most times and if you play a active Bass and you do not roll down the guitars volume control some you can clip the preamp pretty easy with the amps that have the production change!

Most hardware stores carry cheapo 18 gauge 3 conductor 20 ft extension so just pick one up and cut the female end off of it, the consideration is that it is not too much bigger in diameter than the stocker other wise you need to preplace the pressed in retainer with one made for a larger gauge

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cable!

One thing you might try which is what I do with my 250 for more tone control is to jump the two channels with a short cable, I plug my Bass most times into the low gain input of the top channel and then run the jumper to the high gain input of the lower channel, but you can try it both ways and see what you like better!

In regards to the main power supply filters if the amp sounds nice and punchy like you say with no 120 hz hum being heard at idle then the filters are likely fine, leaving the amp on for a full day will help reform the filters as those electrolytic type caps are the only item in the make up of the amp that will last longer and sound better the more the amp is powered up!

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [C4ster](#) on Fri, 05 Dec 2014 13:52:10 GMT  
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I found that the Bissell Proheat carpet cleaners have great grounded cords that are plenty long. The part number is Bissell 2036762. Search for that and you not be disappointed. It has the molded cord clip on it for storage on the back of the amp. Check it out.  
Conrad

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Fri, 05 Dec 2014 19:01:59 GMT  
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Kustom K250-1

Thanks to everyone for all the great suggestions and information. You have all been very helpful.

Regarding the power cord, thanks for all those suggestions. I opted for the Bissell cord as I wanted to keep the same vacuum-cleaner cord look. And it has the snap on the end to clip onto itself, vacuum-cleaner style. One is on its way.

Thanks for the information about the two channels and various inputs and pointer to documented info on these. This is just what I was wanting to know about. From my experience so far fixing this amp I can say that the tone is untouchable. I can't think of anything out there today that can touch it. Just outstanding.

Regarding the filter caps .. well, I was just about to say I think they are ok based on the reply on them. I don't hear any 120 Hz and I was told the amp had been used off and on during its life, and not just left rotting somewhere. It sounds fantastic.

But then I pointed my phone at my 810 cabinet with channel 2 volume up about 25% and I do see this .. this is from about one foot from one of the drivers in my 810 cabinet:

<https://www.dropbox.com/s/dirz97uhu6jc564/Kustom-K250-1-narrow-spectrum.png?dl=0>

And here is a full spectrum view from about six feet away:

<https://www.dropbox.com/s/87cq6ia3zirbzx/Kustom-K250-1-full-spectrum.png?dl=0>

Now, I really can't hear this hum .. am I deaf? I do hear the usual solid-state hiss, but no hum. And of course, at this volume setting, if I started playing my bass right now it would be quite loud and would completely eclipse that (normal) hiss and the hum I can't hear ..

Is this indicative of bad filter caps at this level? Or "normal"?

I am running the amp all day today as suggested .. and as mentioned, I believe it to have been used during its life, not just sitting to collect dust. I would like to leave those caps alone if they are ok ..

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [pleat](#) on Fri, 05 Dec 2014 20:04:55 GMT

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A tip when installing the new AC cord. I start with the new cable and plug unwrapped. Start with the plug midway between the cord wraps. Wind the cable on the cord wraps until there just enough to go through the mounting hole from the original cord clip with enough cable to go the the mounting tabs from the original AC cable. This way, when the conversion is complete and you wrap up the AC Cable, the plug will not be to close or at a cord wrap.  
pleat

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwI](#) on Fri, 05 Dec 2014 20:05:12 GMT

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I just took the same measurements using my 2014 Ampeg V4b through the same 810 can and get similar results. I can't hear the hum but can see it on the spectral graph. Again, I have the volume turned up considerably .. playing my bass through it at this level shakes furniture ..

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwI](#) on Fri, 05 Dec 2014 20:07:40 GMT

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Thanks, pleat .. excellent idea on the cord wrap! I'll do that! I hate it when using this type of cord and cord wrap system on something and the plug invariably comes out at the cord wrap.

Thanks for that suggestion!

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [C4ster](#) on Fri, 05 Dec 2014 21:00:22 GMT

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I should have mentioned my fully scientific method of testing filter caps. After I turn the amp off, I wait for the hiss to stop. The longer it hisses the better the caps are. Actually, I do replace caps if the hiss goes away within a second or 2. Good caps allow the amp to produce sound with more headroom before distortion and compression. If I replace caps, I size them about 4X the originals. The biggest issue is that new caps are taller and may require a different mounting method and clamps than the originals which were shorter and larger diameter.

Conrad

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Thu, 18 Dec 2014 01:16:25 GMT

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Thanks, Conrad -- I tried the scientific method, several times now, and the amp does pass that test. About 1 second. I'm going to leave the caps.

Well, friends, I did receive the shell today at long last. But it's not in the condition I hoped for. I don't know if this is the right segment of the forum to talk about non-electronic aspects of amp repair or not. And, I'm sure this subject I'm about to mention has been covered many times considering the age of these amps and the poor cosmetic shape in which many must surely be.

But I will go ahead and share my particular issue.

The tuck n roll is acceptable everywhere except the front lower roll. It has a couple of blowouts and has been covered by some black material and duct tape.

The bottom at the back edge has a small blowout too.

Also, it did not come with the long screws mentioned earlier. So I'll be looking for suitable screws.

Here are some pics.

[https://www.dropbox.com/sh/ab849g7tukrqi54/AAD6MTL7vp-6krk3U\\_1Lkf5Wva?dl=0](https://www.dropbox.com/sh/ab849g7tukrqi54/AAD6MTL7vp-6krk3U_1Lkf5Wva?dl=0)

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [pleat](#) on Thu, 18 Dec 2014 01:52:35 GMT

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You can go to a fabric store and get some black naugahyde and recover the bottom section. Use

the old bottom section for a pattern.  
pleat

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Thu, 18 Dec 2014 02:05:15 GMT  
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Thanks, pleat. It really does look just that easy. I'm going to do it!

And I meant to say this earlier .. Thank You to you and everyone else on here who has helped to get me this far with this gem. I've been playing and enjoying it every single day. Tone? Power? Step right up!

kd5uwl

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [stevem](#) on Thu, 18 Dec 2014 11:09:57 GMT  
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Where all glad to be a part of keeping another one going and making its owner smile, enjoy!

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Fri, 26 Dec 2014 18:48:27 GMT  
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Hi,

Stevem mentioned the screws I need to put the shell on are 2" long and NOT metric. I tried #8 (too small), and #10 (too big). I never knew but I suppose those are metric? Can you tell me where one gets the right sort of non-metric screws, what they are called, and what size they are?

I bought new naugahyde for the bottom and lower front roll today that I will be installing today. Removing the old bottom section was not too hard (lots of staples!), but I see now that the pattern cut isn't super critical .. the edges fold over, so an 1/8" extra this way or that won't hurt anything.

So I'll have the shell ready to put back on today .. but can you help me with the screws?

The GE 335 lamps are now installed and shining blue in the switches, and I have a panel mount fuse holder to install. The existing in-line holder rig job has a 4-amp fuse installed currently. Is that the correct size? Seems about the right size for this wattage of amp if I had to guess.



Thank you!

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Sat, 27 Dec 2014 00:57:44 GMT  
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Hi,

Stevem mentioned the screws needed to hold the shell on are 2" long and NOT metric. Do you have any pointers to where I can find these, and what the size is called? #8 are too small, and #10 are too big. At least they seem to big and I didn't want to force them.

I have new naugahyde I bought today and will be replacing the bottom section with it this evening.

I also have a panel mount fuse holder to install. The existing fuse is a 4 amp fast blow which seems about right .. is this the correct size?

The GE 335 lamps sure look good shining blue through the switches ..

Thanks for your help. If you can help me find the right screws I'll be able to put the amp back in the shell and it's very near complete now. I still have the new power cord to install but I expect to do that this weekend, too.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Sat, 27 Dec 2014 00:59:14 GMT  
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Sorry .. I guess I have posted two versions of that message about the screws now. I am sorry about that. It appeared to me the first one didn't post .. but I was mistaken.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Sun, 28 Dec 2014 03:20:54 GMT  
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Here are some photos .. one shows the old cover and new cover I cut to that size. Another photo shows a different view of the old cover. And the last photo is the amp inside the case. Note the front lower roll .. that is part of the new bottom cover. Before I re-covered it, this part was duct tape.

Again, still hoping you can point me to some screws for mounting the amp to the case. In this photo it's just sitting in there .. no screws.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [chicagobill](#) on Sun, 28 Dec 2014 07:28:41 GMT  
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The screws that hold the head in the cabinet are also used to hold the feet on the cabinet. There are four screws and they are 10-32 threads.

Did you get the feet with the cabinet?

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Sun, 28 Dec 2014 14:45:47 GMT  
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Chicagobill .. yes, I did get the feet with the cabinet. They are on there. But I'm sure you nailed it with the screw designation .. 10-32! Thank you!! I definitely bought 10-24 .. I counted the threads. And of course 10-32 is a much finer thread, noticeably finer. In fact, when you see one or the other it's easy to tell which you are looking at, even without them being side by side. A 10-32 is a fairly fine thread. It's all coming back to me now ..

I'll get 10-32 today and should be in business. Thank you very much!!

I added two more pictures here .. same link as I sent before, but new pics added .. you can see the feet and the new cover.

<https://www.dropbox.com/sh/7re6n9mhsutizak/AADjWRevyAAIMyDEf j3P8s7ma?dl=0>

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Mon, 29 Dec 2014 23:36:51 GMT  
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Guys, I now have the power cord replaced with a grounded one, the Bissell recommendation .. looks great and wraps just to the right spot. It's the full original 20' length and I used the original strain relief.

I also installed a panel mount fuse holder in back near the power cord entrance.

With the cabinet re-covered (just the bottom section as described and shown previously), cleaned up, and looking great, I was thinking I was ready to install the chassis and screw it in place when I noticed two things:

(1) The chassis has no top! Now that I see how it installs in the cabinet (which I only recently received) I see that it appears there is supposed to be a top plate which screws to the top of the

chassis? I've had the chassis slid into the cabinet without this top plate but I suppose to do it right I should make a new one. I could do it with a thin aluminum rectangle plate of the right size and screw holes drilled in the right locations. But I noticed the front panel has oval cutouts at the edge that must also screw to the top plate somehow? I don't think I could do anything about those, but I could make just a new flat top plate that screws to the top ..

(2) The light in the Polarity switch stays on all the time .. in either Polarity switch setting. That is, the Polarity switch light is on, and if you push the switch it still stays on. Visually the switch appears to be working .. you can see the little contact make and break when the wheel spins with alternate presses of the switch. But the light stays on. Is this the normal behavior?

Perhaps I'm getting picky now. The amp looks and sounds great! The cabinet is all clean and shiny and the chassis is installed in it. I don't have it screwed down yet since I have some final upholstery tweaks I want to do and also thinking about making the top plate I described in #1, above, if it's really missing .. and it sure does appear the original design probably included a top plate.

Thanks again for all the help you have been and continue to be on this project!

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [chicagobill](#) on Wed, 31 Dec 2014 07:11:39 GMT  
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There is normally a metal plate that covers the top of the chassis. It shields the circuitry and it strengthens the chassis.

The lights in both switches are connected together, so it is normal for both to be on as long as the power switch is turned on.

The correct fuse for your amp is a 3 amp slow blow.

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [steven](#) on Wed, 31 Dec 2014 11:12:16 GMT  
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I have many spare top plates if you really feel you must have one, but I pull them off of all my amps for better cooling as with electronic semiconductors ( diodes and transistors )every 25 degree drop in running temp will double there life, just something to chew on there!

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Subject: Re: Receiving a Kustom K250 amp head  
Posted by [Kd5uwl](#) on Thu, 22 Jan 2015 21:19:26 GMT

Stevem,

Thank you SO much for your kind offer. I didn't realize I hadn't replied to you yet but honestly I'm in a real quandary about what to do. I've gone over this and over this, and just can't figure it out. This should be an easy decision but I seem to be in a tailspin over it! I could sure use any suggestions or advice.

Here is why:

Ever since getting the amp as a basket case I thought it would be cool to fix and sell. But now that it is working SO well and sounds SO good, I don't know how I'll part with it. And my wife agrees.

My plan was not just to sell it, or get it just operational and sell it, but to get it up to the point where it was solid enough to be someone's number one gigging amp, not just a spare.

And I think I've done that .. both channels and all jacks work 100% and I've played it extensively into both 4-ohm and 8-ohm loads. ALL pots are completely silent when adjusting .. no crackles, etc. I installed the 20' Bissell 3-prong power cord and it looks real nice. I neatly re-soldered the loose caps that were causing problems, and I installed a socket when I replaced the dual Op Amp in channel one that was faulty. The replacement Op Amp is a period, NOS part from 1979. I replaced the bottom section of vinyl and it just looks great. Both lights have been replaced, and I have two spares. And, I installed an external panel-mount fuse holder near where the power cord enters the chassis.

It was about then that I realized there is no top. I'm getting to my quandary now ..

I agree with you about the heat .. if I were to keep it, I'd likely not seek a top for it. OR, if I had one, I might drill several half inch holes in neat rows to let heat out.

But if I sell it, two things: I don't think it would be right to sell as restored to the point of being someone's number one if I don't have the top for it. But, if I took you up on your offer for a top, would it be right for me to sell it then? Also, I don't know how much you might want for the top.

So I'm really in a tailspin over this! Can you help pull me out?

But one thing remains constant .. I love this amp, it's awesome.