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Subject: Hum issue

Posted by [stevem](#) on Wed, 23 Mar 2016 10:43:20 GMT

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I have been working on a k25 as of late and I have got to the point of dealing with its idle noise issue.

The issue with this model amp is 60 HZ hum which keeps the noise floor at -39 db which you really notice, for comparison a K 100-2 head has a 60 HZ noise floor of -49 to -50 db which due to the db scale is a big improvement in idle noise level!

The first thing I tried out to improve this was the age old cure of rapping the power transformer in plate copper , which I did and got no improvement what so ever!

Next just for kicks I powered the amp with the power transformer from a K100 fed off avariatic, that also made for no change.

Next on a hunch I removed the 4 diodes that are mounted next to the output stage driver transistors and installed a diode block mounted on the floor of the amp between the power transformer andthe circuit board.

This mod cured the problem as the 25 vac from the power transformer gets placed right into the board next to the driver transistors.

The noise floor with this mod changed the level of 60 HZ hum to a point I could not even measure, in fact the noise level was then changed to all 120hz ripple ( as it should be ) way down at -55 db, quite a nice change as even the 60 HZ noise floor on my K100-2 that I tested came in at -49db!

On this amp ( and the K50 ) the pilot lamp is powered off of ac voltage and not DC like all the other amps,

In doing this the circuit board is made with a very long trace that brings 25 vac all the way over to where the lamp socket is.

In order to remove any possible hum from this arrangement I cut that trace and ran a seperate wire from the new block type rectifier to the socket.

It seems that the K50 models circuit board is made like this K25 in regards to the diode locations and such, so that model could be improved upon also with these mods!

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Subject: Re: Hum issue

Posted by [chicagobill](#) on Wed, 23 Mar 2016 15:58:29 GMT

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Good to know. Thanks Steve.

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Subject: Re: Hum issue

Posted by [stevem](#) on Wed, 23 Mar 2016 16:32:03 GMT

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You bet!

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Subject: Re: Hum issue

Posted by [stevem](#) on Fri, 01 Apr 2016 10:30:08 GMT

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In continuing my quest with this amp to get the lowest noise floor possible I found out last night while working on it that if I unpowered the pilot amp altogether and fully get that ac voltage away from the preamp section / board, the 60hz noise floor drops yet another 8 db lower, which is a bunch!

Now my only problem is figuring out a way to power it with DC ,as its all ready dim in this amp since it's a 28 volt bulb powered with only 25 volts, I guess it's LED time as I have .070 amps to work with which is tons for a LED, it's just the voltage thing that's a issue!

I guess I need to wrangle a way to run a white LED off of the 8 volts that the amps preamp section runs on.

Anyway, just passing along more info here folks!

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Subject: Re: Hum issue

Posted by [stevem](#) on Sat, 09 Apr 2016 10:19:43 GMT

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It must have been a very long day the last time I worked on this because last night I realized that all I needed to do is power the pilot lamp off of the + DC voltage side of the recto bridge I put in and then the amp is golden!

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