Subject: Today's Puzzler
Posted by TubeCraft on Wed, 12 Jan 2005 18:52:31 GMT
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Noticed the new amp I built is short on bass. I fire up the test tone CD, and sure enough, no reponse at 100hz. (Response at 1khz and 10khz seems pretty normal.)Using a plain old VOM, I trace good response (test tone at 100hz) to the socket grid connection of the driver tube, a 5687. The 5687 has 170v on the plate (pin1), the cathode is at 7v(pin 3), running at 14.7ma. I measure a 5v RMS signal at the grid pin socket connection (pin 2). There is little or no signal appearing at the plate (91mv). Swap in several different tubes, 5687, 7044 no change.Any ideas?Rk=475r (bypassed 220uf) Rl=7k5 Grid=100k gain pot

Subject: Do you have grid stoppers?<nt>
Posted by BrownEyes on Wed, 12 Jan 2005 19:27:52 GMT
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Subject: Re: Do you have grid stoppers?<nt>
Posted by TubeCraft on Wed, 12 Jan 2005 19:45:23 GMT
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Nope. I'll try 1k right up against the pin.

Subject: Re: Today's Puzzler
Posted by Damir on Thu, 13 Jan 2005 12:06:44 GMT
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Frequency selective fault, hmm ?! I`d try to disconect input and output connections from this triode and cathode bypass cap, too. Install grid leak (say, 100k from grid to ground) and then you have only Ra, Rk and Rg. Be sure that B+ is OK (no bypass caps to the "wrong" places, etc.).Then try the 100Hz input direct at the grid pin, and measure the output, direct on the anode pin. You must get the good result, check everything. Check 220uF cathode bypass capacitor, polarity, and solder it, then check again (more amplification). Then check input jack and input pot and install them. Check again. If everything is allright, then check and install output cap, etc.

Subject: Grid stoppers- No change
Posted by TubeCraft on Thu, 13 Jan 2005 12:07:03 GMT
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Put 1k right up against the pin. No effect. I guess I'll slap together a breadboard with a new socket and try it out. It's gotta be the socket/connection. Unless the laws of physics are temporarily suspended in the driver section of my amp....

Subject: Re: Today's Puzzler
Posted by TubeCraft on Thu, 13 Jan 2005 12:13:53 GMT
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Thanks Damir, I'm going to put a breadboard together with a new socket and see what happens - I'm getting a good 5v rms @ 100hz signal downstream of the entire input section, but you're right, the only way to crack this nut is to simplify until I get a good result, then add on one piece at a time...

Subject: Re: Today's Puzzler
Posted by colinhester on Thu, 13 Jan 2005 23:54:40 GMT
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Something in the signal path acting as a high-pass filter? A cap out of place?....Colin

Subject: Re: Today's Puzzler - Solved
Posted by TubeCraft on Sun, 16 Jan 2005 01:22:39 GMT
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Seems the interstage transformer on the output of the stage (Parafeed connection) wasn't doing it's share loading the tube - or it's shorting. Then I removed the transformer connection - and measured with no load at all - very dumb - I guess my cheap VOM isn't really a "load."I replaced the transformer primary with a cap and a resistor and voila - 2.9v in and 24.9v out.Makes sense - no load - no current flow - no current, no volts. 3 days of beating my head on my workbench....Thanks for the suggestions guys, the breadboard on the workbench eventually told the tale.It's gonna be a kickin' amp when it's done.

Subject: I do love the "solved" posts
Posted by PakProtector on Tue, 18 Jan 2005 15:20:14 GMT
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great to see what actually happened and how it was fixed.regards,Douglas

Subject: Re: Here's the why!
Posted by TubeCraft on Wed, 19 Jan 2005 16:08:45 GMT
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The $%#@& lead out diagram packed with the bleedin' transformer was wrong! So if anyone out there's using a Hammond 124E interstage go to the website and check the corrected wiring diagram! The one printed on the carton is incorrect.Transformers don't work well a completely shorted winding.

Subject: test first...
Posted by PakProtector on Wed, 19 Jan 2005 18:02:45 GMT
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I always give the TX I want to use a small tickle with a variac to confirm the hook up. 1 or 2 vac to make sure I have it rigged properly. it is easy enough, and makes silly troubleshooting less likely.regards,Douglas