Subject: Is there a consensus on preamp project?
Posted by colinhester on Fri, 24 Dec 2004 19:19:37 GMT
View Forum Message <> Reply to Message

I assume we're going with whatever schematic Tnuctipun sends us. Are there any lurkers out there thinking about joining in? Even if decide not to build with us, please understand this does eliminate you from the discussions. We're all here to learn, and rest assured I will ask the most basic (dumbest) questions. Don't let the technical talk scare you aware. I'm about as new to this as anyone, and I'm nervous enough for all of us.....Colin

Subject: consensus?
Posted by PakProtector on Sat, 25 Dec 2004 01:27:06 GMT
View Forum Message <> Reply to Message

now that's asking a lot. relax, I will do any hand holding and question answering that is required. Very little bits of time to do the schematic. I have a few drafts, and should be able to post a pic of the final soon. It is hard to do a proper job of putting everything injust the right place and leave room for all the notes.I think I will publish a seperate list of 'Notes' as numbered ont the schematic.On the CCS, look for an AudioXpress with a Dave Davenport article on his new lonestage. he details using the single DN2540N5 mosfet and provides useful insight as to using them. It is good background on this effort.regards,Douglas

Subject: Re: consensus?
Posted by colinhester on Sat, 25 Dec 2004 01:32:04 GMT
View Forum Message <> Reply to Message

I'm not pushing for a schematic. There were a few variations brought up, and no one ever said we're building "X." I know this is going require effort on you part, which I really appreciate. I was just kind of checking to make sure all the votes were counted. Have a wonderful Holiday.....Colin

Subject: Re: consensus?
Posted by Manualblock on Sat, 25 Dec 2004 03:35:24 GMT
View Forum Message <> Reply to Message

Merry Christmas all you builders! Hey T, we have nothing but time so take your ease and enjoy!

Subject: some PS stuff...
Posted by PakProtector on Sat, 25 Dec 2004 11:26:38 GMT
View Forum Message <> Reply to Message

I found this on Lundahl's pages. The rectifier is what I had in mind. two diodes and a vacuum diode. I had been talking of the 6CA4, it is a tough tube. peak current capabilities to allow a 40 uF first capacitor specification. We'll be treating it quite gently with a choke input filter.Either way, I offered help, and it is *NOT* conditional on following some specific design I happened to dream up. I have small bits of time, and the schematic is on a temporary hold until I can have longer ones. I do hate keeing you folks in suspense.Merry Christmas y'all!Douglas
valve/SS recitfier

Subject: Re: some PS stuff...
Posted by Wayne Parham on Sat, 25 Dec 2004 14:23:13 GMT
View Forum Message <> Reply to Message

How 'bout using a second dual diode to form the bridge rectifier? I realize it would take another transformer winding but is that a problem to find? Or maybe we could forego the bridge and just use a dual diode for rectification. I'd really like to see us go all-valve. I'm OK if we don't, but I think it would be cool.

Subject: Re: some PS stuff...
Posted by PakProtector on Sat, 25 Dec 2004 15:10:19 GMT
View Forum Message <> Reply to Message

You need two seperate cathodes. Two Bendix 6754 would do it. And give ~45 second warming time, but they are not a mainsteream valve. If you go directly heated, we'd need a filament winding at each end of the plate winding. Cruise Triode Electronic's Altec page and look at the full bridge on the 1570. It is made from 5R4's.All valve is nice, but in this case additional power Tx expense. We could do a 250-0-250 plate winding...all on a sudden, instead of a $28 power TX, it is nearly double that.regards,Douglas
http://www.triodeel.com/al1570b.gif

Subject: Re: some PS stuff...
Posted by Wayne Parham on Sat, 25 Dec 2004 15:36:29 GMT
View Forum Message <> Reply to Message

I was thinking of a circuit using a tranformer with two filament windings opposing the HV winding. You say they are available for about sixty bucks? Or we could go with a solid state or dual diode version for about thirty?

Subject: Re: some PS stuff...
Posted by Manualblock on Sat, 25 Dec 2004 17:07:32 GMT
View Forum Message <> Reply to Message

I have a schematic published by Eric about 15 yrs. ago that uses a computor switching power supply for the filaments. It is choke filtered DC and he claims no hum. It is an interesting schematic on it's own. It uses a 572 triode as a SE pre-amp circuit. The afoementioned filament PS then a B+ supply from an international linear PS. The tube is a thoriated filament which sounds more clear and detailed than oxided. Interstage transformer coupled. He runs the filaments at 5.04v instead of 6.3. All in all an interesting design that acquired much fanfare.

Subject: rectifier valves...
Posted by PakProtector on Sun, 26 Dec 2004 22:21:51 GMT
View Forum Message <> Reply to Message

Hey-hey!!!, if a suitable supply is made for 2.4A of 6.3 volt filaments, a full bridge can be made from a pair of 7X6 twin diodes. Seperate cathodes and adequate PIV rating for the job at hand. Even the 261G6 is only rated for 2.5A of 6.3, increasing this is a leap up in cost...regards,Douglas

---

Subject: Re: rectifier valves...
Posted by Wayne Parham on Sun, 26 Dec 2004 22:55:09 GMT
View Forum Message <> Reply to Message

Sweeeeeet.I was just thinkin' about putting together a bill of materials to build at least the amplifier circuit. Looks like we're getting closer to a finished design, so maybe I'll be able to purchase everythnig I need all at at once. I'm pretty pinched for time right now, bu I think I can assemble this preamp fairly quickly and I think it'll be fun.Thanks for your input on this project, and to everyone else participating too!

Subject: correction...
Posted by PakProtector on Mon, 27 Dec 2004 00:39:27 GMT

View Forum Message <> Reply to Message

the 261G6 is good for 2 of the required 2.4 amps of heater current for the pair of 7X6's.regards,Douglas

Subject: Re: rectifier valves...
Posted by Manualblock on Mon, 27 Dec 2004 00:53:12 GMT
View Forum Message <> Reply to Message

What about using damper diodes? And from my perspective I am following things as they develope, but a scorecard at this point might be a good idea. To be honest if you held a gun to my head I probably could not tell the exact circuit topology we will use.

Subject: Damper diodes
Posted by PakProtector on Mon, 27 Dec 2004 02:27:38 GMT
View Forum Message <> Reply to Message

Hey-Hey!!!,Part of the restriction we are designing to is expense. The filament requirements of a full bridge worth of damper diodes is ~4A of 6.3 at a minimum. For the 6AU4 it is more like 7A. The hybrid bridge using a 6CA4 and two 1N4007-style SS diodes gives vacuum tube performance w/o big expensive filament TX's. The 6CA4 is one tough little valve too. If we look at the size of the filter capacitance the valve can stand working into, it is right up there with a 5U4 and 5AR4/GZ34, these rectifier tubes are all good for a meduim sized stereo amp, let alone a linestage... For a twin diode rectifier tube there are many options at the 2A/6.3 volt limit imposed by selection of the 261G6 Hammond. 6BY5 is an octal dual diode. On the smaller side, 6X5 is an octal version of the 7-pin 6X4. 6BW4 is another, lying about in the middle between 6CA4 and 6X5 capabilities.It is a bit of a challenge to make something small, light and simple after becomming used to very overbuilt and complex-as-desired circuitry. regards,Douglas

Subject: Re: Damper diodes
Posted by Wayne Parham on Tue, 28 Dec 2004 21:32:51 GMT
View Forum Message <> Reply to Message

So whatdya think on the supply? Wanna go with a pair of dual-diodes for a bridge? Or maybe go with a single dual-diode to keep it simple? 6X5's are plenty for a preamp don't you think?

Subject: there's lots of choices...
Posted by PakProtector on Thu, 30 Dec 2004 00:37:34 GMT
View Forum Message <> Reply to Message

given a 2A/6.3V winding, there are a bunch of nice choices. the beefy EZ81/6CA4 is going to require about an amp. The octal 6BY5 is going to take about an amp and six-tenths. 6X4 and 6X5 are going to take less, and also contribute a bit more voltage drop. A 6AX5 will fit, but a 6AX6 won't. The WE412 is another neat little 9-pin, and the 6754 Bendix Hy-G-300 will also give a ~45 second warm up for the rest of the circuit due to its wonderful cermanic heater sleeve. The Bendix is also graced with a heater-cathode voltage rating exceeding its plate rating.I would go with the 6CA4 as a first choice. 6AX5 a close second, tied with the 6BY5, also an octal.regards,Douglas