Subject: Schematic - first version
Posted by Damir on Thu, 20 Jan 2005 12:18:53 GMT
View Forum Message <> Reply to Message

Hosted by ImageShack, link:http://img116.exs.cx/img116/283/g15rr.jpgFirst version - simple one DN2540 CCS.

Subject: Schematic - second version
Posted by Damir on Thu, 20 Jan 2005 12:24:54 GMT
View Forum Message <> Reply to Message

Hosted by "ImageShack", link:http://img116.exs.cx/img116/9317/g26ds.jpgCascoded DN2540 CCS version.

Subject: Re: Schematic - second version
Posted by Manualblock on Thu, 20 Jan 2005 13:02:46 GMT
View Forum Message <> Reply to Message

Thanks Damir; There is only one cap in the circuit? Have you accessed Douglas' new PS design by any chance? Thanks Again J.R.

Subject: Re: Schematic - first version
Posted by paba on Thu, 20 Jan 2005 16:36:46 GMT
View Forum Message <> Reply to Message

Just wandering would the sound be better if you avoid the signal going thru the pot as shown in the schematic. Instead with a series shunt to ground config I think the signal goes thru a good quality resistor
instead.see:www.lara.on.ca/~gandalf/www.siteswithstyle.com/voltsecond/12_posistion_shunt/12_Position_Pure_Shunt.htmlwww.audiosold.com/passivepre.htmcheersPaul

Subject: Re: Schematic - first version

Posted by Damir on Thu, 20 Jan 2005 17:26:47 GMT
View Forum Message <> Reply to Message

It`s hard to avoid the pot - various sources have various output voltages, say from 100mV to 2Vrms. Amplification of our preamp is about 16 or so, and if we don`t have the control, then output voltage from the preamp is 1,6-32Vrms! The typical sensitivity for the full output of power amp can be 1-2Vrms, sometimes lower. We can put the pot at the input, or at the output of the preamp, better on the input.If too much amplification is the problem (high output sources), we can use lower-mu tube, say 12B4A, but then we must change the operating point...

Subject: Thank you
Posted by colinhester on Thu, 20 Jan 2005 17:48:30 GMT
View Forum Message <> Reply to Message

Thanks for taking the time to draw this.....Colin

Subject: No problem :-)
Posted by Damir on Thu, 20 Jan 2005 19:31:29 GMT
View Forum Message <> Reply to Message

I`m glad if I can help a little, for now most of it depends on Duglas. But, after building a preamp, some of the people here would get first-hand experience with building tube circuits, CCS, power supply... and (I hope) we would reach 2nd level

Subject: Re: Schematic - second version
Posted by Damir on Thu, 20 Jan 2005 19:40:42 GMT
View Forum Message <> Reply to Message

New PS design? No... IMO - in the begining (V1.0), it`s best to use simple PS design, later...who knows? And about building from the schematics - just ask, I`m sure that someone would jump in with help/instructions/tweaks/opinions, etc.:-)For the start, download DN2540 and 5687 data, plus the data for your favorite rectifier, for example EZ80/6V4, EZ81/6CA4...

Subject: PS Schematic -Version ?

Posted by colinhester on Thu, 20 Jan 2005 21:24:02 GMT
View Forum Message <> Reply to Message

I'm pretty lost right now as far as what PS we're using. Can someone please draw a schematic of what PS we're using? That would be too cool. We're about to drop some pretty pennies (and a few ugly ones too) on a choke and custom tranny. We need to make sure we're all on the same page.....Colin

Subject: Re: PS Schematic -Version ?
Posted by Manualblock on Thu, 20 Jan 2005 23:01:24 GMT
View Forum Message <> Reply to Message

Exactly; the original PS schematic uses the 6ca4 rec tube; Douglas suggested for the new iteration to use 6X4's, choke loaded.

Subject: Re: PS Schematic -Version ?
Posted by PakProtector on Thu, 20 Jan 2005 23:49:02 GMT
View Forum Message <> Reply to Message

hey-Hey!!!,The PS is very similar. Infunction, it *IS* the same. Here is the basic difference: We're doing full wave instead of full bridge.There is no need for the two SS diodes, and the center tap will be grounded(before we had 250 volts in full bridge), now we have two half wave supplies on each side of the center tap, this is called full wave.Still going to do a choke input supply, so the cathode(s) of the rectifiers gets attached to the choke(as drawn in the original schematic).here is a discussion on the subject: http://www.tpub.com/neets/book7/27b.htmit shows two SS diodes, the banded end is the cathode, in a vacuum diode, this is the hot part, either directly, as in a 5U4, or indirectly as in a 6CA4.keep asking...the link to ducnan amps has a link for tube data sheets, and a downloadable program to simulate pwoer supply behaviour.regards,Douglas
 data sheet and other good stuff.

Subject: 6X4 rectifier?
Posted by colinhester on Fri, 21 Jan 2005 00:14:17 GMT
View Forum Message <> Reply to Message

Are we going with a 6X4? Any ides what the cost of the choke is? I'd like to have a ballpark figure, just so I can get ready for sticker-shock.I downloaded PSU Designer a few weeks back and have been playing with it. Pretty cool.....Colin

Subject: Re: 6X4 rectifier?
Posted by PakProtector on Fri, 21 Jan 2005 00:34:49 GMT
View Forum Message <> Reply to Message

Wellllll, for the rectifier, I'd pick the 6CA4 for top of the 9-pin heap. It is not the least expensive though. Two damper diodes, like 6W4 or 6AX4 are ~$2 each, the 6AX5 is a twin diode like the 6CA4 and is octal. More room around the socket pins for certain, and not too expensive either.For construction ease, a step drill is easy to get that can make a proper sized hole for a 9-pin. A hole saw or hole punch for the octals are the two simplest means.If I had to pick one, I'd say 6CA4. If I weren't slightly over the voltage ratings for this tough little valve, I'd use it for rev. 5.The 8039 choke is ~$75. If you are willing to limit yourself to 10 mA per chanel maximum draw, and not do the shunt reg, you can get by with the little Hammond. The 8039 will leave you room to expand, and will work quite well all the way down to about 10 mA of load, which is ~half the design goal of 10 mA per channel.regards,Douglas

Subject: Re: Schematic - OrCad file
Posted by Wayne Parham on Fri, 21 Jan 2005 03:57:09 GMT
View Forum Message <> Reply to Message

I've made a quick OrCad model and uploaded it into a "Projects" directory. That makes it easy to modify as we make revisions. We can model the circuit with PSpice too.If you have a copy of OrCad, you can click the image above and download the SCH datafile. If you make changes to the circuit, new mods or whatever, send them to me and I'll upload them and make them available to everyone. This makes a standard format that's easy to use.If you do not have OrCad, you might be interested in the demo version. Click here.I drew this schematic quickly and didn't include the power supply. It isn't much trouble at all, I just have been really pressed for time this week. I'll try to add that later, and that wil let us decide if we're going for the dual-diode full-wave rectifier.Another thing that could be improved is that the proper values for the active components could be used. Right now, the schematic is right but the electrical parameters aren't. As an example, I grabbed a small signal triode but not a 5687 so the tube characteristics would need to be entered for PSpice to work. The diodes are 1N914's or something like that, which aren't the same as LED's. So if we want PSpice to work, we'll need to find the right models for each component or create our own.

Subject: Re: Schematic - OrCad file
Posted by Damir on Fri, 21 Jan 2005 12:41:26 GMT
View Forum Message <> Reply to Message

Good idea, but unfortunately, I don`t have the time/HD space for "OrCad", too much new libraries (tubes!)...huh. Maybe one nice day:-). No problem, if we make some changes, I`ll post a new schematics...