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Subject: My idea...

Posted by [Damir](#) on Wed, 22 Dec 2004 19:11:02 GMT

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Build the linestage in little larger chassis (enough additional space for two SE OPTs and two tube sockets), with overdimensioned PS (additional DC current say >120mA), with B+ about 300V. Choose OP for the 5687 a little higher (15-20mA,  $U_{gk}=4-6V$ ,  $U_{ak}=110-150V$ ), CCS load. Then we can build line stage first, with amplification about tube  $\mu$ , or 17. We can use it for (pre)amplification of low-signal sources (hundreds of mV) to "drive" power amplifier. But, our linestage can be a good "driver" for SE tube amp with CD player input - 2Vrms, say for EL34 in triode, or even 2A3/6B4G. Once "armed" with experience building line stage, additional work for SE output stage would be trivial :-).

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Subject: Re: My idea...

Posted by [Wayne Parham](#) on Wed, 22 Dec 2004 21:11:50 GMT

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What do you think about maybe doing a power amp? Or maybe a headphone amp?

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Subject: Re: My idea...

Posted by [Damir](#) on Thu, 23 Dec 2004 14:41:31 GMT

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Thank you for your confidence. It's no problem - when we have a driver, SET power amp is just a few resistors, capacitors, OPTs, output tubes+sockets. But - if we use about 300V B+, then we have a few choices for the output tube. One of the simpler solutions would be EL34, triode connected. Pro's - IDHT with "standard" 6,3V heater, easy to drive (say 16Vrms max, then our line-stage can "drive" it with 1Vrms input, + "reserve" 6dB with 2Vrms CD output). Bias is easy - just one resistor + capacitor (cathode bias). Con's - With  $U_{ak}$  about 280V, and  $U_{gk}=20...24V$ , and OPTs with  $Z_a=2,5k-5k$ , we can expect only about 2-3,5W output. Sensitive speakers is a must... Another candidate could be 2A3, "classic" OP ( $U_{ak}=250V$ ,  $U_{gk}=-45V$ ,  $I_a=60mA$ ,  $Z_a=2k5$ ,  $P_{out}=3,5W$ ). "Cool" DHT, but now we have some complications - we need 2,5V filament winding, filament hum balancing pot, and the most important - 2A3 "needs"  $45V_p=90V_{pp}=32V_{rms}$  input AC voltage for max. power. Our 5687 linestage has  $A\sim 17$  and this is just enough, but with no "reserve" - it's desirable to have at least 3dB more amplification, for "quiet" CDs. We can (almost) get it if we use similar ECC99 tube ( $\mu=22$ ). Well, I'd like to see some discussion (if anybody is interested) - what to do - separate linestage and power amp, or no. Then - which tube to use, topology, etc. I can post a schematics, calculate the component values, give descriptions and some building guidance, etc. Where to find the parts - I'd like to see a discussion, too.

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Subject: Re: My idea...

Posted by [Wayne Parham](#) on Thu, 23 Dec 2004 16:10:17 GMT

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What's your favorite output circuit?

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Subject: Re: My idea...

Posted by [Manualblock](#) on Thu, 23 Dec 2004 16:21:28 GMT

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I personally like the idea of a separate linestage at this point which enables us to tinker with the circuit independent of the power section. Using the 5687 linestage as a driver stage for a future 2a3 SE amp is a great idea. Do you think the linestage can be used as a building block for this application?

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Subject: Line stage

Posted by [colinhester](#) on Thu, 23 Dec 2004 16:42:59 GMT

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I vote for the line stage. The amps would be next the next obvious progression. However, instead of using the 2A3 is there another, less well known, power tube we could use? I don't know, just something to be different.....Colin

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Subject: Favorite output circuit

Posted by [Damir](#) on Thu, 23 Dec 2004 20:39:35 GMT

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Well, I didn't try them all, of course. The last 5 years I listen to the music through my DIY monoblocks (PPP, 4xEL34 or 5881 sometimes, concertina phase splitter, Plitron/Amplimo toroidal OPTs, triode or UL, no NFB loop). I'm satisfied, only criticism can be low damping factor - little "boominess" through rear ported speakers, JBL4208. As you can see, I'm not an audiophile, I even listen "lo-fi" recorded music...I have "neverending" breadboarded 300B amp, tube rectification (CLC + LC for the driver), I constantly (but slowly) try different things. Right now it has a cascode 5687 driver...maybe I'd solder this mess together in the 2HE rack case one day... Two toroidal PTs, 2 Lundahl 3k OPTs, 4 chokes, Svetlana 300B tubes. Well, to answer your question directly - for the good, but simple enough amp I'll vote for PP, good quality OPT, say "Plitron" 6k:50hms.

Individual bias pots for the each output tube (say EL34, 6550, KT66, etc.). Split load (concertina) phase splitter with E182CC, ECC99 or 5687 tube. Power supply with another "Plitron" toroid, SS rectification, CLC+ LC for the driver(say, Lundahl chokes), B+ about 390V, good quality passive parts. About 25W in UL or half of that in triode. No NFB loop, AC heaters (good enough, IME). As you can see, 90% from the Vanderveen`s book, but it works well. (Hehe, Plitron/Amplimo even has a similar kit - no affiliation:-)). That`s very subjective and YMMV, etc. To be continued... Merry Christmas to everyone!

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Subject: Monobloc picture - VDV3070 amp (V1.0)  
Posted by [Damir](#) on Thu, 23 Dec 2004 20:44:30 GMT  
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Please, try the link:  
VDV3070 amp

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Subject: Re: Monobloc picture - VDV3070 amp (V1.0)  
Posted by [Wayne Parham](#) on Thu, 23 Dec 2004 22:07:17 GMT  
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That looks great! I'm thinking that when we get around to doing a power amp project, it might be nice to have it be something like a parafeed SE amp. Not too complicated to build, good for a beginning DIY'er and nice sounding. Maybe a parafeed 300B?

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Subject: Re: Favorite output circuit  
Posted by [Manualblock](#) on Thu, 23 Dec 2004 22:53:02 GMT  
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Say Damir; I like the way you wired that amp with those little sub-assemblies to tag boards. Merry Xmas to you.

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Subject: a bit slow.....  
Posted by [PakProtector](#) on Sat, 22 Jan 2005 15:14:22 GMT  
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but, are you nuts? I think there are several SE300B amps. Some of them are even parafeed. There is enough talent to do something a bit more interesting. PP 300B maybe? sort of expensive for output valves....Smaller DH Pentodes maybe? Type 1619 is a 2.5V/2A filament with characteristics resembling a 6V6. Type 1624 is its 807-looking analog. Hell, 6V6's aren't embarrassing. 10k a-a, with U-L taps between 20 and 25%. Rig them as triodes if you wish. 6W6's are another lightly used valve. The 6W6 even comes with respectable looking triode curves in RCA's RC-23 handbook. 6EY6 and 6EV5 are other 6V6 cousins with low demand and relatively low price tags. Amp building will require high performance OPT's as a primary expense. There are ways around this. Think Homer Simpson's cloning hammock...regards, Douglas

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