
Subject: PP 2A3/6B4G anybody?

Posted by [PakProtector](#) on Thu, 24 Nov 2005 00:22:26 GMT

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Hey-Hey!!!,Any interest in a single CCS PP triode amp? I know the Merlin schematic with its CCS-rich circuits is a bit on the complicated looking side.Design Goals:Excellent soundRelatively simple~6WattsAvailable tubesL-C power supplyAvailable IronThe proposal:Input stage of 6BK7/6BQ7/6CG7/6H6PiResistive plate load, CCS in the tail, PP/Center tapped grid chokes, 6k6/20W OPTx. Individual, fixed bias.Several choices on the OPTx. None are expensive.Any interest?cheers,Douglas

Subject: Re: PP 2A3/6B4G anybody?

Posted by [2wo](#) on Thu, 24 Nov 2005 05:07:31 GMT

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Absolutely,As I have said before. I have a quad of NOS 6a5's and some st70 transformers. This project is moving up the pipeline. I kind of, have my heart set, on a two stage amp, with transformer splitting . If I am giving up some potential watts. Well, I see it as problem be addressed later , if need be. On it's own. I am playing around (on paper) with a few driver tubes and as whether to do the splitting at the input or after the first stage.The choice is complicated by the fact that I am a cheep bastard, If I an going to spend a few hundred bucks on a low level transformer, I would like to use it elsewhere if it is not right for this circuit . But gee wouldn't it be fun to try it with a pair of Hammond 124's that I have in stock. I don't think I could make it fly on a stock ST70 chaise, these little guys, pick a lot of what goes on around them.(noise) . So it goes.I don't think I will go with CCS, at least a first cut. That don't mean that I won't I am basically a SET guy (power wise) looking to expand his horizons.Now were did I put those 211's?But seriously; Douglas I may not use your advise, but I do take it seriously and it may get me thinking in an other direction, Or help some one else. This forum is for am exchange of ideas after all.. What I think I mean to say is you are not posting to a vacuum...John

Subject: Re: PP 2A3/6B4G anybody?

Posted by [PakProtector](#) on Thu, 24 Nov 2005 12:13:19 GMT

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Hey-Hey!!!,The St.70's OPTx will do. 'Specially for all ov us cheep bastard's! Of course, I'd rather 6k6 instead of

Subject: Re: PP 2A3/6B4G anybody?
Posted by [Manualblock](#) on Thu, 24 Nov 2005 13:21:49 GMT
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PP 2A3?; count me in! Mono-Block??

Subject: Re: PP 2A3/6B4G anybody?
Posted by [PakProtector](#) on Thu, 24 Nov 2005 14:13:45 GMT
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On the amp chassis, a single 5687. Either balanced input or SE with one grid grounded for phase splitting. Gain is going to be low enough an active linestage with gain will be needed. If a 5687 can be the final driver, it can also function as the input as well. The PSRR of the common cathode amp will allow a single stage B+. All the stages are class A, which makes it even more tolerant of potential PS noise. For those of us with more gain in the linestage than we need(right now), a gain structure like this should not be an issue. Now, with a higher Z primary, we'll be able to run higher B+ and remain Class A. Higher B+ is quite useful for the driver stage. Swinging the +/-70V from a 300V supply won't be so difficult with a 5687 anyway. For NOS valves, the plate ratings may be close. I would take the Sovtek 2A3 for this one. It is more tolerant of 2A3+ dissipation. Fixed bias will keep the cathode circuit free from big and imperfect capacitors. Individual bias will require seperate filament supplies, and a split CT on the PP grid choke. I have been itching to build just such an amp. I have a few possible OPT's to experiment with. Which ever one sounds better, gets torn down and put on the NC winder at Heyboer. They are all about the same size. Cosidering how much the bigger S-265-Q cost to clone and modify, the little ones could probably get made at Hammond-level price tags. Unfortunately, the bigger multi-grid finals are calling to me...must get that out of my system(or perhaps thoroughly into it). The idea of an 80W 813 amp has me all worked up. On the power Iron. I have in mind a rather expensive piece. Multi tap primary and two voltage CT secondary. It would be able to deliver B+ from an L-C filter from ~320V all the way to 750. So AC would be 400 to 850, with about a half dozen steps in the middle. The long-term, multiple build power TX. Buy one now, instead of several later. Probably cost less than double a single-project piece. cheers, Douglas

Subject: Re: PP 2A3/6B4G anybody?
Posted by [Manualblock](#) on Thu, 24 Nov 2005 14:36:15 GMT
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How about compatibility with Guinevere?

Subject: absolutely!

Posted by [PakProtector](#) on Thu, 24 Nov 2005 15:17:20 GMT

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Hey-Hey!!!,The Gunievere is a good starting point for the project. I know I don't need a whole lot of power. More power is more of an exercise, than a project goal. In the winter, it is a neat basement heater that's sure...:-).A while ago I was contemplating a special run of Nickel laminations. Looke like a cut C-core will be even more useful. The short run of micro-crystalline or amorphorous alloys will be coming close to parity with it and each has its own set of core qualities to play with. Read-read-read, and read some more. There is nothing magical or mythical about TX design. Dave Slagle and his group at Intact Audio are qute open to experimenting with all sorts of inovative magnetic designs.cheers,Douglas

Subject: Re: absolutely!

Posted by [Manualblock](#) on Thu, 24 Nov 2005 15:39:33 GMT

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Thanks; this sounds like the winter project.

Subject: Re: PP 2A3/6B4G anybody?

Posted by [Damir](#) on Thu, 24 Nov 2005 17:01:53 GMT

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Quick "analise" gives $R_{aa} \sim 2 \cdot (U_{gk} \cdot \mu / I_a - r_p) \sim 8k\Omega$, for OP 300V/50mA/-60V.Theoretical $P_{out} \sim P_{aa} = I_a^2 \cdot R_{aa} = 0,035^2 \cdot 8000 = 10W$, or $U_a = U_{gk} \cdot \mu / (1 + 2r_p / R_{aa}) = 42,4^2 / (1 + 1600 / 8000) = 141,4V_{rms}$, and then $P_{out} \sim P_{aa} = U_a^2 / R_{aa} = 282,8^2 / 8000 = 10W$ But, realistically, (losses, distortion) - $P_{out} \sim 8W$

Subject: Re: PP 2A3/6B4G anybody?

Posted by [PakProtector](#) on Thu, 24 Nov 2005 17:47:26 GMT

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I do like to be conservative...the power thing always comes out 'about right'. When doing PP at slightly higher than double the SE load, about double SE power is available. Power is just a side effect of PP, not the some kind of single-minded goal. Plan on ~85% of single plate dissipation for the mulit-grids.Anyway, the amp will sound as good as the OPTx's allow. I have a few on the take-down list. Ask when y'all are ready, and I can have one(or more), taken apart and copied. It

is what I collected them for...:)I am quite looking forward to experimenting with a few of them. If somebody out there wants to experiment, let the games begin. With 300B's we'd want to increase B+ to ~400, and run idle to 80 mA/valve. The higher voltage will want a higher a-a load(higher numeric that is), to stay class A. Those of you who got in on the S265Q group buy might want to consider this one too. Went looking through the power Iron design literature. The All-in-One power TX, is looking good. Trying to figure out just exactly where to put the secondary tap for the best available spacing of the output voltage. The twin-tap secondary would also allow a two voltage supply. Higher voltage for the drivers. Perhaps a neat DH triode...:) 10Y/801A
anybody?cheers,Douglas

Subject: winter projects

Posted by [PakProtector](#) on Thu, 24 Nov 2005 19:50:44 GMT

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Hey-Hey!!!,considering how early it snows up here in Dearborn, there may be two winter projects. Though with two new amps, the linestage may get pushed to the back burner. Before the current amp got developed to its current edition, I was considering a DH Linestage. Absolutely going to require DC filaments. Current regulated, and lots of Iron. Tube active loads. The 26 comes to mind...reputedly microphonic as, well...a good microphone. oh well, happy winter projects
y'all!cheers,Douglas
