Subject: More amp design considerations
Posted by PakProtector on Thu, 03 Mar 2005 21:11:53 GMT
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Hey-Hey!!!!,Been looking at another amp worthy of its construction effort. For a pentode, the 6V6-ish 1619 is a good valve. I linked its sheet below. It has a few very useful properties for this project. One is its filament. It is a 2.5V/2A directly heated cathode. Very similar to the 2A3. Matter of fact, change the sockets from the 1619's Octal to 2A3 UX4 and you're off to the races.Next, it can easily be supported by the Guinevere power iron on a mono-block basis. Since we're likely using a custom OPTx, it will be fairly easy to arrange a means to take full advantage of both types of final. New production 2A3 is fairly easy to come by, and NOS 1619 is even less expensive. Both will yeild similar output power, at between 7 and 10 watts.Any design specifics we need to include? It seems that this ought to be as flexible a project as is possible so that changes can be made as testing and tweaking require.regards,Douglas

Subject: 1619 Data
Posted by PakProtector on Thu, 03 Mar 2005 21:14:33 GMT
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Ok...I pressed 'post message' too soon.here it is:http://www.mif.pg.gda.pl/homepages/frank/sheets/049/1/1619.pdfregards,Douglas
http://www.mif.pg.gda.pl/homepages/frank/sheets/049/1/1619.pdf

Subject: Re: 1619 Data
Posted by Manualblock on Thu, 03 Mar 2005 21:53:17 GMT
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I like the 1619 myself; someone around here a while ago built Bob's 1619 SE amp and it had nice tone. Only one watt though.What the heck is rendered snake oil? Is that some kind of mojo voodoo stuff? Should I get my black cat bone?

Subject: Oil
Posted by PakProtector on Thu, 03 Mar 2005 22:19:31 GMT
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HEy-Hey!!!,the snake oil remark is just another attempt at dry, sarcastic humor. How eose would one acquire snake oil legitamtely? There are of course a whole column of folks with less than

honest supplies of snake oil to sell.regards,Douglas

Subject: Re: More amp design considerations
Posted by cheetah on Thu, 03 Mar 2005 22:26:46 GMT
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Douglas,I checkesd several web sites.Antique Electronic supply has them for $9.60 ea.Tube Depot for $13.95 ea.Fair Radio Sales in Lima has them for $7.00 ea.None of these listed any quantities on hand.I like the idea of it being directly heated. Been interested since I saw Gary Pimm's 47 amp. If we used your E-Linear topology, what are we looking at as possable drivers?Keep it com'in...Joe

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Subject: 5687's...
Posted by PakProtector on Thu, 03 Mar 2005 23:10:09 GMT
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Hey-Hey!!!,The beauty of this topology is its adaptability to power stage valves.The front end should be a cascode diff amp. Two 5687's are a fine choice. They have low enough plate z to allow an Ec2 of ~70V, and gm for enough gain. Figure B+ of ~300, and plate loads of 25-30k. Special voltage ref for Ec2 to the common cathodes instead of the traditional ground. Building a voltage reference is no biggie. Just assume it is as I say for the time being....regards,Douglas

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Subject: Re: Oil
Posted by Manualblock on Thu, 03 Mar 2005 23:35:48 GMT
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I know T; I'm just foolin' with you. After the Willie Dixon quote on one of your earlier posts I thought maybe you were a blues afficianado; hence the mojo reference.

Subject: Re: More amp design considerations
Posted by Wayne Parham on Fri, 04 Mar 2005 03:55:31 GMT
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I have an idea. Wire both octal and UX4 sockets so you can plug in either tube type, 1619 or 2A3.

Subject: mmmmmm....
Posted by PakProtector on Fri, 04 Mar 2005 11:30:29 GMT
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That's a bit much even for me to suggest. You'd also make some other circuit changes I suspect. We could also do a KT88 monoblock. Full U-L or get more complex with a seperate g2 supply and higher plate voltage, CFB winding v. E-Linear with a faux pentode diff amp to tame its output z issues. More power does have its attraction. Also, it does not matter to me that there are a few designs going on at the same time. Everybody does not have to build the same amp. I can make adaptations/alowances for almost anything within reason. There is a limited amount of designs I have acutually built. If you(colectively) are willing to step out *WITH* me to tackle a variant/improvement I'd be quite happy to do that.Alright to hell with simple. We're building 813's. Filament requirements are 10V/5A per valve. We'll run ~400V for g2 and 900-1kV on the plates.Just as soon as I can get a proper OPTx designed for 20-20 @ 100W or so, and we'll be in business. I know where I want to start, but time is creeping quickly. Cathode feedback like a Quad II, with plate taps for E-Linear drivers. I am most of the way done. I don't see anything jumping out of the Long Grass at this point. It is debatalbe wether or not further design work is warranted, or if I should just make one and see if it works as intended, and modify as required.I think I need to plot some g2 curves for that valve and see what g2 voltage I want to run pentodes at for a 1kV plate supply. If only Maggies were more efficient, this mess would not be required....regards,Douglas

Subject: Re: mmmmmm....
Posted by Manualblock on Fri, 04 Mar 2005 11:48:07 GMT
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Why is time creeping quickly??? What is this deadline??

Subject: Re: mmmmmm....
Posted by PakProtector on Fri, 04 Mar 2005 11:57:39 GMT
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Time always moves faster as you get older...that and I am going to have to start working full time for somebody at some point...regards,Douglas

Subject: Re: mmmmmm....
Posted by Manualblock on Fri, 04 Mar 2005 12:43:38 GMT
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I am older than you and so will use that seniority to offer this word of wisdom. Time moves the same. So take your time because believe me; you will turn around and wonder where it went. Hurry up and die; thats what me old mum used to say when she saw someone rushing around.Sorry to hear you must become gainfully employed; this is too much fun.

Subject: Input stage
Posted by cheetah on Fri, 04 Mar 2005 19:33:46 GMT
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Douglas,Have you considered using a pentode diff amp on the input, instead of a cascode diff amp. Pleanty of gain, good drive capability, much less complexity compared to the cascode.Joe

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Subject: Re: Input stage
Posted by PakProtector on Fri, 04 Mar 2005 19:41:00 GMT
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Hey-Hey!!!,Yes I have. Built with 6AK5, 6AU6, 12BY7, 12GN7, 6AH6, 8136. Missed a few, but the slightly more complex looking cascode works better. Tread Ec2 like the pentode's g2, and you're off. the g2 being in parallel with the plate does funny thigs(I think) to the constant current out of the cathode circuit. The cascode is a series afair, and the pentode is a parallel. You still need a good g2 supply...regards,Douglas

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Subject: Re: Input stage
Posted by cheetah on Fri, 04 Mar 2005 19:46:28 GMT
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So cascoded 5687's e-linear connected to the outout stage sounds like a winner.By the way, what kind of input/driver stages are you planning to drive a brute like the 813?Joe

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Subject: Re: Input stage
Posted by PakProtector on Sat, 05 Mar 2005 01:19:44 GMT
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Hey-Hey!!!,there is no big deal with a pentode rigged 813. g1-everything else is not too bad, less than 30 pF. A 2A3 grid has more than 60 pF. Not too bad a drive proposition when you get right down to it. A 6SN7 would be enough...but for appearances sake, a proper DH transmitting valve ought to be used. There are a few cool ones, some with tantalum plates which glow a dull orange. Thoriated tungsten filaments. Must have its appearance done correctly. 866's in the PS of course. Two pairs of 'em most likely, or perhaps 866's and 816's.regards,Douglas