Subject: Resistor choices for SV811 project
Posted by colinhester on Tue, 06 Dec 2005 14:16:10 GMT
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Well, I think I have everything I need to start building, except for resistors. Come on guys, help me decide what to get. Will Kiwame brand (2W, carbon film) be acceptable for all of them. I will replace the volume control with a 100k resistor from grid to ground.Also, will 470k 2W Kiwame resistors be sufficient for bleeders on the power supply oil caps (10, 40 and 50uF.) Should there be bleeders across the 56,000uF 16V caps as well? If so, what value would suffice?Thanks, Colin
http://www.audioroundtable.com/GroupBuild/Projects/SV811_10.gif

Subject: Re: Resistor choices for SV811 project
Posted by Damir on Tue, 06 Dec 2005 18:16:57 GMT
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Hi, Colin - yes, you can use "Kiwame" CF everywhere. I personally use metal film (non-flammable) in PS, but it`s minor (and personal) point.Bleeders - 470k/2W would be fine for HV, and you don`t need to use them in filament 6,3V PS - 56000µ caps would "bleed" across permanently connected filaments, after turn off.

Subject: Re: Resistor choices for SV811 project
Posted by Norris Wilson on Tue, 06 Dec 2005 21:05:58 GMT
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Hi Colinhester,I do not have allot of personal experience in building amplifiers. But, I have been told by a few builders that have several amplifier projects under their belts over the past 25 years. Is to use Roederstein Resista MK3 .5 watt and MK8 2 watt in the amplifier circuit, and Mills WW in the power supply. Roederstein Resista's are even desired over Riken CC types.Michael Percy has the Roederstein resistors, most values in stock. But, be sure to look at latest pdf catalog where you will need to enlarge it to be able see all the fine print. Since the Roederstein Resista's are discontinued, he is replacing them with the less desirable PRP brand. He has listed the PRP by each value if his Resista stock is depleted.The .5 watt resistors are .25 each, and the 2 watt are $1.95 each.I was curious why Jack Elliano would parallel the 2 watt resistors and oil capacitors in this circuit, possibly for current and voltage tolerance?Good luck with your project and let us know how it goes.Norris Wilson

Subject: Re: Resistor choices for SV811 project
Posted by PakProtector on Tue, 06 Dec 2005 21:59:45 GMT
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Hey-hey!!!,Look at potential voltages across the resistors. Power dissipated by the resistor is V-squared over R, in watts. There is normal operating voltage, and failure or voltage excursions which increase the dissipation.The Kiwame CF is a decent resistor, and reasonable as DIY products go.The main PS capacitors should have small bleeders. The hot cathode of the front stage will do most of it, and the residual will be taken care of by your proposed values. Have you looked at the data sheet for this valve? At B+ of 500, and grid voltage of 0, this triode is going to pass 150 mA. That's 75W of anode dissipation. Also, cap coupling a Zero bias amp looks a bit questionable to me. Clearly, I have not built this SE amp, or even played with one of these valves, but by the provided schematic, and Svetlana data sheet I have questions.cheers,Douglas

Subject: Re: Resistor choices for SV811 project
Posted by 2wo on Tue, 06 Dec 2005 22:21:37 GMT
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Hi Colin,I am a fan of the Kiwame resistors.They are silicone covered and film, not solid carbon, so flammability is not a problem.For the two in the power supply you can use 5 Watters for a buck more. A 470k bleeder will draw less then 1 watt so you will have a large margin of safety. The bleeder should go after the second choke. Part of it’s purpose is to partially load the supply to improve regulation, not an issue with a SE amp.Adding more bleeders is not a good idea for a few reasons. First each one draws current and a further load to the supply. Unless you make them so large that they don’t do a very good job of draining the supply.If your trying to make it safer. Well you can’t , you still have to check with a meter before you stick your hand in there. Power supply’s are like guns that way, no matter how unload they are, they still go off if you point them at someone…John

Subject: Re: Resistor choices for SV811 project
Posted by Damir on Wed, 07 Dec 2005 12:21:40 GMT
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Thanks to point out that "Kiwame" are not flamable, I don`t have experience with them.Bleeder of 470k on 430V supply "pulls" less then 1 mA. But, it isn`t really necessary - potential divider 47k/10k (to "bias" 6EM7 heater to 75V above ground) pulls I=430/(47+10) = 7,5mA. And dissipation in upper, 47k resistor is about 2,7W - we must use a 5W resistor here, not 2W as on schematic.

Subject: Thanks
Posted by colinhester on Wed, 07 Dec 2005 16:58:28 GMT
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Forgot all about M. Percy. I've never order from them, but I have heard very nice things about his service.The amp was designed by E. Barbour and was published in Vacuum Tube Valley some years ago. I decided on this amp because of its simplicity. Last year I built Guinevere with the others and had a ton o' fun. I needed amps to go along with it, and this is what I came up with. Might not be the best design, but I'm going to learn much. I listen at pretty low volume levels and have Altec A7s, so power is not an issue.The 10uF oil caps were specified because they are old Cornell-Dubliner (sp?) filled with PCBs. Eric said their sound is unmatched by current motor run caps. Personally, I'm going with the regular motor run of same total values. I'm not sure why the resistors are the way they are.....Colin

Subject: Warning, Will Robinson
Posted by colinhester on Wed, 07 Dec 2005 17:01:23 GMT
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Damir, Thanks for taking the time to run the numbers. Good catch!!! I certainly will up the resistors rating to 5W.....Colin

Subject: Bleeders
Posted by colinhester on Wed, 07 Dec 2005 17:09:24 GMT
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So, a single 5W 470k ohm resistor parallel with the 40uF cap should suffice to both bleed the caps (10, 50 and 40uF). Correct?....Thanks again, Colin

Subject: Damir is right as usual
Posted by 2wo on Thu, 08 Dec 2005 04:06:55 GMT
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I overlooked the divider, 5 watt will work well hereNo further bleeder is needed…John