
Subject: Ohm Sweet Ohm

Posted by [Damir](#) on Wed, 06 Sep 2006 11:02:44 GMT

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Radioactivity, Antenna, Home Computer...and other nice songs for all of us DIY/Electronic people... P.S. apart from music listening, is anyone actually working on something?

<http://www.evilmusic.com/reviews/kraftwerk/311.html>

Subject: Re: Ohm Sweet Ohm

Posted by [Manualblock](#) on Wed, 06 Sep 2006 16:52:44 GMT

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I'm converting my EL 84 to tube rec at the moment. And trying to re-design the PS on my Eico amp. The can caps are no longer made in those values so I got to replace them with new values. I thought maybe to just toss the cans and build outboard cap strips. Whats the rule for the first cap in an input cap PS? If the cap is 20uf can we go to 47uf? I would model this in PSUD but many of the values are impossible to find.

Subject: Re: Ohm Sweet Ohm

Posted by [Fortytwo](#) on Thu, 07 Sep 2006 04:43:13 GMT

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Hi M, The input cap is limited by the rectifier tube. It is usually listed in the tube manual. 20uf is about right for most. A few like the 5U4 go to 40uf . You can push the spec a little, but I don't recommend it. What you can do, is increase the capacitance on the second and third stages. For an old Eico, without looking at the schematic X2 or more is not unreasonable. If you are going to build a cap bank. Buy a few extra. Lets say your can cap was 20-20-20uf , try 20-40-40uf . What I would do, is buy a handful of 10-20uf caps, decent ones are less than 2 bucks, each , less on E-bay. Start small, then add till you get the sound you like. Look to the after market ST70 setups for inspiration. If you need to stick with the can cap format AES is making new ones...John

Subject: Re: Ohm Sweet Ohm

Posted by [Manualblock](#) on Thu, 07 Sep 2006 17:54:29 GMT

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Hey John; that is excellent. The Eike uses a GZ 34/ 5ar4 rec tube and yes you are correct the

input cap is 20uf. Very simple but good rule of thumb that; easy to remmember. Aes makes I think a 40uf input followed by 20uf. Is That right?

Subject: Re: Ohm Sweet Ohm
Posted by [Forty2wo](#) on Thu, 07 Sep 2006 23:14:31 GMT
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AES has a bunch of them, a bit pricy though. Look under multi section, FP. BTW you can use the sections in any order or parallel two or more sections to suit your needs. One tube manual I have (Sylvania) says the 5AR4 max is 60uf. But 5AR4's didn't cost then what they do now. 30uf is probably OK...John

Subject: Re: Ohm Sweet Ohm
Posted by [Wayne Parham](#) on Fri, 08 Sep 2006 16:39:52 GMT
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I've got a copy of Radioactivity on Vinyl. Loved that album in the 70's.

Subject: Re: Ohm Sweet Ohm
Posted by [Manualblock](#) on Sat, 09 Sep 2006 23:53:52 GMT
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So John; you can use whatever terminals have the available value on the can? IE; if the can is valued at 40/20/20 and the PS calls for 20/20; then you could just wire in the two 20uf sections and leave the 40uf out of the circuit completely right?

Subject: Re: Ohm Sweet Ohm
Posted by [Forty2wo](#) on Sun, 10 Sep 2006 23:59:07 GMT
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Yep, or connect the 40 to one of the 20s for a 20/60...John

Subject: Re: Ohm Sweet Ohm
Posted by [Manualblock](#) on Mon, 11 Sep 2006 13:34:58 GMT
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Thats what I needed John; thanks now I can order. What are you building or listening too John if I may ask? Now with the completion of the Eico and the tube rec EL 84 I need to start thinking about an amp. 1 I believe that you use less expensive passive parts; matched carbon comp resistors and decent caps; Orange drop 716's etc. 2 A reasonable homebuilt chassis and instead spend the money on tubes and transformers. What do you think? Good connectors also. The one thing I need to study is good grounding and safety practice. I know lot of the safety wiring issues compromise sound but I want it safe. Bus ground or star ground?

Subject: Re: Steve Brown and I are working on this amp
Posted by [Bill Epstein](#) on Wed, 13 Sep 2006 10:08:25 GMT
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The last of the parts showed up yesterday. Simple 45: So far have a mock-up built to avoid drilling the wrong holes in the 1/8" thick, 12x17 aluminum top plate. And position so many components. The PT is a Hammond 373BX. The psu chokes and filament transformer are Hammond as well. The parafeed OPT's are Magnequest as are the plate chokes. Then there are Audio Note Tantalum and Kwame resistors, Obbligato oil caps and so forth. Should have the plate drilled out and over to the powder coat guy by Monday. Then I finally get to listen to Steve explain where the wires go and more importantly, why! Can't wait to listen and show off!

Subject: Re: Steve Brown and I are working on this amp
Posted by [Damir](#) on Wed, 13 Sep 2006 19:07:32 GMT
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Direct coupling has a large advantages - omitting of the coupling cap and grid choke, driver "sees" very high impedance of the output tube grid as a load, etc. Less safe and large B+ are "drawbacks"...I considered similar circuit ("classic" SE, not parafeed), 2A3 (AD1, etc.) direct-coupled with CCS-ed 6SN7 as a driver. With conventional OP (250V/-45V/60mA) input sensitivity is about 1,5Vrms...but, B+ is about 550V. Probably, sonic "plus" gained with omitting cap/grid choke combo is a large enough to accept high voltage...just a few thoughts. Anyway, keep us posted about your progress, seems like a interesting amp/circuit. Is the driver paralleled ECC81?

Subject: Re: Steve Brown and I are working on this amp

Posted by [PakProtector](#) on Wed, 13 Sep 2006 22:51:19 GMT

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Hey-Hey!!!,Nice looking project. Do watch out for Iron-Iron coupling with that many pieces. I have simplified some of my designs by putting all the power and filament in the same direction, and all the signal in the other. The para-feed makes things a bit more interesting, 'cause it is working in the same phase, yet still needs to be separate. Let us know how it works. cheers, Douglas

Subject: Re: Ohm Sweet Ohm

Posted by [Forty2wo](#) on Thu, 14 Sep 2006 03:44:45 GMT

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Finally going on the 6a5 P-P project...John

Subject: Ah there we go

Posted by [Forty2wo](#) on Thu, 14 Sep 2006 03:47:45 GMT

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Subject: Re: Ohm Sweet Ohm

Posted by [Forty2wo](#) on Thu, 14 Sep 2006 05:23:44 GMT

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Hi M, I am listening mostly to the recent D3a, 300B amps. (note to Damir I tired 6688 and E180 and the d3a is the clear winner in my application. Will try the C3~ if I come across any) Next up is a P-P amp 6a5's (in the 2A3 family). I had almost decided to go with Douglas's Galahad front end, and that is the fallback plan, if this doesn't work out. But I got to thinking, I like my Aikido line stage. So with a bit more gain... then I acquired a set of transformer phase splitters. Well we'll see. As to chassie, I love a good found object. Or if I have really settled on something, then it's time to move it into a finished form but for me this rarely happens. I have a very nice set of wood boxes (found) that the DRD45 will move into one day. In the mean time I use cakepans as a half way between naked breadboard and finish amp. They cost \$6, are very easy to cut/drill, keep the HT mostly under and if you use a little care, look somewhat respectable. When faced with \$110 of nice chassie, you have to measure to the last mm. With a found object,

lay it down and drill it, if you screw up, well it's off to Hellmart with another \$6. I find that the separating the "let's be real careful with the inlay" allows me to do a better design and layout. It's late I will get to your other questions later...John

Subject: Re: Ah there we go
Posted by [Manualblock](#) on Thu, 14 Sep 2006 14:36:30 GMT
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Wow; that is some kind of fine. A cake pan; perfect. I saw that done in an old Sound Practices mag and it's a great solution to exorbitant priced enclosures; and... comes with handles!. Is there good room inside for making changes to the circuit and such?

Subject: Re: Ohm Sweet Ohm
Posted by [Manualblock](#) on Thu, 14 Sep 2006 14:45:16 GMT
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Man; I love to see practice use of ordinary stuff as chassis and enclosure duties. That way stuff gets built instead of dreamed. And I find that people get more involved with the sound of the unit and less worried about what it looks like. I just picked up the three way pots from Broskie for the Akido LS. They are on sale for 29\$. Thanks for the cake pan reminder. How are you finding the prices of the big triodes lately? They seem to be rising.

Subject: Re: Ah there we go
Posted by [Forty2wo](#) on Mon, 18 Sep 2006 02:06:23 GMT
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This is actually a broiler pan. I needed the much heavier steel, to support the unusually large iron load, 18# for the PS trans alone. The down side is they are harder to work. I am still using a hole saw to cut the tube sockets. A 1 1/8" will go through a cakepan like cheese. With the broiler pan, I needed cutting oil and time. The upside, they are 3" deep and damn near bullet proof...John
