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Schlafapnoe: Geniales Kissen erobert die S
Sturm
Derila Ergo

Universal tube preamp PCB, ECC99/6N6P/ECC88/ECC85/6922/6DJ8 etc. MU follower or SRPP

✉ Koifarm · ⏰ 2022-07-15 12:31 pm



Koifarm
Member
Joined 2005

2022-07-15 12:31 pm



#1

After 18 years challenging myself, learning from you and sharing nice projects I will leave this forum.
Also because being bullied and get physical threads without support of the moderators for the last 18 years.
See you all on the next forum.

R.I.P by mod.

Last edited: 2023-11-20 9:08 pm

wyup, volavola, lavane and 14 others



alain98
Member
Joined 2006

2022-07-15 6:50 pm



#2

Hy Koifarm,
Do you have a PDF file of your pcb to make my own pcb?
Thanks in advance
Alain



ruffrecords
Member
Joined 2007

2022-07-15 6:50 pm



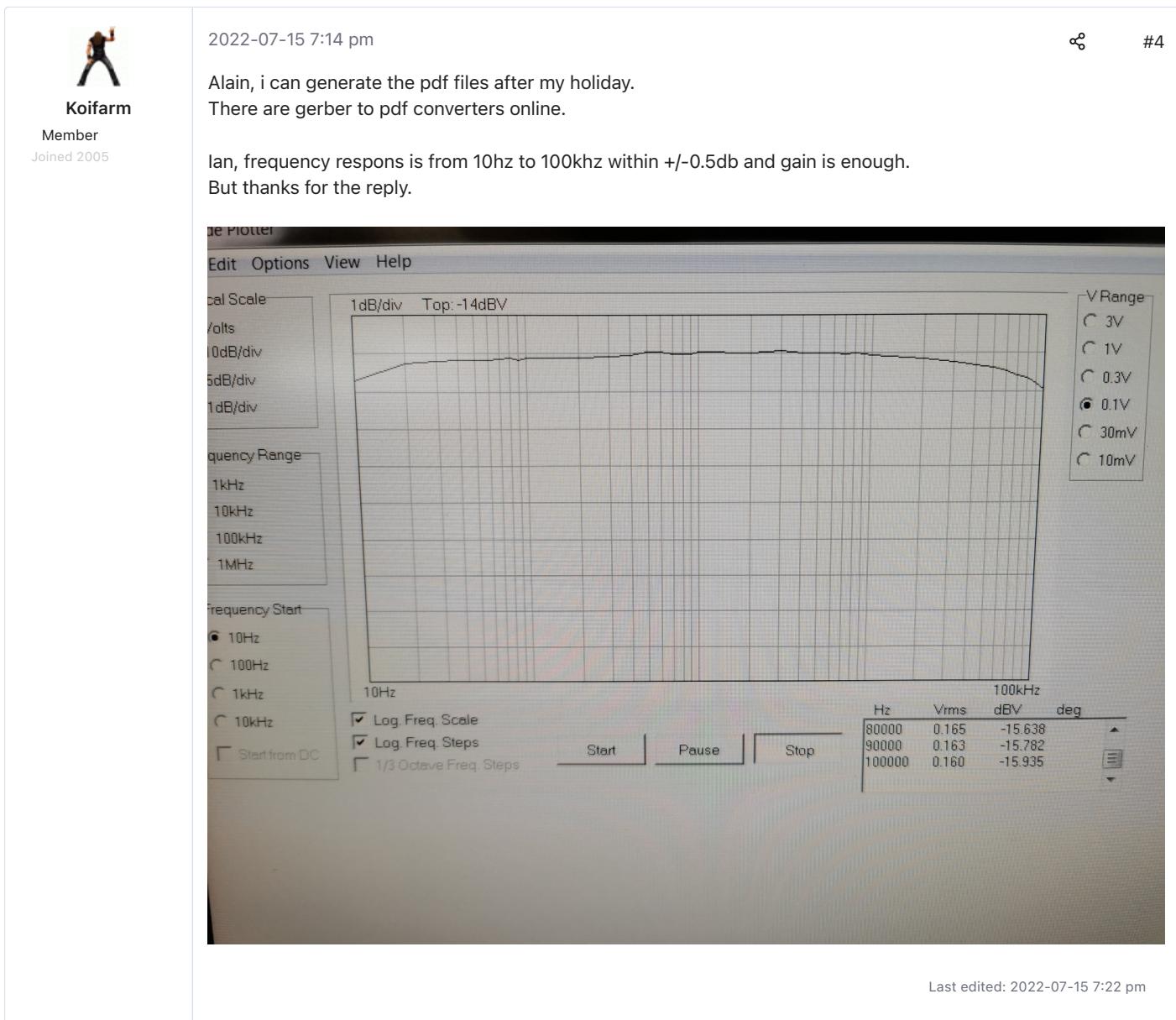
#3

I think you should include a bypass capacitor for the lower triode.

Cheers

ian

soulmerchant





rongon
Member
Joined 2009

2022-07-15 7:42 pm

Local shunt NFB! Nice. That's a cool little circuit.
Do you have a link to the power supply you mentioned?

 rongon Member Joined 2009	<p>2022-07-15 7:48 pm</p> <p>--</p> <p><u>ruffrecords said:</u></p> <p>I think you should include a bypass capacitor for the lower triode.</p> <p>Cheers</p> <p>ian</p> <p>Perhaps sub an LED for R4 and R14?</p>
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 Koifarm Member Joined 2005	<p>2022-07-15 7:48 pm</p> <p>Link for smps:</p> <p>https://nl.aliexpress.com/item/1005...216579079850164762ec166!12000029255708991!sea (URL: https://nl.aliexpress.com/item/1005004463285408.html?spm=a2g0o.productlist.0.0.428a1ea9Q97XRM&algo_pvid=e7c48614-58c9-4a8c-ae4a-e62baf7c6778&algo_exp_id=e7c48614-58c9-4a8c-ae4a-e62baf7c6778-0&pdp_ext_f=%7B%22sku_id%22%3A%2212000029255708991%22%7D&pdp_npi=2%40dis%21EUR%21%2117.13%21%21%218.69%21%21%400b0a0ae216579079850164762ec166%2112000029255708991%21sea (URL: https://www.aliexpress.com/item/1005001407107303.html?spm=a2g0o.detail.1000014.10.525f7cceWG2j7G&gps-id=pcDetailBottomMoreOtherSeller&scm=1007.40050.281175.0&scm_id=1007.40050.281175.0&scm-url=1007.40050.281175.0&pvid=7b953e52-5229-49f4-9564-a3facfdebdःaa&t=gps-id (URL: https://www.aliexpress.com/item/1005001407107303.html?spm=a2g0o.detail.1000014.10.525f7cceWG2j7G&gps-id=pcDetailBottomMoreOtherSeller&scm=1007.40050.281175.0&scm_id=1007.40050.281175.0&scm-url=1007.40050.281175.0&pvid=7b953e52-5229-49f4-9564-a3facfdebdःaa,tpp_buckets:668#2846#8115#2000&pdp_ext_f={"sku_id":"12000015963231639","scenId":"30050"}&pdp_npi=2@dis!EUR!!45.69!!!!@211b5db316551372258983283ee191!12000015963231639!rec (URL: https://www.aliexpress.com/item/32997695785.html?spm=a2g0o.productlist.0.0.1cad7ea2fTpgxl&algo_pvid=4a3e6604-8832-4a24-a7f6-8790a3a5400e&algo_exp_id=4a3e6604-8832-4a24-a7f6-8790a3a5400e-32&pdp_ext_f={"sku_id":"66980528735"}&pdp_npi=2@dis!EUR!!29.79!!!!@0b0a01f816551358878617330eb7a3!66980528735!sea (URL: https://www.aliexpress.com/item/32997695785.html?spm=a2g0o.productlist.0.0.1cad7ea2fTpgxl&algo_pvid=4a3e6604-8832-4a24-a7f6-8790a3a5400e&algo_exp_id=4a3e6604-8832-4a24-a7f6-8790a3a5400e-32&pdp_ext_f=%7B%22sku_id%22%3A%2266980528735%22%7D&pdp_npi=2%40dis%21EUR%21%2129.79%21%21%21%21%400b0a01f816551358878617330eb7a3%2166980528735%21sea) (URL: https://www.aliexpress.com/item/100...b16551378287617573ee8f6!12000018192145879!sea (URL: https://www.aliexpress.com/item/1005001948760459.html?spm=a2g0o.productlist.0.0.2f0c9bc2AHl0Cy&algo_pvid=c6ff1f300-ca7e-41bd-848e-6921cb8993d2&algo_exp_id=c6ff1f300-ca7e-41bd-848e-6921cb8993d2-0&pdp_ext_f=%7B%22sku_id%22%3A%2212000018192145879%22%7D&pdp_npi=2%40dis%21EUR%21%2129.41%21%21%21%21%400b0a182b16551378287617573ee8f6%2112000018192145879%21sea) (URL: https://www.aliexpress.com/item/1005001948760459.html?spm=a2g0o.productlist.0.0.2f0c9bc2AHl0Cy&algo_pvid=c6ff1f300-ca7e-41bd-848e-6921cb8993d2&algo_exp_id=c6ff1f300-ca7e-41bd-848e-6921cb8993d2-0&pdp_ext_f=%7B%22sku_id%22%3A%2212000018192145879%22%7D&pdp_npi=2%40dis%21EUR%21%2129.41%21%21%21%21%400b0a182b16551378287617573ee8f6%2112000018192145879%21sea</p>
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Last edited: 2022-07-15 8:01 pm

 <p>Koifarm Member Joined 2005</p>	<p>2022-07-15 7:50 pm</p> <p>--</p> <p><u>rongon said:</u></p> <p>Perhaps sub an LED for R4 and R14?</p> <p>As you see freq.respond is very linear and distortion is 0.0043% Noise floor is also -118db.</p>
 <p>ruffrecords Member Joined 2007</p>	<p>2022-07-15 9:24 pm</p> <p><u>Koifarm said:</u></p> <p>Ian, frequency respond is from 10hz to 100khz within +/-0.5db and gain is enough.</p> <p>But open loop gain will be improved with bypassed cathode so distortion will be lower but a LED will probably do the trick since the PCB already exists.</p> <p>Cheers</p> <p>Ian</p>

 ruffrecords Member Joined 2007	<p>2022-07-15 9:27 pm</p> <p>---</p> <p>Koifarm said:</p> <p>Noise floor is also -118db.</p> <p>This is an amazingly good noise floor. . Can you show the actual measurement and the conditions under which they were made please?</p> <p>Cheers</p> <p>ian</p>
 Koifarm Member Joined 2005	<p>2022-07-15 9:37 pm</p> <p>---</p> <p>Ian, when i am back from holiday i shall make some measurements with different output impedance and topology. I use Arta and Rew software with Behringer UMC202.</p> <p>With SMPS there is no 50/100hz interference, this helps.</p>

 2022-07-15 11:41 pm 🔗 #12

ruffrecords
Member
Joined 2007

Koifarm said:
ian, when i am back from holiday i shall make some measurements with different output impedance and topology.
I use Arta and Rew software with Behringer UMC202.

One thing to be aware of with software like ARTA and REW is that their FFT displays usually show the noise per root Hertz. To get the rms noise (which is what you hear) you have to integrate over the 20KHz bandwidth. Assuming the noise is pretty flat then this just means adding about 43dB (20 log (root(20K))) to the per root Hz noise floor. Edit: REW will show you the A or C weighted rms noise.

Koifarm said:
With SMPS there is no 50/100hz interference, this helps.

I agree, I use them all the time now for heaters. I recommend MeanWell,
Cheers
ian
rongon

 ruffrecords Member Joined 2007	2022-07-16 12:12 am I wish someone would come up with an HT only SMPSU. The aliexpress ones all have 6.3V outputs and you have to use them because that is the one that is regulated and the HT is just rectified and smoothed. Cheers Ian	#13
 alain98 Member Joined 2006	2022-07-16 2:27 pm Koifarm, I used the software Gerbview to convert gerbers to pdf with success. Thanks. Koifarm	#14
 Koifarm Member Joined 2005	2022-07-16 5:09 pm Making your own PCB is nice. But for €7.50 you get 5 PCB incl. tax and shippingcost. Jpnitrof and TR00	#15
 dBel84 Member Joined 2006	2022-07-17 6:14 am Hi. thank you for sharing your work. I have always liked the sound of an SRPP topology and this seems like a very simple project to try out. I used your gerbers to place an order for PCBs . I have never seen these compact SMPS units before either, I have used 6.3V smps for heater supplies but never for the B+. I will let you know how I get along..dB Koifarm	#16
 Koifarm Member Joined 2005	2022-07-17 11:12 am I can recomend these smps. No problems with EMI or hiss.	#17
 jean-paul Member Joined 2002	2022-07-17 11:19 am Measured with RF capable equipment? All too often I read this but then my stuff does register other reality.	#18



Koifarm

Member

Joined 2005

2022-07-17 12:10 pm



#19

No measurement, just my experience with the phonostage who is nearby in wooden housing.



2022-07-17 12:12 pm



#20

jean-paul

Member

Joined 2002

As expected, sorry. It is often assumed one can not hear RF so it is not an issue. EMI and RF are nasty in audio though and in semiconductor stuff sometimes the cause of "listening fatigue" and this intermittent or depending on the time of the day/temp etc. Even when devices look nice and have blue LEDs 😊 Not measuring = not knowing.

BTW I do like your design so no negative criticism except a few quibbles like lacking volume control and PSU. Nice design.

Last edited: 2022-07-17 12:22 pm



BoydK

Member

Joined 2010

2022-07-17 12:29 pm



#21

Thanks for this one, koifarm..... Nice job.
Have a great vacation 👍👍

Koifarm

	2022-07-17 1:13 pm	 #22
Koifarm Member Joined 2005	<p>--</p>	

jean-paul said:

As expected, sorry. It is often assumed one can not hear RF so it is not an issue. EMI and RF are nasty in audio though and in semiconductor stuff sometimes the cause of "listening fatigue" and this intermittent or depending on the time of the day/temp etc. Even when devices look nice and have blue LEDs 😊 Not measuring = not knowing.

BTW I do like your design so no negative criticism except a few quibbles like lacking volume control and PSU. Nice design.

There are too much options for volume control and power supply.

For the tube preamp are a lot of applications where you do not need a volumecontrol. Such as outputstage for DAC or CD player, or inputbuffer for classd amp.

About the power supply i started a thread in the power supply section

<https://www.diyaudio.com/community/...s-design-for-tube-preamp.388367#post-7073834> ([URL](https://www.diyaudio.com/community/threads/who-can-help-me-with-highvoltage-smps-design-for-tube-preamp.388367/#post-7073834): <https://www.diyaudio.com/community/threads/who-can-help-me-with-highvoltage-smps-design-for-tube-preamp.388367/#post-7073834>) to make a high voltage preamp smps. I think about linear supplies there is a lot to find here on DIYaudio. I myself also used in the past the maida regulator or a LR8n regulator with or without fet.

In this thread i like to talk only about the preamp.

	2022-07-19 9:50 am	 #23
ruffrecords Member Joined 2007	<p>I just realised there has been no discussion about heater elevation and looking at the schematic the heaters are floating unless you connect one side to HT0V somewhere. With many of the tubes you could use in this circuit, their V_{hk} spec is may be low for the upper triode if the heaters are grounded with a 265V HT voltage. The normal solution is to elevate the heaters to around 25% of the HT voltage.</p> <p>Cheers</p> <p>Ian</p> <p>soulmerchant</p>	

jean-paul Member Joined 2002	<p>2022-07-19 10:30 am  #24</p> <p>With the typical SMPS for tube devices the 6.3V shares GND with the B+.</p>
Koifarm Member Joined 2005	<p>2022-07-19 10:51 am  #25</p> <p>I am aware about the specs for elevating the heater supply. But as Jean Paul stated my SMPS share GND between anode and heater supply. Luckily it is forgiven by the 6n6p tube.</p>
ruffrecords Member Joined 2007	<p>2022-07-19 1:21 pm  #26</p> <p>Koifarm said:</p> <p>I am aware about the specs for elevating the heater supply. But as Jean Paul stated my SMPS share GND between anode and heater supply. Luckily it is forgiven by the 6n6p tube.</p> <p>Yes, some tubes will be OK others may not. You need to be careful with a regular 6DJ8 for example because the two triodes have different V_{hk} specs, but if you use an EH6922 instead you should be OK. Just something to be aware of.</p> <p>Cheers</p> <p>Ian</p> <p>Koifarm</p>

D	2022-07-19 2:41 pm	#27
dreamth Account Closed Joined 2010	--	
Koifarm said: I am aware about the specs for elevating the heater supply. But as Jean Paul stated my SMPS share GND between anode and heater supply. Luckily it is forgiven by the 6n6p tube.		
	Reproduce luxman cl34 heater supply and heater wiring It's totally silent and it has a small secret that will help you every single time you meet weird constraints! By the way...you can go opposite way too, lowering the filament potential below ground!	
C	2022-07-28 1:36 am	#28
Carl_Huff R.I.P. Joined 2004	Koifarm, Nice to see you doing this. What changes are required to run a pair of ECC88 tubes on this project board?	
Koifarm Member Joined 2005	2022-07-28 10:23 am For R4, R7(R14, R17) use 200ohm and for R5 (R15) use 6k8 3Watt. Set heater jumper on 6n6p. Anode current is then about 10mA.	#29
Koifarm Member Joined 2005	2022-07-28 1:38 pm Or just use original parts. And set heater jumper on 6n6p. The difference in distortion will be small.	#30
V vlad1980 Member Joined 2010	2022-07-28 1:56 pm Hi, Congrats for this project and thank you for sharing with us the PCB gerber and measuring results. Did you test with ECC82 or 6CG7? The anode voltage should be around 300v as far as I know. Regards, Vlad	#31

Koifarm Member Joined 2005	2022-07-28 2:15 pm No i did not try ECC82 or 6CG7, but they fit on the pcb. Use heater setting ECC99 for ECC82 and heater setting 6n6p for 6CG7. Apply 350 to 400v anode voltage.	#32
Vunce Member Joined 2014	2022-07-29 4:57 am Super cool project Koifarm, thanks for sharing the files! I'd like to give this a try as a dac output stage.	#33
Vunce Member Joined 2014	2022-07-29 5:52 am Koifarm, In reading the SMPS operation description, the HV section has a turn-on delay of approx. 30 seconds behind the filament heater turn-on. And the HV has an adjustment range of 10% (approx. 247V - 273V). Will cattle be powered from it? Can you confirm if this is accurate? Thanks.	#34
Koifarm Member Joined 2005	2022-07-29 10:52 am Mine SMPS has not the 30sec delay. It starts high voltage after heater supply is on. I use the 6n6p SRPP stage now for 14 years as an outputstage. It is in a cd player, straight from a I/V resistor after two PCM1794 DAC's.	#35 Last edited: 2022-07-29 10:57 am
Vunce Member Joined 2014	2022-07-29 9:05 pm Ok, maybe the SMPS was updated or the description is lost in translation, Hehe.	#36
Koifarm Member Joined 2005	2022-07-29 9:36 pm There are more users who report that there is no 30sec startup delay.	#37 Last edited: 2022-07-29 9:45 pm
Vunce Member Joined 2014	2022-07-29 9:48 pm I ordered one of these little SMPS's. I've used DC/DC converters for filament heaters with previous projects. But haven't used a switcher for the HV requirements yet.	#38

Koifarm Member Joined 2005	<p>2022-07-29 9:50 pm</p> <p>Works great. No humm. No hiss.</p> <p>Vunce</p>	 #39
 dBel84 Member Joined 2006	<p>2022-07-30 2:05 am</p> <p>A package arrived in the mail today</p> <p><i>(URL: https://www.diyaudio.com/community/attachments/20220729_190252-jpg.1076210/)</i></p> <p>Looking forward to building this up and testing it. Plan is to build as SRPP for 6DJ8s</p> <p>.. dB</p> <p>Koifarm</p>	 #40

<p>5</p> <p>57786 Disabled Account Joined 2021</p>	<p>2022-07-30 3:31 am</p> <p>--</p> <p>dreamth said:</p> <p>Reproduce luxman cl34 heater supply and heater wiring It's totally silent and it has a small secret that will help you every single time you meet weird constraints! By the way...you can go opposite way too, lowering the filament potential below ground!</p> <p>https://elektrotanya.com/luxman_cl34_sch.pdf/download.html (URL: https://elektrotanya.com/luxman_cl34_sch.pdf/download.html)</p> <p>That is a nice heater supply. Interesting line schematic too, SE to LTP, PP to second gain stage, no need for CK and provides SE output.</p> <p>You could take it one step further, +/- supply from separate transformer:</p> <p>https://www.diyaudio.com/community/...a-thoroughly-modern-tube-phono-preamp.163570/ (URL: https://www.diyaudio.com/community/threads/his-masters-noise-a-thoroughly-modern-tube-phono-preamp.163570/)</p>
<p>D</p> <p>dreamth Account Closed Joined 2010</p>	<p>2022-07-30 7:14 am</p> <p>dreamth</p> <p>HMN is single supply for anode-cathode potential. Only the heaters are +-.</p> <p>Having built a measurably more performant mm phono preamp based on d3a than hmN or luxman and a clone to cl34 I dare to say that luxman performance is simply put stellar. You can get similar performance to cl34 , but you cannot make a better preamp based on tubes in the audio range. Luxman knew their stuff. And ecc83/ef86 tube types give the optimum SNR/transconductance ratio. You can get better measurable SNR with ecc83, d3a or other high GM tubes, but for 32...100 times more anode current and more complication on the supply part while ef86, ecc83 work under 1mA doing just about the right job. ecc83 also has better VKF specs than usual higher transconductance tubes. You can lift the filament potential or go under the ground up or down -50v with no negative consequence. If you can't hear their noise it doesn't matter what noise you measure.</p> <p>Unfortunately the price for good ecc83 has gone through the roof as D3A price did as well so people can't make a difference today...</p>

5

2022-07-31 2:31 am



#43

57786Disabled Account
Joined 2021

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dreamth said:

HMN is single supply for anode-cathode potential. Only the heaters are +-.

Yes and I think that's okay - the potential difference is effective to reduce heater cathode coupling regardless of absolute polarity.

As I see it, the clever part is use of +/- supply to increase common mode rejection and the separate heater transformer is an added bonus.

5

2022-07-31 6:56 am



#44

57786Disabled Account
Joined 2021

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dreamth said:

Unfortunately the price for good ECC83 has gone through the roof as D3A price did as well so people can't make a difference today...

Hi, which type did you find to be the good ECC83, and was this only with the CL34, or elsewhere as well?
Also, if I can ask about the EF86, same same. Thank you.

- sorry if off topic but seems helpful/good value.

Last edited: 2022-07-31 7:12 am

D dreamth Account Closed Joined 2010	2022-07-31 10:34 am Any ecc83 will do...	#45
Koifarm Member Joined 2005	2022-08-07 9:04 pm	#46
	<p>ruffrecords said:</p> <p>This is an amazingly good noise floor. . Can you show the actual measurement and the conditions under which they were made please?</p> <p>Cheers</p> <p>ian</p>	
	With the input shorted from de mu-follower and 2k load at the output was the noisefloor -81db. So sorry for my previous -116db. And 0.025% THD + N With 1khz test signal at 2.83V out.	
ruffrecords Member Joined 2007	2022-08-07 10:44 pm Thanks for the update. That looks more like the kind of figure I would expect. By the way, what level corresponds to 0dB? Would that be 2V rms?	#47
	Cheers	
	ian	
Koifarm Member Joined 2005	2022-08-07 11:14 pm 0db refers to 0.775 Vrms.	#48

	2022-08-08 12:27 am	 #49
ruffrecords Member Joined 2007	--	

Koifarm said:
Odb refers to 0.775 Vrms.

OK, in which case in future it would be better to quote it as 0dBu.
Cheers
Ian

	2022-08-08 12:30 am	 #50
jean-paul Member Joined 2002	More correctly as -18dBFS. I am sure I had you googling 😊	

 ruffrecords Member Joined 2007	<p>2022-08-08 10:14 am</p> <p>--</p> <p>jean-paul said:</p> <p>More correctly as -18dBFS.</p> <p>I am sure I had you googling 😊</p> <p>Not really. dBFS is not an absolute measure. What it means in absolute terms depends on the interface used to convert the analogue input to digital. But I am sure you knew that.</p> <p>Cheers</p> <p>Ian</p>
Vunce Member Joined 2014	<p>2022-08-09 1:04 am</p> <p>✉ #52</p> <p>I received the SMPS and powered it up, unloaded. There is a jumper that selects between 200V/260V and also a trimpot for fine adjustment. With the jumper set for 260V, the trimpot adjustment range was 250V-290V. But, the filament voltage also varied, 7.5V when HV was 290V. Take these numbers with a grain of salt, when a load is connected I anticipate slightly different voltages. The attached video shows the filament voltage coming up first followed by a several second delay before the HV slowly ramps up to its set voltage point. Well, apparently I don't know how to post a video on this forum</p> <p>Koifarm and dBel84</p>
Koifarm Member Joined 2005	<p>2022-08-09 8:43 am</p> <p>✉ #53</p> <p>The heater supply is unregulated and follows the HV supply as you have seen. At 260/265V the heatersupply gives about 6.3V.</p>

<p>Vunce Member Joined 2014</p>	<p>2022-08-10 5:06 am #54</p> <p>Almost ready to power up, just waiting on the relay. The board is set up in SRPP mode with 6N6P to try out as the output stage of an AD1862 DAC.</p> <p>Thank you dBel84 for the board and Koifarm for sharing this project!</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"><p>Attachments</p><p>(URL: /community/attachments/4b56d435-cb1a-4fb2-8a50-3884e851d007-jpeg.1079836/)</p><p>4B56D435-CB1A-4FB2-8A50-3884E851D007.jpeg</p><p>623.9 KB · Views: 512</p></div> <p>Koifarm and dBel84</p>
<p>Koifarm Member Joined 2005</p>	<p>2022-08-10 10:18 am #55</p> <p>Hello Vunce, looking good.</p> <p>But one remark, it is better to put the tubesockets on the bottomside of the PCB. Otherwise the pinlayout is wrong.</p>
<p>gary s Member Joined 2002</p>	<p>2022-08-10 12:32 pm #56</p> <p>Hi Vunce, hope you have a good desoldering iron - as shown in your photo, you have pin 1 of the tube socket soldered to pin 9 land on the board - yes you need to have the tube socket on the back of the pcb. This enables the pcb to be slung under the lid with the tubes protruding above the cover, which is better for cooling and also allows for easy tube rolling. Otherwise, your build is first class.</p>
<p>Vunce Member Joined 2014</p>	<p>2022-08-10 1:25 pm #57</p> <p>Yeah, realized that after they were installed. Before soldering, I checked pin9 to ground and thought all was good, but labeling for pin1/pin9 is mirrored from backside of pcb 😞.</p> <p>Time to break out the Hakko FR301....</p>

	2022-08-10 2:07 pm	 #58
Vunce Member Joined 2014	My err's have been corrected, thanks fella's. ps, The FR-301 is the greatest desoldering tool, any avid solder slinger should have it in their toolbox.	
	Attachments <u>(URL: /community/attachments/63c6fb29-7082-4c21-8124-96d4d764102b-jpeg.1079905/)</u> 63C6FB29-7082-4C21-8124-96D4D764102B.jpeg 611.8 KB · Views: 470 <u>(URL: /community/attachments/0357084e-43ff-47d0-b080-48a31764d637-jpeg.1079906/)</u> 0357084E-43FF-47D0-B080-48A31764D637.jpeg 494.1 KB · Views: 476	
	psmith001 and _henry_	
Koifarm Member Joined 2005	2022-08-10 5:59 pm	 #59
	Still looking good and i must confess, i did it also wrong the first time. 😊	
gary s Member Joined 2002	2022-08-10 11:17 pm	 #60
	Well Vunce, that Hakko did a great job - very nice and tidy and clean as well.	
gary s Member Joined 2002	2022-08-11 2:52 am	 #61
	A couple of questions Vunce. Did you select PRP metal film and Takman Carbon film resistors for certain positions for your build? Also, is the tube socket pins mounting diameter about 21mm for the lands on the pcb?	
Koifarm Member Joined 2005	2022-08-13 1:46 pm	 #62
	I have three PCB's to share for just the shippingcost. If interrested send me a PM.	
	Attachments <u>(URL: /community/attachments/img_20220813_134414-jpg.1080564/)</u> IMG_20220813_134414.jpg 549.6 KB · Views: 357	
weissi Member Joined 2002	2022-08-13 9:45 pm	 #63
	Hi Koifarm, I'd be happy to get them from you => PM.	

Koifarm Member Joined 2005	<p>2022-08-13 10:05 pm</p> <p>now, the PCB's are all spoken for.</p> <p>weissi</p>	 #64
Vunce Member Joined 2014	<p>2022-08-14 11:18 pm</p> <p>Koifarm,</p> <p>Your pcb design is sounding very good as my AD1862 dac output stage configured for SRPP with 6n6p tubes and a linear psu.</p> <p>I had high hopes for the imported little SMPS but it didn't work out. I was getting an audible low frequency warbly tone plus higher frequency noise heard from the tweeters. I swapped out the SMPS and replaced with a regulated linear HV/LV supply and voilà!! Dead silent background and sounds very good to my ears .</p> <p>Thanks again Koifarm!</p> <div data-bbox="317 651 1491 988" style="border: 1px solid black; padding: 10px;"> <p>Attachments</p> <p>(URL: /community/attachments/51d8f933-dc53-474a-85be-63cc7d822960-jpeg.1081007/) 51D8F933-DC53-474A-85BE-63CC7D822960.jpeg 550.3 KB · Views: 540</p> <p>(URL: /community/attachments/6c820378-c95f-4be8-912c-d673d7205734-jpeg.1081008/) 6C820378-C95F-4BE8-912C-D673D7205734.jpeg 620.6 KB · Views: 545</p> </div> <p>psmith001, Koifarm and dBel84</p>	 #65
gary s Member Joined 2002	<p>2022-08-14 11:30 pm</p> <p>Good news Vunce, what linear HV/LV supply did you use?</p> <p>Also is the diameter for the tube socket pins on the PCB around 21mm, thanks.</p>	 #66
Vunce Member Joined 2014	<p>2022-08-15 12:36 am</p> <p>Good news indeed Gary 😊 .</p> <p>I've got a few answers for ya...</p> <p>Your correct, 21mm socket pin diameter. The resistors were all in my stash, no PRP's in 120R but had Takman carbon films in that value.</p> <p>The PSU board HV section is based on a Maida circuit with a few nice options and the LV section uses schottky diodes and LDO MIC29502 to enable 6.3vdc from a 6.3vac trafo winding.</p> <p>This supply works nice, I purchased the pcb several years ago from a guy in the States that has since disappeared.</p>	 #67
gary s Member Joined 2002	<p>2022-08-15 12:42 am</p> <p>OK, thanks for the reply Vunce, have ordered the pcb from JLCPCB and I have about 5 different 6N6P versions to try.</p> <p>I will also do a reg linear supply - have some circuits including one for the MIC29502 for the filaments.</p> <p>Good to hear you are impressed.</p>	 #68

Vunce Member Joined 2014	2022-08-15 12:52 am Solid plan Gary, looking forward to seeing your progress also. Are you planning to use this circuit as a preamp or some other use?	#69
gary s Member Joined 2002	2022-08-15 2:26 am Yeh, as a simple preamp Vunce, looking to see how it performs driving some Pass class A amps. Selectable gain is also a plus. Vunce	#70
B bloqhed Member Joined 2020	2022-08-15 2:30 am --	#71
	<p>Vunce said:</p> <p>Good news indeed Gary 😊. I've got a few answers for ya... Your correct, 21mm socket pin diameter. The resistors were all in my stash, no PRP's in 120R but had Takman carbon films in that value. The PSU board HV section is based on a Maida circuit with a few nice options and the LV section uses schottky diodes and LDO MIC29502 to enable 6.3vdc from a 6.3vac trafo winding. This supply works nice, I purchased the pcb several years ago from a guy in the States that has since disappeared.</p>	
gary s Member Joined 2002	Was the board from hvforless on ebay? I picked up some of his MIC29502 LV filament boards, but never managed to snag his maida + LV boards before he disappeared. I did however manage to find the schematic and might whip some up.	
gary s Member Joined 2002	2022-08-15 2:35 am That is good news, I would be interested. Can you post the schematic?	#72

<p>Vunce Member Joined 2014</p>	<p>2022-08-15 2:36 am</p> <p>YES bloqed!! I'd be interested in a few if you do 😊</p>	#73
<p>B bloqed Member Joined 2020</p>	<p>2022-08-15 2:46 am</p> <p>Great! I actually have the schematic all drawn up in KiCad a few weeks ago, I have the original BOM, dimensions, pictures of the board and the track layout, so it shouldn't be too hard. I'll get back at it tomorrow and report back with progress.</p> <p>Vunce</p>	#74
<p>gary s Member Joined 2002</p>	<p>2022-08-15 2:56 am</p> <p>Good news - thanks. Not sure where you are located, but being in Australia, it would be good if you could supply the gerbers, as int postage is still very hit and miss.</p> <p>Vunce</p>	#75
<p>B bloqed Member Joined 2020</p>	<p>2022-08-15 3:12 am</p> <p>Absolutely! Once I have something presentable tomorrow I'll get a new thread going and let you know. I figure there will be maybe some back and forth, modifications, tweaks, etc, but I plan to keep gerbers and everything available to everyone.</p> <p>Carl_Huff</p>	#76
<p>gary s Member Joined 2002</p>	<p>2022-08-15 3:46 am</p> <p>Thanks bloqed, even better news. No rush though.</p>	#77
<p>Koifarm Member Joined 2005</p>	<p>2022-08-15 12:14 pm</p> <p>Vunce good to hear your happy with the tubestage. Can/will you please share witch SMPS was not good.</p>	#78
<p>Vunce Member Joined 2014</p>	<p>2022-08-15 1:38 pm</p> <p>I believe its very similar, if not the same, as the SMPS you were working with.</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Attachments</p> <p>(URL: /community/attachments/865ad9f0-042f-49cb-9917-fc4043fba963-jpeg.1081170/)</p> <p>865AD9F0-042F-49CB-9917-FC4043FBA963.jpeg</p> <p>625 KB · Views: 232</p> <p>(URL: /community/attachments/4bb1ae3d-4de2-423c-bf00-52f7bd9b4fb9-jpeg.1081171/)</p> <p>4BB1AE3D-4DE2-423C-BF00-52F7BD9B4FB9.jpeg</p> <p>686.1 KB · Views: 237</p> </div>	#79

P

2022-08-16 6:05 pm



#80

psmith001

Member

Joined 2012

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bloqed said:

Absolutely! Once I have something presentable tomorrow I'll get a new thread going and let you know. I figure there will be maybe some back and forth, modifications, tweaks, etc, but I plan to keep gerbers and everything available to everyone.

I did a version of this that I'm happy to share the KiCad project with you if it would be of any help to you. The PCB design is done, but I never had it made to test to ensure everything will work. I guess I was holding back to try and see if I could fit everything into the magical 100mm x 100mm. 😊

B

2022-08-16 6:16 pm



#81

bloqed

Member

Joined 2020

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psmith001 said:

I did a version of this that I'm happy to share the KiCad project with you if it would be of any help to you. The PCB design is done, but I never had it made to test to ensure everything will work. I guess I was holding back to try and see if I could fit everything into the magical 100mm x 100mm. 😊

Sure, that wouldn't hurt. Currently I have the schematic drawn up, footprints assigned, I'm moving a bit slower than I had hoped but now I just need to lay it out. Hopefully today or tomorrow, then I can get a separate thread started so as to not hijack this one from Koifarm's great project.

P psmith001 Member Joined 2012	2022-08-16 6:52 pm	#82
	--	
	bloqed said: Sure, that wouldn't hurt. Currently I have the schematic drawn up, footprints assigned, I'm moving a bit slower than I had hoped but now I just need to lay it out. Hopefully today or tomorrow, then I can get a separate thread started so as to not hijack this one from Koifarm's great project.	
	Shared 😊	
B bloqed Member Joined 2020	2022-08-16 6:52 pm	#83
	I've just started a thread for the PSU board that we've discussed. Let's move discussions about that over there and let this thread continue on in regards to the preamp discussions. https://www.diyaudio.com/community/threads/the-ultimate-tube-preamp-power-supply.389308/ (URL: https://www.diyaudio.com/community/threads/the-ultimate-tube-preamp-power-supply.389308/)	
K kp93300 Member Joined 2007	2022-08-17 8:13 am	#84
	Is the 4 pole dip switch or minidip switch ? I have a hard time finding mini dip switch. My pcbs also on the way	
gary s Member Joined 2002	2022-08-17 8:20 am	#85
	Just like one of these: https://au.mouser.com/ProductDetail/Wurth-Elektronik/418117270904?qs=wr8lucFkNMUW2I6n2hVTKw%3D%3D (URL: https://au.mouser.com/ProductDetail/Wurth-Elektronik/418117270904?qs=wr8lucFkNMUW2I6n2hVTKw%3D%3D) Koifarm	
C Cambe Member Joined 2001	2022-08-17 2:01 pm	#86
	Looking good Vunce! Looking forward to further listening impressions from you about the preamp. Are you using a antek transformer in your linear power supply if so, what model?	

Vunce Member Joined 2014	2022-08-17 2:23 pm	✉ #87
	Thanks Cambe, I'm really enjoying this combo! The Trafo is an Antek AS-05T240 in the steel case made for it. https://www.antekinc.com/as-05t240-50va-240v-transformer/ (URL: https://www.antekinc.com/as-05t240-50va-240v-transformer/)	
	Voltage is a little light after the regulator, 240vdc. I probably have the next size up trafo (AS-05T280) hiding in my stash of donuts to try out.	
S sunil Member Joined 2003	2022-08-17 2:27 pm	✉ #88
	Hi Koifarm, any chance you'll do a group buy or have boards to sell ?	
Koifarm Member Joined 2005	2022-08-17 6:44 pm	✉ #89
	Look at post 1, with the gerber files you can order your own PCB for a view euro's/dollars.	
	I use JLCpcb. Just upload the files, choice color and you get a quote for 5 PCB's.	
S sunil Member Joined 2003	2022-08-17 7:05 pm	✉ #90
	Thank you.	

	2022-08-17 9:39 pm	 #91
grunf Member Joined 2006	--	
	Vunce said: Koifarm, Your pcb design is sounding very good as my AD1862 dac output stage configured for SRPP with 6n6p tubes and a linear psu. I had high hopes for the imported little SMPS but it didn't work out. I was getting an audible low frequency warbly tone plus higher frequency noise heard from the tweeters. I swapped out the SMPS and replaced with a regulated linear HV/LV supply and voilà!! Dead silent background and sounds very good to my ears . Thanks again Koifarm!	
	Try ECC88 (6N23P, PCC88) instead of 6N6P. 6N6P is a good tube, but more for buffer or line stage , but for DAC, especially after the passive I/V stage, you need a finer tube with higher amplification. With passive I/V, you should go with the smallest possible resistor, because increasing the value of that resistor increases distortions. You can install 100R trimmers and find the sweet spot and then replace them with resistors. I think the AD1862 could work with the 50R as well.	Vunce
K kp93300 Member Joined 2007	2022-08-18 4:22 am	 #92
	Hello Is this relay suitable alternative ? <u>https://my.element14.com/axicom-te-connectivity/im03dts/power-relay-dpdt-5vdc-5a-tht/dp/3702839</u> (URL: https://my.element14.com/axicom-te-connectivity/im03dts/power-relay-dpdt-5vdc-5a-tht/dp/3702839) Thanks for help	
gary s Member Joined 2002	2022-08-18 4:38 am	 #93
	I don't think so, the pins look to not be the correct spacing - see the data sheet for the original circuit. I have chosen an Omron G6SK-2-H-DC5 as I could not find the original relay specified in post #1.	

	2022-08-18 4:50 am	 #94
Vunce Member Joined 2014	--	
	kp93300 said: Hello Is this relay suitable alternative ? <u>https://my.element14.com/axicom-te-connectivity/im03dts/power-relay-dpdt-5vdc-5a-tht/dp/3702839</u> (URL: https://my.element14.com/axicom-te-connectivity/im03dts/power-relay-dpdt-5vdc-5a-tht/dp/3702839) Thanks for help	
	This is the relay I used: <u>https://my.element14.com/kemet/ec2-5nu/relay-signal-dpdt-250vac-220vdc/dp/2360823</u> (URL: https://my.element14.com/kemet/ec2-5nu/relay-signal-dpdt-250vac-220vdc/dp/2360823)	
gary s Member Joined 2002	2022-08-18 5:16 am	 #95
	And this is the one I have ordered: <u>https://au.mouser.com/ProductDetail/653-G6SK-2-H-DC5</u> (URL: https://au.mouser.com/ProductDetail/653-G6SK-2-H-DC5)	
K kp93300 Member Joined 2007	2022-08-18 6:17 am	 #96
	Hi Gary, Thanks for your reply. No stock of Omron in Element 14 malaysia . Please look at the datasheet for TE range. Is the model RT424005 suitable alternative? Otherwise, any serious problem if I bypass the relay? Tube are not too expensive anyway Regards kp93300	

gary s Member Joined 2002	<p>2022-08-18 6:36 am  #97</p> <p>No it isn't, still wrong pin dimensions. You need a relay with pin out dimensions as shown in the original relay or in the ones linked by myself and Vunce.</p> <p>The relay mutes the output for a time delay while the tubes warm up - tubes won't be damaged, more of a problem for the following power amp and speakers, or turn on the linestage first, wait 30 seconds or so and then turn on the power amp - reverse order when turning off the system.</p>
K kp93300 Member Joined 2007	<p>2022-08-18 7:04 am  #98</p> <p>Gary</p> <p>Thanks for response. I will order the Kemet and wait for the back order of about 1 month from element14</p>
gary s Member Joined 2002	<p>2022-08-18 8:21 am  #99</p> <p>Wise move.</p>
Koifarm Member Joined 2005	<p>2022-08-20 11:58 am  #100</p> <p>--</p> <p>Vunce said:</p> <p>I believe its very similar, if not the same, as the SMPS you were working with.</p> <p>Same board setup different parts.</p>

<p>P</p> <p>psmith001 Member Joined 2012</p>	<p>2022-08-26 5:41 am</p> <p>#101</p> <p>@Koifarm (URL: https://www.diyaudio.com/community/members/36252/) a big thanks from my side as well for sharing your design and PCB gerber files. I was able to stuff the board with parts I had in my stash this weekend and it work on first power up! I also used a linear power supply since I had that. A couple of questions:</p> <ul style="list-style-type: none"> 1. The only power transformer I had laying around was 120V AC. I used the board in SRPP config with 6N6P tubes and it worked just fine with the lower DC voltage. Does the higher DC voltage provide better output / optimal voltage for the tubes? I'm just curious to better understand the benefit of the higher voltage. 2. I used a TDA1541A DAC with Lundahl LL1636 input transformers for I/V conversion and fed that straight into the tube output stage. I used a 50K load resistor on the secondary side of the input transformers. Not sure if this is the correct way to do it, but it sounded pretty good to me 😊 Any advice on this would also be appreciated. <p>Thanks!</p> <p>Vunce</p>
<p>Koifarm Member Joined 2005</p>	<p>2022-08-26 7:24 am</p> <p>#102</p> <p>Good to hear, that your build works oke.</p> <p>With about 160v DC the workingpoint is a little different. But when having a small input voltage from i/v and higher output impedance like 10 or 100k. It can work really good. You can try 200ohm for the cathode resistors.</p> <p>It is normal to load input transformers but i can not advise what the best load is. If possible measure freq. response.</p>
<p>gary s Member Joined 2002</p>	<p>2022-08-29 1:17 am</p> <p>#103</p> <p>Hello Koifarm,</p> <p>Thanks for the gerber files, I have my pcb's here now. Can you tell me what is the power supply current draw for the 265V supply when using 6N6P tubes, thanks.</p>
<p>R</p> <p>rotaspec Member Joined 2007</p>	<p>2022-08-29 6:15 am</p> <p>#104</p> <p>Hello Koifarm,</p> <p>Thanks for the Gerber files also, just got my boards. It would be a good future upgrade to do a little shifting of components, and have room for the older-style DIP relay. It should be simple enough to overlay the larger footprint on the smaller one you have used, but I haven't compared pinouts.</p> <p>That would alleviate the problems some are having in sourcing the smaller relay.</p> <p>Gary W</p>
<p>Koifarm Member Joined 2005</p>	<p>2022-08-29 7:07 am</p> <p>#105</p> <p>Thanks for the input. I shall upgrade the footprint.</p>

	2022-08-29 5:58 pm	 #106
Koifarm Member Joined 2005	--	
	garry s said: Hello Koifarm, Thanks for the gerber files, I have my pcb's here now. Can you tell me what is the power supply current draw for the 265V supply when using 6N6P tubes, thanks.	
	Current draw is about 30mA for the two tubes. And 1.7A current for the heater supply.	
Koifarm Member Joined 2005	2022-08-29 8:28 pm	 #107
	Updated schematic and gerber files in post 1. Add R26,R27 470k output ground reference resistor for safety. Add pads and room for normal or mini relay.	
	Ronny	
gary s Member Joined 2002	2022-08-30 1:24 am	 #108
	Thanks for the current draw details.	
P pserci Member Joined 2004	2022-09-01 4:38 pm	 #109
	Thanks to all, I've purchased PCB from JLPBCB, and many thanks for the gerber files. Exceptional universal preamplifier, the only issue that I've have to solve is the temporized muting. In my execution I've to change BC337 with BC338 and change the base resistor from 1k to 560 ohm to trigger the relay. For me voltage across the relay coil only reaches 2.6 volt and cause the relay not to engage...	

Koifarm Member Joined 2005	<p>2022-09-01 4:55 pm #110</p> <p>You can also use BC547 or lower R21. Keep R22 on 1k.</p> <p>Do you use same relay as in schematic?because other relais can have reverse polarity on coil. Then it wont work.</p> <p>pserci</p>
P pserci Member Joined 2004	<p>2022-09-01 5:19 pm #111</p> <p>The same relay, coil not diode protected...i was afraid that BC547 doesn't have sufficient Ic. I think could be an insufficient Hfe of the BC337 that i've used.</p>
P pserci Member Joined 2004	<p>2022-09-01 5:20 pm #112</p> <p>Koifarm said:</p> <p>You can also use BC547 or lower R21. Keep R22 on 1k.</p> <p>But changing R21 could change time constant and so the time to trigger the relay?</p>
Koifarm Member Joined 2005	<p>2022-09-01 5:41 pm #113</p> <p>yes but when R21 is too high and all current is drawn by the transistor basis then capacitor will not be loaded.just seek optimum for R21 and a delay of 15 to 20 seconds. But start with low enough value to switch.</p> <p>Or use npn transistor with higher hfe.</p>
jean-paul Member Joined 2002	<p>2022-09-01 7:26 pm #114</p> <p>pserci, you should do <i>tube</i> rolling, not random part rolling. Add the diode over the coil as it is necessary to protect the transistor.</p> <p>Last edited: 2022-09-01 7:32 pm</p>

P

2022-09-01 8:09 pm



#115

pserci

Member

Joined 2004

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jean-paul said:

pserci, you should do *tube* rolling, not random part rolling. Add the diode over the coil as it is necessary to protect the transistor.

Hi Jean Paul, i do not have done "part rolling". The solution was, in fact, the use of a transistor with higher Hfe. The protection diode is on its place 😊 i'm referring to some relay that have the diode built in and coil have the right verse. The lower value of R21 was a tentative to increase Ib for the transistor. Anyway, thanks to Koifarm for the precious work that have shared to us

Koifarm

H

2022-09-11 4:00 pm



#116

henry

Member

Joined 2002

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gary s said:

And this is the one I have ordered:

<https://au.mouser.com/ProductDetail/653-G6SK-2-H-DC5> (URL: <https://au.mouser.com/ProductDetail/653-G6SK-2-H-DC5>)

hi gary, i think that one has different polarity to the takamisawa

<p>gary s Member Joined 2002</p>	<p>2022-09-11 11:02 pm Yeh, I got that wrong, different pin spacings as well. Bought the one Vunce has used. Vunce</p>
<p>_henry_ Member Joined 2002</p>	<p>2022-09-12 1:48 am gary s said: Yeh, I got that wrong, different pin spacings as well. Bought the one Vunce has used. the KEMET also has the wrong polarity....</p>
<p>Vunce Member Joined 2014</p>	<p>2022-09-12 2:04 am If it was the wrong polarity, wouldn't it not function? https://www.mouser.com/datasheet/2/212/1/KEM_R7002_EC2_EE2-1104574.pdf (URL: https://www.mouser.com/datasheet/2/212/1/KEM_R7002_EC2_EE2-1104574.pdf). https://www.mouser.com/datasheet/2/164/na-914632.pdf (URL: https://www.mouser.com/datasheet/2/164/na-914632.pdf). Last edited: 2022-09-12 2:12 am</p>

H 2022-09-12 2:16 am #120

henry Member Joined 2002

Vunce said:

If it was the wrong polarity, wouldn't it not function?

https://www.mouser.com/datasheet/2/212/1/KEM_R7002_EC2_EE2-1104574.pdf (URL:
https://www.mouser.com/datasheet/2/212/1/KEM_R7002_EC2_EE2-1104574.pdf)

<https://www.mouser.com/datasheet/2/164/na-914632.pdf> (URL:
<https://www.mouser.com/datasheet/2/164/na-914632.pdf>)

i was a bit confused as well, but thats what koifarm told me, however i have just realised that the NA datasheet use 1 drawing fro non latching and single latching, so it could be ok with the EC2. [@Koifarm](#) (URL:
<https://www.diyaudio.com/community/members/36252/>)

2022-09-12 2:19 am #121

gary s Member Joined 2002

Yes. pin 12 is coil DC positive.

<p>H <u>_henry_</u> Member Joined 2002</p>	<p>2022-09-12 2:21 am</p> <p>--</p> <p>gary s said: Yes. pin 12 is coil DC positive.</p> <p>on the NA-5? the EC2 is negative of pin 12?</p> <p>the NA-5 is a non latching, i thought the first polarity is the right one, which indicate pin 12 is negative</p>
<p>Vunce Member Joined 2014</p>	<p>2022-09-12 2:23 am</p> <p>The Kemet relay has been functional since first powered up weeks ago 😊</p> <p><u>_henry_</u></p>
<p>H <u>_henry_</u> Member Joined 2002</p>	<p>2022-09-12 2:27 am</p> <p>good to know</p> <p>--</p> <p>Vunce said: The Kemet relay has been functional since first powered up weeks ago 😊</p>

gary s Member Joined 2002	2022-09-12 2:39 am Vunce, did you use the Kemet EC2-5NU non latching mini relay? Have not powered mine up yet.	#125
Vunce Member Joined 2014	2022-09-12 2:59 am Correct Gary, Non-Latching. This is the exact unit: https://mou.sr/3L7AWTZ (URL: https://mou.sr/3L7AWTZ)	#126
gary s Member Joined 2002	2022-09-12 3:26 am Thanks Vunce, exactly what I have as well. I think the relay will work either polarity as long as it does not have an internal diode fitted. The data sheet for the relay shows pin 1 positive - so as you have proved it will work either way it seems. Vunce	#127
Koifarm Member Joined 2005	2022-09-12 8:08 am Pin 1 is plus coil.	#128
henry Member Joined 2002	2022-09-12 8:21 am --- Koifarm said: Pin 1 is plus coil. View attachment 1089987 (URL: https://www.diyaudio.com/community/attachments/1089987/) yeah that confirms the Kemet EC2-5NU is the correct part for it. thanks @Koifarm (URL: https://www.diyaudio.com/community/members/36252/)	#129

<p>waltube Member Joined 2005</p>	<p>2022-09-12 12:18 pm #130</p> <p>A project Junior line; multi configurable fro different tubes The THD vs level has a 0 dB = 2 volts There is also the possibility to insert the pcb of tone control. Two mwthod of bias: fixed and autobias, configurable I prefer this configuration due the more detailed sound (my opinion and some other people)</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"><p>Attachments</p><p>(URL: /community/attachments/line_thd_level_6h30-jpg.1090032/) Line_Thd_level_6H30.jpg 161.1 KB · Views: 698</p><p>(URL: /community/attachments/linea_6n6-jpg.1090031/) Linea_6N6.JPG 583.3 KB · Views: 713</p><p>(URL: /community/attachments/linea_6n6_schema-jpg.1090030/) Linea_6N6_Schema.jpg 158.2 KB · Views: 741</p></div> <p>Koifarm</p>
<p>K kp93300 Member Joined 2007</p>	<p>2022-09-15 2:36 pm #131</p> <p>Can I confirm that other than 3 W R5 and R15, all other resistors are 0.5W?</p>
<p>Koifarm Member Joined 2005</p>	<p>2022-09-15 3:02 pm #132</p> <p>--</p> <p>kp93300 said:</p> <p>Can I confirm that other than 3 W R5 and R15, all other resistors are 0.5W?</p> <p>Yes.</p>

<p>K kp93300 Member Joined 2007</p>	<p>2022-09-16 10:12 am</p> <p>Thank you Koifarm What is the voltage rating for 100nf at C1 and C11? 63V should be enough? Is the value of 100nf critical? What is the function of this capacitor ? I notice the 400 V 10Uf output capacitor. Can i substitute for 4.7Uf , 250 V rating?</p>	#133 <small>Last edited: 2022-09-16 10:27 am</small>
<p>Koifarm Member Joined 2005</p>	<p>2022-09-16 11:49 am</p> <p>Voltage rating C1/C11 should be minimal voltage drop(80/90V)over R5 but at warmup this voltage could be easy 150/200V. To be save use minimum voltage of anode supply(265v). The upperstage is a active load. It is just a cathode follower. C1 and R6 are a high pass filter the crossover point should be below 20Hz.</p> <p>The voltage of the output capacitor is the same story as C1. The value can depend on the input impedance off the following stage. It is also a highpass filter. You can calculate crossoverpoint by freq(hz) =$1/(2*3.14*R(\text{ohm})*C(F))$. 10uf is good for low impedance like 2k 2.2uf is good for impedance like 10k and you can use 0.22uf for 100k input impedance. One thing if you choose capacity to low there is no bass. So do not go cheap.</p>	#134
<p>D Don Jerry Member Joined 2005</p>	<p>2022-10-10 2:30 pm</p> <p>Koifarm, is your universal tube preamp good to be used as a buffer with a low impedance (1k8) Hypex UCD400oem? Did you use a different tube buffer on your UCD400oem? Thanks for support and for sharing with us your project 😊</p>	#135
<p>Koifarm Member Joined 2005</p>	<p>2022-10-10 5:34 pm</p> <p>Driving 1k8 is no problem for the buffer. In the past used a ecc99 srpp to drive ucd400oem. Now i would use the 6n6p mu follower config.</p> <p><u>_henry_</u></p>	#136
<p>D Don Jerry Member Joined 2005</p>	<p>2022-10-12 2:17 pm</p> <p>Ok, very thanks for your answer. May you share the gerber files of your tube preamplifier "Hypex oem version", with the 36pin headers, with schematic? Or maybe you have already published them in another Hypex dedicated topic, even if I don't think so. Thanks again 😊</p>	#137

2022-10-12 5:42 pm #138

Koifarm
Member
Joined 2005

Sorry,
this was more then a decade ago.

<https://www.diyaudio.com/community/threads/hybrid-hypex-ucd.115388/page-4> (URL:
<https://www.diyaudio.com/community/threads/hybrid-hypex-ucd.115388/page-4>)

No gerbers, only SE version.
It is not so difficult to make a adapter board for the pcb in this thread.
Or look here:

<https://www.diyaudio.com/community/...urifi-1et400a-amps.379211/page-3#post-7046086> (URL:
<https://www.diyaudio.com/community/threads/universal-pcb-for-purifi-1et400a-amps.379211/page-3#post-7046086>)

Don Jerry

2022-10-13 4:04 am #139

H
henry
Member
Joined 2002

Koifarm said:
Driving 1k8 is no problem for the buffer.
In the past used a ecc99 srpp to drive ucd400oem.
Now i would use the 6n6p mu follower config.

[Click to expand... \(URL: \)](#)

may i ask what is the linear PSU for this?

<p>H</p> <p>_henry_ Member Joined 2002</p>	<p>2022-10-13 4:22 am</p> <p>--</p> <p>_henry_ said:</p> <p>may i ask what is the linear PSU for this?</p> <p>nevermind, i have just realised this is UCD180 not the preamp 😊</p>	#140
<p>Koifarm Member Joined 2005</p>	<p>2022-10-23 6:55 pm</p> <p>See post 1</p>	#141
<p>P</p> <p>pserci Member Joined 2004</p>	<p>2022-10-24 12:54 pm</p> <p>Oh my god...what's happen with the security? I don't see any strange behaviour on my construction...perhaps SMPS is not isolated? Tell us more... Thank you</p>	#142
<p>Vunce Member Joined 2014</p>	<p>2022-10-24 3:03 pm</p> <p>Hi Koifarm, What happened to post #1?? What issues did you run into? Thanks</p>	#143
<p>Koifarm Member Joined 2005</p>	<p>2022-10-24 10:01 pm</p> <p>I leave this forum. It is no fun for me here anymore.</p>	#144

	2022-10-24 10:09 pm	 #145
Brijac Member Joined 2019	--	
	Koifarm said: I leave this forum. It is no fun for me here anymore.	
	What happened? People use your designs with great success, and prefer them.	
	weissi	
	2022-10-24 10:31 pm	 #146
gerrittube Member Joined 2018	I hope you will rethink your decision. Whatever security issue you might have would be a serious task for the forum's moderators. I hope they will contact you if you haven't contacted them already. All the best, I appreciated your contributions very much and hope to see you back. Regards, Gerrit	
	2022-10-24 10:47 pm	 #147
Koifarm Member Joined 2005	I am a hobbyist who like to share his projects to stimulate users to try to build it themselves. But a lot of projects end in endless discussions and non constructive remarks. These cost me to much energy and are no fun. In the 90's I was active on hififever.com and tweakers.nl, 00's on zelfbouwaudio.nl and roerenundhoeren.de, 10's on diyaudio.com and it is time to move further. All these forums changed over time to places were users were afraid the post because of other users who have as hobby to only make comments but have no building/project contribution. ulibub, soulmerchant, Dieter Geissel and 4 others	

2022-10-24 11:14 pm #148

Brijac
Member
Joined 2019

Koifarm said:

I am a hobbyist who like to share his projects to stimulate users to try to build it themselves. But a lot of projects end in endless discussions and non constructive remarks. These cost me to much energy and are no fun. In the 90's I was active on hififever.com and tweakers.nl, 00's on zelfbouwaudio.nl and roerenundhoeren.de, 10's on diyaudio.com and it is time to move further. All these forums changed over time to places were users were afraid the post because of other users who have as hobby to only make comments but have no building/project contribution.

If you focus on people that are negative by just being so, i can see you loosing interest. And everywhere you go there are people like that, just out of boredom or spite. But you are not doing these projects for them, it's for the people that actually want to make them, and love to use them.

I for one follow your projects, i find them interesting and have ordered and received pcb's to make in the short future (especially purifi tube buffer), and wanted to pitch you an idea for that as well.

weissi and gerrittube

2022-10-24 11:35 pm #149

Vunce
Member
Joined 2014

I'm saddened by this news Koifarm and hope you will reconsider your decision. I appreciate your contributions to this forum and enjoy reading about your projects. Yes, there are few members that like to "push one's buttons", but for the most part this forum is friendly and very helpful.
Thank you for sharing your universal tube preamp!

Best,
Vunce

gerrittube

<p>P</p> <p>pserci Member Joined 2004</p>	<p>2022-10-25 9:18 am</p> <p>---</p> <p>Koifarm said:</p> <p>I am a hobbyist who like to share his projects to stimulate users to try to build it themselves. But a lot of projects end in endless discussions and non constructive remarks. These cost me to much energy and are no fun. In the 90's I was active on hififever.com and tweakers.nl, 00's on zelfbouwaudio.nl and roerenundhoeren.de, 10's on diyaudio.com and it is time to move further. All these forums changed over time to places were users were afraid the post because of other users who have as hobby to only make comments but have no building/project contribution.</p> <p>People like you are precious, i understand your point of view but may i kindly ask you to rethink situation? Anyway, thanks to you the same.</p> <p>gerrittube</p>
<p>zoom777 Member Joined 2022</p>	<p>2022-10-25 9:36 am</p> <p>---</p> <p>In open forums like this one, negative and toxic elements are always around and co-exist with positive ones. Isn't this the world we are living in? Koifarm can take this forum out of him, but he cannot take the world out of him. And fortunately i have saved his gerber files and schematic posted earlier....😊</p> <p>All the best Koifarm, whatever your final decision may be. Thank you for sharing your designs.</p> <p>gerrittube</p>
<p>Koifarm Member Joined 2005</p>	<p>2022-10-25 12:49 pm</p> <p>---</p> <p>I will take a timeout to evaluate my projects and publish them again if there are no issues.</p> <p>soulmerchant, weissi, asanden and 4 others</p>
<p>K kp93300 Member Joined 2007</p>	<p>2022-10-27 4:07 am</p> <p>---</p> <p>My pcb is nearing completion soon. I did not notice that this board is any more dangerous than the Baby Huey EL 34 pcb that I built a few years ago.</p> <p>Perhaps Koifarm can share more details as to his decision.</p> <p>I am grateful to Koifarm for sharing his work here and his many other projects such as the MA 2070 board that I am also interested.</p> <p>I thought Koifarm is very innovative and give us solutions for problems faced by many ordinary diyer</p> <p>Thanks to Koifarm once more</p>

2022-11-07 1:50 pm #154

volavola
Member
Joined 2005

--

pserci said:

Oh my god...what's happen with the security? I don't see any strange behaviour on my construction...perhaps SMPS is not isolated?
Tell us more...
Thank you

Excuse pserci but what do you mean with
1) "what's happen with the security?"
2) "I don't see any strange behaviour on my construction"
3) "perhaps SMPS is not isolated?"
and what do you think is the wiring diagram and the image of the pcb in post 1?
Without a technical survey and a possible solution, I didn't really understand the meaning of your post and its necessity.
Best regard
Stefano

Last edited: 2022-11-07 1:56 pm

2022-11-07 3:33 pm #155

waltube
Member
Joined 2005

I always suggest to build only th eproject with the test lab published.
This is a warranty that the circuit it is not only on simulation or quickly built but also certified so each one would to build it know which is the results.
This not mean that the sonic results will be perfect as we think but that it is running fine.
Too many simulations here without any real buildings!!
I have presented dozen of project on Audioreview magazine in Italy and some also here always with the minimum of verification on lab in addition with schematic
I understand perfectly Koifarm

Walter

soulmerchant

P 2022-11-07 8:14 pm #156

pserci Member Joined 2004

volavola said:

Excuse pserci but what do you mean with
1) "what's happen with the security?"
2) "I don't see any strange behaviour on my construction"
3) "perhaps SMPS is not isolated?"
and what do you think is the wiring diagram and the image of the pcb in post 1?
Without a technical survey and a possible solution, I didn't really understand the meaning of your post and its necessity.
Best regard

Hi Stefano, i've assembled the project with fully success (you can see my previous post about relay), I've used the SMPS PSU mentioned by Koifarm, and **supposed** that the only issue could be the input/output isolation caused by this chinese SMPS.
Circuit is actually working very well.

Thats it...

<p>P pserci Member Joined 2004</p>	<p>2022-11-07 8:16 pm</p> <p>--</p> <p>waltube said:</p> <p>I always suggest to build only the project with the test lab published. This is a warranty that the circuit is not only on simulation or quickly built but also certified so each one would know which is the results. This not mean that the sonic results will be perfect as we think but that it is running fine.</p> <p><small>Too many simulations have without any real building until</small></p> <p>Click to expand... (URL:)</p>	#157
<p>volavola Member Joined 2005</p>	<p>2022-11-08 1:50 pm</p> <p>Then the project in post 1 it's fine. No problem also with the smps. Thank you pserci</p>	#158
<p>platon.rado Member Joined 2008</p>	<p>2022-11-16 3:03 pm</p> <p>I can use a 100k potentiometer??</p>	#159
<p>Koifarm Member Joined 2005</p>	<p>2022-11-16 5:59 pm</p> <p>At the input, output or for feedback?</p>	#160

platon.rado Member Joined 2008	2022-11-16 7:53 pm Input	🔗 #161
Koifarm Member Joined 2005	2022-11-16 8:05 pm Sure.	🔗 #162
F Freecrowder Member Joined 2007	2022-11-16 8:13 pm So are the gerbers available for this? I haven't come across them when looking??	🔗 #163
Koifarm Member Joined 2005	2022-11-19 11:44 am Gerber updated in post 1	🔗 #164
F Freecrowder Member Joined 2007	2022-11-19 5:49 pm Thanks Koifarm. Look forward to building.	🔗 #165
volavola Member Joined 2005	2022-11-19 10:02 pm Thank you very much for share your works, Koifarm.	🔗 #166

<p>K kp93300 Member Joined 2007</p>	<p>2023-01-08 10:53 am  #167</p> <p>Finally completed the project. Nice sound. No hum. Quiet and great soundstage . By the way, how to remove the solder resin effectively? Thanks to Koifarm</p> <p>Attachments</p> <p>(URL: /community/attachments/pxl_20230107_224929000-2-jpg.1127667/) PXL_20230107_224929000~2.jpg 759.5 KB · Views: 450</p> <p>(URL: /community/attachments/pxl_20230107_224742847-jpg.1127668/) PXL_20230107_224742847.jpg 534 KB · Views: 442</p> <p>(URL: /community/attachments/pxl_20230107_235549486-jpg.1127669/) PXL_20230107_235549486.jpg 366.9 KB · Views: 432</p>
	<p>dBel84</p> <p>2023-01-08 11:15 am  #168</p> <p>zoom777 Member Joined 2022</p> <p>--</p> <p>kp93300 said:</p> <p>Finally completed the project. Nice sound. No hum. Quiet and great soundstage . By the way, how to remove the solder resin effectively? Thanks to Koifarm</p> <p>IPA is easily available and very effective. I clean all my pcb work with it.</p> <p>SCD and Bas Horneman</p>

Koifarm Member Joined 2005	2023-01-08 3:15 pm kp93300  I also use IPA. What tube do you use?		#169
---	---	--	------

K 2023-01-09 2:15 am #170

kp93300
Member
Joined 2007

Koifarm said:

kp93300 
I also use IPA.

What tube do you use?

I use 6922

2023-01-09 1:46 pm #171

Bas Horneman
Ex-Moderator
Joined 2002

First I try to remove the most of the dried resin with a hard plastic stick.

Then IPA and a toothbrush

Then IPA with **cotton swab**.

Then IPA almost a rinse with a light paintbrush...to remove the remaining residue.

Quite time consuming. But I enjoy the process. I just can't stand dirty pcb's

Attachments

([URL: /community/attachments/mobile-phone-repair-toolkit-by-maxbhi-com-3-pry-tool-maxbhi-jpg.1128172/](#))

mobile-phone-repair-toolkit-by-maxbhi-com-3-pry-tool-maxbhi.jpg

60.9 KB · Views: 109

weissi

2023-01-09 5:17 pm



#172

Koifarm

Member

Joined 2005

--

kp93300 said:

I use 6922

Did you use resistor values as in post 29? Or did you use other values?

B

2023-01-09 7:20 pm



#173

bloqhed

Member

Joined 2020

--

Bas Horneman said:

First I try to remove the most of the dried resin with a hard plastic stick.

Then IPA and a toothbrush

Then IPA with cotton swab.

Then IPA almost a rinse with a light paintbrush...to remove the remaining residue.

Quite time consuming. But I enjoy the process. I just can't stand dirty pcb's

Use a toothbrush and acetone to remove the flux resin. After that dries you can clean up the residue left behind from acetone with IPA for a nice shiny board.

<p>K</p> <p>kp93300 Member Joined 2007</p>	<p>2023-01-10 1:59 am</p> <p>---</p> <p>Koifarm said:</p> <p>Did you use resistor values as in post 29? Or did you use other values?</p> <p>I follow the values in the schematic of the first post, MU follower. are the different values audible ? I will check my parts bin for values proposed in post 29</p>	#174
<p>Koifarm Member Joined 2005</p>	<p>2023-01-11 10:34 pm</p> <p>I think it is not audible. Distortion could be lower.</p> <p>hotdarkmatter</p>	#175
<p>D</p> <p>Duke58 Member Joined 2009</p>	<p>2023-01-11 10:48 pm</p> <p>This will be one of my projects for 2023. I have looked at other preamp DIY projects, this one doesn't require reading one thousand posts and sorting through them to find the relevant information.</p> <p>Also, my son is an independent musician, a DIY'er with his music. He went a couple of years of taking down all his digital music because people would post snide remarks, even suggesting he kill himself.</p> <p>Of course he continues with his music, ignoring the "critics." I am truly glad to see you sharing your designs, and suggest to anyone who wants to provide negative criticism that they also share and post their own work and designs, being ready for opinions.</p> <p>I personally don't care about opinions, only what sounds good. It's only about music and reproduction of music. Constructive criticism is always welcome. The glass is half empty. I cannot read music, play any instrument of any kind. But life without music is not life, and I appreciate the skills of those who work to make and reproduce music.</p> <p>OldHector</p>	#176
<p>platon.rado Member Joined 2008</p>	<p>2023-01-16 9:08 am</p> <p>Hi</p> <p>The relay does not work. The diode lights up slowly, but the relay does not turn on. Voltage on the emitter BC337 2V</p>	#177

Koifarm Member Joined 2005	<p>2023-01-16 5:45 pm #178</p> <p>If you do not use the takamisawa na5w-k relais, you need more current for the relais. Change the bc337 for bc547c. And are you shure your relais has the same pin for + supply on coil?</p>
platon.rado Member Joined 2008	<p>2023-01-16 6:41 pm #179</p> <p>I will try tomorrow..thanks</p> <div style="border: 1px solid black; padding: 10px;"><p>Attachments</p><p>(URL: /community/attachments/img_20230116_181639-jpg.1130808/)</p><p>IMG_20230116_181639.jpg</p><p>197.9 KB · Views: 299</p><p>(URL: /community/attachments/img_20230116_181541-jpg.1130809/)</p><p>IMG_20230116_181541.jpg</p><p>93.1 KB · Views: 297</p></div>
Koifarm Member Joined 2005	<p>2023-01-17 5:14 pm #180</p> <p>The matsushita relais is not a drop in replacement,it has another contact config.But it should work for this application. It just need some more driving current. So the BC547C should work.</p>
platon.rado Member Joined 2008	<p>2023-01-19 2:21 pm #181</p> <p>With BC547C not work . BC 183C it works. But I ordered a relay.</p> <div style="border: 1px solid black; padding: 10px;"><p>Attachments</p><p>(URL: /community/attachments/rele-jpg.1132002/)</p><p>rele.jpg</p><p>172.1 KB · Views: 164</p></div>
Koifarm Member Joined 2005	<p>2023-01-19 5:28 pm #182</p> <p>Because that the time delay circuit quit simple is. Has every change of value and components influence on the time or function. By adjusting R/C value you can change start-up delay and with another transistor(gain) you can drive relais with a higher coil current. Try to get about 20 seconds delay, in thar time the tubes are hot enough and output voltage is stable.</p>

2023-01-19 8:10 pm #183

platon.rado
Member
Joined 2008

The sound is fantastic. SMPS is bad. I can hear the vibration. I'll try linear. Vunce had a similar problem. Thanks for the great preamp.

Attachments

([URL: /community/attachments/img_20230119_181332-jpg.1132195/](#))
IMG_20230119_181332.jpg
77.8 KB · Views: 312

([URL: /community/attachments/img_20230119_181316-jpg.1132196/](#))
IMG_20230119_181316.jpg
73.2 KB · Views: 304

Vunce

2023-01-19 11:11 pm #184

Koifarm
Member
Joined 2005

There must be differences between SMPS some work perfect and others are bad. But it is no problem to use linear supply.

2023-01-20 12:14 am #185

Vunce
Member
Joined 2014

... --

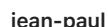
platon.rado said:

The sound is fantastic. SMPS is bad. I can hear the vibration. I'll try linear. Vunce had a similar problem. Thanks for the great preamp.

Yes, this particular SMPS should be avoided at all cost. When I replaced it with a linear supply, Koifarm's preamp sings beautifully!

<p>platon.rado Member Joined 2008</p>	<p>2023-01-20 2:11 pm #186</p> <p>The SMPS was just for the test. I will do it by Andrea Ciuffoli and ARC SP10 clone.</p> <div style="border: 1px solid black; padding: 10px;"><p>Attachments</p><p>(URL: /community/attachments/anoda-jpg.1132493/)</p><p>anoda.jpg 83.3 KB · Views: 378</p><p>(URL: /community/attachments/zhavenie-jpg.1132494/)</p><p>žhavenie .jpg 40.8 KB · Views: 372</p></div>
<p>platon.rado Member Joined 2008</p>	<p>2023-02-09 12:12 pm #187</p> <p>Srpp or muFollower. Whats the better ??</p>
<p>Koifarm Member Joined 2005</p>	<p>2023-02-09 5:11 pm #188</p> <p>With a difference of just a view resistors build and listen to both and tell us which you like most.</p> <p>Mu-follower has much better psrr then SRPP. Mu-follower can drive lower impedance with same distortion then SRPP.</p> <p>And there is a difference in harmonics signature. Therefore you must listen which you like best or maybe you dont hear any difference.</p> <p>Add simple LCLC filter in DC output to smps and you dont hear any artifacts.</p> <p>Last edited: 2023-02-09 5:24 pm</p>
<p>platon.rado Member Joined 2008</p>	<p>2023-02-10 2:26 pm #189</p> <p>Yours plays better than this</p> <p>https://www.musicdirect.com/equipment/amplification/preamp/icon-audio-la5-tx-tube-preamp/ (URL: https://www.musicdirect.com/equipment/amplification/preamp/icon-audio-la5-tx-tube-preamp/)</p>
<p>Koifarm Member Joined 2005</p>	<p>2023-02-10 5:59 pm #190</p> <p>As you can hear yourself it is not the money you spend, but the sound you like.</p> <p>Vunce</p>
<p>platon.rado Member Joined 2008</p>	<p>2023-02-11 2:08 pm #191</p> <p>👍</p>

<p>T tborzic Member Joined 2012</p>	<p>2023-02-12 11:37 pm Hi, Has anybody (in EU) a PCB extra? Just need one, of course, and I checked on (some) sites, 5 is minimum. Thanks and sorry for interuption, but this sounds like really nice circuit, an I have allready good experience with author (mini me). T.</p>		#192
<p>V viltsone Member Joined 2022</p>	<p>2023-02-15 8:35 am -- dBel84 said: A package arrived in the mail today View attachment 1076210 (<i>URL: https://www.diyaudio.com/community/attachments/1076210/</i>) Looking forward to building this up and testing it. Plan is to build as SRPP for 6DJ8s .. dB</p>		#193
<p>Koifarm Member Joined 2005</p>	<p>2023-02-15 11:55 am I did not used the ecc88 but as good starting/working point i would set Ia on 9mA. R4, R7, R14, R17 = 220 and R5, R15 = 10k/3Watt. B+ = 290V for the mu-follower topology. And as SRPP R4, R7, R14, R17 also 220 with B+ = 220V, Ia = 10mA. Last edited: 2023-02-15 12:01 pm</p>		#194

 Carl_Huff <small>R.I.P. Joined 2004</small>	<p>2023-02-16 4:48 pm  #195</p> <p>Hello Koifarm,</p> <p>You said, "Ad simple LCLC filter in DC output to smps and you dont hear any artifacts."</p> <p>Could you please provide me with the details of that LCLC filter? And a BOM if you have it handy.</p> <p>I certainly would appreciate it.</p>
 Koifarm <small>Member Joined 2005</small>	<p>2023-02-16 7:48 pm  #196</p> <p>Something like this:</p> <p>Try first the HV part. And use Mu-follower topology not SRPP</p> <p></p>
 geofdk <small>Member Joined 2023</small>	<p>2023-03-31 6:21 am  #197</p> <p>(Partially genuine Google translate, from France 😊)</p> <p>Hello everyone, hello Koifarm (fantastic project). I land late on this thread, and I'm a bit of a noob. I'm thinking of assembling this preamp in not too long - I'm currently on the NuTube B1 from Nelson Pass. ... And since I have Russian tubes to use (6N6P or 6H6P ? memory)... Some newbie's questions 😊 :</p> <ul style="list-style-type: none"> • The PCB with the 2 tubes is stereo, and not mono? It does not take 2 pcb and 4 tubes for stereo ? • Does anyone have a PCB to dispatch? I am very interested! (otherwise I order, JLPCB I think, maybe in one month) <p>... and probably a few more questions afterwards 😊</p> <p>Friendly,</p> <p>Geofdk</p>
 jean-paul <small>Member Joined 2002</small>	<p>2023-03-31 7:06 am  #198</p> <p>It is stereo as you can see in the first post and I have a (red) stereo board for you. Please send me a PM.</p> <p>BTW you likely won't experience nasties with linear PSUs as these only need to filter 50Hz mainly and don't create HF/RF by themselves. Choosing SMPS in audio simply is gambling.</p> <p>Last edited: 2023-03-31 7:12 am</p> <p></p>
 geofdk <small>Member Joined 2023</small>	<p>2023-03-31 8:01 am  #199</p> <p>Thank you Jean-Paul. I'll send you a message later today. (& OK for linear psu) . Kind regards</p>

<p>platon.rado Member Joined 2008</p>	<p>2023-03-31 8:48 am My linear source. With EZ81.</p> <p>Attachments</p> <p>(URL: /community/attachments/img_20230328_184809-jpg.1159544/)</p> <p>IMG_20230328_184809.jpg</p> <p>270.5 KB · Views: 192</p>
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<p>vlad1980 Member Joined 2010</p>	<p>2023-03-31 8:56 am</p> <p>geofdk said:</p> <p>(Partially genuine Google translate, from France 😊) Hello everyone, hello Koifarm (fantastic project). I land late on this thread, and I'm a bit of a noob. I'm thinking of assembling this preamp in not too long - I'm currently on the NuTube B1 from Nelson Pass. ... And since I have Russian tubes to use (6N6P or 6H6P ? memory)... Some newbie's questions 😊 :</p> <p>Click to expand... (URL:)</p>
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<p>Hi</p> <p>I can help you with one PCB. Send me PM with shipping details.</p> <p>Regrads, Vlad</p>	<p>2023-04-01 11:42 am</p> <p>Hi Jean-Paul & vlad1980, could you send me MPs for the PCB ? I'm new on the forum, and can't init/start a conversation ... Thanks ! 😊</p>
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<p>geofdk Member Joined 2023</p>	<p>2023-04-01 11:42 am</p> <p>Hi Jean-Paul & vlad1980, could you send me MPs for the PCB ? I'm new on the forum, and can't init/start a conversation ... Thanks ! 😊</p>
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<p>G geofdk Member Joined 2023</p>	<p>2023-04-02 10:23 am</p> <p>Hello Jean-Paul, could you send me a message for the PCB ? As i said, can't contact you because i'm new on the forum, and can't send private message (After, i will maybe ask Vlad1980 too) . "Merci d'avance" / Thanks (!), for you (and Vlad). Geofdk</p>	<p>#203</p>
<p>B bjohng Member Joined 2005</p>	<p>2023-04-05 11:21 pm</p> <p>Anyone with a spare board (here in US) interested in swapping for an "Ultimate Tube Preamp Power Supply" board see https://www.diyaudio.com/community/threads/the-ultimate-tube-preamp-power-supply.389308/ (URL: https://www.diyaudio.com/community/threads/the-ultimate-tube-preamp-power-supply.389308/)</p> <p>PM me if interested</p>	<p>#204</p>
<p>G geofdk Member Joined 2023</p>	<p>2023-04-18 10:32 am</p> <p>PCB received from Jean-Paul (thanks !). A question: the PCB* is for the SRPP or the mu follower (or the both) ? *(& the Gerber file from Koifarm, thanks again 😊)</p>	<p>#205</p>
<p>Koifarm Member Joined 2005</p>	<p>2023-04-19 1:04 pm</p> <p>It is for both. See the schematics in post 1. For SRPP just leave a view parts and place some shorts. Mu follower is better in psrr .</p> <p>geofdk</p>	<p>#206</p>
<p>G geofdk Member Joined 2023</p>	<p>2023-04-19 1:19 pm</p> <p>Thank you, Koifarm ! (& what mean psrr ? 😊)</p>	<p>#207</p>
<p>Barry NJ Member Joined 2010</p>	<p>2023-04-19 1:51 pm</p> <p>PSRR = Power Supply Rejection Ratio</p> <p>geofdk</p>	<p>#208</p>
<p>D docentore Member Joined 2013</p>	<p>2023-05-02 9:35 pm</p> <p>Looking for 2 bare PCBs in EU. Thanks.</p>	<p>#209</p>
<p>jean-paul Member Joined 2002</p>	<p>2023-05-03 12:39 pm</p> <p>Hi I have at least 1 left and maybe 2. Send me a PM please.</p> <p>Mine are red.</p> <p>docentore</p>	<p>#210</p>

 <u>_henry_</u> Member Joined 2002	<p>2023-05-25 9:14 am</p> <p>@Koifarm (URL: https://www.diyaudio.com/community/members/36252/) @Vunce (URL: https://www.diyaudio.com/community/members/299394/)</p> <p>any recommended linear psu pcb that i can purchase of ebay to run some tests? as i tested my initial simple unregulated linear psu, it has loud hum and buzz...</p>		#211
 Koifarm Member Joined 2005	<p>2023-05-25 12:07 pm</p> <p>Or first couple ground heatersupply to ground anode supply. you can do that with a wire or a 1uf capacitor.</p>		#212
 <u>_henry_</u> Member Joined 2002	<p>2023-05-25 12:57 pm</p> <p>I'm not quite sure what you mean, was your response accidentally edited?</p>		#213
Vunce Member Joined 2014	<p>2023-05-25 1:04 pm</p> <p>Henry,</p> <p>This is a link to the psu board I use with koifarm's preamp board. Its a bare board with the option to add the important Micrel regulator chip.</p> <p>https://www.ebay.com/itm/1448178644...ar=444066039022&widget_ver=artemis&media=COPY (https://www.ebay.com/itm/144817864498?mkcid=16&mkevt=1&mkrid=711-127632-2357-0&ssspo=9vcp6ym1RFG&ssrc=2349624&ssuid=WsGheTUqSyi&var=444066039022&widget_ver=artemis&media=COPY)</p> <p>Koifarm</p>		#214
 <u>_henry_</u> Member Joined 2002	<p>2023-05-25 3:28 pm</p> <p>sorry I just re-read it @Koifarm (URL: https://www.diyaudio.com/community/members/36252/), yes I did connect the gnd heaterupply and anodesupply.</p> <p>thanks @Vunce (URL: https://www.diyaudio.com/community/members/299394/).</p>		#215
 Koifarm Member Joined 2005	<p>2023-05-25 3:45 pm</p> <p>Henry what is your setup?</p>		#216
 jean-paul Member Joined 2002	<p>2023-05-25 4:31 pm</p> <p>One red PCB left for the enthusiast.</p> <p>So it is not black or green but <u>red</u>. Just the PCB. Europe only as shipping to elsewhere is not worthwhile.</p> <p>Last edited: 2023-05-25 5:01 pm</p>		#217

<p>H _henry_ Member Joined 2002</p>	<p>2023-05-26 11:19 am</p> <p>---</p> <p>Koifarm said:</p> <p>Henry what is your setup?</p>
	<p>Hi @Koifarm (URL: https://www.diyaudio.com/community/members/36252/) This is the linear psu that i tried</p>
<p>Koifarm Member Joined 2005</p>	<p>2023-05-26 11:28 am</p> <p>And on the pcb mu follower or srpp topology? And what tube do you use? If you shorten the input to ground you have still humm?</p> <p>_henry_</p>
<p>H _henry_ Member Joined 2002</p>	<p>2023-05-26 11:35 am</p> <p>Its the mu follower, using 5687 tubes (values per your schematic) if the input shortened to gnd, NO hum.</p>
<p>Koifarm Member Joined 2005</p>	<p>2023-05-26 5:29 pm</p> <p>If there is no hum. The powersupply is good enough.</p> <p>You must look at the grounding between source and preamp or preamp and housing. Better is no connection between input plug and chassis and/or connection between preamp ground and housing.</p> <p>How looks the source/volumecontrol you use?</p> <p>_henry_</p>
<p>H _henry_ Member Joined 2002</p>	<p>2023-05-30 2:56 am</p> <p>im using computer source and the attenuator is tocos.</p>

 Cauwil Member Joined 2023	2023-06-13 10:43 am Hello, amazing project ! Thank you Koifarm ! Would anybody have a spare PCB to sell and send to France ? Thanks !	 #223
 Koifarm Member Joined 2005	2023-06-13 10:38 pm Ordering yourself with the gerberfiles at jlpcb with global shipping will cost you only a few euro for 5 pcb's in a color at your choice. prairieboy	 #224
 Cauwil Member Joined 2023	2023-06-24 12:41 pm Thanks - that's what I did. The price is currently 2 euros for 5 PCB... Koifarm	 #225
 Cauwil Member Joined 2023	2023-06-26 12:15 pm Hello, On the first post, it's said that the gain for the mu follower can be set to x3, x9 or x17. How can I do this ? Thanks !	 #226
 Koifarm Member Joined 2005	2023-06-26 7:19 pm With the J1 dipswitch you can select the gain. For 1 channel switch 1 and 2 on is 3x gain. Switch 1 off and switch 2 on is 9x gain. Switch 2 off is 17x.	 #227
 Cauwil Member Joined 2023	2023-06-26 7:26 pm Thanks !	 #228
 Cauwil Member Joined 2023	2023-06-26 8:30 pm Is it possible to set the gain at 0dB so it can be used as a buffer ? Thanks	 #229
 Koifarm Member Joined 2005	2023-06-26 8:41 pm Yes, with all the switches on, lower R9/R19 to 22k or even lower.	 #230

 Cauwil Member Joined 2023	<p>2023-06-26 9:11 pm</p> <p>Excellent! Many thanks!</p>	 #231
 Cauwil Member Joined 2023	<p>2023-07-09 11:33 pm</p> <p>Build done !</p> <p>Another question : would it be possible to use the mu follower circuit as a headphone amp by using the 17x gain and a pot for the volume? Many thanks</p>	 #232
 Koifarm Member Joined 2005	<p>2023-07-10 7:10 am</p> <p>Just try it. Use with low impedance headphone 47 ohm serie resistors. Use as less gain possible, then output impedance is as low as possible. Normally you need an extra buffer.</p>	 #233
 Cauwil Member Joined 2023	<p>2023-07-11 1:29 am</p> <p>Works like a charm as a buffer between a dac and a solid state amp. Excellent job !</p> <p>If I want to use it as a preamp so with a volume pot, what is the best value to use for the pot, and the best place to put it ?</p> <p>Many thanks !</p>	 #234
 Cauwil Member Joined 2023	<p>2023-07-11 12:21 pm</p> <p>Would a 100k log pot at the input of the preamp be a good choice?</p>	 #235
 OldHector Member Joined 2018	<p>2023-07-11 1:52 pm</p> <p>There has been lots of discussions about where to fit pots, mainly due to handling differing line level outputs from sources and minimising the loss of detail in the signal by reducing the level before it is amplified. I think the consensus was to add an attenuator to the input, if it is adjusting the line level that is the primary concern, and put the volume control on the output of the preamp, so it is the amplified signal that is controlled for loudness level. Searching for 'volume' and 'preamp' here should find the discussion.</p> <p>100K log pot is the normal one that is fitted, sometimes 50K (modern equipment) or 500K (old) depending on sources.</p>	 #236
 Cauwil Member Joined 2023	<p>2023-07-11 2:49 pm</p> <p>Excellent - thanks</p>	 #237
 Koifarm Member Joined 2005	<p>2023-07-11 8:03 pm</p> <p>Something like this, Remove R1/R11. Input impedance stays about 100k.</p> <p>When not remove R1,R11 input impedance varies between 50k and 100k.</p>	 #238

 Cauwil Member Joined 2023	<p>2023-07-11 10:50 pm</p> <p>Perfect for me - many thanks !</p>	 #239
 lordearl Member Joined 2007	<p>2023-07-20 8:13 am</p> <p>Fascinating reading in this thread.</p> <p>I'm keen to look at a unity gain style buffer using the circuit - the only valves I have available in sufficient quantities are; 6H30pi and 6GM8 (ECC86).</p> <p>Has anyone configured the circuit for either of these valves?</p> <p>Boyd</p>	 #240
 Koifarm Member Joined 2005	<p>2023-07-20 5:24 pm</p> <p>You can use same config as 6n6p for 6n30.</p> <p>bisouxxx and lordearl</p>	 #241
 bisouxxx Member Joined 2017	<p>2023-07-21 12:33 am</p> <p>Good evening, I found the problem! One ground trace is missing on the pcb, so pin 37 40 4143 46 49 52 were not grounded... Incredible nobody got the problem before 😊 Anyway finally working 🙌👍👍👍👍 Let's listen now 😊</p> <p>Hope it helps</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Attachments</p> <p>(URL: /community/attachments/20230721_003142-jpg.1195113/)</p> <p>20230721_003142.jpg</p> <p>395.3 KB · Views: 302</p> <p>(URL: /community/attachments/20230721_003104-jpg.1195114/)</p> <p>20230721_003104.jpg</p> <p>321.9 KB · Views: 303</p> </div>	 #242

L 2023-07-21 1:09 am #243

lordearl Member Joined 2007

Koifarm said:

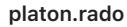
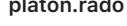
You can use same config as 6n6p for 6n30.

Great!
Anyone interested if I organise a few pcbs for a 6H30 build?

	2023-07-21 1:48 am	🔗 #244
Vunce Member Joined 2014	<p>--</p>	
	<p>bisouxxx said:</p> <p>Good evening, I found the problem! One ground trace is missing on the pcb, so pin 37 40 4143 46 49 52 were not grounded... Incredible nobody got the problem before 😱 Anyway finally working 🙌🙌🙌🙌🙌 Let's listen now 😊</p> <p>Hope it helps</p>	
	Huh?? This is not the Universal Tube Preamp PCB.	
	bisouxxx	
gary s Member Joined 2002	2023-07-21 6:23 am	🔗 #245
	That one had me baffled as well Vunce - I have no idea what that board is in post #242.	
	bisouxxx and Vunce	
Brijac Member Joined 2019	2023-07-21 6:38 am	🔗 #246
	It is a tube buffer for 1et7040sa from this thread i guess. https://www.diyaudio.com/community/threads/purifi-1et7040sa-tube-preamp.392461/ (URL: https://www.diyaudio.com/community/threads/purifi-1et7040sa-tube-preamp.392461/)	
	Cauwil and bisouxxx	
B bisouxxx Member Joined 2017	2023-07-21 5:35 pm	🔗 #247
	Yes it is the tubes buffer for the 7040.	

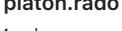
Pano Moderator Joined 2004	2023-11-20 11:07 pm Thread spamming and following comments removed. Take the ultimate interconnect challenge here!	#248
J Jokerbre Member Joined 2012	2024-01-09 1:21 pm Does anyone have a preamp schematic?	#249
platon.rado Member Joined 2008	2024-01-09 3:07 pm Yes Attachments <u>(URL: /community/attachments/universal-tube-preamp-pcb-srpp-mod-jpg.1257707/)</u> Universal tube preamp PCB srpp mod.jpg 149 KB · Views: 679 <u>(URL: /community/attachments/0e729c00-af34-44b0-9e87-4749c2a4eda3-jpeg.1257708/)</u> 0E729C00-AF34-44B0-9E87-4749C2A4EDA3.jpeg 156.3 KB · Views: 593	#250
	mz543578854 and Jokerbre	
E Edues Member Joined 2017	2024-01-09 4:44 pm Parece que los archivos de la publicación 1 ya no existen. ¿Alguien sería tan amable de publicarlos? ¡Gracias!	#251
C Carl_Huff R.I.P. Joined 2004	2024-01-09 4:55 pm Clicking on those images above in post #250 worked for me. I wish that I had Koifarm's email address. I would really like to chat with him. Jokerbre	#252
E Edues Member Joined 2017	2024-01-09 5:03 pm gracias And the last gerber file?	#253

C Carl_Huff R.I.P. Joined 2004	<p>2024-01-09 5:18 pm</p> <p>I believe these are most recent gerbers</p> <div data-bbox="330 242 1478 601"><p>Attachments</p><p>(URL: /community/attachments/gerber-universal-tube-pcb-zip.1257735/)</p><p>Gerber universal tube PCB.zip 25.2 KB · Views: 284</p></div> <p>Jokerbre</p>
E Edues Member Joined 2017	<p>2024-01-09 5:24 pm</p> <p>Perfect! Thanks carl_huff</p> <p>Maybe you will find Koifarm somewhere on the internet.</p>
J Jokerbre Member Joined 2012	<p>2024-01-09 5:50 pm</p> <p>If you find him, leave bread crumbs 😊</p>
K krzychc Member Joined 2020	<p>2024-02-12 6:14 pm</p> <p>Hello, I really like the Koifarm project and would like to order a PCB. Carl_Huff shared the Gerber files, are they final? Can you share with me the information that was in the first post? Regards</p>
C Carl_Huff R.I.P. Joined 2004	<p>2024-02-12 6:40 pm</p> <p>To the best of my knowledge those gerbers are production ready. If I properly recall (others please correct me if I am wrong ...) was just a description of the circuit and little more.</p>
K krzychc Member Joined 2020	<p>2024-02-12 8:57 pm</p> <p>Thank you very much Carl_Huff. I would like to use the PCB as an output stage for the TDA1541 DAC, with ecc88 tubes, is it enough to use the elements as in the Srpp diagram above? Do you know how to set the switch?</p>
C Carl_Huff R.I.P. Joined 2004	<p>2024-02-12 10:16 pm</p> <p>I've never tried to do what you are proposing. You might better make a general query here on the forum.</p>

 C Carl_Huff R.I.P. Joined 2004	2024-04-15 12:34 pm Enough time has lapsed where at least a few of us will have built this 'universal tube preamp'. If you have, please share your impressions and experience with the rest of us.	 #261
 platon.rado Member Joined 2008	2024-04-15 1:43 pm Yours plays better than this. https://www.musicdirect.com/equipment/amplification/preamp/icon-audio-la5-tx-tube-preamp/ (<i>URL: https://www.musicdirect.com/equipment/amplification/preamp/icon-audio-la5-tx-tube-preamp/</i>) I used this source https://www.aliexpress.com/item/100...order_list.order_list_main.179.1e4d18028KRdjf (<i>URL: https://www.aliexpress.com/item/1005004746740806.html?spm=a2g0o.order_list.order_list_main.179.1e4d18028KRdjf</i>)	 #262
 Vunce Member Joined 2014	2024-04-15 2:14 pm I first used this recommended SMPS, it was very noisy and a piece of junk, don't bother. https://www.aliexpress.com/item/1005001407107303.html (<i>URL: https://www.aliexpress.com/item/1005001407107303.html</i>) Then I used a conventional linear psu and this preamp board sings beautifully.	 #263
 platon.rado Member Joined 2008	2024-04-15 2:47 pm Yes linear is better. I have no noise with this https://www.aliexpress.com/item/100...order_list.order_list_main.179.1e4d18028KRdjf (<i>URL: https://www.aliexpress.com/item/1005004746740806.html?spm=a2g0o.order_list.order_list_main.179.1e4d18028KRdjf</i>)	 #264
 Bas Horneman Ex-Moderator Joined 2002	2024-04-15 3:04 pm I should know in the next couple of weeks. Some resistors I put on the other side. I like the idea of the warmer resistors to be on the top of the pcb instead of under. Some cotton I have to remove I see from the pics.	 #265

C Carl_Huff R.I.P. Joined 2004	2024-04-15 5:23 pm	✉ #266
	<p>--</p>	
Vunce Member Joined 2014	<p>Vunce said:</p> <p>"I first used this recommended SMPS, it was very noisy and a piece of junk, don't bother"</p> <p>"Then I used a conventional linear psu and this preamp board sings beautifully."</p>	
	<p>Vunce, are you able to share the details of the linear power supply that you are using?</p>	
C Carl_Huff R.I.P. Joined 2004	2024-04-15 6:08 pm	✉ #267
	<p>I posted my setup back in 8/22, there are several posts and then a spin-off power supply was created/revised. Not sure if that one got built and verified to work correctly.</p> <p>I believe the eBay member is HVForless that the psu board I used was originally created by.</p> <p>https://www.ebay.com/itm/1448178644...ar=444066039022&widget_ver=artemis&media=COPY (URL: https://www.ebay.com/itm/144817864498?mkcid=16&mkevt=1&mkrid=711-127632-2357-0&ssspo=9vcp6ym1RFG&ssrc=4429486&ssuid=WsGheTUqSyi&var=444066039022&widget_ver=artemis&media=COPY)</p>	
C Carl_Huff R.I.P. Joined 2004	2024-04-16 7:57 am	✉ #268
	<p>Vunce said' "I posted my setup back in 8/22 ..."</p> <p>Could you please point me at your 8/22 reference. Sorry but I cannot seem to find it on my own.</p>	
R Ripster Member Joined 2018	2024-04-16 8:14 am	✉ #269
	<p>probably page 4 post 65 from August 2022</p> <p>AD1862 DAC -- LDR Pre MkII -- My_Ref FE Amp -- ELSINORE Speakers</p>	

	2024-04-16 1:42 pm	🔗 #270
Bas Horneman Ex-Moderator Joined 2002	Could you please point me at your 8/22 reference. Sorry but I cannot seem to find it on my own. https://www.diyaudio.com/community/...8-etc-mu-follower-or-srpp.388295/post-7096123 (URL: https://www.diyaudio.com/threads/universal-tube-preamp-pcb-ecc99-6n6p-ecc88-ecc85-6922-6dj8-etc-mu-follower-or-srpp.388295/post-7096123)	
P petergay38 Member Joined 2007	2024-10-10 6:24 am	🔗 #271
	--	
	Koifarm said: I have three PCB's to share for just the shippingcost. If interrested send me a PM.	
	Dear Koifarm. If you got any PCB,s I will buy two. Thxs Shipping to Melbourne, Australia. Await a quote, email; peter.gay@gmail.com (URL: mailto:peter.gay@gmail.com)	
gary s Member Joined 2002	2024-10-10 6:42 am	🔗 #272
	Have sent you an email.	
U Uradius Member Joined 2025	2025-10-09 12:11 pm	🔗 #273
	@Koifarm (URL: https://www.diyaudio.com/community/members/36252/), I can't find your contact information, but I'd like to know more about your hybrid (tube/Class D) power amplifiers.	
	Please contact me.	
zoundhead Member Joined 2024	2025-10-09 1:38 pm	🔗 #274
	@Uradius (URL: https://www.diyaudio.com/community/members/568198/) I think he is not on the forum anymore. He left a very long time back.	

 Uradius Member Joined 2025	<p>2025-10-09 1:47 pm</p> <p>Ooh, that would be a pity. One off his projects is available for sale and I wanted to know more about it.</p> <p style="text-align: right;">#275</p>
 Riccardo Bruno Member Joined 2004	<p>2025-10-16 3:25 pm</p> <p>Please can you describe how to set the deepswitch in order to change the different gain levels? Thanks in advance</p> <p style="text-align: right;">#276</p>
 zoundhead Member Joined 2024	<p>2025-10-16 4:09 pm</p> <p style="text-align: right;">#277</p> <div style="border: 1px solid #ccc; padding: 10px;"> <p>Koifarm said:</p> <p>With the J1 dipswitch you can select the gain. For 1 channel switch 1 and 2 on is 3x gain. Switch 1 off and switch 2 on is 9x gain. Switch 2 off is 17x.</p> <p>here</p> <p>Riccardo Bruno</p> </div>
 Riccardo Bruno Member Joined 2004	<p>Thursday at 2:19 PM</p> <p style="text-align: right;">#278</p> <p>To have easy access to the dipswitch, is it possible to mount it on the same side of the PCB where the valve sockets are installed? The positions of each individual selector would be reversed, so off becomes on and vice versa? Thanks</p>
 platon.rado Member Joined 2008	<p>Thursday at 2:45 PM</p> <p style="text-align: right;">#279</p> <p>yes you can.. without changing the functionality</p> <p>Riccardo Bruno</p>

R Riccardo Bruno Member Joined 2004	<p>Thursday at 3:40 PM</p> <p>Hi Platon, Thanks for the replay. ok.. the the functionality will be the same but but the position of the individual switches will be reversed? so: Switch 1 and 2 off will be 3x gain. Switch 1 on and switch 2 off will be 9x gain. Switch 2 on will be 17x. Thanks</p>	
platon.rado Member Joined 2008	<p>Thursday at 6:02 PM</p> <p>New</p> <p>yes it will be reversed</p>	#281