
From: Chris Harden (chris@ceharden.freeseve.co.uk)
Date: 9/30/2001 11:45 AM
Subject: **12AU7 as power tube?**

Just a thought that popped into my head. For a really low powered amp, how about using both sides of a 12AU7 in PP? Or maybe a few of them in parallel? I know finding a suitable output transformer could be a problem but might be able to get a Watt or so. Might be perfect for a practice amp, or running into a dummy load for amplification by a larger (SS maybe) amp. You could build it as a separate preamp, used on it's own for practise or recording, and with a power amp for gigging.

I haven't thought about it too much, it's just an idea that occurred to me.

Chris

From: Ray Ivers (RAGEray@aol.com)
Date: 9/30/2001 12:02 PM
Subject: **Re: 12AU7 as power tube?**

Chris,

No reason at all why it wouldn't work IMO. Other suitable current-production tube types might be the 12BH7, the 6C45, and the 6H30. You could also use the 6AS7/6080, for maybe 10 watts output. I would think an EL84 transformer (@8K P-P) would match any of these tubes - you might want to try the 4 ohm tap/8 ohm load thing to see how that loading would sound, too.

Ray

From: Doc (wrhorner@kineticsgroup.com)
Date: 10/9/2001 8:04 PM
Subject: **Re: 12AU7 as power tube?**

Have you seen the Moonlight Amp project over on the AX84 site? Stephen Delft designed a low power guitar practice amp using a 6SN7 (or 12SN7) in push-pull. You could use a 12AU7, 6CG7 (a 6SN7 equivalent), or 12BH7 without much modification. When he was developing it, he tried various output transformer ratios. (Stephen is the guy who works with Speedracer on those super OEI transformers) The textbook R_{load} was about 2-3 times the primary impedance he finally settled on experimentally for good guitar tone. The 12AU7 has a higher plate resistance than a 6SN7, so might require a higher turns ratio than that moonlight trans. You could probably e-mail Stephen (he's down in Oz) on that. He could most likely supply the proper output transformer, or maybe suggest a suitable Hammond or Antique Electronic Supply unit.

-Doc

From: Adam Alpern (adam.alpern@firepond.com)
Date: 10/10/2001 3:47 AM

Subject: Re: 12AU7 as power tube?

The Moonlight is an excellent amp to mention. I built one, and IMHO it sounds just *terrific*. Of my 3 homebrews, it's my favorite.

The 6N1P seems to be another twin-triode that makes a decent output tube, of about 1 watt.

-Adam

From: SpeedRacer (Joe@ObsoleteElectronics.com)

Date: 10/11/2001 4:53 PM

Subject: Re: 12AU7 as power tube?

Just to clarify a tiny bit :)

Stephen did all the design work on the OEI transformers.. I just found someone here who could build them correctly using machine winding to keep them more affordable. (winders are not all the same IMHO)

Stephen is actually east of Oz in NZ. He's just getting settled from moving so email may take a while to get replied to but pls be patient. :)

He does wind a matching PT for the Moonlight for those that want a hand wound set. There is also a hammond which he told me will work but I don't know the model # offhand.

When he was developing it, he tried various ouput transformer ratios. The textbook R_{load} was about 2-3 times the primary impedance he finally settled on experimentally for good guitar tone.

That's one of his greatest strengths as an engineer IMHO. He really knows when to break out the sliderule and when to just listen.

From: Adam Alpern (adam.alpern@firepond.com)

Date: 10/12/2001 3:13 AM

Subject: Re: 12AU7 as power tube?

There is also a hammond which he told me will work but I don't know the model # offhand.

I used the Hammond 269JX, which worked quite nicely. The 269EX should also do fine.

-Adam

From: Max Tone (rockout@altavista.nospam.com)

Date: 9/30/2001 4:47 PM

Subject: Re: 12AU7 as power tube?

The HK "Cream Machine" is a tube preamp (and mini power amp) that has 1 12AX7 as a preamp and 1 12AU7 as an output tube into a small OT. It puts out somewhere around 1 watt and sounds OK into an 8 ohm load.

It doesn't have much low end at all, but sounds pretty fair when the "power tube" is giving most of the overdrive. I have experimented with several different tubes and found that the most solid sound actually came from a 12AV7 in the "power tube" spot, but it was terribly microphonic so I couldn't continue to use it.

please post your test results!

Max

From: Chris Harden (chris@ceharden.freemove.co.uk)
Date: 9/30/2001 8:08 PM
Subject: **Re: 12AU7 as power tube?**

Thanks for your replies. Unfortunately I start Uni on Wednesday so for a while I'm not going to have much time for experimenting (if at all). I'm thinking of trying to find an electronics society at Uni where I can continue to experiment. If not it's going to have to wait til holidays.

One of the reasons I thought about it though, was that it is the sort of small project I might be able to work on at Uni. From what you've said it's worth trying if I get the chance.

Will let you know if and when I do.

Chris

From: John
Date: 10/1/2001 6:34 AM
Subject: **Re: 12AU7 as power tube?**

Why couldn't you use a reverb transformer and run the 12au7 both sides parallel class A. I think the reverb pans on most fender amps are 8 or 10 ohms. I could be wrong on that. If I'm right you could check your idea by getting hold of a fender reverb amp, unplug the pi tube so you don't get sound from the speaker, replace the reverb tube with a 12au7, unplug the reverb pan and connect the cord to an 8 ohm load. That would be a black face preamp through a class A 12au7.

From: Man o'Blues
Date: 10/2/2001 8:40 PM
Subject: **Re: 12AU7 as power tube?**

Interesting idea. I think you'd want to remove that 500pf cap feeding the reverb driver for better tone. Worth a try.

From: Man o'Blues
Date: 10/22/2001 6:50 PM
Subject: **Just Reporting....**

For kicks, I hooked up my ext cab with a JBL 130F in it to the Reverb Input jack on my DR clone,

<http://www.firebottle.com/fireforum/fireBB.cgi?forum=gadc&thread...> 10/23/2001

and I was amazed at how loud it was - so loud I couldn't even crank it without disturbing the neighbors! The tone was recognizably BF, but dullish. Since I had the amp open, I swapped the 500pf coupling cap to the reverb driver to .022 and boosted lows, but still shy on sparkle. With some tweaks to the tone stack, and the right speaker, I think this config might sound pretty good. Definitely some potential here for a project amp - I'll crank it at my rehearsal space this weekend and see what else might surprise me.

From: Ray Ivers (RAGEray@aol.com)
Date: 10/22/2001 8:15 PM
Subject: Re: Just Reporting....

You could try some different reverb driver tubes, too - the 12BH7, 12FV7, 6CG7, or 12AU7 might all work pretty well and give you back some of your missing highs, if you've got any lying around.

Ray

From: John
Date: 10/23/2001 6:39 AM
Subject: Re: Just Reporting....

Cool!!!!!!

I'm glad to hear it. I have considered the idea before but never acted on it since I don't own a fender amp. I posted another idea somewhere around here (can't recall where) about removing the vibrato wire (which alot of people do anyway) from the main guitar signal and connecting it to the reverb signal. The reverb would continue to ring but it would be "vibratoed" (is that a word?) I think this could be an interesting effect, and for people who diconnect the vibrato anyway you get something for nothing. You could put in on a pot switch to take it in/out of the reverb signal. What do you think...Wanna try it for me? I'd love to know. No-one is responding to my other post.

From: Marcello (dt9r@hotmail.com)
Date: 10/1/2001 9:41 AM
Subject: Re: 12AU7 as power tube?

My 2 cents...

Why not using an ECL82 / ECL86?

it's a tube that contains a signal triode plus a pentode. They have been used in audio path of television for years so there would be a lot of used tranny around and a lot of tubes at low price. I think that a couple of ECL82 in PP could work as a power amp (with the triode used as PI), driven by an ECC83 for the preamp.

What do yopu think?

Marcello

From: stephen conner (amps@scopeboy.com)
Date: 10/1/2001 4:05 PM
Subject: Re: 12AU7 as power tube?

Hi Chris

This would work quite well. Surprisingly an OT isn't a problem, RS components sell a tiny push-pull OT (part no. 210-6475) which matches a 15K a/a load into a 4,8,or 16 ohm speaker. I've no idea why they sell such a thing but it's a bargain at 7 pounds. I did the math and it will work great in a push-pull amp with two 12AU7s (or one 6SN7) on 250V B+.

Steve C.

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| From: | Chris Harden (chris@ceharden.freemove.co.uk) |
| Date: | 10/1/2001 7:44 PM |
| Subject: | Re: 12AU7 as power tube? |

Thanks Steve,

That's useful to know. When you say two 12AU7's, do you mean parallel push-pull with four triodes?

If I get the chance, that'll definately be the route to go down I think, and I can afford the OT on my student loan!

I wonder what a small triode like that will sound like being heavily overdriven. Couple that to something like an 8in speaker to make a small combo and you'd have yourself a nice practice amp, perfect for a student room.

I just hope I can try it out now.

On another idea, I wonder how many power tubes you'd need to put in parallel in order to drive an 80hm speaker capacitively coupled off the cathodes? I know it's been done with a commercial Hi-Fi amp. I think I'll stick to one idea at once though.

Chris

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| From: | stephen conner (amps@scopeboy.com) |
| Date: | 10/2/2001 1:23 PM |
| Subject: | Re: 12AU7 as power tube? |

When you say two 12AU7's, do you mean parallel push-pull with four triodes?

yep. Another tube you could try is the JJ ECC99- like a 12AU7 pumped up on steroids

http://www.jj-electronic.sk/tube_ecc99.htm

I wonder what a small triode like that will sound like being heavily overdriven

probably pretty neat... the grid swings required are low enough that you could DC couple the grids to a PI made from op-amps. That would let you drive masses of grid current.

I wonder how many power tubes you'd need to put in parallel in order to drive an 80hm speaker capacitively coupled off the cathodes

<http://www.firebottle.com/fireforum/fireBB.cgi?forum=gadc&thread...> 10/23/2001

Depends on how much power you want. The Russians make a great dual power triode, the 6C33, which has very low impedance. Six of these babies will give you 100W of OTL (Output Transformer-Less) power and heat your house in winter too. You could make a neat guitar amp with just one.

<http://www.ne.jp/asahi/evo/amp/6c33c/intro.htm>

Steve C.

From: Craig D
Date: 10/10/2001 2:51 AM
Subject: Moonlight not so quiet

I have built a variant of the Moonlight mentioned above, with Stephen Delft's OT. It has a fair amount of bass for such a low powered amp, and IT IS LOUD. Decent guitar speakers have an efficiency of over 90dB/W and I can tell you your neighbours will definitely hear it... :)

Craig

From: Adam Alpern (adam.alpern@firepond.com)
Date: 10/10/2001 2:58 AM
Subject: Re: Moonlight not so quiet

I have built a variant of the Moonlight mentioned above, with Stephen Delft's OT. It has a fair amount of bass for such a low powered amp

Cool! I always like finding another Moonlight builder :) The Moonlight was my first build, and it's still my favorite. A very versatile and damn tasty sounding amp. I was also surprised about the strong bass (it seems to have even more bass with a Baxandall tone stack).

IT IS LOUD. Decent guitar speakers have an efficiency of over 90dB/W and I can tell you your neighbours will definitely hear it... :)

Yes indeed! It most certainly is. I added a simple l-pad attenuator to mine, with -3dB increments from -6dB to -15dB, which works pretty nicely. It's nice when I can cut it loose un-attenuated, but without attenuation you ain't gonna be playing it in the Moonlight.

From: MKB (markbrid@hickory.net)
Date: 10/23/2001 11:54 AM
Subject: Re: 12AU7 as power tube? How about a 12BH7?

Anyone used a 12BH7 in a Moonlight? 3.5W Pdiss, 5.3K Rp, David Manley called it the 12AT7's hairy chested brother.

http://www.glass-ware.com/Vacuum_Tube_6C33.html

From: Adam Alpern (adam.alpern@firepond.com)

<http://www.firebottle.com/fireforum/fireBB.cgi?forum=gadc&thread...> 10/23/2001

Date: 10/23/2001 3:29 PM

Subject: **Re: 12AU7 as power tube? How about a 12BH7?**

I don't know of anyone doing that, but now you've got me wanting too!

I'm considering building another Moonlight and I've been accumulating a big list of features to add to it. This just made the list :-)

There's a version of the AX84 P1 schematic called the "Chameleon", into which you can plug an EL84, 6V6, 6L6, or 6AQ5. A Moonlight Chameleon would be interesting too - perhaps with the 6SN7, 12BH7, or 6N1P.

-Adam
