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Subject: Guitar Head Amp Features

Posted by [gofar99](#) on Tue, 08 Jan 2013 16:23:44 GMT

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Hi Everyone, I'm looking for some input from the musician community out there. I'm in the final stages of design and prototyping of a head amp and would like to get some feedback on the features wanted / needed etc. The design is all tube with push-pull output of about 25 watts clean. It can use 6L6GC (initially 6L6WXT+), EL34 and similar tubes. Use is expected to be lead or rhythm, but bass use is possible as the low end response is clean and linear to below 20HZ.

Tentative features

Input level control

Main volume control

Full tone stack, bass, mid, treb

Clean switch, bypasses the tone stack

External feature inputs, like fuzz, reverb etc

Two inputs, low gain and high gain

4 and 8 ohm output

I have initially planned to have 1/4 inch standard phone jacks for inputs and external feature connections.

Are balanced 1/4 inch or XLR connections needed?

Your thoughts are appreciated. In the clean mode, I expect this will be among the sweetest ever done. As for the other modes...it is always easy to add the features.

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Subject: Re: Guitar Head Amp Features

Posted by [Shane](#) on Wed, 16 Jan 2013 01:27:28 GMT

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So we've got:

Tone stack with bypass

effects loop

pre-volume

post-volume (master)

lo/hi gain inputs

4/8 ohm output : Might add a 16ohm for those Marshall cab folks!

If you wanted to get crazy you could make it two channel footswitchable: rhythm and lead.

Or add a "crunch" switch for the clean to make it easy to dial in distortion with your guitar volume control.

The only other thing that I would find useful is an ability to lower the wattage for bedroom practice.

That's the reason I got rid of my 5150 combo. Great, awesome sounding amp with a warm clean sound (way different than the heads) but it needed to be cranked to really shine.

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Subject: Re: Guitar Head Amp Features

Posted by [gofar99](#) on Wed, 16 Jan 2013 03:39:07 GMT

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Hi Shane, Good thoughts, but since I have designed it to be clean to start with and figured it was then easier to fuzz it up, the amp should play clean down into the milliwatt range. It's just one of those things I do. With only a simple resistor network on the output to maintain a load... any of my amps up to the KT120s could be used for a headphone amp. Not real efficient use, but clean and quiet. It is possible to add a reduced power setting though. The 16 ohm output tap is a good idea and easy to implement. As a non-musician.... how would you describe the difference between lead and rhythm.

I got the rest of the parts yesterday, so a build is about to go full steam. Gray crackle, gloss red or blue or plain silver for color .... such choices.

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Subject: Re: Guitar Head Amp Features

Posted by [Shane](#) on Wed, 16 Jan 2013 04:12:22 GMT

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Well, I can only reference my old 5150, but the difference between the rhythm (clean) and lead channels on it were like night and day. You could of course set the volume to be whatever for each channel, so there wouldn't be or would be if you wanted a difference when switching between the two. The clean channel basically only utilized 1/2 of a 12AX7 for the gain stage. The crunch button on the clean channel would let you push the amp into that ACDC crunch by engaging another gain stage when you turned the gain knob up. The lead channel utilized all three 12AX7's for full sizzle of 6 gain stages. That amp would play clean at full volume with the crunch button disengaged and the pre-gain knob turned down. Loud. I mean REALLY loud and clean. Fender Twin loud and clean. The lead channel was exactly that. An example: with the lead pre-gain set to 6 and the post-gain set to 6, and 2 12" sheffields in the sealed cab I could keep up with and surpass many times the 4x12 cab and JCM900 Marshall the other guitarist was using. I usually had to turn down in the mix. The amp had a really good distortion sound as lower volumes as well. Not fizzy like most amps, but even at a post volume setting of 1 it was way too loud in my practice room.

I hated to get rid of it, but it just wasn't practical.

As far as your amp, what market are you wanting to cater to?

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Subject: Re: Guitar Head Amp Features

Posted by [AudioFred](#) on Mon, 04 Feb 2013 13:36:32 GMT

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Here are my thoughts on designing, building and marketing a tube guitar amp: The market appears to be saturated with cheap tube guitar amps. I believe if you attempt to build an amp to sell at a "reasonably competitive" price point you won't be able to compete with large high volume brands. Your reputation will sell a few to musicians who already know about your audio products, but not many musicians are into audio, and it will be a labor of love rather than a successful business venture.

Here in Houston among the more successful local musicians there is a small market niche for very high quality tube amps. This niche is covered by Scott Waugh, a local musician-turned-amp-builder who builds custom amps. I suspect the key to his success is that he is well known and trusted by all the serious guitarists, and his product is recognized as a premium brand.

[http://www.swaughamps.com/S\\_Waugh\\_Amps.html](http://www.swaughamps.com/S_Waugh_Amps.html)

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Subject: Re: Guitar Head Amp Features

Posted by [gofar99](#) on Thu, 07 Feb 2013 20:16:29 GMT

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Hi Everyone, Getting serious now...

#### File Attachments

1) [Guitar 01 front Feb 7 2013.jpg](#), downloaded 2755 times

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Subject: Re: Guitar Head Amp Features

Posted by [chrisR](#) on Fri, 22 Mar 2013 22:43:50 GMT

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Bruce, here's my 2 cents worth. I play guitar and fiddle with amps, and I'd bet \$10 you aren't going to get anyone excited by a "clean sounding" amp. Fender might be the only famous name that's known for clean sounding amps. Everyone else makes or breaks their reputation from the overdriven distortion side of things, and that's not as easy as it sounds to get right.

Chris

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Subject: Re: Guitar Head Amp Features

Posted by [gofar99](#) on Sat, 23 Mar 2013 01:31:10 GMT

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Hi Chris, That is true ...if the amp did nothing but clean then there would be little demand.

However it is designed to overdrive in two different modes, both in the input stage and in the output stage. Or for that matter both at the same time. My thought process is to design something clean and then add the flavor to it. That way it can be adjusted to get what sounds right. Thanks for the insight.

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