Subject: matchless chieftain transformers
Posted by tomgillou on Sat, 20 Aug 2005 18:20:44 GMT
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Hello,I'm going to build a clone of the Matchless Chieftain (40 Watts all tube guitar amplifier with a pair of EL34 push pull in class A).I'm looking for a set of transformers (PT, OT, Choke) that will match to this amp. I know that matchless use to oversize widely the transformers in their amps.For the power transformer I've seen the Hammond 373BX which delivers the 350V secondary needed for the chieftain and provide power supply for the 7X12AX7 filaments and the 5V for the rectifier(from schematics i've found on the web). Do you think this transformer will assume widely the power needs of this amp?For the output transformer, the Hammond 1650N or 1650P seem to fit. I'm not yet determined in the choice of the choke, my schematics indicate those characteristics : 20 mH / 160mA...What do you think of that ?is there any other good and reliable brand for those transformers ?Last thing to say is that I live in france where wall power supply has been increased for few years at 230V AC instead of 220V AC. should I wire the power transformer on 220V or 240V ???thanks a lot for any advice you could provide to me.

Subject: Re: matchless chieftain transformers
Posted by Damir on Sat, 20 Aug 2005 20:41:27 GMT
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Hm, 20mH seems like pretty small choke in tube amp PS, it`s more likely that it`s 10-20H choke. I don`t have PS schematic, but I suppose that`s "guitar amp classic" - B+ for output tubes is from the first cap, then Pi-filter (choke+another cap) for screen grids (g2), then RC filters for splitter/preamp tubes. I found amp schematic, and it shows about Uak~390V "through" each EL34, cathode biased - each EL34 with Rk=270 Ohms+cap. On schematic, Uk=24V. That means that current through the EL34 Ia+g2 = Uk/Rk = 24/270 = 88,9mA. And dissipation through the each tube is Pa+g2 = 390*0,0889 = 34,6W!Much more then Pa+g2 max. for EL34.Well, maybe I found not so good schematic on the web - can you post the link of your schematic? And schematic is not everything - layout, choice of parts make much difference.IMO - if you have tons of experience, good schematic and known layout - go on with this project. But, if not - maybe first try some books by Kevin O`Connor. There are some with complete schematics, layout, etc. - see "London Power" site for more details.