Subject: Re: Optimal settings for 6P3S-E output tubes in Leben CS-600(X)s
Posted by kasperbergholt on Sun, 08 Oct 2023 10:54:36 GMT
View Forum Message <> Reply to Message

gofar99 wrote on Sat, 07 October 2023 21:37Hi, Possibly a try and listen deal. The tubes you have listed will handle the 410 without any issues and the cathode resistors would alter the current. For the best sound it is not possible to guess what combinations would be best. But my experience has been that pushing tubes hard does not improve the sound. It also shortens the life span. In all my amps I use between 425 and 450 volts in class A push-pull ultra linear mode. I only adjust the current based on the tube type to keep the dissipation below 85%. At that level the tube life is quite long. My original tubes (JJ KT88s) in the first amp from 2008 are still going strong after probably close to 8000 hours. They may out live me. I roughly list output tubes into four groups. All are in class A mode. Low power (5-10 watt PP/UL), medium (15-20 watts PP/UL), high power (25-30) and higest power (40-45 watts)

In the low power group are ones like 6V6, 6AQ5, EL84 and so on. the medium group contains 6L6GC, KT77, EL34 and similar ones. The high power ones are KT88 and KT90. The highest are KT120. I do not use KT150s as the actual power output over KT120s is usually not audible and they cost significantly more.

Fine so how to power them. All but the low power ones can run at 425-450 VDC. The low power ones in PP/UL should run in the 250-300 VDC range at typically about 40-45 ma each. The Mids run well at 60-65 ma each, the high ones at 90-95 each and the highest at about 130 ma. Great. What about sound? The really best sound of any is an odd setting. The KT120s at 62 ma with an 8K load. The sound is superb. Power output is down to 18-20 watts though. Plenty for my system. For the tube types you listed I would probably try 410V and 680 ohms first to see how it sounds, then try the lower 350V and 680. This is a nice range for dissipation for them and should give good linearity. The other resistor will increase the output a bit, but not so much that it would be noticeable (remember that loudness is not a linear function of power output). Let us know how it works out.
Thank you for the feedback & thoughts, it's appreciated - it was exactly something along these lines I was after.

Interesting point regardring the longevity of the KT88s. I might give a quad of these a chance some day - they seem reasonably priced.

Do you own a tube tester or are the 8,000 hours based on listening?

Most sources list 6P3S-E at minimum 5,000 hours.

Is there some synergy between the 4, 6, 8, 16 ohms setting of the amplifier in relation to the different settings for the output tubes?

Thanks again :)