
Subject: Leben CS600X - Class AB or pure class A?
Posted by [kasperbergholt](#) on Wed, 22 Feb 2023 13:23:22 GMT
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Hi clever people,

I'm in the process of reading a review of a Leben CS600X integrated amplifier.

In one passage it says:

"The amp runs in Class AB rather than pure Class A. During use, it gets fairly warm but not uncomfortably hot"

Is that so? I was of the impression that all of Leben's tube amplifiers ran in pure class A.

The full review can be read here:

[Leben CS600X Integrated Valve Amp Review on Stereonet.com](#)

Thanks in advance,

Kasper Bergholt
/ <https://bergholt.net/blog>

Subject: Re: Leben CS600X - Class AB or pure class A?
Posted by [positron](#) on Sun, 26 Feb 2023 06:19:28 GMT
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Hi Kasper,

It won't put out 28 watts in Class A operation. AB1 is another matter as AB is much more efficient.

At much lower output power, both output tubes will operate Class A.

Cheers

pos

Subject: Re: Leben CS600X - Class AB or pure class A?
Posted by [kasperbergholt](#) on Wed, 01 Mar 2023 12:28:24 GMT
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Thank you very much for the reply, pos :)

Would it be safe to say that class a operation is up to the output tubes max rating, which would be around 8 watts for EL84 tubes?

Thanks again,

Kasper

Subject: Re: Leben CS600X - Class AB or pure class A?

Posted by [positron](#) on Thu, 02 Mar 2023 00:35:56 GMT

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kasperbergholt wrote on Wed, 01 March 2023 06:28 Thank you very much for the reply, pos :)

Would it be safe to say that class a operation is up to the output tubes max rating, which would be around 8 watts for EL84 tubes?

Thanks again,

Kasper

Good question. Mullard's manual says probably true for PP, maybe higher at max tube plate dissipation. About 5 watts output in PP triode mode.

In single ended pentode mode, about 5 watts output. In triode mode, about 2.5 watts out at max plate dissipation.

Hope this helps Kasper.

pos

Subject: Re: Leben CS600X - Class AB or pure class A?

Posted by [kasperbergholt](#) on Sat, 18 Mar 2023 22:47:06 GMT

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positron wrote on Wed, 01 March 2023 18:35 kasperbergholt wrote on Wed, 01 March 2023 06:28 Thank you very much for the reply, pos :)

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Thanks again,

Kasper

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Hope this helps Kasper.

pos

Yes, it does, thanks!

I ended up getting the prior model, the Leben CS-600 (no 'x'). It's stunning.

Subject: Re: Leben CS600X - Class AB or pure class A?

Posted by [positron](#) on Fri, 24 Mar 2023 01:49:11 GMT

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kasperbergholt wrote on Sat, 18 March 2023 17:47positron wrote on Wed, 01 March 2023 18:35kasperbergholt wrote on Wed, 01 March 2023 06:28Thank you very much for the reply, pos :)

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Hope this helps Kasper.

pos

Yes, it does, thanks!

I ended up getting the prior model, the Leben CS-600 (no 'x'). It's stunning.

Glad it worked out well for you Kasper. It is possible to obtain near perfect, if not perfect reproduction quality from a PP AB1 amplifier using non inductive speakers. With cone/reactive type speakers, one can tailor for near perfect quality sound, although somewhat time consuming.

All the best.

pos

Subject: Re: Leben CS600X - Class AB or pure class A?

Posted by [gofar99](#) on Sat, 25 Mar 2023 02:56:18 GMT

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Hi, just FYI...in class A push pull a pair of EL84s at 225-275 V B+ will deliver about 5 watts in Ultra linear mode and about 6.5 watts in pentode mode. Triode mode is just about 4 watts. All at less than around 1% THD+N without negative feed back. Also FYI all my designs for amps (4 watts to 40 watts) are a forced class A U/L mode. Inefficient for sure, but really nice sound. Well designed class AB amps can sound really nice as well, but I have seen none without negative feedback that do so. IMO NFB alters the sound...in hard to define ways and is a cause for considerable consternation in the audio field. Lots of arguments on it. A SE amp can work either way...but then they are all class A.
