Subject: Why parafeed?
Posted by steve f on Sun, 08 Sep 2013 03:02:54 GMT
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The title says it all. Why? Why do so few manufacturers use them?

Steve

Subject: Re: Why parafeed?
Posted by gofar99 on Sun, 08 Sep 2013 19:23:21 GMT
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Hi Steve, Cost is my guess. Plus a few other things that might complicate the design. The output device(s) will see two different inductors. Regardless of their respective values it will introduce anomalies. The primary benefits would be to SE amplifiers. Then the dc power would not have to go through the output transformer. This would make it possible to use a much smaller output trannie as you would not be likely to saturate it. In push-pull designs I see no value as if operated within spec. A PP output transformer should never saturate.

Subject: Re: Why parafeed?
Posted by steve f on Sun, 15 Sep 2013 00:11:59 GMT
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Thanks Bruce.

Subject: Re: Why parafeed?
Posted by Zohanna on Sat, 14 Oct 2017 21:57:02 GMT
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Wow, you guys are so savvy here that I'm embarrassed about my relative novice. Can someone explain Para feed to me? I don't even know what it is..

Subject: Re: Why parafeed?
Posted by hudelson2 on Wed, 25 Apr 2018 02:04:45 GMT
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Normally the primary of the output transformer is connected to B+ voltage and the plate of the output tube. In a single ended amplifier there is direct current passing though the output transformer. There has to be a gap in the core to keep the core from being saturated. Then you need an expensive large transformer to pass low frequencies.

Parallel feed (parafeed) has the DC passing through a separate inductor from B+ voltage to plate

of the output tube. There is a DC blocking capacitor to the output transformer. Since there is no DC passing through the output transformer no gap is required in the transformer core so the transformer can be smaller and cheaper.

See https://www.tubecad.com/2014/09/blog0308.htm for further explanations.

Subject: Re: Why parafeed?
Posted by positron on Fri, 21 May 2021 04:52:32 GMT
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I think the RCA Radiotron Designers Handbook, Edition 4, by 26 engineers,
page 519 sheds some light on the subject of parafeed operation.

"In all cases when making use of any resonance effects involving the inductance of the transformer primary, it is important to remember that this is a variable quantity. Not only are there considerable variations from one transformer to another, but there are large variations of inductance caused by the a.c. input voltage.

The series resonant circuit presents a low impedance to the valve at the resonant frequency, thus tending to cause serious distortion, particularly when the valve is being operated at a fairly high level. For these reasons the resonance method is not used in good design."

For ease of understanding for newbies, the inductance varies with power/spl, the load line varies, and the low frequency resonance frequency varies, the bass varies with loudness.

Cheers

pos
