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Subject: Re: Sometimes I surprise myself

Posted by [Thermionic](#) on Tue, 05 Aug 2008 16:53:33 GMT

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"But even if the capacitance is large, you still have an RC constant there with the tube playing its part. Seems to me the effects would be measurable." You're right, it most definitely is measurable, both with bench instruments and the most accurate test instruments in the world, our own ears. Many do not realize that a linear power supply has a bandwidth, just like a loudspeaker or output transformer has a finite bandwidth. Additionally, its impedance varies according to frequency, with peaks and dips across said bandwidth. Add to that the variables of voltage regulation, current reserve, transient response, stability, intermodulations and phase shifted feedbacks within the supply, and well, you get the idea. Then, consider that the tubes themselves do not amplify the signal, but instead manipulate the power supply across their load to produce an increased amplitude copy of the input signal. Perhaps a more accurate term for "tube amplifier" might even be "modulated power supply." With that in mind, it's not hard to see why the power supply quality is so critical to the sonic performance, and can make or break a given amplifier circuit design. Thermionic

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