Subject: Re: Practical limit to tube based phono preamps
Posted by Wayne Parham on Tue, 20 Dec 2022 19:39:56 GMT
View Forum Message <> Reply to Message

Dude, that's so cool. One of the most useful explorations in tube audio - getting noise down.

Assuming full audio bandwidth as highest priority, reducing noise is only superseded in importance to reducing distortion, and I'm not even sure they're in that order. Once harmonic distortion is under 3% or so - provided its spectral distribution naturally descends in orders - this small amount of distortion isn't really all that unpalatable.

Getting a low noise floor is definitely one of the holy grails in tube audio.

So from what you said, none of the noise - or very little - is related to your amplifier's power supply. To me, that's huge because I find power supply hum to be most annoying. Hiss is less distracting, especially if it is at a very low level. And I'm not sure it can be cured because it's part of the package, being an issue of colliding electrons. It's not like power supply ripple or a ground loop, it's inherent in any circuit with resistance.

At some point, white noise can't be reduced. It's not a qualitative thing - better components won't help here - the only way to reduce it is to reduce bandwidth or reduce circuit impedance or both. And since bandwidth is a sort of a constant (20kHz for audio), we are limited in what can be done at that most fundamental level.