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Subject: Re: The next big thing

Posted by [gofar99](#) on Sat, 11 Jun 2022 02:53:00 GMT

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Hi everyone. I get questions about SRPP stages frequently. I hope the following will help make sense of it for you. If not I tried. If anyone was curious about the distortion levels in the 6AS7 mode.... Really it is sort of simple. Two things factor into this. First there is no global negative feedback to reduce it. I am not fond of NFB to fix things so I use as little or none as possible. Generally only for stability. Second is a bit more obscure unless you work with SRPP stages all the time. They were most often found in the deflection circuits of CRT based TVs. This required a huge voltage swing, decent amount of power and linearity was not really all that important. They did fine at that. For audio use the non-linear action manifests itself as distortion. So, most folks and I am included in this use them only for voltage gain. They are really good at that and can develop very large voltage swings. A drawback is that their gain is restricted to about half the amplification factor of the tubes used. Often called a half mu design. When called upon to deliver current the old problem of non-linear behavior shows up. The "secret" if you want to call it that is to keep the current demand relatively low and carefully chose the load impedance. Too low and it can't deliver the power, ask for too much current and it gets non-linear. So the distortion levels in the amp are directly a function of the current demand. In this case they are rather reasonable up to about 1/2 watt. The thing to remember is that you don't listen to the maximum power level, music is not like that and more often than not the actual average listening level is at most 5-10% of that. So even with low sensitivity phones the 500 milliwatt level will nearly never be needed.

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