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Subject: Re: Valve Phono Preamp

Posted by [gofar99](#) on Sat, 02 Jul 2011 21:50:42 GMT

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Hi, Good comments. It seems that there are only so many ways to do some things. I wanted to avoid a third actual gain stage as it would invert the signal. This can be a problem in a system with other sources that do not invert. As is now I have to swap the speaker polarity when I use the gain portion of the Line stage preamp (seldom as everything has enough drive to use the passive mode). The resistor value is PC generated and includes the 1M following grid resistor. The value when it is not included was right on 75K. It also was verified by measuring the output vs input. The deviation is slight. The worst was at 20HZ where the output was approximately 1 db above the curve. Elsewhere it was within 0.5 db. Generally closer. The 60db is the gain without considering the loss of the RIAA network. I used the value to emphasize the need for careful layout and construction. The overall gain is just under 40 db. The loss in the RIAA network and the use of a cathode follower account for the difference.

I have not seen the book you mentioned and will check it out. Good reference materials are hard to find. As you implied, noise is a serious issue in this type of circuit. Several techniques are available to reduce it, but they seemed to add more complexity to the circuit than I wanted. I admit to being of the simpler is better bunch. Plus it makes it more expensive and harder for diyers to build. As it is now, it is somewhat more complicated than I would have wanted. With respect to noise, I found that an active RIAA filter designed much like you would for an OP amp was a bit quieter, but I didn't like the sound. The 20 plus db of NFB was probably the issue. With actual IC OP amps you can get around the use of NFB as they have very high gain/bandwidth products and fast slew rates. In tubes the need to keep the stages to a minimum works against you in this area.

A general thought... there is a large number of individuals that don't like the use of SRPPs in audio. I personally suspect it is because they have been misused in the past. For strictly voltage amplification uses the problems that others seem to fear do not materialize. If I were to change the topology, I would most likely go for mu followers. Most of the benefits are the same and you have the potential for a bit more gain. Thanks for your thoughts.