
Subject: RIAA preamp?

Posted by [Damir](#) on Thu, 03 Feb 2005 17:39:57 GMT

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Hey, just a thought - oversized PS with free 2x300V winding, big chassis - why not put RIAA preamp inside, selectable to the input (100k pot) of the line preamp? I tinkered for a few hours about this idea today - I tried to be as simple as possible ("all in one go" EQ, just one double triode), and without "exotic", hard to find values for the RIAA EQ - R1, R2, C1, C2. The little "trick" is to find the C1 cap with little lower value than standard 10nF, about 9,76 nF (not a big problem actually, most of the standard 10 & 20 % caps I tried are little lower in value). Then, with our RIAA equations: $R1C1=2187\mu S$, $R1C2=750\mu S$, $R2C1=318\mu S$, $C1/C2=2,916$ we can find: $R1=224$ kOhms - our Rout from the first stage is about 3k, and we can use standard E96 value, 221k/1% (even E24 value 220k with small selection) $R2=32,58$ kOhms - little tricky, we can select between some 33k resistors, or use some combination, or just use E96 value 32,4k $C2=3,347$ nF - "input" capacitance of the second stage is about 47pF, and just use standard 3,3nF cap of your choice (2,5% tol. if possible) If we want to use this preamp to drive more than few cm of cable, then we can use active DN2540 load for $R7=15k$, and use low imp. out. Theoretical amplification is about 80 times/1k, more than enough for "normal" MM cartridges + our line stage. Well, this is just some thoughts/computing/simulations (almost perfect, of course:-)). Is not a problem to build it, problem is that I don't have the quality measuring devices to actually try RIAA accuracy:-(. Maybe...hm...Doug? And, BTW - some other tubes besides E188/7308 can be implemented, probably E180CC, maybe 6N1P or so... Both triodes work with rel. high current, $Ia1=10mA$, $Ia2=9,5mA$. Thoughts?
