Subject: amp input stage
Posted by PakProtector on Sat, 09 Apr 2005 10:42:14 GMT
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Hey-Hey!!!,How much input impedance(variable with frequency thanks to Miller et Al), is acceptable?From the extreme of an amp with a 470kOhm grid leak and a pentode gain stage to a Sakuma-style 845:845 amp or step up TX coupling. The load on the linestage is going to have some effect on the sonics, and will depend on the ability of the pre to drive a difficult load.So, where is the line in the sand, or is it a broad smudge? Of course cabling can contribute to the capacitive load on the pre....I suppose one answer would be to use the pre which can drive anything. These are usually either complex or 'spensive.regards,Dogulas

Subject: Re: amp input stage
Posted by Manualblock on Sat, 09 Apr 2005 11:49:35 GMT
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So Doudlas; what is this pre that can drive anything? How much input impedance does Merlin exhibit?

Subject: Re: amp input stage
Posted by Wayne Parham on Sat, 09 Apr 2005 13:14:01 GMT
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I think it's kinda like friction. If you're trying to lubricate your main bearings, you can't reduce it enough but if you're trying to launch from the lights, you want tires with as much as you can get.Increase impedance and noise immunity goes down. Reduce impedance and you need more drive from the stage in front, or you'll exceed it and increase distortion.

Subject: Re: amp input stage
Posted by PakProtector on Sat, 09 Apr 2005 15:58:02 GMT
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Well, the pre that can drive anything is right beside the perfect amp...At a more practical limit, we have Guinevere.Merlin is fairly high input Z, basically as set by the grid leak of the driven triode. I think I drew this at 100k, but 47k resistor would be a good suggestion, and less might be even better. The cascode shields the grid in a similar way the screen grid in a pentode does, so we don't have a triode's Cg-a multiplied by Miller capacitance.I take Wayne's mention of noise

resistance as important. If we're going to drive Merlin with a pre like Guinevere, we can probably cut the input grid leak resistor to 20k or less w/o troubles. I am going to get out the Iron and try some of this on my amp as soon as I can. regards,Douglas

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Subject: Re: amp input stage
Posted by Manualblock on Sat, 09 Apr 2005 16:31:54 GMT
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Keep us posted. Don't be such a stranger, already!

Subject: Re: amp input stage
Posted by Steve on Tue, 12 Apr 2005 02:49:40 GMT
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Yes, the input capacitance of the amp can be up to 100pf. Cables vary so much. I have seen them as low as 30pf/meter and as high as 475pf/meter.I try to keep the ICs as low as possible as the tube's miller is pretty much set by the designer.Hope this helps.Steve

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Subject: some test results...
Posted by PakProtector on Sun, 17 Apr 2005 12:39:47 GMT
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Hey-Hey!!!,I removed the 150k grid leak resistors from the input stage of my amp and replaced them with 15k. The 20 cps output Z of my linestage is dictated by its 7.5 uF coupling cap, so a 15:1 ratio of input Z to linestage output Z seemed OK from a filter/freq response POV.I find the system a bit cleaner now. It's not a big difference, but subtle ones are OK with me at this point. Same type of resistor, a 1/2 watt carbon film from Radio Shack.After listening for a while, I keep thinking that the change was worth it. A worthwhile deviation from std. practice if a system analysis looks to support the change. I would not suggest trying this if a Dynaco PAS 3 were the linestage. A 12AX7 and .22 uF or so coupling cap is not going to cut it I suspect...regards,Douglas

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Subject: Re: some test results...
Posted by Steve on Thu, 02 Jun 2005 01:22:50 GMT
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"A 12AX7 and .22 uF or so coupling cap is not going to cut it I suspect..."Correct Douglas. And even a 10:1 ratio isn't bad unless the output Z of the pre is fairly high. But then the IC and amp input capacitance would be more of a problem.Take care. Steve