Subject: Plate Choke Miller Capacitance
Posted by moray james on Fri, 10 Jun 2005 19:59:33 GMT
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Is there a practicle way to reduce or eliminate the miller capacitance of a plate choke? I ask as I am wanting to use a plate choke to filter the output of a high voltage supply for an electrostatic loudspeaker. It has been suggested that the stator insulation of an ESL can store enough charge to modulate the resistively coated diaphragm. This then can couple back to the high voltage supply. So the choke has been suggested as a fix to this concern and found to be effective. The choke recommended is a ten H choke with six chambers to reduce miller capacitance. These chokes are expensive. I am wondering if there is a way to use an inexpensive choke and somehow neutralize the internal miller capacitance? Any suggestions help or advice would be welcome. Best regards Moray James.

Subject: uhhh...
Posted by PakProtector on Sat, 11 Jun 2005 15:15:47 GMT
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There is no Miller effct on the capacitance in a choke. the shunt capacitance can be addressed by wind methods. neutralizing it is probably going to be a fewquency speicfic job, and the audio passband is a bit large for that sort of thing.regards,Douglas

Subject: Re: uhhh...
Posted by moray james on Sat, 11 Jun 2005 22:42:15 GMT
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Douglas: thanks for your respones. You are right as I used an incorrect term which is used in connection to amplifiers. I think that the agreed upon minimum that can be expected with respect to interwinding capacitance in a choke of this size (10 H) is about 30pf. I believe that capacitive filtering and snubbers should deal with all the concerns of this high voltage supply. That said the choke may well be doing something and it needs to be investigated. I have a set of 7 H chokes and assorted other parts and plan to compare and listen to the results. Will post what I find. Best regards Moray James.

Subject: Re: uhhh...
Posted by Triode_Kingdom on Fri, 17 Jun 2005 19:22:16 GMT
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This problem exists in RF amplifiers, also. Anode chokes must be wound in sections, and/or make use of special winding techniques, in order to avoid destructive self-resonances within the passband. You might try placing a number of smaller chokes in series, say five 2H chokes, or ten 1H chokes (or some combination of the two). In any event, you'll need to measure the self-resonant fequency of the string before using it.
