Subject: Re: Kinda reproducing a square wave
Posted by Wayne Parham on Thu, 18 Mar 2004 18:55:40 GMT
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Certainly, there is the issue of slew rate and overring. I would suggest an acceptable limit of minimum slew rate and maxiumum overring. If we were to quantify the issue, it would remove ambiguity.I agree that no perfect square wave is possible, and that is a mathematical curiosity since a perfect sine wave is realizable. The perfect square wave isn't possible because of the fact harmonics content would have to be infinite.But if we set limits, say slew rate less than 10µS and overring less than 0.1%, then we can discuss a realizable square wave. And I think that is realistic. That at least puts us in the realm of possibility, and I would argue that a square wave having 10µS rise/fall time and less than 0.1% overrring would sound absolutely perfect. It's a great goal. That then leaves us with the other issues to discuss.We won't have much trouble finding signal generators and amplifiers capable of square waves with 10µS rise/fall time and less than 0.1% overrring, but we'll have a hell of a time finding electro-mechanical devices that can do it and an almost certainty of inability to find electro-mechanico-acoustic devices that can generate this waveform between 20Hz and 20kHz.