Subject: Re: Two Pi inductors
Posted by Wayne Parham on Fri, 20 Sep 2002 16:06:10 GMT
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Hi David!There are some suitable inductors with larger conductors that will work just fine. Examples include a 14 guage coil and an 18 guage coil. You'll notice that resistance of the 14 guage part is 0.14 ohms, the 18 guage part is about double that at 0.32 ohms and the 20 guage part has 0.5 ohms resistance. Each of these handles more power than the midrange/woofer, so current capacity isn't an issue. Only Q is of interest.Each of these coils acts the same above 1kHz, where they're designed to work. They don't do much of anything below that. But added series resistance can have an effect on bass-reflex tuning, and that's really where DC resistance potentially becomes an issue. Series resistance changes Q, with increasing resistance raising the Q.Of course, larger coils will keep system Q lower. But when I analyzed the effects of these fractional ohm resistances on the system, I find that the increased Q from 0.5 ohm added series resistance produces less than 1dB elevation in the 100Hz region. So that made the decision for me; This is exactly what we want from this part. There was no need to use a larger coil. But you certainly won't hurt the design by using a larger coil either.Take care!Wayne