Subject: Do inductor coils combine like other components?
Posted by BillEpstein on Fri, 11 Mar 2005 10:36:00 GMT
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Can I add/subtract/multiply/divide coils in parallel or series to acheive a valu? Searches yield zip!

Subject: Yes, But!!!!
Posted by spkrman57 on Fri, 11 Mar 2005 13:20:29 GMT
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Bill, coils in series get added, coils in parallel are treated like parallel resistorsL1 x L2 = LxL1 + L2 = LyLx and Ly then divide up, just like odd value resistors.Bill, remember that coils in series will also add DCR, and orientation of the coils may interact also.I have never had reason to parallel coils as interaction would mess with that also.What value do you need????? I can look in the basement inventory and check for you.If you have a coil that is a higher value than what you need, then remove a few turns and measure until the value you want is reached.Wayne, double check my work above so I don't give wrong info...Ron

Subject: Re: Yes, But!!!!
Posted by Wayne Parham on Sat, 12 Mar 2005 02:51:03 GMT
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Coils increase inductance and resistance in series, decrease in parallel. This assumes there is no magnetic interaction between coils, that they are separated physically and/or out of alignment so their flux in in different axis. If they combine, this change inductance in an additive or subtractive fashion, depending on their magnetc interaction. That's why coils on crossovers are sometimes placed in different orientations, to prevent interactons.The formula for series inductance is:LT = L1 + L2 + L3...Likewise, for series resistance:RT = R1 + R2 + R3...Parallel inductance is found by:LT = 1 / (1/L1 + 1/L2 + 1/L3...)And parallel resistance by:RT = 1 / (1/R1 + 1/R2 + 1/R3...)