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Subject: Crossover networks for horns

Posted by [Wayne Parham](#) on Thu, 12 Sep 2002 19:36:40 GMT

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Kevin Grier (EZ\_Angus) bought an active tube crossover, and I'm hoping to find time to look over the circuit with him. It would be nice if it were able to be setup to have a response curve like the

OU, so we are fairly close. We're planning to get together soon, and see if this particular unit "fits the bill." In the meantime, I plan to examine his crossover circuit schematic more closely; Maybe use one of the Spice-like tools designed specifically for tube circuit analysis. See Kevin's thread about his tube crossover. I think that it may work well, and the response curve required might be generated with a slightly modified form of the Steve Bench crossover that Kevin plans to use. This could be done by simply adding a capacitor-bypassed series grid resistor and a small value inductor across the grid and cathode on the high frequency circuit, making it essentially the same as the "line-level passive" filter configuration I suggested to Garland. But I don't know yet - I've only just glanced at Steve Bench's crossover schematic and haven't "run the numbers" yet to see

crossover devices that our friends here have used, but limited time prevents me from looking at them all. It's even proving difficult to find time to examine even just this one unit properly. But I'd really like to have an active crossover I could recommend, having the response curve required, even if that means designing one. There's a special filter required when running compression horns, in order to provide the necessary EQ. It's not the same as a two-way crossover for direct radiators. And it would be nice to have a tube implementation and a semiconductor implementation too. We've discussed making a new design several times here on the forum, and really, the effort is about the same to start a new design as to properly analyze an existing one. That may be the best way to go about it, I don't know yet because I just haven't focused my efforts in that direction. So maybe new design vs. analysis of existing designs is "six one way and half a dozen the other." Let us know if you find others that can be configured with slightly over-unity Q at the crossover point and rising response above 4kHz. That gives us flat response for the first couple of octaves, and then rising response after that - Just what we need in order to generate an overall flat power response from the compression horns used.