

True Audio's Linkwitz Transform Circuit Design Spreadsheet

21. Sep 99

Enter the values in bold (non bold values are calculated)

Enter the Following:

$f(0) = 73$ Hz
 $Q(0) = 0,836$
 $f(p) = 30$ Hz
 $Q(p) = 0,71$

$k = 1,621$ ($k > 0$ required)

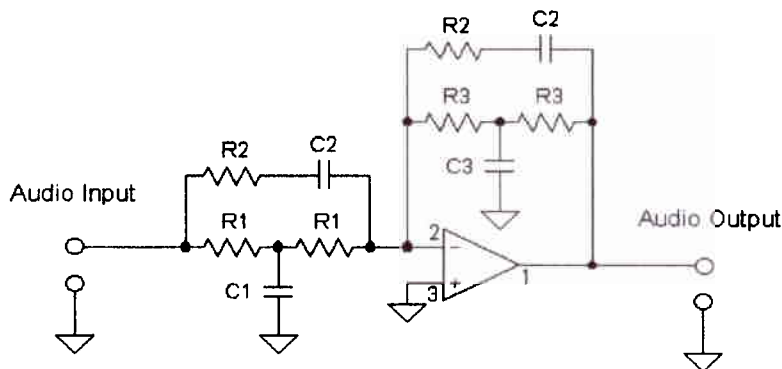
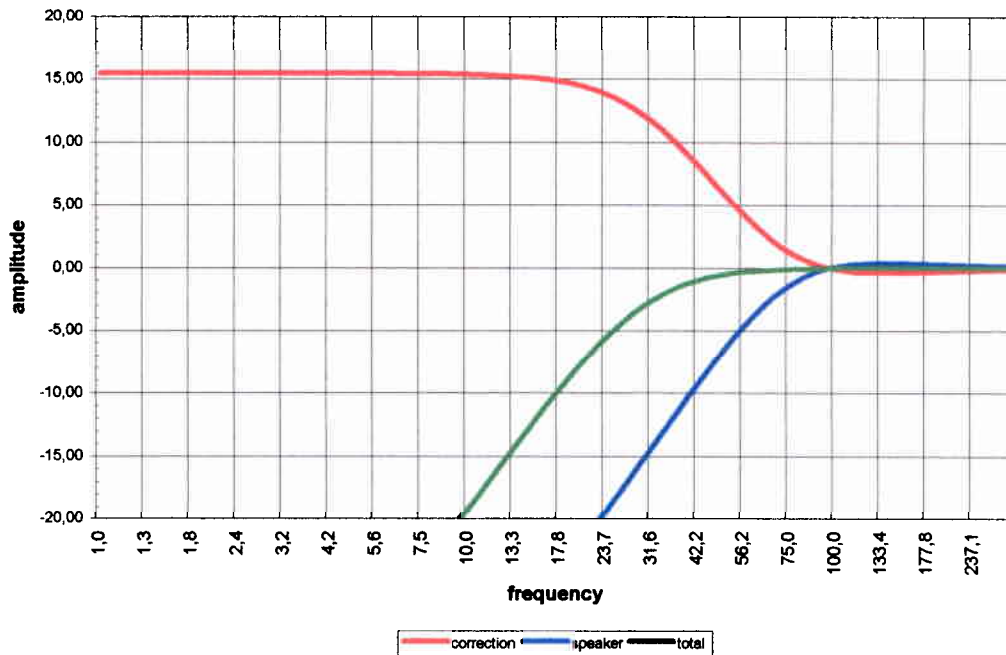
Choose C2

$C2 = 0,2$ μF

The Component Values Are:

$R1 = 2,49$ kOhms
 $R2 = 8,07$ kOhms
 $R3 = 14,73$ kOhms
 $C1 = 3,842$ μF
 $C3 = 0,6489$ μF

DC gain = 15,45 dB



- Notes:
1. $F(0)$ and $Q(0)$ are the $F(sc)$ and $Q(tc)$ of the existing closed box speaker.
 2. $F(p)$ and $Q(p)$ are the target $F(sc)$ and $Q(tc)$ of the "transformed" system.
 3. Increase $C2$ to lower $R1$, $R2$, $R3$
 4. The frequency ratio sets the DC gain. Caution on using DC Gains over about 20 dB !
 5. See the Linkwitz article in Speaker Builder, Issue 4/1980

Thanks to Luc Henderieckx (luc.henderieckx@pandora.be) for additional analysis and the response plots!

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www.trueaudio.com/downloads/linkwitzform.xls

Visit True Audio on the web at: www.trueaudio.com