

True Audio's Linkwitz Transform Circuit Design Spreadsheet

21-sep-99

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

Enter the Following:

$f(0) = 41,97$ Hz
 $Q(0) = 0,92$
 $f(p) = 31$ Hz
 $Q(p) = 0,71$

$k = 0,093$ ($k > 0$ required)

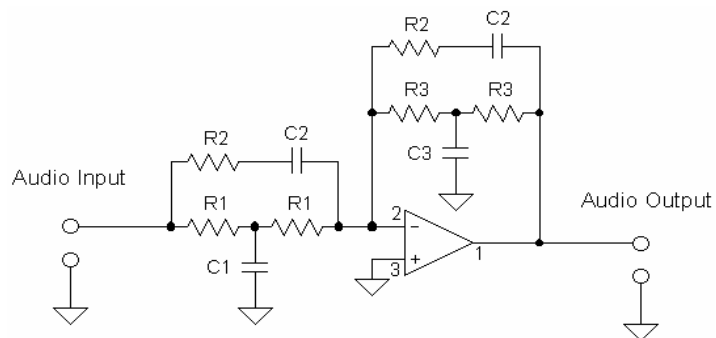
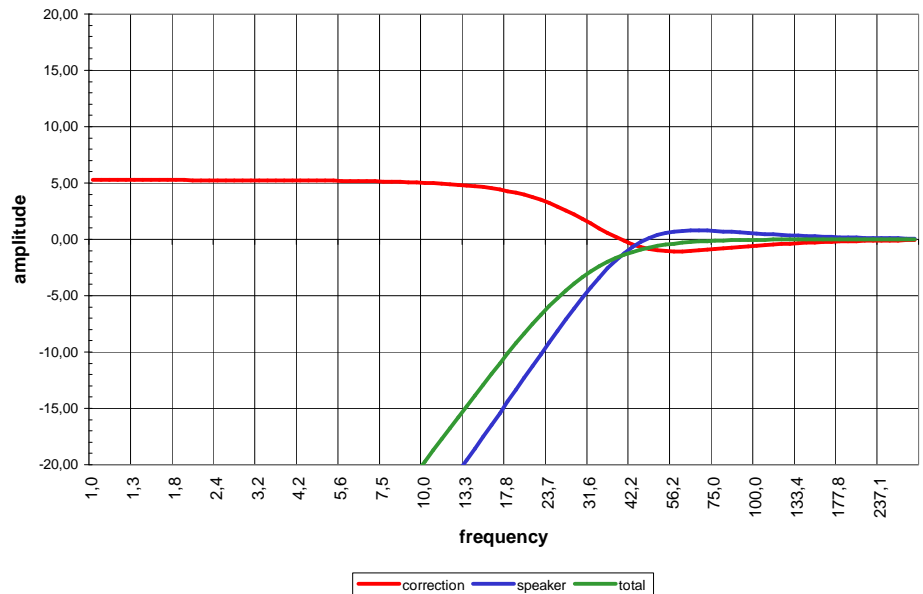
Choose C2

$C2 = 0,1$ μF

The Component Values Are:

$R1 = 18,85$ kOhms
 $R2 = 3,52$ kOhms
 $R3 = 34,55$ kOhms
 $C1 = 0,405$ μF
 $C3 = 0,2209$ μF

DC gain = 5,26 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!

Thanks also to Dean Canafranca (deanc@super.net.ph) for the speaker box analysis sheet

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 Added ability to use litres in "Box" sheet - Rod Elliott (ESP)

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