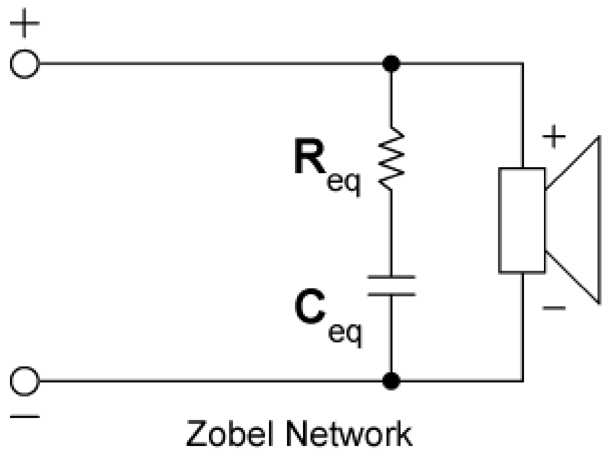
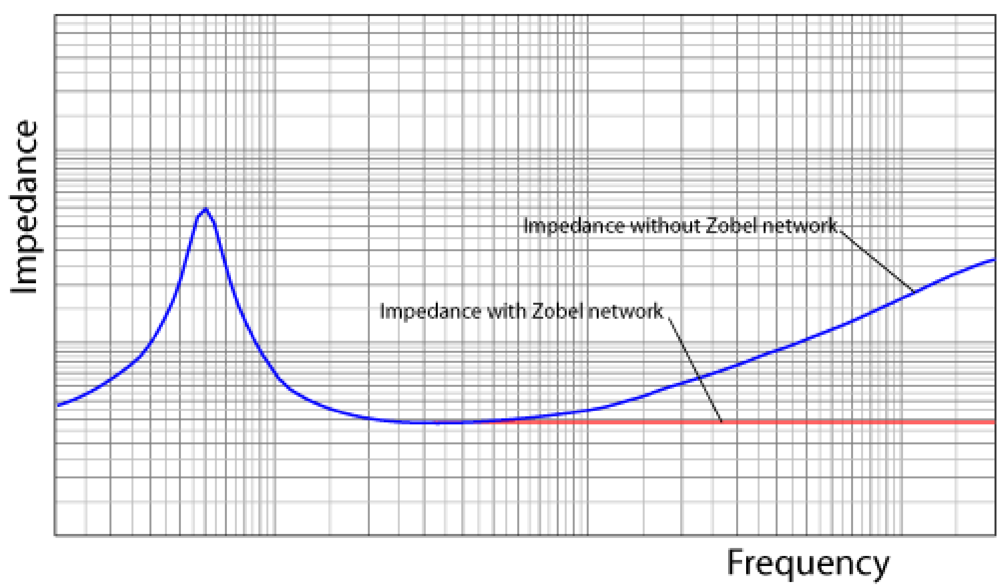
Wavecor. Technical information. Zobel networks for impedance linearization.Useful in some cases for designing crossovers. Add in parallel with the driver an electronic circuit consisting of a resistor and a capacitor in series. This will compensate for the driver impedance rise caused by the voice coil inductance.

Technical information: **Suggested Zobel networks for Wavecor drivers**

In some speaker designs it is an advantage to use a so called Zobel network (figure on the right) to linearize the impedance of a drive unit.
The effect of a correctly designed Zobel network is shown below on the impedance curve.
Whether to use a separate network to equalize the high frequency impedance will depend on the crossover topology used, on personal design preferences, etc.
A Zobel network is a series resistor-capacitor (Req-Ceq) network that is connected in parallel with a loudspeaker driver in order to neutralize the effects of the driver's voice coil inductance Le (see note below about Le).
If a Zobel, or other kinds of networks, are used for driver impedance linearization/modification, it is important that the network be connected right on the driver terminals, between the driver and the crossover.





Note about Le: *Normally the voice coil of a speaker driver is assumed to introduce a series inductance in the electrical equivalent circuit - most often called Le.*
If this assumption was true, the impedance curve of the drive would increase by exactly 6dB/octave at high frequencies. This is actually not the case as the impedance rise is closer to 3dB/octave.
Read more about an alternative equivalent circuit here (305KB PDF).
Although we are not dealing with a true inductance, the principle of neutralizing it using a resistor and a capacitor (zobel network) works rather well anyway.

Driver model	R_{eq}	C_{eq}

FR070WA01, 4 ohm *	8.2 ohm	5.6 uF
FR070WA02, 8 ohm *	22 ohm	2.2 uF
SW070WA01, 4 ohm	3.9 ohm	18 uF
SW070WA02, 8 ohm	8.2 ohm	6.8 uF
SW178WA01, 8 ohm	6.8 ohm	47 uF
SW182BD01, 4 ohm	4.7 ohm	82 uF
SW182BD02, 8 ohm	8.2 ohm	47 uF
SW263WA01, 8 ohm	8.2 ohm	33 uF
SW263WA03, 4 ohm	5.6 ohm	47 uF
SW310WA01, 8 ohm	10 ohm	39 uF
SW310WA02, 4 ohm	5.6 ohm	56 uF
WF110WA01, 4 ohm	3.9 ohm	15 uF
WF110WA02, 4 ohm	4.7 ohm	18 uF
WF110WA03, 8 ohm	8.2 ohm	6.8 uF
WF110WA04, 8 ohm	8.2 ohm	8.2 uF
WF118WA01, 4 ohm	4.7 ohm	18 uF
WF118WA02, 8 ohm	8.2 ohm	6.8 uF
WF120BD01, 4 ohm *		
WF120BD02, 8 ohm *		
WF120BD03, 4 ohm *	10 ohm	10 uF
WF120BD04, 8 ohm *	22 ohm	4.7 uF
WF132TU01, 4 ohm	3.9 ohm	22 uF
WF132TU02, 4 ohm	3.9 ohm	27 uF
WF138WA01, 4 ohm	3.9 ohm	22 uF
WF138WA02, 4 ohm	3.9 ohm	27 uF
WF138WA03, 8 ohm	8.2 ohm	10 uF
WF138WA04, 8 ohm	8.2 ohm	10 uF
WF146WA01, 4 ohm	3.9 ohm	27 uF
WF146WA02, 8 ohm	8.2 ohm	10 uF
WF160WA01, 4 ohm	3.9 ohm	22 uF
WF160WA02, 4 ohm	3.9 ohm	27 uF
WF166TU01, 4 ohm	3.9 ohm	22 uF
WF166TU02, 4 ohm	3.9 ohm	27 uF
WF168WA01, 4 ohm	4.7 ohm	22 uF
WF168WA02, 8 ohm	8.2 ohm	10 uF

Drivers marked ***** have very slight impedance rise at high frequencies, typically because the center pole is covered by a copper cap (for the exact purpose of keeping impedance rise low). For these drivers the Zobel network is not a perfect impedance compensation but the shown Req and Ceq values are considered best compromise.