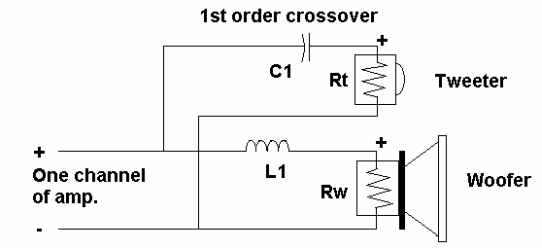
ILLINOIS CAPACITOR, INC.
3757 W. Touhy Ave., Lincolnwood, IL 60712 • (847) 675-1760 • Fax (847) 673-2850 • www.illcap.com

Speaker Crossover

1st Order Crossover – 2 Way Speakers

$$C = \frac{1}{6.28318 F_c R_t} = \frac{.159155}{F_c R_t}$$

Where F_c = Crossover Frequency (Hz)
R_t = Tweeter rated impedance (Ω)



2nd Order Crossover – 2 Way Speakers

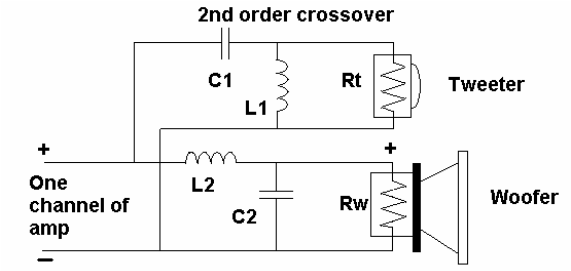
Tweeter Section

$$C_1 = \frac{1}{4\pi F_c R_t}$$

Woofer Section

$$C_2 = \frac{1}{4\pi F_c R_w}$$

Where C_1, C_2 = Tweeter Section Capacitance (uF)
R_t = Tweeter rated impedance (Ω)
R_w = Woofer rated impedance (Ω)
F_c = Crossover Frequency (Hz)



3rd Order Crossover – 2 Way Speakers

Tweeter Section

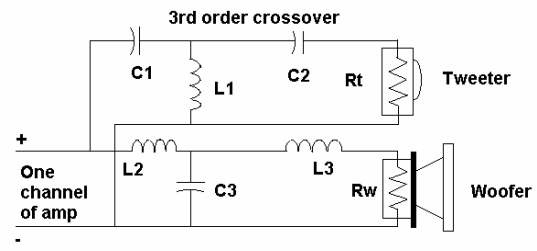
$$C_1 = \frac{106{,}103}{4\pi F_c R_t}$$

$$C_2 = \frac{318{,}391}{4\pi F_c R_t}$$

Woofer Section

$$C_3 = \frac{272{,}207}{4\pi F_c R_w}$$

Where C_1, C_2 = Tweeter Section Capacitance (uF)
C_3 = Tweeter Section Capacitance (uF)
R_t = Tweeter rated impedance (Ω)
R_w = Woofer rated impedance (Ω)
F_c = Crossover Frequency (Hz)



1ST Order Crossover – 3 Way Speakers

Tweeter Section (High Pass)	Woofer Section (Band Pass)	
$C_1 = \frac{159{,}155}{F_{HC}R_t}$	$C_2 = \frac{159{,}155}{F_{LC}R_m}$	Where C_1 = Tweeter Section Capacitance (uF) C_2 = Mid-range Section Capacitance (uF) F_{HC} = High frequency Crossover Frequency (Hz) F_{LC} = Low frequency Crossover frequency (Hz)