PyroElectro.com - PyroEDU

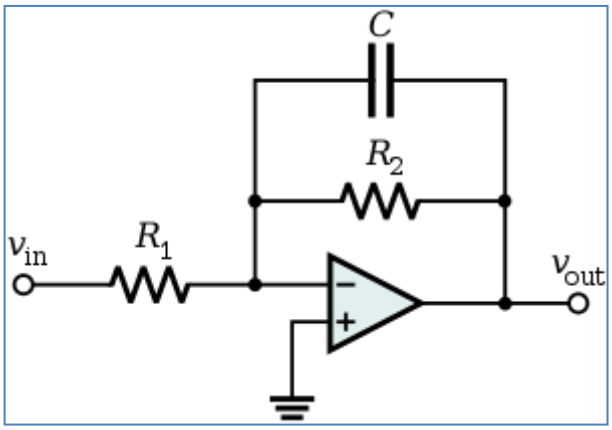
Introduction To Analog Electronics – Lesson 7: Active Filters

FORMULAS

The following formulas and information are meant to go with the online lesson found here:
http://www.pyroelectro.com/edu/analog/active_filters/

ACTIVE FILTER FORMULAS

Here you can see a simple schematic of a standard active low pass filter:



The formulas that define at which point the filter starts to affect incoming frequencies are defined by the two formulas seen below. Wc yields frequency in radians per second units and Fc yields frequency in the more familiar Hertz unit.

$$\omega_c = \frac{1}{R_2 C}$$

$$f_c = \frac{1}{2\pi R_2 C}$$

As luck would have it, these two formulas actually hold true for both active high-pass and active low-pass filters. But keep in mind the differences between low and high pass filters and how they operate still applies.

ADDITIONAL INFORMATION

If you have any questions about the formulas or information found in this document, please feel free to head on over to the forums and ask us some questions!
http://www.pyroelectro.com/forums/