

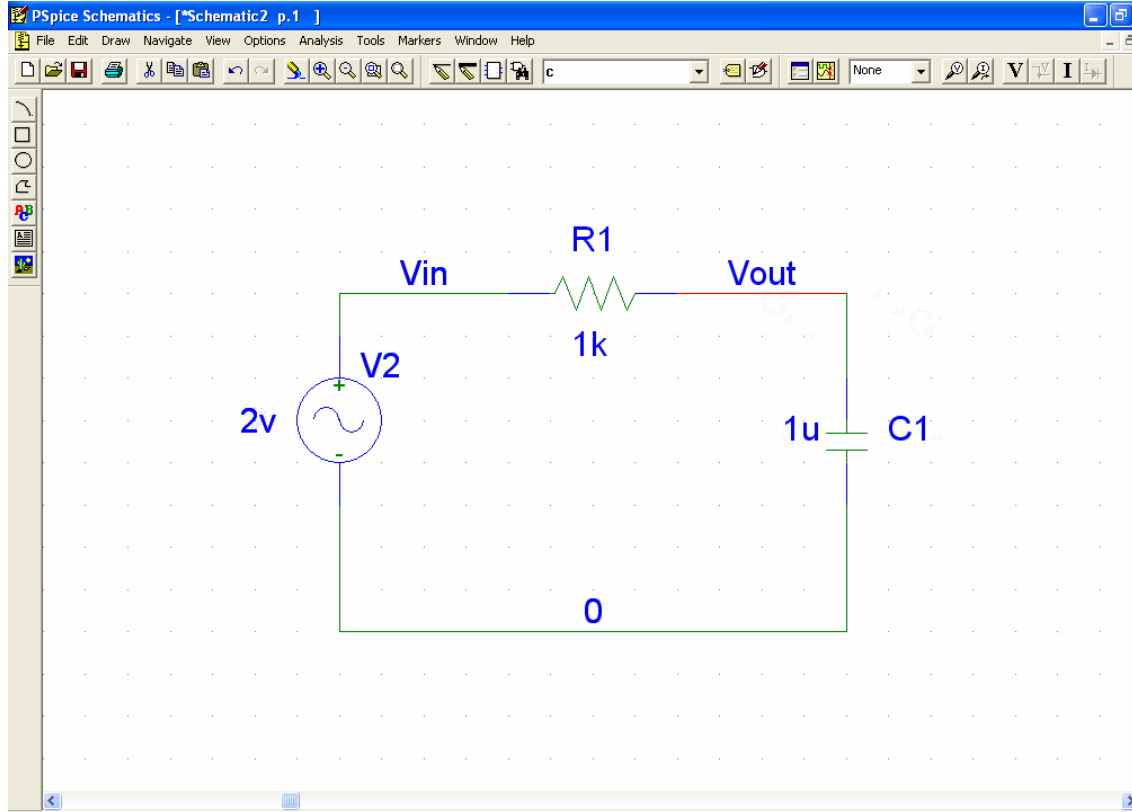
## PSpice Tutorial Part Two: AC Low Pass Filter

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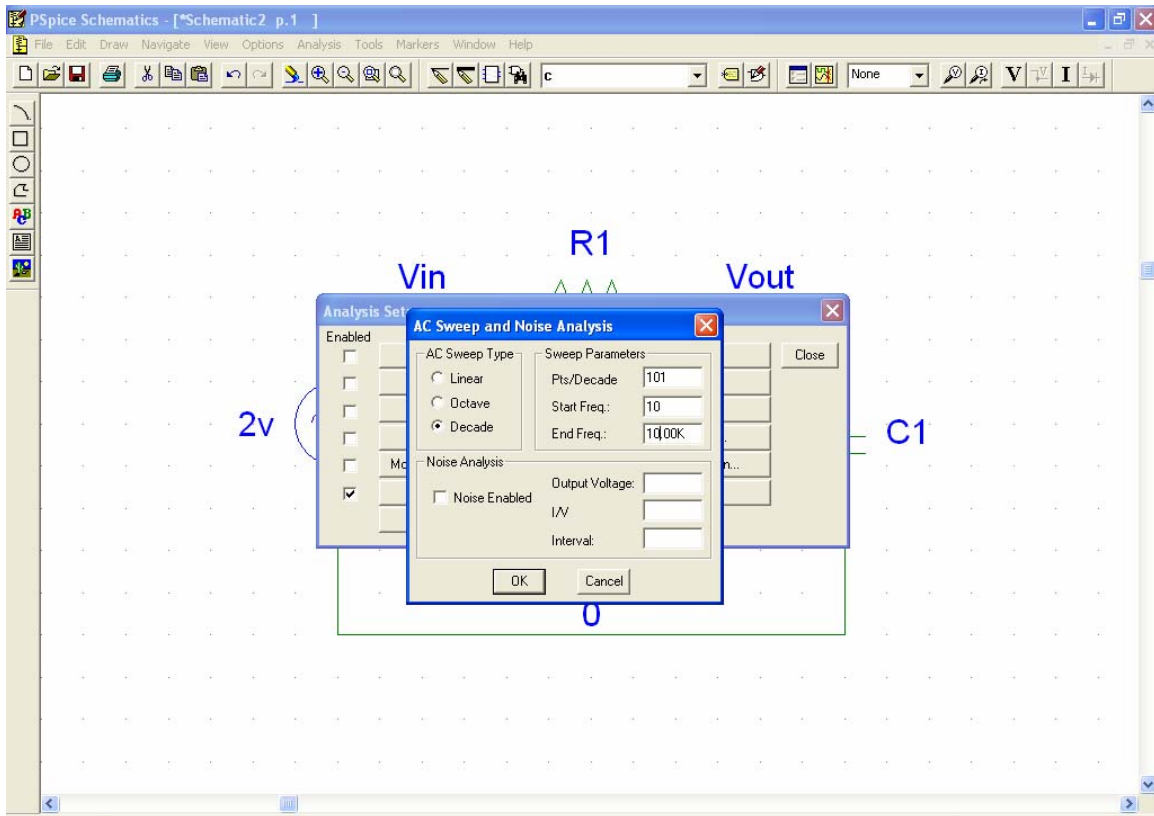
This tutorial may be more useful after reading PSpice Tutorial Part One: DC Voltage Divider.

Start by opening a new Schematic. The VAC voltage source will be needed for the following circuit. VAC is typically useful when doing a variable-frequency analysis while VSIN (sinusoidal) is useful when doing a single-frequency analysis. Since it is known that the needed part is called “VAC”, one can simply type it into the text-field in the center of the top toolbar and press enter to access the part. Using the text-field or part browser, build the circuit in Schematic 2.



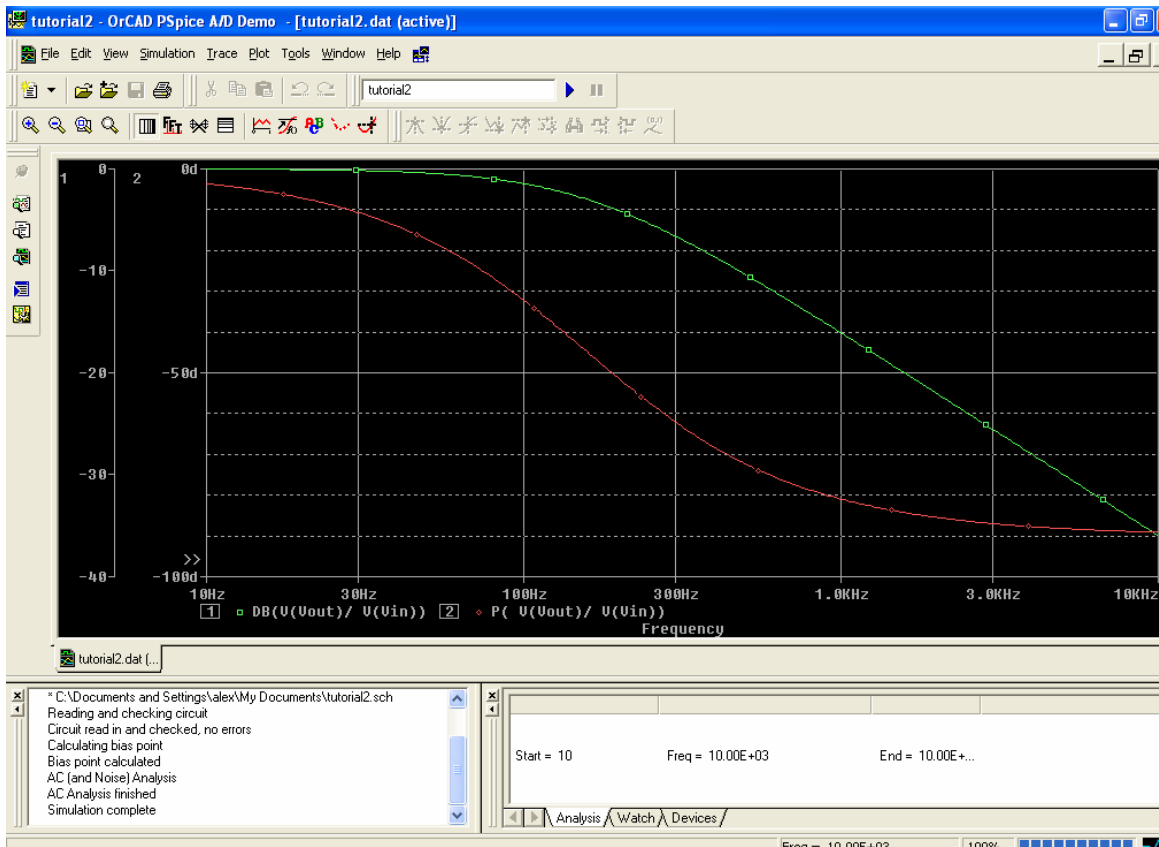
Schematic 2

Now we will set up a frequency sweep analysis. Use the *Analysis>Setup* to access the AC Sweep options. Set the following parameters: Sweep Type= Decade, 101 pts, start frequency 10, and end frequency 10k.



**Figure 1: AC Sweep Setup**

Save your file and start your simulation. First, we will plot the trace of gain on our DB scale. It is worth noting that since we performed a logarithmic sweep, the graph has defaulted to a log x axis. To look at our decibel gain, we can use the Probe function  $DB(V(Vout)/V(Vin))$  on the right side of the add trace menu. Plot a trace of  $DB(V(Vout)/V(Vin))$ . To plot the phase relation of the signals on the same graph, we will need a second axis. On the menu bar, select *Plot>add y axis*. For the new phase relation trace plot  $P(V(Vout)/V(Vin))$ . Your new plot should look like figure 2:



**Figure 2: AC Sweep Plot**

This completes our AC analysis.