

CM-1 Evaluate the differential amplifier circuit shown when it is driven by an opamp (LM324) that has an inherent CMRR error.

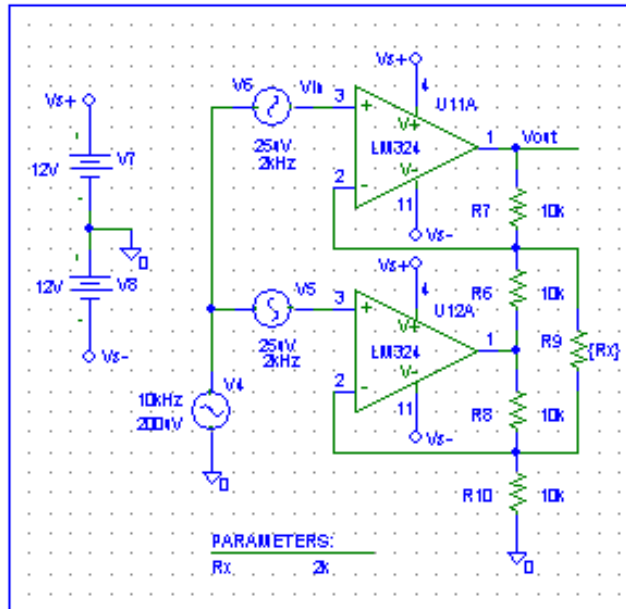


Figure CM1-1: Differential amplifier construct. Make use of ‘bubbles’ to apply power supply rails to opamp model.

(a) For setup use the menu **Analysis>Setup>Transient** and set final time = 1ms with step ceiling 1us. Enable Fourier analysis with center frequency 2kHz and for 10 harmonics. Show behavior of the circuit by overlaid traces of V_{in} and V_{out} . Using the Fourier table for V_{out} evaluate the CMRR and the THD for the circuit. The Fourier table can be viewed via the **Analysis>Examine Output** command.

(b) Replace the LM324 opamp with the LF411 high-performance opamp and repeat the analysis of part (a).

Models for both of the opamps cited (LM324 and LF411) are available in the pSPICE **PARTS** library.