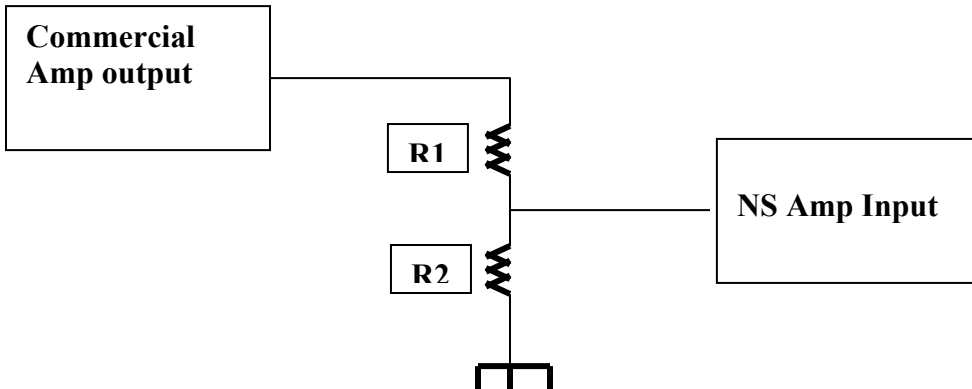


Creating a Simple Voltage Divider

Often we need to attenuate the analog output of an amplifier to allow it to meet input specifications of the NS amps. Our high level inputs on the NS amps provide for an input signal range of $\pm 2.5V$. Many commercial amplifiers that we attach to these high level inputs have analog signals with higher output levels (e.g., Biopac GSR unit is $\pm 10V$). The following is a diagram of a simple voltage divider:



The ratio of $R2$ to $R1 + R2$ will determine the fraction of the total V sent to the NS amps. Also, the total $R1 + R2$ may be important because too low or high may cause problems based on input impedance of the NS amps and current that can be driven from the commercial amp (not completely clear on this but $R1 + R2$ on the order of 20K has been used successfully in a few different instances)

For example: If we want a 2:1 divider, use $R1 = 10K$ and $R2 = 10K$
 If we want a 4:1 divider, use $R1 = 15K$ and $R2 = 5k$

This voltage divider can be easily built directly into the phono plug that connects into the NS amps. Here is how:

