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Operational amplifier

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1 Execution

In order to determine the frequency response, a negative feedback operation amplifier as shown in Figure 1 is set up, which is adjusted via the negative feedback branch. The output voltage and the input voltage are graphically displayed on an oscilloscope. To

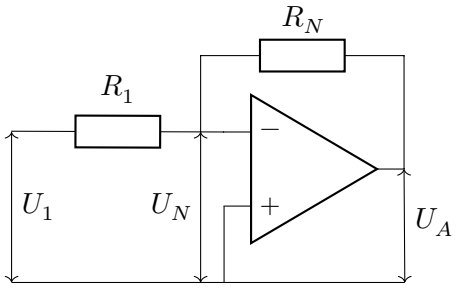

Figure 1: Feedback inverting linear amplifier.

determine the terminal voltage, use the circuit shown in Figure 1 and a non-inverting electrometer amplifier shown in Figure 2. The circuitry is then used to determine the terminal voltage. Circuit 3 is constructed to integrate input signals using the operational

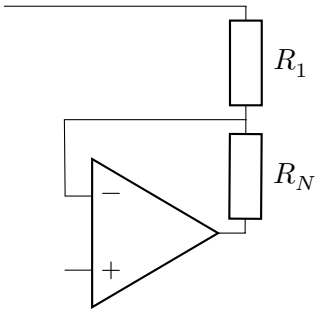

Figure 2: Non-inverting electrometer amplifier.

amplifier. In order to differentiate an input signal, the resistor and capacitor in Figure 3

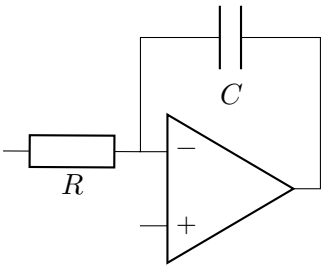

Figure 3: Reverse integrator.

are swapped according to Figure 4. The Schmitt trigger which works as a switch because

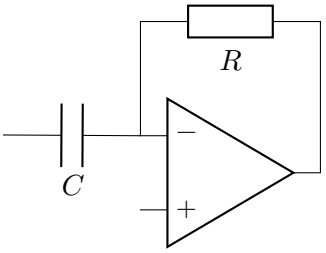

Figure 4: Reverse integrator.

the output voltage changes its sign when the input voltage falls under the following condition:

$$\frac{-R_1}{R_P} U_B \tag{1}$$

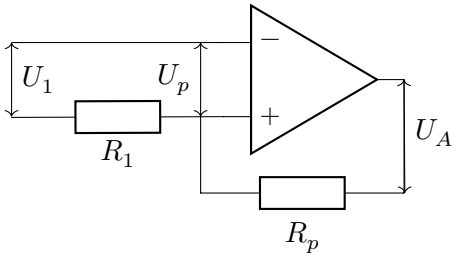

Figure 5: Schmitt-trigger