



ENGS152 Circuits Lab

OpAmp Circuits - Part 3

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Step 1: Non-Inverting Adder

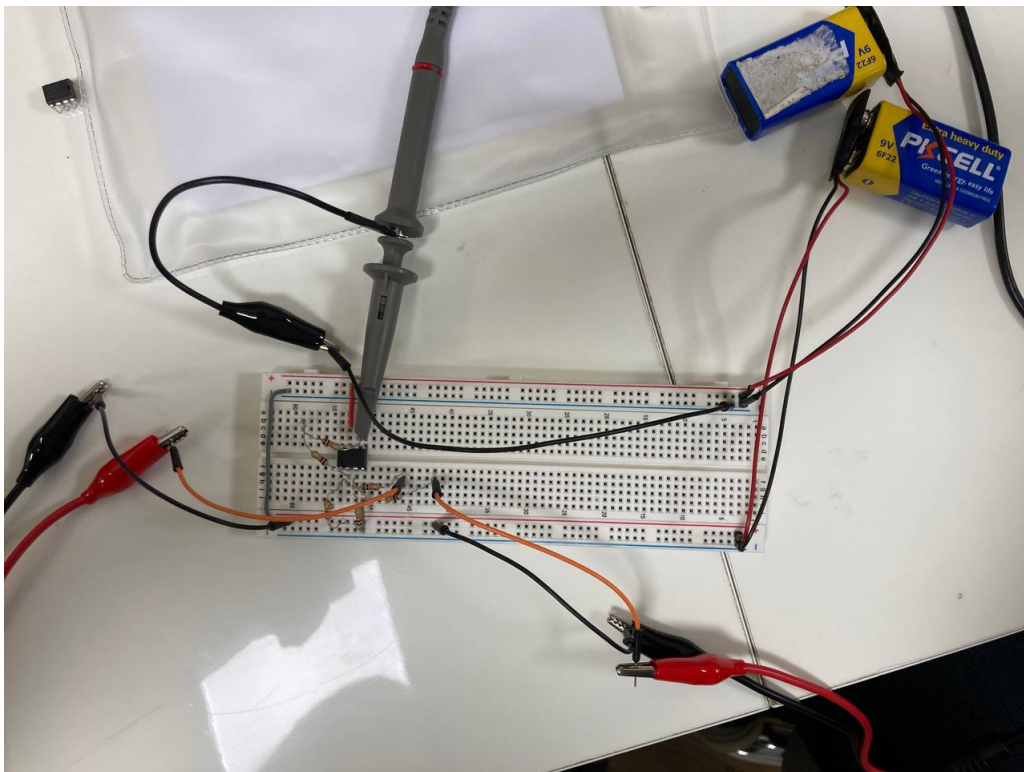


Figure 1: Adder circuit connections

Four $10k\Omega$ resistors and one $20k\Omega$ resistors were chosen.

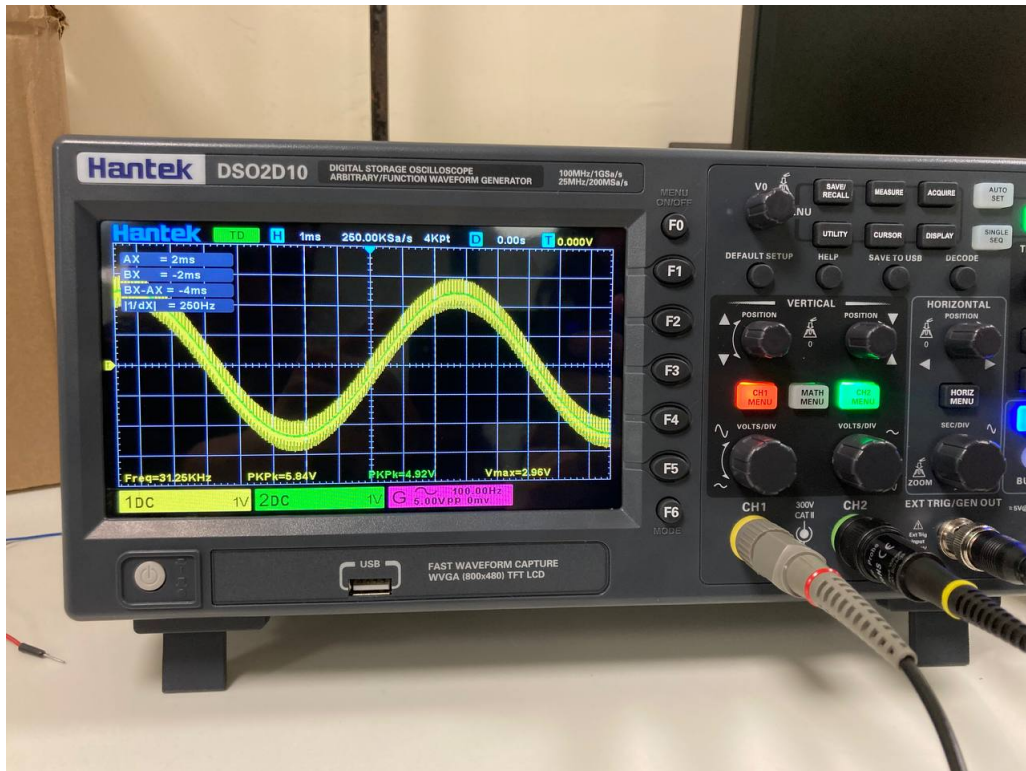


Figure 2: Adder signal

Step 2: Second order Low Pass Filter

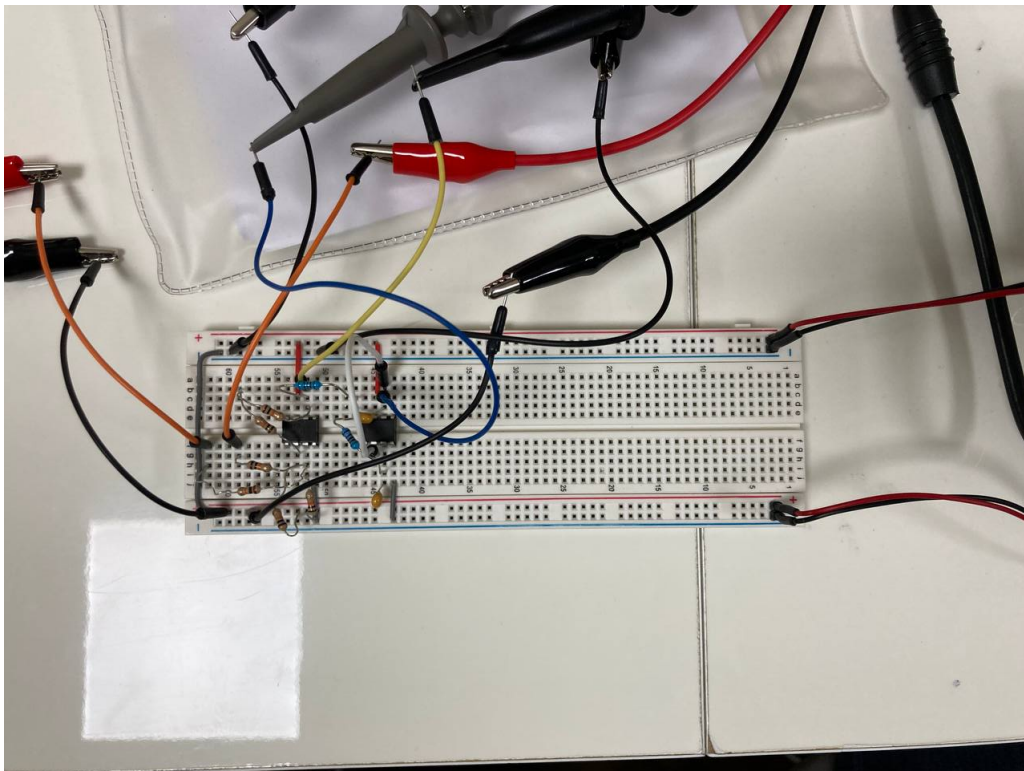


Figure 3: Low pass circuit connections

Two $5, 1k\Omega$ resistors and two $22nF$ capacitors were chosen, for a cut-off frequency of $\approx 1420Hz$. $Q = 0.5$ and $\zeta = 1$. The inverting output was connected to the output of the opamp for a gain of 1.

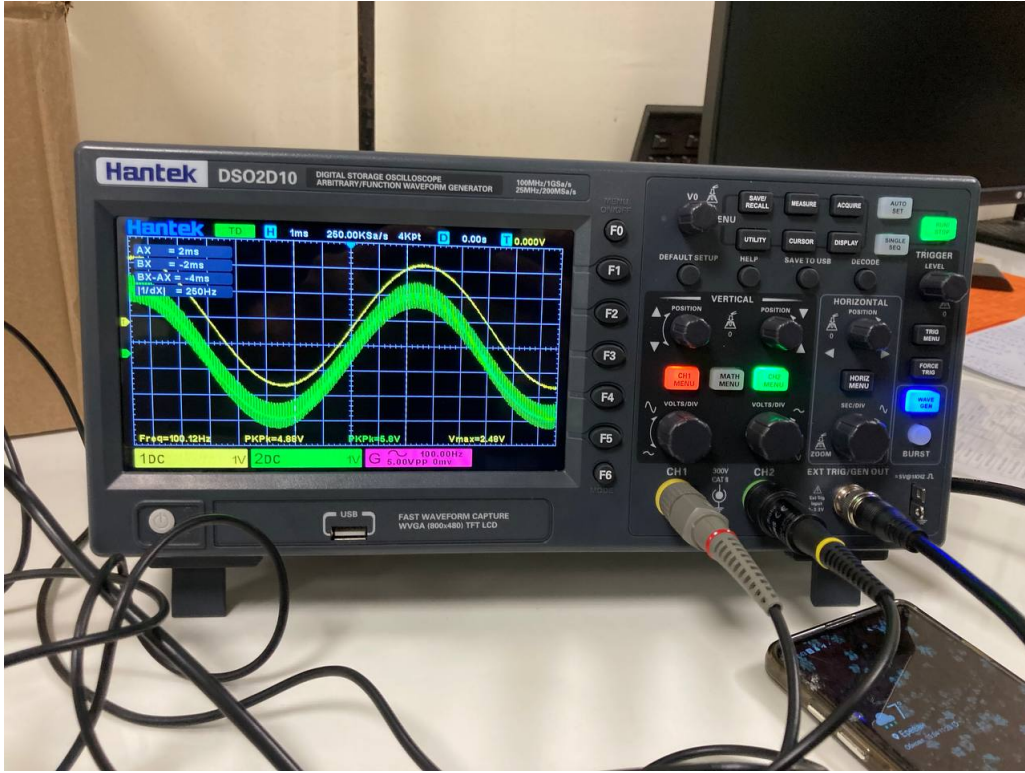


Figure 4: Low pass signal

Step 3 (bonus): Second order High Pass Filter

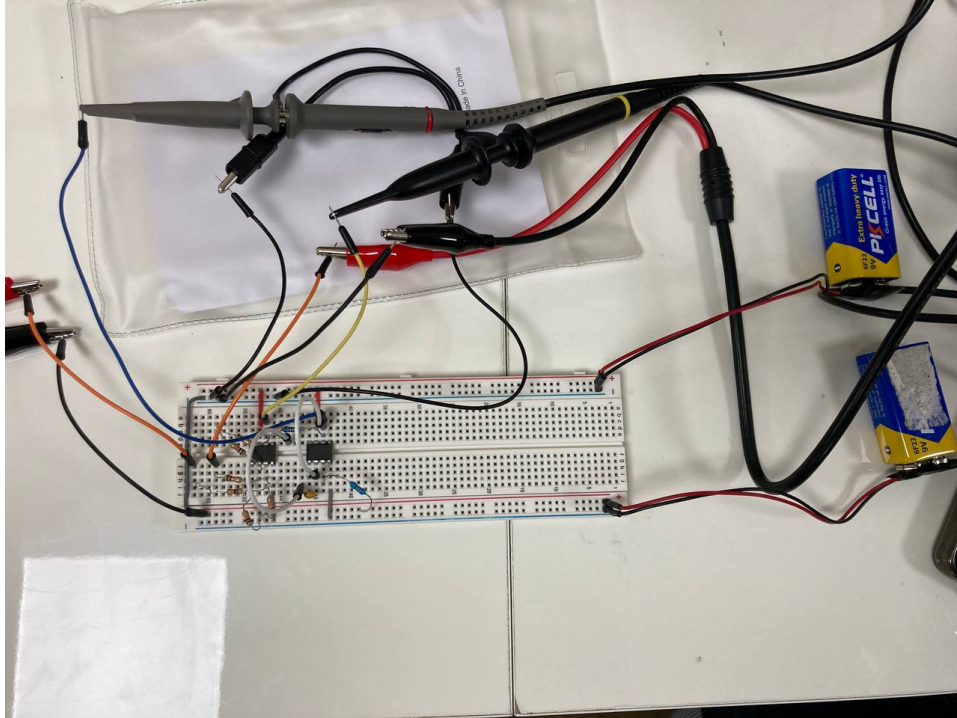


Figure 5: High pass circuit connections

Two $5,1k\Omega$ resistors and two $22nF$ capacitors were chosen, for a cut-off frequency of $\approx 1420Hz$. $Q = 0.5$ and $\zeta = 1$. The inverting output was connected to the output of the opamp for a gain of 1.

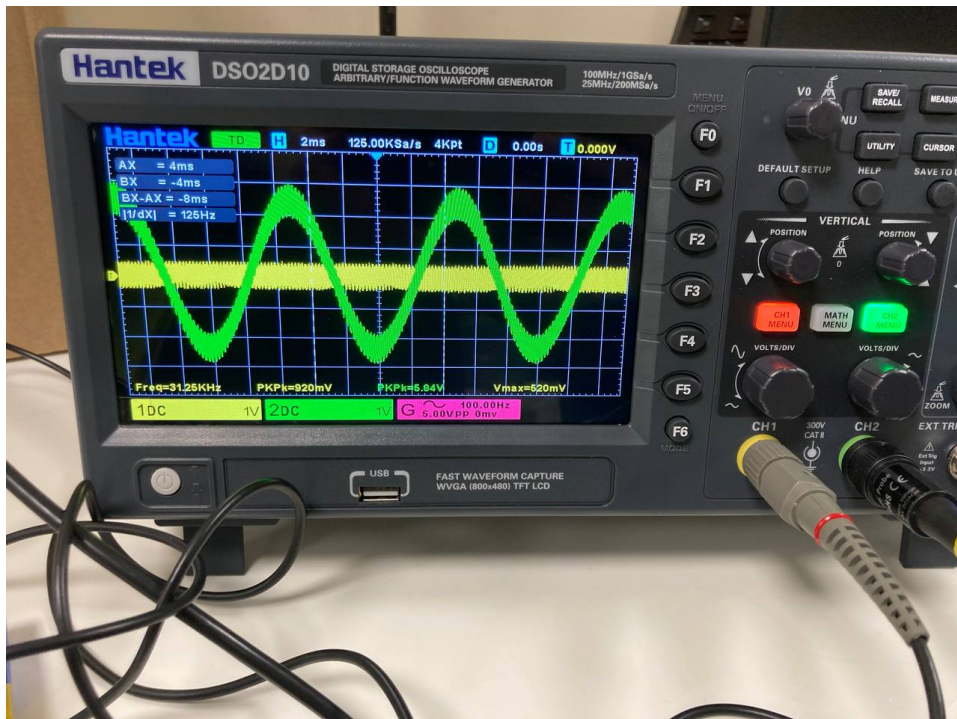


Figure 6: High pass signal