Digital version

Signal Genereator and Oscilloscope

Mher Saribekyan A09210183

January 27, 2026

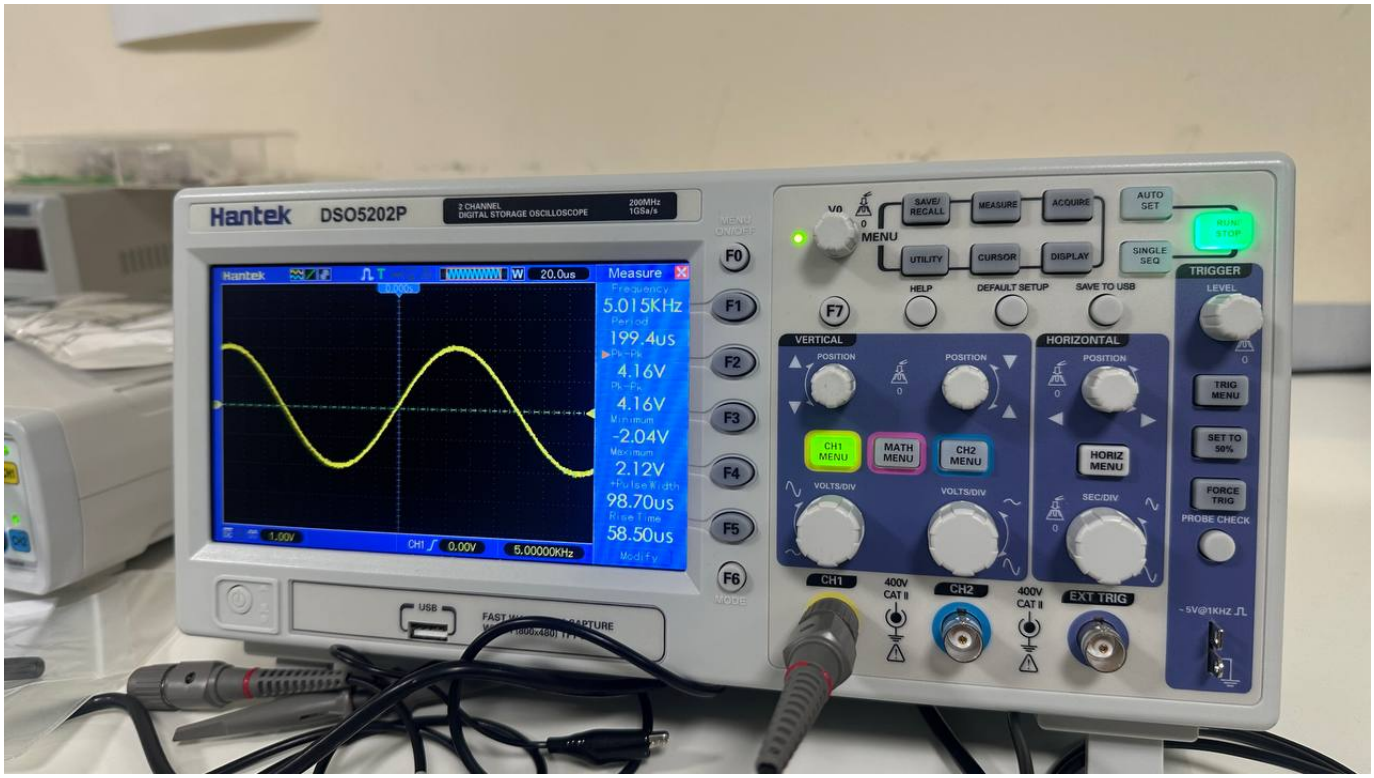
Signal generator

As the name suggests, a signal generator allows us to generate different kinds of electrical signals. These include sine, square, triangle waves, with different amplitudes, frequencies and offsets. In this lab a sine wave was generated with a frequency of $5kHz$, no offset and an amplitude (Pk-Pk) of $4V$.

Oscilloscope

Oscilloscope is a tool that, at a basic level, plots voltage dependance on time. It allows measurement of different electrical signals. Newer oscilloscopes may have additional functionalities: math operation on two functions, FFT...

In this lab, the signal generated by the signal generator was connected to the oscilloscope.



The vertical axis is the voltage, while the horizontal axis is the time. We see that the signal spans 4 squares in the vertical direction, meaning a peak-to-peak voltage of $4V$, which is confirmed by the measure function of the oscilloscope. Each horizontal square is $20\mu s$, and the signal repeats in 10 squares, therefore the period of the signal is $T = 10 \cdot 20\mu s = 200\mu s$, which means the frequency is $f = \dfrac{1}{200\mu s} = 5kHz$, which is also confirmed by the measure function of the oscilloscope.