

# Display of periodic signals on the oscilloscope

## Student Group

| First Name | Surname | Matrikel Nr. |
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## Display of periodic signals on the oscilloscope

Build the following circuit in [figure 1](#) with the function generator and the oscilloscope.

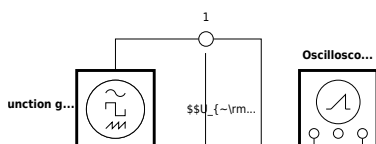


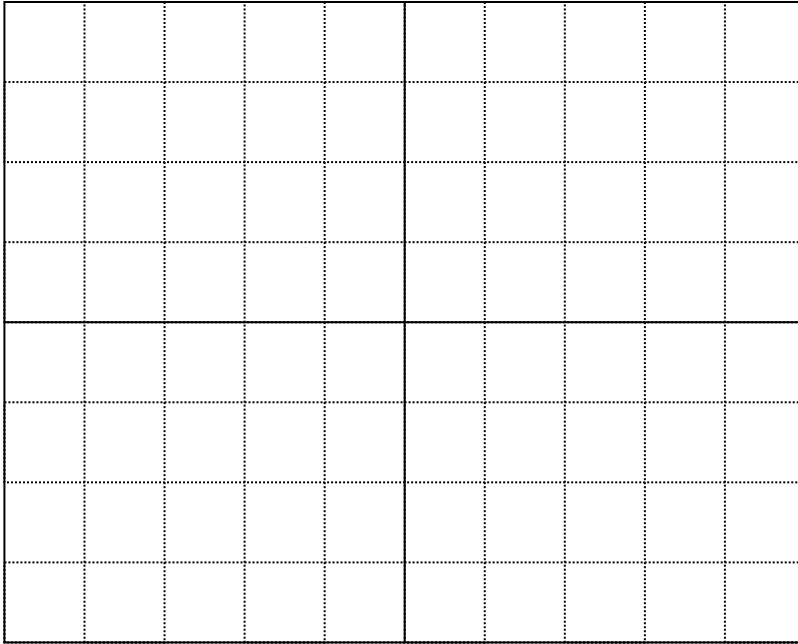
Fig. 1: Periodic signals on the oscilloscope

Set the signals listed in [table 1](#) on the function generator and draw the corresponding oscilloscope screen images. The signal display on the oscilloscope should optimally fill the screen

| Signal shape     | Frequency | Amplitude |
|------------------|-----------|-----------|
| Sine             | 1.0 kHz   | 1.8 V     |
| Triangle         | 4.0 kHz   | 3.0 V     |
| Square (unipo... | 2.0 kHz   | 5.0 V     |
| Square (bipol... | 5.0 kHz   | 2.0 V     |
| Sine...          | 2.5 kHz   | 4.0 V...  |

Tab. 1: Signals

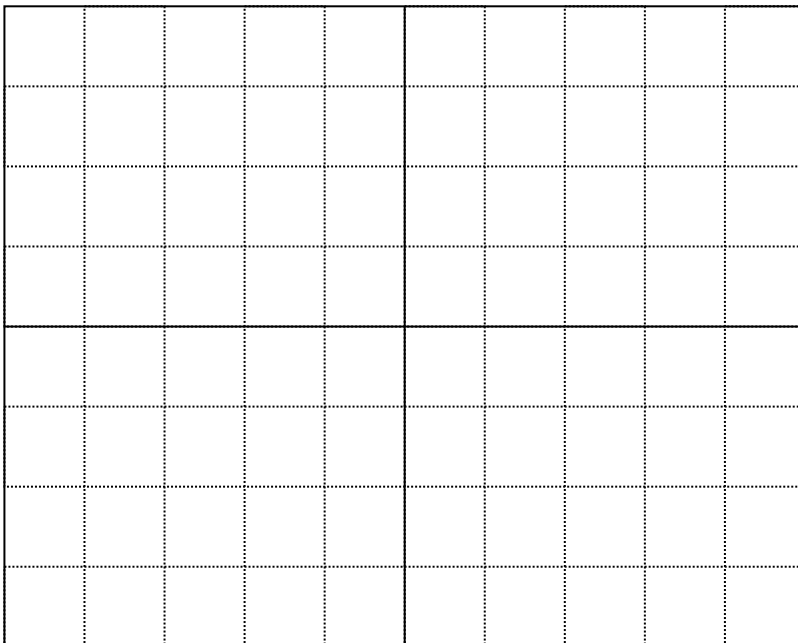
Also document the settings of the used channels, the time base, and the GND line on the left side of the screen drawings.

Fig. 2: Sine,  $f = 1 \text{ kHz}$ ,  $U = 1.8 \text{ V}$ 

Channel 1:  $\frac{V}{\text{DIV}} = \$$

Time basis:  $\frac{T}{\text{DIV}} = \$$

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Fig. 3: Triangle,  $f = 4 \text{ kHz}$ ,  $U = 3 \text{ V}$ 

Channel 1:  $\frac{V}{\text{DIV}} = \$$

Time basis:  $\frac{T}{\text{DIV}} = \$$

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Fig. 4: Rectangle, unipolar,  $f = 2 \text{ kHz}$ ,  $U$

$= 5 \text{ V}$  Channel 1:  $\frac{V}{\text{DIV}} = \$$

Time basis:  $\frac{T}{\text{DIV}} = \$$

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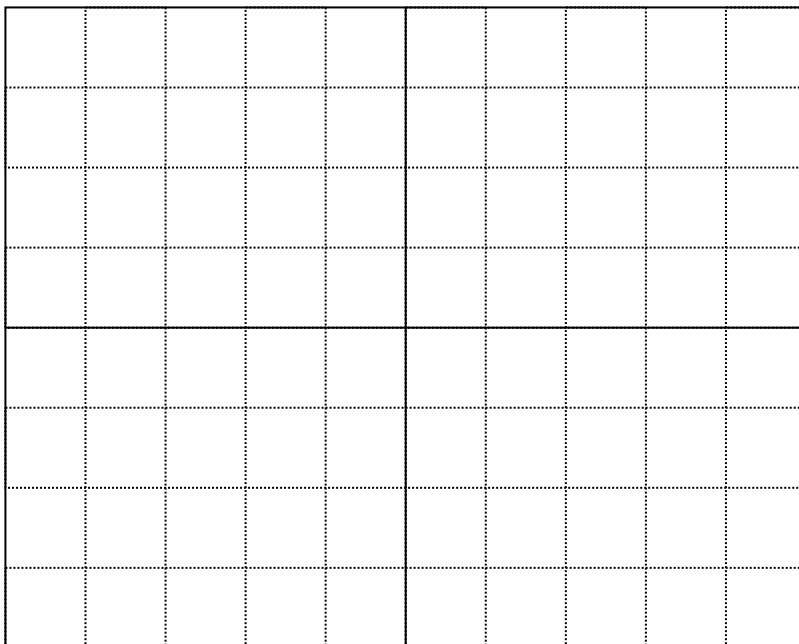


Fig. 5: Rectangle, bipolar,  $f = 5 \text{ kHz}$ ,  $U =$

$2 \text{ V}$

Channel 1:  $\frac{V}{\text{DIV}} = \$$

Time basis:  $\frac{T}{\text{DIV}} = \$$

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Fig. 6: Sine DC Offset,  $f = 2.5 \text{ kHz}$ ,  $U = 4$

V, UDC = 2 V

Channel 1:  $\frac{V}{\text{DIV}} = \$$

Time basis:  $\frac{T}{\text{DIV}} = \$$

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