

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.

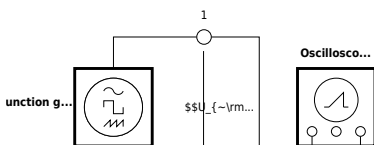


Fig. 1: Periodic signals on the oscilloscope

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... Text is not SVG - cannot display | 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.

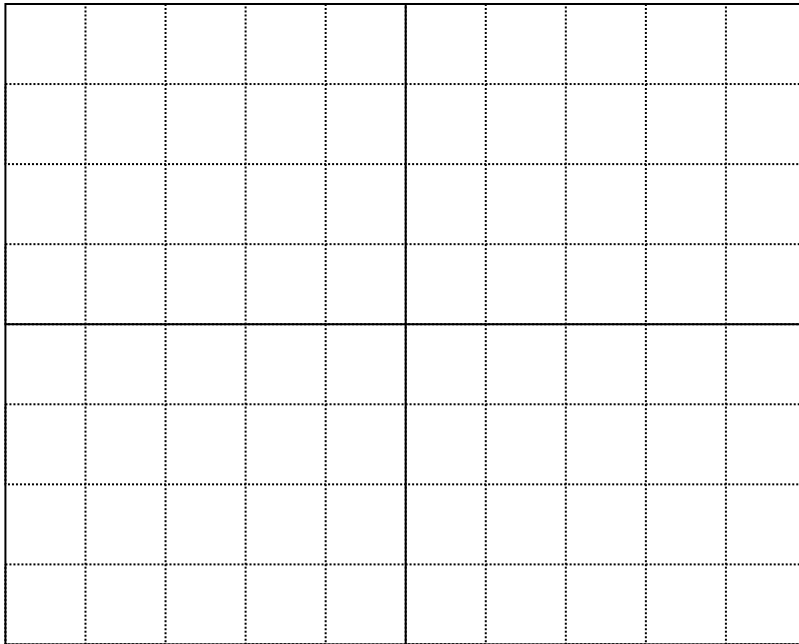


Fig. 2: Sine, $f = 1 \text{ kHz}$, $U = 1.8 \text{ V}$

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

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

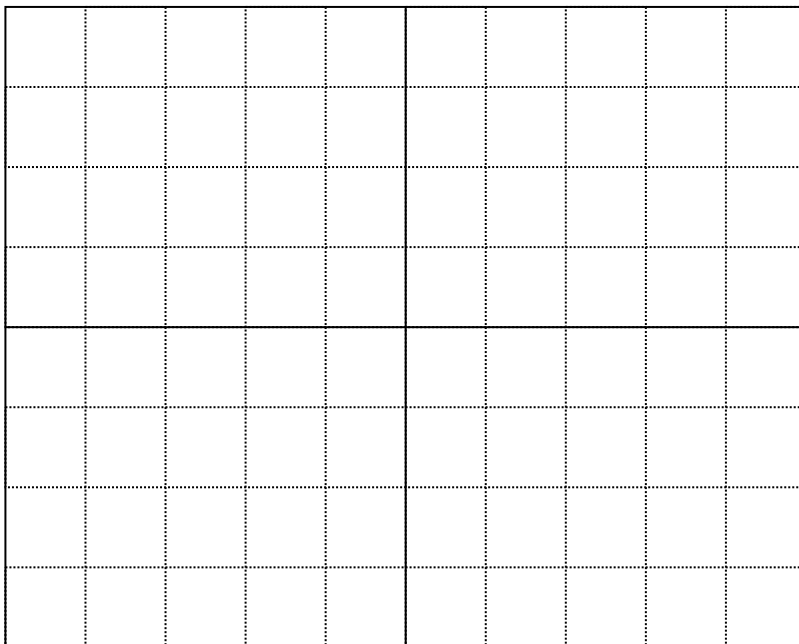


Fig. 3: Triangle, $f = 4 \text{ kHz}$, $U = 3 \text{ V}$

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

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



Fig. 4: Rectangle, unipolar, $f = 2 \text{ kHz}$, $U = 5 \text{ V}$

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

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

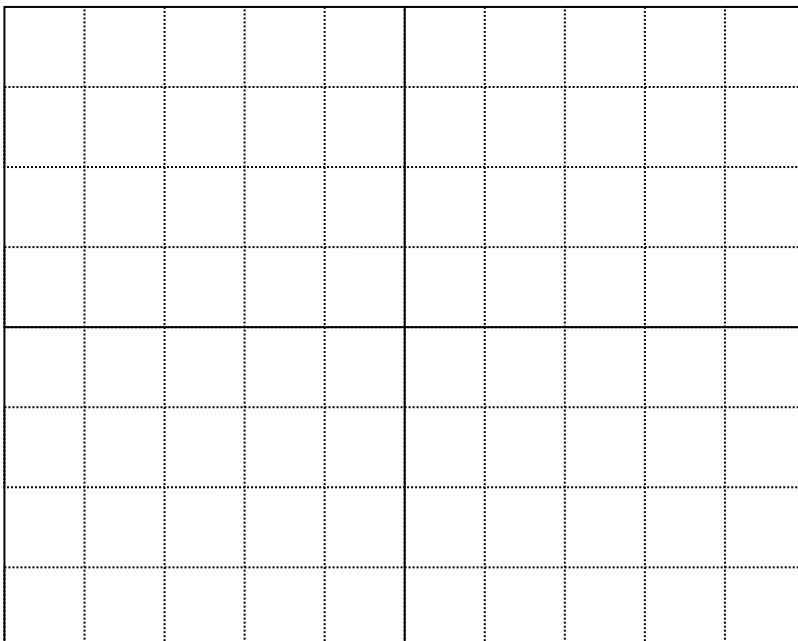


Fig. 5: Rectangle, bipolar, $f = 5 \text{ kHz}$, $U = 2 \text{ V}$

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

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

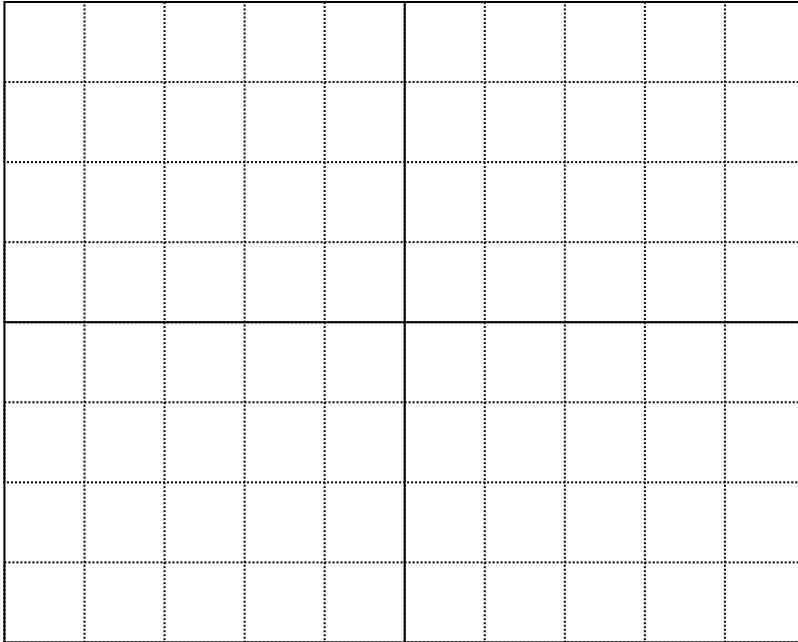


Fig. 6: Sine DC Offset, $f = 2.5 \text{ kHz}$, $U = 4 \text{ V}$, $UDC = 2 \text{ V}$

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

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

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