

Display of periodic signals on the oscilloscope

Student Group

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Table of Contents

Display of periodic signals on the oscilloscope 2

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Build the following circuit in figure 1 with the function generator and the oscilloscope.

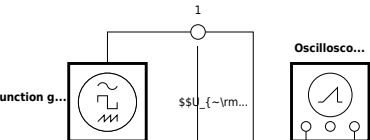


Fig. 1: Periodic signals on the oscilloscope

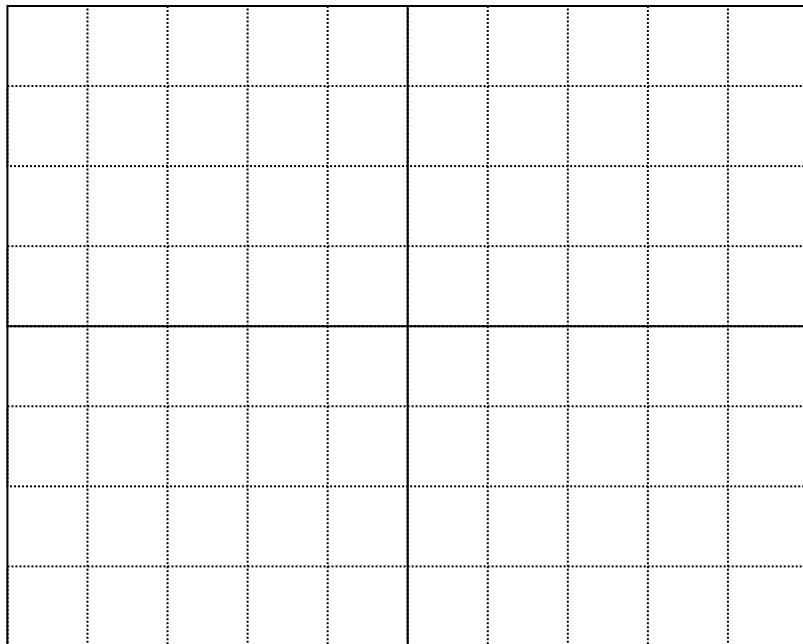
Set the signals listed in table 1 on the function generator and draw the corresponding oscilloscope screen images. The signal display on the oscilloscope should optimally fill the screen

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...

Text is not SVG - cannot display

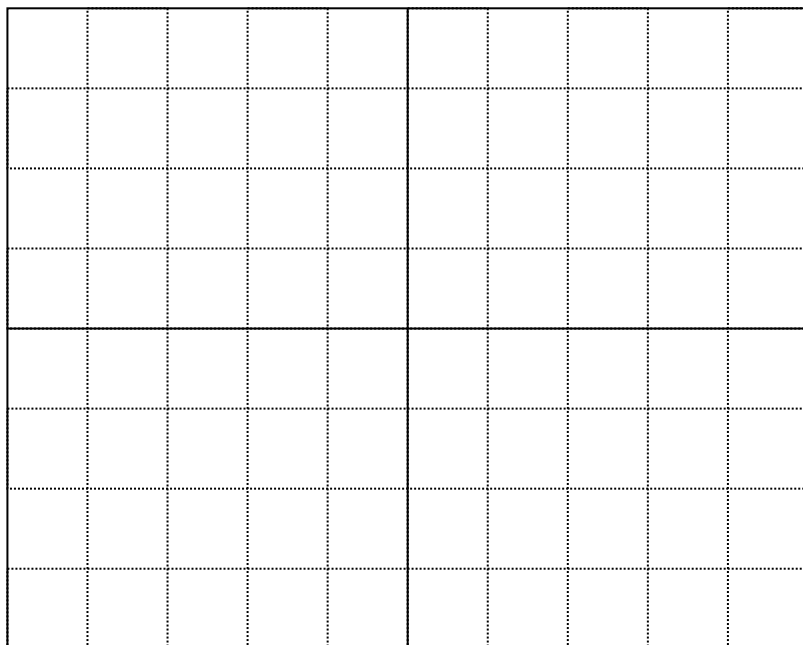
Tab. 1: Signals

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, $f = 1 \text{ kHz}$, $U = 1.8 \text{ V}$

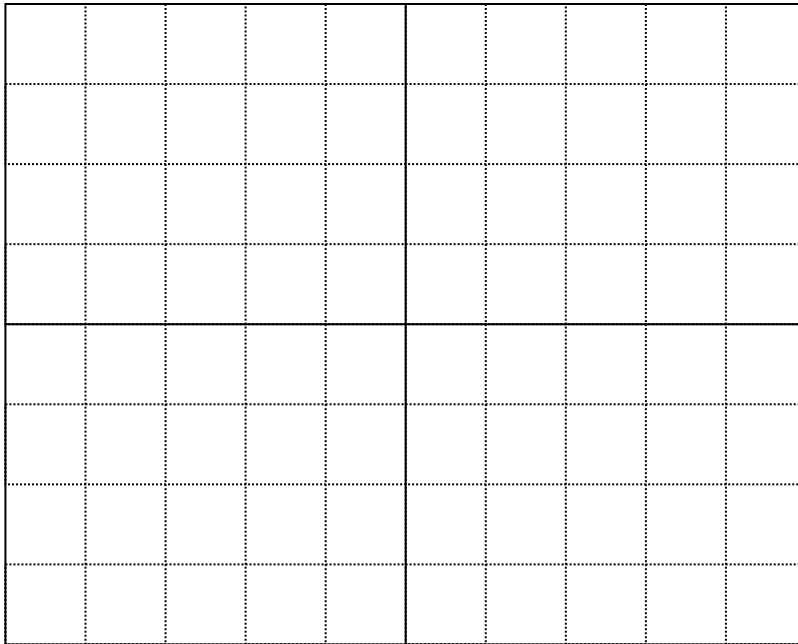
Channel 1: $\frac{V}{\text{DIV}} = \$$

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

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

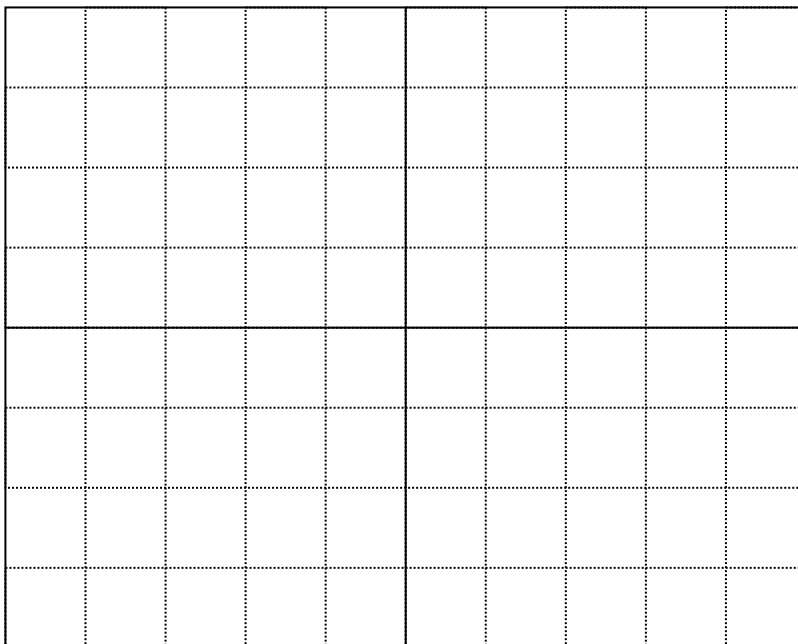
Channel 1: $\frac{V}{\text{DIV}} = \$$

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

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

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

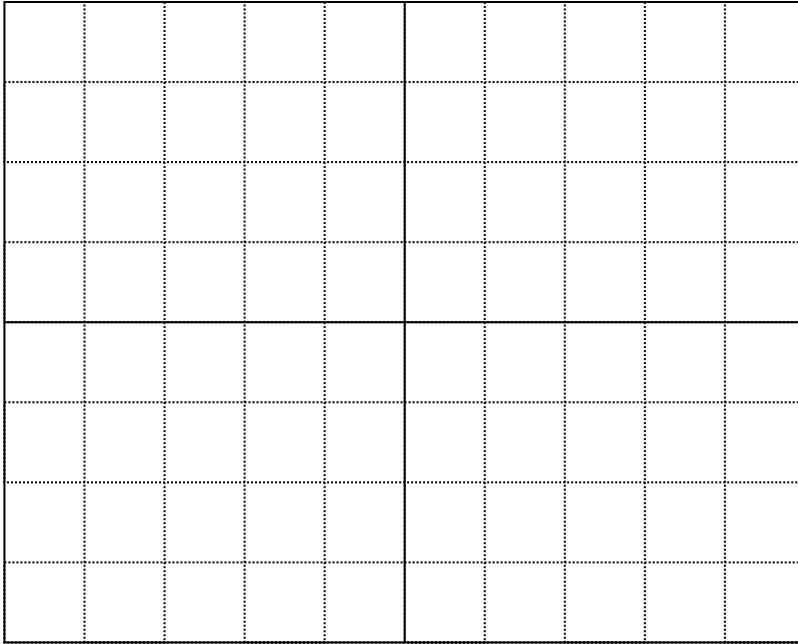
Time basis: $\frac{T}{\text{DIV}} = \$$

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

2 V

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

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

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

$V, U_{DC} = 2 \text{ V}$

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

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

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