PROTOCOL

for the project exercise

RC-Oscillator

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RC-Oscillator

Used Equiment:

Power Supply: Power Supply, 18315
Oscilloskop: Tektronix, TDS 1001B

Protokoll wurde auf EL-Labor Abgabeordner gespeichert: am: 19.03.2014

Contents

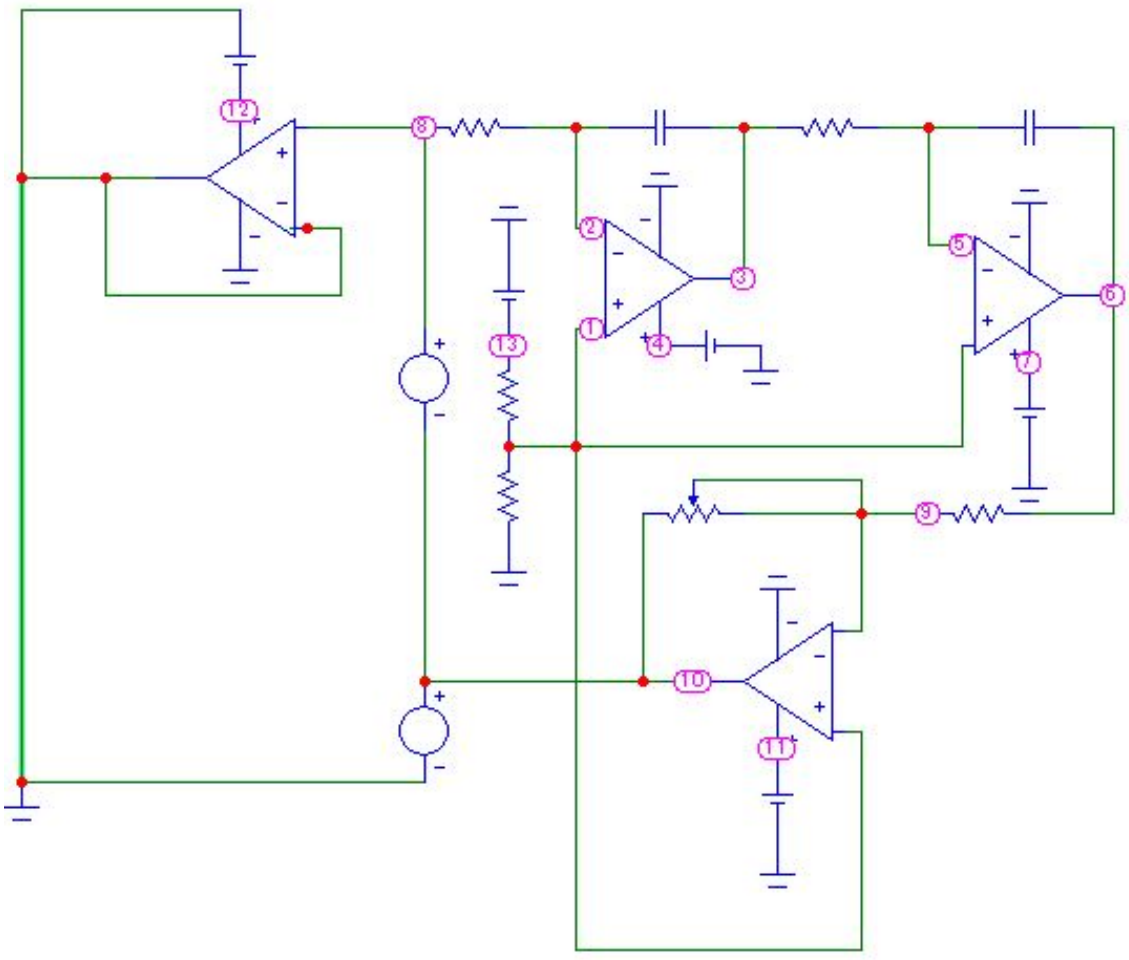
1. Exercise 1

1.1 Task

At first calculate the values for a Programmed Oscillation Equation circuit and build it afterwads. Then measure the circuit with the oscilloskope. Used IC LM324.

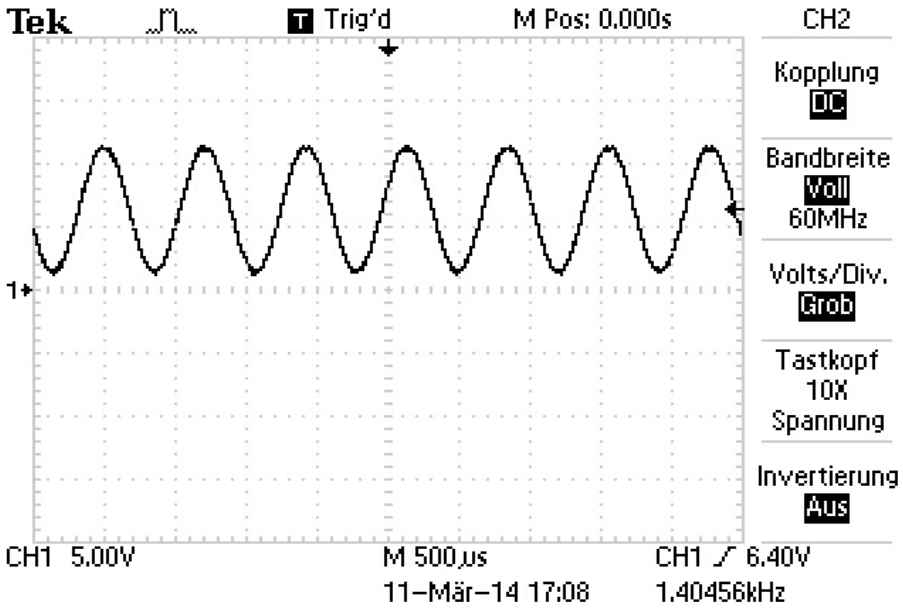
1.2 Calculations

1.3 Circuit

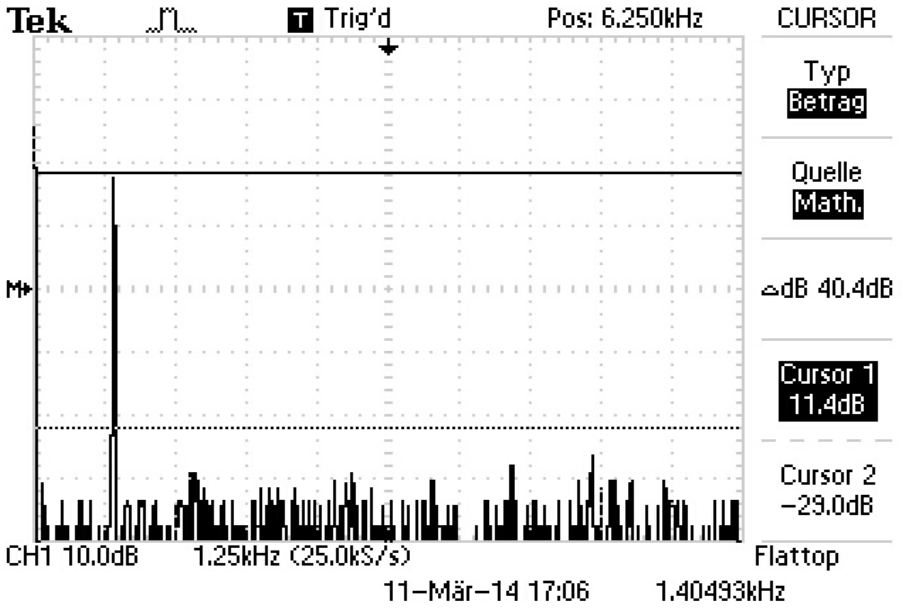


ill. 1.3.1: Illustration 1.3.1 shows the Programmed Oscillator circuit.

1.4 Measurements



ill. 1.4.1: Illustration 1.4.1 shows the output of the signal. You can see how the signal oscillates.



ill. 1.4.2: Illustration 1.4.2 shows the spectrum of the signal. On the illustration 1.4.2 is the distance of the fundamental wave and the harmonics displayed with the cursors (40,4 dB). The distortion factor is the market value of the harmonics on distance. It is about 1%.

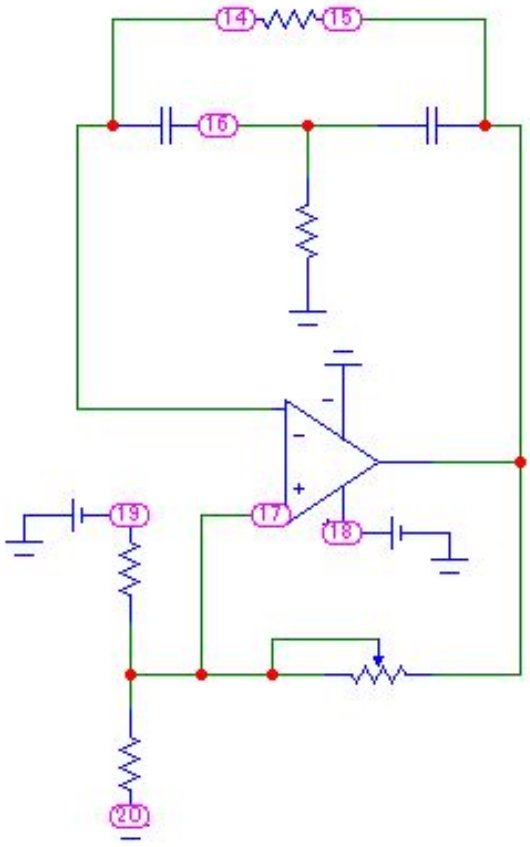
2. Exercise 2

2.1 Task

At first calculate the values for a Notch filter oscillator circuit and build it afterwads. Then measure the circuit with the oscilloskope. Used IC LM324.

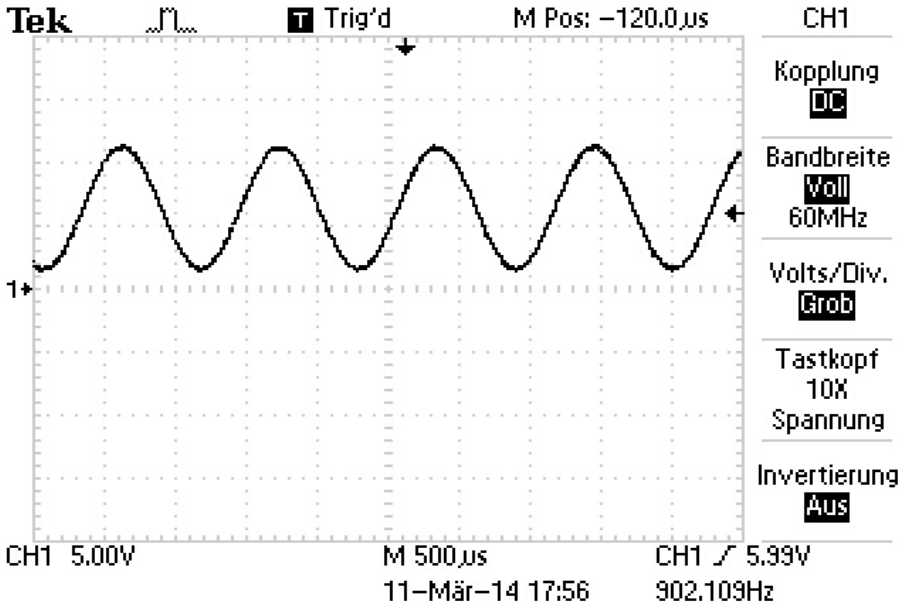
2.2 Calculations

2.3 Circuit

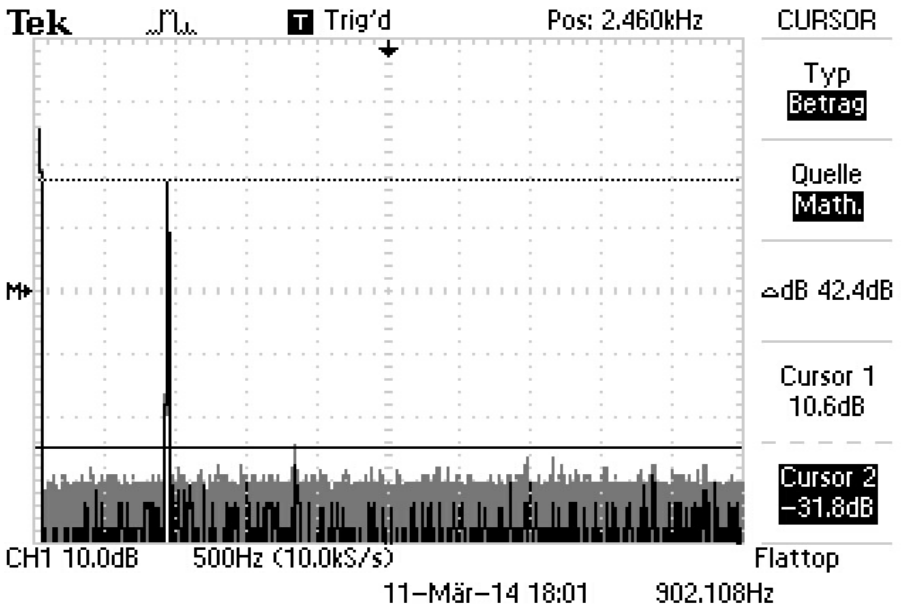


ill. 2.3.1: Illustration 2.3.1 shows the Notchfilter circuit.

2.4 Measurements



ill. 2.4.1: Illustration 2.4.1 shows the output of the signal. You can see how the signal oscillates.



ill. 2.4.2: Illustration 2.4.2 shows the spectrum of the signal. On the illustration 2.4.2 is the distance of the fundamental wave and the harmonics displayed with the cursors (42,4 dB). The distortion factor is the market value of the harmonics on distance. It is about 1%.

3. Comment

The resistance of the potentiometer has been slightly changed because the harmonics were difficult to detect. The harmonics were visible.