Microprocessor Generator of Periodic Waveforms

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Abstract – **studying and generating waveforms software, research scope of their applications work with test signals.**
Keywords **– generating signals, sound test, software and hardware.**

I. INTRODUCTION

Frequency generator is one of the assets intended for maintenance, repair, measurement and research in various fields of science, industry and communications. Generation of test signals and waveforms used in the telecommunications field for measurement of unwanted nonlinear processes related to the spectral distortions.

II. Description of work

Periodic waveforms is difficult to build a conventional generators with no additional perefyriynyh settings. To create them you can use the software generator of periodic waveforms. Generate a signal generation by using readings for amplitude expressions or by discretesamples. The work to generate test waveforms using a program written in Assembler, and Digital Signal Generator, is based on single-chip microcontroller KP1816BE51. The hardware component of the generator also consists of more of radio, power switching and control of processes that performs assembled device.

Manage the generator is using a computer via serial port com1, that transmits data to the controller at a speed 9600 bit / sec. With the analog signal generator is removed given us a form that is fed to an oscilloscopefor visual images. In order to build a signal to pre-define its desired a shape. You also need to determine the amplitude of the signal through steel intervals. By definingthem, the data recorded data to a text file and the program transferred to the generator.

This paper presents the three different waveforms generated by microprocessor generator.

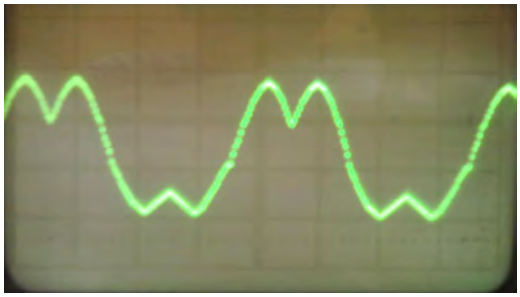

Fig. 1 Sinusoid with a hollow

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Fig. 2 Sawtooth signal

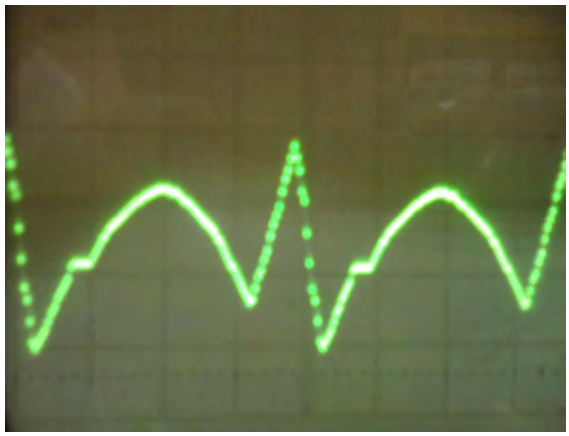

Fig. 3 Waveforms

With this device you can show on screen oscilloscope signal of any shape.

III. CONCLUSION

The paper considers one possible method to generate waveforms. These signals can be used as test signals for testing, tuning and development of various electronic devices. Also, these signals can be used in telecommunications in the study of communication channels and creating new algorithms for high-speed data transmission.

PREFERENCES

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