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DESIGN OF THE INVERTER DEVICE IN "PROTEUS"

PROGRAM

Abstract : This article presents the schematic design of the inverter device in the "Proteus" virtual modeling program, the stages of transferring the circuit to the printed circuit board, as well as methods of simulating the created circuit.

Key words: printed circuit board, virtual modeling, inverter, simulation.

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"PROTEUS"

Аннотация: В статье представлен схематический дизайн устройства инвертора в виртуальной моделирующей программе "Proteus", этапы переноса схемы на печатную плату, а также методы моделирования созданной схемы.

Ключевые слова: печатная плата, виртуальное моделирование, инвертор, моделирование.

Introduction.

Nowadays, the creation of computer design programs is electronic devices from creation before his virtual by modeling the model them analysis is giving

opportunities to do , check. Virtual modeling process successful from being done then , electron of the device laboratory its prototype in conditions there is an opportunity to create . Created from the device real measure tools analysis using results i is taken. Received results virtual received results with the possibility of comparison is created . Analysis to do of the device type looking different virtual tools using execution can [1].

The advantage of virtual design programs is that the component library of such programs contains a virtual model of any measuring instrument, and special laboratory equipment is not required to check a device. It is also possible to design the printed circuit board and design of the device created in the next steps.

In this article, we consider the stages of schematic design of the inverter device in the virtual modeling program "Proteus" [2-4].

First, an electronic circuit of the device is created and analyzed using measuring instruments. It is advisable to use realistic and commonly used components as much as possible when creating the devices electronic circuit. Because the use of outdated or discontinued components may not achieve the expected result. The scheme shown in Figure 1. uses the most common components [5-8]. In the picture is an inverter circuit that converts direct current into alternating current.

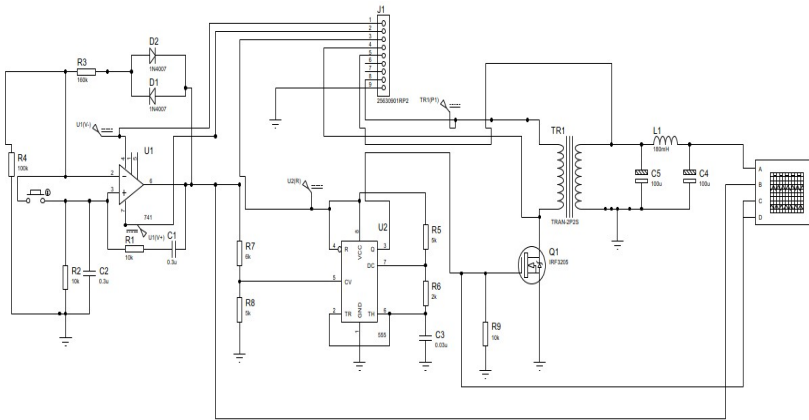


Figure 1. Circuit diagram of the inverter device

To analyze the device model, the measuring instrument is selected depending on the function of the device. An oscillograph is mainly used to analyze the amplifier circuit. In this case, the differences between the input and output signals are checked (Figure 2).

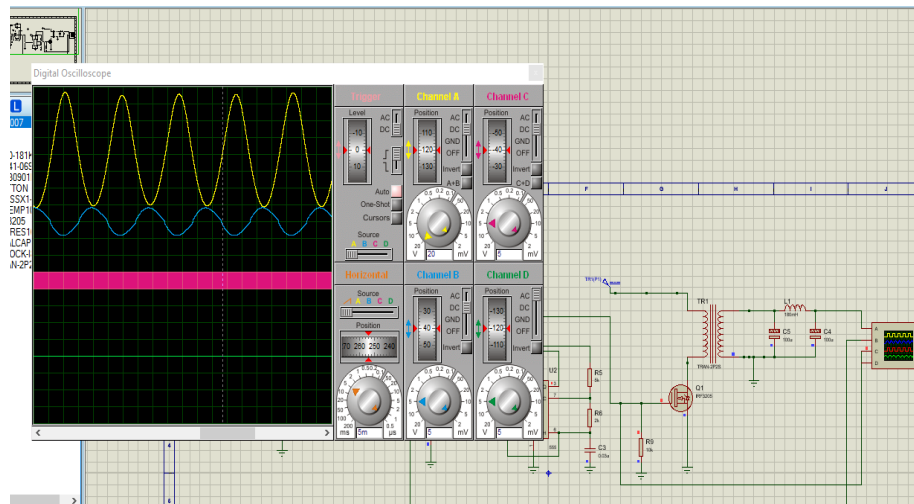


Figure 2. Inverter of the device analyze the scheme .

Proteus in Figure 3 and Figure 4 in the program of the device print board design and only 3D appearance described.

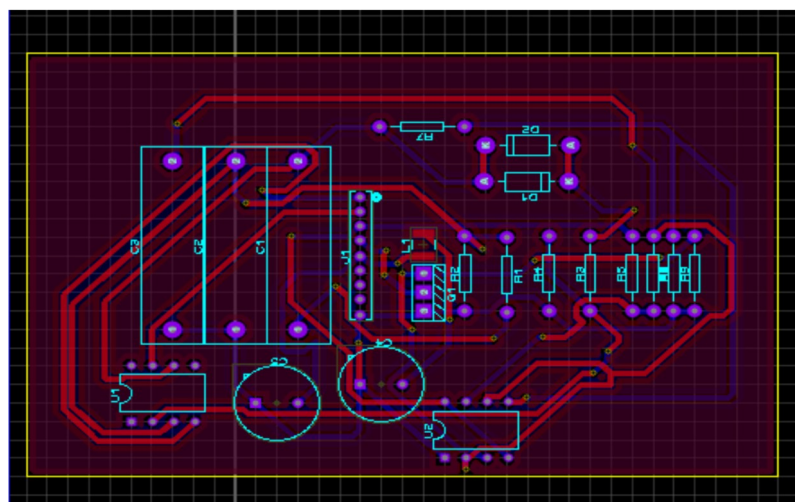


Figure 3 . Inverter of the device print plate

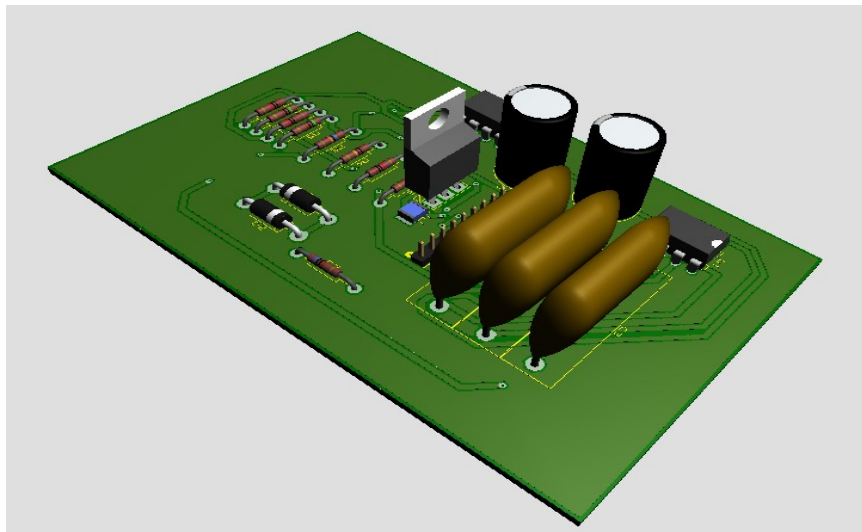


Figure 4. 3D view of the inverter unit

Summary

In conclusion, it can be said that having the ability to design devices by modeling analog and digital electronic circuits at various levels and having the ability to apply it in practice is one of the important tasks facing future industrial electronics engineers today.

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