

Physics, experimental competition

Investigation of a “black box”

Equipments and materials: Digital multimeters (2), 4,5 V power supply, variable resistance (voltage divider), «black box», connection wires, scaled paper.

In this work you have to find the simplest possible scheme of the “black box” and find the values of the parameters of its elements

Remarks. To carry out the problem of the experimental competition you have to:

1. Assemble the experimental scheme and carry out necessary measurements
2. To write down the obtained experimental data in the table.
3. To plot the graphs of necessary dependences.
4. Suggest the equivalent scheme of the “black box” and calculate the values of the parameters of its elements

Caution: The black box and connections of the black box are very fragile and you should handle it with care!