

Laboratory kit "Analog electronics"



DESCRIPTION

This kit gives children the ability to work on analog electronics hands-on experiments as a part of a supplementary education program.

This kit is designed as a modular platform for building various electric circuits based on analog electronics components.

Simple layout of an electric circuit built on interchangeable modules is easy to understand both for students and teachers.

Each topic included in the curriculum has a theoretical part and detailed instructions for the experiment.

FUNCTIONAL FEATURES

- ✓ Laboratory kit modular design
- ✓ Reliably protected electric circuit, modules, and kit elements
- ✓ Theoretical materials to each topic
- ✓ Hands-on experiments step-by-step guide

SOFTWARE

- ✓ The software is developed in NI LabVIEW graphical programming environment.
- ✓ The software is intuitive and has user-friendly interface is designed for easy adoption.
- ✓ Graphical and digital representation of results

SPECIFICATIONS

Main modules

- ✓ Main Board (modules platform) - 2 pcs.
- ✓ DC Power module (AAA batteries) - 1 pc.
- ✓ DC micro-motor module - 1 pc.
- ✓ Mixed connection module - 2 pcs.
- ✓ Series connection module - 1 pc.
- ✓ Parallel connection module - 1 pc.
- ✓ Potentiometer module - 1 pc.
- ✓ Transformer module - 1 pc.
- ✓ Loudspeaker module - 1 pc.
- ✓ Microphone module - 1 pc.
- ✓ PNP bipolar transistor module - 1 pc.
- ✓ NPN bipolar transistor module - 1 pc.
- ✓ N-type channel transistor module - 1 pc.
- ✓ Audio amplifier module - 1 pc.

Auxiliary elements

- ✓ Resistors of various capacity - 6 pcs.
- ✓ Capacitors of various capacity - 3 pcs.
- ✓ Inductive coils of various capacity - 3 pcs.
- ✓ Tact switch - 1 pc.
- ✓ SPST type switch - 1 pc.
- ✓ SPDT type switch - 1 pc.
- ✓ Jumper - 1 pc.
- ✓ Lamp - 1 pc.
- ✓ LED - 1 pc.
- ✓ Diode - 4 pcs.
- ✓ Potentiometer - 1 pc.
- ✓ Set of safe connecting wires - 1 pc.
- ✓ Power supply - 1 pc.

HANDS-ON EXPERIMENTS

- ✓ Voltage and current
- ✓ Electric circuit and switching elements
- ✓ Direct and alternate current
- ✓ Ohm's law
- ✓ Kirchhoff's laws
- ✓ Resistor series, parallel, and series-parallel connection
- ✓ Potentiometer
- ✓ Capacitor
- ✓ Capacitor series, parallel, and series-parallel connection
- ✓ Inductive coil
- ✓ X-reactance
- ✓ Low-pass and high-pass RC filters
- ✓ Semiconductor diode
- ✓ Diode bridge, rectifier
- ✓ Transformer
- ✓ Transistor amplifier
- ✓ Transistor switch
- ✓ Electroacoustic converters (microphone and loudspeaker)