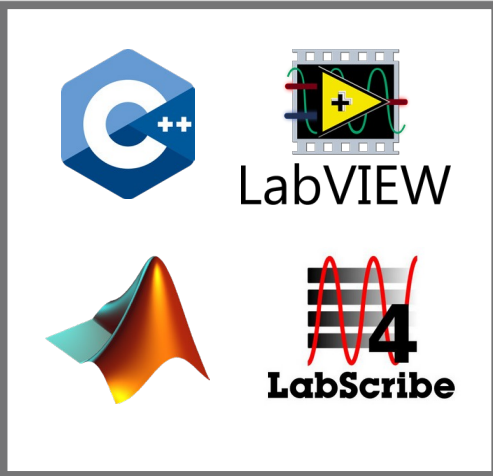


Compatible With:



Ultimate BioInstrumentation Lab Kit



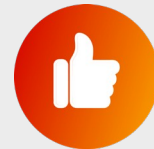
Step-by-step
instructions



85 labs
and 200+
exercises



Adaptable to
any lab
manual



Quick
setup

BioInstrumentation Physiology Kits Include:

- TA-ROAM Recorder with Wireless ROAM (ECG, EMG) Amplifier, Built-in Pre-calibrated Sensors
- LabScribe™ Software
- Solderless Breadboard
- Arduino Claw Kit
- Heart Sounds Sensor and Headphone
- Pulse, SPO2 and Temperature Sensor
- Non-Invasive Blood Pressure Sensor
- Grip Force Sensor
- Event Marker
- Muscle Twitch Sensor
- Spirometry Sensor and Goniometer
- GSR Finger Electrodes
- EEG Headband
- Lab Manual

Specifications:

- 20k Samples/sec per channel simultaneous
- 2 BNC ± 10 VDC, 16 bit resolution
- 2 DIN8 ± 10 VDC, 16 bit resolution
- 1 - GSR (skin conductance),
3 – Biopotential
- 2 Low Voltage Stimulators – range ± 15 V 35mA
- 1 Isolated HV constant current Stimulator 0-20mA
- 16 Digital inputs and outputs
- Differential pressure sensor
- 2400mV, 1200mV, 800mV, 400mV, 200mV, 100mV, 50mV, 25mV, 12mV Biopotential Ranges
- USB 1.1, 2.0, full speed Interface

iWorx professionally developed lab manual includes over 85 experiments and 200 exercises in cardiovascular physiology, neuromuscular physiology, and BioInstrumentation

Circuit Design:

- Students can create experiments and study design of add-on circuits using the breadboard
- Various waveforms or signals from any input channel can be routed to the stimulator and sent to the breadboard
- Students have the ability to design a custom circuit to condition the signal, and the conditioned signal can then be sent back to the recorder
- Compare the raw signal and the signal conditioned signal in software

BioInstrumentation:

- ECG, EMG Signal Conditioning
- ECG Noise
- Frequency Response of Filters
- Op-Amp Circuits

Human Muscle:

- Grip Strength and Electromyogram (EMG) Activity
- EMG Activity in Antagonistic Muscles
- EMG and Arm Wrestling
- Oculomotor Muscle Activity
- Response, Work, Summation and Tetanus in Human Muscle
- Human Muscle Twitch
- Flexibility and Range of Motion
- Stimulation of Antagonistic Muscles
- EMG in Antagonistic Muscles and Range of Motion
- EMG in Target Muscles
- EGG and Growling Stomach

Human Circulation:

- Blood Pressure, Peripheral Circulation, and Body Position/Imposed Conditions
- Pulse Wave Velocity and Contour Analysis
- Effects of Temperature on Peripheral Oxygen Saturation Level

Human Heart:

- The Electrocardiogram (ECG) and the Pulse
- Heart Sounds and the Electrocardiogram (ECG)
- The Effects of Exercise on ECG and the Pulse
- The Six-Lead Electrocardiogram
- The Diving Reflex

Human Nerve:

- Auditory and Visual Reflexes
- Human to Human Interface
- Stretch Receptors and Reflexes with Reflex Hammer
- Game Show Physiology

Human PsychoPhysiology:

- The Electroencephalogram (EEG)
- Multi-sensory Reaction Times
- Visual Evoked Potentials (VEP)
- Galvanic Skin Response (GSR) and Emotion
- GSR and Investigation into Cheating
- Skin Temperature, Stress, Calming and Embarrassment
- Personality and Vagal Tone
- The Stroop Effect
- Rubber Hand Illusion
- Controlling Tension through music or imagery