

Circuit Design Trainer

PB-503A



Description:

Global Specialties model PB-503A is a robust Circuit Design Trainer suitable for all levels of electronics instruction and design.

The PB-503A allows students to acquire valuable hands-on lab experience by employing necessary breadboarding techniques, which provide a solid foundation in circuit experimentation, analyzing and troubleshooting. It can be used to construct basic series and parallel circuits up to the most complicated multi-stage microcomputer circuits, incorporating the latest in industrial technology.

Experienced designers will also find the PB-503A an invaluable, capable and reliable instrument, suitable for the most advanced and demanding design applications. Global Specialties trainers provide the most complete platform required to enable engineers and technicians to train for careers in the rapidly growing field of electronics technology.

The PB-503A is backed by Global Specialties' industry leading 3-year warranty.

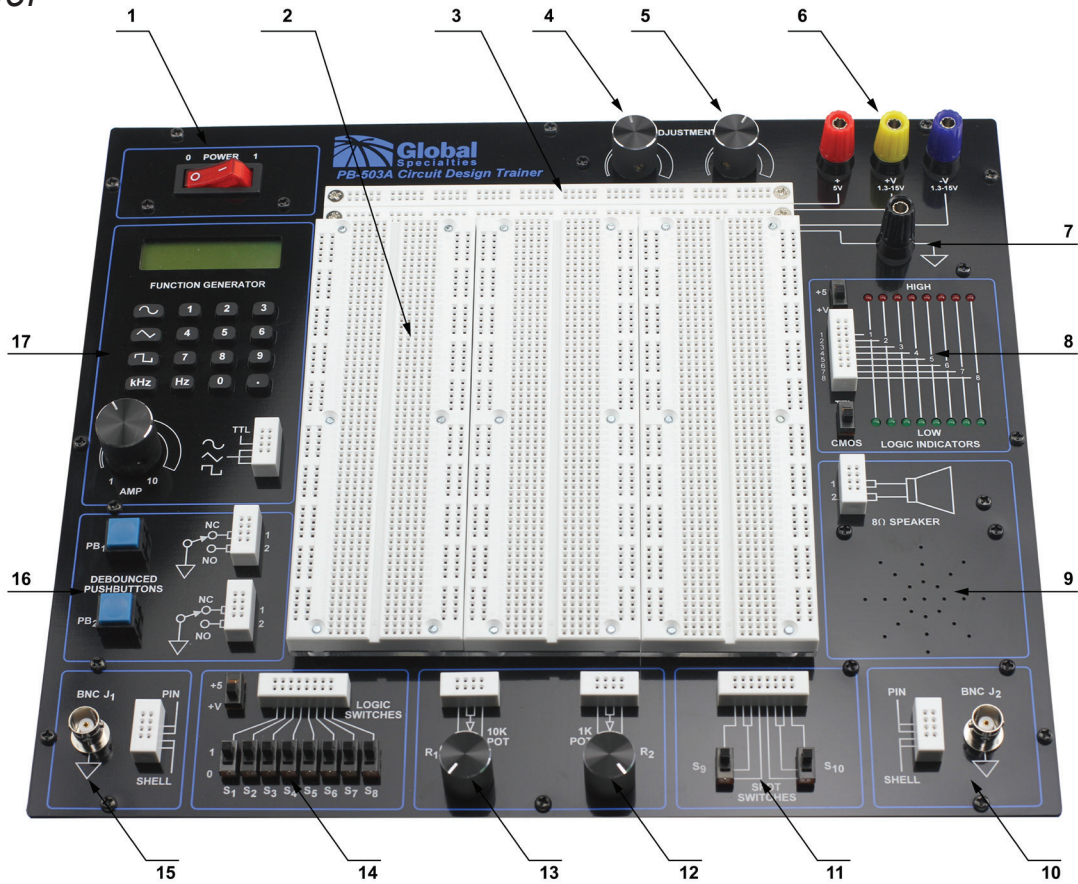
Features:

- Ideal for analog, digital, and microprocessor circuits
- Includes built-in digital function generator with continuously variable waveforms
- Triple output power supply for a variety of DC voltage levels
- Two digital pulsers for logic test circuits
- High & low buffered logic indicators
- 8 channel logic monitor
- Audio experimentation speaker
- Removable breadboard plate allows the flexibility of building circuits away from the lab and shared units for groups
- Analog & digital optional courseware available
- Input Power Source, AC Line Switchable between:
 - 110-120VAC @ 60Hz
 - 210-230VAC @ 50Hz
- 3-year warranty

Applications:

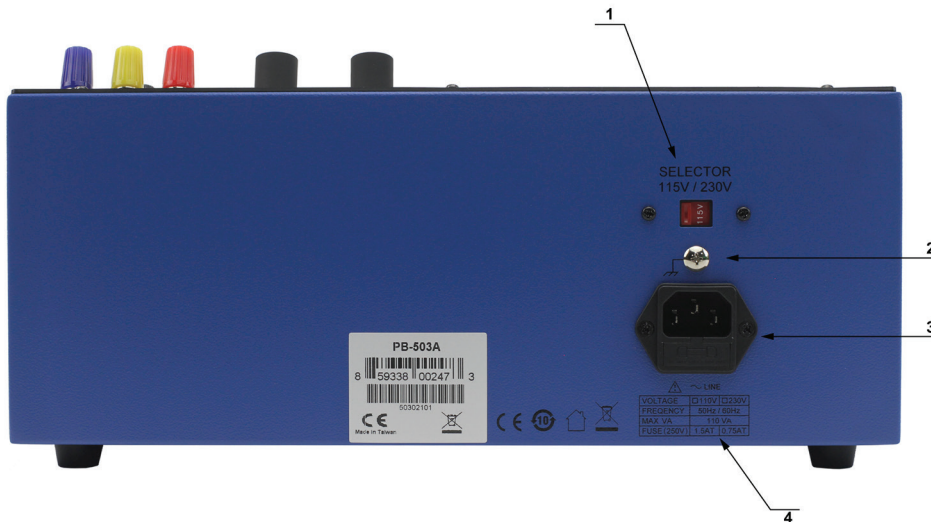
Opto-Device Circuits
Clocks
Multivibrators
Oscillator Circuits
Timers
Function Generator Circuits
Logic Circuits
Gates
Counters
Flip-Flops
Analog-to-Digital
Converters
Digital-to-Analog
Converters
Medium Scale Integration Circuits
Phase Lock Loops
Operational Amplifier

Front Panel



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| <p>1. Power Switch</p> <p>2. PB-3, Solderless breadboard, 2250 tie-points</p> <p>3. Fixed bus strip, connected to DC power supplies</p> <p>4. Positive variable AC power supply adjustment</p> | <p>5. Negative variable AC power supply adjustment</p> <p>6. DC power supply binding posts</p> <p>7. Ground binding post</p> <p>8. Logic indicators</p> <p>9. Speaker</p> <p>10. BNC connector</p> | <p>11. SPDT switches</p> <p>12. 1k Potentiometer</p> <p>13. 10k Potentiometer</p> <p>14. Logic switches</p> <p>15. BNC connector</p> <p>16. Debounced push buttons</p> <p>17. Digital function generator</p> |
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Rear Panel



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| <p>1. Line input selector</p> <p>2. Chassis ground</p> <p>3. Power socket connecting 115/230 Vac and fuse holder</p> <p>4. Fuse specifications</p> |
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Specifications:

All specifications apply to the unit after a temperature stabilization time of 20 minutes over an ambient range of 20 °C ± 5 °C.

Model	PB-503A
AC Line Input	115 VAC @ 60Hz or 230 VAC @ 50 Hz (switchable)
Power Supplies	Fixed DC: +5 VDC 1.0A max, current limited Ripple, <5 mV Variable + DC: +1.3 VDC ±0.05 V @150 mA to +15 VDC @ 500 mA , Ripple < 5 mV Variable - DC: -1.3 VDC ±0.05 V @ 150 mA to -15 VDC @ 500 mA, Ripple < 5 mV
Binding Posts	(4) Ground, +5 VDC, Variable ±VDC Power Supply Outputs
Pulsers	(2) Pushbutton-operated, open-collector output pulsers. Each with 1 normally-open, 1 normally closed output. Each output sinks up to 250 mA
Digital Function Generator	Frequency Range: 0.1 Hz to 100 kHz, two ranges Output Voltage: 0 to + 10Vp-p into 600 Ω Load (20Vp-p in open circuit), short circuit protected Output Impedance: 600Ω except TTL Output waveforms: Sine, Square, Triangle & TTL Sine Wave Distortion: <3% @ 1 kHz Typical TTL Pulse: Rise & fall time: <25 ns, drive 100 TTL Square Wave: Rise and fall times <0.5 μs
Logic Switches	(8) Logic Switches select Logic High and Logic Low Logic Low Level: Ground Logic High Level: Switchable between +5 V and the variable positive power supplies.
Switches	(2) Single Pull Double Throw (SPDT) - uncommitted
Logic Indicators	LEDs: 16 LEDs; (8) red to indicate logic high and (8) green to indicate logic low Logic High Threshold: 2.2V (nominal) in TTL/+5V mode, 70% (nominal) of selected operating voltage in CMOS mode Logic Low Threshold: 0.8V (nominal) in TTL/+5V mode, 30% (nominal) of selected operating voltage in CMOS mode
Connectors	(2) BNC - uncommitted
Potentiometers	(2) 1 kΩ and 10 kΩ - uncommitted
Speaker	8 Ω, 0.25 W - uncommitted
Breadboards	Removable Plexiglas Socket Plate (PB-3) with 2520 Tie points with 200 additional bus strip tie-points internally connected to power supply outputs and ground
Weight	7 lbs (3.2 kg)
Dimensions	12.8 x 10.2 x 6.1 in (326 x 260 x 155 mm)

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