

# PB-507LAB

## Advanced Analog & Digital Electronic Design Workstation



The PB-507LAB contains the following modules:

DC Power Supply\*

AC Power Supply

Function Generator\*

Pulse Generator\*

Frequency Counter\*

Logic Indicators

Logic Probe

Hex to 7 Segments Decoder

Debounced Pushbuttons

Logic switches

SPDT switches

BNC connectors

Potentiometers

Speaker

\*Active module that functions with LCD

### Overview:

The PB-507 Advanced Analog & Digital Electronic Design Workstation, is a powerful, versatile tool for circuit designers, engineers, technicians, students, and hobbyists. All digital controls, USB port, and a wide choice of built-in circuit accessories allow rapid and accurate construction of virtually any type of analog or digital circuit.

### Features:

- LCD displays the settings from each active module
- USB connection enables viewing and controlling from a PC
- Choose your power source: 6.3/12.6 V AC power, 5 V DC or variable  $\pm 20$  V DC
- Draw power from banana plug connections or the tie-point power supplies above each breadboard bus strip
- Powerful 1 MHz bandwidth Function Generator with sine, triangle, and square wave outputs
- Pulse Generator operates like a second, independent Function Generator where you can modify the duty cycle between 10 to 90%
- Frequency Counter module reports on the output of your own specially designed circuits
- Flush-mounted, removable circuit breadboard with over 4,100 contact points

New on the PB-507 is an LCD that displays the settings for the active module selected. Simply touch a control element and the LCD switches to that module and displays its settings. Use the USB connection on the PB-507 to control or view the module's values from a PC. Using this feature you can project the controls to a large viewing screen for a classroom to observe and follow.

The breadboard area is the largest in our trainer family and is removable for easy replacement.

The PB-507 is designed to withstand the toughest treatment. It is constructed with the highest quality components for many years of reliable service. The all-digital circuitry allows for easy function verification and calibration.

# Advanced Analog & Digital Electronic Design Workstation

## Included Accessories:

PC Software

Manual

Power Cord

USB Cable

Calibration  
Adaptors

## Specifications:

<b>Power</b>	3-wire AC Input with 110 V/220 V Selector Switch
<b>Power Supplies</b>	Fixed 5 VDC @1 A Variable DC - Positive: 0 V to +20 V @0.5 A Variable DC - Negative: 0 V to -20 V @0.5 A Fixed AC - 12.6 V Center-tapped @ 100 mA
<b>Computer Interface</b>	USB 2.0
<b>Function Generator</b>	0.1 Hz to 1 MHz selectable in 7 ranges Output Voltage: 0 to + 10 V (20 Vp-p) Output Impedance: 600 $\Omega$ Output Waveforms: Sine, Square, Triangle, TTL
<b>Pulse Generator</b>	Frequency Range: 0.1 Hz to 1 MHz in 7 ranges Output Mode: TTL or CMOS (switch selectable) Output Voltage: 0 to 15 Vp-p Duty cycle range: 10 to 90%
<b>Frequency Counter</b>	Frequency Range 0.1 Hz – 1 MHz
<b>LCD Display</b>	LCD Display: Reads Volts, Amps & Frequency
<b>7 Segment Display</b>	(2) BCD to 7 Segment Display Circuits
<b>Logic Indicators</b>	8 Bicolor LEDs: Red (High) and Green (low)
<b>Logic Probe</b>	TTL/CMOS compatible Logic Probe
<b>Logic Switches</b>	(8) Individual Logic Switches
<b>Speaker</b>	0.25 W, 8 $\Omega$
<b>Debounced Pushbuttons</b>	(2) Open Collector Output Pulsers
<b>Switches</b>	(2) Single Pull Double Throw (SPDT)
<b>BNC Connector</b>	(2) BNC Connectors
<b>Potentiometers</b>	1K & 10K Uncommitted
<b>Breadboard</b>	4150 tie points, removable
<b>Voltage Distribution Bus</b>	Tied directly to Power Supply Outputs
<b>Dimensions</b>	5.5" x 16.5" x 12.75" (H x W x D)
<b>Weight</b>	14.5 lbs
<b>Warranty</b>	Limited three-year warranty

Specifications subject to change without notice. Go to [globalspecialties.com](http://globalspecialties.com) for the latest update.

## Accessories

The **PB-507 Lab** package offers comprehensive course instruction covering the following areas:

### Electronic Fundamentals

Fundamentals of Electricity  
Ohm's Law  
Series Circuits, Parallel Circuits  
Combinational Circuits  
Current Control  
Closed, open, shorts  
Switches  
Thevenin's Theorem  
Wheatstone Bridge  
Capacitors, Inductors  
Phase Shift Circuits  
Impedance  
Resonant Circuits  
Transformers  
Rectifiers & Filtering  
Integrated Circuits  
Transistor Amplifiers  
Oscillators  
Power Control Circuits

### Digital Electronics

Number Systems & Codes  
Binary, Decimal, Hexadecimal, Octal & ASCII  
Logic Gates & Boolean Algebra  
Combinational Logic Circuits  
Flip-Flops  
Digital Arithmetic  
Counters & Registers  
Integrated Circuit Logic Families  
TTL Logic  
MOSFETS  
CMOS  
Interfacing CMOS & TTL  
Medium Scale Integration  
Decoders  
Encoders  
Data Conversion & Acquisition  
Microcomputer Concepts