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<https://greenpower-training.com/>



## Special Package for Digital Logic Trainer Units are

- Digital Logic Lab Main Module
- Digital Labs - 4 Sets of PCB Board Module
- 2mm Test Leads

Model No.: GP-DL22







## Digital Logic Lab Main Module

### Technical Features

- Fixed DC Power Supply: +5V, -5V, +15V, -15V
- Variable DC Power Supply: 0 ~ +25V
- Clock Generator:
  - Six Frequency Ranges
  - 1Hz
  - 10Hz
  - 100Hz
  - 1KHz
  - 10KHz
  - 100KHz
  - Output level: Independent and Simultaneous TTL and CMOS, CMOS output +15V
- Logic Indicators: 16 Independent LEDs with driver interface to indicate Logic 'LO' & 'HI'
- Data Switches: 2 X 8-bit DIP Switches
- **4 X Toggle** Switches with TTL and CMOS Outputs with **NO and NC contacts**
- 7-Segment Display: 4xDisplays with BCD to 7-Segment Decoder/Driver
- Pulser Switches: Two Switches with TTL & CMOS De-bounced Q and Q' Outputs
- Speaker: 8 Ohm 0.5W speaker with Audio Amplifier





# Digital Logic Lab

## Digital Logic Lab 1

### Experiment

- Logic Gates Circuits
- Diode Logic (DL) Circuit
- Resistor-Transistor Logic (RTL) Circuit
- Diode-Transistor Logic (DTL) Circuit
- Transistor-Transistor Logic (TTL) Circuit
- Complementary-Metal Oxide-Semiconductor (CMOS) Circuit
- TTL I/O Voltage and Current Measurement
- CMOS Voltage and Current Measurement
- TTL Gate Delay time Measurement
- CMOS Gate Delay Time Measurement
- AND Gate Characteristics Measurement
- OR Gate Characteristics Measurement
- INVERTER Gate Characteristics Measurement
- NAND Gate Characteristics Measurement
- NOR Gate Characteristics Measurement
- XOR Gate Characteristics Measurement
- CMOS to TTL Interface



### Required Unit:

- Main Module





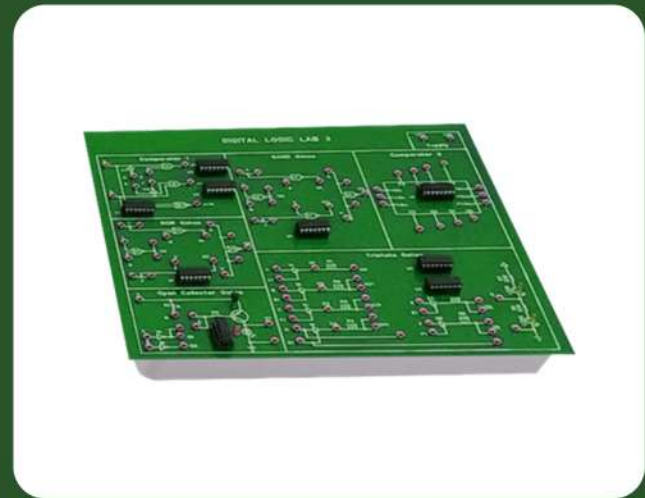


# Digital Logic Lab

## Digital Logic Lab 2

### Experiment

- NOR Gate Circuit
- NAND Gate Circuit
- Constructing XOR Gate with NAND Gate
- Constructing XOR Gate With Basic Gate
- AND-OR-INVERTER (A-O-I) Gate Circuit
- Comparator Constructed with Basic Logic Gates
- Comparator Constructed with TTL IC
- Schmitt Gate Circuit
- High voltage/Current Circuit
- Circuit with Open-Collector Gate
- Truth Table Measurements
- Constructing an AND Gate with Tristate Gate
- Bidirectional Transmission circuit



### Required Unit:

- Main Module





# Digital Logic Lab

## Digital Logic Lab 8

### Experiment

- Asynchronous Decade Up-Counter
- Asynchronous Divide-by-N Up-Counter
- Constructing a R-S Flip-Flop with Basic Logic Gates
- Constructing a D Flip-Flop with R-S Flip-Flop
- Constructing a J-K Flip-Flop
- Constructing a J-K Flip-Flop with RS Flip-Flop
- Constructing a Shift Register with D Flip-Flop
- Preset Left/Right Shift Register
- Constructing a Noise elimination Circuit with RS Flip-Flop



### Required Unit:

- Main Module





# Digital Logic Lab

## Digital Logic Lab 10

### Experiment

- Digital to Analog Conversion
- Analog to Digital Conversion
- Real World Process in Digital Multimeter
- Unipolar DAC Circuit
- Bipolar DAC Circuit
- 3 1/2-digit Converter Circuit
- DAC Using Op-Amp



### Required Unit:

- Main Module

