



Major technological developments in telecommunications in recent years have led to a large scale deployment of equipment containing evermore sophisticated electronic circuits.

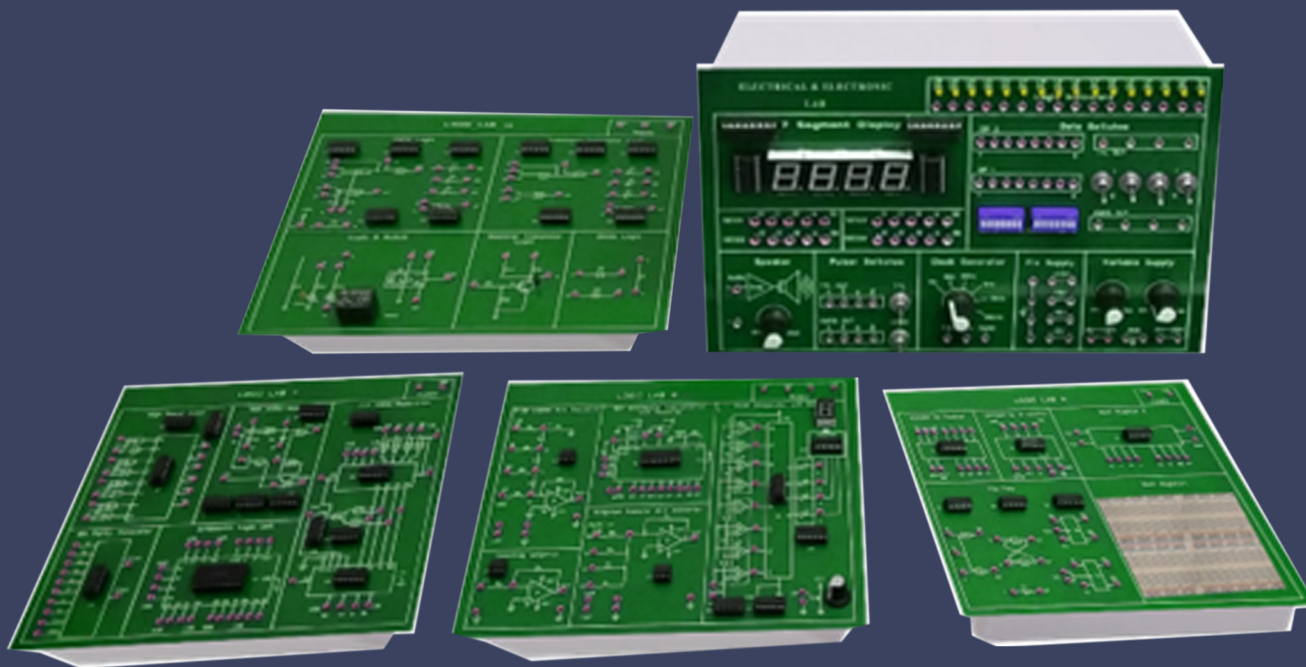
From this reality stems the need to create skilled professionals adequately trained in the basics of telecommunication technology as well as in its more advanced applications.

In view of the technological advancements and the evolution of electronic components, ongoing theoretical, experimental and practical upgrading of skilled workers is essential.

For training purposes, access to modular and flexible systems which can be adapted to diverse and continuously varying needs is necessary in order to meet these demands.

Green Power Technology has developed tailor made systems and solutions for training and research purposes, by designing a range of equipment for the theoretical and practical analysis of all topics related to telecommunications and telematics, from the basic concepts through to more complex applications.

The various topics are covered exhaustively and constitute a complete training program which includes both a theoretical introduction and practical experiments starting from Electrical and Electronic Training System



**Special Package for Electrical and Electronic Trainer Units are**

- Main Electrical and Electronic Lab Module
- 4 Sets of PCB Board Module

**Address : 77 High Street#09-11, High Street Plaza, Singapore. 179433**  
**sales@greenpower-training.com**  
**contact@greenpower-training.com**



## Electrical and Electronic Lab Main Module

### Technical Features:

- Fixed DC Power Supply: +5V, -5V, +15V, -15V
- Variable DC Power Supply: 0 ~ +25V
- Clock Generator:
  - o Six Frequency Ranges
  - o 1Hz
  - o 10Hz
  - o 100Hz
  - o 1KHz
  - o 10KHz
  - o 100KHz
  - o 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



Address : 77 High Street#09-11, High Street Plaza, Singapore. 179433  
sales@greenpower-training.com  
contact@greenpower-training.com

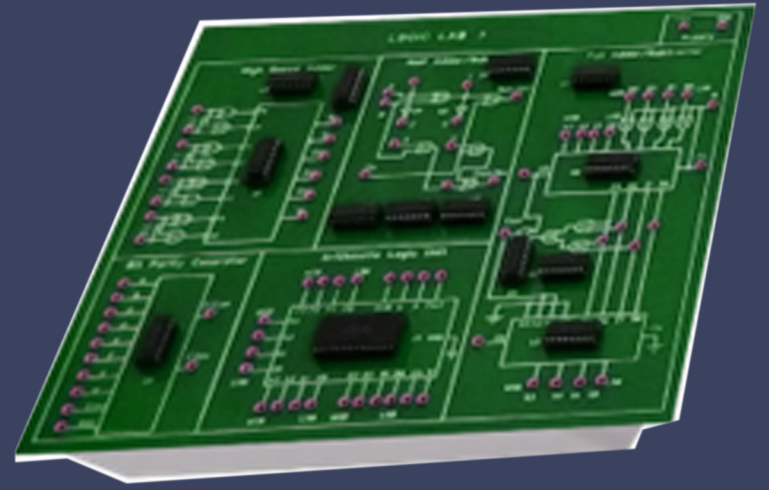




# Electrical and Electronic Lab Lab Unit 3

## Experiment:

- Constructing Half Adder with Basic Logic Gates
- Full-Adder Circuit with IC
- High-Speed Adder Carry Generator circuit
- BCD Code Adder Circuit
- Subtractor Circuit Constructed with Basic Logic Gates
- Full-Adder and Inverter Circuit
- Arithmetic Logic Unit (ALU) Circuit
- Bit Parity Generator Circuit
- Bit Parity Generator constructed With XOR Gate
- Bit Parity Generator IC



## Required Unit:

- Main Module



Address : 77 High Street#09-11, High Street Plaza, Singapore. 179433

[sales@greenpower-training.com](mailto:sales@greenpower-training.com)

[contact@greenpower-training.com](mailto:contact@greenpower-training.com)

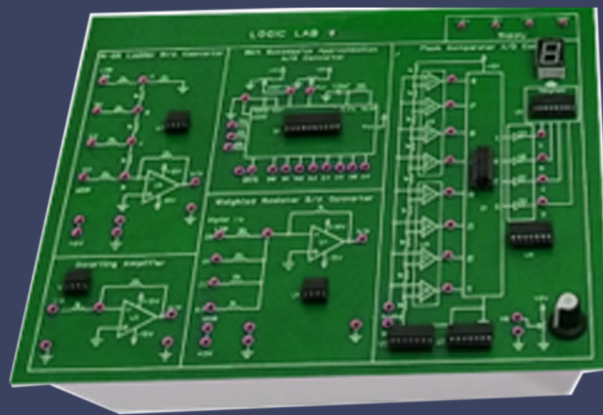


# Electrical and Electronic Lab

## Lab Unit 9

### Experiment:

- R -2R Ladder Network
- Inverting Amplifier Using Op-Amp
- Digital/Analog Converter (DAC) Weighted Resistor
- Analog/digital Converter (ADC) 8 Bit Successive Approximation
- Flash Comparator Circuit with 7 Segment LED Digit Display
- Inverting circuit using IC



Required Unit:



Address : 77 High Street#09-11, High Street Plaza, Singapore. 179433

[sales@greenpower-training.com](mailto:sales@greenpower-training.com)

[contact@greenpower-training.com](mailto:contact@greenpower-training.com)





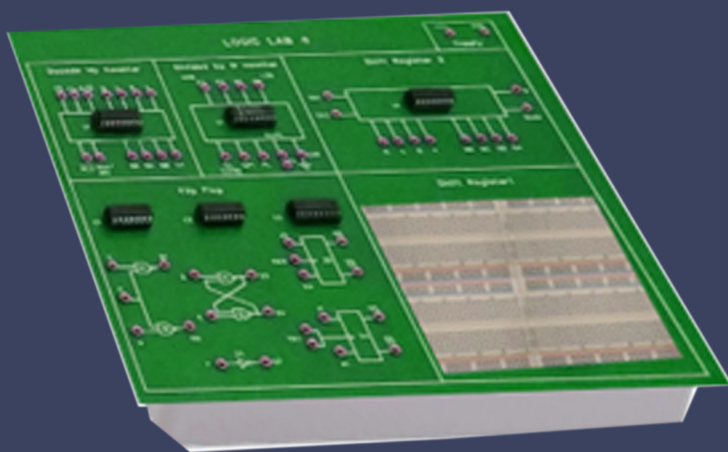
## Electrical and Electronic Lab Lab Unit 9

### Experiment:

- Resistor Characteristics
- DC Current Measurement
- Ohm's Law
- Power in DC Circuit
- Series-parallel Network and Kirchhoff's Law
- Superposition, Thevenin's and Norton's the Theorems
- Maximum Power Transfer Theorem
- DC RC Circuit and Transient Phenomena
- AC Voltage Measurement
- AC Current Measurement
- AC RC Circuit
- AC RL Circuit
- AC RLC Circuit
- Power in AC Circuit
- Rectifier Circuit
- Filter Circuit

Required Unit:

- Main Module



Address : 77 High Street#09-11, High Street Plaza, Singapore. 179433  
sales@greenpower-training.com  
contact@greenpower-training.com



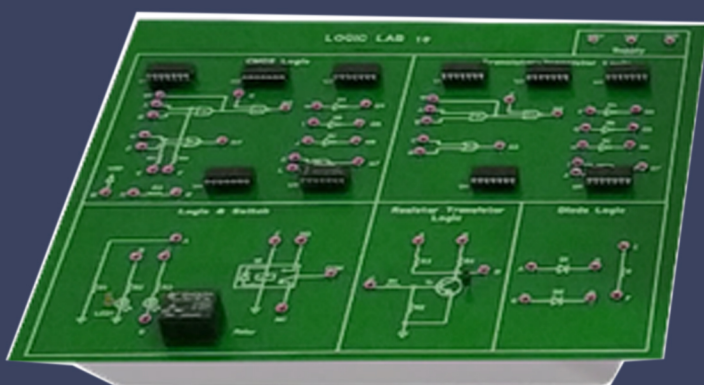
## Electrical and Electronic Lab Lab Unit 10

### Experiment:

- Logic Gates Circuits
- Diode Logic (DL) Circuit
- Resistor-Transistor (RTL) Circuit
- Diode-Transistor (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

### Required Unit:

- Main Module



Address : 77 High Street#09-11, High Street Plaza, Singapore. 179433  
sales@greenpower-training.com  
contact@greenpower-training.com