

# DIGITAL LOGIC LAB TRAINER – 16 BITS

Model Number : GOTT-DLT-3016A



## GENERAL SPECIFICATION

Operating Temperature	0 ~ 50°C , < 90% or Less (R.H.)
Input Power	AC 240V, 50/60Hz 1-Phase

## ACCESSORIES :

- Connecting Lead
- Comprehensive experiment instructor & user's manual
- Detail solutions for the simulated faults should be included in the manual
- Fuse
- AC Cord

## EXPERIMENT TOPICS :

- Basic Logic Gates
- Exclusive OR and Exclusive NOR Gates
- Boolean Algebra
- Arithmetic Logic Unit
- NAND & NOR Gates
- AND-OR-Inverter (A-O-I) Gate
- Multiplexer
- Voltage Controlled Oscillator
- Comparator
- 4-bit Binary Up/Down Counter
- LED Sequencer
- Parity Error Checking System
- Tristate Gate
- Clocked R-S Flip-Flop
- Binary Addition
- D-Type Flip-Flop
- Binary Subtraction
- T-Type Flip-Flop
- Demultiplexer
- J-K Master Flip –Flop
- Decoder
- Preset Left/Right Shift Register
- Encoder
- RS Flip-Flop (Latch)

## Manuals :

- (1) All manuals are written in English
- (2) Model Answer
- (3) Teaching Manuals

## General Terms :

- (1) Accessories will be provided where applicable.
- (2) Manual & Training will be provided where applicable.
- (3) Design & specifications are subject to change without notice.
- (4) We reserve the right to discontinue the manufacturing of any product.

## Warranty :

2 Years

## ORDERING INFORMATION :

ITEM	MODEL NUMBER	CODE
DIGITAL LOGIC LAB TRAINER – 16 BITS	GOTT-DLT-3016A	199-915

## DESCRIPTION

Digital Logic Lab Trainer is an ideal training kit for high schools, technical institution, and universities. It consists of Solderless Breadboard, Power Supply, Pulse Generator, Pulse Switches, Mode Selector Switch, Seven Segment Display, 16-Bit LED Display, 16- Bit Data Switches & Digital Probe. It allows the users to perform most digital experiment without the use of additional equipment.

## PRODUCT SPECIFICATION

### POWER SUPPLY

- **Adjustable DC Power Supply**
  - a. Voltage Range : +3V ~ +15V / -3V ~ -15V
  - b. Maximum Current output : 0.5A
  - c. Output overload protection
- **Fixed DC Power Supply**
  - a. Voltage Range : +5V, 1.5A; -5A, 0.3A
  - b. Output overload protection

### PULSE GENERATOR

All signal generators have independent & simultaneous TTL & CMOS level output terminal. CMOS level output range from ±1.5V to ±15V & is controlled from the voltage adjustment knob of the Adjustable DC Power Supply.

#### Pulse generator :

- a. Frequencies : 1 Hz ~ 10 Hz, 10 Hz ~ 100 Hz, 100 Hz ~ 1 kHz ;  
1 kHz ~ 10 kHz, 10 kHz ~ 100 kHz, 100 kHz ~ 1 MHz
- b. Fanout : 10 TTL load

### DATA SWITCH

- 16 sets of data switches

### PULSE SWITCH

- 2 sets of independence control output
- Each set with Q,  $\bar{Q}$  output, pulse width > 5ms
- Each set of switch with DEBOUNCE circuit
- Fanout : 10 TTL load

### DISPLAY LOGIC INDICATOR

- 16 sets of independent LED indicates high and low logic state
- Input impedance < 100kΩ

### DIGITAL DISPLAY

- 2 sets of independent 7-segment LED display
- With BCD, 7-segment decoder/driver
- Input with 8-4-2-1 code

### TESTING DEVICES

#### i) LOGIC PROBE

- TTL and CMOS level
- 5mm LED Display
- "LO" and "HI" LED displays low and high logic state respectively

#### ii) BREADBOARD MODULE

- 1680 Tie point breadboard on top panel that can be easily put into & taken off

### DIMENSION

- Length : 330 mm
- Height : 100 mm
- Width : 260 mm

### ADDITIONAL MODULE :

Please refer to page "Electronic Module".