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Embedded Systems Design Series

Digital Logic Trainers

DL-010 Combinational Logic Trainer



Some of the logic circuits that can be implemented with this trainer include:

2-to-4 decoder with and without enable

3-to-8 decoder with and without enable

2-to-1 multiplexer

4-to-1 multiplexer

8-to-1 multiplexer

Full adder

4-bit adder

4-bit adder/subtractor

4-bit carry-look-ahead

2-bit ALU

8-to-3 Encoder

Comparator

Shifter

4-bit BCD to 7-segment decoder

Any custom combinational circuit as derived from a truth table with up to four inputs

Many custom combinational circuits with more than four inputs

Features:

- 72-page professionally written lab manual authored by university professor, Enoch Hwang, PhD.
- 11 hands-on labs correlated to an introductory digital logic course.
- Sturdy blow molded carrying case making the entire lab lightweight and portable.
- Attractive and easy to use system draws students in to the beauty of digital logic and embedded systems design.
- Complete kit with 9V wall adapter and 100 machined pin hookup wires. No need to buy anything else.
- All gate elements are pre-mounted and fully integrated.
- Expandable breadboard allows the system to grow as students' knowledge increases.
- Perform experiments using standard TTL logic.
- Well regulated 5V power (Vcc) and ground (GND) points.
- Each gate element is presented in its easy to visualize graphic form.

Global Specialties' DL-010 is first in its series of embedded systems design trainers. The DL-010 teaches students the basics of combinational digital logic design, which is the foundation of microprocessor and microcontroller designs.

With the DL-010, all necessary logic components are included and pre-mounted for fast, easy implementation of combinational logic circuits, which are used as the building blocks of microprocessors. These circuits include multiplexers, decoders, encoders, full adders, adders/subtractors, comparators, and ALU's.

Global Specialties' logic trainer simplifies the teaching process by eliminating the need to discretely wire IC's as all gate elements are pre-mounted, de-coupled and de-bounced, ready for immediate classroom use. Students can spend their time directly on logic training.

Most importantly, the trainer includes a 72-page professionally written training manual featuring an overview of digital logic and 11 hands-on labs enhancing any textbook currently in use.

The DL-010 is a complete and ruggedly packed trainer that will provide a solid learning platform to individuals and classroom students.



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Combinational Logic Trainer

Specifications

Model DL-010	
Not gate	12
2-Input AND gate	12
4-Input AND gate	8
2-Input OR gate	8
4-Input OR gate	8
2-Input XOR gate	12
LEDs	8
7-Segment LED display	1
Slide switch	8
Push Button switch	1
270 tie point Bread Board	yes
Vcc & GND tie points	yes
Hook up wire, 100pcs	yes
9V wall adaptor	yes
Regulated 5V supply	yes
DL-010 Manual	yes
Width	13.5 in
Length	8.5 in
Height	3.5 in
Weight	3.40 lbs
Technical data subject to change without notice	

Training Manual

Chapter 1: Combinational Logic Design Trainer
Model DL-010

Chapter 2: Microprocessors
Introduction to Microprocessors
Combinational and Sequential Circuit
Analogy

Chapter 3: Digital Logic Circuits
Basic Logic Gates
Digital Circuits
Identifying Combinational Circuits
Analysis of Combinational Circuits
Boolean Algebra
Simplifying Combinational Circuits
Synthesis of Combinational Circuits

Chapter 4: Labs
Basic Gates, Lights and Action!
NAND, NOR, XOR, AND XNOR Gates
Designing Combinational Circuits
Multiplexers
Decoders
Comparators
Full Adder
4-bit Adder
4-bit Adder/Subtractor
2-bit Arithmetic and Logic Unit (ALU)
BCD to 7-Segment LED Decoder



WARRANTY



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