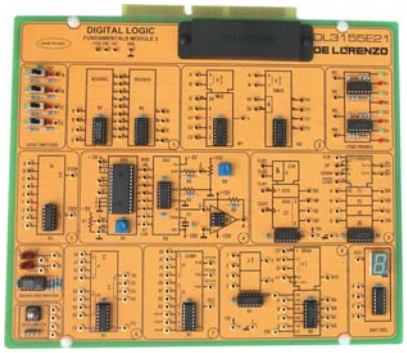
TIME ELECTRONIC BOARDS

DIGITAL LOGIC FUNDAMENTALS 2



DL 3155E21

Theoretical topics:

- Definition and characteristics of a combinatory logic network
- The BCD code
- DEC/BCD and BCD/DEC code converters
- Encoders
- Decoders
- Multiplexer
- Demultiplexer
- Parity
- Parity logic circuits
- Nine bit 74180 parity generator/detector
- Unipolar codes
- Bipolar codes
- A/D converters
- Staircase A/D converter
- ADC converter of parallel or flash type
- ADC converter with simple slope
- ADC converter with double slope
- D/A converters (DAC)
- D/A converter with weighed resistances
- D/A converter with R–2R network
- 4 bit asynchronous binary counter
- 4 bit synchronous binary counter
- Asynchronous decimal counter
- Synchronous decimal counter
- Up/down synchronous counters
- Adders
- Half adder
- Full adder
- Parallel binary adders – four-bit adder
- Quantity comparators
- Four-bit comparator
- Definition and classification of shift registers
- Operation principle
- 4 bit bi-directional shift registers
- Applications
- Fault simulation

Circuit blocks:

- BCD Decimal Decoder / BCD Priority Encoder
- ADC / DAC
- Multiplexer / Demultiplexer
- 7-Segment Driver / Display
- Parity Generator / Checker

In addition, the Circuit Board includes the following:

- +5 V regulated supply
- Built-in clock circuit
- Built-in pulse generator circuit
- Built-in counter circuitry
- The 74LS42 decoder and LS147 encoder
- AD673 ADC and AD558 DAC
- The LS151 multiplexer and LS155 demultiplexer
- The LS280 7-Segment decoder / driver