

**OMEGA TYPE LTB-893** Advance Level Logic Trainer has been designed specifically for the study of Re-triggerable monostable Multivibrator, Synchronous counting, Up and down counting, Serial to Parallel data converting. Writing and reading data from Random Access Memory (RAM) and concepts of input output bus. Practical experience on this board carries great educative value for Science and Engineering Students.

**OBJECT**

To design, fabricate and test the following:

**01 To study Re-triggerable Monostable Multivibrator using IC 555 and output through LED.**

**02 Synchronous Counters:**

- 2.1 4-Stage binary synchronous up-counter with parallel carry.
- 2.2 4-Stage binary synchronous down-counter with parallel carry.
- 2.3 4-Stage binary synchronous up-counter with series carry.
- 2.4 4-Stage binary synchronous down-counter with series carry.
- 2.5 4-Stage binary synchronous up-down counter with Parallel carry.
- 2.6 4-Stage synchronous up-down counter with series carry.
- 2.7 4-Stage synchronous decade counter with parallel carry.

**03 Series Parallel Counters:**

- 3.1 3-Stage mod-5 series parallel counter.
- 3.2 4-Stage mod-10 series parallel counter.

**04 Serial to Parallel Data Converter**

**05 1024 X 4 Bit Static Random Access Memory (2114) 1024 X 4 Bit Static Random Access Memory (2114)**

- 5.1 To study the Write operation of 1024 X 4 Bit Random Access Memory.
- 5.2 To study the Read operation of 1024 X 4 Bit Random Access Memory.

**06 8212 - Single Input/ Output Port**

- 6.1 To Study Input and output modes of IC 8212 I/O Port.

**FEATURES**

The board consists of the following built-in parts:

- 01 +5V D.C. at 200mA, IC Regulated Power Supply Internally connected.
- 02 +10V D.C. at 100mA, IC Regulated Power Supply internally connected.



- 03 1 KHz Square Wave Generator.
- 04 Switches to set Data & Address.
- 05 LEDs for visual indication of Address used Data conditions.
- 06 Four, J-K master slave flip-flops with preset and clear arrangement.
- 07 Five, 2-input NAND gates.
- 08 Four, 4-input NAND gates.
- 09 Pulser switch for clear arrangement.
- 10 LEDs for visual indication of output status of each flip-flop.
- 11 Single I/O port IC 8212.
- 12 Tristate buffer IC 74244.
- 13 Transistor BC 177.
- 14 SPDT switches for logic selection.
- 15 Adequate no. of other Electronic Components.
- 16 Mains ON/OFF switch, Fuse and Jewel light.
- 17 The unit is operative on 230V ±10% at 50Hz AC. Mains.
- 18 Adequate no. of patch cords stackable from rear both ends 2mm spring loaded plug length 50cm.
- 19 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections / observation of waveforms.
- 20 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.
- 21 Weight : 6 Kg. (Approx.)
- 22 Dimension : W 415 x H 165 x D 315.

**OTHER APPARATUS REQUIRED:**

- 01 Dual trace CRO 20MHz OMEGA TYPE CRO-20

We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice.

**OMEGA ELECTRONICS**