

**MICROCONTROLLER DEVELOPMENT BOARD WITH PROGRAMMER (AT89S51/52)**  
OMEGA TYPE OE-5001

Traditionally Embedded systems have come to mean microcontroller based design and programming. **Omega Type OE-5001** the Microcontroller development board with programmer is a full featured development system for Atmel AT89S51/52 microcontrollers. It is an ideal trainer to implement and test the designs both for the beginners and the experts. The OE-5001 is a convenient way to teach the principles of the family of microcontrollers through to programming and interfacing on the AT89S51/52 device. Using the trainer a range of projects in various domains like telecommunication, robotics, consumer electronics etc can be done. The OE-5001 gives designers a quick start to develop code on controller with on board programmer and on board breadboard facility. The flexibility of connectors allows the user to make external connections. On board Breadboard allows making their own circuits and performing an experiment as they desire.



**OBJECT:**

- 01 To Study the USB Port Programmer Procedure to Program Atmel AT89S51/52 MCU
- 02 To Study Procedure PC Serial Communication with Omega Type OE-5001 Board

**TECHNICAL SPECIFICATIONS**

- 01 Serial communication : RS 232 Port Using DB-9
- 02 MCU Programming : Using USB
- 03 Baud rate : 9600 bps
- 04 MCU : AT89S51/52
- 05 Crystal frequency : 11.0592 MHz
- 06 Size of Breadboard : 175 X 67 X 8 mm
- 07 Tie points : 840
- 08 Test points : 40
- 09 On board DC supply :  $\pm 12V$  and  $\pm 5 V$
- 10 Programmer unit : Ready to run programmer will program AT 89S51/ 52 Devices
- 11 Power supply : 230 V  $\pm 10$  %, 50 Hz
- 12 Power consumption : 20 VA (approx)
- 13 Dimension (mm) : W 415 x H 165 x D315
- 14 Weight : 3 Kg. (Approx.)

**GENERAL SPECIFICATION**

- 01 Atmel 89S51/52 MCU clocked at 11.0592MHz
- 02 Expansion connectors for plug in modules and prototyping area
- 03 On board programmer for AT89S51/ 52 devices
- 04 RS232 interface for PC Communication
- 05 Every pin is marked in order to make work easier
- 06 Master Reset/Restart Key for hardware reset
- 07 Input/Output test points provided on board
- 08 On board breadboard
- 09 Self Contained Development Board with on board power supply
- 10 CD with sample project code, Programmer software & useful documents

**LIST OF ACCESSORIES:**

- 01 RS-232 serial cable (9 Pin Male to Female cable).....01
- 02 USB Cable B Type to A Type male connector.....01
- 03 20 pin FRC cable.....04
- 04 Mains cord.....01
- 05 Software CD.....01

**OTHER APPARATUS REQUIRED:**

The comprehensive range of modules has been designed to aid the teaching of microcontroller interfacing to various peripherals. The module design enables students to easily understand each experiment section as it is worked upon. This plugin modules are supplied with the lab (Optional) :

- MCM-01 Input interface module
- MCM-02 ADC/DAC module
- MCM-03 Computer interface module
- MCM-04 Display module
- MCM-05 Motor drive module
- MCM-06 Elevator Control Module
- MCM-07 TTL I/O Interface Module
- MCM-08 Real Time Clock Module
- MCM-09 Graphical Display Module
- MCM-10 Display & Switch Module
- MCM-11 Multi Interface Module
- MCM-12 Infrared Communication Module
- MCM-13 I<sup>2</sup>C ADC/DAC Interface Module
- MCM-16 PWM Based Voltage Regulator

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

**OMEGA ELECTRONICS**