The MIC-8086 Development and Training System includes a target board based on the 16-bit 8086 microprocessor. Designed as a general purpose unit it simplifies the teaching of the 8086 CPU and its commonly used peripherals. Suitable for use at all levels, from simple programs flashing an LED to use as a controller in complex projects. The MIC-8086 is used as a development system for 8086 Assembler Code programs, the EPROM based monitor providing a user interface to a PC through its serial port. Assembler code programs for the 8086 are constructed on the PC and downloaded from the host in Intel Hex format. Programs can be entered into the integral WINDOWS based, LINE-by-LINE assembler, disassembled and easily debugged with the monitoring facilities. LINE assembled programs can also be saved and re-loaded when required.

Standard connectors give full access to Data and Address buses so that logic analysers and other diagnostic equipment can be connected easily for demonstration and debugging purposes. All major components are retained in turned pin I/C sockets this enables faults to be easily applied without fear of damage to the target board for the teaching of fault finding techniques. The teaching of Logic and Signature Analysis and In-Circuit Emulation techniques is enhanced because the board may be set up for a realistic dedicated application.

### Curriculum Coverage

- Specification
- Overview
- MIC-8086 board software
- Experiments
- Getting started
- Connection
- The MIC-8086 system
- Software installation
- Software introduction
- Download
- The debug menu
- Memory
- Registers
- Watches
- Memory block
- Break points
- Line Assembler
- Disassembler
- The control window
- Go user
- Single step
- Read registers
- Check monitor
- Tutorial
MIC-8086

Board consists

- 8086 Microprocessor running at 4.9152 MHz from Clock Generator Driver (8284A)
- CPU connections through a 40 way IDC connector for external processor bus expansion
- RS232 port using the (8251) USART & fully buffered by MAX238 line receiver/drivers
- Powered from a simple unregulated 8 to 13V dc or from a regulated +5V dc source
- Two Programmable Peripheral Interface chips (8255); 2 -16 bit programmable I/O ports
- Programmable Interval Timer (8253) providing 3 channel 16 bit counter/timer channels
- Programmable Interrupt Controller (8259) provides 8 levels of prioritised interrupts for peripherals
- Two 27256 EPROMs with embedded Monitor provide 64Kbyte EPROM memory
- Two 6264 RAM chips providing 16Kbyte RAM memory expandable to 64Kbyte
- Full address decoding and isolated I/O decoded signals for external expansion
- Hardware reset and Non-maskable interrupt push buttons
- Non-maskable interrupt control of 8086 from external signal source

Serial port connection 9 way D type connector
Parallel I/O port connection 40 way IDC connector
Connections to the 8086 40 way IDC connector
Power inlet socket 2.1 mm and screw terminals 5V DC supply
On-board monitor software Is provided in a pair of 27256 EPROMs
The monitor communication RS232 interface operating at 9600 baud; interface host PC

Software

- Line Assemble - to enter code line at a time. (Programs can be saved, reloaded and downloaded to the board when required)
- Memory - examine/alter memory contents
- Register - examine/alter registers contents
- Memory Block - displays 256 bytes memory
- Single Step - highlights and steps through code a single instruction at a time
- Port Input - read and display specified port
- Port Output - output byte to specified port
- Disassemble - disassembles code to screen
- Breakpoint - Sets up to 4 breakpoints
- Download - loads extended Intel hex files
- Full specified memory mapping
- Jump Calculator - 16 and 8 bit 2’s compliment jump calculator

Weights and Dimensions

<table>
<thead>
<tr>
<th>Un-Packed</th>
<th>Packed</th>
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<tbody>
<tr>
<td>Approximate Dimensions (mm)</td>
<td>Approximate Dimensions (mm)</td>
</tr>
<tr>
<td>280L x 190W x 60H</td>
<td>350L x 300W x 100H</td>
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<tr>
<td>3Kg</td>
<td>6Kg</td>
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</table>

Required:

A PC with minimum; Pentium processor, 1GB RAM, 20GB HDD, CDROM Drive, and Windows 95 or above.

Ordering Information

Model Number: MIC-8086
Consists of:
- The MIC8086 target board with on board EPROM based monitor supplied in a moulded storage case
- Windows based software
- Comprehensive technical reference manual
- Power supply (9V; 1A)
- Serial cable

Optional on Request
- Professional development software

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