

Product Name :
Microcontrollers

Product Code :
8086

Description :

Microcontrollers - The trainer system should permit students of digital electronics to make sufficient use of variable laboratory and to make program of same module (For example: Traffic Light, elevator, stepper motor module, etc.) Simple data and function entry should be provided by keys pad, 6 digits, 7 segments display for data and addresses

a. The trainer should have the following requirements:

- Works with either 8086/8088 CPU
- Operates with on-board keypad or with a PC compatible system through a RS 232 C interface.
- Provision for on-board 8087 (NDP)
- Powerful system monitor that permits:

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Entry of program.

—
Debugging through break point

—
Instruction step facilities.

- Built-in one line assembler/disassembler
- Include with Centronics Printer Driver
- Provision for easy system expansion.
- Provision for battery backup to RAM.
- Could support variety of interface modules including EPROM Programmer.

b. The trainer should have the following specifications:

1. Central processor:
8086/8088 CPU at approx. 8 MHz in Max. mode

2. Memory:

- EPROM: 4 JEDEC sockets provide:

128K bytes using 27256s (32K x 4)

256K bytes using 27512s (64K x 4)

- RAM: 4 JEDEC sockets provide:

128K bytes using 62256s
(32K x 4)

3. Peripherals &
Controllers: 8251A; 8253-5; 8255A; 8259A; 8288

4. Interrupts

- External: NMI for keyboard. INTR controlled through 8259A, on-board Interrupt Controller.
- Internal: Interrupt Vectors 1 (single step) & 3 (break point) reserved for monitor.

5. Interface signals

- CPU Bus: Should be demultiplexed and fully buffered, TTL compatible, Address, Data & Control signals should be available on two 50 pin ribbon cable connectors.
- Parallel I/O: 48 programmable parallel I/O lines (TTL Compatible) through two 26 pin ribbon cable connectors.
- Serial I/O: RS 232 C
- Timer signals: Timer 1 & Timer 2 signals should be brought out to Berg Pins.

c. Accessories:

- User manuals with schematics to be provided during bidding process.

- Keyboard Monitor Program Listing.
- 8086 Assembly Language Reference Card.

Technical Specification :
Microcontrollers

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