VMC-ET-PIC87X
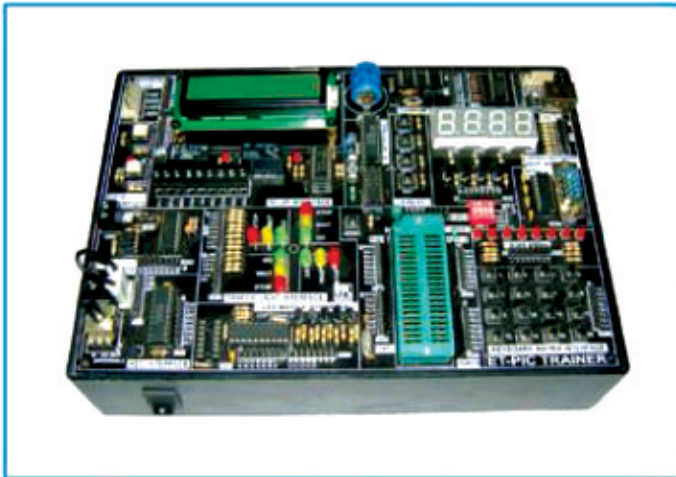
Microchip PIC16F877 Kit

VMC-ET-PIC87X, the low cost Embedded Trainer has been designed by using Microchip PIC16F877 Microcontroller. This controller provides in-system as well as in circuit programming so that one may be able to write program and download directly in the controller through serial port without removing it from the system.

SYSTEM SPECIFICATION

- CPU: Microchip PIC16F877 Microcontroller
- Four Seven Segment Display Interface
- LCD Display Interface
- 4x4 Matrix Keyboard Interface
- Output LED's 8 Nos.
- 8 bit ADC Interface
- DAC Interface
- Four Data Switches
- Relay Interface
- Opto Interface
- I.R. Interface
- Traffic Light Interface
- Stepper Motor Interface
- At24C16 Serial EEPROM
- Real Time Clock
- USB/RS-232C Interface using Rx/Tx of MCU for uploading/downloading

DESCRIPTION OF PIC16F877

- High-performance RISC CPU
- Only 35 single word instructions to learn
- All single cycle instructions except for program branches which are two cycle

- Operating speed: DC - 20 MHz clock input
  DC - 200 ns instruction cycle
- Up to 8K x 14 words of Flash Program Memory,
  Up to 368 x 8 bytes of Data Memory (RAM)
  Up to 256 x 8 bytes of EEPROM data memory
- Pinout compatible to the PIC16C73/74/76/77
- Interrupt capability (up to 14 internal/external interrupt sources)
- Eight level deep hardware stack
- Direct, indirect, and relative addressing modes
- Power-on Reset (POR)
- Power-up Timer (PWRT) and Oscillator Start-up Timer (OST)
- Watchdog Timer (WDT) with its own on-chip RC oscillator for reliable operation
- Programmable code-protection
- Power saving SLEEP mode
- Selectable oscillator options
- Low-power, high-speed CMOS EPROM/EEPROM technology
- Fully static design
- In-Circuit Serial Programming via two pins
- Only single 5V source needed for programming
- In-Circuit Debugging via two pins
- Processor read/write access to program memory
- Wide operating voltage range: 2.5V to 5.5V
- High Sink/Source Current: 25 mA
- Commercial and Industrial temperature ranges
- Low-power consumption: < 2 mA typical @ 5V, 4 MHz
  20µA typical @ 3V, 32 kHz
  < 1µA typical standby current

Specifications are subject to change without notice due to our constant efforts for improvement.