



MTS-887 PIC16F Training Lab uses Microchip's PIC16F887, a 8-bit microcontroller, to implement various I/O control experiments. This controller contains most of the powerful functions in modern MCUs nowadays and can be used for automation, motor control, device measurement, and mechanical controls...etc. PIC16F is popular and well-known by its economic cost, wide applicability, high accessibility and reliable stability. MTS-887 contains several peripheral devices, from basic LED to advanced capacitive sensing module. The combination of these devices enable end users to create different kind of control experiments. Together with our friendly experiment manual, end users can learn the control of PIC MCU more conveniently and efficiently.

### Features

- The trainer uses PIC16F887 microcontroller chip which is ideal for beginners of learning programming language.
- Each experimental block uses individual control switch to avoid interference if sharing pin.
- Pins of the microcontroller have been connected to the peripherals inside the trainer. There is no need to connect it manually.
- "Reset" button: to reset the chip if errors occur.
- Development interface is reserved for advanced learners, which can connect the external modules to the chip pins.

### Specifications

1. PIC16F887 chip x 1
  - (1) 40 pins(35 input/output pins)
  - (2) 368 bytes RAM memory
  - (3) NanoWatt Technology
  - (4) 10-Bit Analog-to-Digital (A/D) Converter
  - (5) Operating Frequency (0~20MHz)
2. UART to USB Interface x 1
3. EEPROM 64Kbits x 1
4. 20 x 2 character LCD x 1
5. 4-digit 7-segment display x 1
6. Capacitive sensing button x 1
7. LED x 11
8. 8 x 8 multicolor dot matrix LED display x 1
9. Buzzer and status LED x 1
10. 5K variable resistor x 1
11. AD590 temperature sensor x 1
12. Stepping motor and status LED 7.5 degrees x 1
13. 10 x 2 extend socket x 2
14. Slide switch x 8
15. 4 x 4 matrix keypad x 1
16. Built-in power supply :
  - Input : 100~240VAC, 50/60Hz, 0.65A
  - Output : 12V/1.2A, 5V/2.1A, 3.3V/1A

### List of Experiments

1. Basic I/O control
2. External interrupt I/O experiment
3. Chip clock
4. Watchdog timer
5. Timer
6. UART
7. I2C
8. LCD module experiment
9. Temperature measurement experiment
10. LED matrix display experiment
11. Stepping motor experiment
12. Capacitive touch sensing experiment

### Accessories

1. AC power cord x 1
2. Fuse x1
3. Experiment manual x1
4. Experiment CD x 1
5. USB A-B type cable, 150cm x 1
6. IDC cable 10 x 2 pin, 20cm x 1
7. Dupont Line 1P-1P, 150mm x 20
8. 6 pin programmer cable x 1

### Optional but Necessary

MICROCHIP PICKIT3 x 1



PIC KIT3

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