

## MTS-51

### 8051 MICROCOMPUTER TRAINER



## MTS-52 ICE



### FEATURES & BENEFITS

1. With the ISP and IAP functions of Philips's P89C51RD+ / P89C51RD2 control chip, the program codes are able to download to flash memory through series port interface, showing the results at real time
2. Built-in power switch, no adaptor required  
Input power spec: AC 110V / 220V, 50 / 60 HZ  
Output power spec: 12V/3A 5V/3A
3. Reserving external connect pins for advanced experiments
4. Plenty of experiments to do various basic I/O control applications
5. The single chip of the trainer can be replaced by INTEL's 8751/52 series (without ISP function) and ATMEL's AT89C51/52 series (with ISP function)
6. MTS-51 trainer is a training equipment for learning basic control applications with 8051 microcontroller. With various common I/O components and experiments, users are able to learn the 8051 control implementation efficiently

### LIST OF EXPERIMENTS

- |                           |                               |
|---------------------------|-------------------------------|
| 1. LED display control    | 8. 7-Segment Display Control  |
| 2. Dot Matrix LED Control | 9. Matrix Keyboard Control    |
| 3. Step Motor Control     | 10. Output Port Expansion     |
| 4. Input Port Expansion   | 11. Photo Interrupter Control |
| 5. Pulse Counter          | 12. Timer/Counter             |
| 6. Speaker Control        | 13. LCM Display Control       |
| 7. Serial Communications  |                               |

### SPECIFICATION

1. P89C51 single chip x 1, with ISP (In System Programming) function
2. LCM x 1, back light (20 x 2 lines) LCD module
3. 7-segment display x 4
4. LED-bar 10 bit x 2
5. 4 x 4 matrix keyboard x 1
6. 12V stepping motor x 1, 200 steps, with A,  $\bar{B}$ , A,  $\bar{B}$  coil output connector
7. Photochopper x 2  
PH1 for interrupt request signal and interdict counter  
PH2 for counter, pulse counter or counter control and interdict counter
8. IC555 x 1, instable oscillating circuit for pulse signal output.
9. 8 x 8 dot matrix LED x 1
10. RS-232 interface x 1, interface for ISP function
11. 8-bit DIP switch x 3, for circuit start control
12. Micro speaker x 1
13. 10 x 2 extend socket x 1, for PO and P2 output
14. Through RXD, TXD connector for multi-chip transfer control