SIGMA

PIC MICROCONTROLLER TRAINER
MODEL -PIC18

This kit has been designed with a view to provide practical and experimental Knowledge of Microcontroller Applications.

FEATURES

1. RTOS Support
2. Evaluate Real Time Applications
3. Supports Embedded C, ASM
4. ISP Programming / JTAG Debugging
5. Facility to interface external devices

SPECIFICATIONS

1. PIC18F4550/4450 Microcontroller
2. Power Adaptor (12Vdc)
3. RS232 Cable | ISP Cable | PICkit 2 programmer.
4. 40pin-SIF Socket | 44-pin PLCC Socket
5. 8 Nos. Point LEDs (Logic Output)
6. 8 Nos. Digital Input (DIP Switch)
7. 4x4 Matrix Keypad
8. 2X16 Character LCD (Background Light)
9. 4 Nos. 7-Segment Display
10. ADC with Analog Input Test (Potentiometer)
11. Stepper Motor Interface
12. 2 Nos. of SPDT Relay
13. DS1307 RTC with Battery-Backup
14. USART(RS232)
15. USB 2.0 Device Programmer
16. Buzzer (Alarm), Interrupts Study, Reset Button
17. *128x64 Graphical LCD

18. SPI EEPROM.25C040
19. I2C EEPROM 24C040
20. Digital Temperature Sensor(DS18S20)
21. VGA Connector and CAN Interface Connector
22. ISP Programming | SPI | I2C Communications
23. Memory :4-32KB FLASH - Program
24. Clock:12MHz crystal, Max = 20 Mhz
25. RTC battery
26. Accessories :
    1. User Guide HW/SW
    2. CD Contains: Code, Programs, IDE, Data Sheets
27. Books for Embedded Systems   :10 Nos in pdf Format
28. Mp4 Video Class for Embedded Systems   :40 Classes in Mp4 on DVD / Pen Drive

EXPERIMENTS

1. Write a program for interfacing button, LED, relay & buzzer as follows
   A. when button 1 is pressed relay and buzzer is turned ON and LED?s start chasing from left to right
   B. when button 2 is pressed relay and buzzer is turned OFF and Led start chasing from right to left
2. To display message on LCD without using any standard library function
3. Interfacing 4X4 keypad and displaying key pressed on LCD OR on HyperTerminal.
4. Generate square wave using timer with interrupt
5. Interfacing serial port with PC both side communication.
6. Interfacing DS1307 RTC chip using I2C and display date and time on LCD
7. Interfacing EEPROM 24C128 using SPI to store and retrieve data
8. Interface analog voltage 0-5V to internal ADC and display value on LCD
9. Generation of PWM signal for DC Motor control.
10. Observing supply current of PIC18F controller in various power saving modes and by varying clock frequency.