

INTERFACING MODULE

IC-XX Series Interfacing Module are usefull for Teaching/Training to interface with any Microprocessor, Microcontroller, Embedded, VLSI Trainer Kits. This Modules are designed to interface through 8255, MCU Port I/O's, 50 Pin KXT Bus. Most of the Interfacing Module are supplied in Australian Pine Wood Enclosure.

IC-01 ADC-0809 Interfacing Module

1. ADC module using ADC-0809.
2. 8 bit accuracy ADC chip
3. Eight Channel on-chip multiplexed ADC.
4. A/D Conversion time 100 micro sec.
5. SOC, EOC, O/P enable can be accessed by user.
6. Provision of 0 to 5V variable source using Potentiometer for One channel.
7. Eight channel analog inputs are provided at Screw Terminals.
8. Connect to 8255 using 26 pin FRC Connector
9. User's Manual with Sample Programs.

IC-02 DAC-0800 Interfacing Module

1. DAC module using DAC-0800.
2. 8 bit accuracy DAC chip
3. Dual Channel DAC using 2 Nos. of DAC-0800.
4. DAC Settling time 100 ns
5. DAC Output are provided at 2 Test Points.
6. Connect to 8255 using 26 pin FRC Connector
7. User's Manual with Sample Programs.

IC-03 AD574 Interfacing Module

- ! ADC module using AD-574 Chip.
- ! 12 bit accuracy ADC chip
- ! Signle Channel ADC module.
- ! A/D Conversion time 15 micro sec.
- ! Analog inputs are provided at Screw Terminals.
- Connect to 8255 using 26 pin FRC Connector
- ! User's Manual with Sample Programs

IC-04 Digital Input & Output Interfacing Module

1. 8 Digital Inputs provided through 8 way DIP Switch
2. 8 Input LED Indicators are provided
3. 8 Output LED Indicators are provided
4. Connect to 8255 using 26 pin FRC Connector.
5. User's Manual with Sample Programs.

IC-05 Elevator Simulator Interfacing Module

1. Four Floor Elevator Simulator model
2. Each Floor LED indication are provided
3. Up & Down Lift position indication by 10 Nos. of LEDs
4. Four Keys are provided to access each floor.
5. Connect to 8255 using 26 pin FRC Connector.
6. User's Manual with Sample Programs.

IC-06 IC Tester Interfacing Module for IC-7400

1. 14 Pin IC-7400 IC is provided.
2. On-board two nos. of 14 pin socket and one no. of 16 pin Socket provided.
3. Connect to 8255 using 26 pin FRC Connector.
4. User's Manual with Sample Programs.

IC-07 Four Digit Seven Segment Display Module

1. Four Digit Seven Segment display.
2. Serial in Parallel out shift register technique is used to display.
3. Two port pins are used to display in seven segment.
4. Connect to 8255 using 26 pin FRC Connector.
5. User's Manual with Sample Programs.

IC-08 Stepper Motor Controller Card with Motor

1. Two/Four phase motor can be controlled.
2. Half Step, Full Step can be controlled.
3. Clock Wise & Anti Clock wise rotation can be controlled
4. Speed can be controlled by this controller
5. Maximum 2Kg cm Motor can be controlled.
6. 0.25Kg cm Motor supplied along with module.
7. Provision for connecting external 5V/12V supply to drive the motor
8. Connect to 8255 using 26 pin FRC Connector.
9. User's Manual with Sample Programs.

IC-09 5x4 Key's Matrix Keyboard Interfacing Module

1. 5x4 Keys matrix Keyboard.
2. Keyboard consist of 20 keys.
3. Consist of Hexadecimal numerals from 0 to 13.
4. Keys are organized as Four Rows & Five Columns
5. Connect to 8255 using 26 pin FRC Connector.
6. User's Manual with Sample Programs.

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IC-10 16x1 LCD Display Module

1. 16x1 Liquid Crystal Display.
2. One 16 rows Alphanumeric Characters will be Displayed.
3. Facility for backlight display.
4. Connect to 8255 using 26 pin FRC Connector.
5. User's Manual with Sample Programs.

IC-11 16x2 LCD Display Module

1. 16x2 Liquid Crystal Display.
2. One 16 rows Alphanumeric Characters will be Displayed.
3. Facility for backlight display.
4. Connect to 8255 using 26 pin FRC Connector.
5. User's Manual with Sample Programs.

IC-12 Traffic Light Controller Module

1. Single square traffic light display controller
2. East, west, north, south post are defined on the PCB for the square.
3. For each post four LEDs are provided in form of Red, Yellow & Green.
4. Connect to 8255 using 26 pin FRC Connector.
5. User's Manual with Sample Programs.

IC-13 Temperature Measurement Module

1. ADC module using ADC-0809.
2. 8 bit accuracy ADC chip
3. A/D Conversion time 100 micro sec.
4. Opamps are provided for signal conditioning to output from sensor.
5. K-type thermocouple are used for the measurement.
6. Thermocouple sensor is supplied with the module.
7. Variable pot should be provided for adjusting gain and offset.
8. Temperature measured maximum up to 99°C
9. Connect to 8255 using 26 pin FRC Connector.
10. User's Manual with Sample Programs.

IC-14 DC Motor Controller Card with Motor

1. 8 bit accuracy DAC chip using DAC-0800.
2. SPDT Relay is provided for direction control
3. Clock Wise & Anti Clock wise rotation can be controlled.
4. Speed can be controlled by this controller
5. 9 Volt DC Motor .
6. 9 Volt AC Adaptor.
7. Connect to 8255 using 26 pin FRC Connector.
8. User's Manual with Sample Programs.

IC-15 Relay & Opto Coupler Interfacing Module

1. Four SPDT Relay are provided.
2. NO, NC, COM Relay outputs are provided at Screw Terminals.
3. Four Opto isolater inputs are provided using MCT2E.
4. Opto Inputs are provided through 10 pin FRC Connector.
5. Connect to 8255 using 26 pin FRC Connector.
6. User's Manual with Sample Programs.

IC-16 8x8 LED Matrix Display Module

1. 8x8 LED Matrix Display.
2. Display consists of 64 nos. 3mm LEDs.
3. LEDs are organized as Eight Rows & Eight Columns.
4. All LEDs should be buffered..
5. Connect to 8255 using 26 pin FRC Connector.
6. User's Manual with Sample Programs.

IC-17 Thumb Wheel Switch Card

1. Two Digit Thumb Wheel Switch.
2. Thumb wheel switch can be set from 00 to 99.
3. Output of Thumb wheel switch should be in BCD Format.
4. Connect to 8255 using 26 pin FRC Connector.
5. User's Manual with Sample Programs.

IC-18 Light Sensing Module using LDR.

1. Light Sensing device using LDR
2. For Alarm indication one SPDT Relay is provided.
3. Relay output is provided in connector.
4. Connect to 8255 using 26 pin FRC Connector.
5. User's Manual with Sample Programs.

IC-19 Infrared Tx/Rx Module for 8051

1. Infrared Transmitter: IR LED 920nm
2. Infrared Receiver: Direct TTL output.
3. Baud Rate: 2.4kbps (max)
4. Carrier Frequency: 38Khz
5. Connect through Tx/Rx of 8051.
6. User's Manual with Sample Programs.

IC-20 Opto Isolated Input Module

1. 8 bit OPTO Isolated input using MCT-2E IC.
2. OPTO inputs indication are provided by 5mm LEDs.
3. OPTO inputs are provided through 16 pin Connector.
4. Connect to 8255 using 26 pin FRC Connector.
5. User's Manual with Sample Programs.

IC-21 Opto Isolated Input Module

1. 8 bit OPTO Isolated output using MCT-2E IC.
2. OPTO outputs indication are provided by 5mm LEDs.
3. OPTO output are provided through 16 pin Connector
4. External +12V provision is provided for isolation .
5. Connect to 8255 using 26 pin FRC Connector.
6. User's Manual with Sample Programs.

IC-22 101 ASCII Keyboard Module

1. 101 ASCII PC Keyboard interface.
2. PC Keyboard interface through 89c2051 Microcontroller.
3. PC Keyboard AT-type Connector is provided with Keyboard.
4. Connect to 8255 using 26 pin FRC Connector.
5. User's Manual with Sample Programs.

IC-23 Real Time Clock (RTC-6242) Module

1. Real Time Clock using IC 6242.
2. 32.678 Khz Crystal are provided.
3. Date, Month, Year can be measured.
4. Seconds, Minutes, Hours can be measured.
5. Connect through 40/50 pin FRC Connector.
6. User's Manual with Sample Programs.

IC-24 Seven Segment Display with Matrix Keyboard Module

1. 5x4 Keys matrix Keyboard.
2. Keyboard consist of 20 keys.
3. Consist of Hexadecimal numerals from 0 to 13.
4. Keys are organized as Four Rows & Five Columns
5. Study of techniques like software debouncing, Keyboard scanning, key closer, two key lockout, keyboard encoding & Pausing.
6. On-board Four Digit Seven Segment display.
7. Serial in Parallel out shift register technique is use to display.
8. Two port pins are used to display in seven segment.
9. Connect to 8255 using 26 pin FRC Connector.
10. User's Manual with Sample Programs.

IC-25 16x2 LCD Display with Matrix Keyboard Module

1. 5x4 Keys matrix Keyboard.
2. Keyboard consist of 20 keys.
3. Consist of Hexadecimal numerals from 0 to 13.
4. Keys are organized as Four Rows & Five Columns
5. Study of techniques like software debouncing, Keyboard scanning, key closer, two key lockout, keyboard encoding & Pausing.
6. On-board 16x2 Liquid Crystal Display.
7. Two 16 rows Alphaneumeric Characters will be Displayed.
8. Facility for backlite display..
9. Connect to 8255 using 26 pin FRC Connector.
10. User's Manual with Sample Programs.

IC-26 8 Bit AD/DA Interfacing Module

1. ADC module using ADC-0804.
2. 8 bit accuracy ADC chip
3. Single channel ADC.
4. A/D Conversion time 100 micro sec.

5. 8 bit accuracy DAC chip using DAC-0800
6. DAC Settling time 100 ns
7. Analog inputs & Outputs are provided at Screw Terminals.
8. Connect to 8255 using 26 pin FRC Connector.
9. User's Manual with Sample Programs.

IC-27 Level Simulator Module

1. Four Level Simulator model
2. Each Level LED indication are provided.
3. Up & Down Level position indication by 10 Nos. of LEDs
4. Lower & upper level limit can be set by software
5. Connect to 8255 using 26 pin FRC Connector.
6. User's Manual with Sample Programs.

IC-28 Six Digit Seven Segment Display Module

1. Six Digit Seven Segment display.
2. Decoder technique is use to display.
3. Two port pins are used to display in seven segment.
4. Connect to 8255 using 26 pin FRC Connector..
5. User's Manual with Sample Programs.

IC-29 Parallel to Serial & Serial to Parallel Module

1. 8 bit Parallel to serial convertor using IC-74165.
2. Eight Parallel Input are indicated by LEDs.
3. Serial to 8 bit parallel convertor using IC-74595.
4. Eight Parallel Output are indicated by LEDs.
5. Connect to 8255 using 26 pin FRC Connector.
6. User's Manual with Sample Programs.

IC-30 Two Square Traffic Light Module

1. Two square traffic light display controller
2. East, west, north, south post are display on the PCB for the square.
3. For each post four LEDs are provided in form of Red, Yellow & Green..
4. Connect to 8255 using 26 pin FRC Connector..
5. User's Manual with Sample Programs.

IC-31 Interface for DOT-MATRIX Printer

1. 80/120 Column Dot-matrix Printer interface
2. Connect to 8255 using 26 pin FRC Connector..
3. User's Manual with Sample Programs.

PERIPHERALS STUDY CARD

SC-XX Series Study Cards can be connected to the 50 Pins KXT Bus of any 8/16 bit Series Microprocessor Trainer Kits. In this Study Card LED's are provided for different signals like Read, Write, Address Lines, Data Lines, Chip Select & Ports depending upon the Peripherals. Study card are supplied in Australian Pine Wood Enclosure.

SC-01 8255 (PPI) STUDY CARD

1. 24 bit I/O using 8255 Programmable Peripheral IC
2. All Input/Output ports pins are terminated on 3 eight pin terminals & 26 pin FRC Connector
3. All Input/Output ports are indicated by 3 mm LEDs.
4. Data lines from AD0 to AD7 are indicated by 3mm LEDs.
5. Chip Select, A0, A1, Read, Write are indicated by 3mm LEDs.
6. Hardware Single Step and Full Clock Execution mode are provided.
7. Single stepping can be performed using micro switch provided on board.
8. Using this study card all MODE experiment can be performed.
9. Interface 8085/8086 Kit using 50 pin FRC Connector.
10. User's Manual with Sample Programs.

SC-02 8253 (PTC) STUDY CARD

1. Three channel Timer/Counter using 8253 Programmable Timer Counter IC.
2. All Input/Output ports pins are terminated on terminals & 10 pin FRC Connector.
3. Clock for Counter-0 is internally provided..
4. Data lines from AD0 to AD7 are indicated by 3mm LEDs.
5. Chip Select, A0, A1, Read, Write are indicated by 3mm LEDs.
6. Hardware Single Step and Full Clock Execution modes are provided.
7. Single stepping can be performed using micro switch provided on board.

8. Using this study card all MODE experiment can be performed.
9. Interface 8085/8086 Kit using 50 pin FRC Connector.
10. User's Manual with Sample Programs..

SC-03 8155 (PPI WITH TIMER) STUDY CARD

1. 22 bit I/O with single channel timer using 8155 Programmable Peripherals IC
2. All Input/Output ports pins are terminated on 3 eight pin terminals & 26 pin FRC Connector.
3. All Input/Output ports are indicated by 3 mm LEDs.
4. Data lines from AD0 to AD7 are indicated by 3mm LEDs.
5. Hardware Single Step and Full Clock Execution modes are provided.
6. Single stepping can be performed using micro switch provided on board.
7. Using this study card all MODE experiment can be performed.
8. Interface 8085/8086 Kit using 50 pin FRC Connector.
9. User's Manual with Sample Programs.

SC-04 8251 (USART) STUDY CARD

1. Serial communication using 8251 Universal Synchronous/ Asynchronous Receiver Transmitter IC.
2. Output are provided on 9 pin D-Type connector.
3. Data lines from AD0 to AD7 are indicated by 3mm LEDs.
4. Chip Select, Read, Write, A0, A1, DTR, DSR, RTS, CTS, TxRDY, RxRDY are indicated by 3mm LEDs.
5. Hardware Single Step and Full Clock Execution modes are provided.
6. Single stepping can be performed using micro switch provided on board.
7. Using this study card all MODE experiment can be performed. Interface 8085/8086 Kit using 50 pin FRC Connector.
8. User's Manual with Sample Programs.

SC-05 8257 (DMA) STUDY CARD

1. Programmable Direct Memory Access controller using 8257 IC.
2. On-board 2K RAM Provided using 6116 IC for DMA Operation.
3. 8 Inputs are fed through input terminals with 3 mm LED indicator.
4. Data lines from AD0 to AD7 are indicated by 3mm LEDs.
5. Chip Select, Read, Write, A0, A1, A2, A3, Memory-Write, Memory-Read, IO-Write, IO-Read are indicated by 3mm LEDs.
6. AEN, Mark, TC, HRQ, DACK0, DACK1, DACK2 are indicated by 3mm LEDs

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7. Hardware Single Step and Full Clock Execution modes are provided.
8. Single stepping can be performed using micro switch provided on board.
9. Using this study card all MODE experiment can be performed.
Interface 8085/8086 Kit using 50 pin FRC Connector.
10. User's Manual with Sample Programs..

SC-06 8259 (PIT) STUDY CARD

1. 8 Channel Programmable Interrupt controller using 8259 IC.
2. 8 Inputs interrupts are fed through input terminals.
3. Data lines from AD0 to AD7 are indicated by 3mm LEDs.
4. Chip Select, Read, Write, INTA, INTR are indicated by 3mm LEDs.
5. Hardware Single Step and Full Clock Execution modes are provided.
6. Single stepping can be performed using micro switch provided on board.
7. Using this study card all MODE experiment can be performed.
Interface 8085/8086 Kit using 50 pin FRC Connector.
8. User's Manual with Sample Programs.

SC-07 8279 (PKDC) STUDY CARD

1. Programmable Keyboard Display Controller using 8279 IC.
2. All scan lines/return lines are fed through input terminals & 26 pin FRC connector.
3. Data lines from AD0 to AD7 are indicated by 3mm LEDs.
4. Chip Select, Read, Write, INTA, A0 are indicated by 3mm LEDs.
5. Hardware Single Step and Full Clock Execution modes are provided.
6. Single stepping can be performed using micro switch provided on board.
7. 8 Digit Seven Segment display with 20 keys keypad interface module to be interfaced with 8279 Study Card. **(OPTIONAL)**
8. Using this study card all MODE experiment can be performed.
Interface 8085/8086 Kit using 50 pin FRC Connector.
9. User's Manual with Sample Programs.

SC-08 8212 (LATCH) STUDY CARD

1. 8 bit Latch output using 8212 IC
2. 8 buffered latch output are indicated by 3mm LEDs.
3. Hardware Single Step and Full Clock Execution modes are provided.
4. Single stepping can be performed using micro switch provided on board.
5. Using this study card all MODE experiment can be performed.
Interface 8085/8086 Kit using 50 pin FRC Connector.
6. User's Manual with Sample Programs.

SC-09 LATCH / BUFFER STUDY CARD

1. 8 bit Latch output using 74373 IC.
2. 8 bit Buffer input using 74245 IC.
3. 8 buffered latch output are indicated by 3mm LEDs.
4. Eight Way DIP Switch is provided for buffer input.
5. Eight bit buffered output are indicated by 3mm LEDs.
4. Chip Select for IC-74245 and IC-74373 are indicated by 3mm LEDs.
5. Hardware Single Step and Full Clock Execution modes are provided.
6. Single stepping can be performed using micro switch provided on board.
7. Using this study card all MODE experiment can be performed.
Interface 8085/8086 Kit using 50 pin FRC Connector.
8. User's Manual with Sample Programs.

SC-10 6116/6264/62256 RAM STUDY CARD

1. Random Access Memory using 6264 IC.
2. Data lines from AD0 to AD7 are indicated by 3mm LEDs.
3. Chip Select, Read, Write are indicated by 3mm LEDs.
4. Hardware Single Step and Full Clock Execution modes are provided.
5. Single stepping can be performed using micro switch provided on board.
6. Using this study card all MODE experiment can be performed.
Interface 8085/8086 Kit using 50 pin FRC Connector.
7. User's Manual with Sample Programs.