

**ICOP-1800**  
**Multi RS-232 Module**  
**User' s Manual**  
**(Version 3.1)**

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# Chapter 0

## Packing List

| Function  | Function            | Package  |
|-----------|---------------------|--|
| ICOP-1800 | Multi RS-232 Module | <ul style="list-style-type: none"><li>● ICOP-1800 Multi RS-232 PC/104 Module</li></ul> |

# Chapter 1

## Specifications

| Features              | ICOP-1800                 |
|-----------------------|---------------------------|
| Chipset               | 16550 UART                |
| Serial Port           | 4 (10 pin box header)     |
| Baudrate              | Up to 115.2 Kbps          |
| Bus Interface         | PC/104 standard compliant |
| Board Weight          | 80g                       |
| Board Size            | 96mm X 90 mm              |
| Power Requirements    | +5V @ 250mA               |
| Operating Temperature | -20 ~ +55°C               |

## **Description**

The ICOP-1800 provides four PC compatible asynchronous serial ports, each of which can be configured for RS-232 operation. Addresses and interrupts are jumper selectable, and more than one ICOP-1800 can be used in any PC/104 system.

The card is based on the 4 Goldstar chips. These chips each contain a UART (Universal Asynchronous Receiver/Transmitter).

- 4 RS-232C asynchronous ports
- 4 x 16550 UARTs
- Supports: TxD, RxD, RTS, CTS DTR, DSR, DCD, GND
- Interrupt select: 2, 3, 4, 5, 7, 10, 11, 12, 14, 15
- RS-232 modem control signals
- I/O address: 100h to 300h

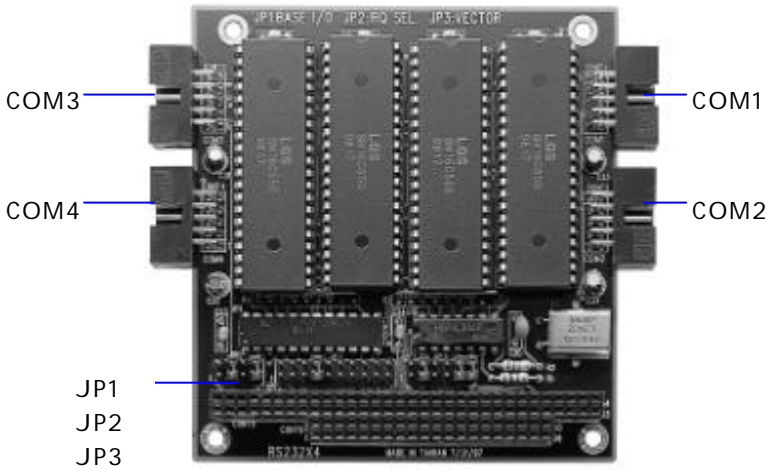
### **Power requirements:**

- Single +5V

### **Physical and Environmental**

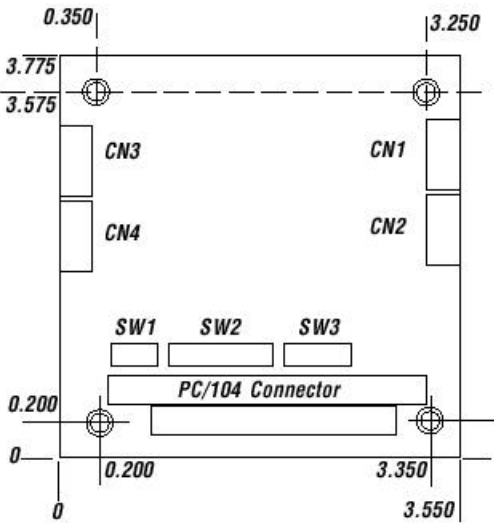
- Dimensions: 96 x 90 mm
- Weight: 80 g
- Operating temperature: -20 ~ +55°C
- Storage temperature: -25 ~ +80°C
- Relative humidity: 0 ~ 90% non-condensing

# Component Location





# Board Layout



**JP1**  
I/O Address



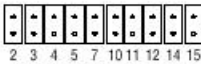
**CN1 : COM1**

**CN2 : COM2**

**CN3 : COM3**

**CN4 : COM4**

**JP2**  
Interrupt



**JP3**  
Interrupt  
Vector



## Chapter 2

### Jumper Setting

**JP1** is used for setting the global base address for all four COM ports. The PIA assigns equal portions of the total I/O windows to each port separately.

Port 1: base address NNN + 00h, IRQ M

Port 2: base address NNN + 08h, IRQ M

Port 3: base address NNN + 10h, IRQ M

Port 4: base address NNN + 18h, IRQ M

Where NNN is the base I/O address set by **JP1**, and M is the interrupt set by **JP2**.

#### BASE I/O (JP1) -- default (280h)

| JP1    | A6    | A7    | A8    | A9    |
|--------|-------|-------|-------|-------|
| 100h   | close | close | open  | close |
| 140h   | open  | close | open  | close |
| 180h   | close | open  | open  | close |
| 1C0h   | open  | open  | open  | close |
| 200h   | close | close | close | open  |
| 240h   | open  | close | close | open  |
| 280h * | close | open  | close | open  |
| 2C0h   | open  | open  | close | open  |
| 300h   | close | close | open  | open  |
| 340h   | open  | close | open  | open  |
| 380h   | close | open  | open  | open  |
| 3C0h   | open  | open  | open  | open  |

### IRQ Select (JP2) -- default (IRQ 5)

JP2 is used to assign a single interrupt line that is shared by all four ports.

|            | JP2   |       |       |       |       |       |       |       |       |       |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| IRQ        | 2     | 3     | 4     | 5     | 7     | 10    | 11    | 12    | 14    | 15    |
| <b>2</b>   | close | open  | open  | open  | open  | open  | open  | open  | open  | open  |
| <b>3</b>   | open  | close | open  | open  | open  | open  | open  | open  | open  | open  |
| <b>4</b>   | open  | open  | close | open  | open  | open  | open  | open  | open  | open  |
| <b>5 *</b> | open  | open  | open  | close | open  | open  | open  | open  | open  | open  |
| <b>7</b>   | open  | open  | open  | open  | close | open  | open  | open  | open  | open  |
| <b>10</b>  | open  | open  | open  | open  | open  | close | open  | open  | open  | open  |
| <b>11</b>  | open  | open  | open  | open  | open  | open  | close | open  | open  | open  |
| <b>12</b>  | open  | open  | open  | open  | open  | open  | open  | close | open  | open  |
| <b>14</b>  | open  | open  | open  | open  | open  | open  | open  | open  | close | open  |
| <b>15</b>  | open  | open  | open  | open  | open  | open  | open  | open  | open  | close |

### Interrupt VECTOR (JP3) -- default (2C0h)

The interrupt vector is an I/O address range that indicates which serial port generated the interrupt.

| JP3  | A4    | A5    | A6    | A7    | A8    | A9    |
|------|-------|-------|-------|-------|-------|-------|
| 000h | close | close | close | close | close | close |
| 010h | open  | close | close | close | close | close |
| 020h | close | open  | close | close | close | close |
| 030h | open  | open  | close | close | close | close |
| 040h | close | close | open  | close | close | close |
| 050h | open  | close | open  | close | close | close |
| 060h | close | open  | open  | close | close | close |
| 070h | open  | open  | open  | close | close | close |
| 080h | close | close | close | open  | close | close |
| 090h | open  | close | close | open  | close | close |
| 0A0h | close | open  | close | open  | close | close |
| 0B0h | open  | open  | close | open  | close | close |
| 0C0h | close | close | open  | open  | close | close |
| 0D0h | open  | close | open  | open  | close | close |
| 0E0h | close | open  | open  | open  | close | close |
| 0F0h | open  | open  | open  | open  | close | close |
| 100h | close | close | close | close | open  | close |
| 110h | open  | close | close | close | open  | close |
| 120h | close | open  | close | close | open  | close |
| 130h | open  | open  | close | close | open  | close |
| 140h | close | close | open  | close | open  | close |

|               |       |       |       |       |       |       |
|---------------|-------|-------|-------|-------|-------|-------|
| <b>150h</b>   | open  | close | open  | close | open  | close |
| <b>160h</b>   | close | open  | open  | close | open  | close |
| <b>170h</b>   | open  | open  | open  | close | open  | close |
| <b>180h</b>   | close | close | close | open  | open  | close |
| <b>190h</b>   | open  | close | close | open  | open  | close |
| <b>1A0h</b>   | close | open  | close | open  | open  | close |
| <b>1B0h</b>   | open  | open  | close | open  | open  | close |
| <b>1C0h</b>   | close | close | open  | open  | open  | close |
| <b>1D0h</b>   | open  | close | open  | open  | open  | close |
| <b>1E0h</b>   | close | open  | open  | open  | open  | close |
| <b>1F0h</b>   | open  | open  | open  | open  | open  | close |
| <b>200h</b>   | close | close | close | close | close | open  |
| <b>210h</b>   | open  | close | close | close | close | open  |
| <b>220h</b>   | close | open  | close | close | close | open  |
| <b>230h</b>   | open  | open  | close | close | close | open  |
| <b>240h</b>   | close | close | open  | close | close | open  |
| <b>250h</b>   | open  | close | open  | close | close | open  |
| <b>260h</b>   | close | open  | open  | close | close | open  |
| <b>270h</b>   | open  | open  | open  | close | close | open  |
| <b>280h</b>   | close | close | close | open  | close | open  |
| <b>290h</b>   | open  | close | close | open  | close | open  |
| <b>2A0h</b>   | close | open  | close | open  | close | open  |
| <b>2B0h</b>   | open  | open  | close | open  | close | open  |
| <b>2C0h *</b> | close | close | open  | open  | close | open  |
| <b>2D0h</b>   | open  | close | open  | open  | close | open  |
| <b>2E0h</b>   | close | open  | open  | open  | close | open  |
| <b>2F0h</b>   | open  | open  | open  | open  | close | open  |

|             |       |       |       |       |      |      |
|-------------|-------|-------|-------|-------|------|------|
| <b>300h</b> | close | close | close | close | open | open |
| <b>310h</b> | open  | close | close | close | open | open |
| <b>320h</b> | close | open  | close | close | open | open |
| <b>330h</b> | open  | open  | close | close | open | open |
| <b>340h</b> | close | close | open  | close | open | open |
| <b>350h</b> | open  | close | open  | close | open | open |
| <b>360h</b> | close | open  | open  | close | open | open |
| <b>370h</b> | open  | open  | open  | close | open | open |
| <b>380h</b> | close | close | close | open  | open | open |
| <b>390h</b> | open  | close | close | open  | open | open |
| <b>3A0h</b> | close | open  | close | open  | open | open |
| <b>3B0h</b> | open  | open  | close | open  | open | open |
| <b>3C0h</b> | close | close | open  | open  | open | open |
| <b>3D0h</b> | open  | close | open  | open  | open | open |
| <b>3E0h</b> | close | open  | open  | open  | open | open |
| <b>3F0h</b> | open  | open  | open  | open  | open | open |

# Chapter 3

## Connectors

- COM1** COM1 RS-232 port
- COM2** COM2 RS-232 port
- COM3** COM3 RS-232 port
- COM4** COM4 RS-232 port
- CONT5** 64-pin PC/104 bus
- CONT6** 40-pin PC/104 bus

## Warranty

This product is warranted to be in good working order for a period of one year from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster. Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or inability to use this product. Vendor will not be liable for any claim made by any other related party. Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.