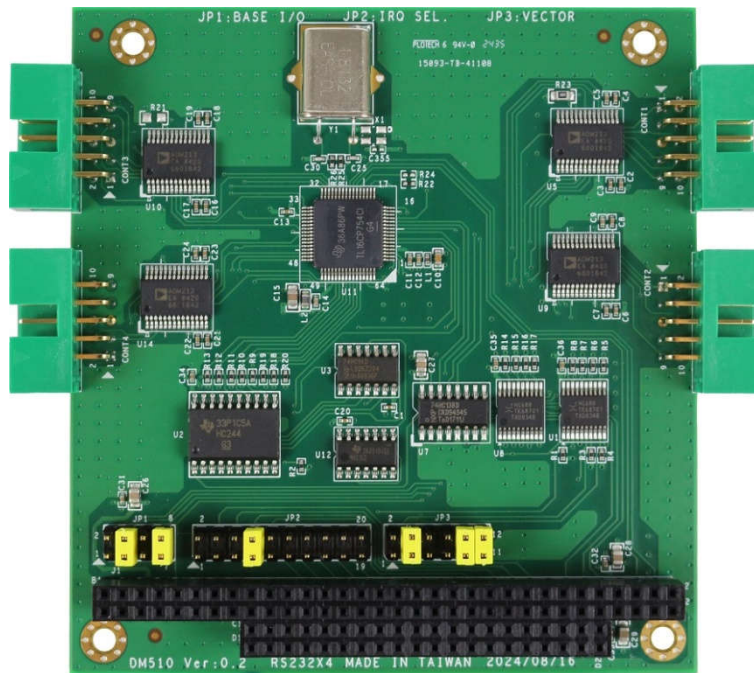




## ICOP-1800-V2

### Multi RS-232 Module

Version 1.0

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# 1 General Information

## 1.1 Overview

The ICOP-1800-V2 provides four PC compatible asynchronous serial ports and each of which can be configured for RS232 operation. Addresses and interrupts are jumper selectable, and more than one ICOP-1800-V2 can be used in any PC/104 system.

The card is based on the one TL16CP754C chip which contains 4x UARTs (Universal Asynchronous Receiver/Transmitter).

- 4 x RS232C asynchronous ports
- TL16CP754C UART
- Supports: TxD, RxD, RTX, CTS, DTR, DSR, DCD, and GND
- Interrupt: 2, 3, 4, 5, 7, 10, 11, 12, 14, 15
- RS232 modem control signals
- I/O address: 100h to 300h

## 1.2 Specifications

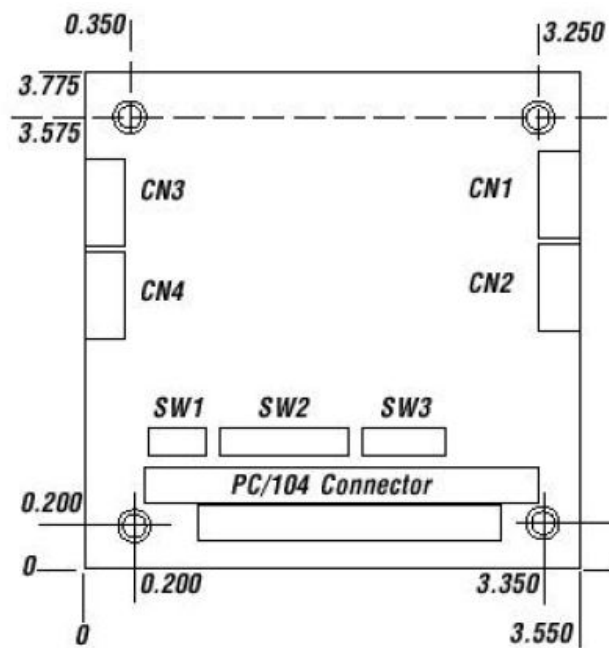
|                   |                                 |
|-------------------|---------------------------------|
| Chipset           | TL16CP754C UART                 |
| Serial Port       | 4 (10 pin box header)           |
| Baud Rate         | Up to 115.2Kbps                 |
| Bus Interface     | PC/104 Standard compliant       |
| Weight            | 100g                            |
| Dimension         | 90 x 96 mm (3.54 x 3.77 inches) |
| Power Requirement | Single +5V @ 200mA              |
| Operating Temp.   | -20°C ~ +70°C                   |

## 1.3 Ordering Information

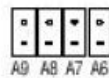
| Item         | Description                                | Package                                           |
|--------------|--------------------------------------------|---------------------------------------------------|
| ICOP-1800-V2 | ICOP-1800-V2 Multi<br>RS-232 PC/104 Module | ICOP-1800-V2 x1<br>Cable RS-232 x4<br>Screw kitx1 |

## 2 Hardware Information

### 2.1 Board Layout



**JP1**  
I/O Address



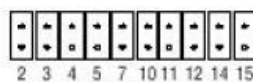
**CN1 : COM1**

**CN2 : COM2**

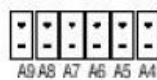
**CN3 : COM3**

**CN4 : COM4**

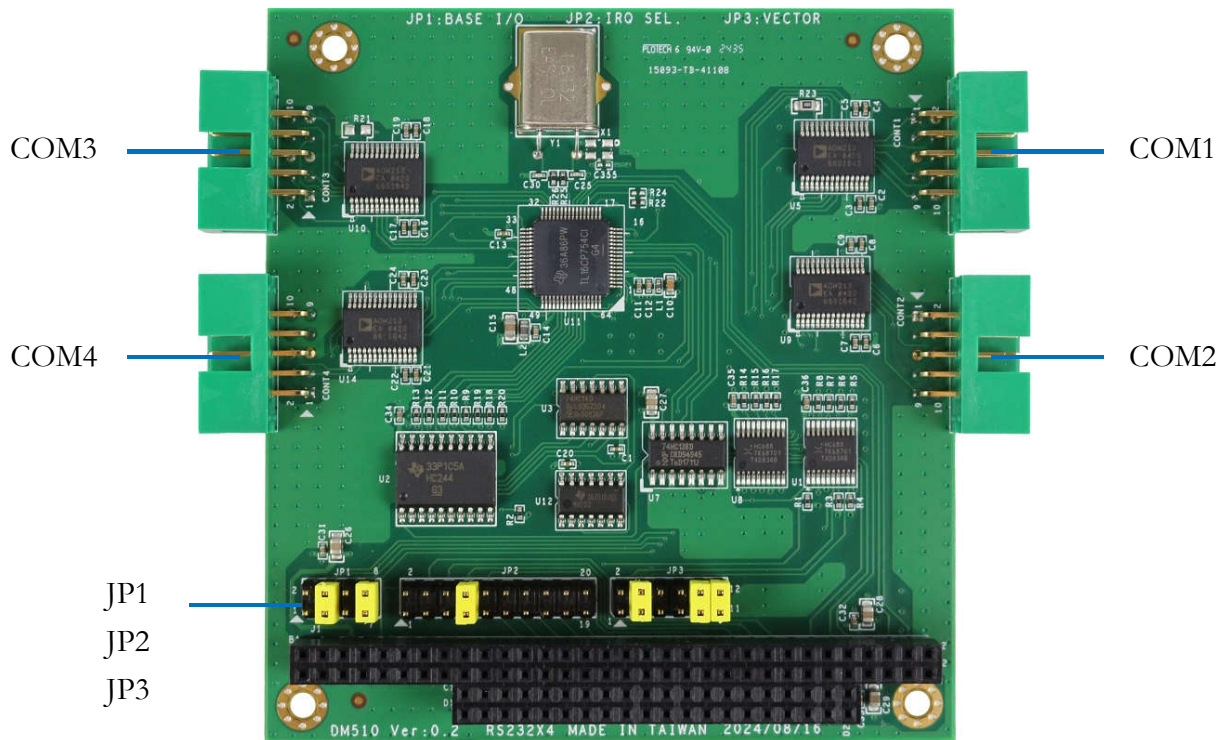
**JP2**  
Interrupt



**JP3**  
Interrupt  
Vector



## 2.2 Board Outline



## 2.3 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 the M is the interrupt set by **JP2**.

**Base I/O (JP1) – default (280h)**

| <b>JP1</b> | <b>A6</b> | <b>A7</b> | <b>A8</b> | <b>A9</b> |
|------------|-----------|-----------|-----------|-----------|
| 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      |
| C0H        | 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.

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

**Interrupt VECTOR (JP3) – default (2C0 h)**

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

| <b>JP3</b> | <b>A4</b> | <b>A5</b> | <b>A6</b> | <b>A7</b> | <b>A8</b> | <b>A9</b> |
|------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 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     | Open      |
| 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      | Open      |

|       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|
| 130h  | Open  | Open  | Close | Close | Open  | Close |
| 140h  | Close | Close | Open  | Close | Open  | Close |
| 150h  | Open  | Close | Open  | Close | Open  | Close |
| 160h  | Close | Open  | Open  | Close | Open  | Close |
| 170h  | Open  | Open  | Open  | Close | Open  | Close |
| 180h  | Close | Close | Close | Open  | Open  | Close |
| 190h  | Open  | Close | Close | Open  | Open  | Close |
| 1A0h  | Close | Open  | Close | Open  | Open  | Close |
| 1B0h  | Open  | Open  | Close | Open  | Open  | Close |
| 1C0h  | Close | Close | Open  | Open  | Open  | Close |
| 1D0h  | Open  | Close | Open  | Open  | Open  | Close |
| 1E0h  | Close | Open  | Open  | Open  | Open  | close |
| 1F0h  | Open  | Open  | Open  | Open  | Open  | Close |
| 200h  | Close | Close | Close | Close | Close | Open  |
| 210h  | Open  | Close | Close | Close | Close | Open  |
| 220h  | Close | Open  | Close | Close | Close | Open  |
| 230h  | Open  | Open  | Close | Close | Close | Open  |
| 240h  | Close | Close | Open  | Close | Close | Open  |
| 250h  | Open  | Close | Open  | Close | Close | Open  |
| 260h  | Close | Open  | Open  | Close | Close | Open  |
| 270h  | Open  | Open  | Open  | Close | Close | Open  |
| 280h  | Close | Close | Close | Open  | Close | Open  |
| 290h  | Open  | Close | Close | Open  | Close | Open  |
| 2A0h  | Close | Open  | Close | Open  | Close | Open  |
| 2B0h  | Open  | Open  | Close | Open  | Close | Open  |
| 2C0h* | Close | Close | Open  | Open  | Close | Open  |
| 2D0h  | Open  | Close | Open  | Open  | Open  | Open  |
| 2E0h  | Close | Open  | Open  | Open  | Close | Open  |
| 2F0h  | Open  | Open  | Open  | Open  | Close | Open  |
| 300h  | Close | Close | Close | Close | Open  | Open  |
| 310h  | Open  | Close | Close | Close | Open  | Open  |
| 320h  | Close | Open  | Close | Close | Open  | Open  |
| 330h  | Open  | Open  | Close | Close | Open  | Open  |
| 340h  | Close | Close | Open  | Close | Open  | Open  |
| 350h  | Open  | Open  | Open  | Open  | Open  | Open  |
| 360h  | Close | Open  | Open  | Close | Open  | Open  |
| 370h  | Open  | Open  | Open  | Close | Open  | Open  |

|      |       |       |       |      |      |      |
|------|-------|-------|-------|------|------|------|
| 380h | Close | Close | Close | Open | Open | Open |
| 390h | Open  | Close | Close | Open | Open | Open |
| 3A0h | Close | Open  | Close | Open | Open | Open |
| 3B0h | Open  | Open  | Close | Open | Open | Open |
| 3C0h | Close | Close | Open  | Open | Open | Open |
| 3D0h | Open  | Close | Open  | Open | Open | Open |
| 3E0h | Close | Open  | Open  | Open | Open | Open |
| 3F0h | Open  | Open  | Open  | Open | Open | Open |

# Technical Support Directly from ICOP

To offer you more accurate and specific solutions for the technical situations you have, please prepare the information below before contacting ICOP:

- Product name and serial number
- Description of the H/W environment ( i.e.: working temperature, I/O board information, information of connection between main board and IO boards, and/or other devices, etc)
- Description of the S/W environment (i.e: operating system, version, application software, and/or other related information, etc.)
- A detailed description and photos of the technical situation
- Any complement or technical situations you want ICOP more focusing on

## User Manual Feedback

To make this user manual more complete, if you have any comments or feedbacks to this manual, please feel free to write to [info@icop.com.tw](mailto:info@icop.com.tw) or contact your ICOP sales representative.

# Warranty

This product is warranted to be in good working order for a period of one year (12 months) 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 without 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, originality 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 is 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. Should you have questions about warranty and RMA service, please contact us directly.

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Website: <http://www.icop.com.tw>

