771-SER4064I0-002

Quick Installation Guide

Version 1.0

RS-232 Interrupt Sharing ISA Communication Board

Introduction

ISAIO Golden I/O series, a line of ISA Communication Board with unique SUN1699 chipset solution, which attaches 4 / 8 independent RS-232 serial ports on your system. It works with 16 bit ISA Bus, allowing this RS-232 ISA communication board to be installed in virtually any available PC system and compatible with the major operating systems. All configuration tasks will be done by adjusting sharing IRQ hardware jumpers with fixed I/O addresses for each serial port.

This ISA serial board equips with 4 / 8 independent RS-232 high-speed serial ports which accessed through DB-9 or DB-25 male connectors for industrial communication and automation applications. Each serial port has built-in 64byte hardware FIFO, hardware auto flow control, and provides data transfer speed up to 921Kb/Sec with industry standard 16C750 asynchronous communication chip.

Users can get most cost-effective and easy-to-use architecture that just need one ISA slot space but supporting 4 / 8 independent RS-232 ports. It is an economy and reliable solution for extensive use in the commercial communication and industrial automation applications, such as POS registers, bar code readers, lottery machines, numeric displays, electrical scales, kiosks, machines, printers, data acquisition equipment, and other serial devices for the PC and compatible systems. This board offers a reliable and high performance solution for serial multi-port communications.

Features

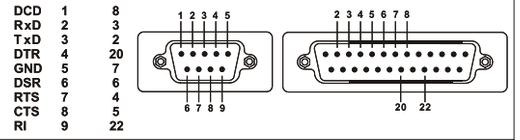
- Fully compatible with High-Speed RS-232 Ver24 standard.
- Supports 16-bit ISA Bus interface.
- Built-in 8 or 4 independent RS-232 serial ports.
- Interrupt sharing feature to prevent IRQ conflicting problem.
- Each serial port has built-in 64 byte hardware FIFO.
- High speed 16C750 compatible communication controller with SUN1699 chip hardware flow control to guarantee no data loss and best technical support.
- Low RMA rate and high reliability with SUN1699 chipset designed.
- Industrial grade design for stability and reliability.
- Certified by CE and FCC approval.
- Support DOS, Linux, Microsoft Window 3.x, 95, 98, Me, NT, 2000, XP and 2003.
- Operating Temperature: 0℃~60℃ Stroage Temperature:-20℃~85℃

Package List

Please check if the following items are present and in good condition upon opening your package. Contact your vendor if any item is damaged or missing.

- RS-232 8ports ISA Communication Board
- Serial Cable DB62 Male to 8 ports DB9 or DB25 Male × 1 (8port)
  DB37 Male to 4 ports DB9 or DB25 Male × 1 (4port)
- CD Driver
- Quick Installation Guide

Specification

Model	ISA RS-232 Communication Board
Mode of Operation	HandShaking RS-232 Full-Duplex
Controller	SUN1699 16C750 Compatible UART
Bus Interface	16-bit ISA Bus
PCB Connector	DB62 Female (8 port) or DB37 Female (4port) Port
Number of Ports	8 or 4 Independent DB9 or DB25 Male ports
Bracket	Standard 121 mm
IRQ & IO Address	Interrupt Sharing 3 / 4 / 5 / 7 / 9 / 10 / 11 /12 / 15
IO Address	8 port ISA RS-232 Serial Board's I/O addresses are fixed as below. COM1:250h COM2:258h COM3:260h COM4:268h COM5:240h COM6:248h COM7:230h COM8:238h 4 port ISA RS-232 Serial Board's I/O addresses must be selected 3F8, 2F8, 3E8, 2E8, 260, 268, 250, 258, 240, 248, 230, 238
FIFO	64 byte hardware FIFO
Baud Rate	75 ~ 921,600bps
Data Bit	5, 6, 7, 8
Stop bit	1, 1.5, 2
Parity	Even, Odd, None, Mark, Space
Flow Control	None, Xon/Xoff, HardWare
Pin Assignment	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND DB9M DB25M DCD 1 8 RxD 2 3 TxD 3 2 DTR 4 20 GND 5 7 DSR 6 6 RTS 7 4 CTS 8 5 RI 9 22 
Driver Support	Windows CE.NET/ 3.1 / 95 / 98 / Me / 2000/ XP / 2003 Linux 2.2.x, 2.4.x, DOS
Regulatory Approvals	CE, FCC

Driver Installation

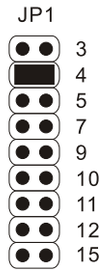
In order to ensure proper operation of your ISA RS-232 serial board, the driver will be in the CD bound with your product. You can specify the location (folder) as below:

Operation System	Driver Location
Windows 2000 / XP / 2003	:\IO\ISA IO\Win2000\
Windows 95 / 98 / Me	:\IO\ISA IO\Win9x\Setup.exe
Windows NT4.0	:\IO\ISA IO\WinNT\Setup.exe
Windows 3.1 / DOS	Do NOT need driver
Linux 2.2.x, 2.4.x	:\IO\ISA IO\Linux\
User Manual	:\IO\ISA IO\Manual\Serial.pdf

※ You can find the detail of the installation steps in the user manual.

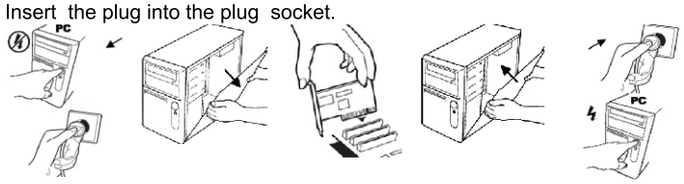
Jumper Setting

This ISA board supports Interrupt Sharing mode, so you only need to set a free IRQ location to share all COM ports IRQ. Please confirm one available IRQ location, and select IRQ jumper JP1 (3 / 4 / 5 / 7 / 9 / 10 / 11 /12 / 15) on the board.



Hardware Installation

1. Turn off your computer.
2. Remove the power plug from the plug socket.
3. Remove the cover from the computer case.
4. Confirm one available IRQ location, and select IRQ jumper (3 / 4 / 5 / 7 / 9 / 10 / 11 /12 / 15) for COM1~COM8 interrupt sharing mode on the board. 8 port ISA RS-232 SeriaII/O
   address from COM1 to COM8 are fixed.
5. Remove the metal cover plate on the rear of a free ISA slot.
6. Insert ISA serial board into the free ISA slot and screw it firmly on the bracket side.
7. Place the cover back onto the computer.
8. Insert the plug into the plug socket.



RoHS - Green Products

RoHS - The Restriction on Hazardous Substances prohibits the use of lead, cadmium, mercury, hexavalent chromium, Polybrominated Biphenyl (PBB), and Polybrominated Diphenyl Ether (PBDE) flame retardants. Since the lead is one of the main elements of solder, manufacturers consider to implement the lead-free equipment in order to meet RoHS regulations. Our products are all "Green Products" and also satisfied with the EU's RoHS directive.

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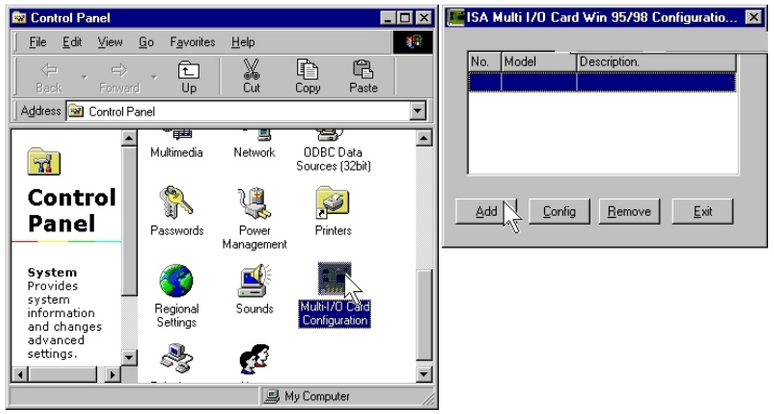
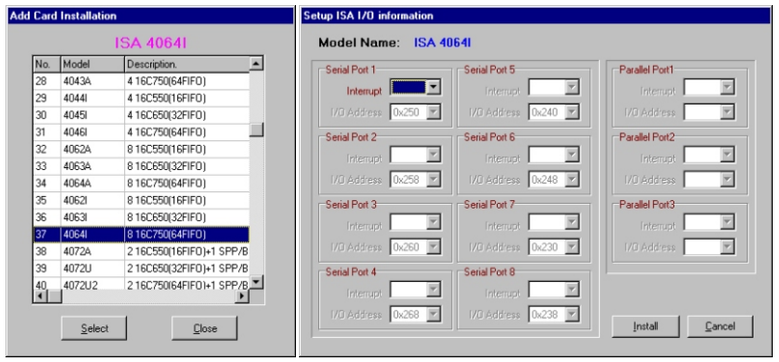
Hardware Setting

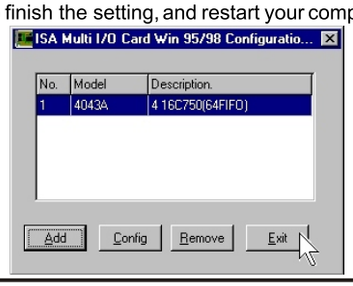
1. Double click "**Multi-I/O Card Configuration**" in control panel.
2. Press "**Add**" to add new model in ISA Multi I/O Card configuration windws.



3. Please select "**4064I**" item and press "**Select**". (8port Card)
   Please select "**4046I**" item and press "**Select**". (4port Card)
4. 4064I card's COM1 ~ COM8 I/O addresses are fixed, and you can not modify.
   4046I card's COM port I/O addresses must meet with hardware jumper settings.
   Please press "**Install**" to continue.



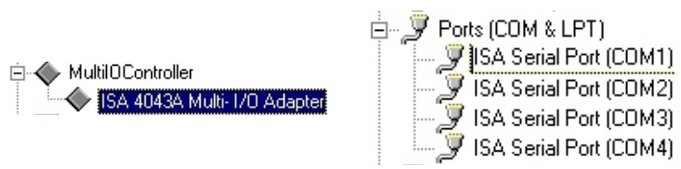
5. Click "**Exit**" to finish the setting, and restart your computer to make settings working.



Hardware Verity

Please launch the "**Device Manager**" to verity hardware installation correctly.

Start > Controller Panel > System > Device Manager

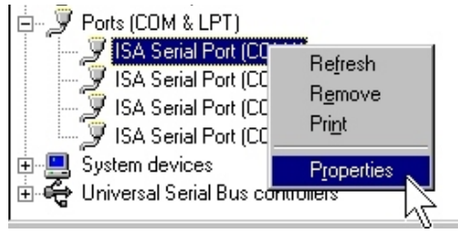


※The number of COM ports and item number will depend on what products you bought.

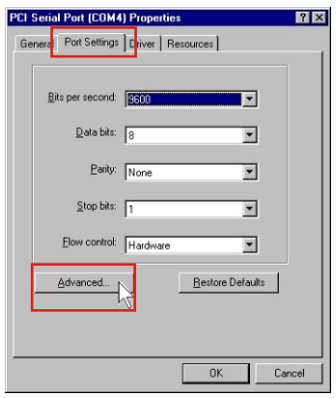
Port Setting

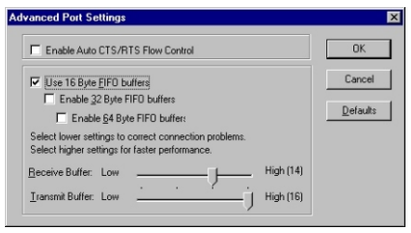
After installing ISA RS-232 serial board successfully, you can modify the setting for each serial port in device manager.

1. Right click your mouse on the COM port, and select "**Properties**".



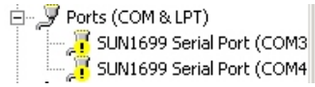
2. Select "**Port Setting**" page to modify COM port setting.
3. Select "**Advanced**" icon, you can modify COM port number and FIFO.





Troubleshooting

■ **There are some exclamation marks in device manager and serial ports can not work properly.**



It caused by the wrong IRQ or IO settings. Those settings had conflicted with your system. Please check the available IRQ and IO address in your system.

■ **How large FIFO length I should set?**

This ISA serial board supports 64 bytes FIFO, and you can use 16 or 32 or 64 bytes FIFO. The default value is 16 Byte FIFO buffers.
Set the Receive/Transmit Buffer to higher value will get faster performance because the interrupts will be reduced, but the time for interrupt service routine will become shorter. The receive buffer overflow will be easily happened if the CPU speed is not enough to handle. If the system is not stable, select the lower value to correct problems.

■ **Should I enable auto flow control features?**

Enable Auto CTS/RTS Flow Control means the CTS/RTS flow control is controlled by hardware automatically. System will be more stable if the function is enabled.

■ **Do not test ISA Serial Port 16C650 and 16C750 chipset with QAPlus and CheckIT.**

Our ISA chipset SUN1699 use IN1 and IN2 to control the 16C550 (16 FIFO), 16C650 (32 FIFO), and 16C750 (64 FIFO) chipset. The QAPlus and CheckIT also use these two signals to check for the 16C550 status, when 16C550, we send IN1 and IN2 as 0/0, so the test will pass, but with 16C650, we send IN1 and IN2 as 0/1, the QAPlus and CheckIT will receive different value, and so they think the 16C550 has MODEM Ctl ERROR and MODEM Status ERROR.

For this error, only test program value define, it is not relevant for using our card in any system. Our card will working very correct in any device and system, don't worry about this error.

FC CE