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Eiconcard S5x Family

for ISA-Compatible Bus

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Introduction

The S5x family of Eiconcards are ISA cards that offer X.25 connectivity through one or two (depending on the the Eiconcard model) high-speed ports (supporting V.24, V.35, or X.21 interfaces) at speeds of up to 512 Kbps, and/or through an ISDN BRI port (Eiconcard S51) at speeds of up to 128 kbps (over the “D” channel or the “B” channels).

Note *The Eiconcard S5x also supports protocols such as SDLC, PPP, and Frame Relay.*



All Eiconcards have been tested and found to comply with the Electromagnetic compatibility, Safety and Network connection regulations within the European Union, North America, and other major territories. Read the regulatory information on page 29 before installing and using your adapter.

Hardware Features

The Eiconcard S5x features the following:

Eiconcard	CPU/Memory	# of HSI Ports	#of ISDN BRI Ports
Eiconcard S50	20 MHz Motorola 68302 / 2 MB RAM	1	N/A
Eiconcard S51	20 MHz Motorola 68302 / 2 MB RAM	1	1
Eiconcard S52	20 MHz Motorola 68302 / 2 MB RAM	2	N/A

The High-Speed Interface (HSI) ports, support full duplex communications over a V.24, V.35, or X.21 interface at speeds of up to 512 Kbps per port (depending on the type of interface selected).

The ISDN BRI port supports transfer rates of up to 128 kbps (over the “D” channel or the “B” channels).

Power Consumption



Warning: Check that power supply will not be overloaded. Maximum power consumption of the board is stated above. The user should check that the total power drawn by the host computer, the Eiconcard S5x, and any other peripherals, does not exceed the capability of the host power supply unit.

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Installing the Eiconcard S5x

Follow the steps below to install the Eiconcard S5x. If you want the Eiconcard S5x to be available to multiple users on a LAN, install it in the PC that will function as a gateway for the LAN.

1 Prepare the PC

Turn off the PC and disconnect its power cable. Remove the cover of the PC according to the instructions that came with it.

2 Prepare the Eiconcard

Prepare the Eiconcard S5x by selecting its I/O address and communications interface.

a) Set the I/O address. The default I/O address is 380h. You only need to change this setting if another card already installed in the PC uses an I/O address in the range 380h to 387h. To change the I/O address, follow the instructions in “Setting the I/O Address” on page 22, then continue with Step 1(b) below.

b) Select the interface. The default setting enables the V.24 and V.35 interfaces; to use these interfaces, continue with Step 2 below. To enable the X.21 interface instead, follow the instructions in “Selecting an Interface” on page 24, then continue with Step 3.

3 Install the Eiconcard S5x

a) Drain static electricity from your body by touching the metal chassis (the unpainted metal at the back of your PC).

b) Locate a slot in your PC that has the same bus type as your adapter.

If your PC has both ISA and PCI slots, the ISA slots are longer, as shown.

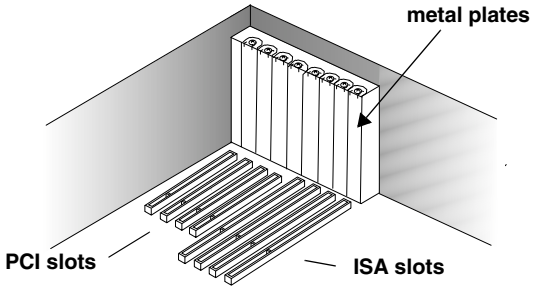


Figure 1. Locating a PCI slot

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c) If there is a metal plate at the end of the slot, remove it and keep the screw.

d) Firmly insert the adapter into the selected slot.



To avoid damaging your hardware, insert the adapter only into a slot with the same bus type as the adapter. Inserting the adapter into any other type of slot can damage your adapter, your PC, or both.

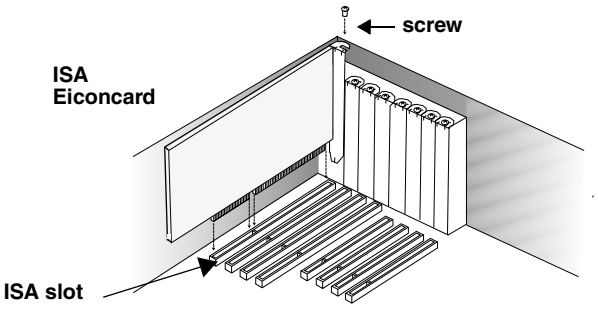


Figure 2. Inserting the Eiconcard S5x.

e) Fasten the adapter with the screw (to ensure that the adapter is properly secured and grounded to the PC's chassis).

f) Replace the cover of your PC as described in your PC's manual.

g) Reconnect the power cable.

Note *Although the Eiconcard S5x can be installed in any available ISA expansion slot (unless the PC's documentation specifies otherwise), it is recommended that you install the card in a 16-bit slot to take advantage of the higher IRQs and memory-address locations available only through 16-bit slots.*

4 Set the interrupt request level and memory segment address

These parameters are set using the Eicon Networks networking software that you purchased with the Eiconcard S5x. Consult the documentation included with the networking software for instructions on how to configure the Eiconcard.

To determine the correct interrupt request level and memory segment address values to use, follow the instructions in "Software Configuration" on page 25, then continue with Step 5.

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5 Test the Eiconcard S5x

The application software purchased with the Eiconcard S5x contains a test program to verify the card's integrity. Consult the documentation supplied with this software for details.

6 Connect to the outside world

You are now ready to connect the Eiconcard S5x to the outside world.

- To set up ISDN connections, consult "Making an ISDN Connection" on page 9.
- To set up an HSI connection, consult "Making an HSI Connection" on page 13.

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Making an ISDN Connection

Note *Only the Eiconcard S51 supports ISDN connections.*

After you have installed your Eiconcard S51, connect your ISDN line.

- If you plan to use an Eicon Networks NT1, see “Connecting to an Eicon Networks NT1,” below.
- If you plan to use a third party NT1 or if you are installing the Eiconcard S51 outside of North America, see “Making an HSI Connection” on page 13.

Connecting to an Eicon Networks NT1

To connect to an Eicon Networks NT1, plug one end of the Interface Cable for ISDN NT1 into the DIN-4 port on the Eiconcard S51; plug the other end into the DIN-4 port on the NT1. Figure 3 shows how to make these connections.

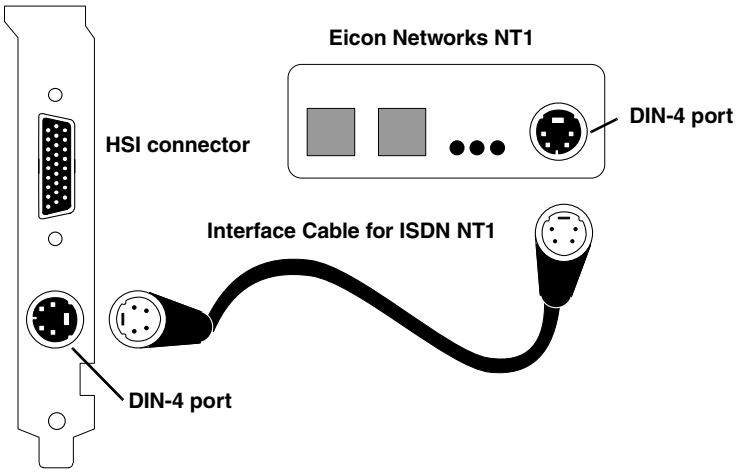


Figure 3. Connecting to the Eicon Networks NT1

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Connecting to a Third Party NT1

To connect to a third party NT1, you must use the ISDN S/T Cable. This cable includes interface circuitry which is not normally provided by the third party NT1 (but which is provided by Eicon's NT1).

Plug the ISDN S/T Cable into the DIN-4 port on the card as illustrated in Figure 4.

- In North America and Australia, you may need to insert the RJ-45 plug into the terminating resistor, and then insert the terminating resistor into the S/T connector. The next section, "Termination," explains when to use the terminating resistor.
- In the rest of the world, insert the RJ-45 plug directly into the S/T connector. Do not install the terminating resistor.

Plug the other end of the RJ-45 cable into the S/T port on your NT1.

Figure 4 shows how the ISDN S/T Cable, the terminating resistor (when required), and the RJ-45 plug connect together.

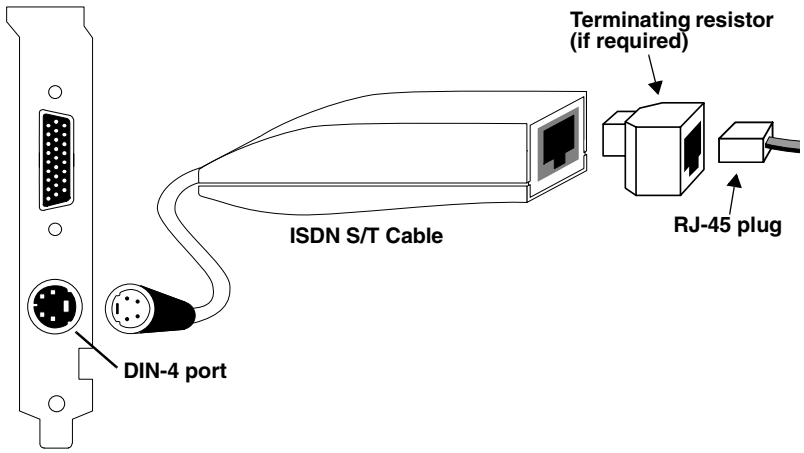


Figure 4. Connecting the ISDN S/T Cable

The interface cable contains fully passive components and does not affect the energy consumption or other specifications of the Eiconcard. This passive interface is required to ensure regulatory compliance and guarantee proper functionality.

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Termination

This section applies to S/T interface users in Australia and North America, and provides instructions to help set up termination scenarios. Termination requirements vary according to: the number of devices connected to the NT1; and the distance between the devices and the NT1.

For users who require termination, the Eiconcard S51 S/T has been shipped with a separate terminating resistor. For information on how to install the terminating resistor, see “Installing a Terminating Resistor” on page 12.

How do I determine the termination value?

Single ISDN Device

If the NT1 is connected to a single ISDN device (e.g. Eiconcard S51), follow the instructions below.

75 meters or more

If the connection spans 75 meters (250 feet) or more, connect the 100 ohm terminating resistor included with the ISDN cable. Set the NT1 to provide 100 ohms of resistance. Consult the manual provided with the external NT1 for more detailed instructions.

Note *Some NT1s do not support connections over 75 meters (250 feet). Check your user documentation to determine the distance supported.*

75 meters or less

If the connection spans less than 75 meters (250 feet), set the NT1 to 50 ohms of resistance, and do not connect the terminating resistor. Consult the manual provided with the external NT1 for more detailed instructions.

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Multiple ISDN Devices

If the NT1 is connected to more than one ISDN device, follow the procedures below.

75 meters or more

If the connection spans 75 meters (250 feet) or more, both end devices on the ISDN bus must be set to 100 ohm termination. If the Eiconcard is one of the end devices, connect the 100 ohm terminating resistor included with the ISDN cable. Consult the manuals provided with the other ISDN devices and NT1 for more details.

Note *Some NT1s do not support connections over 75 meters (250 feet). Check your user documentation to determine the distance supported*

75 meters or less

If the connection spans less than 75 meters (250 feet), set the NT1 to 50 ohms of resistance, and do not connect the terminating resistor. Set the other ISDN devices to no termination. Consult the manuals provided with the NT1 and other ISDN devices for more detailed instructions.

Installing a Terminating Resistor

The terminating resistor is installed by inserting the RJ-45 end of the ISDN cable into the terminating resistor, and then inserting the terminating resistor into the ISDN S/T cable (see, “Connecting the ISDN S/T Cable” on page 10.

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Making an HSI Connection

The Eiconcard S5x can connect as a DTE to devices such as Data Service Units (DSUs) which support one of the following interfaces: V.24, V.35, or X.21. It can also connect directly to a host computer, or back-to-back to another Eiconcard. Each HSI port is configured independently

Table 1 lists the most common connections supported by the HSI port, and specifies the part number of the required Eicon Networks cable. For information on making your own cables, see “Interface Specifications” on page 14.

Interface	Eiconcard S5x Connection	Cables Required	Part #
V.24	to V.24 DCE (method 1)	HSI V.24 DCE Cable	300-026
	to V.24 DCE (method 2)	HSI/V.24 Converter, plus Standard V.24 cable	300-046* 300-007
	to V.24 DTE or non-HSI Eiconcard	HSI V.24 DCE Cable, plus HSI Null-Modem Conversion Cable	300-026, 300-033
	to HSI Eiconcard	HSI V.24/V.35 Null-Modem Cable	300-031
V.35	to V.35 DCE	HSI V.35 DCE Cable HSI V.35 DCE Modem Cable (France)	300-024 300-086
	to V.35 DTE	HSI V.35 DCE Cable, plus HSI Null-Modem Conversion Cable	300-024, 300-033
	to HSI Eiconcard	HSI V.24/V.35 Null-Modem Cable	300-031
	to AS/400 port	HSI V.35 Null-Modem Cable for AS/400	300-047
X.21	to X.21 DCE	HSI X.21 DCE Cable	300-025
	to X.21 DTE	HSI X.21 DCE Cable, plus HSI Null-Modem Conversion Cable	300-025, 300-033
	to HSI Eiconcard	HSI X.21 Null-Modem Cable	300-032

** Included with the Eiconcard*

Table 1. Standard Interface Cables

When you make connections through a null-modem cable—for example, to a DTE or to the HSI port on another Eiconcard—one card must be set to internal clocking, and the other to external clocking.

Consult the documentation which came with your networking software for more information about port configuration.

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Interface Specifications

The standards compliant with the interfaces supported on the HSI port are listed in Table 2. The rest of this section describes the allocation of pins used to implement the electrical and signalling requirements of each interface.

Interface	Standard	Compatibility
V.24	CCITT V.24	Signalling
	CCITT V.28	Electrical
	CCITT X.21bis	Electrical and signalling
	RS-232-C	Electrical and signalling
	ISO 2110	Connector type for the DCE side of a V.24 HSI Modem Cable
V.35	CCITT V.28	Some signals for electrical
	CCITT V.35	Some signals for electrical and signalling
	ISO 2593	Connector type for the DCE side of a V.35 HSI Modem Cable
X.21	CCITT X.21	Signalling
	CCITT V.11	Electrical
	CCITT X.27	Electrical
	RS-422-A	Electrical
	ISO 4903	Connector type for the DCE side of an X.21 HSI Modem Cable

Table 2. Interface Compatibility

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Cable Construction Information

If you plan to construct your own HSI cables, be sure to observe the guidelines given below.

Wire Gauge, Grounding, and Pairing

- Use 26 or 24 AWG wire. Contacts should be 30 microinch gold flash.
- The cable must be grounded both by a drain wire connected to pin 1 on both sides (pin A on the type M connector) and by the braid. Both the drain wire and the braid must be connected to the connector case and shell at each end of the cable. The braid must be connected through its full circumference.
- Unused wires must be connected to the cable shield at one end.
- Use an anti-EMI shield.
- **Important.** Wires identified by a rectangle under the heading "Twisted pair" **must** be installed as a twisted pair. If you do not install twisted pairs correctly, the cable will not work.

Type of Connectors

The HSI port accepts a 26-pin, 3-row male connector. The types of connectors used on the interface-specific end of the cable are as follows:

Cable Type	Connectors
V.24 modem	DB25, HSI
V.35 modem	Type M, HSI
X.21 modem	DB15, HSI
V.24/V.35 null-modem	HSI, HSI
X.21 null-modem	HSI, HSI
V.35-AS/400 null-modem	Type M, HSI
Null-modem conversion	HSI, HSI

Table 3. Connector Types

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The V.24 Interface

A pin-out diagram for the V.24 DCE interface is shown in Figure 5. The signal definitions and names are listed in Table 4.

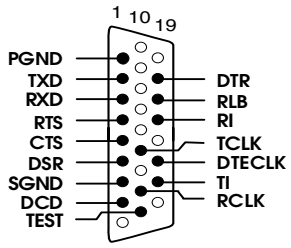


Figure 5. V.24 Interface

Pin #	Signal	Name	Direction	CCITT #
1	PGND	Protective Ground	Common	101
2	TXD	Transmit Data	Output	103
3	RXD	Receive Data	Input	104
4	RTS	Request to Send	Output	105
5	CTS	Clear to Send	Input	106
6	DSR	Data Set Ready	Input	107
7	SGND	Signal Ground	Common	102
8	DCD	Data Carrier Detect	Input	109
15	TCLK	Transmit Clock (DCE)	Input	114
17	RCLK	Receive Clock	Input	115
18	TEST	Local Loopback Activation	Output	141
20	DTR	Data Terminal Ready	Output	108
21	RLB	Remote Loopback	Output	140
22	RI	Ring Indicator	Input	125
24	DTECLK	Transmit Clock (DTE)	Output	113
25	TI	Test Indicator	Input	142

Table 4. V.24 DCE Interface Signals

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The V.35 Interface

A pin-out diagram for the V.35 interface is shown in Figure 6. The signal definitions and names are listed in Table 5.

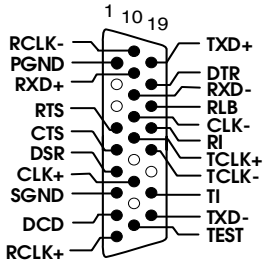


Figure 6. V.35 Interface

Pin #	Signal	Name	Direction	CCITT #
1	PGND	Protective Ground	Common	101
4	RTS	Request to Send	Output	105
5	CTS	Clear to Send	Input	106
6	DSR	Data Set Ready	Input	107
7	SGND	Signal Ground	Common	102
8	DCD	Data Carrier Detect	Input	109
9	RCLK+	Receive Clock from Modem	Input	115A
10	RCLK-	Receive Clock from Modem	Input	115B
11	RXD+	Receive Data	Input	104A
12	RXD-	Receive Data	Input	104B
13	CLK-	Transmit Clock to Modem	Output	113B
14	TCLK+	Transmit Clock from Modem	Input	114A
16	CLK+	Transmit Clock to Modem	Output	113A
18	TEST	Local Loopback Activation	Output	141
19	TXD+	Transmit Data	Output	103A
20	DTR	Data Terminal Ready	Output	108
21	RLB	Remote Loopback	Output	140
22	RI	Ring Indicator	Input	125
23	TCLK-	Transmit Clock from Modem	Output	114B
25	TI	Test Indicator	Input	142
26	TXD-	Transmit Data	Output	103B

Table 5. V.35 Interface Signals

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The X.21 Interface

A pin-out diagram for the X.21 interface is shown in Figure 7. The signal definitions and names are listed in Table 6.

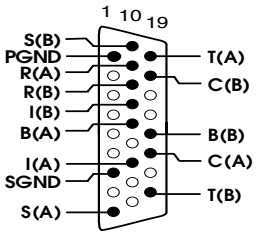


Figure 7. X.21 Interface

Pin #	Signal	Name	Direction	CCITT #
1	PGND	Protective Ground	Common	101
7	SGND	Signal Ground	Common	102
9	S(A)	Signal Element Timing (+)	Input	115A
10	S(B)	Signal Element Timing (-)	Input	115B
11	R(A)	Receive Data (+)	Input	104A
12	R(B)	Receive Data (-)	Input	104B
13	I(B)	Indication (-)	Input	109B
14	B(A)	Byte Timing (+)	Input	114A
16	I(A)	Indication (+)	Input	109A
19	T(A)	Transmit Data (+)	Output	103A
20	C(B)	Control Signal (-)	Output	105B
23	B(B)	Byte Timing (-)	Input	114B
24	C(A)	Control Signal (+)	Output	105A
26	T(B)	Transmit Data (-)	Output	103B

Table 6. X.21 Interface Signals

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Null-Modem Cables

The wiring diagrams below shows the connections required to construct a back-to-back HSI—HSI cable, and V.35 - AS/400 cable. For additional information required to construct your own cables, see “Cable Construction Information” on page 15.

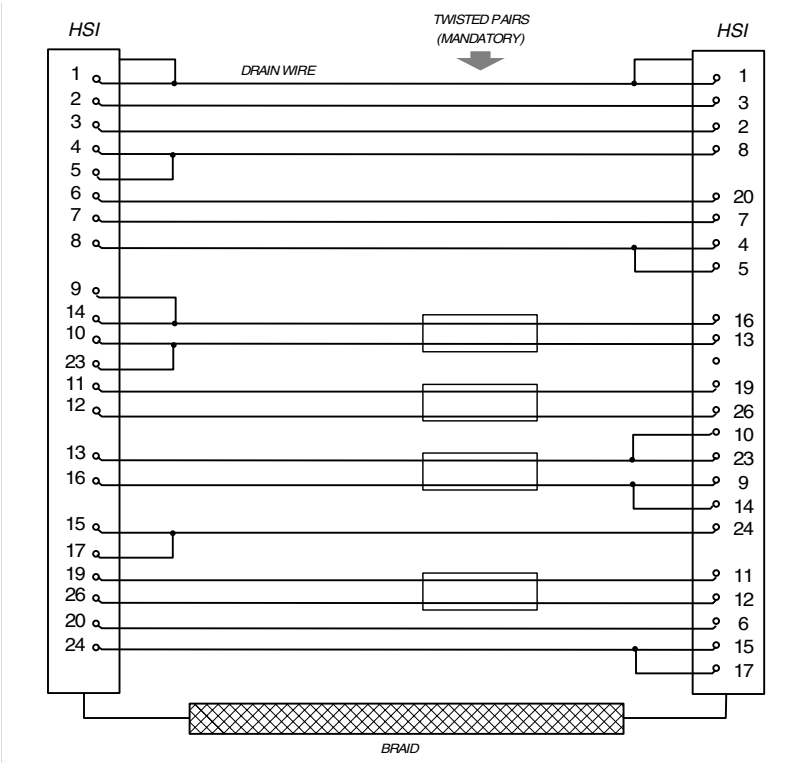


Figure 8. HSI V.24/V.35 Null-Modem Cable (300-031)

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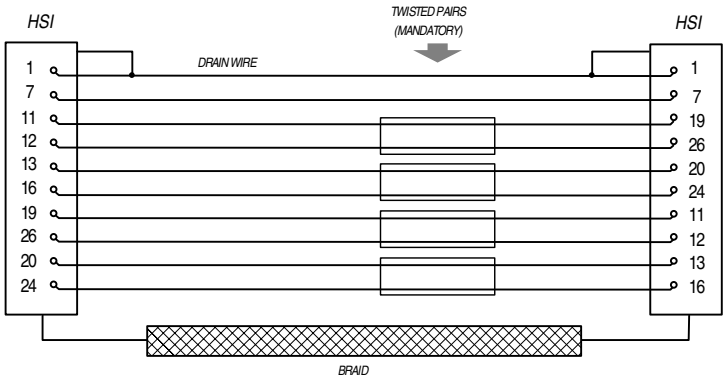


Figure 9. HSI X.21 Null-Modem Cable (300-032)

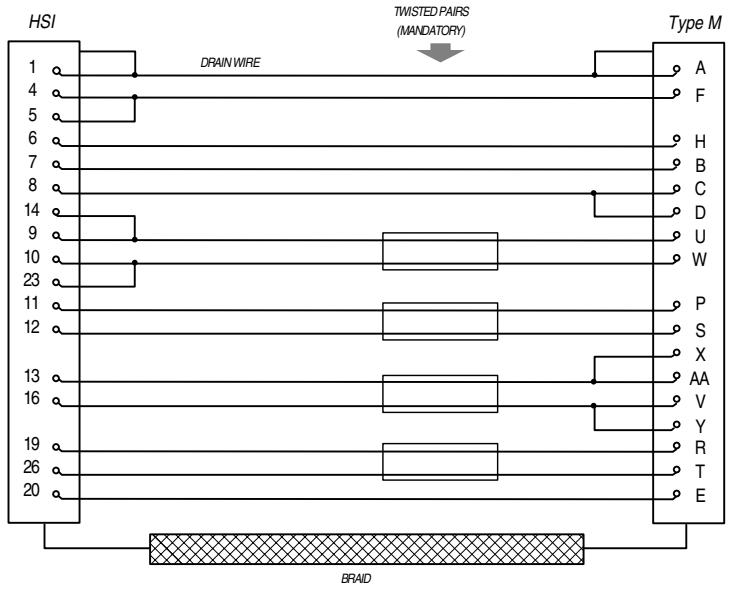


Figure 10. HSI V.35 Null-Modem Cable for AS/400 (300-047)

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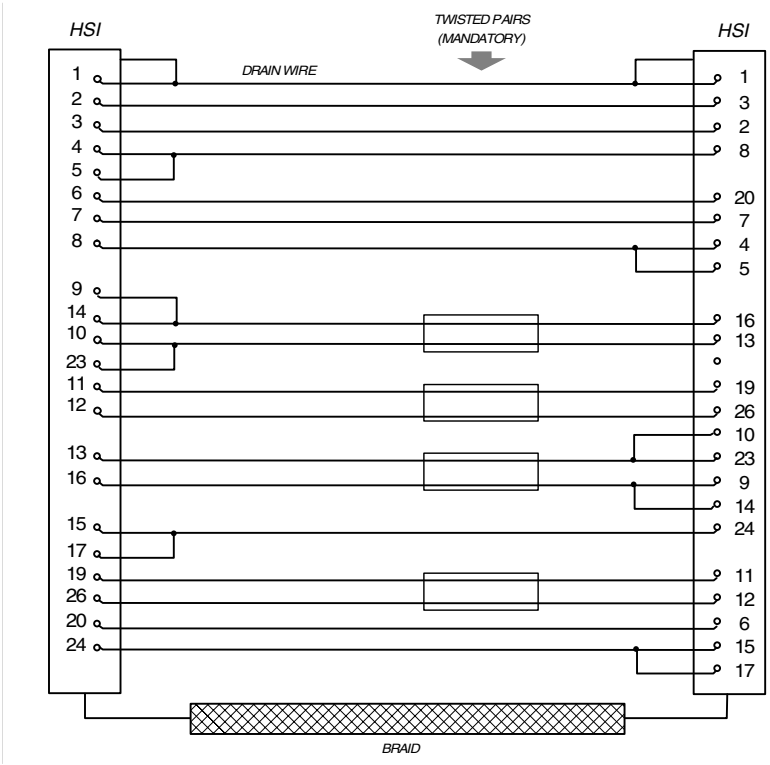


Figure 11. HSI Null-Modem Conversion Cable (300-033)

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Appendix

Setting the I/O Address

The Eiconcard S5x is shipped with the I/O address set to 380h. This setting only needs to be changed if another card in your PC uses an I/O address in the range 380h to 387h.

You can set the Eiconcard to use any of the standard I/O addresses listed in Table 7. Remember that no other card can use the same address, or the next seven higher values (for example, if you choose 378, no other card can use any value from 378 to 385).

Address	1	2	3	4	Address	1	2	3	4
278h	off	off	off	off	380h	off	on	off	off
280h	off	off	off	on	388h	off	on	off	on
378h	off	off	on	off	390h	off	on	on	off
380h	off	off	on	on	398h	off	on	on	on

Table 7. I/O Address Switch Positions

If you are installing more than one Eiconcard in the PC, be sure to read about the additional address options described on the next page.

To change the preset I/O address value, adjust the switches shown in Figure 12 to match the values given in Table 7.

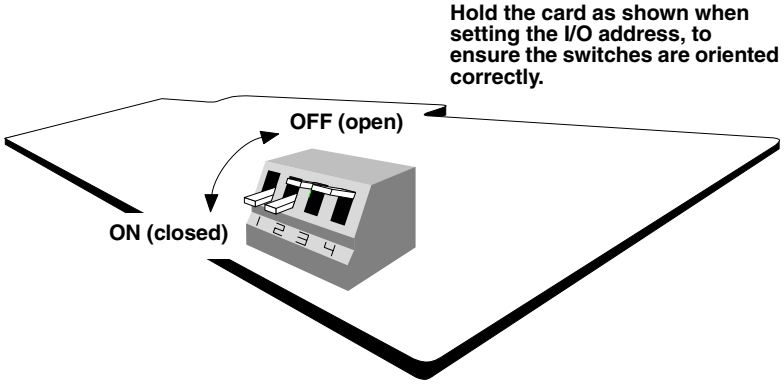


Figure 12. I/O Address Switch

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Setting I/O Addresses when Installing Multiple Eiconcards

If you are installing two or more Eiconcards in the PC, for every Eiconcard installed at a primary I/O address, you can install one at a secondary I/O address. This reduces the number of I/O addresses consumed since primary and secondary I/O addresses occupy the same position in the PC I/O address space.

Primary and secondary I/O addresses differ in the setting of switch 1, as described in Table 8. To select a secondary I/O address, set switch 1 to the **ON** position.

Primary	Secondary			
1 Off	**1 On**	**2**	**3**	**4**
278h	678h	off	off	off
280h	680h	off	off	on
378h	778h	off	on	off
380h	780h	off	on	on
380h	780h	on	off	off
388h	788h	on	off	on
390h	790h	on	on	off
398h	798h	on	on	on

Table 8. I/O Address Selection

Note *A secondary I/O address cannot be used if its associated primary address conflicts with another card. Always verify that each card installed in your PC has a unique I/O address.*

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Selecting an Interface

The Eiconcard S5x is capable of connecting as a DTE to devices which support the V.24, V.35, or X.21 interface. It can also connect directly to a host computer or back-to-back to another Eiconcard.

The Eiconcard S5x is shipped with the HSI port set to the V.24 and V.35 interfaces. If you wish to use the X.21 interface, you must reposition the jumper located next to the HSI connector.

To change the jumper from position A (V.24/V.35) to position B (X.21), lift it straight up off the board, then position it above the center and rightmost rows of pins. Carefully press it down onto the pins. Figure 13 shows the jumper in position B.

If you find the jumper hard to move, use a small slotted screwdriver to edge it up gradually from each side until you can lift it off.

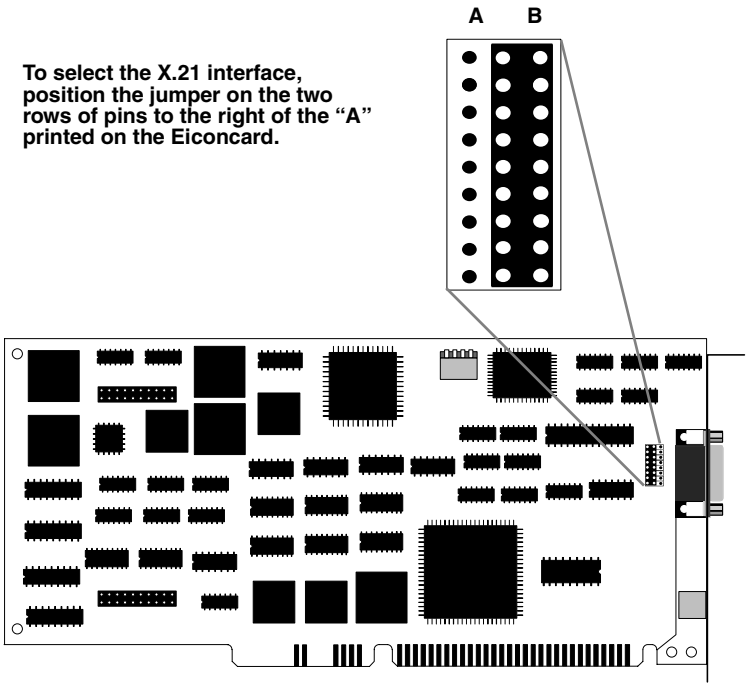


Figure 13. Selecting an Interface

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Software Configuration

Use the information below to assign the card's interrupt request level and memory segment address.

Interrupt Request Level

Only one device can use each interrupt request level (IRQ). Make sure you assign an unused IRQ to the Eiconcard S5x. The usual assignment of IRQs in a PC is listed in Table 9. You may be able to make additional IRQs available by disabling serial port 2 and parallel port 2. Consult your PC manual for details.

IRQ	Usual Assignment
2	Available
3	Serial Port 2
4	Serial Port 1
5	Parallel Port 2
6	Diskette Controller
7	Parallel Port 1
10	Available (16-bit slot)
11	Available (16-bit slot)
12	Available (16-bit slot)
14	Fixed Disk
15	Available (16-bit slot)

Table 9. Usual Interrupt Request Level Assignments

Memory Segment Addresses

Some 16-bit peripheral cards (such as LAN adapters) use memory windows—areas of contiguous memory which fall somewhere within one of three 128k memory group addresses (A000-BFFF, C000-DFFF, and E000-FFFF). If such a card is installed in your PC, the entire 128k memory group which contains the card's memory window is unavailable to the Eiconcard S5x and other 8-bit cards. For example, if you have a LAN card using a memory window at C800-CFFF, the Eiconcard S5x could not use any address in the range C000-DFFF.

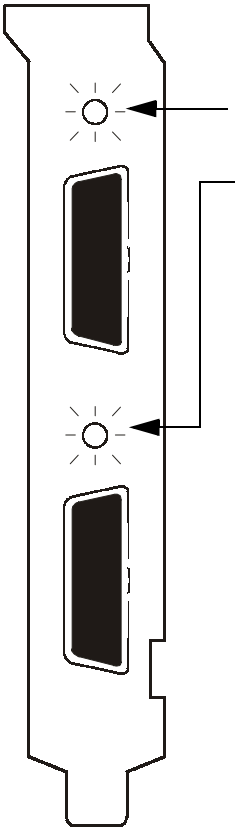
You may be able to resolve conflicts by configuring 16-bit cards as 8-bit cards. Check the manufacturer's documentation for details.

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LED Functionality

Eiconcard S50, S52

Note *The Eiconcard S50 has only one HSI port.*



Configuration Status

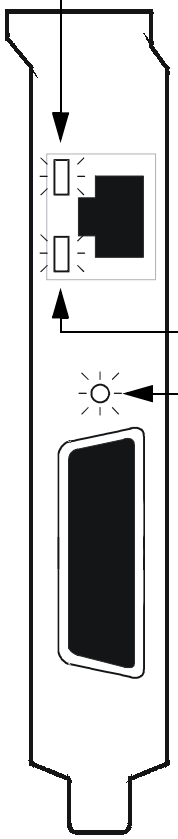
This status light illuminates during configuration to indicate which card and/or port is being configured. This is most useful when more than one Eiconcard is installed in the PC.

Consult the documentation provided with the configuration software for information about this status light.

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Eiconcard S51

The Eiconcard S51 has three status lights (LEDs) on the end bracket. Two of these lights indicate the status of the ISDN connection, and the third identifies the card during configuration.



D-channel Status

The D-channel controls the link to your ISDN service provider.

Off.....The line is not active. The cable may not be connected.

Blinking ..The line is active, but a link can't be established. This may be a symptom of incorrect configuration.

Steady....The ISDN line is active and operating normally.

B-channel Status

The B-channels are used for the link to the remote ISDN device.

Off..... There is no connection.

Blinking.. Attempting to connect to the remote device.

Steady ... The connection is active and able to transmit data.

Configuration Status

This status light illuminates during configuration to indicate which card is being configured. This is most useful when more than one Eiconcard is installed in the PC.

Consult the documentation provided with the configuration software for information about this status light.

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Technical Specifications

Technical Data

- IBM PC, PC AT, and PS/2 Model 30 bus compatible

Eiconcard	CPU/Memory	# of HSI Ports	#of ISDN BRI Ports
Eiconcard S50	20 MHz Motorola 68302 / 2 MB RAM	1	N/A
Eiconcard S51	20 MHz Motorola 68302 / 2 MB RAM	1	1
Eiconcard S52	20 MHz Motorola 68302 / 2 MB RAM	2	N/A

Hardware Installation

- Interrupt levels selectable via software (2, 3, 4, 5, 6, 7, 10, 11, 12, 14, 15)
- I/O address selectable via on-board switch (14 options)
- 4Kb shared memory access with a software selectable starting address (48 options in the ranges of C000 to EF00 and FC000 to FEF00)

External Interface

Eiconcard	External Interface
Eiconcard S50	One 26-pin “D Type” female ports.
Eiconcard S51	One 26-pin “D Type” female port and one DIN-4 female connector.
Eiconcard S52	Two 26-pin “D Type” female port.

Performance

- 2 Mbps full duplex per physical HSI port (V.35, X.21, NRZ, NRZI)
- 128 kbps per ISDN BRI port (over the “D” channel or the “B” channels)

Power Requirements

- 3 A at +5 Volts
- 80 mA at +12 Volts
- 50 mA at -12 Volts

Environmental Requirements

- Operating temperature: 0°C to 50°C
- Operating humidity: 0 to 90% (non-condensing)
- Barometric operating pressure: 86 to 106 kPascals
- Maximum tolerance in power supply variation: +5% to -5%

HSI Ports

- HSI ports connect to 26-pin high-density male connectors
- Support for V.24,X.21bis, and V.35
- X.21 with V.11 (X.27) signaling
- NRZ, NRZI, and FM data encoding
- Internal or external clocking (DTE or DCE) or split (transmit internal, receive external)

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International Regulatory Information

Regulatory Information for the USA:

WARNING. Changes or modifications to this unit not expressly approved by Eicon Networks Corporation could void the user's authority to operate the equipment.

Declaration of Conformity

We:

Eicon Networks Corporation
2155 Chenault Drive, Suite 503
Carrollton, Texas USA 75006
1-800-80-EICON
(972) 417-5500
Fax: (972) 417-5610

Declare under our sole legal responsibility that the products listed below to which this declaration relates, are in conformity with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

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FCC Part 68 Notice

This unit complies with Part 68 of the FCC rules. On the bottom of this equipment is a label that contains, among other information, the FCC registration number. If requested, this information must be provided to the telephone company.

An FCC compliant telephone cord and modular plug is provided with this equipment, designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant.

This equipment cannot be used on telephone company-provided coin service. Connection to party line service is subject to state tariffs.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact us for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

	Facility Interface code	Digital Reg. code	Service Order code	USOC Jack Type
S/T	021S5	XD	6.0N	N/A
U	021S5	DE	6.0N	RJ-49 C

Should you experience trouble with this equipment, please contact the address on the previous page.

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Regulatory Information for Canada

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. Industry Canada does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.



Warning: For your safety, follow these steps before you remove the cover from your PC:
1. Turn off the power to your PC and all peripheral devices.
2. Disconnect the power cable.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

For their own protection, users should ensure that any electrical ground connections of the power utility, telephone lines and internal metallic water pipe system are connected together. This precaution is particularly important in rural areas.



Warning: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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Regulatory Information for Europe

CE EU Declaration of Conformity

EN: Eicon Networks Corporation declares that this equipment is in compliance with the essential requirements and other relevant provisions of Directive1999/5/EC.

DE: Eicon Networks Corporation erklärt, daß diese Telekommunikations-endeinrichtung den grundlegenden Anforderungen und anderen relevanten Bestimmungen der Richtlinie 1999/5/EG entspricht.

DK: Eicon Networks Corporation erklærer, at dette udstyr er i overensstemmelse med vigtige krav og andre relevante provisioner i Direktiv 1999/5/EC.

ES: Eicon Networks Corporation declara que este equipo cumple con los requisitos esenciales y otras disposiciones pertinentes de la Directiva 1999/5/EC.

FI: Eicon Networks Corporation takaa, että tämä laite on 1999/5/EC-direktiivin olennaisten vaatimusten ja muiden lausekkeiden mukainen.

FR: Eicon Networks Corporation déclare que cet équipement répond aux exigences essentielles et autres dispositions pertinentes de la directive 1999/5/EC.

GR: Eicon Networks Corporation προβαίνει στην ανακοίνωση ότι αυτά τα μηχανήματα έχουν τις βασικές απαιτούμενες προδιαγραφές και υπόκεινται στις υπόλοιπες σχετικές διατάξεις της Οδηγητικής 1999/5/EC.

IC: Eicon Networks Corporation lýsir hér með yfir að þetta tæki uppfyllir grunnkröfur og tengd ákvæði ESB tilskipunar nr. 1999/5/EC.

IT: La Eicon Networks Corporation certifica che la presente apparecchiatura è conforme ai requisiti di legge stabiliti nella direttiva 1999/5/EC.

NL: Eicon Networks Corporation verklaart, dat deze uitrusting in overeenstemming is met de essentiële vereisten en andere relevante bepalingen van Richtlijn 1999/5/EC.

NO: Eicon Networks Corporation erklærer herved at dette utstyret oppfyller de vesentligste krav og relevante bestemmelser i direktiv 1999/5/EF om radio- og teleterminalutstyr.

PT: A Eicon Networks Corporation declara que este equipamento está de acordo com os requisitos básicos e outras provisões relevantes da Directiva 1999/5/EC.

SE: Eicon Networks Corporation förklarar att denna utrustning överensstämmer med de väsentliga krav och regler som finns i direktivet 1999/5/EG.

To receive a detailed R&TTE Declaration for this product please send a request specifying the product name to the following e-mail address: certification@eicon.com.

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Safety Status: SELV

No voltages within this equipment exceed SELV voltages. All interconnection points and ports are SELV.

User/Installer Instructions for the United Kingdom

Important Safety Considerations When Installing Into A Host Computer System

The Eiconcard S5x is a single PCI card.

Installation Within A Spare Slot Position



Warning: It is essential that, when other option cards are introduced which use or generate a hazardous voltage, the minimum creepages and clearances specified in the table below are maintained. Suitable user protection to ensure compliance with EN60950/A4 should be present on the card. A hazardous voltage is one which exceeds 42.4V peak a.c or 60V d.c. If you have any doubt, seek advice from a competent engineer before installing other adapters into the host equipment.

The equipment must be installed such that with the exception of the connections to the host, clearance and creepage distances shown in the table below are maintained between the card and any other assemblies which use or generate a voltage shown in the table below.

Clearance X mm	Creepage Y mm	Voltage used or generated by other parts of the host or expansion card Vrms or Vdc
2.0	2.4 (3.8)	up to 50
2.6	3.0 (4.8)	up to 125
4.0	5.0 (8.0)	up to 250
4.0	6.4 (10.0)	up to 300

Table 10. Creepage Distances

The larger distance shown in brackets applies where the local environment within the host is subject to conductive pollution or dry non-conductive pollution which could become conductive due to condensation. Failure to maintain these minimum distances would invalidate the approval.

The clearance distance X is the shortest distance in air between two points. The creepage path Y (along surfaces) is the shortest distance between the same two points.

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Regulatory information for Australia

- This customer equipment shall only be installed in a PC that requires the use of a tool to gain access to internal parts (e.g. this customer equipment must not be installed in a PC with a 'flip lid').
- Proper installation of the Eiconcard S5x card requires that it is screwed to the metal backplate of the computer. This ensures proper grounding, which is necessary for safety purposes.
- This customer equipment may only be installed in host equipment where there is at least 2 mm of air gap between the customer equipment and adjacent boards (PCBs).
- Only ACA permitted line cord set(s) or made from ACA certified components shall be used as replacements with this customer equipment.

Eiconcard S5x



Warning: This customer equipment is to be installed and maintained by service personnel as defined by AS/NZS 3260 Clause 1.2.14.3 Service Personnel. It may be hazardous if your computer is not properly plugged in and grounded.

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