OMNINET./4

PC Transporter Card Installation Guide



FCC Warning

This equipment has been tested with a Class A computing device and has been found to comply with Part 15 of FCC rules. Operation in a residential area may cause unacceptable interference to radio and TV reception requiring the operator to take whatever steps are necessary to correct the interference.

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Richard Amyx

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Corvus warrants its hardware products against defects in materials and workmanship under normal use for a period of 12 months from the date of purchase from a reseller of Corvus products. If Corvus is notified of such defects during the warranty period Corvus will, at its option, either repair or replace the hardware products that prove to be defective. Repairs will be performed and defective parts replaced with either new or reconditioned parts. Corvus does not warrant that the operation of the hardware will be uninterrupted or error-free.

Table of Contents

Configuring the Omninet/4 Transporter Card	
General Information	2
Network Device (Node) Address and Speed	3
Memory Base Address	6
I/O Base Address	7
Interrupt Request Line	9
Boot PROM and Jumpers	9
Installing the Transporter Card	
in Your Computer	10
Specifications	12

Configuring the Omninet/4 Transporter Card

Your Omninet/4 Transporter card has switches that let you set values for four of its operating characteristics. Before you install the card, you will at least have to set the device address for your computer. You should also check the other switch settings and change them as needed or confirm that they are correctly set to their default values.

GENERAL INFORMATION

Switch-selectable values on the Omninet/4 Transporter card include

- Network device (node) address and speed
- Memory base address
- I/O base address
- Interrupt request line

The Omninet/4 Transporter card's dual-port memory uses 16 kilobytes of your computer's address space. The dual-port memory, accessible by both the Transporter card controller device and the host computer, is used for the exchange of data moving to and from the network. The memory base address is the starting address of this 16-kilobyte block of addresses.

Similarly, the Transporter card requires I/O addresses through which to exchange command and status information with the host computer. The I/O base address is the first address of a block of 16 I/O addresses that the card uses.

The interrupt request line is the means by which the Transporter card signals the host computer when action on the part of the host is required.

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No two devices in a computer can share the same memory, I/O addresses, or interrupt request lines at the same time.

The Omninet/4 Transporter card uses the following default memory, I/O addresses, and interrupt request line:

Memory 0DC000-0DFFFF

I/O addresses 240-24F Interrupt request line IRQ2

It is possible for conflicts to occur between a Transporter card, EMS cards, tape controllers, modem or asynch cards, or SCSI controllers. You should compare the Transporter card default values with those for memory, I/O address, and interrupt request lines used by other devices in the computer to determine whether there are any conflicts. If that information is not available, you can install the Transporter card and, before you attach the computer to the network, check to see that the other devices are still working correctly. If they appear to be working properly, there may be no conflicts; however, it is possible that conflicts may occur only under particular circumstances.

You can change the memory base address, the I/O base address, or the interrupt request line on the Transporter card as necessary. These values should be changed only if your network operating system will permit the changes. The locations of the switches for changing these values and their meanings are shown in Figure 2.

NETWORK DEVICE (NODE) ADDRESS AND SPEED

The switch for setting the network device address and card operating speed is located on the end of the card, accessible through a cutout in the card retainer, as illustrated in Figure 1 below. Allowable addresses are 0 through 63, and the device address of your computer must be different from the address of any other device on your

network. Your network manager should be able to give you an address for your computer.

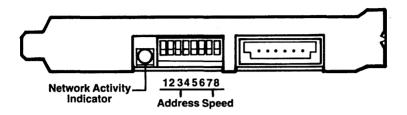


Figure 1. End view of Omninet/4 Transporter Network Interface Card, showing network activity indicator, device address switch, and network drop cable connector. The ON position of the switches is down--toward the numbers. The network activity indicator lights when the card is transmitting data onto the network.

The network device address is set with switches 1-6. The ON position of these switches is down--toward the numbers. Set the switches to the device address assigned to your node according to the settings shown in Table 1. Make a note of your device address for reference. Switch 7 is not used--set it to the OFF position.

Switch 8 sets the operating speed of the Transporter card. ON (down) is 1 Mbps; OFF (up) is 4 Mbps (the default setting). Be sure that the speed switch is set correctly. One card set at the wrong speed on a network will prevent the network from operating. Also be sure that switch 7 is OFF.

	-	Swit	ch	Set	ting				:	Swi	ich	Set	ting	٦
Address	ı	2	3	4	5	6		Address	ī	2	3	4	5	6
0							i	32						0
1	0	▔						33	0					0
2	•	0						34		0				0
3	0	0						35	0	0				0
4			0					36			0			
5	0		0					37	0		0			
6		0	0					38		0	0			
7	0	0	0					39	0	0	0			0
8				0	-			40				0		
9	0		•					41	0			0		0
10			•	0				42		o		0		
11	0	0		0				43	0					
12				0				44			0	0		0
13			0					45	0			0		
14			0	п				46		0	0	0		
15	0	0	0	0				47	0	0		0		
16								48						
17								49						0
18	-				0			50		0				
19		0			0			51	0	0				0
20			0		0			52						
21	0				0			53			0		0	
22		0			0			54		0				
23		0	0		0			55			0			0
24		-		0	0			56					0	0
25	0			0				57	0				0	
26		0	=	0	0			58		0		0	0	О
27		0			0			59	0					0
28				0	0			60						0
29			0					61				0		0
30			0		0			62		0	0		0	0
31				0				63		0		0		
Address	1	2	3	4	5	6		Address	1	2	3	4	5	6
		Sw	itch	Se	ttin	3		<u></u>		Sw	itch	Se	tting	3
		_					ON OFF							

Table 1. Network address switch settings. ON is down; toward the number.

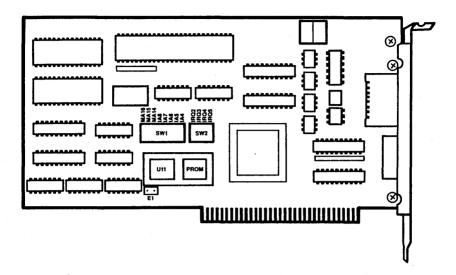


Figure 2. Omninet/4 Transporter Network Interface Card, showing locations of switches for setting memory base address, I/O base address, and interrupt request line.

MEMORY BASE ADDRESS

The default memory base address for the Omninet/4 Transporter card is 0DC000h.

The memory base address is set with the leftmost three switches (1, 2, and 3), labeled MA16, MA15, and MA14 of switch unit SW1. Memory base addresses and their corresponding switch settings are shown in Table 2.

Memory		Switch	
Base	1	2	3
<u>Address</u>	(MA16)	(MA15)	(MA14)
0C0000	1	1	1
0C4000	1	1	0
0C8000	1	0	1
0CC000	1	0	0
0D0000	0	1	1
0D4000	0	1	0
0D8000	0	0	1
*0DC000	0	0	0

Table 2. Memory base address switch settings. 1=ON; 0=OFF. The asterisk (*) indicates the default setting.

I/O BASE ADDRESS

The default I/O base address is 240h.

The I/O base address is set with the rightmost five switches (4-8), labeled IA8-IA4 of switch unit SW1. I/O base addresses and their corresponding switch settings are shown in Table 3.

I/O		Swit	tch		
Base	4	5	6	- 7	8
Address	(IA8)	<u>(IA7)</u>	(IA6)	(IA5)	(IA4)
200	1	1	1	1.	1
210	1	1	1	1	0
220	1	1	1	0	1
230	1	1	1	0	0
* 240	1	1	0	1	1
250	1	1	0	1	0
260	1	1	0	0	1
270	1	1	0	0	0
280	1	0	1	1	1
290	1	0	1	1	0
2A0	1	0	1	0	1
2B0	1	0	1	0	0
2C0	1	0	0	1	1
2D0	1	0	0	1	0
2E0	1	0	0	0	1
2F0	1	0	0	0	0
300	0	1	1	1	1
310	0	1	1	1	0
320	0	1	1	0	1
330	0		1	0	0
340	0	1	0	1	1
350	0	1	0	1	0
360	0	1	0	0	1
370	0	1	0	0	0
380	0	0	1	1	1
390	0	0	1	1	0
3A0	0	0	1	0	1
3B0	0	0	1	0	0
3C0	0	0	0	1	1
3D0	0	0	0	1	0
3E0	0	0	0	0	1
3F0	0	0	0	0	0

Table 3. I/O base addresses and switch settings. 1=ON; 0=OFF. The asterisk (*) indicates the default setting.

INTERRUPT REQUEST LINE

The default interrupt request line is 2 (IRQ2).

The interrupt request line is set with switches 1-4, labeled IRQ2-IQR5, of switch unit SW2. Interrupt request lines and their corresponding switch settings are shown in Table 4. Note that only one of the interrupt request line switches may be closed.

Interrupt	Switch							
Request	1	2	3	4				
Line	(IRQ2)	(IRQ3)	(IRQ4)	(IRQ5)				
*2	1	0	0	0				
3	0	1	0	0				
4	0	0	1	0 ·				
5	0	0	0	1				

Table 4. Interrupt request lines and switch settings. 1=ON; 0=OFF. The asterisk (*) indicates the default setting.

BOOT PROM AND JUMPERS

The socket labeled U11 is provided for a boot PROM for applications where the Transporter card will be installed in a diskless workstation.

Closing jumper E1 puts +5 VDC on pin 1 of device U11. This jumper should be closed only when a PROM device requiring +5 VDC on pin 1 is used. Jumper E1 should be left open otherwise.

Installing the Transporter Card in Your Computer

- 1. Turn your computer off and disconnect its power cord.
- 2. Remove the cover from your computer according to the manufacturer's instructions.
- 3. Remove the cover from an unused expansion slot.

 Save the screw to fasten down the Transporter card.

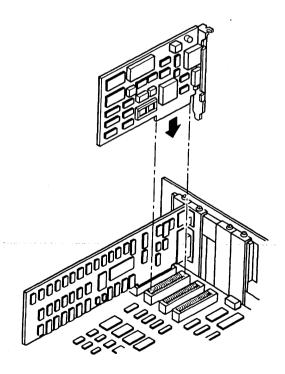


Figure 3. Installing the Transporter card in the computer.

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- 4. Insert the Transporter connector into its slot (Figure 3) and press down firmly until you feel the connector slide solidly into place. Attach the card retainer.
- 5. Put the cover back on your workstation.
- 6. Plug the power cord back into your workstation.

Your Transporter Network Interface Card is now installed.

See the Omninet Cabling System Installation Guide (included with the Omninet Cabling System Termination Kit-the two little black plugs) for instructions on how to connect your network.

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Specifications

Network interface: Complies with Omninet

CSMA/CA with positive

acknowledge

System interface: Compatible with IBM Per-

sonal Computer system bus
Data transmission rate: 4 Mbps baseband; switchable

to 1 Mbps

CSMA Controller: NEC uPD72105

Transceiver: NS3695 RS-485 Differential

Line Transceiver

Cable: Proprietary twisted pair
Cable lengths: 4 segments maximum; 1000
ft. (300 m) per segment

+5 VDC, 1.5 A maximum
16k Dual-Port static RAM

Power requirements: +5 VDC, 1.: Memory: 16k Dual-P

Environmental:

Operating temperature: 32°F to 158°F (0°C to 70°C)

Relative hymidity: 20% to 80% percentaging

Relative humidity: 20% to 80% noncondensing Altitude: 7000 ft. (2134 m) maximum

Electromagnetic: FCC Class A

Physical dimensions: 4.2 in x 7.8 in (10.67 cm x 19.81 cm), excluding

connectors and brackets

Warranty: One year limited

Software

THE SOFTWARE AND FIRMWARE PROGRAMS ARE PROVIDED "AS IS" WITHOUT A WARRANTY OF ANY KIND. The entire risk for the quality and performance of the program is with you, the buyer. Should the software program or firmware program prove defective following its purchase, you, the buyer, and not Corvus, its distributors or its retailers, assume the entire cost of all necessary servicing or repair.

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