TRANSITION NETWORKS®

USER'S GUIDE
N-FXE-xxx-01, 100Base-FX Fiber Adaptor NIC Cards

•**PCI-Express x1 Interface**

•**Available with SC, ST, LC multimode and single mode fiber connections**

•**Wake-on-LAN (WoL)**

•**Supports 802.1q VLAN tagging**

100Base-FX Fiber Adapter NIC is a Fast Ethernet NIC that fully complies with all IEEE 802.3u and 100Base-FX standards. Two LED indicators *(LINK/ACT and FDX)* on the bracket will help to oversee board link activities and full-duplex status.

Fast Ethernet PCI-E 100Base-FX Fiber adapters support Preboot Execution Environment (PXE), Remote Program Load (RPL), and Bootstrap Protocol (BOOTP). Multi-Boot Agent (MBA) is a software module that allows your networked system to boot with the images provided by remote systems across the network.

Part Number	Fiber Port
N-FXE-ST-01	ST 1310 nm multimode, 2km *(1.2 miles)* std/low profile bkt PXE boot included*
N-FXE-SC-01	SC, 1310 nm multimode, 2km *(1.2 miles)* std/low profile bkt PXE boot included*
N-FXE-LC-01	LC, 1310 nm multimode, 2km *(1.2 miles)* std/low profile bkt PXE boot included*
N-FXE-SC5-01	SC, 1310 nm single mode, 5km *(3.1 miles)* std/low profile bkt PXE boot included*
N-FXE-LC5-01	SC, 1310 nm silngle mode, 5km *(3.1 miles)* std/low profile bkt PXE boot included*

*Typical maximum cable distance. Actual distance is dependent upon the physical characteristics of the network installation.

Installation

Checklist

Before installing the Fast Ethernet N-FXE Series 100Base-FX Fiber NIC, verify that the package contains the following items:

• Fast Ethernet N-FXE Series 100Base-FX Fiber NIC

• LAN Driver and User's Guide CD-ROM

Please notify your sales representative immediately if any of the aforementioned items is missing or damaged.

Description

The two LED indicators, LINK/ACT and FDX located on the bracket, show network/board link activities, and full-duplex statuses. See Figure 1.
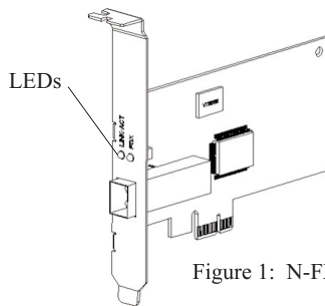

LEDs

Figure 1: N-FXE-xx-01

N-FXE NIC card installation

CAUTION: Wear a grounding strap and observe electrostatic discharge precautions when installing the N-FXE NIC. Failure to observe this caution could result in failure or damage of the N-FXE module.

WARNING: Turn power OFF before installing the N-FXE NIC.

To install the N-FXE module, do the following:

1. Turn OFF power to the PC or file server and unplug the power cord.

2. Remove the cover from the PC or file server—keep all screws.

3. Select an empty PCI-E slot. *(see system documentation if not sure where the PCI-E slots are located)* and remove the faceplate. Keep the faceplate.

4. Remove the network N-FXE- NIC from the shipping package and store the packaging material in a safe place.

5. Apply even pressure on the corners of the N-FXE NIC card, pushing down until it seats firmly into the PCI-E slot.

Install the N-FXE NIC card -- continued

6. Replace the PC or File Server cover and secure it with the screws removed in Step 2.

7. Disconnect any antistatic devices.

8. Power up the unit.

Network remote boot configuration

Select remote boot type

To enter the MBA configuration menu to select remote boot type (PXE, RPL), press SHIFT-F10 keys within 3 seconds after powering up the PC, otherwise the computer will load the OS.
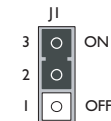
Set network remote reboot

To set the network remote boot, enter PC BIOS first and then select the Boot tab, after that choose MBA as the priority.

Cancel network remote boot

To cancel network remote boot, change the PC BIOS setting for MBA to Hard Drive or devices.

Wake on LAN (WoL)

The WoL function on this NIC can recognize a wake-up frame and signal the PC to power up. The default state of the WoL function is enabled (ON), which means pin 2 and pin 3 on J1 *(3-pin header)* are connected via a jumper, as shown below.

Wake on LAN select Jumper (J1)

Cable Specifications

Fiber cable

Bit error rate:	<10-9
Single mode fiber *(recommended)*:	9 µm
Multimode fiber *(recommended)*:	62.5/125 µm
Multimode fiber *(optional)*:	100/140, 85/140, 50/125 µm

N-FXE-ST-01   1310 nm multimode
Fiber optic transmitter power:	min: -19.0 dBm max: -14.0 dBm
Fiber optic receiver sensitivity:	min: -31.0 dBm max: -xx.0 dBm
Link budget:	12.0 dB

N-FXE-SC-01   1310 nm multimode
Fiber optic transmitter power:	min: -19.0 dBm max: -14.0 dBm
Fiber optic receiver sensitivity:	min: -31.0 dBm max: -14.0 dBm
Link budget:	12.0 dB

N-FXE-LC-01   1310 nm multimode
Fiber optic transmitter power:	min: -19.0 dBm max: -14.0 dBm
Fiber optic receiver sensitivity:	min: -32.0 dBm max: -14.0 dBm
Link budget:	13.0 dB

N-FXE-SC5-01   1310 nm single mode
Fiber optic transmitter power:	min: -20.0 dBm max: -0.0 dBm
Fiber optic receiver sensitivity:	min: -32.0 dBm max: 14.0 dBm
Link budget:	12.0 dB

N-FXE-LC5-01   1310 nm single mode
Fiber optic transmitter power:	min: -20.0 dBm max: -0.0 dBm
Fiber optic receiver sensitivity:	min: -32.0 dBm max: 0.0 dBm
Link budget:	12.0 dB

The fiber optic transmitters on the device meet Class I Laser safety requirements per IEC-825/CDRH standard and comply with 21CRF1040.10 and 21CRF1040.11.

Technical Specifications

For models N-FXE-xxx-01

Standards:	IEEE 802.3u, IEEE 802.3x, IEEE 802.1q VLAN
Data rate	100Mbps fiber media
LED:	LINK/ACT *(on the bracket)*
	ON = communication link; FLASHING = activity on link
	FDX *(full duplex link);* ON = full duplex link
Data transfer node/speed:	Full duplex with NWay flow control
	100Mbps speed
Software support:	• Windows 2000, 2003, XP, NT4.0, Vista
	• Novell Netware 4.x
	• Linux
	• NDIS2
	• PXE & RPL Boot ROM
Bus Slot:	PCI-E 1.0 compliant
PCB dimensions:	120(L) x 68.5(H) mm
	(4.72"L x 2.7"H)
Weight:	0.06kg *(0.1 lb)* approximate
Power requirements:	3.3VDC @ 85A
Power consumption:	3 watts
Ambient temperature:	0°C to 50°C *(32°F to 122°F)*
Humidity:	5% to 90%, non-condensing
Warranty:	Lifetime

WARNING: Visible and invisible laser radiation when open: DO NOT stare into the beam or view directly with optical instruments. Failure to observe this warning could result in damage to your vision or blindness.

CAUTION: Use of controls, adjustments, or the performance of procedures other than those specified herein may result in hazardous radiation exposure.

Electronic emission notices

This equipment has been tested and found to comply with the limits for a class B computing device pursuant to Subpart J of part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

This equipment has been tested and found to comply with the protection requirements of European Emission Standard EN55022/EN61000-3 and the Generic European Immunity Standard EN55024.

The information in this manual is subject to change without further notice.

Troubleshooting

Diagnostics LEDs and Boot ROM

LEDs

LED	Color	Function
LINK/ACT	Green	Lit when cable connection is good and speed is at 100Mbps. Blinks when any traffic is present.
FDX	Green	Lit when full-duplex mode is active.

TRANSITION NETWORKS®   **Declaration of Conformity**

Name of Mfg:	Transition Networks, 10900 Red Circle Drive, Minnetonka, MN 55343 U.S.A.
Model:	N-FXE-xxx-01 Network Interface Cards
Part Number:	N-FXE-ST-01, N-FXE-SC-01, N-FXE-LC-01 N-FXE-SC5-01, N-FXE-LC5-01
Regulation:	EMC Directive 89/336/EEC
Purpose:	To declare that the N-FXE-xxx-01, to which this declaration refers, is in conformity with the following standards:

CISPR22-2(2002) Class B, EN55022/EN61000, CE Mark, IEC61000-4-2(2001), IEC61000-4-3 (2002), IEC61000-4-4 (2001)

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Stephen Anderson, Vice-President of Engineering   February, 2009
                                                        Date

Contact Us

Technical support
Technical support is available at techsupport@transition.com

- US and Canada: 1-800-260-1312 *(24 hours)*
- International: 00-1-952-941-7600 *(24 hours)*

Transition now
Chat live via the Web with Transition Networks Technical Support. Log onto www.transition.com and click the Transition Now link.

Web-based seminar
Transition networks provides seminars via live, web-based training. Log onto www.transition.com and click the Learning Center link.

Email
Ask a question anytime by sending an email to our technical support staff: techsupport@transition.com

Address
Transition Networks

10900 Red Circle Drive

Minnetonka, MN 55343, U.S.A.

Telephone:	952-941-7600,
Toll free:	800-526-9267
Fax:	952-941-2322

Compliance Information

CISPR22-2(2002) Class B, EN55022/EN61000, CE Mark, IEC61000-4-2(2001), IEC61000-4-3 (2002), IEC61000-4-4 (2001)

FCC regulations

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

Canadian regulations

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.
Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

European regulations

Caution: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
Achtung! Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten. In diesem Fäll ist der Benutzer für Gegenmaßnahmen verantwortlich.

Attention! Ceci est un produit de Classe A. Dans un environment domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilsateur de prende les measures spécifiques appropriées.

In accordance with European Union Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003, Transition Networks will accept post usage returns of this product for proper disposal. The contact information for this activity can be found in the 'Contact Us' portion of this document.

CAUTION: RJ connectors are NOT INTENDED FOR CONNECTION TO THE PUBLIC TELEPHONE NETWORK. Failure to observe this caution could result in damage to the public telephone network.

Der Anschluss dieses Gerätes an ein öffentlickes Telekommunikationsnetz in den EG-Mitgliedstaaten verstösst gegen die jeweligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer Konformität.

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