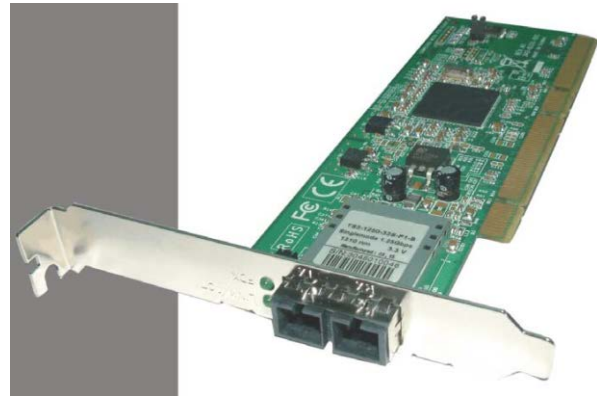


N-GxX-xC-03
Gigabit Ethernet PCI-64
1000SX/LX Fiber Adapter
User's Manual
Release 1.2



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Introduction

Transition Networks' N-GxX-xC-03 is a Gigabit Ethernet Board that fully complies with all IEEE 802.3z and 1000Base-SX/LX standards. Two LED indicators (LINK/ACT and FDX) on the bracket will help to oversee the board link, activities and full-duplex status.

The N-GxX-xC-03 supports 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.

Package Contents

Before you start installing the Gigabit Ethernet PCI-64 1000SX/LX Fiber Adapter, verify that the package contains the following items:

- One Gigabit Ethernet PCI-64 1000SX/LX Fiber Adapter with Standard Profile Bracket
- One Low Profile Bracket
- One Documentation Postcard

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

Models / Part Numbers

Model #	Description
N-GSX-SC-03	1000Base-SX Fiber NIC, PCI-X, 850nm Multimode SC, 220/550m, Standard and Low profile brackets included.
N-GSX-LC-03	1000Base-SX Fiber NIC, PCI-X, 850nm Multimode LC, 220/550m, Standard and Low profile brackets included.
N-GLX-SC-03	1000Base-SX Fiber NIC, PCI-X, 1310nm Single mode SC, 10m, Standard and Low profile brackets included.
N-GLX-LC-03	1000Base-SX Fiber NIC, PCI-X, 1310nm Single mode LC, 10m, Standard and Low profile brackets included.

Device Drivers

The full set of drivers and related instructions are available to registered users on the TN website at www.transition.com and at www.broadcom.com/support/ethernet_nic/netxtreme_server.php.

Novell NetWare 4.x, 5.x, 6.x Server
 Novell NetWare DOS Client for ODI 16-bit
 Novell NetWare DOS Client for ODI 32-bit
NDIS2 for Microsoft DOS Client
Microsoft Windows NT 4.0
 Microsoft Windows 2000
 Microsoft Windows XP x86 Edition
 Microsoft Windows XP x64 Edition
 Microsoft Windows Server 2003 x86 Edition
 Microsoft Windows Server 2003 x64 Edition
 Microsoft Windows Vista x86 Edition
 Microsoft Windows Vista x64 Edition
 Microsoft Windows Server 2008 x86 Edition
 Microsoft Windows Server 2008 x64 Edition
 Microsoft Windows 7 x86 Edition
 Microsoft Windows 7 x64 Edition
Solaris 2.6/7/8/9/10 for i386 / SPARC platform
SCO OpenServer Release 5
 SCO Unixware 7/Caldera Open Unix 8
Linux for kernel 2.4.24 and all 2.6.x

Installation

The following instructions apply to installing the Gigabit Ethernet adapter in most systems. Refer to the manuals that were supplied with your system for details about performing these tasks on your particular system.

To install the network adapter card, perform the following procedure:

Warning

Before installing the adapter, ensure the system power is OFF and unplugged from the power outlet, and that proper electrical grounding procedures have been followed.

1. High voltage inside the system presents a safety hazard. Make sure the power is off before removing the cover.
2. Remove the system cover and select any empty PCI-64 slot. See Figure 1 below.

If you do not know how to identify a PCI-64 slot, refer to your system documentation.

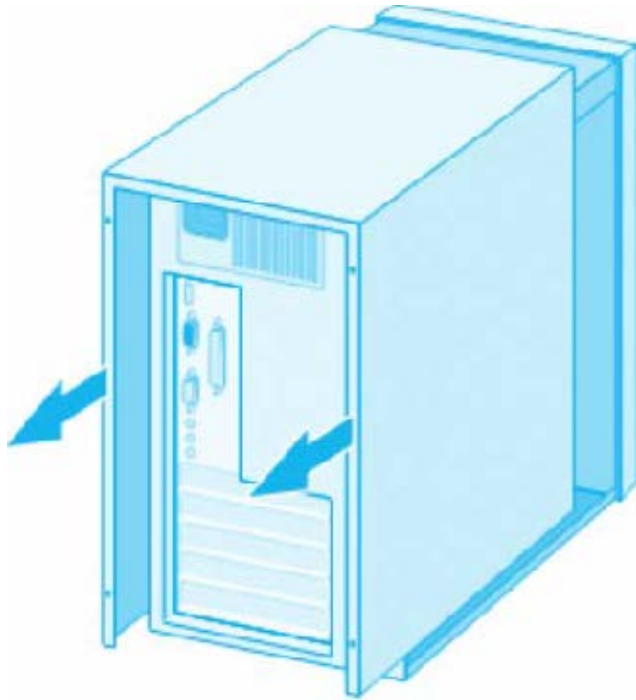


Figure 1. Removing the PC Cover

3. Select an empty, non-shared PCI-64 slot and remove the faceplate. Keep the faceplate in a safe place. You may need it for future use. See Figure 2 below.



Figure 2. Removing the Faceplate from the PCI Slot

Note: If you cannot locate or do not know how to find a PCI-64 slot, refer to the documentation that came with your system.

4. Remove the network adapter card from the shipping package and store the packaging material in a safe location.

Caution: Wear a grounding device and observe electrostatic discharge precautions when installing the network adapter card in a system. Failure to observe this caution could result in damage to the card.

5. Applying even pressure at both corners of the card, push the adapter card until it is firmly seated in the PCI-64 slot.

Make sure the card is securely seated. See Figure 3 below.

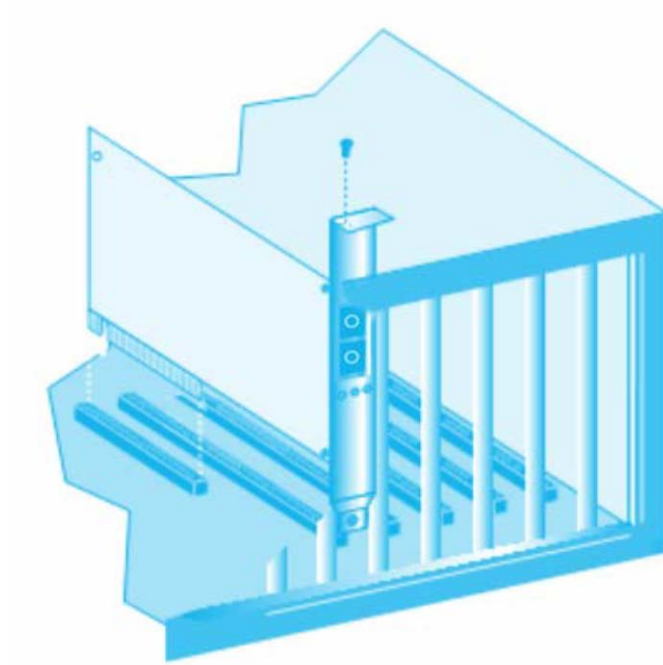


Figure 3. Card Seated in the PCI-64 Slot

6. Replace the system's cover and secure it with the screws removed in Step 2 above.
7. Disconnect any personal antistatic devices.
8. Power the system on.

Network Remote Boot Configuration

1. Select Remote Boot Type

For entering “MBA Configuration Menu” to select Remote Boot Type (PXE, RPL, BOOTP), press Ctrl-S within four seconds after power on your PC, otherwise, the system would go to Windows OS

2. Set Network Remote Boot

For setting network remote boot, please enter PC BIOS first, then select “Boot” tab, after that, choose “MBA” as the priority first boot device.

3. Cancel Network Remote Boot

To cancel network remote boot, please change the “Boot” setting in PC BIOS from “MBA” to “Hard Drive” or other devices.

LED Descriptions

LED	Color	Function
LINK/ACT	Green	Lit when cable connection is good and speed is at 1000Mbps.
FDX	Green	Blinks when any traffic is present. Lit when full-duplex mode is active.

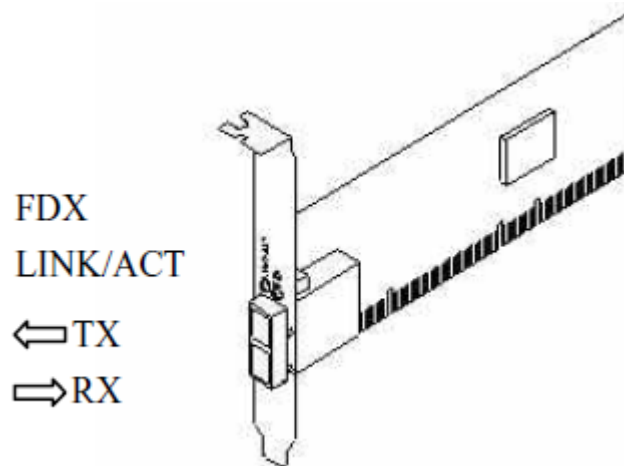


Figure 4. Diagnostic LEDs and Bracket

Network Parameters

IEEE 802.3z Gigabit Ethernet 1000SX 850nm	Multi-mode Fiber Cable and Modal Bandwidth			
	Multi-mode 62.5/125µm		Multi-mode 50/125µm	
	Modal Bandwidth	Distance	Modal Bandwidth	Distance
	160MHz-Km	220m	400MHz-Km	500m
	200MHz-Km	275m	500MHz-Km	550m
1000LX	Single-mode Fiber 9/125µm			
	Single-mode transceiver 1310nm 10Km			
	Single-mode transceiver 1550nm 30, 50Km			

Fiber Specs

Model #	Media	Speed	Connector	Max Distance	Wave-length (nm)	Min TX Output (dBm)	Max TX Output (dBm)	Sensitivity (dBm)	Power Budget (dB)
N-GSX-SC-03	MM Fiber	1000Mbps	MM SC	550 m	850	-9.5	-4	-17	7.5
N-GSX-LC-03	MM Fiber	1000Mbps	MM LC	550 m	850	-9.5	-4	-17	7.5
N-GLX-SC-03	SM Fiber	1000Mbps	SM SC	10 km	1310	-9.5	-3	-20	10.5
N-GLX-LC-03	SM Fiber	1000Mbps	SM LC	10 km	1310	-9.5	-3	-20	10.5

Note: MM = Multi-Mode | SM = Single-Mode | SC = Duplex SC Connector | ST = Duplex ST Connector | LC = Duplex LC Connector | SSC = Single Strand SC Connector

Technical Specifications

Standards:	IEEE 802.3z Gigabit Ethernet 1000Base-SX/LX IEEE 802.3x Full-Duplex Flow Control IEEE 802.3ad Link Aggregation IEEE 802.1Q VLANs IEEE 802.1p Quality of Service
Connector:	850nm SC multi-mode (Default) 850nm LC multi-mode (Option available on request) 1310nm SC, LC single-mode (Option available on request) 1310nm SC, LC single-mode (Option available on request)
Fiber Optic Cable:	62.5/125, 50/125µm multi-mode 9/125µm single-mode
Data Transfer Mode/Speed:	Full duplex with NWay flow control 1000Mbps speed
Diagnostics LED on Bracket:	LINK/ACT FDX
Bus Slot:	64/32bit PCI 2.2 Compliant
Power Requirement:	Max. 10W, +5VDC@2A
Ambient Temperature:	0° to 50°C
Humidity:	5% to 90%
Emission:	Complies with EMI Standard FCC Class A CE Mark

For current information on the N-GxX-xC-03, view the online user guide at www.transition.com.

Note: not all systems may see full 1Gbit performance. The N-GxX-xC-03 has ability to deliver 1Gbit/sec full duplex, in a properly tuned system. However, many system issues that can degrade network performance. General system tuning tips may help (e.g., <http://www.caos.uab.es/docs/recursos/IBM-INTEL.pdf>); another solution is to use a current PCIe bus motherboard/NIC. For performance tuning information from the NIC chip vendor see https://www.broadcom.com/docs/support/ethernet_nic/Broadcom_NetXtreme_Server_17.0.pdf.

Contact Us

Technical support

Technical support is available 24-hours a day

US and Canada: 1-800-260-1312

International: 00-1-952-941-7600

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 seminars

Transition Networks provides seminars via live web-based training.

Log onto www.transition.com and click the **Learning Center** link.

E-Mail

Ask a question anytime by sending an e-mail to our technical support staff.

techsupport@transition.com

Address

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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

Declaration of Conformity

<i>Declaration of Conformity</i>			
<u>Transition Networks, Inc.</u> <small>Manufacturer's Name</small>			
<u>10900 Red Circle Drive, Minnetonka, Minnesota 55343 U.S.A.</u> <small>Manufacturer's Address</small>			
Declares that the product: N-GxX-xC-03 (N-GSX-SC-03, N-GSX-LC-03, N-GLX-SC-03, N-GLX-LC-03)			
Conforms to the following Product Regulations:			
FCC Part 15 Class A, EN 55022:2010, EN 55024:2010 Directive 2004/108/EC Low-Voltage Directive 2006/95/EC IEC/EN 60950-1 EMC Directive 89/336/EEC			
I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standards(s).			
<u>Minnetonka, Minnesota</u> <small>Place</small>	<u>September 2, 2014</u> <small>Date</small>	 <small>Signature</small>	
		<u>Stephen Anderson</u> <small>Full Name</small>	<u>Vice President of Engineering</u> <small>Position</small>
			<small>261415</small>

CE Mark

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

Warning

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 Fall ist der Benutzer für Gegenmaßnahmen verantwortlich.

Attention !

Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures 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 öffentliches Telekommunikationsnetz in den EGMitgliedstaaten

verstösst gegen die jeweiligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer Konformität.

Record of Revisions

Rev	Date	Notes
A	09/02/14	Initial release.
B	12/7/15	Add performance data.

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