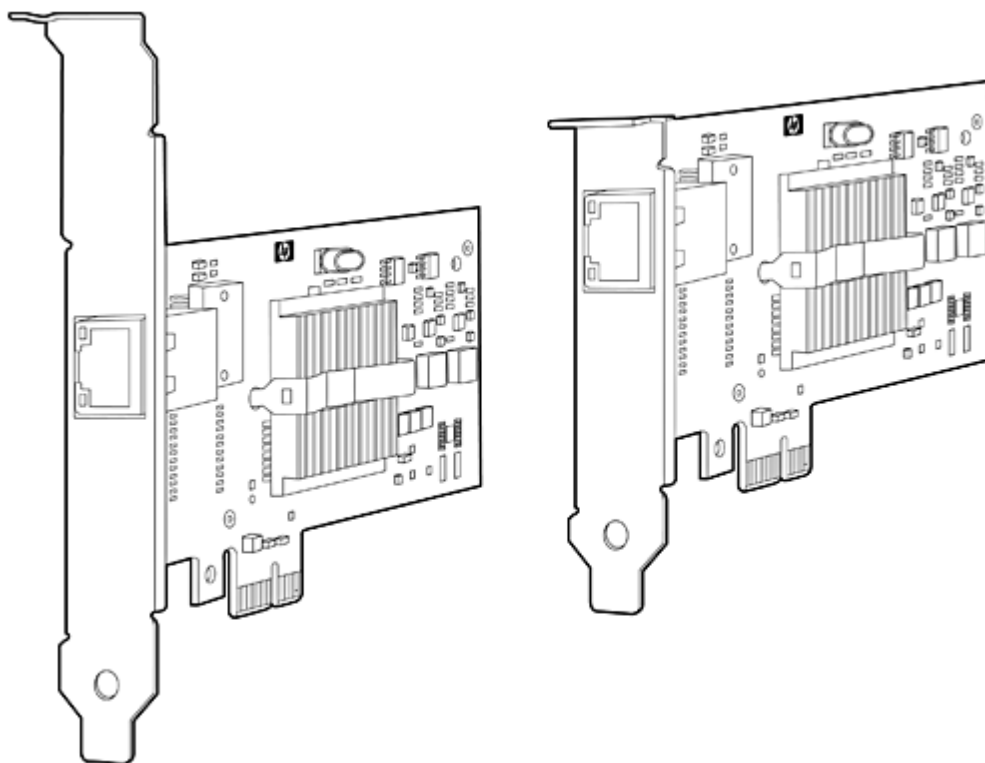


### Overview

The HP NC110T is a cost-effective Gigabit Ethernet server adapter that features single-port, copper, single lane (x1) PCI Express capability, with 48KB onboard memory that provides 10/100/1000T auto-negotiated speed and duplex. Designed with ProLiant server needs in mind, it offers these server features: Cold boot Wake-on-LAN (WOL), PXE, Jumbo Frames (9K), Large Send Offload (LSO), TCP Checksum Offload, and includes brackets for both half (low profile) and full height server slots so that customers have maximum flexibility using this server adapter with their ProLiant server.

The NC110T is based on the Intel 82572GI controller and supports these IEEE standards: 802.3, 802.3u, 802.3ad, and 802.3ab, 802.1x, 802.1Q and 802.1p. Validated by HP so that it meets the highest ProLiant standards and provides a seamless, network solution that is integrated with HP SmartStart, Insight Manager, networking software, firmware, and agents. NIC teaming drivers are available for all major operating systems along with teaming utilities, multiple VLAN tagging, and a configuration GUI.



### Models

HP NC110T PCI Express Gigabit Server Adapter

434905-B21

### Kit Contents

The option kit contents consist of the following items:

- HP NC110T PCI Express Gigabit Server Adapter PCA ships with a standard height bracket attached to it. (The low profile bracket is included in the clamshell that the PCA ships in.)
- Product Warranty statement and the Quick Install Card (QIC).
- CD containing Drivers, User Guide, Installation and Diagnostic Utilities, and User Guide (English only).

### Overview

### Standard Features

#### Server Support

#### ProLiant DL (expansion-optimized):

- HP ProLiant DL140 G3
- HP ProLiant DL145
- HP ProLiant DL145 G2
- HP ProLiant DL145 G3
- HP ProLiant DL360 G5
- HP ProLiant DL365
- HP ProLiant DL380 G5
- HP ProLiant DL385 G2
- HP ProLiant DL385 Packaged Cluster with MSA500 G2
- HP ProLiant DL580 G3
- HP ProLiant DL580 G4
- HP ProLiant DL585
- HP ProLiant DL585 G2

#### ProLiant ML (expansion-optimized):

- HP ProLiant ML110 G4
- HP ProLiant ML115
- HP ProLiant ML150 G3
- HP ProLiant ML310 G4
- HP ProLiant ML330 G3
- HP ProLiant ML350 G4
- HP ProLiant ML350 G5
- HP ProLiant ML370 G5
- HP ProLiant ML570 G3
- HP ProLiant ML570 G4

**NOTE:** This is a list of supported servers. Some may be discontinued.

### Performance

#### Gigabit Throughput Combined with Legacy Ethernet Support

10/100/1000 Mbps Ethernet transfer rate delivers outstanding network performance that improves response time and removes bottlenecks. Because the NC110T supports both 10Mbps Ethernet and 100Mbps Fast Ethernet in addition to Gigabit Ethernet, users are guaranteed end-to-end protocol support across their enterprise.

#### PCI Express Interface

HP was an early champion of PCI Express bus technology and has played a key role in the development and industry adoption of the PCI Express specification. The NC110T features an Intel 82572G1 chipset and offers a single lane (x1) PCI Express bus based on the PCIe v1.0a standard.

#### Load Balancing

Transmit Load Balancing (TLB) and Switch-assisted Load Balancing (SLB) are two advanced features that customers can use to build a bigger pipe for improved networking bandwidth. These port bonding techniques enable users to install up to eight NC110T adapters (or a mix of other HP adapters totaling 8 ports) in a HP ProLiant server and aggregate their throughput up to a theoretical maximum of 16 Gigabits per second full-duplex transmissions.

### Overview

#### Jumbo Frames

Jumbo Frames (also known as Extended Frames) offer a 9K byte Maximum Transmission Unit (MTU), which is six times the size of traditional Ethernet frames. Like all HP ProLiant server adapters, the NC110T supports jumbo frames as a way to achieve higher throughput and better CPU utilization when deployed in a network infrastructure that supports them.

#### TCP Checksum Offload and Large Send Offload (LSO)

These features reduce the load on the CPU to improve improved overall system response. LSO is based on both IPv4 and IPv6 and TCP Checksum Offload is IPv6 based.

### Scalability and Reliability

#### Network Fault Tolerance (NFT)

Network Fault Tolerance, sometimes called "failover" or "NIC Redundancy," allows for the installation of multiple server adapters so that the active device can be backed up by a redundant adapter to improve availability. HP's teaming utility also allows users to specify that when a failed adapter is fixed and replaced, the original adapter resumes its function as the primary network connection.

#### Distance capabilities

The NC110T supports cable runs up to 100 meters (328 feet).

### Network Management

#### Auto-negotiation

The NC110T automatically senses and configures itself to the speed of the device to which it is attached. It also automatically configures for half or full duplex, depending on the duplex mode of the switch, hub, or router at the other end of the cable.

#### Wake-on-LAN

The NC110T provides cold boot Wake-on-LAN (WOL) support through the PCI Express bus. A system that supports Wake on LAN can remain available to a systems administrator during its normal downtime. Once the machine is awakened, the systems administrator can remotely control, audit, debug, or manage the machine.

#### Management Support

Like all HP ProLiant server adapters, the NC110T ships with drivers and agents that can be managed from all versions of Systems Insight Manager. Additionally, it supports any management application that supports SNMP.

#### Server Integration

The SmartStart configuration utility includes setup support for the NC110T so that the adapter can be configured as part of the SmartStart configuration process. Insight Manager can recognize the NC110T individually or in a port-bonded team, and it can collect and report SNMP statistics on the adapter events. Integrated Management Log (IML) support is provided by the NC110T for critical event logging on HP ProLiant servers.

#### Configuration Utilities

Each NC110T ships with a set of utilities that allow the user to:

- Enable initial diagnostics within Windows, Linux, Netware, and DOS operating systems.
- Configure network adapter teaming in a Windows environment. The Windows adapter teaming configuration utility includes a patented teaming GUI for Microsoft Windows 2000 and 2003 operating systems. Support for scripted installations of teams in a Microsoft Windows environment allow for unattended OS installations.

### Overview

#### LED Indicators

Bracket LED indicators show link integrity, network activity, and speed on each port for easy troubleshooting.

#### Intelligent Networking Pack (INP)

The NC110T supports the ProLiant Essentials Intelligent Networking Pack (INP). INP is a software upgrade that improves the reliability and performance of ProLiant servers by enabling them to adapt to and change the network path in their infrastructure. INP can detect and analyze network bottlenecks or broken network linkages, and then steer traffic to the optimum route based on network conditions.

#### Warranty

**Maximum:** The remaining warranty of the HP product in which it is installed (to a maximum three-year, limited warranty).

**Minimum:** One year limited warranty.

See Internet address <http://www.hp.com> for overall information on HP.

#### Support Services

Care Pack services provide a range of life cycle support options that let you choose the service levels that meet your business requirements, from basic to mission-critical.

A full range of HP Care Pack hardware and software services are available including:

- Installation and start up
- Education courses
- Extended onsite hardware coverage hours from same business day 13 ours, 5 day to 24 hours, 7 days call window with options including 4-hour response or 6-hour Call-To-Repair.
- Comprehensive range of software technical support for Microsoft, Linux, ProLiant Essentials, and VMWare-based IT solutions helping to deliver high level of application availability. Response times ranging from 30 minutes for critical problems to 2 hours.
- System Management, Performance Services and Mission Critical Support Solution

**NOTE:** For more information on HP Care Pack services, contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: <http://www.hp.com/hps/carepack>

**NOTE:** For more complete information on HP Services offerings, customers and resellers, please visit us at: <http://www.hp.com/hps>

**NOTE:** Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

### Related Options

<b>Additional Gigabit Server Adapters</b>	HP NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21
	HP NC320T PCI Express 1000T Gigabit Server Adapter	367047-B21
	HP NC340T PCI-X Quad Port Gigabit Server Adapter	391661-B21
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC370F PCI-X Single Port Multifunction 1000SX Gigabit Server Adapter	374193-B22
	HP NC370T PCI-X Single Port Multifunction 1000T Gigabit Server Adapter	374191-B22
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
	HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter	394795-B21
	HP NC1020 PCI 1000T Gigabit Server Adapter	353377-B21
	HP NC7170 PCI-X Dual Port 1000T Gigabit Server Adapter	313881-B21
	HP NC7170 PCI-X Dual Port Low Profile 1000T Gigabit Server Adapter	383738-B21
	HP NC7771 PCI-X 1000T Gigabit Server Adapter	290563-B21
	HP NC7771 PCI-X 1000T Gigabit Server Adapter	290563-B21
	<hr/>	
<b>Combo Switch Adapter</b>	HP NC150T PCI 4-port 1000T Gigabit Combo Switch Adapter	367132-B21
<hr/>		
<b>10 Gigabit Server Adapter</b>	HP NC510C PCIe 10 Gigabit Server Adapter	414129-B21
	<b>NOTE:</b> A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510C adapter.	
	HP NC510F PCIe 10 Gigabit Server Adapter	414126-B21
	<b>NOTE:</b> A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510F adapter.	
<b>ProLiant Essentials</b>	<b>ProLiant Essentials - Intelligent Networking Pack</b>	
	ProLiant Essentials Intelligent Networking Pack - Windows Edition, Single Server License	436225-B21
	ProLiant Essentials Intelligent Networking Pack - Windows Edition, Flexible License	436227-B21
	ProLiant Essentials Intelligent Networking Pack - Windows Edition, Tracking License	372951-B21
	ProLiant Essentials Intelligent Networking Pack - Linux Edition, Single Server License	436229-B21
	ProLiant Essentials Intelligent Networking Pack - Linux Edition, Flexible License	436231-B21
	ProLiant Essentials Intelligent Networking Pack - Linux Edition, Tracking License	397006-B21
	<b>Software Media Kit</b>	
HP ProLiant Essentials for Networking Software Media Kit	432046-B21	

### Technical Specifications

<b>Compliance</b>	<ul style="list-style-type: none"> <li>• 802.3, 802.3u, 802.3x, 802.3ab, 802.3ad, 802.1p, 802.1Q</li> <li>• PCIe v1.0a standard</li> <li>• FCC (U.S. only) Class B</li> <li>• DOC (Canada) Class B</li> <li>• CE EN 55024, EN55022 Class B</li> <li>• VCCI Class II</li> <li>• UL 1950</li> <li>• CSA 950</li> <li>• EN 60950</li> <li>• CE</li> <li>• ACPI 1.1a</li> <li>• MicroSoft WHQL (Windows Hardware Quality Labs)</li> </ul>																		
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### Technical Specifications

#### Operating System Support

##### Microsoft:

- Microsoft Windows Server 2003
- Microsoft Windows Server 2003 Web Edition
- Microsoft Windows Server 2003 Small Business Server
- Microsoft certified miniport and teaming drivers
- Microsoft Windows 2003 Standard (32 and x64)
- Microsoft Windows 2003 Enterprise (32 and x64)

##### Linux:

- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server

**NOTE:** For more information on Linux, please visit our [Linux Certified and Supported matrix](#):

<http://h18004.www1.hp.com/products/servers/linux/hpLinuxcert.html>.

##### Novell Netware

- NetWare 6.5 and Netware OES (6.5)

##### Solaris

- Solaris 9.0 and Solaris 10.0

##### SCO

- UnixWare 7.1.3. and 7.1.4
- Open Server 5.0.7 and 6.0
- NDIS 2 for DOS unattended install (40K or less in size) Microsoft® Windows Server 2003, x64 Edition, and Windows 2000

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