

PRODUCT BRIEF

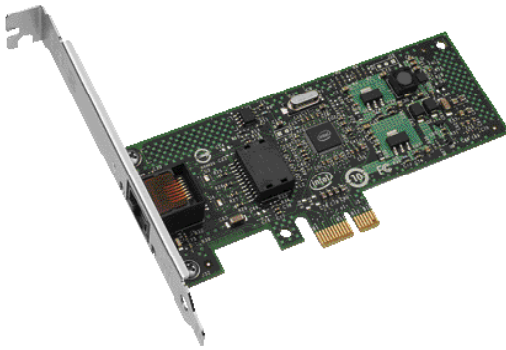
Intel® Gigabit CT Desktop Adapter

Network Connectivity

PCIE-8231

Gigabit CT Desktop Adapter

Bringing PCI Express* Gigabit Performance to the Desktop



Connectivity You Can Count On

For PCs with PCI Express* (PCIe*) slots, the Intel® Gigabit CT Desktop Adapter offers the newest technology for maximizing system performance and increasing end-user productivity. Specifically, the Intel Gigabit CT Desktop Adapter uses auto-negotiation to ensure the adapter runs at the highest available network speed (10, 100, or 1000 Mbps), and maintains full bandwidth capacity with the dedicated bandwidth of a PCIe input/output (I/O) bus to provide connectivity you can count on. Based on the low-power Intel® 82574L Gigabit Ethernet Controller, this desktop adapter offers optimal performance in a low-cost, low-power, compact profile. Teaming support and an array of other advanced features enable customers to use this adapter as an entry-level server adapter as well.

Enhancing Desktop Performance Enhances Network Performance

Fast servers and server connections are important for high network performance. However, server speed cannot overcome the drag of slow desktop performance. When a desktop PC initiates a transaction with the network server, the server quickly performs its portion of the transaction, but must wait for the desktop PC to complete its part of the transaction. The slower the PC, the longer the server must wait for transaction completion before moving to the next transaction. With PCIe Gb performance to the desktop, transactions on the PC side complete significantly faster, allowing the network to service more transactions faster.

PCI Express Makes Gigabit Ethernet Even Faster

PCI Express is the third-generation I/O standard with performance that supercedes the previous PCI and PCI-X* slot standards. The key to PCIe performance is its higher dedicated I/O bandwidth. Unlike the PCI bus, which shares its I/O resources with all devices on the bus, PCIe dedicates its I/O to a single device. The Intel Gigabit CT Desktop Adapter allows you to take advantage of this dedicated I/O by combining Gigabit Ethernet with PCI Express to provide high-performance network connectivity for desktops with PCI Express slots. Make the Intel Gigabit CT Desktop Adapter your choice for applications utilizing rich media content such as video streaming, web applications, music, and gaming.

Quick and Easy Installation

Like all Intel® Network Adapters, the Intel Gigabit CT Desktop Adapter is supported by Intel® PROSet Utility for Microsoft® Device Manager and Intel® PRO intelligent install. Intel PROSet simplifies adapter installation and gives you point-and-click power for configuring and managing all of your Intel Network Connections

Intel® CT Desktop Adapter Features and Benefits

Features

Benefits

| | |
|--|---|
| Intel® 82574L Gigabit Ethernet Controller | High performance and reliability; low power |
| Interrupt moderation | Delivers increased performance while significantly reducing CPU usage |
| PCI Express* x1 slot compatible | Designed for high performance on PCI Express desktop architecture while maintaining compatibility with PCI applications |
| Compatible with Fast Ethernet and Ethernet | Reduces deployment and training costs and enables easy, quick migration to Gigabit Ethernet |
| 10/100/1000 Mbps auto-negotiation | Automatically compatible with Ethernet, Fast Ethernet, and Gigabit Ethernet networks |
| Support for most network operating systems | Enables widespread deployment |
| Advanced configuration and power interface (ACPI); Wake on LAN* (WoL); Preboot Execution Environment (PXE) | Enables low-power consumption, remote wake, and remote booting |
| Remote Management Support | Reduces support costs with remote management based on industry-wide standards |
| Intel® PROSet Utility for Microsoft® Device Manager | Provides point-and-click power over individual adapters, advanced adapter features, connection teaming, and virtual local area network (VLAN) configuration |
| Advanced cable diagnostics | Dynamically tests and reports network problems (error rate, cable length) and automatically compensates for cable issues (cross-over cable, wrong pin-out/polarity) |
| Intel backing | Backed by an Intel® limited lifetime warranty, 90-day, money-back guarantee (U.S. and Canada), and worldwide support |
| Optimized queues: 2 Transmit (Tx) and 2 Receive (Rx) | Efficient packet prioritization |
| MSI-X support | <ul style="list-style-type: none">▪ Minimizes the overhead of interrupts▪ Allows load balancing of interrupt handling between different cores/CPUs |

Order Codes

PCIE-8231

Companion Products

Consider these Intel® products in your server and network planning:

- Intel® 10 Gigabit Server Adapters for PCI and PCI Express Interfaces
- Intel® PRO/1000 Server Adapters
 - Copper or fiber-optic network connectivity, up to four ports per card
 - Solutions for PCI Express, PCI-X*, and PCI interfaces
- Intel® PRO/1000 Desktop Adapters for PCI Express and PCI interfaces
- Other Intel® Desktop and Server Adapters
- Intel® Xeon® Processors
- Intel® Server Boards

Specifications

General

| | |
|---------------------------------|---------------------------------------|
| Product Codes | ▪ PCIE-8231 |
| Connectorst | ▪ RJ45 |
| IEEE standards/network topology | ▪ 10/100/1000BASE-T |
| Wiring | ▪ Category-5 UTP, 4-pair |
| Platform Feature | ▪ User benefit as single-line bullets |
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Adapter Product Features

Intel® PROSet Utility for easy configuration and management

RoHS1

Plug and play specification support Standard

Auto-negotiation, full-duplex capable

Integrated media access control (MAC) and physical layer (PHY)

Cable distance 100m Category-5 for 1000/100 Mbps; Category-3 for 10 Mbps

Ships with full-height bracket installed, low-profile bracket added in package

Receive-side scaling (RSS)

9 KB jumbo frames

Network Management

Wired for Management (WfM) baseline v2.0 enabled for servers

DMI 2.0 support and Windows Management Instrumentation (WMI)

Instrumentation (WMI) and SNMP-Remote Installation Services (RIS)

ACPI* 1.0 power management

Wake on LAN* support over PCI Express*

PXE 2.0 enabled through boot read-only memory (ROM)

Network Operating Systems (NOS) Software Support

Windows* 2000

Windows* Server 2003

Windows* Server 2008

Windows Professional XP* SP3

Windows Vista* SP1

Linux* RHEL 4.6

Linux* Kernel version 2.6.24

Linux* Kernel version 2.4.36.2

RHEL* 5.1

SLES* 9 SP4

SLES* 10 SP1

FreeBSD* 7.0

Network Operating Systems (NOS) Software Support (cont.)

DOS*

DOS/OS/2*

SCO OpenServer 6/Unixware* 7.1.x

Novell Netware* 6.5

Xen*

FreeBSD* 5.x or later

ESX* 3.x* support (for VMware)

Intel Backing

Limited lifetime warranty

90-day, money-back guarantee (U.S. and Canada)

Advanced Software Features

Test switch configuration Tested with major switch original equipment manufacturers (OEMs)

TCP checksum offload Transition control protocol (TCP), user diagram protocol (UDP), Internet protocol (IP)

IEEE 802.1p*, Quality of Service (QoS) Support

IEEE 802.1q*, VLAN Support

TCP segmentation/large send offload

Teaming support

Interrupt moderation

Tx/Rx IP

Technical Features

Data rate supported per port 10, 100, and 1000 Mbps

Bus type PCI Express 1.1 (2.5 GT/s)

Bus width x1 lane PCI Express operable in x1, x4, x8, x16 slots

Bus speed (x1, encoded rate) 2.5 Gbps uni-directional; 5 Gbps bi-directional

Interrupt levels INTA, MSI, MSI-X

IEEE support 802.3z*

Hardware certifications FCC B, UL, CE, VCCI, BSMI, CTICK, MIC

Controller-processor Intel® 82574L

Typical power consumption 1.9 W

Operating temperature 0° C to 55° C (32° F to 131° F)

Storage temperature -40° C to 70° C (-40° F to 158° F)

Storage humidity 90% non-condensing relative humidity at 35° C

LED Indicators LINK/ACTIVITY LED: off=NO LINK; on=LINK; blinking=ACTIVITY; SPEED LED: off=10 Mb; green=100 Mb; yellow=1000 Mb

Physical Dimensions

Length 11.92 cm (4.696 in)

Width 5.53 cm (2.181 in)

Height of end bracket 12 cm (4.725 in)