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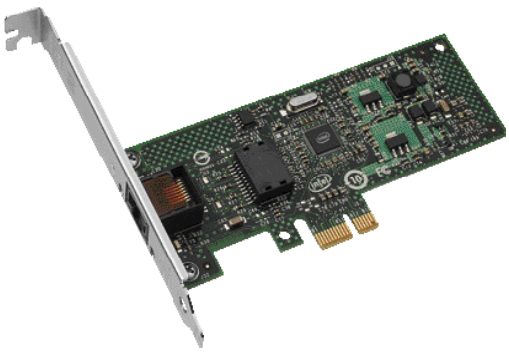
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**PRODUCT BRIEF**
**Intel® Gigabit CT Desktop Adapter**
Network Connectivity

# Intel® 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 | ▪ Minimizes the overhead of interrupts<br>▪ Allows load balancing of interrupt handling between different cores/CPUs |

### Order Codes

Single Unit: EXPI9301CT
Bulk Pack: EXPI9301CTBLK
(order 20, get 20)[2]

### 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

### Customer Support

Intel® Customer Support Services offers a broad selection of programs including phone support and warranty service. For more information, contact us at support.intel.com/support/network/.

Service and availability may vary by country.

### For Product Information

To speak to a customer service representative regarding Intel products, please call 1-800-538-3373 (U.S. and Canada) or visit support.intel.com/support/9089.htm for the telephone number in your area. For additional product information, visit www.intel.com/go/ethernet.

## Specifications

### General

| | |
|---|---|
| Product Codes | • EXPI9301CT<br>• EXPI9301CTBLK (Order 20, get 20) |
| Connectorst | • RJ45 |
| IEEE standards/network topology | • 10/100/1000BASE-T |
| Wiring | • Category-5 UTP, 4-pair |
| Platform Feature | • User benefit as single-line bullets |
| Platform Feature | • User benefit as single-line bullets |
| Platform Feature | • User benefit as single-line bullets |

### 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* | |
| DOSODI* | |
| 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-directiona |
| 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) |

For more information on the full line of Intel® Network Adapters for PCI Express*, please visit
**http://www.intel.com/products/ethernet/overview.htm**

[1] Lead and other materials banned in RoHS Directive are either: a) below all applicable substance thresholds in the EU or, b) an approved exemption applies.

[2] One driver CD per BLK SKU

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