Product Brief

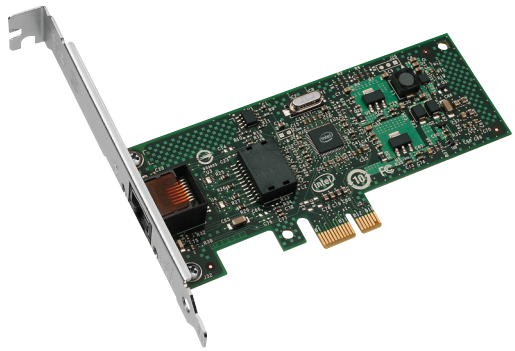
Intel® Gigabit CT Desktop Adapter

Network Connectivity

Intel® Gigabit CT Desktop Adapter

PCI Express* Gigabit Performance to the Desktop

- High-performance, self-configuring 10/100/1000 Mbps connection for PCI Express* slots
- Easy installation, maintenance, and advanced management capabilities
- Low-cost, low-power, compact design



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 it maintains full bandwidth capacity with the dedicated bandwidth of a PCI Express 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 utilize 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 PCI Express Gigabit 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.

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)	Allows 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 ▪ 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

Network-Ready Servers

Top PC and server manufacturers offer Intel® adapters in their new products. Specify or ask for Intel Network Adapters with your next PC, server, or mobile PC purchase. For a list of preferred suppliers, visit us at www.intel.com/buy/networking/adapters.htm?matrix=connectivity.

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/network/connectivity.

Specifications

General

Product codes	EXPI9301CT EXPI9301CTBLK (Order 20, get 20)
Connectors	RJ-45
IEEE standards/network topology	10/100/1000BASE-T
Wiring	Category-5 UTP, 4-pair

Adapter Product Features

Intel® PROSet Utility for easy configuration and management	▪
RoHS[1]	▪
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 XP* (Service Pack 2) [Service Pack 3 is to be released mid-year]
Windows Vista* (Service Pack 1)
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
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*, Intel(R) Priority Packet 8	▪
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	1.9W
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)

To see the full line of Intel Network Adapters for PCI Express, visit www.intel.com/network/connectivity

[1] Lead and other materials banned in RoHS Directive are either (1) below all applicable substance thresholds in the EU or (2) an approved exemption applies.

[2] One driver CD per BLK SKU.

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