

10GbE / 40GbE for Servers and Workstations

| | Copper | | | | | | Fiber | |
|--|---|---|---|---|---|--|---|---|
| Brand Name | Intel® Ethernet Converged Network Adapter XL710-QDA1 & XL710-QDA2 | Intel® Ethernet Converged Network Adapter X710-DA2 & X710-DA4FH | Intel® Ethernet Converged Network Adapter X540 | Intel® Ethernet Converged Network Adapter X520-QDA1 | Intel® Ethernet Converged Network Adapter X520-DA2 | Intel® Ethernet Server Adapter X520-DA1 & X520-DA2 for Open Compute Project | Intel® Ethernet Converged Network Adapter X520-SR1 & X520-SR2 | Intel® Ethernet Converged Network Adapter X520-LR1 |
| Product Code(s) | XL710QDA1, XL710QDA1BLK XL710QDA2, XL710QDA2BLK | X710DA2, X710DA2BLK X710DA4FH, X710DA4FHBLK | X540T1, X540T1BLK X540T2, X540T2BLK | X520QDA1 | E10G42BTDA E10G42BTDA1BLK | X520DA1OCP X520DA2OCP | E10G41BFSR, E10G41BFSRBLK E10G42BFSR, E10G42BFSRBLK | E10G41BFLR E10G41BFLRBLK |
| Intel® Ethernet Controller | Intel® XL710 | Intel® X710 | Intel® X540 | Intel® 82599ES | Intel® 82599ES | Intel® 82599ES | Intel® 82599ES | Intel® 82599ES |
| Connector & Cable Medium | QSFP+ Direct Attach Copper | SFP+ Direct Attach Copper | RJ-45 Copper Twisted Pair | QSFP+ Direct Attach Copper | SFP+ Direct Attach Copper | SFP+ Direct Attach Copper | LC Fiber Optic | LC Fiber Optic |
| Cabling Type | QSFP+ Direct Attached Twin Axial Cabling up to 10 m | SFP+ Direct Attached Twin Axial Cabling up to 10 m | Category-6 up to 55 m Category-6A up to 100 m | QSFP+ Direct Attached Twin Axial Cabling up to 10 m | SFP+ Direct Attached Twin Axial Cabling up to 10 m | SFP+ Direct Attached Twin Axial Cabling up to 10 m | MMF 62.5/50 µm up to 300 m | SMF up to 10 km |
| Slot Type, Maximum Bus Speed & Slot Width | PCI Express® 3.0 8.0 GT/s, x8 Lane | PCI Express® 3.0 8.0 GT/s, x8 Lane | PCI Express® 2.1 5.0 GT/s, x8 Lane | PCI Express® 3.0 5.0 GT/s, x8 Lane | PCI Express® 2.0 5.0 GT/s, x8 Lane | PCI Express® 2.0 5.0 GT/s, x8 Lane | PCI Express® 2.0 5.0 GT/s, x8 Lane | PCI Express® 2.0 5.0 GT/s, x8 Lane |
| Connection Speed | 10GbE / 40GbE | 1GbE / 10GbE | 100Mb / 1GbE / 10GbE | 4x 1GbE / 10GbE | 1GbE / 10GbE | 1GbE / 10GbE | 1GbE / 10GbE | 1GbE / 10GbE |
| Ports | Single and Dual Port | Dual and Quad Port | Single and Dual Port | Single Port | Dual Port | Single and Dual Port | Single and Dual Port | Single Port |
| Supported Slot Height(s) | Low Profile and Full Height | Low Profile and Full Height (DA2) Full Height Only (DA4FH) | Low Profile and Full Height | Low Profile and Full Height | Low Profile and Full Height | OCP Form Factor - no bracket | Low Profile and Full Height | Low Profile and Full Height |
| Intelligent Offloads | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Server Virtualization | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Virtual Machine Device Queues (VMDq), Hypervisor-based Port Partitioning | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable |
| Network Virtualization Acceleration | VXLAN, NVGRE, Geneve | VXLAN, NVGRE, Geneve | VXLAN | VXLAN | VXLAN | VXLAN | VXLAN | VXLAN |
| Optimized for Intel® Data Plane Development Kit (DPDK)® & Intel® Ethernet Flow Director | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Storage over Ethernet | iSCSI, FCoE, NFS, SMB | iSCSI, FCoE, NFS, SMB | iSCSI, FCoE, NFS, SMB | iSCSI, FCoE, NFS, SMB | iSCSI, FCoE, NFS, SMB | iSCSI, NFS, SMB | iSCSI, FCoE, NFS, SMB | iSCSI, FCoE, NFS, SMB |
| Accessory Options | Intel® Ethernet QSFP+ Twin Axial Cables Intel® Ethernet QSFP+ Breakout Cables Intel® Ethernet QSFP+ Optics | Intel® Ethernet SFP+ Twin Axial Cables Intel® Ethernet SFP+ Optics | N/A | Intel® Ethernet QSFP+ Twin Axial Cables Intel® Ethernet QSFP+ Breakout Cables Intel® Ethernet QSFP+ Optics | Intel® Ethernet SFP+ Twin Axial Cables Intel® Ethernet SFP+ Optics | Intel® Ethernet SFP+ Twin Axial Cables Intel® Ethernet SFP+ Optics | Intel® Ethernet SFP+ Twin Axial Cables Intel® Ethernet SFP+ Optics Single Port: Ships with Qty 1 E10GSFPSR Dual Port: Ships with Qty 2 E10GSFPSR | Intel® Ethernet SFP+ Twin Axial Cables Intel® Ethernet SFP+ Optics Ships with Qty 1 E10GSFPLR |

*Customer may remove optics as needed.

INTEL® ETHERNET 10GbE / 40GbE ACCESSORIES

- Intel® Ethernet SFP+ Twin Axial Cables**
(SFP+ to SFP+ copper direct attach cable)
XDACBL1M = 1 Meter
XDACBL3M = 3 Meter
XDACBL5M = 5 Meter
- Intel® Ethernet SFP+ Optics**
E10GSFPSR = SFP+ SR Optic
E10GSFPLR = SFP+ LR Optic
- Intel® Ethernet QSFP+ Optics**
E40GQSFPSPR = QSFP+ SR Optic
E40GQSFPPLR = QSFP+ LR Optic
- Intel® Ethernet QSFP+ Twin Axial Cables**
(QSFP+ to QSFP+ copper direct attach cable)
XLDACBL1 = 1 Meter
XLDACBL3 = 3 Meter
XLDACBL5 = 5 Meter
- Intel® Ethernet QSFP+ Breakout Cables**
(QSFP+ to (4)SFP+ copper direct attach breakout cable)
X4DACBL1 = 1 Meter
X4DACBL3 = 3 Meter
X4DACBL5 = 5 Meter

1GbE for Servers and Workstations

| | Copper | | | | | | Fiber | | | | Copper |
|--|--|---|---|--|---|---|---|---|---|---|--|
| Brand Name | Intel® Ethernet Server Adapter I210-T1 | Intel® Ethernet Server Adapter I350-T4 | Intel® Ethernet Server Adapter I350-T2 | Intel® Ethernet Server Adapter I340-T4 | Intel® Gigabit ET Dual Port Server Adapter | Intel® Gigabit ET2 Quad Port Server Adapter | Intel® Ethernet Server Adapter I350-F2 | Intel® Ethernet Server Adapter I350-F4 | Intel® Ethernet Server Adapter I340-F4 | Intel® Gigabit EF Dual Port Server Adapter | Intel® Ethernet Desktop Adapter GbE CT |
| Product Code(s) | I210T1 I210T1BLK | I350T4V2 I350T4V2BLK | I350T2V2 I350T2V2BLK | E1G44HT E1G44HTBLK | E1G42ET E1G42ETBLK | E1G44ET2 E1G44ET2BLK | I350F2 I350F2BLK | I350F4 I350F4BLK | E1G44HF E1G44HFBLK | E1G42EF E1G42EFBLK | EXPI9301CT EXPI9301CTBLK |
| Intel® Ethernet Controller | Intel® I210 | Intel® I350 | Intel® I350 | Intel® 82580 | Intel® 82576 | Intel® 82576 | Intel® I350 | Intel® I350 | Intel® 82580 | Intel® 82576 | Intel® 82574 |
| Connector & Cable Medium | RJ-45 Copper Twisted Pair | RJ-45 Copper Twisted Pair | RJ-45 Copper Twisted Pair | RJ-45 Copper Twisted Pair | RJ-45 Copper Twisted Pair | RJ-45 Copper Twisted Pair | LC Fiber Optic | LC Fiber Optic | LC Fiber Optic | LC Fiber Optic | RJ-45 Copper Twisted Pair |
| Cabling Type | Category-5 up to 100 m | Category-5e up to 100 m | Category-5e up to 100 m | Category-5e up to 100 m | Category-5e up to 100 m | Category-5e up to 100 m | MMF 62.5 µm up to 275 m MMF 50 µm up to 550 m | MMF 62.5 µm up to 275 m MMF 50 µm up to 550 m | MMF 62.5 µm up to 275 m MMF 50 µm up to 550 m | MMF 62.5 µm up to 275 m MMF 50 µm up to 550 m | Cat 5e up to 100 m |
| Slot Type, Maximum Bus Speed & Slot Width | PCI Express® 2.1 2.5 GT/s, x1 Lane | PCI Express® 2.1 5 GT/s, x4 Lane | PCI Express® 2.1 5 GT/s, x4 Lane | PCI Express® 2.0 5 GT/s, x4 Lane | PCI Express® 2.0 2.5 GT/s, x4 Lane | PCI Express® 2.0 2.5 GT/s, x4 Lane | PCI Express® 2.1 5 GT/s, x4 Lane | PCI Express® 2.1 5 GT/s, x4 Lane | PCI Express® 2.0 5 GT/s, x4 Lane | PCI Express® 2.0 2.5 GT/s, x4 Lane | PCI Express® 2.0 2.5 GT/s, x1 Lane |
| Ports | Single Port | Quad Port | Dual Port | Quad Port | Dual Port | Quad Port | Dual Port | Quad Port | Quad Port | Dual Port | Single Port |
| Supported Slot Height(s) | Low Profile and Full Height | Low Profile and Full Height | Low Profile and Full Height | Low Profile and Full Height | Low Profile and Full Height | Low Profile and Full Height | Low Profile and Full Height | Full Height | Full Height | Low Profile and Full Height | Low Profile and Full Height |
| Halogen Free | Yes | Yes | Yes | Yes | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Intelligent Offloads | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | N/A |
| Intel® Virtualization Technology for Connectivity | Includes Audio-Video Bridging (AVB) Support (802.1Qav) | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Virtual Machine Device Queues (VMDq) | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable | N/A |
| Storage over Ethernet | iSCSI, NFS, SMB | iSCSI, NFS, SMB | iSCSI, NFS, SMB | iSCSI, NFS, SMB | iSCSI, NFS, SMB | iSCSI, NFS, SMB | iSCSI, NFS, SMB | iSCSI, NFS, SMB | iSCSI, NFS, SMB | iSCSI, NFS, SMB | iSCSI, NFS, SMB |
| Intel® Ethernet Power Management® | Yes | Yes | Yes | N/A | N/A | N/A | Yes | Yes | N/A | N/A | N/A |

1. More about the Intel® Data Plane Development Kit (DPDK) at <http://intel.ly/1nClc1x>
2. Intel® Ethernet Power Management includes Energy Efficient Ethernet (EEE) and DMA Coalescing.

Intel® Ethernet.
It Just Works.
For additional product information, visit:
intel.com/go/ethernet

Intel® Ethernet Converged Network and Server Adapters

Reliable Performance

- Broad OS support
- Optimized for Intel® Architecture
- Advanced traffic steering using Intel® Ethernet Flow Director

Best Choice for Virtualization

- Outstanding virtualization performance with Intel® Virtualization Technology for Connectivity
- Network Virtualization Offloads for VXLAN, NVGRE & Geneve
- Leadership in virtual system scalability with Flexible Port Partitioning (FPP) and intelligent offload
- Broad Hypervisor support (VMware ESXi*, Microsoft Hyper-V*, KVM* and Xen*)

Unified Networking

- Full line of 10GbE/40GbE Converged Network Adapters
- Fibre Channel over Ethernet
- iSCSI with trusted, native OS support
- Support for Data Center Bridging with lossless Ethernet

Platform Optimization

- Integrated PCI Express*
- Intel® Data Plane Development Kit (DPDK) optimized
- Intel® Direct Data I/O Technology

Compatibility tested for trouble-free interoperability with network infrastructure elements.

Broad selection from 1GbE to 40GbE for copper or fiber, BASE-T to SFP+ and QSFP+, with network reach from 1 meter to 10 kilometers and in single- to quad-port configurations. Other form factors including custom LAN on Motherboard (LOM), mezzanine cards, and express modules are also available through your local OEM and Reseller.

NEW! Intel now offers Intel® Ethernet Server Adapters designed for the Open Compute Project (OCP) form factor. OCP delivers efficient server, storage and data center hardware design for scalable computing. Hardware designed for OCP openly shares custom datacenter designs to improve both cost and energy efficiency across the industry.

For more information, visit: www.opencompute.org

Performance and reliability backed by more than 30 years of network connectivity experience and Intel worldwide customer support.

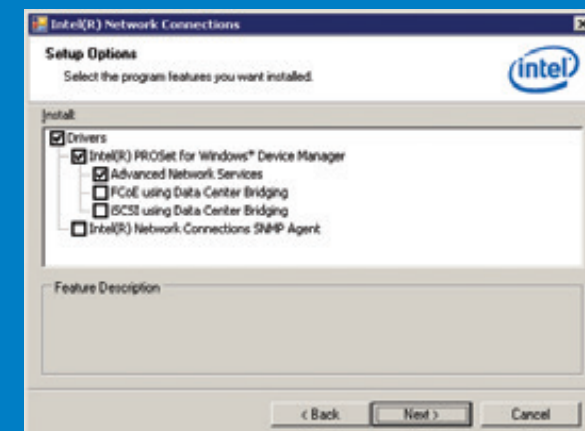
Easy installation and management with Intel® Advanced Network Services (Intel® ANS) and Intel® PROSet for Windows Device Manager* and other tools.

Worldwide availability and environmentally responsible for compliance with global market requirements.

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Powerful point-and-click configuration tool for advanced adapter features, connection teaming, DCB, VLANs, with Intel® PROSet for Windows* Device Manager.

- Convenient access to Intel® PROSet Utility, now integrated in Windows Device Manager.
- Simple, integrated tools make it easy to manage and troubleshoot Ethernet connections in both servers and client computers.
- Supports multi-vendor teaming for adapter compatibility with most on-board connections.



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Intel® Ethernet Converged Network and Server Adapters

PRODUCT SELECTION
GUIDE

