



Technical Features

- Single- and dual-port configurations (Quad-port available in 2016)
- QSFP+ connectors (QSFP modules included with -000 models)
- Up to 40Gb/s throughput per port
- High-performance x8 PCIe 3.0 bus
- Low profile form factor
- Driver support for Windows®, Linux and Mac® operating systems (Mac support coming in 2016)
- RDMA over Converged Ethernet (RoCE) enables industry-leading low-latency (1 us MPI ping latency) and decreases CPU utilization
- TCP/UDP/IP hardware-based stateless offloads
- SR-IOV technology dedicates adapter resources for VMs within servers
- Guaranteed bandwidth and low-latency services
- Energy efficient Ethernet enables lowest power draw on the market for a 40GbE NIC
- Hardware-based I/O virtualization

ATTO FastFrame™ 40Gb Ethernet NICs

40 GbE to PCIe 3.0 Network Interface Cards

ATTO's FastFrame™ 40 Gigabit Ethernet Network Interface Cards are designed to enable full-utilization of 40GbE bandwidth with low-latency RoCE support. FastFrame NICs use less power than other 40GbE NICs, providing a higher ROI by transferring more data per dollar spent on power than the competition.

Optimized for Data Center Applications

With full support for TCP/IP, UDP, iSCSI, FCoE plus RDMA over Converged Ethernet (RoCE), ATTO FastFrame 40GbE NICs deliver the bandwidth needed at the core of today's data centers. While most TCP-based 40GbE NICs only achieve a maximum 23Gbps bandwidth, the RoCE feature on FastFrame 40GbE NICs enables near line-rate performance via direct memory transfers over Layer 2 Ethernet.

Best-in-class energy efficiency and SR-IOV technology for enhanced virtualization support make ATTO 40GbE NICs ideal for a wide variety of data center use cases. In addition, their industry-leading low latency drives optimal performance for applications such as HPC clusters while simultaneously minimizing CPU utilization.

Performance Engineered for High-Resolution Digital Video (4k/8k)

Bandwidth reductions caused by TCP overhead make many competing 40GbE NICs incapable of supporting 8k video. ATTO 40GbE NICs, in contrast, utilize RoCE to free up the full 40GbE pipeline, providing sufficient bandwidth for a single uncompressed 8k stream, or for multiple 4k video streams.

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Applications

ATTO FastFrame™ 40GbE Network Interface Cards combine 40GbE technology with the lossless benefits of Enhanced Ethernet and robust software iSCSI initiators to meet the performance and efficiency needs of today's growing data centers. FastFrame 40GbE NICs and CNAs are specifically built for applications that require low latency, high bandwidth data transfers, including HPC clusters, cloud environments, rackmount servers in data centers and high-resolution 4K and 8K video.

General Features

- Remote Direct Memory Access (RDMA) Support via RDMA over Converged Ethernet (RoCE)
- Tx/TCP segmentation offload (Large Send Offload—LSO)
- Low latency interrupts
- PCI-SIG SR-IOV support
- Interrupt levels INTA, MSI, MSI-X
- Direct Cache Access (DCA) eliminates cache misses and reduces CPU load
- Plug and play specification support
- Advanced Packet Filtering
- VLAN support with tag filtering, insertion and stripping

User Benefits

- Multiple offloads reduce CPU utilization and increase throughput
- Low power draw reduces power and cooling costs
- Low total cost of ownership (TCO) with high bandwidth over a single link
- Single adapter solution ideal for numerous applications across IT and M&E markets

Management Tools

- Easy system monitoring with Simple Network Management Protocol (SNMP) and Remote Network Monitoring (RMON) Statistic Counters

Operating System Support

- Windows®
- Windows Server®
- Linux®
- Mac OS® X (coming 2016)

External Connectivity

- QSFP+
- 2 LED indicators per port

Network Standards

- IEEE 802.3ba (40 Gigabit Ethernet)
- IEEE 802.3az (Energy Efficient Ethernet)
- IEEE 802.1p (Priority Encoding)
- IEEE 802.1q (VLAN tagging)
- IEEE 802.3ad (Link aggregation)
- IEEE 802.1qbb (Priority flow control)
- IEEE 802.1qaz (Enhanced Transmission)
- IEEE 8023.AD (Load-balancing, failover)
- 802.1 Qaz: Enhanced Transmission

Environmental

Operating Temperature :

- Temperature: 0-55° C
- Airflow required: 100 lf/m
- Humidity: 5-95% non-condensing

Storage Temperature :

- Temperature: -40 C to 70° C
- Humidity: 5-95% non-condensing

Agency Approvals

- FCC Part 15.107(b), Class B
- FCC Part 15.109(g), Class B
- EN55022: 2006, Class B
- EN55022: 2006 + A1: 2007, CISPR22, Class B
- EN55024: 1998 + A1: 2001 & A2: 2003

Compliance

- EN60950-1: 2001, IEC 60950-1: 2001
- EN60825-1: 2007, IEC 60825-1: 2007
- EN60825-2: 2004, IEC 60825-2: 2004
- RoHS

Warranty

- 3 Years

Ordering Information

- Phone: 716-691-1999 ext. 241

QSFP Module Included:

- Dual-port: FFRM-NQ42-000
- Single-port: FFRM-NQ41-000

Direct Attached Models (No QSFP included)

- Dual-port: FFRM-NQ42-DA0
- Single-port: FFRM-NQ41-DA0

ATTO FastFrame	NQ41	NQ42
Ports	Single	Dual
Bus Characteristics	x8 PCIe 3.0	x8 PCIe 3.0
Connector	QSFP+	QSFP+
Form Factor	Low Profile	Low Profile
Max Transfer Rate	5GB/s	10GB/s
Optical SKU	FFRM-NQ41-000	FFRM-NQ42-000
Direct Attach SKU	FFRM-NQ41-DA0	FFRM-NQ42-DA0

