SFP+ 10 Gigabit Ethernet Network Interface Cards

FastFrame™ NS14
FastFrame™ NS12
FastFrame™ NS11

ATTO's FastFrame™ 10 Gigabit Ethernet Network Interface Cards provide a versatile portfolio for flexible design - ideal for low-latency applications: content creation, streaming media, medical imaging, and oil & gas exploration.

Superior Performance in Heterogeneous Environments

FastFrame 10GbE NICs satisfy the growing "need for speed" in data-intensive applications. With ATTO, you have a single vendor for competitive performance across all major workstation & server operating systems for easier system design & support. Outperforms the competition, offering:

- 18 additional NTSC DV25 streams
- 4 additional DVC ProHD streams
- 1 additional stream of uncompressed high definition video

Versatile Portfolio of NICs that Work Where You Need Them

FastFrame 10GbE NICs provide reliable performance in workstations, servers, and data center racked servers. High-quality SFPs are included, and all cards include iSCSI support. Quad-port cards remove switch-to-server bottlenecks, free up PCI slots for easier system design and allow switch-free high-performance workgroups, while Direct Attach Copper (DAC) support in every optical card allows you to create affordable data center solutions.

Fast Network & Storage Connectivity, Simplified

Lossless Ethernet (CEE)/Data Center Bridging (DCB) is a collection of enhancements to the Ethernet standard that make Ethernet, a "lossy" protocol, suitable for use in SANs, VoIP, and other applications with stringent performance requirements. Before the introduction of the CEE/DCB enhancements, customers were leery of entrusting their storage needs to Ethernet. However, with CEE/DCB, a correctly configured iSCSI SAN can approach FCoE reliability, while remaining affordable and allowing for routable traffic over long distances. Lossless Ethernet, providing improved iSCSI quality of service for reliable block storage access, is a standard feature of every FastFrame network adapter.

Mac OS® X, Windows®, and Linux Support for Servers & Workstations

Long committed to the Apple® market, ATTO leads in high performance I/O connectivity for Mac OS X environments. ATTO also offers Xtend SAN, an iSCSI initiator for OSX, to complete the solution. Acquire your NICs for multiple-OS environments from a single source – one familiar with the data intensive demands of content editing.

Technical Features

- Quad-, Dual- and Single-port configurations

- Up to 10Gb/s throughput per port

- High quality SFPs included

- High-performance x8 PCIe 2.0 bus

- Low profile or full height form factor for Dual– and Single-port cards, full-height brackets for Quads.

- Supports Data Center Bridging for improved iSCSI quality of service

- ATTO Xtend SAN iSCSI initiator for OSX provides a complete OSX solution

- Driver support for Windows® , Linux and Mac® server & workstation operating systems

- TCP, UDP and IPv4 checksum offloading, IPsec offloading and Tx/TCP segmentation offloading

- Load-balancing on multiple CPUs

- Minimized interrupts for low latency

- Tested support for Single-mode Fiber

- 3-year standard product warranty

ATTO

ATTO Technology, Inc.

SFP+ 10 Gigabit Ethernet Network Adapters

FastFrame™ NS14, NS12, NS11

Technical Specifications

Applications
FastFrame™ 10GbE Network Interface Cards deliver high performance I/O connectivity and Lossless Ethernet support for improved iSCSI block storage access. Ideal for low-latency applications: content creation, streaming media, medical imaging, and oil & gas exploration.

General Features
- Intel Ethernet Controller #82599
- Data rate per port: 10GbE
- TCP, UDP, IPv4, and IPv6 checksum offloading
- Tx/TCP segmentation offload (Large Send Offload—LSO)
- Low latency interrupts
- Interrupt Coalescing/Moderation
- Data Center Bridging (DCB) support
  -Priority-Based Flow Control 802.1Qbb rev.0
  -Enhanced Transmission Selection 802.1Qaz rev.0
  -Data Center Bridging (DCBX) 802.1Qaz rev.0 protocol
- Header splits and Replication in Receive
- Receive Side Scaling for multiple Rx queues
- Direct Cache Access (DCA) eliminates cache misses and reduces CPU load
- Interrupt levels INTA, MSI, MSI-X
- 802.1p—Priority Encoding
- 802.1q—VLAN Tagging
- 802.3ad—Link Aggregation
- Override MAC Address
- VLAN support with tag insertion and stripping
- Plug and play specification support
- Advanced Packet Filtering

External Connectivity
- Dual speed 10G/1G Four, two or one LC fiber-optic connectors (up to 80km)
- Supports 10 G SFP + Cu for Direct Attach (up to 8.5m)
- 2 LED indicators per port
- LED Indicators: LINK (solid), ACTIVITY(blinking), LINK SPEED (green = 10Gb, yellow = 1Gb)

Advanced Software Features
- Adaptive load balancing
- Teaming support
- PCIe Hot Plug/Active peripheral interconnect

Management Tools
- Easy system monitoring with Simple Network Management Protocol (SNMP) and Remote Network Monitoring (RMON) Statistic Counters
- Watchdog Timer for chip/driver status monitoring

Hardware Certifications and Network Standards
- IEE802.3ae: 10GBASE-SR, 10GBASE-LR
- SFF-8431: 10GSFP+Cu (a.k.a Direct Attach)
- 802.1 Qbb: Priority Flow Control
- 802.1 Qaz: Enhanced Transmission
- DCBX Protocol

Bus Specifications
- x8 PCI Express 2.0
- Supports PCI Express Base 2.0 and CEM Spec 2.0

Operating System Support
- Windows Vista & 7
- Windows® Server 2003, 2008, 2008 R2
- Windows XP
- Red Hat (RHEL) 5/6
- SUSE (SLES) Linux 10/11/11 SP1
- Fedora 14/15
- CentOS 5/6
- Mac® OS X® 10.6, 10.7 and later

Agency Approvals
- FCC Part 15 Subpart B
- EN55022: 2006 + A1: 2007, Class B
- EN55024: 1998 + A1: 2001 & A2: 2003

Compliance
- EN60950-1
- EN60825-1
- EN60825-2
- EU RoHS (2002/95/EC)

Environmental and Physical Specifications
- Operating environment: 0°C to 55°C (32°F to 131°F)
- Non operating environment:-40°C to 70°C (-40°F to 157°F)
- Airflow required: 100 lf/m
- Humidity: 5% to 95% non-condensing
- Power Consumption
  FFRM-NS14: 15.7W
  FFRM-NS12: 5.9W
  FFRM-NS11: 4.7W

Warranty
- 3 Year

Ordering Information
Phone: 716-691-1999

Quad Port: FFRM-NS14-000

Dual Port: FFRM-NS12-000

Single Port: FFRM-NS11-000

ATTO FastFrame NS14	
Ports	Quad Port
Bus Characteristics	x8 PCIe 2.0
Connector	LC Fiber Optic
Form Factor	Full Height
Transfer Rate	5.0GB/s
Part Number	FFRM-NS14-000

ATTO FastFrame NS12	
Ports	Dual Port
Bus Characteristics	x8 PCIe 2.0
Connector	LC Fiber Optic
Form Factor	Low Profile
Transfer Rate	2.5GB/s
Part Number	FFRM-NS12-000

ATTO FastFrame NS11	
Ports	Single Port
Bus Characteristics	x8 PCIe 2.0
Connector	LC Fiber Optic
Form Factor	Low Profile
Transfer Rate	1.25GB/s
Part Number	FFRM-NS11-000

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