

ATTO Celerity FC-24XL Storage Adapter

Quad-channel Fibre Channel Storage Adapter Featuring Integrated Offload and Processing Center with ADS™ Technology

ATTO Celerity storage adapters are an integrated family of advanced storage connectivity solutions. The Celerity FC-24XL is a Fibre Channel Advanced Storage Adapter. Providing four independent channels of 2-Gigabit connectivity, it simplifies SAN fabric design. With capabilities and performance available exclusively from ATTO, the FC-24XL allows the movement of intelligence and data manipulation to the edge of the fabric.

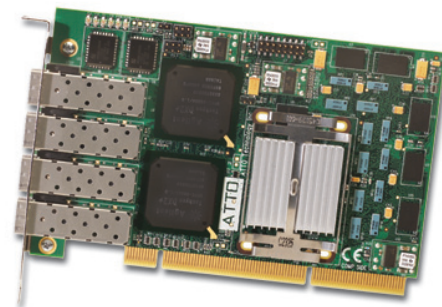
Celerity FC-24XL provides four independent channels of 2-Gigabit Fibre Channel connectivity for the highest port density in the industry. Improved efficiency and reliability is achieved through innovative hardware design, resulting in better data-transfer quality.

At the heart of the Celerity FC-24XL is the Integrated Offload & Processing Center (IOPC). Using an Intel XScale® processor core and an internal 133 MHz PCI-X data bus for top performance and low latency, the Celerity FC-24XL IOPC can be adapted to perform a variety of high-value functions that take advantage of onboard buffering and processing. These capabilities include data stream manipulation, direct port-to-port transfers, offload processing, video handling and other custom advanced functions.

The FC-24XL is part of ATTO's Celerity family of storage connectivity products. These products are designed to provide reliable connectivity, intelligence and scalability. Meeting tomorrow's connectivity needs today, Celerity FC adapters extend the capabilities of software and hardware, relieving them from their data management burdens.

Increase overall system performance and drive intelligence all the way to the edge of the SAN.

Celerity, a platform for advanced storage connectivity.



TECHNICAL HIGHLIGHTS

- Quad-channel 2.125-Gigabit Fibre Channel storage adapter
- 400 MB/sec. throughput per channel in full-duplex mode
- Integrated Offload & Processing Center (IOPC) provides advanced intelligence and data manipulation
- Simplifies and augments SAN fabric management
- Adaptable design to support advanced functions such as:
 - Port-to-port data streaming
 - Hardware RAID
 - Backup offload
 - Metadata insertion
 - Data protection
 - Video handling
- Exclusive Advanced Data Streaming (ADS™) Technology
- Proven industry interoperability with support for SNIA HBA API
- Driver support for Linux, Windows® and Mac® OS X
- On-demand, automatic negotiation between 2-Gig and 1-Gig FC
- 2-year standard product warranty

Storage Adapter



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Hardware Specifications

Fibre Channel Interface

- Four independent channels
- 2.125-Gigabit data-transfer rates per channel
- 400 MB/sec. maximum full-duplex throughput per channel
- Supports all FC topologies: direct fabric, arbitrated loop and point-to-point
- ANSI Fibre Channel: FC-PH, FC-FCP, FC FCP2, FC-AL, FC-AL2, FC-PLDA, FC-FLA
- Flash ROM for easy field upgrades
- FC Class 3 support
- Local management and diagnostics
- Buffer Credits: 8 @ 512 bytes; 8 @ 2k bytes

Advanced FC Capabilities:

- Supports SNIA HBA API
- Supports Target and Initiator modes
- LUN Masking
- Interrupt coalescing

PCI Bus Specifications:

- 64-bit, 133 MHz PCI-X (backward compatible)
- PCI-X 1.0a and PCI 2.2 compliant
- 3.3V PCI signaling only
- PCI-to-PCI bridge architecture spec 1.1

External Connectivity:

- Easy-to-install connection bracket
- Up to four Short Wave optical LC SFP pluggable transceivers
- External LEDs for on-line and speed status for each channel
- Two (2) transceivers included

Advanced IOPC Features:

- Intel IOP80331XScale processor core
- Supports up to 512MB (128MB standard) onboard SDRAM for direct memory transfers
- Supports up to 1 GB/sec. onboard processing
- EDC error correction hardware for end-to-end data integrity
- Developer's kit available

Software Specifications:

Driver Support:

- Windows Server 2003
- Windows XP
- Windows 2000
- Linux (Red Hat, SUSE)
- Mac OS X (10.4.x Tiger)
- Universal boot support
- Advanced Data Streaming (ADS™) Technology

Environmental & Physical Specifications

Dimensions:

- Conforms to PCI standard-height, half length form factor specifications
- Length: 6.600"
- Height: 3.800"

Operating Environment:

- Temperature: 0-45°C (32°-113°F)
- Humidity: 5 to 95% non-condensing

Storage Environment:

- Temperature: -40° to 70°C (40° to 158° F)

Power: 3.3V @ 4.0A max

Airflow: 100 lf/m (minimum) recommended

Optical Cabling:

- 50/125µm up to 300m @ 2-Gb
- 50/125µm up to 500m @ 1-Gb

Agency Approvals

- FCC Rules, part 15, Class B
- CE Mark: CISPR 22:2002/EN55022:2002, Class B

Celerity FC Product Family

PRODUCT FEATURES	FC-44ES	FC-42ES	FC-42XS	FC-41XS	FC-24XL	FC-22XH	FC-21PS
Fibre Channel Ports	4	2	2	1	4	4/2 ¹	1
Fibre Channel Protocol	4-Gb	4-Gb	4-Gb	4-Gb	2-Gb	2-Gb	2-Gb
Maximum Transfer Rate (half duplex)	1.6 GB/sec.	800 MB/sec.	800 MB/sec.	400 MB/sec.	800 MB/sec.	400 MB/sec.	200 MB/sec.
Maximum Transfer Rate (full duplex)	2 GB/sec.	1 GB/sec.	1 GB/sec. ³	800 MB/sec.	1 GB/sec. ²	800 MB/sec.	400 MB/sec.
Bus Type	PCIe	PCIe	PCI-X	PCI-X	PCI-X	PCI-X	PCI
Bus Characteristics ³	8 lane	8 lane	64-bit, 133 MHz	64-bit, 133 MHz	64-bit, 133 MHz	64-bit, 133 MHz	64-bit, 66 MHz
Optical Interface	SFP LC	SFP LC	SFP LC	SFP LC	SFP LC	SFP LC	SFF LC
Maximum Cable Length	300m @ 2-Gb 150m @ 4-Gb	300m @ 2-Gb 150m @ 4-Gb	300m @ 2-Gb 150m @ 4-Gb	300m @ 2-Gb 150m @ 4-Gb	500m @ 1-Gb 300m @ 2-Gb	500m @ 1-Gb 300m @ 2-Gb	500m @ 1-Gb 300m @ 2-Gb
Advanced Data Streaming (ADS™) Technology	•	•	•	•	•	•	•
Software RAID Support ⁴	•	•	•	•	•	•	•
Developer's Kit (Target Mode & API)	•	•	•	•	•	•	•
Developer's Kit (Advanced)	-	-	-	-	•	-	-
Integrated Offload & Processing Center (IOPC)	-	-	-	-	•	-	-
Onboard Memory for Direct Memory Transfers	-	-	-	-	•	-	-
Integrated Hub Technology	-	-	-	-	-	•	-
Windows Driver Support	•	•	•	•	•	•	•
Linux (Red Hat, SUSE) Driver Support	•	•	•	•	•	•	•
Mac OS X (Tiger) Driver Support	-	-	•	•	•	•	•

1 ATTO's onboard hub technology allows for up to four external connections to two FC channels

2 Performance ceiling is constrained by 133 MHz PCI-X bus transfer speed

3 Backward compatible to 32-bit and 33 MHz PCI; FC-24XL and FC-22XH are 3.3V; FC-21PS is 3.3V/5V Universal

4 ATTO ExpressStripe for OS X available; other software RAID supported

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