

# ATTO Celerity FC-21PS Storage Adapter

## Single-channel 2-Gigabit Fibre Channel Storage Adapter Featuring Celerity Architecture with ADS™ Technology

ATTO Celerity storage adapters are an integrated family of advanced storage connectivity solutions. The Celerity FC-21PS Storage Adapter is a single-channel 2-Gigabit Fibre Channel storage adapter. Designed as the high-quality, cost-effective choice for connecting host systems to the Storage Area Network (SAN) fabrics, the FC-21PS offers optimum performance with unsurpassed reliability.

Easy to configure, with the highest performance in its class, the Celerity FC-21PS supports the leading operating systems. As with all ATTO Celerity FC products, the FC-21PS is designed for high-quality data transmission, ensuring that critical information is delivered correctly the first time. This increases overall fabric efficiency and maximizes the storage performance.

ATTO Advanced Data Streaming (ADS™) Technology enables users to achieve the ultimate in I/O performance. With a combination of features that provide controlled acceleration of large and small blocks of data, ADS™ provides faster, smoother and more efficient transfer of data.

The Celerity FC-21PS 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

- Single-channel 2.125-Gigabit Fibre Channel storage adapter
- 400 MB/sec. throughput in full-duplex mode
- 64-bit, 66 MHz PCI interface
- Support for target and initiator operational modes
- 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 Fibre Channel
- 2-year standard product warranty

Storage Adapter

ATTO

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*a platform for advanced storage connectivity*

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## Hardware Specifications

### Fibre Channel Interface

- One FC port with 2.125-Gigabit data-transfer rate
- 400 MB/sec. maximum full-duplex throughput
- 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, 66 MHz PCI (backward compatible to 32-bit and 33MHz)
- PCI 2.2 compliant
- 3.3V and 5V PCI signaling with universal connector

### External Connectivity:

- Easy-to-install full height connection bracket
- Integrated fixed shortwave optical LC SFF transceiver
- External LEDs for on-line and speed status for each channel

## 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



## Agency Approvals

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

## Environmental & Physical Specifications

### Dimensions:

- Conforms to PCI half height, half length form factor specifications
- Length: 6.600"
- Height: 2.536"

### 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)
- Humidity: 5 to 95% non-condensing

### Power:

5V @ 1.5A max

### Airflow:

100 lf/m (minimum) recommended

### Optical Cabling:

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

## 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 <sup>1</sup>	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. <sup>2</sup>	800 MB/sec.	1 GB/sec. <sup>2</sup>	800 MB/sec.	400 MB/sec.
Bus Type	PCIe	PCIe	PCI-X	PCI-X	PCI-X	PCI-X	PCI
Bus Characteristics <sup>3</sup>	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 <sup>4</sup>	•	•	•	•	•	•	•
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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