ATTO

Tech Sheet

16Gb/s Fibre Channel Host Bus Adapters

Celerity FC-161E
Celerity FC-162E
Celerity FC-164E

ATTO's Celerity 16Gb/s Fibre Channel Host Bus Adapters provide the highest performing SAN storage connectivity for media and entertainment and general IT workflows.

Industry Proven Technology

ATTO has over 15 years of experience developing high performance and reliable Fibre Channel storage connectivity to deliver first-to-market solutions to customers. Celerity host bus adapters are consistently the highest performing HBAs for video editing, digital audio, video on demand, or database applications. The integrated family of Celerity 16Gb/s Fibre Channel host bus adapters boast an extensive list of customer design wins and certifications with respected industry partners.

Flexible Connectivity Solutions

With single-, dual- and quad-channel configurations, Celerity 16Gb/s Fibre Channel HBAs are an ideal solution for users looking to achieve the highest I/O and data throughput for advanced video and enterprise-class IT applications. Celerity 16Gb/s host bus adapters offer driver support for Windows®, Linux, Mac® OS X, VMware® and more, providing a single connectivity solution for customers with heterogeneous operating system environments.

Performance Engineered

Celerity HBAs are designed to provide fast, redundant and highly available connectivity to Fibre Channel storage, and are engineered to manage latency for real-time applications. ATTO's exclusive Advanced Data Streaming (ADS™) technology provides controlled acceleration of data to deliver the highest consistent performance and reliable data transfers. ATTO pays close attention to detail in board design and signal integrity to minimize transmission errors and data corruption. Specialized Fibre Channel drivers with support for multiple OS platforms and OEM-specific solutions, such as target mode and multipathing, make ATTO the premier choice for high-performance Fibre Channel SAN connectivity.

Advanced Management Tools

ATTO's easy-to-use Config Tool features an intuitive GUI that simplifies the installation, management and monitoring of the host bus adapter. With advanced troubleshooting and performance tuning capabilities, Celerity HBAs provide users with sophisticated diagnostics and the flexibility to control settings for specific applications.

Technical Features

- Single-, Dual- and Quad-Channel configurations
- 3200 MB/s per channel throughput in full -duplex mode
- Driver support for Windows®, Linux, Mac® OS X, VMware® and more
- Exclusive Advanced Data Streaming (ADS™) Technology
- ATTO Config Tool for customized performance settings
- Proven interoperable with leading storage hardware and software vendors
- Support for N_Port ID Virtualization and Virtual Fabric
- Target mode (Developer and SCST) support
- 3-year standard product warranty

MultiPath Director™

- Multiple paths to storage for improved data integrity and reliability
- High-performance shared storage for workgroups
- Load-balancing and failover in heterogeneous OS environments
- Available through authorized OEM's

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Technical Specifications

Applications

Celerity Fibre Channel host bus adapters deliver high-performance and reliable connectivity solutions for the most demanding storage environments, including digital content creation, tape streaming and backup, rich content delivery, server clustering, and virtual datacenter. Celerity HBAs enable users to achieve the ultimate in I/O performance for real-time and transactional applications.

Advanced Data Streaming (ADS™)

Latency-management technology that controls the acceleration of data transfers to move large amounts of data faster and more efficiently.

Key Features

- Auto Negotiation to 16Gb, 8Gb and 4Gb devices
- Supports arbitrated loop, point-to-point and direct fabric/switch attach
- ANSI Fibre Channel: FC-FS, FCP, FC-AL, FC-AL2, FC-PLDA, FC-FLA
- Flash ROM for easy field upgrades
- FC Class 3 Support
- Buffer Credits: 41
- Software RAID support with ATTO's Power Center software
- Pluggable optical LC SFP+
- Initiator and target mode (OEM) support
- Supports FDMI and WMI
- Supports NPIV and Virtual Fabric
- Supports Thunderbolt

User Benefits

- Superior performance for enterprise applications
- Increased switch port availability
- Seamless integration into existing FC SANs
- Extensive certification with SAN infrastructure components
- Support for virtualized server environments
- Quad port card maximizes usage of server slots

Management Tools

- ATTO Config Tool (w/GUI) BIOS-based management and configuration utility

Bus Specifications

- x8 PCI Express 3.0 host interface
- Supports PCI Express Base Spec 3.0
- Supports PCI Express CEM Spec 3.0
- PCI Hot Plug spec 1.0

External Connectivity

- Standard size brackets installed with spare low profile brackets for FC-162E, FC-161E
- Single (1), Dual (2) or Quad pluggable 16Gb optical LC SFP+ modules included
- External LEDs for on-line and speed status for each port

Operating System Support

- Windows® Server 2003, 2008, 2008 R2, 2012
- Windows XP, Vista, 7, 8
- Mac OS® X 10.6.x and later
- SUSE Linux
- openSUSE Linux
- Red Hat Linux
- VMware ESXi Server® 5.x
- Hyper-V

Agency Approvals

- FCC Part 15, Subpart B, Class B
- EN55024: 2010 +A1: 2007 & +A2: 2010
- EN55022: 2010

Compliance

- IEC 60950-1
- RoHS (2011/95/EC)

Dimensions

FC-164E
- Length 6.525", Height 3.987"

FC-162E, FC-161E
- Length 6.600", Height 2.731"

Operating Temperature

Hardware Environment
- Temperature: 0-55° C
- Humidity: 10 - 90% non-condensing

Storage Environment
- Temperature: -40°-70°C (-40°-157°F)
- Humidity: 5 - 95% non-condensing

Operating Voltage (typical)

FC-164E
- 35.23W

FC-162E
- 12W

FC-161E
- 10.97W

Warranty

- 3 Year

ATTO Celerity FC-164E	
Ports	4
Bus Characteristics	x8 PCIe 3.0
Form Factor	Full Height
Max. Transfer Rate	6400 MB/s
Part Number	CTFC-164E-000

ATTO Celerity FC-162E	
Ports	2
Bus Characteristics	x8 PCIe 3.0
Form Factor	Low Profile
Max. Transfer Rate	3200 MB/s
Part Number	CTFC-162E-000

ATTO Celerity FC-161E	
Ports	1
Bus Characteristics	x8 PCIe 3.0
Form Factor	Low Profile
Max. Transfer Rate	1600 MB/s
Part Number	CTFC-161E-000