



Storage Adapters
V2.6—10 August 1999
Systems and Options Catalog

- StorageWorks CIPCA CI Storage Host Adapter for OpenVMS
- StorageWorks KZPBA-CB UltraSCSI Differential Adapter
- StorageWorks KZPBA-CA UltraSCSI Single-Ended Adapter
- StorageWorks KZPCM Dual Channel UltraSCSI Single-Ended Adapter
- StorageWorks KZPSA Fast Wide Differential SCSI Adapter
- StorageWorks KZPAA Fast Narrow Single-Ended SCSI Adapter

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StorageWorks CIPCA CI Storage Host Adapter for OpenVMS

The CIPCA is a PCI-to-CI storage host bus adapter which allows users to connect their existing CI-based storage to high performance PCI-based AlphaServer systems. The CIPCA allows users to include the latest Alpha-based servers within an existing OpenVMS Cluster, thereby taking advantage of servers offering the best price performance while maintaining previous investments in storage subsystems. The CIPCA is the only product available on the market that allows PCI to CI connectivity and increases the performance of the CI with support for 4 KB packet.

Features

CIPCA is supported using the current OpenVMS Cluster Software configuration rules. The standard CI node count restrictions that apply to the CIPCA are as follows:

- Up to and including 16 CI host systems
- Up to and including 16 CI Hierarchical Storage controllers
- Up to and including 32 CI products/Star Coupler (16 without CISCE)
- Up to and including 96 OpenVMS Cluster member systems

Supported CIPCA host systems

AlphaServer Systems 8400, 8200, 4100, 4000, 2100A, 2100, and 2000 running OpenVMS V6.2-1H3 or OpenVMS V7.1.

Supported CI connected hosts

Any OpenVMS VAX host using CIXCD or CIBCA-B or OpenVMS Alpha server using CIPCA-AA or CIPCA-BA

CI hierarchical storage controllers supported

- HSJ30/40 with StorageWorks HSOFF V2.5 or higher
- All HSC devices except HSC50

CI host adapters supported

- CIXCD, CIBCA-B, and CISCE (CISCE is no longer available; however existing installations are supported)

OpenVMS VAX and Alpha versions

Standard “warranted” and “migration” pairings for mixed architecture/version clusters apply. Refer to OpenVMS Cluster Software Product Description (SPD 29.78) for full details.

CIPCA is supported on Open VMS only. CIPCA is not supported on Tru64 UNIX or Windows NT.

The CIPCA requires a configuration dependent CI cable:

- BNCIA-10 CI cable 10 M Length
- BNCIA-20 CI cable 20 M Length
- BNCIA-45 CI cable 45 M Length

Configuration Rules

Refer to system specific portion of the *Systems and Options Catalog* for additional configuration information.

- Both the CIPCA-AA and CIPCA-BA are designed as two board options. The CIPCA-AA requires one PCI backplane slot and one EISA backplane slot. The CIPCA-BA requires two PCI slots. The CIPCA-BA is intended for newer servers that have a limited number of EISA slots. Older systems that have a limited number of PCI slots should generally continue to utilize the CIPCA-AA.
- The maximum number of CIPCAs that can be configured within a system is dependent upon the system, the available number of EISA and PCI slots, the combination of model(s) of CIPCA selected, as well as other system options.

StorageWorks CIPCA CI Storage Host Adapter for OpenVMS

Maximum Number of CIPCAs supported per System

System	Open V6.2-1H3	OpenVMS V7.1	Notes
AlphaServer 2000	2	2	only one may be a CIPCA-BA
Alpha Server 2100	2	2	only one may be a CIPCA-BA
Alpha Server 2100A	3	3	
Alpha Server 4000/4100	3	3	with three, one must be a CIPCA-AA and two must be CIPCA-BA
Alpha Server 4000 with I/O expansion module	6	6	only three may be CIPCA-AA
Alpha Server 8200/8400	10	26	

Ordering Information

CIPCA-AA	PCI to CI storage host bus adapter, requires one EISA and one PCI slot
CIPCA-BA	PCI to CI storage host bus adapter, requires two PCI slots

StorageWorks KZPBA-CB UltraSCSI Differential Adapter

The KZPBA-CB PCI-based 16-bit UltraSCSI differential adapter delivers significantly improved throughput by doubling the SCSI I/O transfer rate to 40 Mbytes per second. This high performance adapter supports cable lengths of up to 25 meters in UltraSCSI configurations. It is supported on RAID Array 450, RAID Array 7000, and ESA10000 subsystems. Tru64 UNIX and OpenVMS operating systems currently support the KZPBA-CB adapter via direct attachment in existing environments, as well as TruCluster Production Servers, and multi-host SCSI cluster configurations.

The KZPBA-CB adapter easily integrates into existing Fast10 environments and will coexist with the KZPAA, KZPDA, KFTIA and KZPSA adapters. It has similar plug-and-play packaging as the KZPSA adapter and will offer significant performance improvements when used with RAID Arrays 450, RA7000, and ESA10000 RAID solutions, which offer full UltraSCSI functionality and performance.

Features

- High performance PCI-based UltraSCSI adapter
- Single channel, 16-bit wide differential
- SCSI I/O transfer rate up to 40 Mbytes per second
- Sustained data transfers up to 5,000 I/Os per second
- Supports both UltraSCSI and non UltraSCSI environments
- Supported on all AlphaServer systems
- Supports both 8-bit and 16-bit devices for maximum flexibility
- Supports up to 15 devices (operating system dependent)
- External 68-pin, high-density SCSI connector

Minimum Operating System Support

- Tru64 UNIX¹ V3.2G, V4.0B, and V4.0D for direct attached and standalone configurations.
 - Tru64 UNIX¹ V4.0d and TCR 1.5 for TruCluster environments.
 - OpenVMS² V6.2-1H3, V7.1-1H1, and V7.1-1H2
 - Windows NT 3.51 (with Service Pack 5) and 4.0 (with Service Pack 3)
 - Microsoft Cluster Server software (MSCS) V1.0 under Windows NT 4.0
 - DIGITAL Clusters for Windows NT, V1.1, Service Pack 1, under Windows NT 4.0
1. Minimum Tru64 UNIX versions V3.2G and V4.0B are supported in direct attached and standalone RA450, RA7000, and ESA10000 configurations. Patch kit 3 and Patch kit 6 are required for V3.2G and V4.0B operating system versions respectively. These files are available on the World Wide Web at: <http://www.service.digital.com/>. If access to the World Wide Web is not available, users can request delivery on the media of their choice by calling Compaq Customer Service Center at (800) 354-9000. Tru64 UNIX V4.0D does not require any patches to operate with the KZPBA-CB in direct attached and standalone RAID Array configurations.

TruCluster support with shared SCSI buses using the KZPBA-CB requires Tru64 UNIX V4.0D with TruCluster Production Server V1.5 and installation of Patch kit 3. These files are available on the WEB at URL <http://www.service.digital.com> (select software patches). In addition to the patch files, this functionality requires new adapter firmware version 5.57. The firmware is available on the Alpha Systems Firmware Update CD 5.3 (part number QZ-003AA-E8.5.3). The maximum number of nodes that are supported in a TruCluster configuration using KZPBA-CB is four. The maximum number of shared KZPBA-CB SCSI bus rails currently supported in a cluster is eight. Additional shared SCSI bus rails in the cluster can be obtained by using KZPSA host bus adapters, up to a maximum of thirty total rails.

2. Minimum OpenVMS version V6.2-1H3 only supports direct attached and standalone RA450, RA7000, and ESA10000 configurations. Tima Kit ALPSCSI06_062 is required for operating under V6.2-1H3. OpenVMS V7.1-1H1 and higher supports direct attached as well as multi-host RA450, RA7000, and ESA 10000 configurations. All Tima kits are available online at <http://www.service.digital.com> (select software patches). A maximum of three nodes are supported in a multi-host OpenVMS environment.

Systems Supported

KZPBA-CB adapter is currently supported on AlphaServer 800, 1000A, 1200, 2000, 2100, 2100A, 4000, 4100, 8200, 8400, DS10, DS20, ES40, GS60E, GS60, and GS140 systems as well as the Alpha Workstation, XP900, XP1000, 500a, 500au 600a and 600au, The DIGITAL Ultimate Workstation 533a²/533au². The DIGITAL Ultimate Workstation 533a²/533au² is only supported in direct attached configurations with the KZPBA-CB. The AlphaServer 2x00 series is not currently supported in TruCluster Product Server environments. See individual system configuration menus for maximum number(s) supported per system.

StorageWorks KZPBA-CB UltraSCSI Differential Adapter

16-bit Single-ended UltraSCSI Devices Supported

DS-RZ1BB-VW	2.1 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1CB-VW	4.3 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1CF-VW	4.3 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1CD-VW	4.3 GB 10000 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1DB-VW	9.1 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1DF-VW	9.1 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1DA-VW	9.1 GB 7200 RPM UltraSCSI disk in a 3.5" SBB
DS-RZ1DD-VW	9.1 GB 10000 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1EA-VW	18.2 GB 7200 RPM UltraSCSI disk in a 3.5" SBB
DS-RZ1EF-VW	18.2 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1ED-VW	18.2 GB 10000 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1EA-VW	18.2 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1FB-VW	36.4 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-EZ41-VW	134 MB UltraSCSI Solid State disk in 3.5" SBB
DS-EZ42-VW	268 MB UltraSCSI Solid State disk in 3.5" SBB
DS-EZ454-VW	536 MB UltraSCSI Solid State disk in 5.25" SBB
DS-EZ705-VW	536 MB UltraSCSI Solid State disk in 5.25" SBB
DS-EZ711-VW	1.1 GB UltraSCSI Solid State disk in 5.25" SBB
DS-EZ716-VW	1.6 GB UltraSCSI Solid State disk in 5.25" SBB
DS-EZ832-VW	3.2 GB UltraSCSI Solid State disk in 5.25" SBB

16-bit Single-ended Fast10 Devices Supported

RZ26N-VW	1.05 GB 5400 RPM wide SCSI disk in 3.5" SBB
DS-RZ26N-VZ	1.05 GB 5400 RPM wide SCSI disk in 3.5" SBB
RZ28M-VW	2.1 GB 5400 RPM wide SCSI disk in 3.5" SBB
DS-RZ28M-VZ	2.1 GB 5400 RPM wide SCSI disk in 3.5" SBB
RZ28D-VW	2.1 GB 7200 RPM wide SCSI disk in 3.5" SBB
RZ29B-VW	4.3 GB 7200 RPM wide SCSI disk in 3.5" SBB
EZ31-VW	134 MB Solid State disk in 3.5" SBB
EZ32-VW	268 MB Solid State disk in 3.5" SBB
EZ64-VW	475 MB Solid State disk in 5.25" SBB
EZ69-VW	950 MB Solid State disk in 5.25" SBB
DS-TZS20-VW/DB	25/50 GB AIT 8 mm tape drive in 3.5" SBB / tabletop
DS-TZ89N-VW/TA	35/70 GB DLT in 5.25" SBB / tabletop

8-bit Single-ended Fast10 Devices Supported

RZ26N-VA	1.05 GB 5400 RPM narrow SCSI disk in 3.5" SBB
DS-RZ28L-VA	2.1 GB 7200 RPM narrow SCSI disk in 3.5" SBB
RZ28D-VA	2.1 GB 7200 RPM narrow SCSI disk in 3.5" SBB
RZ28M-VA	2.1 GB 5400 RPM narrow SCSI disk in 3.5" SBB
DS-RZ29L-VA	4.3 GB 7200 RPM narrow SCSI disk in 3.5" SBB
RZ29B-VA	4.3 GB 7200 RPM narrow SCSI disk in 3.5" SBB
DS-RZ1CF-VA	4.3 GB 7200 RPM narrow SCSI disk in 3.5" SBB
DS-RZ40-VA	9.1 GB 7200 RPM narrow SCSI disk in 3.5" SBB
DS-RZ1DF-VA	9.1 GB 7200 RPM narrow SCSI disk in 3.5" SBB
DS-RZ1EF-VA	18.2 GB 7200 RPM narrow SCSI disk in 3.5" SBB
DS-RRD46-VA	600 MB 12x CDROM in a 5.25" SBB

StorageWorks KZPBA-CB UltraSCSI Differential Adapter

8-bit Single-ended Fast10 Devices Supported (*continued*)

DS-RRD47-VA	600 MB 32x CDROM in a 5.25" SBB
TLZ9L-VA/DB	32/64 GB 4 mm DAT loader in 5.25" SBB / tabletop
DS-TLZ10-VA/DB	12/24 GB 4 mm DAT in 3.5" SBB / tabletop
TZ885-NE	100/200 GB five cartridge tape Subsystem, rack-mount
TZ88N-VA/TA	20/40 GB DLT in 5.25" SBB / tabletop
TZ887-NE/NT	140/280 GB seven cartridge tape subsystem, rackmount / tabletop

16-bit Differential Device

HSZ70	UltraSCSI RAID Array controller
HSZ50	Fast10 SCSI RAID Array controller
DS-TL891-NE/NT	10 slot DLT Mini-Library with 1 TZ89 drives rackmount / tabletop
DS-TL892-NE/NT	10 slot DLT Mini-Library with 2 TZ89 drives rackmount / tabletop
DS-TL893-BA	264 slot tape library with 3 TZ89 drives
DS-TL894-BA	52 slot tape library with 4 TZ89 drives
DS-TL895-BA	96 slot tape library with 5 TZ89 drives
DS-TL896-BA	176 slot tape library with 6 TZ89 drives

Bus Expanders / Converters & Hubs

DS-DWZZC-DA	UltraSCSI Differential to single-ended bus expander / converter, tabletop
DS-DWZZH-03	UltraSCSI Hub with 3 Differential ports in 3.5" SBB
DS-DWZZH-05	UltraSCSI Hub with 5 Differential ports in 5.25" SBB

Notes:

- 18. DS-RZ1CF-xx, DS-RZ1DF-xx and DS-RZ1EF-xx disk drives revisions A01 and B01 are currently supported behind HSx controllers only. Direct attached configurations with the KZPBA-CB require disk drive revision C01 and higher.
- 18. EZ31/32/41/42 solid state disks drives are too small to be used as a system disk under OpenVMS and Tru64 UNIX.
- 18. DS-TL89x Mini and Tape Libraries are only supported under Windows NT 4.0 with Service Pack 3, but require qualified storage management application software. For maximum performance only two TZ89 drives per adapter are recommended.
- 18. Tape Libraries are currently not supported on the KZPBA-CB in TruCluster configurations.
- 18. TLZ9L-VA DAT Tape Loader is not supported under Windows NT.
- 18. Reference the supported options Web sites for the latest updates, as devices are continuously qualified.
- 18. HSZ50 controllers are used in RAID Array 450 and ESA storage systems. HSZ70 controllers are used in RAID Array 7000 and ESA10000 storage systems.

Ordering Information

KZPBA-CB	PCI-based 16-bit UltraSCSI Differential adapter
BN38C-xx	VHDCI male to HD68-pin male. Required for connection to HSZ70 (DS-BA370-AA). Xx = cable length in meters.
BN21W-0B	0.15 meter 'Y' cable one HD68-pin male to two HD 68-pin female
BN21K-xx	HD68-pin straight male to HD68-pin right angle male SCSI cable. Used to connect from 'Y' cable to another host, -xx = cable length in meters.
H879-AA	HD68-pin male differential SCSI terminator

StorageWorks KZPBA-CA UltraSCSI Single-Ended Adapter

KZPBA-CA is a PCI-based 16-bit UltraSCSI single-ended adapter which offers improved throughput by doubling the SCSI I/O transfer rate to 40 MB/sec. This single-ended adapter will support cable lengths up to 20 meters in UltraSCSI configurations. The KZPBA-CA is support on all AlphaServers under OpenVMS, Tru64 UNIX and Windows NT. The KZPBA-CA is not supported in clusters.

Features

- SCSI I/O transfer rate up to 40 MB/sec
- Compatible with Fast10 SCSI and UltraSCSI peripherals
- Supports both 8-bit and 16-bit devices
- UltraSCSI bus can be configured up to 20 meters.
- Supports up to 15 devices (operating system dependent)
- 32-bit bus master data transfers up to 35 MB/sec
- Sustained data transfers up to 5000 I/Os per second
- Flash ROM BIOS for easy field upgrades
- Internal 68-pin and 50-pin SCSI connectors
- External 68-pin, high density SCSI Connector

Minimum Operating System requirements

- Tru64 UNIX V3.2G and V4.0B
- OpenVMS V6.2-1H3, V7.1-1H1
- Windows NT for Alpha 3.51(with service pack 5) and 4.0(with service pack 3)
- Windows NT for Intel 3.51 and 4.0

16-bit Single-ended UltraSCSI Devices Supported

SN-PBXRW-HC	2.1 GB 5400 RPM UltraSCSI disk
SN-PBXRW-JC	2.1 GB 7200 RPM UltraSCSI disk
SN-PBXRW-JD	2.1 GB 7200 RPM UltraSCSI disk
DS-RZ1BB-VW	2.1 GB 7200 RPM UltraSCSI disk in 3.5" SBB
SN-PBXRW-NB	4.3 GB 7200 RPM UltraSCSI disk (OpenVMS only)
SN-PBXRW-NC	4.3 GB 7200 RPM UltraSCSI disk (Tru64 UNIX and Windows NT only)
SN-PBXRW-RA	4.3 GB 10000 RPM UltraSCSI disk (Windows NT only)
DS-RZ1CB-VW	4.3 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1CF-VW	4.3 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1CD-VW	4.3 GB 10000 RPM UltraSCSI disk in 3.5" SBB
SN-PBXRW-SA	9.1 GB 7200 RPM UltraSCSI disk
DS-RZ1DA-VW	9.1 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1DB-VW	9.1 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1DF-VW	9.1 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1DD-VW	9.1 GB 10000 RPM UltraSCSI disk in 3.5" SBB
SN-PBXRW-TA	18.2 GB 7200 RPM UltraSCSI disk
DS-RZ1EA-VW	18.2 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1EF-VW	18.2 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1ED-VW	18.2 GB 10000 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1FB-VW	36.4 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-EZ41-VW	134 MB UltraSCSI Solid State disk in 3.5" SBB
DS-EZ42-VW	268 MB UltraSCSI Solid State disk in 3.5" SBB
DS-EZ454-VW	536 MB UltraSCSI Solid State disk in 5.25" SBB
DS-EZ705-VW	536 MB UltraSCSI Solid State disk in 5.25" SBB
DS-EZ711-VW	1.1 GB UltraSCSI Solid State disk in 5.25" SBB
DS-EZ716-VW	1.6 GB UltraSCSI Solid State disk in 5.25" SBB
DS-EZ832-VW	3.2 GB UltraSCSI Solid State disk in 5.25" SBB

StorageWorks KZPBA-CA UltraSCSI Single-Ended Adapter

8-bit Single-ended Fast10 Devices Supported

RZ26N-VA	1.05 GB 5400 RPM narrow SCSI disk in 3.5" SBB
RZ28D-VA	2.1 GB 7200 RPM narrow SCSI disk in 3.5" SBB
RZ28M-VA	2.1 GB 5400 RPM narrow SCSI disk in 3.5" SBB
RZ29B-VA	4.3 GB 7200 RPM narrow SCSI disk in 3.5" SBB
DS-RZ28L-VA	2.1 GB 7200 RPM narrow SCSI disk in 3.5" SBB
DS-RZ1CF-VA	4.3 GB 7200 RPM narrow SCSI disk in 3.5" SBB
DS-RZ29L-VA	4.3 GB 7200 RPM narrow SCSI disk in 3.5" SBB
DS-RZ1DF-VA	9.1 GB 7200 RPM narrow SCSI disk in 3.5" SBB
DS-RZ40-VA	9.1 GB 7200 RPM narrow SCSI disk in 3.5" SBB
DS-RZ1EF-VA	18.2 GB 7200 RPM narrow SCSI disk in 3.5" SBB
SN-TLZ10-LK	12/24 GB 4 mm internal DAT drive
SN-TLZ09-LK	4/8 GB 4 mm internal DAT drive
DS-TLZ10-VA	12/24 GB 4 mm DAT in 3.5" SBB
TLZ9L-VA/DB	32/64 GB 4 mm DAT tape loader in 5.25" SBB / tabletop
TLZ09-VA/DA	4/8 GB 4 mm DAT in 3.5" SBB / tabletop
TZ88N-VA/TA	20/40 GB DLT in 5.25" SBB / tabletop
TZ885-NE	100/200 MB tape rack-mount subsystem
TZ887-NE/NT	140/280 GB seven cartridge tape subsystem, rackmount / tabletop
DS-RRD47-VA	600 MB 32X CD-ROM in 5.25" SBB
DS-RRD46-VA	600 MB 12X CDROM in 5.25" SBB
RRD45-VA	600 MB 4X CDROM in 5.25" SBB

16-bit Single-ended Fast10 Devices supported

RZ26N-VW	1.05 GB 5400 RPM wide SCSI disk in 3.5" SBB
DS-RZ26N-VZ	1.05 GB 5400 RPM wide SCSI disk in 3.5" SBB
RZ28D-VW	2.1 GB 7200 RPM wide SCSI disk in 3.5" SBB
RZ28M-VW	2.1 GB 5400 RPM wide SCSI disk in 3.5" SBB
DS-RZ28M-VZ	2.1 GB 5400 RPM wide SCSI disk in 3.5" SBB
RZ29B-VW	4.3 GB 7200 RPM wide SCSI disk in 3.5" SBB
EZ31-VW	134 MB Solid State disk in 3.5" SBB
EZ32-VW	268 MB Solid State disk in 3.5" SBB
EZ64-VW	475 MB Solid State disk in 5.25" SBB
EZ69-VW	950 MB Solid State disk in 5.25" SBB
DS-TZS20-VW/DB	25/50 GB AIT 8 mm tape drive in 3.5" SBB / tabletop
DS-TZ89N-VW/TA	35/70 GB DLT drive in 5.25" SBB / tabletop

Ordering Information

KZPBA-CA	PCI-based 16-bit UltraSCSI single-ended adapter
BN38C-xx	VHDCI male to HD68-pin male. Required for connection to DS-BA356-*; xx = cable length in meters.
BN21W-0B	0.15 meter 'Y' cable one HD68-pin male to two HD 68-pin female
H8861-AA	Tri-link adapter, used to attach single host to two storage shelves.

StorageWorks KZPCM Dual Channel UltraSCSI Single-Ended Adapter

The KZPCM-DA adapter is a PCI-based 16-bit dual channel UltraSCSI single-ended adapter with one 10/100 10BaseT Ethernet port. This high-performance adapter delivers significantly improved throughput by doubling the SCSI I/O transfer rate to 80 MB/second. This combination UltraSCSI/Ethernet adapter is well suited for systems that are PCI slot constrained. It uses only one slot to attach two UltraSCSI channels and one Ethernet port. KZPCM adapter is supported in non-RAID direct attached configurations only. It operates under OpenVMS, Tru64 UNIX and Windows NT operating systems.

Features

- Compatible with Fast10 (SCSI-2) and UltraSCSI peripherals.
- Supports up to 30 devices (operating system-dependent), 15 devices per channel.
- Concurrent I/O and 10/100 Ethernet operations on same PCI adapter.
- Ethernet supports half-duplex or full-duplex operations.
- Sustained data transfers up to 10,000 I/Os per second.
- Two internal 68-pin and one 50-pin SCSI connector.
- Two external 68-pin VHDCI SCSI connectors.
- Single-slot 8.75" x 4.25" PCI module SCSI.
- Up to 80 MB/second peak bandwidth.

Minimum operating system requirements

- OpenVMS V7.1-1H1 (with KZPCM-DA revision B01 and higher).
- Tru64 UNIX V4.0D.
- Windows NT 4.0 for Alpha.

Systems Supported

- AlphaServer 800, 1200, 4x00, and DS10, DS20, and ES40 platforms
- DIGITAL Ultimate Workstation 533a²/533au²

Note: KZPCM-DA adapter is supported in non-RAID direct attached configurations only. A maximum of two adapters are supported on each systems listed below.

Devices Supported

- KZPCM-DA supports UltraSCSI disks at UltraSCSI speeds in top gun blue DS-BA356-xx UltraSCSI shelves only.
- Reference Storage Web site for the latest KZPCM release notes, devices are continuously qualified.
- All devices listed below may not be qualified on each supported platform, See individual system configuration menus for supported devices.

8-bit/16-bit Single-ended UltraSCSI Devices Supported

DS-RZ1BB-VW	2.1 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1CB-VW	4.3 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1CD-VW	4.3 GB 10000 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1DA-VW	9.1 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1DB-VW	9.1 GB 7200 RPM disk in 3.5" SBB
DS-RZ1DF-VA ¹	9.1 GB 7200 RPM disk in 3.5" Narrow SBB
DS-RZ1DF-VW ¹	9.1 GB 7200 RPM disk in 3.5" SBB
DS-RZ1EA-VW	18.2 GB 7200 RPM UltraSCSI disk in 3.5" SBB
DS-RZ1EF-VA ¹	18.2 GB 7200 RPM disk in 3.5" Narrow SBB
DS-RZ1EF-VW ¹	18.2 GB 7200 RPM disk in 3.5" SBB
DS-RZ1FB-VW	36.4 GB 7200 RPM disk in 3.5" SBB
DS-EZ41-VW ²	134 MB Solid State disk in 3.5" SBB
DS-EZ42-VW ²	268 MB Solid State disk in 3.5" SBB
DS-EZ454-VW	536 MB Solid State disk in 5.25" SBB
DS-EZ705-VW	536 MB Solid State disk in 5.25" SBB
DS-EZ711-VW	1.1 GB Solid State disk in 5.25" SBB
DS-EZ716-VW	1.6 GB Solid State disk in 5.25" SBB

StorageWorks KZPCM Dual Channel UltraSCSI Single-Ended Adapter

8-bit/16-bit Single-ended UltraSCSI Devices Supported (*continued*)

DS-EZ832-VW 3.2 GB Solid State disk in 5.25" SBB

16-bit Single-ended Fast10 Devices Supported

DS-TZS20-VW 25/50 GB AIT 8 mm tape drive in 3.5" SBB

DS-TZS20-DB 25/50 GB AIT 8 mm tabletop tape drive

DS-TZ89N-VW 35/70 GB DLT drive in 5.25" SBB

DS-TZ89N-TA 35/70 GB DLT drive in 5.25" tabletop

8-bit Single-ended Fast10 Devices Supported

DS-RZ1CF-VA 4.3 GB 7200 RPM SCSI disk in a 3.5" SBB

DS-RZ1DF-VA 9.1 GB 7200 RPM SCSI disk in a 3.5" SBB

DS-RZ1EF-VA 18.2 GB 7200 RPM SCSI disk in a 3.5" SBB

DS-RZ28L-VA 2.1 GB 7200 RPM narrow SCSI disk in 3.5" SBB

DS-RZ29L-VA 4.3 GB 7200 RPM narrow SCSI disk in 3.5" SBB

DS-RZ40-VA 9.1 GB 7200 RPM narrow SCSI disk in 3.5" SBB

TLZ09-VA 4/8 GB 4 mm DAT in 3.5" SBB

TLZ09-DA 4/8 GB 4 mm DAT in 3.5" tabletop

TLZ9L-VA³ 32/64 GB 4 mm DAT loader in 5.25" SBB

DS-TLZ1L-VA 96/192GB 4-mm DAT loader in 5.25" SBB

DS-TLZ10-VA 12/24 GB 4 mm DAT in 3.5" SBB

DS-TLZ10-DB 12/24 GB 4 mm DAT in 3.5" tabletop

TZK9F-VA 7/14 GB 8 mm tape in 5.25" SBB

TZK11-VA 2.5/5 GB QIC tape in 5.25" SBB

TZ88N-VA 20/40 GB DLT in 5.25" SBB

TZ88N-TA 20/40 GB DLT in 5.25" tabletop

TZ885-NE 100/200 GB DLT, 5 cartridge Rackmount

RRD45-VA 600 MB 4X CD-ROM in 5.25" SBB

DS-RRD46-VA 600 MB 12X CD-ROM in 5.25" SBB

DS-RRD47-VA 600 MB 32X CD-ROM in 5.25" SBB

1. DS-RZ1DF-xx and DS-RZ1EF-xx disk drive revisions C01 and higher are supported with the KZPCM-DA.

2. DS-EZ41-VW/DS-EZ42-VW Solid State disk drives are not supported as system disk drives under OpenVMS and Tru64 UNIX.

3. TLZ9L-VA DAT SCSI Tape Loader is not supported under Windows NT.

Order Number Information

KZPCM-DA PCI-based 16-bit dual-port UltraSCSI adapter with one 10/100 BaseT Ethernet port

H8861-AA Tri-link adapter; used to attach Single host to two storage shelves

BN37A-xx¹ Ultra 68VHD Cable Assembly (xx designates cable length in meters)

1. Maximum bus length for single-ended SCSI is 20 meters.

StorageWorks KZPSA Fast Wide Differential SCSI Adapter

KZPSA is a high performance, intelligent, 16-bit PCI-based Fast Wide Differential SCSI adapter which provides a solution for the most demanding AlphaServer with heavy PCI I/O requirements. KZPSA maximizes I/O and data processing performance on AlphaServers.

Support of HSZ40 and HSZ50 Storage Works controllers with the KZPSA provides a winning storage solution for high availability and high performance to take advantage of the fast access to SCSI-2 storage subsystems. This availability is delivered through support of such features as RAID 0,3,5 and warm disk swap.

Features

- Maximum off-loading of host CPU requirements offered by any adapter
- Supports HSZ40, HSZ50 and HSZ70 RAID Array StorageWorks controllers.
- Interconnect for up to 25 meter connections allowing greater configuration flexibility
- Up to 20 MB per second throughput. Greater than 2000 I/Os per second
- Single slot 4.2" x 12.3" PCI Module
- Target Mode Support
- Tagged Command Queue Support
- On board EEROM can be customized using the configuration utility
- 68-pin high density external connector
- Supports both 8-bit and 16-bit devices
- Supports up to 15 SCSI devices (operating system dependent)
- Supports single-ended storage devices via the DWZZA and DWZZB

Minimum Operating System Support

- Tru64 UNIX V3.2
- Windows NT Alpha 3.5
- OpenVMS V6.2. and OpenVMS SCSI clusters with OpenVMS V6.2-1H1
- DECsafe V1.2 with Tru64 UNIX V3.2.
- TruClusters V1.0 with Tru64 UNIX V3.2g
- DIGITAL Clusters for Windows NT V1.1 with Windows NT 4.0
- DIGITAL Clusters for Windows NT V1.0a with windows NT 3.51

SCSI Devices Supported

Disks

- RZ25, RZ25L, RZ26, RZ26L, RZ26N, RZ28, RZ28B, RZ28M, RZ28D, RZ28L, RZ29B, RZ29L, RZ40, DS-RZ1BB-VW, DS-RZ1CB-VW, DS-RZ1DB-VW, DS-RZ1CD-VW, DS-RZ1CF-VA, DS-RZ1CF-VW, DS-RZ1DD-VW, DS-RZ1DF-VA, DS-RZ1DF-VW, DS-RZ1ED-VW, DS-RZ1EF-VA, DS-RZ1EF-VW, RZ73, RZ74, EZ31, EZ32, EZ64, EZ69, DS-EZ41-VW, DS-EZ42-VW, DS-EZ705-VW, DS-EZ711-VW, DS-EZ716-VW, DS-EZ454-VW, DS-EZ832-VW

Tapes

- TLZ06, TLZ07, TLZ08, TLZ09, TLZ6L, TLZ7L, TLZ9L, TZK10, TZK11, TKZ15, TZK20, TZ86, TZ87, TZ88, TZ89N, TZ867, TZ877/TZ875, TZ887/TZ885, TSZ07, TL812, TL820, TL822, TL826, DS-TLZ10-DB, DS-TLZ10-VA, DS-TZS20-VW/DB, DS-TL890/891/892-*, DS-TL893/894/896-*, TKZ60, TKZ61, TKZ62, TKZ63, 2T-TKZ64, TKZ9E, TKZ9F

Other

- RRD42, RRD43, RRD44, RRD45, RRD46, DWZZA, DWZZB, DS-DWZZH-03, HSZ40, HSZ50, HSZ70

Ordering Information /StorageWorks Environment Supported -

Hardware installation items must be ordered separately, if required.

KZPSA-BB	PCI-based 16-bit Fast Wide Differential SCSI adapter
BN31G-xx	68-pin straight SCSI cable, -xx denotes length of cable
BN21K-xx	HD68-pin straight male to HD68-pin right angle male SCSI cable, -xx = cable length in meters.
BN21W-0B	0.15 meter 'Y' cable, HD68-pin male to two HD 68-pin female
H879-AA	HD68-pin male differential SCSI terminator
H885-AA	Tri-Link Connector
BA35X-MG	8-bit I/O Module for BA356
BA35X-MH	16-bit I/O Module for BA356

StorageWorks KZPAA Fast Narrow Single-Ended SCSI Adapter

KZPAA is a PCI-based 8-bit Fast narrow single-ended SCSI adapter which supports up to seven SCSI devices. The KZPAA is a highly integrated PCI to SCSI adapter which provides the lowest cost connection for internal or external devices.

Features

- Full 32-bit DMA (Direct Memory Access) capability transfers data to memory without CPU overhead
- Supports internal and external devices
- Supports the HSZ40 and HSZ50 StorageWorks controllers
- Active SCSI bus termination with disable option for configuration flexibility
- 5.0 x 3.25" PCI module uses single slot
- Supports all AlphaServers and AlphaStations

Minimum Operating System Support

- Tru64 UNIX V3.0
- Windows NT Alpha 3.5
- OpenVMS V6.1 and OpenVMS SCSI clusters with OpenVMS V6.2

SCSI Devices Supported

Disks

- RZ25, RZ25L, RZ26, RZ26L, RZ26N, RZ28, RZ28B, RZ28M, RZ28D, RZ28L, RZ29B, RZ29L, RZ40, DS-RZ1BB-VW, DS-RZ1CB-VW, DS-RZ1CF-VA, DS-RZ1CF-VW, DS-RZ1DA-VW, DS-RZ1DB-VW, DS-RZ1DD-VW, DS-RZ1DF-VA, DS-RZ1DF-VW, DS-RZ1CD-VW, DS-RZ1EA-VW, DS-RZ1ED-VW, DS-RZ1EF-VA, DS-RZ1EF-VW, DS-RZ1FB-VW, RZ73, RZ74,

Tapes

- TLZ04, TLZ06, TLZ07, TLZ08, TLZ09, TLZ6L, TLZ7L, TLZ9L, TZK10, TZK11, TKZ15, TZK20, TZ85, TZ86, TZ87, TZ88, TZ89N, TZ867, TZ87, TZ877, TZ88, TZ887-NE, TZ875, TSZ07, TL812, TL820, TL822, TL826, TL885-NE, DS-TLZ10-DB/VA, DS-TZS20-DB/VW, DS-TZ89N-VW, TKZ60, TKZ61, TKZ62, TKZ63, 2T-TKZ64, TKZ9E, TKZ9F

Other

- RRD42, RRD43, RRD44, RRD45, RRD46, RRD47, DWZZA, DWZZB

StorageWorks Environment Supported

Hardware installation items must be ordered separately, if required.

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|--------------------|--|
| BN21H-02 | 2 meter 50-pin straight SCSI cable. External cables must be ordered separately. |
| 17-03948-01 | Internal system cable for adapter ordered separately for use in a system with embedded storage |
| BA35X-MG | 8-bit I/O Module for BA356 |

Ordering Information

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|-----------------|---|
| KZPAA-AA | PCI-based 8-bit Fast Narrow Single-ended SCSI adapter |
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