



memory express
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51 Park Royal Road,
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HP StorageWorks 2000sa Modular Smart Array Controller



The HP StorageWorks 2000sa Modular Smart Array (MSA2000sa) represents the end-to-end Serial Attached SCSI (SAS) model of the MSA2000 family (which includes the MSA2000fc Fibre Channel and MSA2000i iSCSI models), a new generation of HP storage arrays specifically designed for entry-level customers featuring the very latest in functionality and technology at highly affordable price points. The MSA2000sa is a 2U direct attach, external shared storage solution designed for small to medium size deployments or remote locations. It comes in two models - a basic single controller model for low initial cost with the ability to upgrade later; and a model with dual controllers standard for maximum performance. This solution offers a SAS host interface to accommodate twelve 3.5 inch enterprise class SAS drives and archival-class SATA drives. Additional capacity can easily be added when needed by attaching up to three MSA2000 12 bay drive enclosures. Maximum raw capacity ranges from 3.6TB SAS or 12TB SATA in the base cabinet, to over 14.4TB SAS or 48TB SATA with the addition of the maximum number of drive enclosures. NOTE: there are no additional hidden charges, licences or fees as you add enclosures or hosts and users.

The MSA2000 offers many distinct features such as the ability to mix SAS and SATA RAID sets (volumes) within the same enclosure greatly increases the flexibility and economy of assigning mission-critical data and archival data to the proper drive type. The wide variety of RAID levels supported assures the user of just the right level of performance and protection demanded by his application. The capability of implementing controller-based snapshots and clones affordably brings enterprise-class functionality into smaller departments, remote locations, and small but growing companies. The MSA2000sa is a member of HP StorageWorks Modular Smart Array offerings, delivering simple and affordable storage technology to meet today's demanding and growing IT needs. These storage solutions offer excellent price/performance and availability features for direct attach environments, small clusters, workgroups and entry-level SAN environments. Each solution is designed to be easy to deploy, secure, with low management costs, while driving rapid return on investment.

Warranty	Three-year limited warranty; Three years parts exchange; Next Business day delivery
Barcode	883585832613
Operating Systems Supported	Microsoft Windows Server 2008 Microsoft Windows Server 2003 and 2003 R2 (32/64) Red Hat Linux 5 (32/64) SuSE 10 (32/64) VMware ESX 3.5 (32/64)
Dimensions	44.7cm (W) x 60.2cm (D) x 8.9cm (H) - Weight 19.96kg

Features

- * Geared to departmental and small to medium business requirements
- * Grows as the storage demands increase - up to 48 drives and 14.4TB SAS or 48TB SATA
- * Supports up to 4 hosts with SAS direct connect along with support for 256 LUNs and LUN sizes up to 16TB



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- * Optional controller-based snapshot and clone capability for increased data protection
- * Enterprise-class SAS or archival-class SATA drives as the need and budget dictate
- * Dual-ported SAS drives for enterprise needs
- * Large capacity SATA drives for inexpensive archival storage
- * Able to mix SAS and SATA drives within the same drive enclosure
- * Choose either single (future upgradeable) or dual controller array models
- * Choice of low cost single I/O or high-availability dual I/O drive enclosure models

Specification

General

The HP StorageWorks 2000sa Modular Smart Array (MSA2000sa) represents the end-to-end Serial Attached SCSI (SAS) model of the MSA2000 family (which includes the MSA2000fc Fibre Channel and MSA2000i iSCSI models), a new generation of HP storage arrays specifically designed for entry-level customers featuring the very latest in functionality and technology at highly affordable price points. The MSA2000sa is a 2U direct attach, external shared storage solution designed for small to medium size deployments or remote locations. It comes in two models - a basic single controller model for low initial cost with the ability to upgrade later; and a model with dual controllers standard for maximum performance. This solution offers a SAS host interface to accommodate twelve 3.5 inch enterprise class SAS drives and archival-class SATA drives. Additional capacity can easily be added when needed by attaching up to three MSA2000 12 bay drive enclosures. Maximum raw capacity ranges from 3.6TB SAS or 12TB SATA in the base cabinet, to over 14.4TB SAS or 48TB SATA with the addition of the maximum number of drive enclosures. NOTE: there are no additional hidden charges, licences or fees as you add enclosures or hosts and users.

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System Requirements

Operating Systems Supported

Microsoft Windows Server 2008 Microsoft Windows Server 2003 and 2003 R2 (32/64) Red Hat Linux 5 (32/64) SuSE 10 (32/64) VMware ESX 3.5 (32/64)

Compliance

Standards

Safety: UL 60950-1:2003 (USA) CAN/CSA-C22.2 No.60950-1-03 (Canada) EN 60950-1 :2001 + A11 (European Union) IEC 60950-1 :2001 (International) Electromagnetic Compatibility: CFR 47 Part 15 Subpart B (U.S.A., Class A) ICES-003 Issue 4 (Canada, Class A) EN 55022 :98 +A1 +A2 (European Union, Class A) EN61000-3-2:2000+A1,+A2,+A14 (Harmonics) EN 61000-3-3 :2001 (Flicker) EN 55024 :1998 +A1 (European Union, Immunity) CISPR 22 :2005 (International, Class A) CISPR 24 :97 (International, Immunity)

Electrical

Voltage/Power/Frequency

100 to 240VAC / 50 to 60Hz

Environmental

Environmental

Operating Temperature 5 to 40C - Humidity 10 to 90%

Physical

Dimensions

44.7cm (W) x 60.2cm (D) x 8.9cm (H) - Weight 19.96kg



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Options

Other

HP	T5512A	HP StorageWorks MSA2000 Snapshot 64 Software LTU	1509.84	VIEW>
HP	T5515A	HP StorageWorks MSA2000 Snapshot 8 to 64 Upgrade Software LTU	Call us	VIEW>
HP	T5514A	HP StorageWorks MSA2000 Snapshot Volume Copy Software LTU	Call us	VIEW>
HP	T5513A	HP StorageWorks MSA2000 Snapshot 8 Software LTU	564.48	VIEW>

Other

HP	T5438A	HP StorageWorks Storage Mirroring Software Server 1 LTU	Call us	VIEW>
HP	T5441A	HP StorageWorks Storage Mirroring Software Enterprise Server 10 LTU	Call us	VIEW>
HP	T5444A	HP StorageWorks Storage Mirroring Software 5 Virtual Machine 1 LTU	Call us	VIEW>
HP	T5447A	HP StorageWorks Storage Mirroring Software Server Recovery Option 1 LTU (5.1 with Windows 2008 Hyper-V support) Paper entitlement certificate	Call us	VIEW>
HP	T5450A	HP StorageWorks Storage Mirroring Software Virtual Infrastructure 1 LTU	Call us	VIEW>
HP	T5437A	HP StorageWorks Storage Mirroring Software V5 Media Kit	Call us	VIEW>
HP	T5440A	HP StorageWorks Storage Mirroring Software Enterprise Server 1 LTU	Call us	VIEW>
HP	T5443A	HP StorageWorks Storage Mirroring Software NAS Edition 10 LTU	Call us	VIEW>
HP	T5446A	HP StorageWorks Storage Mirroring Software AiO Edition 1 LTU	Call us	VIEW>
HP	T5449A	HP StorageWorks Storage Mirroring Software Linux 10 LTU	Call us	VIEW>
HP	T5439A	HP StorageWorks Storage Mirroring Software Server 10 LTU	Call us	VIEW>
HP	T5442A	HP StorageWorks Storage Mirroring Software NAS Edition 1 LTU	Call us	VIEW>
HP	T5445A	HP StorageWorks Storage Mirroring Software Itanium Server 1 LTU	Call us	VIEW>
HP	T5448A	HP StorageWorks Storage Mirroring Software Linux 1 LTU	Call us	VIEW>



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Hard Disk Drives

HP	AJ736A	HP 300GB (15,000 rpm) SAS 3.5 inch Hard Drive	456.13	VIEW>
HP	AJ735A	HP StorageWorks MSA2 146GB 3G (15000rpm) 3.5 inch Dual-port SAS Hard Drive	319.08	VIEW>
HP	AJ739A	HP StorageWorks MSA2 750GB (7200rpm) 3.5 inch Dual-Port SATA Hard Drive	319.08	VIEW>
HP	AJ738A	HP 500GB (7200rpm) 3.5 inch Dual-Port SATA Hard Drive	246.08	VIEW>

Disk arrays

HP	AJ749A	HP StorageWorks MSA2000 Single I/O 3.5 inch 12 Drive Enclosure	1687.33	VIEW>
HP	AJ750A	HP StorageWorks MSA2000 Dual I/O 3.5 inch 12 Drive Enclosure	2235.11	VIEW>

Cases

HP	AF011A	HP 10636 G2 (36U) Rack Cabinet - Pallet	897.64	VIEW>
HP	AF022A	HP 10622 G2 (22U) Rack Cabinet - Shock Pallet	1384.88	VIEW>

Metal housings or cabinets

HP	AF001A	HP 10642 G2 (42U) Rack Cabinet - Pallet	983.12	VIEW>
HP	358254-B21	HP 5642 Rack (Unassembled) Metallic Carbonite	703.08	VIEW>
HP	AF012A	HP 10636 G2 (36U) Rack Cabinet (Shock Pallet)	1173.15	VIEW>

Projector Accessories

HP	292302-B22	HP Rack S10614 (14U) - Rack Cabinet Shock Pallet	580.62	VIEW>
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Mounts

HP	AF031A	HP 10647 G2 (47U) Rack Cabinet - Pallet	1139.54	VIEW>
HP	AF014A	HP 10636 G2 (36U) Rack Cabinet , with Extension - Shock Pallet	1350.07	VIEW>
HP	AF021A	HP 10622 G2 (22U) Rack Cabinet - Pallet	1024.03	VIEW>
HP	AF042A	HP 10842 G2 (42U) 800mm Wide Rack Cabinet - Shock Pallet	1573.64	VIEW>



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HP	AF004A	HP 10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet	Call us	VIEW>
HP	AF013A	HP 10636 G2 (36U) Rack Cabinet - Crated	Call us	VIEW>
HP	AF041A	HP 10842 G2 (42U) 800mm Wide Rack Cabinet - Pallet	1307.22	VIEW>
HP	AF003A	HP 10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet	Call us	VIEW>
HP	AF002A	HP 10642 G2 (42U) Rack Cabinet - Shock Pallet CTO	1037.08	VIEW>

Interconnect Cables

HP	389665-B21	HP External SAS Cable (1m)	105.75	VIEW>
HP	389671-B21	HP External Serial Attached SCSI (SAS) Cable - 4m (use with 337972-B21)	Call us	VIEW>
HP	407339-B21	HP External Mini SAS 2m Cable	110.48	VIEW>
HP	389668-B21	HP External SAS Cable (2m)	117.59	VIEW>
HP	432238-B21	HP External SAS to Mini 4m Cable	138.33	VIEW>

About Memory Express

Although we started out selling just Memory the best part of fifteen years ago, we have diversified organically over the years at the request of our customers. We specialise in Networking, Storage and Disaster Recovery and have the knowledge, experience and strategic partnerships to provide you with the service and value you demand - quality products, reasonably priced and delivered on time.

Memory Express can offer you a full range of installation and configuration services for hardware and software as well as detailed, accurate advice on all aspects of your IT projects. You'll be glad to know that we don't have a room full of school leavers trying to sell products they don't understand - all our staff are seasoned IT specialists and have an average length of service of over ten years. We won't just push you towards the solution we feel like selling; we'll help you to find the one you need.

Meanwhile, online, we offer one of the largest product ranges of any UK IT supplier. Showing near live stock, in depth product information and keen pricing, we're sure you'll find what you need. We also have matched memory upgrades for over 50,000 models of computer, server, printer, phone and camera, guaranteeing you the right memory, first time. All this is backed up by the same great service you'd expect when dealing with us over the phone. For our regular business customers, we provide T3, our corporate purchasing portal which provides a truly corporate focused buying experience.

We're conveniently located in Park Royal, London's Technology Business Park, allowing us to reach all areas of the UK quickly and efficiently. Many of our City based corporate clients benefit from same day delivery and we can offer next day delivery to established customers throughout the British Isles. Online delivery tracking and status information means that you need not worry about the whereabouts of your order.

We're proud to have built up a wide variety of partnerships with quality vendors and many of our staff hold certifications from top tier manufacturers including Microsoft, Acronis, Symantec and VMWare.



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Our clients vary in size from SMEs to many of the UK's largest corporates, government departments, schools and universities, and we're pleased to say that most have been our customers for many, many years - we believe in long term business relationships, not turning a quick profit. Why not contact us now to see how we can help you get the quality of service they already enjoy?