

# HP StorageWorks XP12000 Disk Array

Data sheet



In a world where every business decision triggers an IT event, the HP StorageWorks XP12000 Disk Array enables an adaptive enterprise—one that can quickly capitalize on and manage change. The breadth of XP12000 capabilities allow you to demand more agility to adapt to real-time business needs, more value by ensuring your information is protected and available, and more simplicity by reducing costs through consolidation and management efficiency.

The XP12000 is designed for organizations that demand the most from their storage. No-single-point-of-failure, array-to-array local and remote data copying for multi-site disaster tolerance, and non-disruptive online upgrades ensure that data is always available.

The scalable design allows you to meet your capacity, performance, and heterogeneous connectivity needs today and tomorrow. Outstanding levels of random and sequential performance are ideal for database, online transaction processing (OLTP), Oracle®, SAP, and Microsoft® Exchange workloads. HP's world-class service and support meet your demanding needs.

HP's complete line of industry-leading storage software products is designed for data protection, enterprise storage resource management, and virtualization. Data mirroring via HP StorageWorks Business Copy XP, Continuous Access XP software, and HP OpenView Storage Data Protector backup management software ensure rapid restore and return to normal operation. With HP StorageWorks XP disk arrays and management software working together, your business gets the capabilities and benefits you need to easily meet storage challenges head-on.

The HP StorageWorks XP12000 Disk Array delivers always-on availability for mission-critical IT environments. Massive scalability, boot-once reliability, outstanding performance, and heterogeneous connectivity increases business agility and decreases the stress of running applications where downtime is not an option.

The HP StorageWorks XP12000 Disk Array scales from 576 gigabytes to 332 terabytes of capacity in a single system without ever shutting it down. The ability of the XP12000 to perform well in diverse applications and to support every major operating system makes it an excellent solution for storage consolidation.

#### Features and benefits

- **Reliable:** Provides extreme reliability with no-single-point-of-failure and redundant hot-swappable components. The XP12000 can be constantly monitored by HP for any potential issues, so they can be proactively addressed before they cause a problem.
- **Available:** Delivers advanced availability with redundant and hot-swappable capabilities on all components, including: disk drives, processors, I/O interfaces, power supplies, batteries, fans, and control processors. HP StorageWorks Continuous Access XP software and solutions provide remote replication and rapid recovery in the event of a data center fire, flood, or power outage. HP StorageWorks Business Copy XP effectively leverages critical business data by creating multiple real-time online copies without adversely impacting primary production operation.
- **Scalable:** Scales from 9 to 1,152 disk drives for over 332 TB of internal capacity, 30 PB of external capacity, 128 GB of cache, and to more than double the performance of the XP1024—all online, with no interruptions to applications. Unlike non-HP arrays that can require a couple of box swaps, with the XP12000 you can pay-as-you-grow for seamless scalability to keep pace with changing business needs.
- **Performance:** Uses an advanced crossbar fault-tolerant architecture resulting in outstanding performance in both random and sequential workloads. This makes the XP12000 ideal for database, online transaction processing (OLTP), Oracle, SAP, and Microsoft Exchange environments.
- **Heterogeneous:** Supports multiple operating systems, including HP-UX, Microsoft Windows®, Linux®, HP OpenVMS, Mainframe, HP Tru64, NonStop, NetWare, AIX, Solaris, and IRIX.
- **Open connectivity:** Features Fibre Channel, FICON, and ESCON connectivity.
- **Flexible:** Supports a mixture of disk drives configured as RAID 1 (2D+2D), RAID 5 (3D+1P and 7D+1P), and RAID 6 (6D+2P). With a new capability to support external storage for tiered storage and data migration, the XP12000 provides tremendous flexibility and efficiency to manage change in your data center. The XP12000 also supports numerous operating systems, hosts, and interfaces, making it an ideal choice for enterprise customers.
- **Manageable:** Manages multiple arrays and hundreds of terabytes from a single station, by existing staff with no need for a staffing increase.
- **Value:** Offers excellent price/performance ratio, increased productivity via higher throughput speeds and zero downtime, compact footprint to conserve floor space, and easy management.

## HP StorageWorks XP12000 Disk Array



<b>Capacity</b>	576 GB to 332 TB raw 288 GB to 290 TB usable																								
<b>Controller cache</b>	4 GB to 128 GB																								
<b>Shared memory</b>	1 GB to 12 GB																								
<b>Battery backup</b>	48 hours																								
<b>Host interfaces</b>	Fibre Channel, ESCON, FICON																								
<b>Host ports</b>	8 to 224																								
<b>RAID levels</b>	RAID 1 (2D+2D), RAID 5 (3D+1P), RAID 5 (7D+1P), RAID 6 (6D+2P)																								
<b>Cabinets</b>	1 to 5																								
<b>Number of disks supported</b>	9 to 1,152																								
<b>Disk interface</b>	Dual-ported 2 GBPS Fibre Channel Arbitrated Loop (FC-AL)																								
<b>Max LDEVs</b>	16,834																								
<b>OS support</b>	HP-UX, Microsoft Windows, Linux, HP OpenVMS, Mainframe, HP Tru64, NonStop, Solaris, IRIX, AIX, NetWare																								
<b>Redundant fans, power supplies</b>	Yes																								
<b>Hardware</b>	The XP12000 hardware consists of a Disk Control Frame (DKC) that holds up to 128 disks, and one to four optional Disk Array Frames (DKUs) for additional disks. The DKC contains the control panel, service processor (SVP), cache modules, shared memory modules, crossbar switch, batteries for cache and shared memory backup, Client-Host Interface Processors (CHIPs), and Array Control Processors (ACPs). The DKUs hold the majority of the disk drives and can hold up to 256 physical disks. The XP12000 can be used with only the DKC.																								
<b>Software</b>	<table border="0"> <tr> <td>HP StorageWorks Command View XP</td> <td>HP StorageWorks Auto LUN XP</td> </tr> <tr> <td>HP StorageWorks LUN Configuration and Security Manager XP</td> <td>HP StorageWorks Business Copy XP</td> </tr> <tr> <td>HP StorageWorks Performance Advisor XP</td> <td>HP Data Shredder XP</td> </tr> <tr> <td>HP StorageWorks Performance Control XP</td> <td>HP StorageWorks Continuous Access XP/XP Extension</td> </tr> <tr> <td>HP StorageWorks LUN Security XP Extension</td> <td>HP StorageWorks Data Exchange XP</td> </tr> <tr> <td>HP StorageWorks Cache LUN XP</td> <td>HP StorageWorks External Storage XP</td> </tr> <tr> <td>HP StorageWorks Resource Manager XP</td> <td>HP Disk/Cache Partition XP</td> </tr> <tr> <td>HP StorageWorks RAID Manager XP</td> <td>HP Storage Essentials</td> </tr> <tr> <td>HP StorageWorks Flex Copy XP</td> <td>HP OpenView Storage Area Manager</td> </tr> <tr> <td>HP StorageWorks Secure Path XP/Auto Path XP</td> <td>HP OpenView Storage Data Protector</td> </tr> <tr> <td>HP StorageWorks Cluster Extension XP</td> <td>HP OpenView Storage Media Operations</td> </tr> </table>			HP StorageWorks Command View XP	HP StorageWorks Auto LUN XP	HP StorageWorks LUN Configuration and Security Manager XP	HP StorageWorks Business Copy XP	HP StorageWorks Performance Advisor XP	HP Data Shredder XP	HP StorageWorks Performance Control XP	HP StorageWorks Continuous Access XP/XP Extension	HP StorageWorks LUN Security XP Extension	HP StorageWorks Data Exchange XP	HP StorageWorks Cache LUN XP	HP StorageWorks External Storage XP	HP StorageWorks Resource Manager XP	HP Disk/Cache Partition XP	HP StorageWorks RAID Manager XP	HP Storage Essentials	HP StorageWorks Flex Copy XP	HP OpenView Storage Area Manager	HP StorageWorks Secure Path XP/Auto Path XP	HP OpenView Storage Data Protector	HP StorageWorks Cluster Extension XP	HP OpenView Storage Media Operations
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HP StorageWorks Flex Copy XP	HP OpenView Storage Area Manager																								
HP StorageWorks Secure Path XP/Auto Path XP	HP OpenView Storage Data Protector																								
HP StorageWorks Cluster Extension XP	HP OpenView Storage Media Operations																								
<b>Disk drives</b>	Disk drives, capacity–spindle speed:	73 GB–15K rpm	146 GB–10K rpm	300 GB–10K rpm																					
	Rotational latency:	2.01 ms	2.99 ms	2.99 ms																					
	Average read/write seek time:	3.8/4.2 ms	4.9/5.4 ms	4.7/5.1 ms																					
	Internal data transfer rate:	74.5 to 111.4 MB/sec	57.3 to 99.9 MB/sec	72.73 to 134.44 MB/sec																					
<b>Power requirements (Domestic/Japan) maximum configuration</b>	Heat dissipation:	Fully Loaded DKC = 8.02 kW, 27370 BTU/hr Fully Loaded DKU = 6.75 kW, 23036 BTU/hr (each) Fully Loaded Array = 35.02 kW, 119514 BTU/hr (1 DKC and 4 DKUs)																							
	Power consumption:	Fully Loaded DKC = 8.45 kVA Fully Loaded DKU = 7.50 kVA (each) Fully Loaded Array = 38.45 kVA (1 DKC and 4 DKUs)																							
	Nominal line voltage:	30 amp, 50 or 60 Hz, single phase, 200, 208, 220, 230, 240 V 30 amp, 50 or 60 Hz, three phase, 200, 208, 220, 230, 240, 380, 400, 415 V 50 amp, 50 or 60 Hz, single phase, 200, 208, 220, 230, 240 V																							
<b>Dimensions (HxWxD)</b>	DKC:	73.2 x 30.8 x 36.4 in./186 x 78.2 x 92.5 cm.																							
	DKU:	73.2 x 25.6 x 36.4 in./186 x 65 x 92.5 cm.																							
<b>Weight</b>	DKC:	1,930 lb./877 kg.																							

# HP StorageWorks XP12000 Disk Array

## Ordering information

Part number	Product name	Description
AE001A	HP StorageWorks XP12000 Disk Array	For new XP12000 orders
AE070A	HP StorageWorks XP12000 Upgrade	For XP12000 upgrade orders

**What's included** XP12000 disk control frame that supports up to 128 disk drives. Contains basic redundant power supplies, base batteries for up to 64 GB cache and up to 64 disk drives, HP microcode, HP Continuous Track XP, and modem.

**Warranty and support** HP Proactive 24 Service is an integrated hardware and software support solution designed to help you get more from your IT investment. It combines industry-leading preventive assistance with responsive support that helps you address problems quickly and effectively.

- Assigned account manager who is your primary contact for proactive services and access to HP's diverse technical resources
- Your account manager works closely with your IT staff to understand your environment and goals; document all the components of your infrastructure; recommend changes to improve availability, performance, and stability; and monitor ongoing operations using state-of-the-art remote tools
- Comprehensive 24 x 7 assistance
- One (1) year of two-hour response for software issues, includes phone-in assistance, License to Use, rights to new versions, documentation, and access to the IT Resource Center
- Two (2) years on-site response for hardware problems; four-hour response for critical problems, next-calendar-day response for all other repairs

Other services included with the XP12000 are: Hardware Site Preparation, Array Installation and Start Up Service, and Software Enablement. (Software Enablement is included with each individual software title with the exception of Continuous Access XP, Business Copy XP, and Cluster Extension XP. The Data Replication Solution Service can be purchased to implement Continuous Access XP and Business Copy XP.)

Refer to HP's Limited Warranty Statement for further details:  
<http://h18006.www1.hp.com/products/storageworks/warranty.html>

**Warranty and support options** Care Packs are available to enable customers to extend the Proactive 24 Service to cover a period of 3, 4, or 5 years, or buy an upgrade to the higher level Critical Support offering (available for 1, 3, 4, or 5 years).

**Service options** Customers are also able to choose from a selection of technical services that will complement their Array: XP Performance Tuning and Optimization, XP Performance Analysis, High Availability Storage Assessment, Availability Assessment for SANs, SAN Solution Service, HP Resources Offer, Tech Startup—Array Add-on Service, Tech Startup—Array Add-on Service Extension, Additional Technical Assistance, HP Open Systems Data Migration, HP Open Systems Data Migration Extension, HP Mainframe Data Migration, HP Mainframe Data Migration Extension, HP Mixed Environment Data Migration, HP Mixed Environment Data Migration Extension, LUN Implementation for XP, and Data Replication Solution Service.

**Financial services** HP Financial Services provides innovative financing and financial asset management programs to help you cost-effectively acquire, manage, and ultimately retire your HP solutions. For more information on these services, please contact your HP sales representative or find us on the web at: [www.hp.com/go/hpfinancialservices](http://www.hp.com/go/hpfinancialservices).

**Customer support** HP Customer Support provides a broad spectrum of services to commercial and enterprise customers, including performance and availability services such as proactive mission-critical services and support management services for deployment of the entire IT infrastructure, including HP and multi-vendor environments. For more information on these services, contact your HP sales representative or visit [www.hp.com/hps/support](http://www.hp.com/hps/support).

**For more information** For more information on HP StorageWorks XP12000 Disk Array, visit: [www.hp.com/go/storageworks/xp](http://www.hp.com/go/storageworks/xp).

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[www.hp.com/go/storageworks/xp](http://www.hp.com/go/storageworks/xp)

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