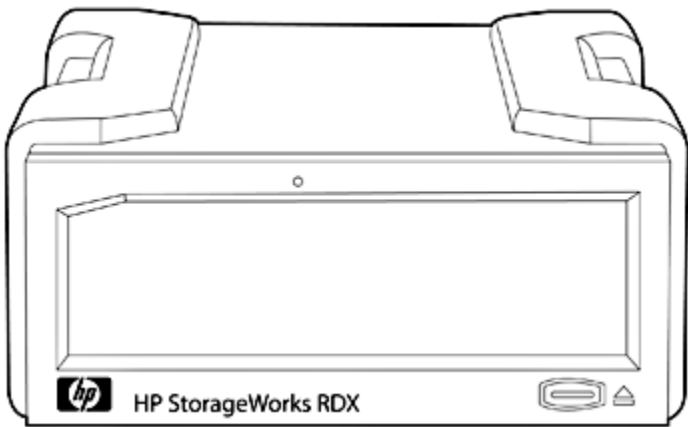## *Overview*

The HP StorageWorks RDX Removable Disk Backup System delivers an easy to use, affordable and rugged data protection solution for workstations and entry level servers in your micro or small business. Backups are simple and pain-free with drag and drop file access. Protect your entire system with the included "hands free" HP RDX continuous data protection software. Cost of ownership is reduced with long lasting removable disk cartridges and a forward and backward compatible docking station that does not require a costly and disruptive upgrade to accommodate future higher capacity cartridges. The RDX Removable Disk Backup System offers fast disk based performance with the ability to store 160 GB or 320 GB of data on a single removable disk cartridge at speeds of up to 108 GB/hr. Portable, durable and rugged removable disk cartridges enable you to simply and securely store backups off site for complete data protection and peace of mind.

HP StorageWorks RDX Removable Disk Backup System

The HP StorageWorks RDX Removable Disk Backup System is an easy to use, affordable and rugged removable disk backup solution for workstations and entry level servers. It is the ideal entry level backup solution for budget conscious micro or small businesses with little or no IT resources that currently have no or only rudimentary backup processes in place because they perceive data protection as complex, inconvenient and expensive.

Models	HP StorageWorks RDX160 Internal Removable Disk Backup System	AJ765A
	NOTE: 0D1 will appear after this part number on your sales order if factory integration is indicated.	
	HP StorageWorks RDX160 External Removable Disk Backup System	AJ766A
	HP StorageWorks RDX320 Internal Removable Disk Backup System	AJ767A
	NOTE: 0D1 will appear after this part number on your sales order if factory integration is indicated.	
	HP StorageWorks RDX320 External Removable Disk Backup System	AJ768A

Features and Benefits

Key Features

- Drag and drop file backup and restore
- Includes "hands free" HP RDX continuous data protection software
- Up to 108 GB/hour* transfer rate (uncompressed data) - * Where 1KB = 1,000 Bytes
- Fast disk based random access file retrieval
- Choice of 160GB or 320 GB capacity removable disk cartridges (interchangeable in any HP RDX docking station)
- Compatibility with leading ISV backup software applications
- Disk cartridges designed for long usage life - over 5,000 load/unload insertions
- Compatible with future higher capacity cartridges and mobile 2.5" Hard Disk Drive technology roadmap
- Portable, durable and shock proof cartridges (can withstand drop of 1 meter)
- Easy to install (USB 2.0 plug and play) and compact (Half-height 5.25-inch form-factor) internal or external docking station for removable cartridges
- Broad compatibility with a wide range of servers and operating systems
- Supporting tools -- HP StorageWorks LT&T available as a download with the drive to make installation, performance tuning and trouble-shooting even easier

Customer Benefits

The simple way to protect your business data

- Drag and drop file access makes backup as easy and convenient as the click of a mouse
- Protect your entire system with included "hands free" HP RDX continuous data protection software
- Less time spent on backups with fast disk based file transfer/retrieval performance
- Flexibility to meet budget and capacity requirements with choice of cartridge capacities
- Usage model fits traditional backup architecture (e.g. ISV software) if required

Minimizes total cost of protecting your business data

- Long usage life span of cartridges minimizes media replacement costs
- No need to replace docking station when future higher capacity cartridges are available

Simply and securely store backups off-site for complete data protection

- Portable/durable disk cartridges enable easy off site archiving and disaster recovery
- Rugged cartridge protects data from drops, ESD and harsh environmental conditions for secure archiving/transportation/archiving
- Plug and play USB dock allows flexible media rotation and easy future scalability

Product Highlights

Combines the best of tape and disk

The HP RDX Removable Disk Backup System is based on removable disk technology that handles and operates like a traditional tape drive and media, yet has all of the advantages of disk-to-disk backup. The HP RDX removable disk solution allows for backups to be accomplished with the included "hands free" HP RDX continuous data protection software, standard ISV backup applications or data can be dragged and dropped directly to the rugged removable storage media. To the host computer, the HP RDX removable disk cartridge appears as a Windows drive letter with the high performance benefits of a disk based backup system.

Easy to implement and use

Many micro or small business customers have limited time, knowledge, experience or desire to dedicate to backup and therefore currently have no or only rudimentary backup processes in place. The HP RDX Removable Disk Backup System offers these customers a complete backup solution that is simple to implement and easy to use.

Installation is an easy and quick process of connecting the industry standard form factor HP RDX USB docking station either internally to a server or externally as a tabletop. Backing up is a simple matter of inserting a removable disk cartridge into the docking station. The cartridge will automatically show up as a letter drive in Windows explorer with no extra formatting or extra steps required. Simply select the files that need to be protected and drag them into the removable drive folder. To restore files, just reverse the process.

For a hands free backup experience use the included HP RDX continuous data protection backup software designed for ease of use and complete workstation and server backup protection. Key features of the HP RDX continuous data protection software include continuous data protection, data deduplication, bare metal restore, seamless cartridge rotation and archiving support, simple file recovery, complete backup coverage (unlimited file versions, open files, application data user settings and the complete operating system are all automatically backed up), and comprehensive backup status updates. Scheduled backups can be performed through support for standard ISV backup applications.

Fast backup and restore

Staff productivity and thus customer service can be negatively impacted by the lengthening backup window and restore/recovery times associated with optical backup solutions. The HP RDX Removable Disk Backup System provides a backup solution that backs up and retrieves data quickly and reliably thus optimizing application availability and staff productivity.

Data can be backed up to RDX cartridges at hard drive speeds (up to 108 GB/hour). HP RDX cartridges are randomly accessed and read so critical single files and selected file stores can be restored in seconds instead of hours.

Product Highlights

Affordable cost of ownership

Many micro or small business customers have limited IT budget available for data protection with business owners wanting to minimize IT capital and operational expenditure and protect IT investments to optimize business profitability. The HP RDX Removable Disk Backup System provides a complete backup solution that has low initial acquisition costs and low on-going media and upgrade costs.

Total cost of ownership is minimized by the fact that HP RDX cartridges are specified for 5,000 insertion/removal cycles, so HP RDX cartridges will not wear out (and therefore need to be replaced) over the typical life cycle of the solution. Upgrade and obsolescence costs are also reduced and investment protection guaranteed by the fact that HP RDX docking stations are compatible with all current and future higher capacity RDX cartridges. Customers will not need to purchase a new docking station when next generation higher capacity RDX cartridges are released. Similarly, today's RDX cartridges are compatible with all current and future HP RDX docking stations. Customer's existing RDX cartridges will work with next generation HP RDX docking stations when they are released.

Removability and portability

To ensure complete data protection against all types of data loss - including on-site system/site destruction or natural disaster - small businesses need the ability to remove their backup and archive data off-site. The HP RDX Removable Disk Backup System provides a backup solution that enables on-site backup data to be removed, stored and rotated off-site in an easy, safe and secure way.

HP RDX cartridges are portable (palm size), durable (2.5" disk drive features include ramp loading heads, fluid dynamic bearings, inactive state spin down) and rugged (designed and proven to withstand a 3 feet (one metre drop) onto concrete). The robust HP RDX cartridge is also designed to protect data from potentially damaging Electrostatic Discharge (ESD) and as well as prolonged exposure to heat, dust and other environmental contaminants.

Reliability and archivability

The HP RDX Removable Disk Backup System provides a docking station specified for more than 10,000 load and unloads and an HP RDX cartridge specified for over 5,000 load and unloads and long life expectancy.

Easy scalability and expandability

Many growing micro and small businesses are experiencing storage capacity growth that is outstripping the capacity/performance of current optical backup solutions. The HP RDX Removable Disk Backup System provides a backup solution that scales easily as capacity needs grow. Adding capacity is a simple matter of adding cartridges to an existing HP RDX USB docking station. The HP RDX Docking Station will work with all current as well future higher capacity cartridges as they are introduced. The product's roadmap leverages the industry standard mobile 2.5" hard disk drive roadmaps with new higher capacity cartridges expected to be introduced on an annual basis.

Compatibility

Compatibility	HP's extensive compatibility testing program assures that your HP StorageWorks RDX Removable Disk Backup System works with leading servers, operating systems, and backup applications. For the latest list of servers, workstations, operating systems, and backup software that support the HP RDX Removable Disk Backup System, check the HP RDX compatibility pages on our Web site at: http://www.hp.com/go/connect.

HP Server and Workstation Compatibility	The HP StorageWorks RDX Removable Disk Backup System is compatible with HP ProLiant servers and HP workstations. HP StorageWorks RDX Removable Disk Backup System is supported on the following classes of HP systems: • HP ProLiant DL servers • HP ProLiant ML servers • HP Personal Workstations For details of which RDX Removable Disk Backup models work with which systems, including third-party systems, visit: http://www.hp.com/go/connect for the latest hardware compatibility information. **NOTE:** HP recommends that no more than one HP RDX Removable Disk Backup System be connected to a system at a time.

OS Support	Microsoft® Windows®, Linux (various distributions) **NOTE:** Please visit: http://www.hp.com/go/connect for the latest compatibility information.

Backup Software Support	HP Data Protector Express, CA BrightStor ARCServe Backup, Symantec Backup Exec, and other backup applications that support removable disk media **NOTE:** Please visit: http://www.hp.com/go/connect for the latest compatibility information.

Service and Support, HP Care Pack, and Warranty Information

HP Care Pack Services HP Care Pack Services offer upgraded service levels to extend and expand your standard product warranty with easy to buy, easy to use support packages that help you make the most of your hardware and software investments. They let you choose the support levels that meet your business requirements. They help you contain total cost of ownership.

HP Care Pack warranty extensions can be purchased along with HP products to cost-effectively upgrade or extend your warranty. For many products, post-warranty HP Care Pack Services are available when your original warranty has expired.

Why purchase an HP Care Pack service?

Your standard warranty protects against product defects. HP Care Pack Services help you guard against unplanned downtime, which can reduce your productivity and profitability. These convenient service packages:

- Protect your investment in HP products
- Provide consistent, predictable levels of support across your entire department or business
- Ease budget planning with fixed-cost support that includes parts
- Give you direct access to proven technical and problem-solving expertise
- Deliver prompt, measurable results
- Are available whenever and wherever you do business

HP Care Pack availability may vary by country and product.

Supporting your Adaptive Enterprise journey

HP Services helps you make the Adaptive Enterprise real for your organization. The breadth, depth, and quality of HP hardware and software support services can help you improve the performance of your IT support processes and resolve the complex software and hardware problems that tax user productivity. HP Care Pack services help you increase IT environment stability, efficiency, and agility from the desktop to the data centre, and improve the productivity of your employees.

Warranty and Services Included with the Product Hewlett-Packard provides a 1-year, next-day, parts exchange, limited warranty for the HP StorageWorks RDX Removable Disk Backup System, plus 9x5 phone support for the duration of the warranty.

HP warrants only that the StorageWorks software media will be free of physical defects for a period of ninety (90) days from delivery.

For more information about HP's Global Limited Warranty and Technical Support, visit:
ftp://ftp.compaq.com/pub/products/storageworks/warranty/en_321708-008.pdf

Recommended Services In order to maximize ROI and product uptime, and minimize the cost of ownership, Hewlett Packard recommends:

3 year Next Business Day Parts Exchange

- Guards against downtime, which reduces productivity and profitability
- Eases budget planning with fixed-cost support that includes parts and labor
- Direct access to proven technical and problem-solving expertise

Service and Support, HP Care Pack, and Warranty Information

Available HP Care Pack Services	Extend your product warranty on the StorageWorks RDX Removable Disk Backup System with a cost-saving support package.

HP Care Pack Services are sold by HP and HP authorized enterprise and commercial resellers. Services for customers purchasing via direct and enterprise resellers are quoted using HP order configuration tools. Additional information about HP Care Pack Service features and benefits is available at: http://www.hp.com/hps/carepack/services/.

Key for HP Care Pack Service availability in the table below:
  E = Service available for customers purchasing direct and via enterprise resellers
  C = Service available for customers purchasing via commercial resellers
  N/A = Service not applicable

HP Care Pack Services Deployment and Per Event Services	Service Available
HP Installation	N/A
HP Installation & Startup	N/A
HP Implementation	N/A

For more information about Deployment and Per Event Services for HP Storage, visit: http://www.hp.com/hps/storage/.

HP Care Pack Services Availability Services	1 yr	3 yr	4 yr	5 yr
HP Next Business Day Hardware Support	N/A	E/C	N/A	N/A

* Both Proactive 24 & Critical Service relate only to 'reactive elements'. 'Proactive elements' are available on a time & materials basis. (SW is supported separately per package.)

To find HP Care Pack Services available via HP authorized commercial resellers, visit: http://h30125.www3.hp.com/csn/salesmktg/elfpack/elf_nonlkup_ctrylang.asp?code=elnl

HP Care Pack Service Product Numbers	**Enterprise & Commercial Purchased Care Packs** ('A' stands for physical Care Pack, 'E' for electronic Care Pack)

Product Description	Product Number	Support Band

eSupport	HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal
The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: http://www.hp.com/support

QuickSpecs

Service and Support, HP Care Pack, and Warranty Information

HP Education Services For more information about HP Education Services for Storage and SAN, visit:
http://education.hp.com/curr-storsan.html

**Additional Services
Information**

For more information about Deployment, Per Event, Consulting and Education services for HP
Storage, visit: http://www.hp.com/hps/storage/

For more information about HP Care Pack services for storage products, visit:
http://www.hp.com/hps/carepack/storage/cp_networked.html

For more information about HP storage software, services and updates, visit:
http://h18006.www1.hp.com/storage/software.html

If you have specific questions, contact your local HP representative. Contact information for a
representative in your area can be found at "Contact HP" http://www.hp.com/

Kit Contents

Kit Contents

Model Name	Kit Contents Description	Part Number
HP RDX160 Internal	RDX Internal Docking Station, installation poster, HP StorageWorks CD (containing electronic user's guide and drivers), internal USB cable, HP RDX 160GB removable disk cartridge, HP RDX continuous data protection software **NOTE:** 0D1 will appear after this part number on your sales order if factory integration is indicated.	AJ765A
HP RDX160 External	RDX External Docking Station, installation poster, HP StorageWorks CD (containing electronic user's guide and drivers), external USB cable, power cord/supply, HP RDX 160GB removable disk cartridge, HP RDX continuous data protection software	AJ766A
HP RDX320 Internal	RDX Internal Docking Station, installation poster, HP StorageWorks CD (containing electronic user's guide and drivers), internal USB cable, HP RDX 320GB removable disk cartridge, HP RDX continuous data protection software **NOTE:** 0D1 will appear after this part number on your sales order if factory integration is indicated.	AJ767A
HP RDX320 External	RDX External Docking Station, installation poster, HP StorageWorks CD (containing electronic user's guide and drivers), external USB cable, power cord/supply, HP RDX 320GB removable disk cartridge, HP RDX continuous data protection software	AJ768A
Media	HP 160GB RDX Removable Disk Cartridge	Q2040A
	HP 320GB RDX Removable Disk Cartridge	Q2041A

Technical Specifications

		HP RDX 160 RD Backup System	HP RDX 320 RD Backup System
Dimensions	**Form Factor**	Half-height, 5¼ in (internal module)	Half-height, 5¼ in (internal module)
	Physical (HxWxD) **Internal Dock**	1.63 x 5.78 x 6.72 in (4.14 x 14.68 x 17.07 cm)	1.63 x 5.78 x 6.72 in (4.14 x 14.68 x 17.07 cm)
	Physical (HxWxD) **External Dock**	2.04 x 4.32 x 7.00 in (incl bezel) (5.18 x 10.98 x 17.75 cm (incl.bezel))	2.04 x 4.32 x 7.00 in (incl bezel) (5.18 x 10.98 x 17.75 cm (incl.bezel))
	Physical (HxWxD) **Removable Disk Cartridge**	0.92 x 3.39 x 4.68 in (2.34 x 8.66 x 11.9 cm)	0.92 x 3.39 x 4.68 in (2.34 x 8.66 x 11.9 cm)
	Shipping (HxWxD) **Internal/External**	8.07 x 7.87 x 15.75 in (20.5 x 20.0 x 40 cm)	8.07 x 7.87 x 15.75 in (20.5 x 20.0 x 40 cm)
	Shipping (HxWxD) **Removable Disk Cartridge**	3.35 x 5.32 x 7.99 in (8.50 x 13.5 x 20.3 cm)	3.35 x 5.32 x 7.99 in (8.50 x 13.5 x 20.3 cm)
Weight	**Out of box, Internal Dock**	1.40 lb (635g)	1.40 lb (635g)
	Out of box, External Dock	1.19 lb (540g)	1.19 lb (540g)
	Out of box, Removable Disk Cartridge	0.38 lb (173g)	0.38 lb (173g)
	Shipping, Internal Dock Shipping	3.37 lb (1.53Kg)	3.37 lb (1.53Kg)
	External Dock	3.5 lb (1.59Kg)	3.5 lb (1.59Kg)
	Shipping, Removable Disk Cartridge	0.76 lb (345g)	0.77 lb (349g)
Orientation	**Internal Dock**	Horizontal +/- 90 degrees	Horizontal +/- 90 degrees
	External Dock	Horizontal +/- 90 degrees	Horizontal +/- 90 degrees
Capacity	**Native**	160GB	320GB
	Compressed (assumes 2:1 application based data compression)	320GB	640GB
Performance	**Average sustained transfer rate, native**	30MBs	30MBs
	Average sustained transfer rate, compressed (assumes 2:1 application based data compression)	60MBs	60MBs
	Burst transfer rate(USB)	480MBs	480MBs
	Data access time	15 milliseconds	15 milliseconds
	Supported file systems	FAT32, NTFS, ext2, ext3	FAT32, NTFS, ext2, ext3
Reliability	**MTBF (Dock)**	550,000 hours @100% duty cycle	550,000 hours @100% duty cycle
	MTBF (cartridge)	500,000 hours	500,000 hours
	Uncorrected Error Rate	1 error per 1014 bits read	1 error per 1014 bits read

Technical Specifications

Media	Docking Station Load/Unload cycles	10,000 (minimum)	10,000 (minimum)
	Cartridge Load/Unload cycles	5,000 (minimum)	5,000 (minimum)
Compatibility		Backwards and forwards compatibility to any current/future RDX removable disk cartridge	Backwards and forwards compatibility to any current/future RDX removable disk cartridge
Interface	Interface type	USB 2.0	USB 2.0
	USB connector	USB standard series B receptacle	USB standard series B receptacle
Power Specifications	Power requirements, Internal	+5V ± 5% (100mV Max ripple) @1.3A +12V ± 10% (150mV Max ripple) @0.005A	+5V ± 5% (100mV Max ripple) @1.1A +12V ± 10% (150mV Max ripple) @0.4A
	Power requirements, External	100 to 240 VAC, 50-60 Hz, auto-ranging	100 to 240 VAC, 50-60 Hz, auto-ranging
	Power consumption	6.6 W/20 W (typical/peak)	6.6 W/20 W (typical)/ (peak)
Environmental Specifications (both models)	Temperature range	10 to 40 degrees (operating), -40 to 65 degrees (non operating)	
	Relative humidity	20 to 80%, non condensing (operating), 10 to 90%, non-condensing (non operating)	
	Altitude	-50 ft to 10,000 ft (operational), -50 ft to 35,000 ft (non operational)	
	Vibration	random vib(operational): 0.30Grms 5Hz to 500Hz, sine vib(non-op): 0.75g (0-peak) 5Hz to 500Hz, random(non-op): 2.41Grms 5Hz to 500Hz half sine 31G @2.6ms (operational), half sine 71G @ 2m (non operational)	
	Shock : Cartridge non operating drop shock	1 m (39.4 in) drop to tile over concrete floor	

Standards Compliance (both models)	cURus Recognized (UL60950), TÜV EN60950 (IEC 60950), FCC and CE Declaration of Conformity, C-TICK Approved (AS/NZS CISPR22), VCCI Approved, RRL Approved, BSMI Approved, GOSH Approved	

Front Panel LED Indicators and buttons (both models)	Eject Button/Power LED (on docking station)	Off	No Power
		Green	Power is on and unit is working correctly
		Blinking Green	Unit is ejecting the cartridge
		Amber	Unit has detected a fault. For more information run a diagnostic application
		Blinking Amber	Host computer is accessing the media, and the user has pressed the eject button. The unit will eject the cartridge after the host access completes
	Activity LED (on cartridge)	Green	Cartridge is ready
		Blinking Green	Activity (Reading, writing, seeking)
		Amber	Unit has detected a fault. For more information run a diagnostic application
	Emergency Eject Hole	Emergency Eject Hole to eject the cartridge	

Technical Specifications

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The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

For RDX drives and media, 1 GB = 1 billion bytes. Actual formatted capacity is less.