QuickSpecs
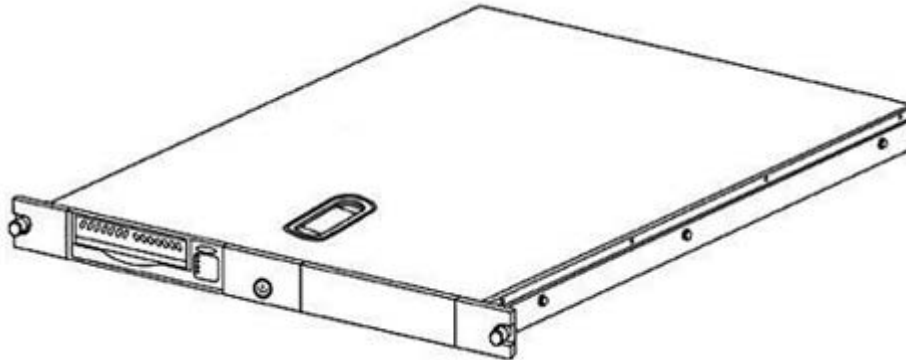
Overview

HPE StoreEver Rack-mount Kits

The HPE StoreEver Rack-mount Kits provide a high-density, rack-mountable tape drive and removable hard disk drive enclosure for direct-attach USB and SAS backup and archiving applications. Because these enclosures use standard internal tape drives and internal removable hard disk drives, they provide a cost-effective means of mounting tape drives and removable hard disk drives in rack server environments. These enclosures provide customers with scalability, allowing the customer to add drives and migrate to new tape or removable hard disk drive technologies as their capacity and performance needs grow. HPE Rack-mount Kits are supported by ProLiant, HPE Integrity, and Apollo platforms.

1U Rack-mount Kit

The 1U Rack-mount Kit is available in SAS and USB interfaces. The 1U USB enclosure supports up to two internal RDX docks with a maximum native capacity of 8TB per backup session when using two RDX 4 TB removable disk cartridges. The 1U SAS enclosure supports up to two , LTO-5 Ultrium 3000 SAS, LTO-6 Ultrium 6250, LTO-7 Ultrium 15000 or LTO-8 Ultrium 30750 tape drives with a maximum capacity of 60 TB when using two LTO-8 Ultrium 30750 SAS drives (assuming 2.5:1 data compression).

HPE 1U Rack-mount Kit

What's New

- Generic 1U Rack-mount Kit Specialized SAS and USB cables available

Features

Key Features

1U Rack-mount Kit
- Generic 1U Rack-mount kit supporting both SAS and USB 3.0 interfaces1U Rack-mount Mini SAS HD (SFF-8644) and Mini SAS (SFF-8088) cables available for LTO drive support
- 1U Rack-mount USB 3.0 cable available for RDX drive support
- The 1U Generic Rack-mount kit enclosure supports up to two, LTO-5 Ultrium 3000, LTO-6 Ultrium 6250, LTO-7 Ultrium 15000, LTO-8 Ultrium 30750 tape drives, or up to two RDX 500GB, 1TB, 2TB, 3TB or RDX 4TB removable hard disk drives or any combination of LTO and RDX drives
- Provides up to 60 TB of storage capacity (assuming 2.5:1 compression) using two LTO-8 Ultrium 30750 drives or up to 8TB of storage capacity using two RDX 4TB removable hard disk drives
- Data transfer rates up to 600 MB/sec (native) using two LTO-8 Ultrium 30750 drives or up to 360 GB/hour using two RDX removable hard disk drives
-
- Latching switch for the 1U rack allows for auto restart after power has been interrupted and restored
- Supports up to two separate SAS or USB channels for connectivity to two separate servers or two separate HBA ports.
-

Customer Benefits

- Small footprint allows the customer to consolidate external storage needs within a high-density form factor.
- Scalability allows customers to add tape drives and migrate to new tape drive technologies that meet their capacity and performance needs as their storage requirements change.
- Support of multiple tape drive technologies as well as RDX removable hard disk drive technology, which reduces risk and protect customers' investments.
- Support of multiple interfaces including SAS and USB by selecting the appropriate cabling.
- Latching switch for all 1U Rack-mount kits allows auto restart after power has been interrupted and restored.
- Affordable pricing allows customer to match their level of investment in storage to their current or future business needs.
- Thoroughly tested and qualified with HPE ProLiant, HPE Integrity and Apollo platforms and industry leading software, resulting in easier installation and fewer problems.

	1U Rack-mount Kit
Maximum Capacity (compressed)	60 TB (with 2xLTO-8 SAS) 8TB (with 2x 4 TB RDX USB)
Maximum Number of Drives	2 half-height
Drives Supported	RDX Internal Docking Station LTO-5 Ultrium 3000 LTO-6 Ultrium 6250 LTO-7 Ultrium 15000 LTO-8 Ultrium 30750
Interface	6Gb SAS, USB
High-Availability Features	None

Product Highlights

Scalability	HPE Rack-mount kits support up to two LTO tape drives, two RDX removable hard disk drives or a combination of both in the 1U height. LTO tape drives and RDX removable hard disk drives can be added at any time, allowing flexibility to add capacity or change tape technologies at any time.
Configuration	**Specialized 1U rack-mount cable is required** **SAS**: 4m Mini SAS HD (SFF-8644) or 4m Mini SAS (SFF-8088) LTO tape drive support cable **USB**: 2m USB 3.0 Type A RDX drive support cable
Ease-of-Use Features	HPE Rack-mount kits include features designed to provide for easier access and management of installed LTO tape drives and RDX removable hard disk drives. The cover is easily unlatched and slid off for ease of access. Each unit also includes two slide-out drive trays that allow for easy removal of the internal LTO tape drives and RDX removable hard disk drives through the top access cover. An LED on the front panel indicates when the power is on.
Compatibility and Integration Testing	HPE Rack-mount Kits use in-house technology, which ensures the customer of full compatibility with HPE ProLiant, Integrity and Apollo platforms. Hewlett Packard Enterprise thoroughly tests products with leading backup software and operating systems.

HPE Server Compatibility

NOTE: Connecting a Rack-mount Kit to any of the supported ProLiant, Apollo, and HPE Integrity platforms may require the use of a secondary controller, host bus adapter, or Smart Array controller. Please see the list of supported controllers, host bus adapters, and Smart Array controllers at: **http://www.hpe.com/storage/DAPRcompatibility** to select the appropriate model.

HPE Rack-mount Kits are supported on the following classes of HPE systems:

- HPE ProLiant servers
- HPE Apollo servers
- HPE rx and rp series servers
- HPE tc series servers

For details of which tape drive and RDX removable hard disk drive models work with which systems, including third-party systems, visit: **http://www.hpe.com/storage/DAPRcompatibility** for the latest hardware compatibility information.

OS Support	Operating system compatibility will depend on the drives used in the rack enclosure. For the latest list of servers, operating systems, and backup software that support HPE tape drives and RDX removable hard disk drives, check the tape/RDX removable hard disk drive backup compatibility pages on our web site at: **http://www.hpe.com/storage/DAPRcompatibility**.
Software Support	Backup application compatibility also depends on the drives used in the Rack-mount Kit. For the latest list of servers, operating systems, and backup software that support HPE tape drives and RDX removable hard disk drives, check the tape/RDX removable hard disk drive backup compatibility pages on our web site at: **http://www.hpe.com/storage/DAPRcompatibility**.

Service and Support

Warranty	3-0-0 (Three year parts)

HPE Pointnext operational Services: Packaged server and storage services for increased uptime, productivity and ROI
When you buy HPE server and storage products and solutions, it's also a good time to think about what levels of support you may need. Our portfolio of service options reduce deployment and management worries while helping you get the most out of your server and storage investments. We take a holistic approach to your environment, bridging servers, blades, storage, software and network infrastructures with our packaged HPE Pointnext operational Services for servers and storage.

Protect your business beyond warranty
When it comes to robustness and reliability, standard computing equipment warranties have matured along with technology. Good news that can also create problems stemming from depending on standard warranties designed to only protect against product defects and some downtime causes. Using a standard approach to warranty uplifts, such as HPE Pointnext operational Services, helps reduce downtime risks and provides operational consistency for mission-critical and standard business computing.

HPE Pointnext operational Services: Upgrading or extending standard server and storage warranties cost effectively
HPE Pointnext operational Services offer a standard reactive hardware and software support services suite sold separately, or combined with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of integrated proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition with HPE Proactive Select, you can acquire the specific proactive constancy and technical services. HPE Proactive Select menu offers a broad set of service options that you can mix and match depending on your specific requirements. Proactive service options include offers for server, storage, network, SAN device, software, environment and education services.

HPE server and storage lifecycle support services offer a full spectrum of customer care-from technology support to complex migrations to complete managed services. HPE Factory Express provides customization, integration and deployment services for turnkey solutions. HPE Education Services offer flexible, comprehensive training on to help your IT staff get the most out of your server and storage investments. HPE Financial solutions extend innovative financing and cost-effective asset management programs-from purchase to equipment retirement.
Learn more: **http://www.hpe.com/services/storage**

NOTE: HPE Pointnext operational Services availability may vary by product and country.

HPE Pointnext operational Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from Hewlett Packard Enterprise or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find HPE Pointnext operational Services at:
  http://www.hpe.com/services/storage

Recommended HPE Pointnext operational Services for optimal satisfaction with your HPE product.

Recommended Support	**3-Year HPE Support Plus 24**
	HPE Foundation Care 24x7 connects you to Hewlett Packard Enterprise 24 hours a day, seven days a week for assistance on resolving issues - hardware onsite response within four hours and software call back within two hours after opening your case. Three years' coverage recommended with HPE Pointnext operational Services.

Recommended Deployment	**HPE Install Storage Autoloader/Tape Drive Array Service**
	For smooth start up and better business outcomes, HPE Install Storage Autoloader/Tape Drive Array Service- this service provides initial hardware installation into your server technology environment (system configuration is not included). Leverage the full strength of HPE Technology Services - customers can trust the services professionals at Hewlett Packard Enterprise to work collaboratively

Service and Support

with them, putting our strategic and technical know-how to work across their entire infrastructure.

- Allows your IT resources to stay focused on their core tasks and priorities
- Reduces implementation time, impact and risk to your storage environment

Related Services **HPE Backup and Recovery Solution Service**

Rapid recovery from system downtime can hinge on the efficiency of your backup and recovery management environment - and on how well that environment is integrated with your storage infrastructure. But integration processes can be time-consuming and complex, and your IT resources are already stretched thin. Where can you find the expert help you need?

For fast, effective integration of your backup solution into an existing or new storage infrastructure, turn to the storage experts at HPE Services. Our Backup and Recovery Solution Service (BRSS) provides end-to-end management of your backup integration process. The BRSS team works with you to analyze your business and IT environment; develop a comprehensive integration plan and timetable; design an architecture that suits your critical requirements; install backup software; implement your solution; and validate your configuration.

- By engaging Hewlett Packard Enterprise to implement HPE Data Protector, customers' IT staff can stay focused on their core tasks and priorities, resulting in less impact to your business
- Professional backup and recovery planning that aligns with customer's business needs and implementation that reduces project execution time and risk to the storage environment
- Hewlett Packard Enterprise expertise with backup and recovery helps ensure issues are avoided

5-Year HPE Support Plus 24
As an alternative to our recommended support level, for customers who need to improve uptime with responsive 24x7 product support:

HPE Support Plus 24 helps you increase performance and availability with comprehensive, consistent hardware and software services. Working with your IT team, HPE Services engineers deliver onsite hardware support and over-the-phone software support around-the-clock 365 days per year. Service coverage encompasses Hewlett Packard Enterprise products and selected multivendor hardware and software.

In addition, this convenient HPE Pointnext operational Services packaged service makes software updates available to you at substantial savings.

Choose Support Plus 24 when you need to:

- Improve uptime with responsive hardware and software services available anytime
- Cost-effectively obtain expert 24x7 multivendor hardware and software support
- Enjoy consistent service coverage across geographically dispersed sites
- Update Hewlett Packard Enterprise and selected third-party software at a predictable cost
- Take advantage of subscription savings on software updates

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

Service and Support

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 HPE service agreement. To access the support portal, visit: **http://www.hpe.com/services/support**

Customer Technical Training	HPE Education Services In today's cost-conscious business environment, IT professionals, developers, consultants and users face an interesting challenge: how to keep up with the latest technologies and expand important skills while delivering profitable results on current projects. To help address this challenge, Hewlett Packard Enterprise offers innovative training solutions that help keep you up-to-date on virtualization, server, storage, Insight Control, Citrix, Microsoft® and open source/Linux-related topics-while spending less time away from business-critical activities.
HPE Services Awards	HPE Technology Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction.

Configuration Information

NOTE: When ordering this product factory racked, drives cannot be added in the factory. Drives can be installed by the local Installation team or the customer.

Step 1 - 1U Rack-mount Kit

Model	Part Number
HPE StoreEver 1U Generic Rack Mount Kit	BC029A

NOTE: Rack-mountable enclosure (1U) with power supply, fans, power cord, quick deploy rail kit including sliding universal rails for HPE G2 Enterprise Series, Enterprise Series, G2 Advanced Series, Advanced Series, Standard Series, and other HPE square hole or round hole racks. Quick release levers for fast and easy serviceability and in-rack tool-less access.
NOTE: #0D1 will appear after the part number on the sales order if HPE factory integration is indicated.

Step 2 – Cable
Select each required option with quantities specified.

Cable	Description	Part Number
	HPE StoreEver 4m Mini SAS HD (SFF-8644) LTO Drive Cable for 1U Rack Mount Kit	876805-B21
	HPE StoreEver 4m Mini SAS (SFF-8088) LTO Drive Cable for 1U Rack Mount Kit	876804-B21
	HPE StoreEver 2m USB 3.0 Type A RDX Drive Cable for 1U Rack Mount Kit	P03819-B21

Step 3 – Additional/Related Options
Select each required option with quantities specified.
NOTE: The following is a list of additional/related options. Some may be discontinued.

Tape Drives	Description	Part Number
	HPE StoreEver LTO-5 Ultrium 3000 SAS Internal Tape Drive	EH957B
	NOTE: Requires HPE StoreEver 1U Rack-mount kit 4 meter Mini SAS HD (SFF-8644) Cable for LTO drive or HPE StoreEver 1U Rack Mount 4m Mini SAS (SFF-8088) cable for LTO Drive.	
	HPE StoreEver LTO-6 Ultrium 6250 Internal Tape Drive	EH969A
	NOTE: Requires HPE StoreEver 1U Rack-mount kit 4 meter Mini SAS HD (SFF-8644) Cable for LTO drive or HPE StoreEver 1U Rack Mount 4m Mini SAS (SFF-8088) cable for LTO Drive.	
	HPE StoreEver LTO-7 Ultrium 15000 Internal Tape Drive	BB873A
	NOTE: Requires HPE StoreEver 1U Rack-mount kit 4 meter Mini SAS HD (SFF-8644) Cable for LTO drive or HPE StoreEver 1U Rack Mount 4m Mini SAS (SFF-8088) cable for LTO Drive.	
	HPE StoreEver LTO-8 Ultrium 30750 Internal Tape Drive	BC022A
	NOTE: Requires HPE StoreEver 1U Rack-mount kit 4 meter Mini SAS HD (SFF-8644) Cable for LTO drive or HPE StoreEver 1U Rack Mount 4m Mini SAS (SFF-8088) cable for LTO Drive.	

Removable Disk Drive	Description	Part Number
	HPE RDX500 USB3.0 Internal Disk Backup System	B7B64A
	NOTE: Requires HPE StoreEver 1U Rack Mount 2m USB 3.0 Type A cable for RDX Drive.	
	HPE RDX1000 USB3.0 Internal Disk Backup System	B7B67A
	NOTE: Requires HPE StoreEver 1U Rack Mount 2m USB 3.0 Type A cable for RDX	

Configuration Information

	Drive.	
	HPE RDX 2TB USB3.0 Internal Disk Backup System	E7X52A
	NOTE: Requires HPE StoreEver 1U Rack Mount 2m USB 3.0 Type A cable for RDX Drive.	
	HPE RDX 3TB USB 3.0 Internal Disk Backup System	P9L71A
	NOTE: Requires HPE StoreEver 1U Rack Mount 2m USB 3.0 Type A cable for RDX Drive.	
	HPE RDX 4TB USB 3.0 Internal Disk Backup System	Q2R32A
	NOTE: Requires HPE StoreEver 1U Rack Mount 2m USB 3.0 Type A cable for RDX Drive.	
	HPE RDX 500GB Removable Disk Cartridge	Q2042A
	HPE RDX 1TB Removable Disk Cartridge	Q2044A
	HPE RDX 2TB Removable Disk Cartridge	Q2046A
	HPE RDX 3TB Removable Disk Cartridge	Q2047A
	HPE RDX 4TB Removable Disk Cartridge	Q2048A
Media	HPE LTO1 Ultrium 200GB RW Data Tape	C7971A
	HPE LTO2 Ultrium 400GB RW Data Tape	C7972A
	HPE LTO-3 Ultrium 800 GB Re-writable Data Cartridge	C7973A
	HPE LTO-3 Ultrium 800 GB WORM Data Cartridge	C7973W
	HPE LTO4 Ultrium 1.6TB Read/Write Data Cartridge	C7974A
	HPE LTO4 Ultrium 1.6TB WORM Data Tape Cartridge	C7974W
	HPE LTO-5 Ultrium 3TB RW Data Cartridge	C7975A
	HPE LTO-5 Ultrium 3TB WORM Data Cartridge	C7975W
	HPE LTO-6 Ultrium 6.25TB MP RW Data Cartridge	C7976A
	HPE LTO-7 Ultrium 15TB RW Data Cartridge	C7977A
	HPE LTO-7 Ultrium WORM Data Cartridge	C7977W
	HPE LTO-8 Ultrium 30TB RW Data Cartridge	Q2078A
	HPE LTO-8 Ultrium 30TB WORM Data Cartridge	Q2078W
	HPE Ultrium Universal Cleaning Cartridge	C7978A
Host Bus Adapters, Controllers, and Accessories for ProLiant Servers	**SAS Controllers**	
	HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21
	NOTE: Recommended SAS HBA for connecting External LTO Ultrium tape drives to Gen10 ProLiant servers.	
	HPE H241 12Gb 2-ports Ext Smart Host Bus Adapter	726911-B21
	NOTE: Recommended SAS HBA for connecting LTO Ultrium tape drives to Gen9 ProLiant servers.	

Technical Specifications

1U Rack-mount

Dimensions	**Form Factor**	1U - Rack-mount
	Physical (HxWxD)	1.7 x 19 x 25.3 in (4.32 x 42.88 x 64.14 cm)
	Shipping (HxWxD)	12.0 x 23.5 x 33.5 in (30.48 x 59.69 x 85.09 cm)
Weight	**Out of box**	19.0 lb (8.6 kg) **NOTE:** The 1U Rack-mount enclosure can be configured with a number of different LTO tape drive generations as well as RDX drives. It also supports different interfaces, HW and cable differences that affect the final weight of the product. The weight indicated in this document is a general guideline, and final weight may vary slightly.
	Shipping	25 lb (11.3 kg) approximately 34 lb
Interface	**USB/SAS Interface**	USB 3.0 3Gb and 6Gb SAS
Power Specifications	**Power Requirements**	140 Watts, max 100 to 240 Vrms Nominal Line Voltage 90 to 264 Vrms Range Line Voltage 50/60 Hz 2.2/1.1 A max Input Current (@120 VAC)

Environmental Specifications	**Temperature**	**Operating**	50° to 95° F (10° to 35° C)
		Storage	-22° to 140° F (-30° to 60° C)
	Non-Condensing Humidity	**Operating**	20% to 80%
		Storage	10% to 90%

Drives Supported	**1U Rack-mount**	**Capacity** (native)	**Capacity** (Compressed)	**Transfer rate** (native)	**Form Factor**
	RDX 500GB Internal	500 GB		30 MB/s	Half-Height
	RDX 1 TB Internal	1 TB		30 MB/s	Half-Height
	RDX 2 TB Internal	2 TB		30 MB/s	Half-Height
	RDX 3 TB Internal	**3 TB**		30 MB/s	Half-Height
	RDX 4 TB Internal	**4 TB**		30 MB/s	Half-Height
	LTO-5 Ultrium 3000 SAS	1.5TB	3TB	140MB/s	Half-Height
	LTO-6 Ultrium 6250 SAS	2.5TB	6.25TB	160MB/s	Half-Height
	LTO-7 Ultrium 15000 SAS	6TB	15TB	300MB/s	Half-Height
	LTO-8 Ultrium 30750 SAS	12TB	30TB	300MB/s	Half-Height

Max Number of drives	**1U Rack-mount**	Two half-height internal drives
LED Indicators	**1U Rack-mount**	Power Supply
Cable	**Total Cable Length**	**Cable Length at the rear of the 1U rack-mount kit**

Technical Specifications

Mini SAS	4.57m	4m
USB 3.0	2.7m	2.13m

Summary of Changes

Date:	Version History:	Action:	Description of change:
02-Apr-2018	From Version 81 to 82	Changed	Features, Product Highlights, Configuration Information, and Technical Specifications were revised.
05-Feb-2018	From Version 80 to 81	Changed	Overview, Features, Product Highlights, Configuration Information, and Technical Specifications were revised.
04-Dec-2017	From Version 79 to 80	Changed	Included LTO-8 and RDX 4 TB support
23-Oct-2017	From Version 78 to 79	Changed	Care Pack naming and Service and Support- Parts and Materials updated
04-Sept-2017	From Version 77 to 78	Changed	Changes made to the entire document
11-Jul-2017	From Version 76 to 77	Changed	Removed LTO-3 & Full-Height references
30-Sept-2016	From Version 75 to 76	Changed	Updated out of box weight and added disclaimer
11-Mar-2016	From Version 74 to 75	Changed	Removed OBS RDX SKU's and added updated/higher capacity SKU for 2 TB
15-Jan-2016	From Version 73 to 74	Changed	Removed SCSI references, DAT references, 3U rack and included LTO-7
13-Feb-2015	From Version 72 to 73	Changed	Updated the Technical Specifications section. Obsolete SKUs removed.
18-Jul-2014	From Version 71 to 72	Changed	Key Features - 3U SCSI Rack-mount Kit – changed 3.2 TB to 6.4 TB and removed "two LTO 4 Ultrium 1840 or 6.4 TB with" and removed "LTO 3 Ultrium 960 and LTO 4 Ultrium 1840"; Family Comparison table – 3U Rack-mount Kit – drives supported – removed LTO 4 Ultrium 1840; Configuration Information – Pre-configured models – removed AG594C, DW028D and EH926B; Step 2 – Additional/Related Options – removed Q1587B, EH853B and EH960B; USB Cable Kit – removed section and 396114-B21; Technical Specifications – Drives Supported – 1U and 3U Rack-mount – removed DAT 160 SAS information;
25 Apr 2014	From v70 to v71	Changed	3-Year HPE Support Plus 24 paragraph for a new one
4 Apr 2014	From v20 to v21	Changed	Additional Options: Updated Rail Kits in the HPE Rack Options section.
		Added	Configuration Information: Added a NOTE to the HPE Power Supplies section. Core Options: Added 695510-B21 to HPE Hard Drives, 717491-B21 to HPE Networking, 684539-B21 and a note to HPE Power supplies, 728593-B21 to HPE Graphic Options. Additional Options: HPE PCIe Workload Accelerator Options complete section, HPE Basic Power Distribution Units complete section.
		Removed	Additional Options: Removed 641027-B21, 600279-B21 and 600282-B21 from the HPE I/O Accelerator Options.
31 Mar 2014	From v19 to v20	Changed	Changes were made throughout
24 Mar 2014	From v18 to v19	Changed	Image correction
17 Jan 2014	From v17 to v18	Changed	Maximum initiators supported was revised in the overview chart
10 Dec 2013	From v16 to v17	Added	Added the missing image to Step 1
9 Dec 2013	From v15 to v16	Changed	Overview and Configuration were revised
19 Jun 2013	From v14 to v15	Removed	Removed a Note from Configuration Information and Additional Options sections.
28 Jan 2013	Version 1	Changed	Updated operating temperature range as requested by engineering from 5-40C to 10-35C

Summary of Changes

Hewlett Packard Enterprise

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