



# PAC Storage Video Optimized Media & Entertainment Storage

## *Shared Media Storage for Video Collaboration*

## PS V Highlights

### High Performance and Scalability

- Supports up to 26 streams of 4K video editing and playback. Holds up to 896 drives with expansion enclosures.

### Complete Product Line

- PS V is represented with different form factors and levels of performance for all types of media workloads to fit your budget and requirements.

### Improved Productivity

- Supports DaVinci Resolve, Adobe Premiere, and Final Cut Pro NLE software for easy project collaboration.

### High Reliability

- Innovative data protection technologies and cableless hardware design.

### Flexible IO Connections

- Supports diverse network protocols and operating systems to fit in any IT environment.

### Easy-to-Use

- Easy setup and effortless storage/media management via web-based management software. DaVinci Resolve Project Server Integration for enabling real-time simultaneous post-production workflow.

## Introduction

*PAC Storage PS Video Optimized Storage (PS V) Series offers comprehensive storage solutions for today's Media and Entertainment industry that processes 4K and above ultra-high definition media footages with the industry-leading media editing software – DaVinci Resolve, Adobe Premiere, and Final Cut Pro. The PAC Storage PS V fulfills the need for small workgroups and post-production studios within 10 workstations working collaboratively on a single shared storage. PS V is a single controller unified storage solution with high capacity nearline drives or all-flash configurations exclusively designed for media and entertainment industry. Its hardware design features 3U 16-bay and 4U 24-bay form factors, flexible host board options, and stable, reliable modular design with high expandability for adding more capacity and connectivity ports.*

### Effortless management with proprietary tools

PAC Storage's user-friendly interface offers two kinds of user privileges for different management purposes. The first one is for M&E User Administrator, who is in charge of users' accounts and storage quota management. To help the user administrator easily set up storage and network, PAC's GUI also offers a setup wizard, which will guide users to finish system deployment in 5 minutes and initial environment setup in 30 minutes. The user-friendly interface makes it easy to manage user access credentials and shared folders. Another user privilege is for System Administrator who can do advanced storage configurations, data services settings, and maintenance.

PAC Storage PS V includes a client-based utility for Windows and macOS workstations. Once connected to PS V, the workstations are able to automatically detect the PS V within the network, the assigned shared folders for each editor will be automatically mounted. This step simplifies the complexities of storage system deployment and network settings, and, therefore, allows users to focus on video editing and creation. If any critical events occur, event notifications are sent to all PAC Storage clients so that the problem can be fixed in time to ensure uninterrupted workflow.

**DaVinci Resolve Project Server Integration** - DaVinci Resolve project server is preinstalled on PS V for real-time collaborative video editing with project synchronization across multiple clients. With centralized project server management, members of creative group can smoothly edit and manage media content from a shared storage with RAID protection without worrying about failures or power outages of the workstations. To ensure data integrity and protect files from accidental deletion, IT administrator can also backup and restore the video files through PAC Storage's management software.

# PHYSICAL SPECIFICATIONS

Product Series		PS V 2000	PS V 3000 Gen2	PS V 4000 Gen2
Form Factor & Available Models	3U 16-bay	PS V 2000 16 Bay	PS V 3000 16 Bay	PS V 3000 16 Bay
	4U 24-bay	-	PS V 3000 24 Bay	PS V 4000 24 Bay
		Note: <b>T:</b> High performance <b>2:</b> Gen2		
Controller	Single Controller			
Cache Backup Techniques	Super capacitor+Flash module			
CPU	Intel® Pentium® 4 Core	Intel® Xeon® 4 Core	Intel® Xeon® 8 Core	
Cache Memory	Default DDR4 8GB; Expandable to 64GB		Default DDR4 8GB; Expandable to 256GB	
	Note: For M&E solution, it is recommended to use memory at least 64GB.			
Supported Drives	2.5" SAS or SATA SSD 2.5" 12Gb/s SAS 10,000 or 15,000 RPM HDD 3.5" 12Gb/s SAS 7,200 RPM HDD 3.5" 6Gb/s SATA 7,200 RPM HDD			
	Note: For the latest compatibility details, refer to our official website for the latest Compatibility Matrix.			
Max. Drives Number	896 (with expansion board)			
Max. SSD Cache Pool	1.6TB	4TB	4TB	
Onboard SAS expansion Ports	2	2	2	
Onboard 1GbE Ports	4	0	0	
Onboard 10 GbE Ports (SFP+)	0	4	4	
Max. Host Board Slots	2	2	2	
Max. Expansion Board	1	1	1	
	Note: The expansion board can only be installed in the HB2 slot and has 2 x 12Gb/s SAS ports only connectable with expansion enclosures.			
Host Board Options	16Gb/s FC x 4 32Gb/s FC x 2 1GbE (RJ-45) x 4 10GbE (SFP+) x 2 10GbE (RJ-45) x 2 25GbE (SFP28) x 2 40GbE (QSFP+) x 2 12Gb/s SAS x 2	16Gb/s FC x 4 32Gb/s FC x 2 32Gb/s FC x 4 10GbE (SFP+) x 2 10GbE (RJ-45) x 2 25GbE (SFP28) x 2 40GbE (QSFP+) x 2 12Gb/s SAS x 2		
	Note: 1. Fibre channel supports point-to-point and switch mode. 2. The expansion board can only be installed in the HB2 slot and has 12Gb/s SAS x 2 ports only connectable with expansion enclosures.			
Max. 16Gb/s FC Ports	4	4	4	
Max. 32Gb/s FC Ports	4	4	4	
Max. 1 GbE Ports	12	0	0	
Max. 10GbE Ports (RJ-45)	4	4	4	
Max. 10GbE Ports (SFP+)	4	8	8	
Max. 25GbE Ports (SFP28)	4	4	4	
Max. 40GbE Ports (QSFP+)	4	4	4	
Max. 12Gb/s SAS Ports	6	6	6	
Expansion Enclosure (JBOD)	JB 3012A, JB 3016A, JB 3024BA, JB 3025BA, JB 3060L	JB 3012A, JB 3016A, JB 3025BA, JB 3060L		
Dimensions (without chassis ears/ protrusions) (W x H x D)	2U 12-bay: 449 x 88 x 500 mm 2U 24-bay: 449 x 88 x 500 mm 2U 25-bay: 449 x 88 x 500 mm		3U 16-bay: 449 x 130 x 500 mm 4U 24-bay: 449 x 174.4 x 500 mm 4U 60-bay: 447.6 x 176 x 840.9 mm	
	2U 12-bay: 780 x 379 x 588 mm 2U 24-bay: 780 x 338 x 588 mm 2U 25-bay: 780 x 340 x 588 mm		3U 16-bay: 780 x 423 x 588 mm 4U 24-bay: 780 x 465 x 588 mm 4U 60-bay: 620 x 460 x 1140 mm	
Power Supply Unit (with fan module)	Power Supplies (Redundant/hot-swappable)	460W x 2 (80 PLUS Bronze)	530W x 2 (80 PLUS Bronze)	
	AC Voltage (with PFC(auto-switching))	100VAC @8A to 240VAC @4A	100VAC @10A to 240VAC @5A	
	Frequency	50-60 Hz	47-63Hz	
		Note: Power is also supplied in redundant mode, allowing full operation with half the resources.		
Safety Standard	<ul style="list-style-type: none"> <li>Electromagnetic Compatibility: CE, BSMI, FCC</li> <li>Safety: UL, BSMI, CB</li> </ul>			

## SOFTWARE SPECIFICATIONS

Max. Logical Drives Number	32		
Max. Logical Drives Capacity	512 TB		
Configurable Stripe Size	16KB, 32KB, 64KB, 128KB, 256KB, 512KB, or 1024KB per logical drive		
Configurable Writes Policy	Write-Back or Write-Through per logical drive. This policy can be modified.		
Max. Pool Size	2PB		
Max. Pool Number	32		
Max. Volume Size	2PB		
Max. Volume Number (per pool/per system)	1024		
Max. Host LUN Mapping Number	4096		
Max. Reserved Tag Number per Host-LUN Connection	Up to 256		
Max. iSCSI Initiators (per controller)	832		
Max. Host Connection Number (per FC)	128		
RAID Options	RAID 0, RAID 1, RAID 3, RAID 5, RAID 6, RAID 10, RAID 30, RAID 50, RAID 60		
Protocol Support	File Level Protocol	CIFS/SMB (Version 2.0/3.0), NFS (Version 2/3/4), AFP (Version 3.1.12), FTP/FXP (vsftpd 2.3.4), WebDAV (httpd package 2.4.6)	
	Block Level Protocol	FC, iSCSI, SAS	
	Object Level Protocol	RESTful API	
File Level	Max. File System Size	2PB	
	Max. Number of User Accounts	20000	
	Max. Number of User Groups	512	
	Max. Number of Folder Sharing	2048 (NFS/CIFS/FTP)   255 (AFP)	
	Max. Number of Rsync Jobs	1024	
	Max. Number of Rsync Concurrent Processes	64	
	Max. Number of Concurrent Connections (NFS/CIFS/AFP/FTP)	<ul style="list-style-type: none"> <li>• 16 GB memory: 200</li> <li>• 32 GB memory: 512</li> <li>• 64 GB memory: 1024</li> <li>• 128 GB memory: 2048</li> </ul>	
Management	<ul style="list-style-type: none"> <li>• User account management</li> <li>• Group management</li> <li>• Folder management - folder access control</li> <li>• Quota management</li> </ul>	<ul style="list-style-type: none"> <li>• Integration with Microsoft Active Directory (AD) and LDAP</li> <li>• Folder encryption with AES</li> <li>• Web-based management software</li> <li>• Storage Resource Management to analyze history records of resource usage</li> </ul>	
Availability and Reliability	<ul style="list-style-type: none"> <li>• Redundant, hot-swappable hardware modules</li> <li>• Device mapper support</li> <li>• Antivirus</li> <li>• Trunk group support</li> </ul>	<ul style="list-style-type: none"> <li>• Cache Safe technology</li> <li>• UPS</li> <li>• WORM (For file level only)</li> <li>• SMB Multichannel</li> </ul>	
Notification	<ul style="list-style-type: none"> <li>• Email</li> </ul>	<ul style="list-style-type: none"> <li>• SNMP traps</li> </ul>	
Applications	<ul style="list-style-type: none"> <li>• File explorer</li> <li>• Proxy server</li> </ul>	<ul style="list-style-type: none"> <li>• Syslog server</li> <li>• VPN server</li> </ul>	<ul style="list-style-type: none"> <li>• LDAP serve</li> <li>• Docker</li> </ul>
Cloud Feature	Supports the integration with following cloud providers: Amazon S3, Microsoft Azure, Alibaba Cloud, OpenStack, Baidu Cloud, Google Cloud, Tencent Cloud, Wasabi Cloud, etc.		
OS Support	Microsoft Windows Server 2019/2016/2012R2/2012/2008R2/2008, Windows 7 SP1, Windows 8.1, Microsoft Windows Hyper-V, Ret Hat Enterprise Linux, SUSE Linux Enterprise, Sun Solaris, Mac OS X, VMware, Citrix XenServer, OpenStack Cinder		
	Note: For OS version support, please refer to the compatibility matrix.		

## DATA SERVICE

Self-encrypting Drives	Unique factory encryption secures data plus makes deletion simple and complete	
Thin Provisioning (Block-Level) (default included)	"Just-in-time" capacity allocation optimizes storage utilization and eliminates allocated but unused storage space	
Local Replication	Snapshot	
	Snapshot images per source volume	Standard License: 64 / Advanced License: 256
	Snapshot images per pool	Standard License: 128 / Advanced License: 4096
	Volume Copy/Mirror	
Replication pairs per source volume	Standard License: 4 / Advanced License: 8	
Replication pairs per system	Standard License: 16 / Advanced License: 256	
Note: Standard license is included by default and advanced is an optional license		
Remote Replication (Block level)(optional)	Replication pairs per source volume: 8	
	Replication pairs per system: 64	
	Note: 1. The maximum number of replication pair per source volume is up to 8, regardless of remote asynchronous/remote synchronous/local volume pairs. 2. 4 x 16Gb FC and 2/4 x 32Gb FC host boards do not support Remote Replication.	
Remote Replication (File Level)	Support Rsync with 128-bit SSH encryption	
Automated Storage Tiering (optional)	2 or 4 storage tiers based on drive types	
	SSD supports	
	Automated data migration with scheduling options	
SSD Cache (Default Included)	Accelerating data access for random read-intensive environments, such as OLTP	
	Supports up to four SSDs per controller	
	Recommended DIMM capacity for SSD Cache pool for GSe 2000T	
	DRAM: 8GB	Max SSD Cache Pool Size: 400GB
	DRAM: 16GB	Max SSD Cache Pool Size: 600GB
	DRAM: 32GB	Max SSD Cache Pool Size: 1,000GB
	DRAM: 64GB	Max SSD Cache Pool Size: 1,600GB
	Recommended DIMM capacity for SSD Cache pool for GSe 3000/4000 Gen2	
	DRAM: 8GB	Max SSD Cache Pool Size: 500GB
	DRAM: 16GB	Max SSD Cache Pool Size: 1,000GB
	DRAM: 32GB	Max SSD Cache Pool Size: 2,000GB
DRAM: 64GB and up	Max SSD Cache Pool Size: 4,000GB	

## WARRANTY AND SERVICE

Service and Support	Standard Service	3-year limited hardware warranty and 8x5 phone, web, and email support (batteries are covered under warranty for 2 years)
	Upgrade or Extension Options	<p>Warranty extension: Can extended standard service up to 10 years The following Service can be upgraded to 10 years</p> <ul style="list-style-type: none"> <li>• Upgrade: Replacement part dispatch on the next business day</li> <li>• Advanced service: 24x7 phone, web, and email support + onsite diagnostics on the next business day</li> <li>• Premium service: 24x7 phone, web, and email support + onsite diagnostics in 4 hours</li> </ul> <p>Note: Options may vary by region. For more details, please contact our sales representatives.</p>
	Technical Support	Get information on system installation and maintenance, download technical documents and software, or issue a support ticket
	Product Services	Register products, download firmware, apply for licensing services, create product repair tickets, or check product repair status