



## PixelStor5000 + 300e Video Class

High Performance Video Surveillance Storage System, Advanced Caching, Zero Maintenance and Monitoring technologies enable unmatched performance and reliability and power savings

Ideal for high performance megapixel cameras and large standard camera video surveillance installations

### Features

#### Designed and Optimized

Designed for 24x7x365 operation and optimized for video surveillance storage applications.

#### Storage consolidation

Provides storage consolidation for NVR/DVRs; significantly lowering purchase, CAPEX, and OPEX costs.

#### Built for Growth

More cameras, higher resolution megapixel and increased retention periods are easily handled by the PS5000. It starts at 48TB and can grow up to 1,512TB. Growth is accomplished by using fast and affordable 24 Gb/s SAS 2.0 technology to daisy chain up to eight PS312e or four PS324e expansion enclosures. The PS5012 and the PS312e are 2U/12 bay SBB based single or dual controller enclosures. The PS324e is a low cost 4U/24 bay single controller expansion enclosure.

#### High Availability

Available are fully redundant, high availability models. It boasts enterprise class, high availability features like active-active controller failover with a 72 hour battery-backed cache. Easily serviceable are controllers, power supplies, fans, and hard drives. Every major component is hot swappable without interruption in service or loss of video data. Its sophisticated mirrored and path failover capabilities give it best-in-class system fault tolerance.

#### Simple to Use and Install

The PS5000 provides effortless installation, management, and administration. All administration functions assume technicians have basic to no storage knowledge. Once racked, setup time should be 15 minutes or less.

### Unmatched Patented Performance

The PS5000 Video Class product line uses low power, 24/7 video class drives and is able to provide exceptional performance for video surveillance storage; supporting hundreds of megapixel cameras. We accomplish this with our patented PixelStor VAN<sup>®</sup>, FlowThrough<sup>®</sup> and StreamAlign<sup>®</sup> advanced caching technologies along with BusyPlot<sup>®</sup> storage monitoring. VAN and FlowThrough are designed to provide unmatched video surveillance performance. Performance is further increased with the optional SSD HyperCache. StreamAlign performs in-line defragmentation to ensure write and read speeds will not degrade over time. Due to our advanced caching technologies, performance is 4x faster than typical NVR/DVR storage while providing a cost effective, power saving video storage solution. BusyPlot is a unique set of GUI tools used to monitor all aspects of the PS5000VID storage performance. BusyPlot alerts the user if incoming video is outpacing storage performance so that steps may be taken to ensure no video is lost. The PS5000 has five standard GbE ports per controller and optional dual 10GbE ports per controller. With these patented features and technologies, the PS5000 array is the top leading solution in the video surveillance industry.

### Video Class Storage

The PS5000 Video Class product line uses video drives that are designed for the rigors of video surveillance storage. Like enterprise drives, the video drives offer the same 24/7 operation endurance but are optimized for video surveillance applications. The PS5000 Video Class product line offers a new and unique way to save significant amounts of energy dollars while providing a more cost effective solution over traditional storage devices. With heavy NVR loads, the PS5000 provides up to 27% drive energy savings. In typical NVR loads, an even greater 39% is saved while still providing exceptional video storage performance. In addition to these significant savings, the PS5000 provides IPM (Intelligent Power Management) which automatically monitors and optimizes the system's power use and MAID (Massive Array of Idle Disks) automatically monitors and places idle drives into power savings mode, further reducing drive power consumption by up to 95%. This powerful combination of performance, reliability, and energy savings makes the PS5000 the ideal storage choice for all megapixel video surveillance applications.

### High Reliability

Disk drive failure is a major cause of lost video and downtime. NVRs typically do not provide any data protection. If a drive is lost typically all of the video will be lost along with the failed drive. The PS5000, using video class drives incorporates Self-Healing technology resulting in up to 70% reduced drive failure rates. PS5000 also has Disk Cloning feature where a potential failing disk can be cloned before it becomes faulty. Cloning is a user-initiated, online, copy-and-replace of a problematic disk-group member with another disk. The PS5000 is configured with either enhanced RAID 5 or 6 which protects the data from drive failures. If a drive does fail, its advanced RAID technology automatically replaces the failed drive with a global spare, rebuilds its data on the spare drive, and continues to operate with no degradation of performance or intervention by the administrator. The rebuild operation occurs in the background while the PS5000 continues to store video and modulates the rebuild speed based on the amount of incoming video being stored, ensuring no video will be lost. Video retention is always a top priority. The PS5000 uses specifically qualified video class hard drives and is backed by a standard 3 year warranty.

## More Features

### Best-in-class Performance, Modularity & Serviceability

- SMART diagnostics
- Complete Modular Design
- All Major Components Redundant & Serviceable

### Video Surveillance-class

- Single or dual active-active controllers
- RAID 10, 5, 50, 6, 60
- Disk Group concatenation
- Redundant OS, cooling & power
- Mirrored/persistent cache
- WB, WT or Mirrored cache (per LUN)
- 5 x 1GbE and optional 2x 10GbE ports
- Multi-path IO (MPIO)
- 1-2 24Gbps SAS 2.0 ports
- Auto/global drive sparing
- Online Software Upgrades
- Powerful remote management software
- Intelligent Power Management (IPM) and MAID (System and drive power management)
- Drive Self-Healing
- Bad sector reconstruction
- Scheduled drive inspection
- Web-based management utility, Telnet, Serial console management, SNMP management (Enterprise MIB), iSNS

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## Specifications

Models	PS5012VID-GE1 (Single ctlw/5 GbE ,12 drives) PS5012VID-GE2 (Dual ctlw/ 10 GbE ,12 drives) PS5012VID-10GE1 (Single ctl w/2x10GbE, 5xGbE,12 drives) PS5012VID-10GE2 (Dual ctl w/ 2x10GbE, 10xGbE,12 drives) PS312eVID-IOM1 (Single ctl 12 drive expansion) PS312eVID-IOM2 (Dual ctl 12 drive expansion) PS324eVID-IOM1(Single ctl 24 drive expansion)
CPU Type	Intel Ivy Bridge dual core 3GHz
# Controllers	Single or Dual
Memory size	8GB per controller
Memory type	DDR3 1600 ECC UDIMM
Cache Type	Mirrored/Persistent
Cache Settings	Cache can be configured to write-back, write-through or mirrored **for each virtual disk volume
HyperCache	Single or Dual 512GB SSD (Each SSD replaces one HD)
Video Storage Performance	Up to 2000Mbps / 250MBps per controller
Max. HDDs	108
Host Connect Options	IPSAN
Interface Ports	5x GbE iSCSI ports (per Ctrl.) Optional 2x10GbE & 5x GbE iSCSI ports (per Ctrl.) One 24Gbps downstream SAS 2.0 ports (per Ctrl.) One Serial port (per Ctrl.) Two USB 3.0 ports (per Ctrl.)
HDD Type	Video Class SATAIII
Drives	3.5", 24/7/365.Video Class SATAIII – 4, 6, 8, 10, 12, 14TB
Redundancy	Controllers** Power Supplies Fans System Software
Availability Features	Active-active controller failover, IP & disk group failover ** Auto drive rebuild w/global spares, 72 Hr. battery backup
Serviceability	Controllers Power Supplies Fans System Software Mid-plane
Data Protection	RAID 10, 5, 50, 6, 60 Bad sector reconstruction Zero Maintenance Self-healing Scheduled drive inspection Disk Cloning SMART diagnostics
Management	Web-based management utility Telnet Serial console management SNMP management (Enterprise MIB) iSNS
Security	LUN masking, Chap authentication
Software Services	Online capacity expansion, Online software upgrades (OS/JBOD/Drives), Volume management (256 LUNs), Smart Sparing, Intelligent Power Management

\*\* Dual controller models only

### Physical Characteristics

Product	Height	Width	Depth	Weight (w/HDDs)
PS5012	8.68cm (3.4in.)	44.58cm (17.6 in.)	60.12 (23.7 in.)	28.4kg (62.5 Lbs)
PS312e	8.68cm (3.4in.)	44.58cm (17.6 in.)	60.12 (23.7 in.)	28.4kg (60.5 Lbs)
PS324e	17.43cm (6.9in.)	44.58cm (17.6 in.)	60.12 (23.7 in.)	54kg (120Lbs)

### Operating Environment

10-35° C (50-104°F) 10%-90% non-condensing  
100-240 VAC, 50/60 Hz, 600 Watts. Current (100/240 VAC): Typical: 5/2.5A, Max 8.6A  
Designed for 24x7x365 Operation

**Compatibility**  
Windows and Linux

EMC-FCC  
Class A

