# rasilient | built for surveillance

# PixelStor5000 + 300e HD

**High Performance Video Surveillance Storage System, Advanced Caching, Zero Maintenance and monitoring technologies enable unmatched performance and reliability.**

**Ideal for large high performance Megapixel camera video surveillance deployments**

## Features

### Designed and Optimized
Designed for 24x7x365 video service and optimized for Video Surveillance storage applications.

### High performance drives
SAS drives providing Enterprise Class high reliability and performance.

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

### Scalability
The scalability to match the growing retention periods, rapid increasing camera resolution and increasing numbers of cameras needed today and tomorrow.

### High Availability
It offers fully redundant high availability models. It boosts enterprise class, high availability features like active-active controller failover, 72 hour battery-backed cache and full redundancy and serviceable controllers, power supplies, fans and hard drives. Every major component is hot swappable without interruption in service or loss of data. Its sophisticated mirrored and path failover capabilities give it best-in-class system fault tolerance.

### Simple to Use and Install
It provides effortless installation, management and administration. All administration functions assume technicians with basic to no storage knowledge. Once racked, setup time should be 15 minutes or less.

## Unmatched Patented Performance

Rasilient PS5000 HD sets new performance standards. With the ever increasing camera resolution (HD MegaPixel) and number of surveillance cameras, video frame loss due to inadequate NVR/DVR storage is becoming a common problem. If the incoming video surpasses the speed the NVR/DVR can store, it will simply throw the video frame away. Since NVRs do not typically alert users to this loss of video, there is no way to know it has occurred. The PS5000 HD is designed to eliminate this problem and to excel in these most demanding video surveillance environments. It achieves unmatched performance and eliminates video frame loss. It accomplishes this with its patented PixelStor technologies: VAN®, FlowThrough®, StreamAlign® and BusyPlot®. VAN® and FlowThrough® are designed to significantly increase storage speed performance. Performance is further increased with our optional HyperCache. StreamAlign® significantly reduces disk fragmentation which ensures performance will not degrade over time. Because of our advanced technologies, performance is an incredible 8x faster than typical NVR/DVR storage. BusyPlot® is a unique set of GUI tools used to monitor all aspects of the PS5000 HD storage performance. BusyPlot® alerts the user if incoming video out paces the storage performance, so steps may be taken to ensure no video is lost. The PS5000 HD has five standard GbE ports per controller and optional dual 10GbE ports per controller So not only does the PS5000 HD provide unmatched video storage performance, it also provides the tools necessary to monitor video storage performance and to provide a guaranteed quality of storage service.

## High Reliability

Disk drive failure is a major cause of lost video and downtime. The PS5000 HD only uses the highest quality enterprise class SAS hard drives. It also uses drive Self-Healing capability which automaticity repairs failed drives reducing drive failure rate up to 70%. In addition, it provides RAID 5 and 6 which eliminates the loss of video due to a disk failure. Typically in a 12 disk drive storage system using RAID 5 one drive is needed for data protection leaving the remaining 11 drives for data. This is compared to RAID 1, which requires double the number of drives (24) to provide protection. The PS5000 HD offers global sparing. Any drives not in use are used as global hot spares. If a drive fails, the PS5000 HD will automatically rebuild its data on the spare drive without requiring intervention by the administrator. The rebuild operation occurs in the background while the PS5000 HD continues to store video and modulates the rebuild speed based on the amount of video being stored ensuring no incoming video will be lost. Video always has priority.

## High Capacity and Highly Scalable

Rasilient PS5000 HD is the ideal product if you want to add more cameras, use higher resolution cameras or increase retention periods. The PS5000 HD is a 2U/12 bay SBB based enclosure and is very simple to expand. It starts at as little as 48TB and can grow up to 1,512 TB. Expansion is accomplished by using the PS300e expansion shelf and 24 Gb/s SAS 2.0 technology to daisy chain up to 8 PS300e expansion enclosures. It's simple and cost effective expansion and scalability is the ideal solution for ever increasing retention periods, camera resolution and numbers of cameras needed. This makes the PS5000HD the perfect solution for all mid-size to large video surveillance storage needs.

## More Features

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

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

### Enterprise-class

- Single or dual active-active controllers
- RAID 0, 1, 5, 50, 10, 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 | PS5012HD-GE1 (Single ctl w/5 GbE ,12 drives)<br>PS5012HD-GE2 (Dual ctl w/ 10 GbE ,12 drives)<br>PS5012HD-10GE1 (Single ctl w/2x10Gbe, 5xGbE,12 drives)<br>PS5012HD-10GE2 (Dual ctl w/ 2x10Gbe, 10xGbE,12 drives)<br>PS312eHD-IOM1 (Single ctl 12 drive expansion)<br>PS312eHD-IOM2 (Dual ctl 12 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 250MBps per controller* |
| Max. HDDs | 108 |
| Host Connect Options | IPSAN |
| Interface Ports | Five GbE iSCSI ports (per Ctrl.)<br>Optional 2x10GbE & 5x GbE iSCSI ports (per Ctrl.)<br>One 24Gbps downstream SAS 2.0 ports (per Ctrl.)<br>One Serial port (per Ctrl.)<br>Two USB 3.0 ports (per Ctrl.) |
| HDD Type | Enterprise class SAS 2.0 |
| Drives | 3.5", 7.2K SAS 4, 6, 8, 10, 12, and 14TB |
| Redundancy | Controllers**<br>Power Supplies<br>Fans<br>System Software |
| Availability Features | Active-active controller failover, IP &  disk group failover **<br>Auto drive rebuild w/global spares, 72 Hr. battery backup |
| Serviceability | Controllers<br>Power Supplies<br>Fans<br>System Software<br>Mid-plane |
| Data Protection | RAID 0, 1, 5, 50 10, 6, 60 •<br>Disk Group concatenation<br>Bad sector reconstruction •<br>Zero Maintenance<br>Self-healing<br>Scheduled drive inspection •<br>SMART diagnostics |
| Management | Web-based management utility<br>Telnet<br>Serial console management<br>SNMP management (Enterprise MIB)<br>iSNS |
| Security | LUN masking, Chap authentication |
| Software Services | Online capacity expansion, Online software upgrades (OS/JBOD/Drives),<br>Volume management (256 LUNs), Smart Sparing, Intelligent Power Management |

** Dual 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.) | 27.4kg (60.5 Lbs) |

### 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

Data sheet                                      5/21/2019