EE500 Series EnduraXpress™
INTEGRATED RECORDING AND MANAGEMENT PLATFORM, 32 OR 64 IP, 3 TO 24 TB

Product Features

• Recording Throughput up to 250 Mbps Meets Demanding Performance Requirements for Write-Intensive Applications
• Hardware Designed to Eliminate Single Points of Failure, Including Redundant Fans, Power Supplies, and RAID 6 Storage for Optimum Reliability
• Built-in EnduraStor™ Storage Management Increases Storage Efficiency by Grooming Recorded Streams Based on Age and Priority
• Ability to Serve 32 Simultaneous Playback Streams
• Performance Levels Maintained in Normal and RAID Error Conditions
• Built-in Diagnostic Monitoring Provides Preventative Maintenance and SNMP Monitoring
• Ships with Endura® WS5200 Software Licenses
• Software Runs on a Standard PC with Microsoft® Windows® XP Professional and 32-Bit Versions of Windows Vista® Business, Ultimate, or Enterprise Operating Systems
• Support for Standard Resolution and Megapixel Resolution Cameras
• Support for MPEG-4, H.264 Baseline, Main, and High-Profile Codecs
• Zone of Interest™ Allows Independent View and Management of Specified Areas Within a Camera’s Field of View in Live or Playback Views
• Digital Zoom in Live or Playback Views
• Convenient Tear-Off Options to Customize Display
• EnduraView™ Technology Mitigates CPU Processing Requirements and Network Bandwidth Consumption for Multiscreen Configurations
• Integrated Configuration and Administration Interface Provides Full-Management Capability for All Components
• On-Screen Pan/Tilt/Zoom (PTZ) Controls Including Click to Center and PTZ to Selected Area
• Advanced Search Capabilities Including Motion, Alarm, Event, and Camera
• Integrated Event and Alarm Monitoring and Management Interface

The EE500 Series EnduraXpress™ combines the performance, reliability, and robustness of an enterprise-class, mission-critical storage management system. It offers ease of installation and management that is critical for delivering a cost-effective solution to small-scale installations.

Hardware Built for Performance and Reliability
The demands of surveillance applications place unique strains on storage subsystems. Storage systems require the bandwidth and capacity to keep up with incoming streams. They must also simultaneously manage all other common disk and RAID functions. Additionally, physical security applications are typically mission critical. Any downtime, degraded performance for routine maintenance, or loss of recorded footage is extremely disruptive to the organization’s physical security mission.

The EE500 is engineered to meet these unique performance and reliability demands. Custom hardware components have been specifically designed to deliver sustained high throughput for recording and playback. The EE500 can handle a maximum of 250 Mbps of sustained write throughput across 32 or 64 streams and an additional 32 simultaneous playback streams. This performance is maintained whether the system is operating under normal conditions, dealing with disk drive errors, or rebuilding the RAID array.
The **EE500** improves the total cost of ownership and energy efficiency by consolidating disparate components into a single chassis. The integration of the recording server, recording software, and storage array into a highly optimized chassis can easily support standard resolution and megapixel camera recording workloads. The purpose-built, highly optimized design reduces annual operating costs by eliminating the cost of additional servers and the associated heating, ventilation, and cooling requirements they introduce.

Reliability is enhanced through the use of redundancy at all common failure points. A CompactFlash card hosts the operating system for higher reliability over traditional hard disk drives. To mitigate any downtime resulting from CompactFlash errors, the database is striped across the storage array. The RAID 6 storage configuration provides double parity protection of recorded data. The hard drive bay is cooled through the use of high capacity, redundant fans to ensure that the drives are kept at an optimum operating temperature. Finally, fully redundant power supplies guard against any power supply failure.

As with any other system, maintenance is an important and vital part of sustained operation. The **EE500** incorporates various innovations to make maintenance more efficient and to allow the system to continue operating at peak performance levels. Easy access to hard disk drives and the CompactFlash card is available from the front panel. A unique rail system allows access to a failed fan should it need to be replaced. Temperature sensors throughout the chassis detect possible airflow obstruction or clogged intake filters. The use of enterprise-class SAS® technology provides advanced enclosure management and monitoring. Notifications of potential or actual issues are transmitted to the specified user interfaces for action through Simple Network Management Protocol (SNMP) messages and traps.

If additional storage capacity is required, the capacity can be expanded using third-party storage arrays with an optional fibre channel interface.

**Software Built for Flexibility, Reliability, and Cost Optimization**

The **EE500** incorporates a wizard-driven installation procedure that guides the integrator through a step-by-step installation, which automates most processes. The integrated Dynamic Host Configuration Protocol (DHCP) server provides DHCP addresses to IP cameras or client workstations. The integrated network time protocol manager can be directed at a network time server, or it can act as the time source for all cameras and client workstations on the network. The deterministic performance of the hardware and software combination allows integrators to easily estimate, size, and configure the system to meet their storage and performance requirements.

Cameras from the **EE500** are viewed through a PC running the supplied Endura® workstation client software. The software provides access to all operation and configuration features in a unified, intuitive graphical user interface. The interface utilizes drag and drop operations, keyboard shortcuts, built-in ToolTips, and online Help to enable the most direct, intuitive interactions with cameras and components distributed across the network. In addition, operators can add Endura viewing devices such as the VCD5202 for virtual-matrix style control and network decoders to build out a monitor wall for surveillance operations. Finally, the optional mapping interface allows for a comprehensive view of the entire facility with integrated alarm monitoring and visual verification capabilities.

The **EE500** software easily accommodates standard resolution, high definition (HD), and megapixel camera sources; decodes MPEG-4 and H.264 (baseline, main, and high profile); includes support for Zone of Interest™; direct PTZ control and digital zoom; alarm management; includes the option of utilizing camera sources with intelligent video content analysis at the edge; efficient search and export mechanisms; and a complete administration and configuration console.

The **EE500** includes built-in support for Pelco IP Cameras. Third-party cameras can be added using an optional UD15000-CAM universal device interface. Additional user interfaces, including network decoders and virtual console displays, can be added to expand viewing capabilities into a full virtual matrix.
## TECHNICAL SPECIFICATIONS

### SYSTEM
- **Operating System**: Linux®
- **RAID Level**: RAID 6
- **Effective Capacity**: Up to 18.1 TB
- **Drive Interface**: SAS/SATA
- **Recommended PC Requirements**
  - **Web Browser**: Internet Explorer® 6.x (or later) with Adobe® Flash® Player 10 (or later)

### NETWORK
- **Interface**: 2, 1 Gbps Ethernet RJ-45 ports (1000Base-T)
- **Auxiliary Interfaces**: USB 2.0 3 ports (2 rear, 1 front)

### FRONT PANEL INDICATORS
- **Power**: Blue Pelco badge
- **Software Status**: Green, amber, red (based on diagnostics)
- **Ethernet Port 1**: Green, red
- **Ethernet Port 2**: Reserved
- **Hardware Status**: Green, red
- **Hard Drive Status**: Green, red

### POWER
- **Power Input**: 100 to 240 VAC, 50/60 Hz, autoranging
- **Power Supply**: Internal, dual-redundant, hot swappable
- **Power Consumption**
  - **Operating Average**:
    - 100 VAC: 262 W, 2.65 A, 896 BTU/H
    - 115 VAC: 263 W, 2.31 A, 896 BTU/H
    - 220 VAC: 254 W, 1.25 A, 868 BTU/H

### ENVIRONMENTAL
- **Operating Temperature**: 50° to 95°F (10° to 35°C) at unit air intake
- **Storage Temperature**: –40° to 149°F (–40° to 65°C)
- **Operating Humidity**: 20% to 80%, noncondensing
- **Maximum Humidity Gradient**: 10% per hour
- **Operating Altitude**: –50 to 10,000 ft (–16 m to 3,048 m)
- **Operating Vibration**: 0.25 G at 3 Hz to 200 Hz at a sweep rate of 0.5 octave/minute

**Note**: The temperature at the unit air intake can be significantly higher than room temperature. Temperature is affected by rack configuration, floor layout, air conditioning strategy, and other issues. To prevent hard disk drive failure and unit damage, make sure the temperature at the air intake of the unit is continuously within the operating temperature range.

### PHYSICAL
- **Construction**: Steel cabinet
- **Finish**
  - **Bezel**: Gray metallic with black end caps
  - **Chassis**: Black matte finish
- **Dimensions (without rails)**: 24.3” D x 17.0” W x 5.2” H (61.8 x 43.2 x 13.2 cm)
- **Unit Weight**
  - **Empty (without drives)**: 46.4 lb (21 kg)
  - **Loaded (with drives)**: 66.8 lb (30 kg)
- **Shipping Weight**: 77.0 lb (35 kg)
- **Mounting Options**: Rack, 3 RU per unit
  (rack rails and hardware are supplied)
TECHNICAL SPECIFICATIONS

MODELS

The following table describes the EE500 model numbers. For example, the model number for an EE564, 24 TB, no expansion unit with United Kingdom power cords is EE564-24-UK.

Note: Units shipped to China do not include power cords.

<table>
<thead>
<tr>
<th>Model</th>
<th>Storage</th>
<th>Country Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE532 or EE564 (no expansion)</td>
<td>3 TB</td>
<td>US = North America</td>
</tr>
<tr>
<td></td>
<td>6 TB</td>
<td>EU = Europe</td>
</tr>
<tr>
<td></td>
<td>9 TB</td>
<td>UK = United Kingdom</td>
</tr>
<tr>
<td></td>
<td>12 TB</td>
<td>CN = China</td>
</tr>
<tr>
<td></td>
<td>24 TB</td>
<td>AU = Australia</td>
</tr>
<tr>
<td>EE532F or EE564F (fibre channel expansion)</td>
<td>3 TB</td>
<td>AR = Argentina</td>
</tr>
</tbody>
</table>

SUPPLIED ACCESSORIES

Power Cord: 2 power cords (based on country designation)

Rack Mount Kit: Brackets, rails, and hardware

OPTIONAL ACCESSORIES

NSM5200-PS: Replacement power supply module
NSM5200-FAN: Replacement system fan (upper-middle)
NSM5200-FANB: Replacement rear-chassis (rear panel) fan
NSM5200-FC: Fibre channel expansion card
HD5200-250: Replacement 250 GB drive and carrier
HD5200-500: Replacement 500 GB drive and carrier
HD5200-750: Replacement 750 GB drive and carrier
HD5200-1000: Replacement 1 TB drive and carrier
HD5200-2000: Replacement 2 TB hard drive and carrier

CERTIFICATIONS/RATINGS

• CE, Class A; meets EN50130-4 standard requirements
• FCC, Class A
• UL/cUL Listed
• C-Tick
• S-Mark for Argentina
• CCC

STANDARDS/ORGANIZATIONS

• Pelco is a member of the MPEG-4 Industry Forum.
• Pelco is a member of the Universal Plug and Play (UPnP) Forum.
• Pelco is a member of the Universal Serial Bus (USB) Implementers Forum.
• Compliant with ISO/IEC 14496 standard (also known as MPEG-4).
• Compliant with International Telecommunication Union (ITU) Recommendation G.711, “Pulse Code Modulations (PCM) of Voice Frequencies.”

Model Storage Country Code

EE532 or EE564 (no expansion) 3 TB US = North America
EE532F or EE564F (fibre channel expansion) 6 TB EU = Europe
9 TB UK = United Kingdom
12 TB CN = China
24 TB AU = Australia

Pelco, the Pelco logo, and other trademarks associated with Pelco products referred to in this publication are trademarks of Pelco, Inc. or its affiliates. All other product names and services are the property of their respective companies. Product specifications and availability are subject to change without notice.

©Copyright 2010, Pelco, Inc. All rights reserved.