SM5200 System Manager

DISTRIBUTED SYSTEM MANAGEMENT AND SECURITY PLATFORM

Product Features

- Manages Endura® IP Video Management System
- Administers Rights and Privileges for All Endura Users
- Stores and Administers Secure Keys for System Level Security
- Logs Errors and Alarms
- Provides DHCP Address Management for Endura Components
- Functions as a Time Server (NTP) for All Devices on the Endura Network
- Supports Failover Services for System Redundancy
- Acts as a Gateway, Providing Access to Endura over a Public Network
- Includes Web Interface for Easy Configuration
- Online Video Transcoder Supports Browser-Based Access to Cameras and Low Bandwidth Networks

- Browser Interface Supports Live View, Search, Playback, and Video Export
- Includes up to 12 TB of Storage in a RAID 5 Configuration to Host Exported Video
- Supports IPv6 Over Public-Facing Network Interface
- Browser Interface Supports H.264 Video Using the Pelco Media Plugin (PMP)

ENDURA SYSTEM MANAGEMENT

The **SM5200** is a network appliance that serves as the system management component of the Pelco Endura® system. The **SM5200** manages the discovery and registration of all Endura components and cameras on the network.

When registering Pelco cameras and encoders, the **SM5200** acts as a secure key server. Acting as a secure public/private key exchange allows Pelco video encoders and cameras to securely sign compressed video. This can be used to authenticate video from the source as needed for law enforcement agencies or other evidentiary requirements.

The **SM5200** monitors the health and functionality of all components on the network. Device diagnostics are logged in the **SM5200**'s database. In addition, the **SM5200** logs user activities such as logon, logoff, alarm response, and initiation of video export.

As a management server, the **SM5200** hosts user rights and permissions. Credentials are authenticated with the **SM5200**'s database before allowing a user to log onto any Endura client. Endura clients work in conjunction with user configurations stored in the **SM5200** to expose functions and language preferences configured for each role and user account. This improves operator efficiency and minimizes training requirements. The **SM5200** can also interact with an LDAP server supported by Microsoft® Active Directory® for user authentication, providing single sign-on capability for security operators.

The **SM5200** hosts the Endura Script Manager, allowing scripted responses to be executed on a given alarm condition, a programmed schedule, or by manual initiation. The unit also hosts an NTP server, enabling the **SM5200** to act as an NTP proxy between an atomic or GPS-based NTP server and the components on the Endura network. In the absence of an external NTP server, the **SM5200** can act as the time source for Endura cameras and servers; however, the system will be subject to time drift inherent with COTS servers. The **SM5200** also provides a DHCP server that can issue and manage DHCP addresses and leases for Endura components and cameras on the network.

The **SM5200** is designed for the demands of a mission critical surveillance system. To ensure continuous uptime, the **SM5200** is equipped with two solid state drives (SSD) containing the operating system in a RAID 1 configuration. In addition, redundant fans and the option of RAID 5 storage for exported video content provide insurance against hardware failures that could compromise data integrity. Users can also configure a series of up to 24 **SM5200s** to act in a failover capacity; the members of the failover cluster can be prioritized to take over system management responsibilities should the primary unit fall offline.

Dual Gigabit Ethernet network ports allow the **SM5200** to act as a proxy between two networks, enabling network administrators to manage the impact of surveillance video on shared network links. Network port 1 is available for Endura network traffic. Network port 2 supports IPv6 and is used for remote access only.

WEB INTERFACE FOR REMOTE ACCESS

The **SM5200** provides a browser-based interface for remote video viewing with minimal overhead*. Administrators with appropriate permissions can enable or disable remote access to the **SM5200** through the WS5200, and limit the bandwidth available from the server to remote browsers through the system manager's Web interface. This allows administrators to effectively manage the impact on shared networks. For security purposes, all remote access is initiated using HTTPS over a configurable, secure port. Administrators can also grant or limit user access to remote live view, search, playback, and export functions.

A browser-based status dashboard provides vital diagnostic information on the health of the system. Administrators with the proper credentials can remotely view the status of the hardware and configure the **SM5200** through a Web browser. Integrated SNMP services can also provide network administrators with hardware and software status information.

The **SM5200** Web interface allows users to stream live or recorded video in either motion JPEG or H.264 formats. The **SM5200**'s online, real-time transcoder can convert up to 16 high resolution, high bit rate IP streams from megapixel cameras into MJPEG frames, enabling users to stream video from compatible browsers without installing additional software. Installing the Pelco Media Plugin allows users to stream full-quality H.264 video directly from the system manager through their browser†. The system manager can serve up to 32 H.264 streams and 16 MJPEG streams simultaneously.

A single user can view up to 16 streams of live video footage across network bandwidths as low as 256 kbps. On networks limited to 128 kbps, users can view up to four feeds in a 2x2 window. Users with appropriate credentials can also search for recorded video on Pelco NSM5200 units by camera, time, date, and recording triggers (manual, continuous, motion, or alarm). Search results can be viewed in a 1x1 interface with standard play, pause, fast-forward, and rewind functions, as well as a scrub bar to quickly pinpoint the segment of video required for an investigation.

Recorded video segments can also be exported through the Web interface. Video clips exported from the Endura network are automatically stored on the **SM5200**'s integrated storage array for safekeeping and future download. Videos are stored in the proprietary PEF format. This is the native format of the cameras involved and ensures that videos retain their original resolution and authentication signatures, supporting their use for evidentiary purposes.

This Endura distributed, network-based product is available only to certified dealers/integrators. Please contact your local sales representative for details on certification applications and requirements. Additional information on Endura products and certifications may be found at http://www.pelco.com/endura.

*The system manager Web interface is designed for light to moderate Endura users. When accessing Endura in installations with 1,500 cameras or more, the WS5200 client software should be used.

†To view video using the Pelco Media Plugin (PMP), UDP port 57341 must be open and the client must be able to receive unobstructed UDP traffic directly from the system manager.

TECHNICAL SPECIFICATIONS

SYSTEM

Processor	2nd Generation Intel® Core™ i7
Operating System	Embedded Linux®
User Interface	Web Interface
Internal Memory	8 GB
Internal System Drives	6, 3.5-inch drive bays
Internal Storage Capacity	
Operating System	SSD RAID1*
Export Footage Storage	Up to 12 TB in RAID5†
USB Ports	
Front	1 USB 2.0
Rear	2 USB 2.0; 2 USB 3.0

*Drives 1 and 2 are SSD drives operating in a RAID 1 array, mirroring the operating system.

† Drives 3 to 6 are HDDs operating in a JBOD or RAID 5 configuration, depending on the number of drives present in the array.

NETWORK

Interface	2 Gigabit Ethernet RJ-45 ports (1000Base-T)

REMOTE CLIENT REQUIREMENTS

Supported Web Browsers	Microsoft® Internet Explorer® 9, Mozilla® Firefox® 8‡, Google Chrome™ 17 or later

Note: The system manager Web interface is designed for light to moderate Endura users. When accessing Endura in installations with 1,500 cameras or more, the WS5200 client software should be used.

‡To access the system manager over IPv6 using Mozilla Firefox, the IPv6 address must be resolved through a DNS server or through the host file on the local machine.

WEB INTERFACE COMPATIBILITY

Live View and playback/export features of the system manager Web interface are not available from all Endura components. The table below lists the Web interface features available from legacy cameras, current cameras, encoders, and recorders.

Device	Live View	Playback/Export
ENC5308/ENC5316 Through DVR53xx	•	
NVR5000	N/A	
NVR5100	N/A	
NET53xxT	•	
NET54xxT	•	
NSM5200	N/A	•
Sarix®	•	
Third-Party Cameras Through UDI5000-CAM	•	
UDI5000-MTRX	•	

ENDURA COMPONENT COMPATIBILITY NOTES

The SM5200 is compatible with current and legacy Endura system components. Please note minimum software version requirements where applicable:

Current Endura Components

- **WS5200/WS5070**: Must be upgraded to version 2.5.3.10286 or later to configure operator access to the system manager Web interface.
- **WS5000/WS5050/WS5060:** Compatible with the SM5200 when used as a replacement for the SM5000. The user interface must be upgraded to leverage the web browser and transcoding capabilities of the SM5200.
- **VCD5202:** No compatibility restrictions. When using the VCD5202 with the KBD5000 keyboard, user passwords are restricted to alphanumeric characters unless using a USB keyboard to log on.
- **WS5200-MAP:** No compatibility restrictions. The Endura Mapping server installer is not required to use WS5200-MAP with the SM5200.
- **NET5402R-HD:** No compatibility restrictions.

Legacy Endura Components

- **WS5000/WS5060/WS5070:** There are no compatibility restrictions when using the SM5200 as a replacement for the SM5000. You must upgrade to the WS5200/WS5070 to utilize the SM5200's remote access capabilities.
- **GW5000/NET5301TC:** No compatibility restrictions. The GW5000 and NET5301TC can continue to be used for their respective functions independently of the SM5200's remote access capabilities.
- **VCD500x:** User passwords must be alphanumeric unless using a USB keyboard to log on.
- **NET5301R**: No compatibility restrictions.
- **NVR51xx/SEB51xx:** No compatibility restrictions. Footage on NVR51xx units cannot be queried for remote search, playback, or export from the SM5200.
- **DVR53xx:** No compatibility restrictions. Footage on DVR53xx cannot be queried for search, playback, or export from the SM5200.
- **DVR51xx:** No compatibility restrictions in EnduraEnabled environments. Footage on EnduraEnabled DVR51xx units cannot be queried for search, playback, or export from the SM5200.

TECHNICAL SPECIFICATIONS

MODELS

Model numbers for the SM5200 consist of the base model, the amount of video storage, and the country in which the unit will be used. For example, a unit with 12 TB of video storage with a power cord for use in the United Kingdom is SM5200-12-UK.

Model	Video Storage	Country Code
SM5200	3 TB 12 TB	US = North America EU = Europe UK = United Kingdom CN = China AU = Australia AR = Argentina

OPTIONAL ACCESSORIES

SM5200-SSD-40GB	Replacement 40 GB SSD for operating system
SM5200-HDD-3TB	Replacement 3 TB HDD for data storage

SUPPLIED ACCESSORIES

Power Cord	1 based on country designation; all cables are 3-prong, molded connector. 1.8 m (6 ft)*
Bezel Keys	2
Rack Mount Kit	Brackets, rails, and hardware for mounting in 2 RU rack
SM5200-LIT	Documentation and resource disc
USB Flash Drive	1 for system migration

*Units shipped to China do not include a power cord; a CCC approved power cord must be used to power this equipment when used in China.

POWER

Power Input	100 to 240 VAC, 50/60 Hz, autoranging
Power Supply	Internal
Power Consumption	Operating Maximum
110 VAC / 60 Hz	223.0 W, 2.03 A, 761.4 BTU/H
115 VAC / 60 Hz	215.5 W, 1.87 A, 735.7 BTU/H
220 VAC / 60 Hz	204.1 W, 0.93 A, 696.8 BTU/H

FRONT PANEL INDICATORS/FUNCTIONS

Buttons	Power
Indicators	
Power	Blue
Unit Status	Green, amber, red
Network Port 1	Green, amber, red
Network Port 2	Green, amber, red
Software Status	Green, amber, red
Drive Status (6X)	Green, amber, red

NOTICE: *Judgment as to the suitability of the products for users' purposes is solely the users' responsibility. Users should refer to the Operation manuals for cautionary statements regarding user selected options and how they might affect video quality. Users shall determine the suitability of the products for their own intended application, picture rate and picture quality. In the event users intend to use the video for evidentiary purposes in a judicial proceeding or otherwise, users should consult with their attorney regarding any particular requirements for such use.*

ENVIRONMENTAL

Operating Temperature	10° to 35°C (50° to 95°F)
Storage Temperature	–40° to 65°C (–40° to 149°F)
Operating Humidity	20% to 80%, noncondensing
Maximum Humidity Gradient	10% per hour
Operating Altitude	–15 to 3,048 m (–50 to 10,000 ft)
Operating Vibration	0.25 G at 3 Hz to 200 Hz at a 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 performance failure and unit damage, make sure the temperature at the unit is continuously within the operating temperature range.

PHYSICAL

Dimensions	50.8 x 43.4 x 8.9 cm (20.0" D x 17.1" W x 3.5" H)	
Mounting	Rack or desktop (feet)	
Weight	Unit	Shipping
SM5200-03	17.1 kg (37.8 lb)	20.5 kg (45.1 lb)
SM5200-12	18.9 kg (41.8 lb)	22.3 kg (49.1 lb)

CERTIFICATIONS/RATINGS/PATENTS

- CE, Class A; meets EN50130-4 standard requirements
- FCC, Class A
- UL/cUL Listed
- C-Tick
- S-Mark for Argentina
- CCC
- KCC
- U.S. Patent D527,390

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
- Pelco is a contributor to the International Standards for Organization/Electrotechnical Commission (ISO/IEC) Joint Technical Committee 1 (JTC1), "Information Technology," Subcommittee 29, Working Group 11
- Compliance, ISO/IEC 14496 standard (also known as MPEG-4)
- Compliance, International Telecommunication Union (ITU) Recommendation G.711, "Pulse Code Modulation (PCM) of Voice Frequencies"