

VideoXpert™

SCALABLE VIDEO MANAGEMENT AND SURVEILLANCE SYSTEM

Product Features

- Designed for reliability through fault-tolerant software, distributed architecture, and multiple levels of redundancy
- Provides scalability and modular expansion
- Provides migration paths for Endura® and Digital Sentry® systems
- Aggregate VMS networks and manage all video through a single system (VideoXpert Ultimate distributions)
- Available in hardware and software-only distributions, for measured performance or convenient migration of customer-owned hardware
- Microsoft® Windows®-based for easy setup and maintenance
- Browser-based administration interface provides management capabilities without a hard client
- Supports up to 6 monitors per workstation, each driven by independent CPUs, displaying up to 16 HD streams per monitor
- Workstations available with 3D mouse and programmable keyboard accessories to maximize operator control

VideoXpert is a video management solution designed for scalability, fitting the needs surveillance operations of any size. Whether your operation has 100 cameras or 10,000, VideoXpert presents a solution to display, record, and manage your video resources.

VideoXpert servers can be clustered to provide redundancy and scalability within a single environment, enabling the system to grow in tune with your surveillance needs. As you add cameras, users, or recording devices, you can add servers, enabling the system to support the additional resources and perform to your expectations.

Designed for Windows platforms, VideoXpert is easy to install, quick to setup, and should be familiar to most users. Simplified interfaces ensure that users can pick-up and use the system with relative ease. From the Web-based Admin Portal, you can configure the system, manage the database of devices, configure users and permissions, and assign cameras to recording devices. Through the Ops Center software, operators gain access to high quality video and powerful investigative tools.

VideoXpert Ultimate can also aggregate other VideoXpert systems, tying multiple video management systems into a single interface. Through aggregation, administrators can build and maintain a concerted video management system despite distributed resources across networks.



- Extensible through plug-ins including mapping, video information overlays (eConnect), and license plate recognition (PlateSmart)
- Create and assign tags, organizing network resources as you see fit
- Includes advanced search capabilities for cameras and recordings
- Investigation mode enables operators to synchronize video playback and export investigative playlists covering scenes of interest

Administrators can migrate current Endura and Digital Sentry hardware and environments to VideoXpert, re-purposing hardware and reusing current video management infrastructures while gaining the benefits of VideoXpert. VideoXpert can also utilize NSM5200 and Digital Sentry storage hardware as recording solutions, preserving the video stored on those devices while providing access to VideoXpert features.

As distributed systems, VideoXpert Ultimate and Enterprise architecture ensure that there is no single point of failure that would compromise the system or video recording services. The system is designed with multiple levels of redundancy – through both purpose-built hardware and sophisticated failover schemes – maximizing system uptime. The architecture also allows individual components to continue operating in the event of failures elsewhere in the system.

VideoXpert can integrate with other physical security systems and building systems to deliver situational awareness and control. Built around open standards, VideoXpert includes a complete application programming interface (API), software development kits (SDKs), and dedicated technical support, allowing other systems' manufacturers to develop interfaces leveraging VideoXpert's capabilities. VideoXpert also supports third-party IP cameras, allowing users to choose across hundreds of camera options from Pelco and third-party partners when configuring a system.

TECHNICAL SPECIFICATIONS

VideoXpert consists of four major components: Core, Media Gateway, Ops Center, and storage manager. The Core performs central management operations, maintaining the system database, administering user rights and permissions, routing traffic, and other central operations. The Media Gateway handles all requests for video, ensuring that users at all levels of network access, LAN, WAN and even cellular, receive the right type of video for their application. The Ops Center Client is the operator console, providing an intuitive, but powerful interface from which users can access and investigate video throughout the system. The storage manager (VSM) records video and provides access to recordings.

CORE

The Core is the heart of the VideoXpert system. It maintains the database of cameras and recording devices, and provides a convenient Web interface called the Admin Portal, from which you can configure and manage the system. Through the Admin Portal, you can administer user accounts and permissions, determining the system functions and devices users can access. You can create and assign “tags” to quickly organize cameras and devices within the system. You can also configure and respond to events within the system.

Beyond simple device and user management, you can assign resources to recording pools through the Core’s Admin Portal interface. The browser also provides basic access to video streaming resources, ensuring that users with appropriate permissions can view video from the system even without a hard client.

The Core also stores video that operators elect to export from network storage devices for safe keeping. By exporting video, users can store video clips relevant to an investigation independent of standard recording devices. Other users can easily access and download exported playlists from the Core as necessary for distribution and investigative purposes.

MEDIA GATEWAY

The Media Gateway routes video traffic to appropriate users as requested. When a user requests a video stream, the Core fields the request and determines whether the user possesses the appropriate permissions to view the video stream. If the user can view the stream, the Media Gateway connects the user with the appropriate device — camera, encoder, or recorder as necessary.

Like Core servers, Media Gateways can be added to VideoXpert modularly, allowing a system with 1000 cameras to support 20 users, or a system with 100 cameras to support 200 users. You can add Media Gateways to the system in tune with media delivery needs.

CORE/MEDIA GATEWAY COMBINATION

While you can leverage separate Core and Media Gateway servers for systems of sufficient scale, most systems can easily support a single server acting as a combined, Core and Media Gateway for your VideoXpert server. The double-duty server provides the complete range of VideoXpert functionality that you would expect for systems with fewer than 2000 cameras and 100 simultaneous users.

OPS CENTER

The Ops Center is a Windows-based application, providing an optimal environment from which users can watch live and recorded video. With the support of Enhanced Decoders, the Ops Center supports up to six monitors, each capable of displaying up to 16 video streams simultaneously. Through the Ops Center, users can configure and recall complete workspaces, enabling operators to quickly log in and get to work.

The application provides mechanisms to sort cameras by tags and other criteria, making it easy for users to find the cameras they need. Users can switch between live and recorded video on the fly, ensuring a seamless viewing experience. With appropriate permissions, users can also share views – window arrangements, camera selections, and so on – with other users, enabling easy collaboration within your surveillance operations.

The Ops Center also provides an Investigation Mode, through which users can create playlists from multiple video clips encompassing important scenes from an investigation. Users can export individual clips or entire playlists to the Core, storing clips relevant to their investigation independent of the system’s network video storage for evidentiary safe-keeping and quick access.

The Ops Center supports modular plug-ins, exposing additional functionality for operators as required by your surveillance operations. The **Mapping** plug-in enables operators to arrange and find cameras on maps. Through mapping, operators can find and the camera providing the view they need, when they need it. The **PlateSmart** plug-in exposes license plate numbers, to track vehicles as they come and go. The **eConnect** plug-in displays real-time gaming information as a video overlay.



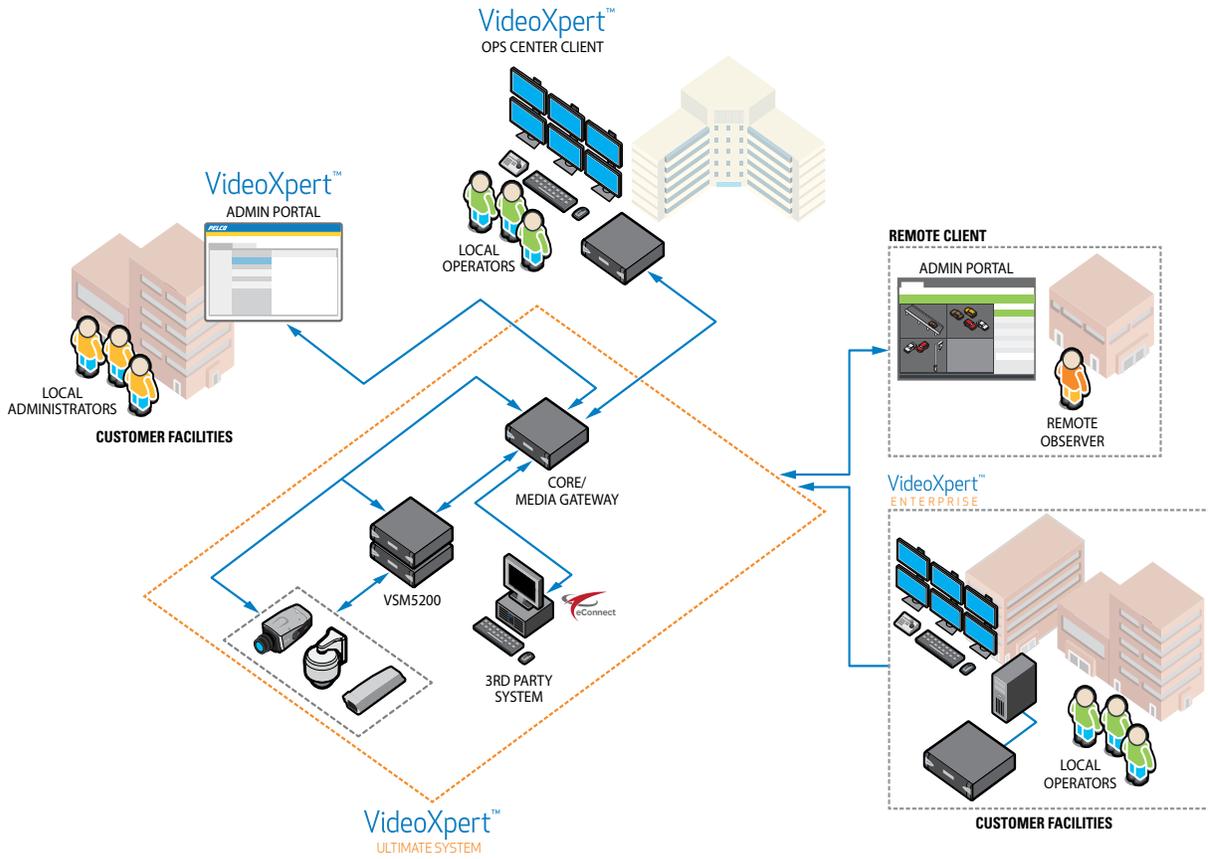
VIDEOXPERT STORAGE

The VideoXpert Storage Manager (VSM) captures recorded video for your VideoXpert system. You can create pools of up to six storage servers with failover and redundant recording services, maximizing recording availability and preventing recording gaps. The VSM is also compatible with Endura systems, providing a migration path from Endura to VideoXpert.

TECHNICAL SPECIFICATIONS

SYSTEM TOPOLOGY

VideoXpert Ultimate allows for expansion at any level of your security environment. Your system can begin with a single server, hosting both the Core and Media Gateway. As your surveillance needs grow, you can add servers to expand modularly within a single environment, or you can aggregate multiple VideoXpert systems to provide a single point of access for distributed video management networks.

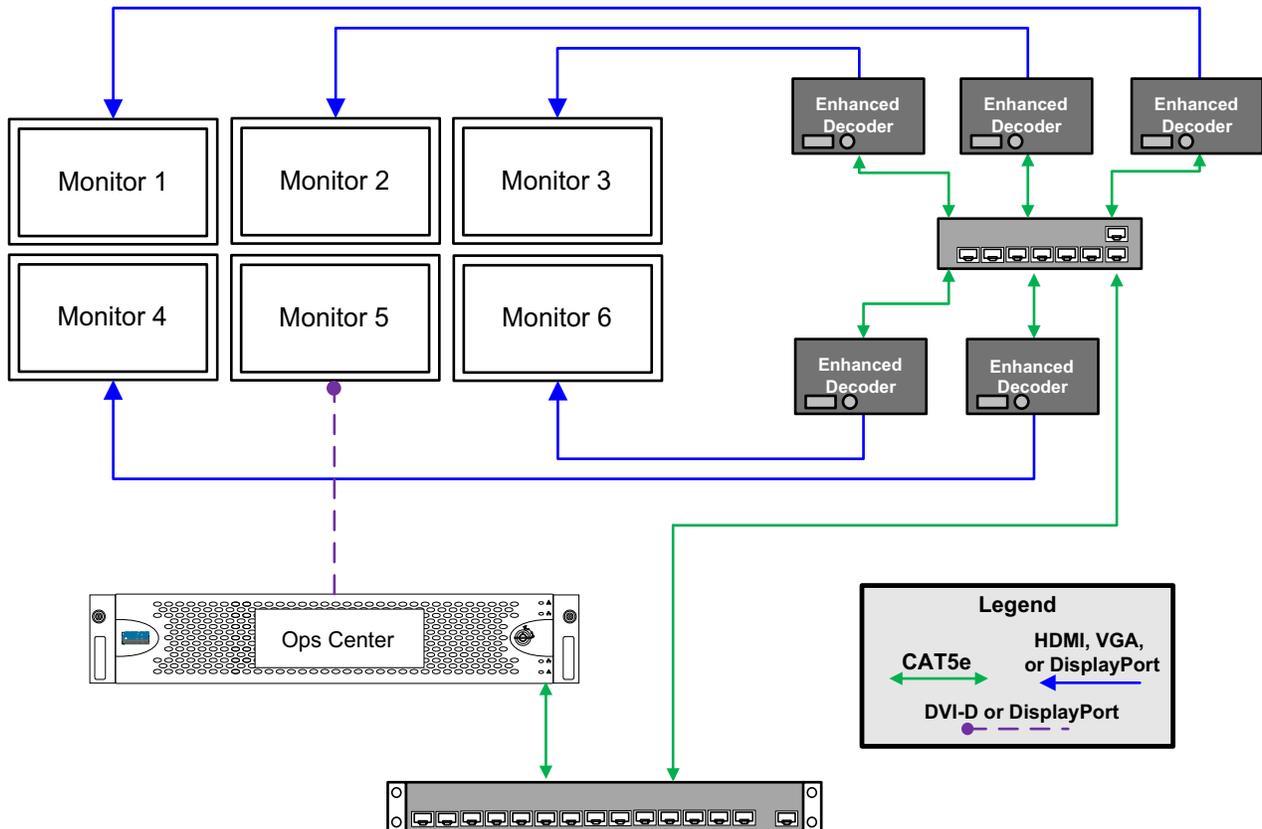


TECHNICAL SPECIFICATIONS

OPERATOR WORKSPACE TOPOLOGY

The Ops Center supports up to six monitors: one connected directly to the workstation itself, and the other five driven independently by Enhanced Decoders. The Enhanced Decoders enable each monitor connected through a workstation to display up to 16 high definition video streams or independent plug-ins while maintaining a seamless user experience.

Enhanced Decoder-driven monitors operate just like native monitors; users can move windows across monitors seamlessly. But, when the user requests a video stream or plug-in, the Enhanced Decoder communicates directly with VideoXpert servers to get and decode video. This enables operators to maximize the display-capabilities of the Ops Center without complicating the user experience.



TECHNICAL SPECIFICATIONS

NOTE: All specifications currently subject to change.

HARDWARE

		Core/CMG	Media Gateway	Ops Center	VSM	Enhanced Decoder (D09U-A1-DEC)
Processor		Intel® Xeon® E3-1275 v3			–	Intel® Core™ i7-4785T
Memory		32 GB DDR3 RAM ECC	8 GB DDR3 Non-ECC		–	4 GB DDR3
Operating System		Microsoft® Windows® 2012 Server		Windows 7 Ultimate SP3	Linux®	–
SSD Storage		480 GB	120 GB	120 GB	N/A	128 GB
HDD	Storage	1 TB	N/A		Max 48 TB	N/A
	RAID Level	N/A		RAID 6		
	Effective Capacity	TBD	N/A		VSM-36: 26.66 TB VSM-48: 35.50 TB	
Optical Drive		N/A		DVD±RW	N/A	
USB Ports	USB 2.0	1 front, 2 rear				1 internal
	USB 3.0	2 rear			N/A	2 front, 4 rear

MINIMUM SYSTEM REQUIREMENTS¹

		Core/CMG ²	Media Gateway ²	Ops Center	VSM	Enhanced Decoder
Processor		Intel i7	Intel i7	64-bit CPU	The VSM is not available as a software distribution	The Enhanced Decoder is not available as a software distribution
Memory		16 GB	8 GB	8 GB (2x 4 GB dual-channel) ³		
Operating System		Windows 7 SP3	Windows 7 SP3	Windows 7 SP3 64-bit		

¹ Software distributions tested without antivirus software installed.

² Core and Media Gateway servers were also tested in VirtualBox and ESXi 5.1 virtual environments, each with 8 GB memory.

³ Failing to use dual-channel memory may result in lowered performance when viewing video on local monitors.

VIDEO

		Core/CMG	Media Gateway	Ops Center	VSM Storage	Enhanced Decoder
Video System		Intel HD Graphics P4700		Intel HD Graphics P4700; supports optional upgrade	VGA interface; VSM models are designed to be configured remotely through web interface.	Intel HD
Memory		Shared		Shared; 1 GB for OPS-WKS6		Shared
Video Outputs		2x DisplayPort, DVI-D, VGA		2x DisplayPort, DVI-D, VGA; Supports up to 6 outputs for OPS-WKS6		DisplayPort, HDMI, VGA
Max Resolution	DisplayPort	3840 x 2160 at 60 hz				3840 x 2160 at 60 hz
	DVI-D and VGA	1920 x 1200 at 60 hz				1920 x 1200 at 60 hz
Video Standards	NTSC	60 Hz				60 Hz
	PAL	75 Hz				50 Hz

AUDIO

		Core/CMG	Media Gateway	Ops Center	VSM	Enhanced Decoder
Audio Decoding		G.711 speech codec			N/A	Realtek HDA Codec ALC3234
Audio Bitrate		64 kbps				TBD
Audio Levels	Input	Electret microphone				
	Output	Up to 3 Vp-p, adjustable, minimum load of 8 ohms				
Audio Connectors	Connector Tip	3.5 mm stereo jacks (2x)				
	Connector Ring	Signal left (input and output)				
	Connector Sleeve	Common				
Audio Inputs					Microphone (front)	

TECHNICAL SPECIFICATIONS

NETWORKING

	Core/CMG	Media Gateway	Ops Center	VSM	Enhanced Decoder
Interface	Gigabit Ethernet (1000Base-T) ports (2x)				Gigabit Ethernet (1000Base-T) port (1x)

FRONT PANEL

	Core/CMG	Media Gateway	Ops Center	VSM	Enhanced Decoder
Buttons	Power, configuration/reset				Power
Indicators	Unit Status	Green, amber, red			White, flashing white
	Primary Network	Green, amber, red		Green, red, off	Green, orange, off
	Secondary Network	Green, amber, red		Green, red, off	N/A
	Software Status	Green, amber, red (based on diagnostics)			
	Hard Disk Status	Green, red, off (behind bezel)		Green, red, flashing red (behind bezel)	Flashing white

POWER

	Core/CMG	Media Gateway	Ops Center	VSM	Enhanced Decoder
Power Input	100 to 240 VAC 50/60 Hz, autoranging				
Power Supply	Internal				Internal, 65 W
Power Consumption	100 VAC	160 W, 1.60 A, 547 BTU/H		262 W, 2.65 A, 895 BTU/H	TBD
	115 VAC	160 W, 1.39 A, 547 BTU/H		263 W, 2.31 A, 895 BTU/H	
	220 VAC	160 W, 0.72 A, 547 BTU/H		254 W, 1.25 A, 868 BTU/H	

ENVIRONMENTAL

	Core/CMG	Media Gateway	Ops Center	VSM	Enhanced Decoder
Operating Temperature	10° to 35°C (50° to 95°F) at unit air intake (front of unit)				5° to 35°C (41° 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 sweep rate of 0.5 octave/minute				0.66 GRMS

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

	Core/CMG	Media Gateway	Ops Center	VSM	Enhanced Decoder
Construction	Steel Cabinet				TBD
Finish	Front Panel	Gray metallic with black end caps			TBD
	Chassis	Black matte finish			TBD
Dimensions (D x W x H)	50.8 x 43.4 x 8.9 cm (20 x 17.1 x 3.5 in)			61.8 x 43.2 x 13.2 cm (24.3" x 17.0" x 5.2")	17.6 x 3.6 x 18.2 cm (6.93 x 1.4 x 7.17 in)
Mounting (RU)	2 RU			3 RU	N/A (mount included)
Unit Weight	13.06 kg (28.8 lb)	TBD	TBD	30 kg (66.8 lb)	1.28 kg (2.82 lb)

TECHNICAL SPECIFICATIONS

SOFTWARE LICENSE, SERVER, AND WORKSTATION MODELS

Use the following table to create a model number for your VideoXpert hardware and/or software package. Your model number consists of the distribution you want to choose, the model, and the country-code (where applicable). Models ending in US and EUK include power cords for their respective regions; models without a country code do not. Power cords are available as separate accessories. For example, an Enterprise Core server for Europe is labeled E1-COR-SVR-EUK

Due to the complexity of network and system design for larger distributions, VideoXpert Ultimate either requires training certification, or that the system installation be performed by Pelco Professional Services. While not required for Enterprise distributions, it is strongly recommended that system installers and administrators be Pelco-certified.

Distribution	Model	Country Code (optional)	Description
(Ultimate) U1 (Enterprise) E1	CMG-SVR	US = North America EUK = Europe/United Kingdom	VideoXpert Core and Media Gateway all-in-one hardware with software licenses
	COR-SVR		VideoXpert Core server hardware and software license
	MGW-SVR		Media Gateway server hardware and software license
	OPS-WKS		Ops Center workstation and software license
	OPS-WKS6		Ops Center workstation with upgraded graphics card, enabling use of up to 6 monitors using Enhanced Decoders (D09U-ENH-DEC).
		COR-SW	Core software license
		MGW-SW	Media Gateway software license
		NSM-1UP	Upgrade license enabling NSM5200 models to support VideoXpert systems
		COR-SUP	(Optional) Core software upgrade subscription; entitles users to upgrades for one year
		MGW-SUP	(Optional) Media Gateway software upgrade subscription; entitles users to upgrades for one year

VSM MODELS

Use the table below to find the model number for your VideoXpert storage manager. The model number consists of the VideoXpert distribution, model, the amount of storage, and a and the country-code (where applicable). Models ending in US and EUK include power cords for their respective regions; models without a country code do not. For example, an Enterprise storage manager with 48 TB of storage for the US is labeled E1-VSM-48-US

Distribution	Model	Storage	Country Code (optional)	Description
(Ultimate) U1 (Enterprise) E1	VSM	36 TB	US = North America EUK = Europe/United Kingdom	VSM with 36 TB storage (25.66 TB effective storage)
		48 TB		VSM with 48 TB storage (35.50 TB effective storage)

TECHNICAL SPECIFICATIONS

SUPPLIED ACCESSORIES

Keyboard (Core, Media Gateway, CMG, and Ops Center models)
 Mouse (Core, Media Gateway, CMG, and Ops Center models)
 USB drive containing resource and recovery information
 Rack mount kit
 Power cord (for applicable models)

OPTIONAL POWER ACCESSORIES

PWRCORD-S-AR Standard power cord, Argentina
 PWRCORD-S-AU Standard power cord, Australia
 PWRCORD-S-EU Standard power cord, Europe
 PWRCORD-S-UK Standard power cord, United Kingdom
 PWRCORD-S-US Standard power cord, United States
 PWRCORD-R-AR Round power cord, Argentina
 PWRCORD-R-AU Round power cord, Australia
 PWRCORD-R-EU Round power cord, Europe
 PWRCORD-R-UK Round power cord, United Kingdom
 PWRCORD-R-US Round power cord, United States

OPS CENTER CLIENT OPTIONAL ACCESSORIES

D09U-A1-DEC Enhanced Decoder and mount
 D09U-A1-DEC-US Enhanced Decoder and mount with US power cord

D09U-A1-DEC-EUK Enhanced Decoder and mount with Europe/United Kingdom power cord
 3DX-600-3DMOUSE Enhanced 3D Mouse and Joystick
 Y-U0018-G710KBD Enhanced Keyboard
 A1-KBD-3D-KIT Enhanced Keyboard and 3D Mouse Combination Kit

VSM OPTIONAL ACCESSORIES

NSM5200-PS Replacement power supply module
 NSM5200-FAN Replacement system fan (upper-middle)
 NSM5200-FANB Replacement rear-chassis (rear panel) fan
 HD5200-3000 Replacement 3 TB hard drive and carrier
 DS-EN-4TB-HDD Replacement 4 TB hard drive and carrier

STANDARDS/ORGANIZATIONS

- Pelco is a member of the MPEG-4 Industry Forum
- Pelco is a member of the Universal Plug and Play (UPnP) Forum, Steering Committee
- 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

CERTIFICATIONS

At the time of this publication, certifications for Class A products are pending. Consult the factory, our Web site (www.pelco.com), or the most recent B.O.S.S.® update for the current status of certifications.

	Core/CMG	Media Gateway	Ops Center	VSM	Enhanced Decoder D09U-A1-DEC	Enhanced 3D Mouse 3DX-600-3DMOUSE	Enhanced Keyboard Y-U0018-G710KBD
CE	Class A	Class A	Class A	Class A	Class B	Class B	Class B
FCC, Part 15							
ICES-003							
UL/cUL Listed	✓	✓	✓	✓	✓		✓
C-Tick	✓	✓	✓	✓	✓		✓
CCC	✓	✓	✓	✓	✓		
KC	✓	✓	✓	✓	✓	✓	✓
RCM						✓	

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