DVR5100 Series Hybrid Video Recorder

4/8/16 ANALOG, 16/12/4 IP CAMERA INPUTS, 4.0 TB STORAGE, ENDURA ENABLED ™

Product Features

- 4, 8, or 16 Analog Video Inputs; and 16, 12, 4 IP Camera Inputs Respectively
- Embedded Linux® Operating System
- Record Video up to 600/500 ips (NTSC/PAL) at CIF, 2CIF, or 4CIF Resolution, Programmable on a Per-Input Basis
- MPEG4-Based Compression with Constrained Variable Bit Rate for Optimum Picture Quality and Low Storage Consumption
- Endura® System Integration Allows up to five DVR5100s to be Networked and Operated from a Single Remote Client or an Unlimited Number of DVR5100s to be Operated and Administered from an Endura Head-End
- Continuous, Scheduled, Motion, Alarm and/or Event Recording
- Up to 4.0 TB of Internal Storage Including EnduraStor™ Optimization
- DVR Configuration, Programming, and Operation from Front Panel Controls, USB Keyboard and Mouse, KBD5000, or Remote Client
- Operating System on Compact Flash and Engineered Hard Drive Cooling System for Enhanced Reliability

ENDURA ENABLED

- Remote Client Application for Live Monitoring of 1 to 5 DVRs, Full Search and Playback, Remote Export of Video, and Remote Administration and Configuration
- Digital Video Authentication Upon Capture
- PTZ Control Using Coaxitron®, Pelco D, or Pelco P Protocols
- Full System Diagnostics Monitoring and Logging
- Single Button Export for Fast, Intuitive Video Export
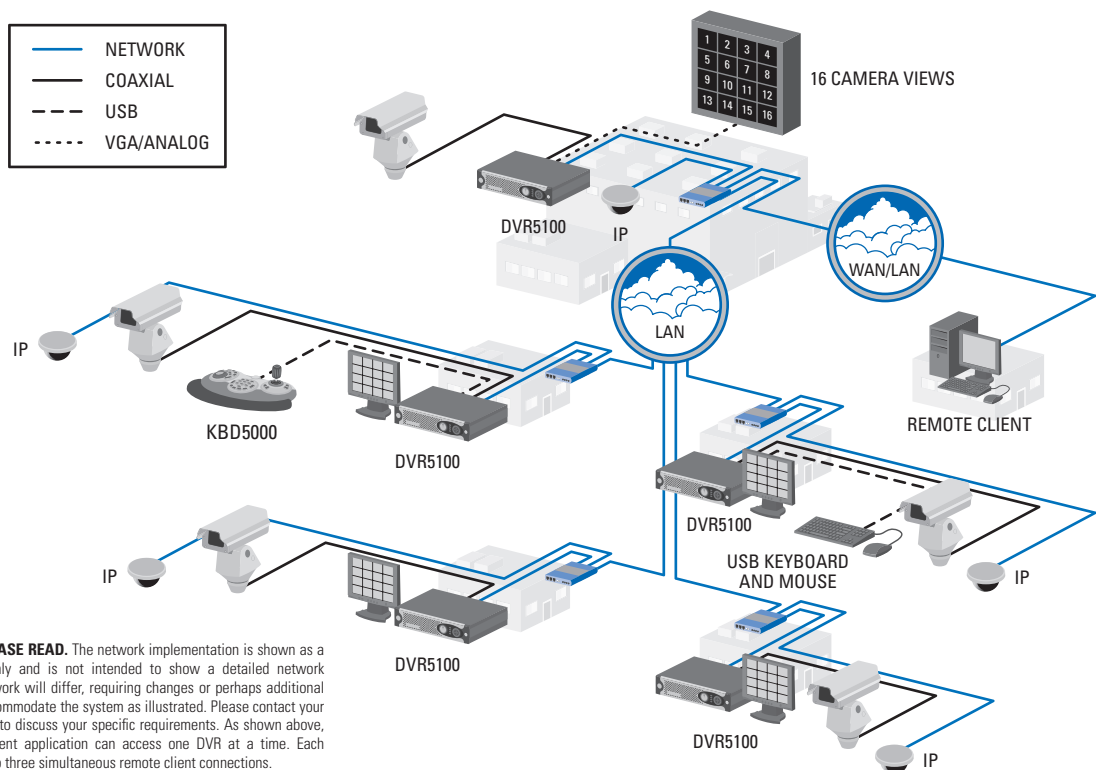
IMPORTANT NOTE: PLEASE READ. The network implementation is shown as a general representation only and is not intended to show a detailed network topology. Your actual network will differ, requiring changes or perhaps additional network equipment to accommodate the system as illustrated. Please contact your local Pelco representative to discuss your specific requirements. As shown above, one DVR5100 Remote Client application can access one DVR at a time. Each DVR5100 can support up to three simultaneous remote client connections.

by Schneider Electric

The **DVR5100 Series** hybrid video recorder (HVR) is an embedded, high-performance hybrid DVR, capable of recording up to 20 cameras at a combined 600/500 images per second (NTSC/PAL) at 4CIF resolution. The DVR comes with a choice of 4, 8, or 16 analog camera inputs, 16, 12, or 4 IP camera inputs respectively. Finally, the **DVR5100** can be integrated into a fully distributed Endura® system, allowing for centralized monitoring and management in a scalable and expandable IP surveillance system. The **DVR5100** provides all of these features, along with efficient configuration, intuitive operation, and cutting edge storage optimization technologies, in a mainstream DVR.

The hybrid capability of the **DVR5100** offers a cost-effective way to service existing analog cameras, while providing expansion through the use of new IP cameras. By leveraging existing IP networks and taking advantage of technologies such as Power over Ethernet (PoE), IP cameras provide an attractive alternative to deploying analog cameras. The **DVR5100** Series supports the following:

DVR5104: Records 4 analog cameras and up to 16 IP cameras.

DVR5108: Records 8 analog cameras and up to 12 IP cameras.

DVR5116: Records 16 analog cameras and up to 4 IP cameras.

With the ability to record analog and Pelco IP cameras, IP cameras, systems can be designed to service existing cameras, while laying the groundwork for future expansion.

Endura® system integration creates a powerful growth path for DVR users. The **DVR5100** can easily become a systemized component of the Endura system. When integrated, the **DVR5100** will continue to provide local access to its cameras. In addition, an Endura workstation, decoder, or VCD5000, can monitor and control any camera, alarm, or relay connected to any **DVR5100** in a full virtual matrix application. **DVR5100s** can also be administered and managed through the Endura workstation. User rights and permissions can either be established at each **DVR5100** for local access or centrally managed through the Endura system.

The **DVR5100** features innovative configuration options and tools that significantly decrease the amount of time and effort required to deploy a unit. Connect the supplied USB keyboard and mouse to the **DVR5100** and configuration becomes as easy as a Windows®-based DVR. Take advantage of carefully laid out menus to intuitively navigate through the configuration process. Leverage the built-in storage estimator and automatic camera configuration options to instantly program the DVR's recording behavior in support of a required retention target.

Convenient front panel controls, combined with an intuitive icon-based user interface, make operating the **DVR5100** easy. The icon-based user interface and color coordinated function keys on the front panel help to reduce the learning curve. The USB keyboard, mouse, and the front panel controls, allow operation of Pelco PTZ cameras through either Coaxitron®, Pelco D, or Pelco P protocols. Operators can pause, rewind, or fast-forward live video with the push of a button. With the push of a single button, the function key opens search screens that allow near instant access to video that is required for investigations. A single-button export feature simplifies the exporting of digitally signed video, along with the player, onto the included CD/DVD writer or user-supplied USB memory device.

The **DVR5100** delivers enterprise-class video recording performance to the mainstream DVR market. DVR5100 uses EnduraStor storage optimization technology to support high-performance, while keeping the total cost of ownership within budget constraints. EnduraStor allows video, recorded at higher frame rates, to be reduced to a lower rate after a user-defined period of time. This saves valuable hard disk drive space and makes real time video available for search, playback, and export during the delay period. Instead of reverting to time-lapse recording to achieve longer retention periods, EnduraStor records and retains real-time video for the designated delay period. Alarm or event video is automatically saved at the higher recorded rate. EnduraStor makes real-time video available when you need it most, while keeping storage costs under control.

Flexible view options allow you to display superior video on a variety of monitors. Video can be displayed on NTSC/PAL composite, NTSC/PAL, S-Video, or VGA monitors. The main monitor can display 1, 4, 9, or 16 images. Live and playback video can be combined on the same monitor simultaneously, allowing you to observe the scene while conducting a search on recorded video. In addition, a programmable sequence monitor provides a sequencing display for the analog cameras to a composite monitor.

For remote viewing and administration, the **DVR5100** provides unparalleled sophistication and flexibility. Designed to protect the system and sensitive video content from unauthorized access, remote access is tightly controlled and protected through a built in VPN server. The free remote client software provides bandwidth throttling upon each connection to the DVR. Clients with limited Internet speed will not impact users with more bandwidth when all connect to the DVR at the same time. The remote client also adds additional sophistication to the **DVR5100**. Custom user profiles can be created on the remote client that provide extremely fine granularity on user rights and permissions. Event groups can incorporate multiple alarm conditions, providing an effective way to filter out potential false alarms. Finally, complex scripts can be written that coordinate the response of the DVR to a given alarm or event trigger.

The combination of enterprise-class recording performance, innovative storage optimization technologies, efficient and intuitive configuration and operation, and flexible upgrade paths that enhance the ROI, make the **DVR5100** the ideal solution for retail, finance, education, corporate, and commercial security applications.

TECHNICAL SPECIFICATIONS

SYSTEM

Operating System	Linux
User Interface	Semitransparent on-screen icon-based overlays

VIDEO

Video Standards	
Input	NTSC/PAL composite
Output	NTSC/PAL S-Video, composite VGA (1024 x 768) 60 Hz capability for NTSC 75 Hz capability for PAL
Video Encoding	MPEG-4
Video Inputs	4/8/16 analog inputs; 16/12/4 IP camera inputs

Format	Normal Recording Rates	Video Resolution	EnduraStor Rates
4CIF	NTSC 6, 10, 15, and 30 ips	704 x 480	5*, 3*, 2, 1* ips, 1 image/2 seconds* 1 image/3 seconds* 1 image/5 seconds*
	PAL 5, 8.3, 12.5, 25 ips	704 x 576	
2CIF	NTSC 6, 10, 15, and 30 ips	704 x 240	5*, 3*, 2, 1* ips, 1 image/2 seconds* 1 image/3 seconds*
	PAL 5, 8.3, 12.5, 25 ips	704 x 288	
CIF	NTSC 6, 10, 15, and 30 ips	352 x 240	5*, 3*, 2, 1* ips, 1 image/2 seconds* 1 image/3 seconds*
	PAL 5, 8.3, 12.5, 25 ips	352 x 288	

*EnduraStor rates are recorded at 30/25 ips and reduced to designated frame rate after programmed delay period.

Video Inputs/Connectors	4/8/16, BNC, looping, 75 ohms, 0.5 to 1 Vp-p
Video Termination	Hi-Z, 75 ohms, software controlled
Video Display Speed (Main Monitor)	Up to 150 CIF resolution ips Video recorded at slower frame rates will display at the slower frame rate in live display
Video Display Modes (Main Monitor)	Full screen, 2 x 2, 3 x 3, and 4 x 4
Video Display Speed (Sequence Monitor)	30 ips
Video Display Modes (Sequence Monitor)	Full screen
Video Outputs	1 BNC, NTSC/PAL, 75 ohms, 1 Vp-p 1 S-Video, NTSC/PAL 1 VGA 1 BNC, NTSC/PAL Spot Monitor

AUDIO

Audio Decoding	G.711 speech codec
Audio Bit Rate	64 kbps
Audio Levels	
Input	Line-level input
Output	Line-level output
Audio Connectors	3.5 mm monaural jacks
Audio Inputs	2 for 4- and 8-channel models; 4 for 16-channel models
Audio Outputs	1

PTZ CONTROL

PTZ Interface	Front panel, USB keyboard/mouse, KBD5000, or through a remote client
PTZ Protocols	Pelco D, Pelco P, and Coaxitron

ALARM/RELAYS

Alarm Inputs	1 per camera, programmable, 5.0 VDC, 10 kohms, triggered, supervised/unsupervised
Relay Outputs	
4 or 8 channels	2 relays, N.O./N.C., form-C relay, 30 VDC, 1 A
16 channels	4 relays, N.O./N.C., form-C relay, 30 VDC, 1 A

NETWORK

Interface	Ethernet RJ-45 port (1000Base-T to 10/100/1000 Mbps)

AUXILIARY INTERFACE

USB 2.0	1 high-speed USB 2.0 port on the front panel 2 high-speed USB 2.0 ports on the rear panel
RS-422	1 RS-422 port, programmable up to 19200 baud

FRONT PANEL INDICATORS/FUNCTIONS

Indicators	
Power	Blue
HDD Activity	Yellow
Network Activity	Green
Network Status	Green, amber, red
Unit Status	Green, amber, red
Buttons	Power, jog/shuttle, function keys, joystick
Optical Drive	CDR, CDRW, DVD-R

POWER

Power Input	100 to 240 VAC, 50/60 Hz, autoranging
Power Supply	Internal
Power Consumption	136 W, 465 BTU/H (maximum)
Cable Type	
USA Standard	117 VAC, 3 prongs, 6 ft or 1.8 m
European Standard	220 VAC, 3 prongs, molded connector, 6 ft or 1.8 m
UK Standard	250 VAC, 3 prongs, molded connector, 6 ft or 1.8 m

ENVIRONMENTAL

Operating Temperature	50° to 95°F (10° to 35°C)
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 to 3,048 m)
Operating Vibration	0.25G at 3 Hz to 200 Hz at a sweep rate of 0.5 octave/minimum

PHYSICAL

Construction	Steel cabinet with perforated, removable front panel
Finish	
Front panel	Gray metallic with black end caps
Chassis	Black matte finish
Dimensions	17.0" D x 17.1" W x 3.5" H (43.2 x 43.4 x 8.9 cm)
Mounting	Desktop (feet) or rack, rack mount kit included, 2 RU per unit
Unit Weight	28.8 lb (13.06 kg)
Shipping Weight	38.0 lb (17.24 kg)

MODEL NUMBERS

Model	Analog Camera Inputs	IP Camera Inputs	Hard Drive Space (GB)	Optical Drive
DVR5104DVD-250	4	16	250	DVD
DVR5104DVD-500	4	16	500	DVD
DVR5104DVD-1000	4	16	1000	DVD
DVR5104DVD-1500	4	16	1500	DVD
DVR5104DVD-2000	4	16	2000	DVD
DVR5104DVD-4000	4	16	4000	DVD
DVR5108DVD-250	8	12	250	DVD
DVR5108DVD-500	8	12	500	DVD
DVR5108DVD-1000	8	12	1000	DVD
DVR5108DVD-1500	8	12	1500	DVD
DVR5108DVD-2000	8	12	2000	DVD
DVR5108DVD-4000	8	12	4000	DVD
DVR5116DVD-250	16	4	250	DVD
DVR5116DVD-500	16	4	500	DVD
DVR5116DVD-1000	16	4	1000	DVD
DVR5116DVD-1500	16	4	1500	DVD
DVR5116DVD-2000	16	4	2000	DVD
DVR5116DVD-4000	16	4	4000	DVD

SUPPLIED ACCESSORIES

Power Cables	1 USA standard, 1 European standard, 1 United Kingdom standard
Resource Disc	Contains DVR5100 remote client software and manuals
Training Disc	Contains DVR5100 tutorial
Rack Mounting Kit	1
USB keyboard/mouse/ template	Used for configuration and operation

REMOTE CLIENT SPECIFICATIONS

Processor
  Minimum   2.4 GHz Intel® Pentium® IV or 1.6 GHz Intel Dual-Core processor
  Optimum   3.2 GHz Pentium IV
Operating System Microsoft® Windows XP Professional SP2; Windows Vista® Business or Ultimate SP2; or Windows 7® Professional, Ultimate, or Home Premium
Memory
  Minimum   512 MB RAM
  Optimum   1 GB RAM
VGA Card   AGP VGA card with 128 MB RAM and DirectX® 8.1 (or later) hardware acceleration with support for 1280 x 1024 resolution monitors
Monitor   VGA monitor with a minimum 1280 x 1024 display resolution

SUPPORTED IP CAMERAS

- Pelco IP110
- Pelco IP3701
- Pelco Spectra® IV IP
- Pelco Mini Spectra IP
- Pelco IXS0 Series with Sarix™ technology
- Pelco IDS0 Series with Sarix technology
- Pelco IMS0 Series with Sarix technology

OPTIONAL ACCESSORIES

KBD5000   USB keyboard with joystick, jog shuttle, and keypad modules can be used for control and programming.

CERTIFICATIONS

- CE, Class B; meets EN50130-4 standard requirements
- FCC, Class B
- UL/cUL Listed
- C-Tick

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.
- 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."