

DX8100 Series Hybrid Video Recorder

8 TO 32 ANALOG/IP CAMERA INPUTS, UP TO 8 TB INTERNAL STORAGE

Product Features

- 8 to 32 Analog/IP Cameras
- DIACAP-Compliant
- Supports Pelco and AXIS® Standard Definition IP Cameras
- No Added IP Camera Licensing Fees
- USB 2.0 JBOD External Storage Supports up to 8 TB
- Remote Client Connection up to 200 Servers
- Internal Storage Capacity up to 8 TB
- 8, 16, 24, or 32 Looping Analog Video Channels
- Up to CIF/480 Images per Second (ips) Recording Rate
- DVD+RW Drive Standard
- Dynamic Adjustment of Video Settings
- 2 Standard Audio Channels with Live Audio Over the Network
- 8/16/24/32 Alarm Inputs and 8/16/24 Relay Outputs
- Online Help

The **DX8100 Series hybrid video recorder (HVR)** has long-served the professional security market with a wide variety of search tools, the ability to view up to 72 cameras at the server, ATM/POS recording, and more. The new hybrid recording capability in **DX8100** version 2.0 offers an even more flexible and robust security recording platform.

The **DX8100D** is a security-enabled product for highly regulated markets. This model meets Defense Information Assurance Certification and Accreditation Process (DIACAP) standards. Government installations that have existing **DX8100** systems can convert them to DIACAP-Compliant systems without losing existing video.

Efficient and Easy Analog to IP Camera Recording

The new **DX8100** resource meter monitors system resources in real time and is a useful gauge for the addition of IP cameras to the system. New configuration tools allow you to easily configure IP cameras. With no licensing fees for Pelco and AXIS® standard definition network cameras, the shift to IP recording is an affordable transition.

Flexible Storage

The **DX8100** provides a variety of options for internal storage and data redundancy needs. New 8 TB models provide increased storage retention. New USB 2.0 JBOD (just a bunch of disks) external storage of up to 8 TB meets cost-sensitive demands. Combined, the new



- Thumbnail, Pixel (Smart Search), and ATM/POS Search Modes
- Instant Playback
- 5 Simultaneous Connections per Server
- Scheduled Backup
- Export and Import System Configurations
- Multilevel Password and User Configuration
- Multilingual Support

storage options increase the HVR's recording capacity to 16 TB. Customers requiring file redundancy can select from a range of RAID 5 options up to 9 TB of external storage.

Increased Flexibility and Interconnectivity

With DS ControlPoint software, the **DX8100** can connect to a Digital Sentry® system and other DX Series HVRs/DVRs. DS ControlPoint operators can simultaneously view and playback analog video and control cameras from any DX4500, DX4600, DX8000, or **DX8100**. Operators can also view and playback analog and IP video and control cameras from any Digital Sentry system.

Adaptable Viewing

The **DX8100's** unique server dual display capability allows simultaneous viewing of up to 72 cameras. Up to four extended composite monitors can function as public view monitors. The **DX8100** favorites feature let users quickly recall any combination of camera and views for easy camera navigation. These extensive selections make the **DX8100** adaptable for complete surveillance viewing.



by Schneider Electric

International Standards
Organization Registered Firm;
ISO 9001 Quality System



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TECHNICAL SPECIFICATIONS

System Health Check Monitoring

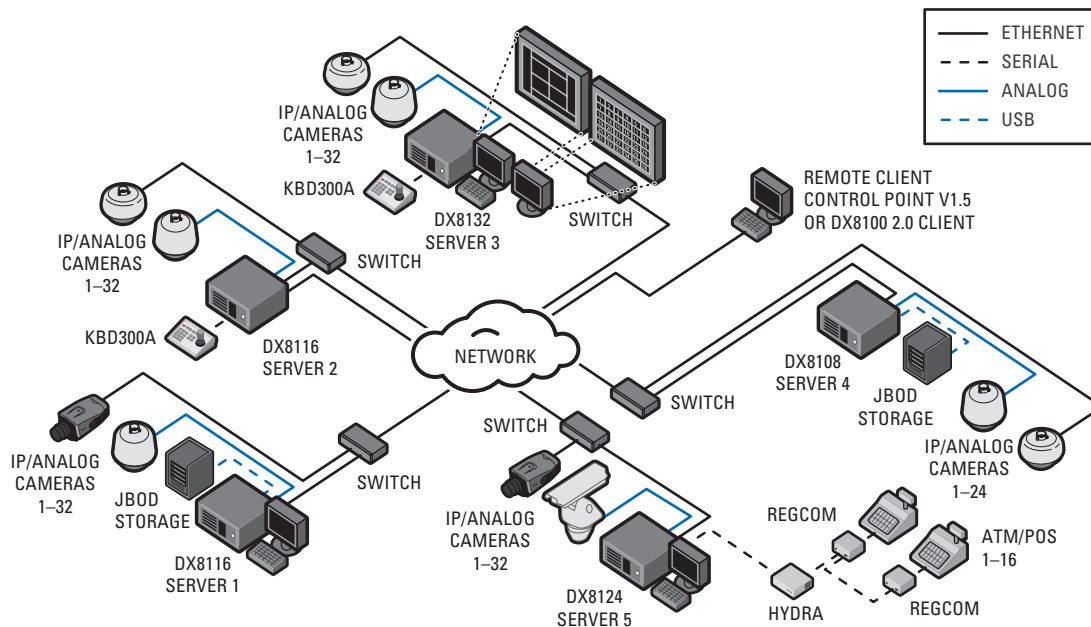
DX8100 provides a quick view of critical unit operating status. When an operating limit is exceeded, an alert appears on the server and connected remote clients. System health check monitoring helps ensure maximum system uptime and **DX8100** availability.

Application and System Integration

DX8100 flexibility and expendability is accomplished through published and well-documented APIs. For information about the Pelco developer program, visit our Web site at www.pelco.com.

Extensive Networking Options

DX8100 networks can grow as security requirements expand. A unit can operate as part of a network of as many as five **DX8100s** and **DX8000s**. This gives the HVR operator the ability to view and control up to 180 cameras. The remote client can administer **DX8100** servers, and it can simultaneously control and operate up to 36 cameras connected to any of 200 **DX8100** and **DX8000** HVR/DVRs. The remote client application, EmergencyAgent, and **DX8100** Viewer are included at no extra cost. These applications can be installed on an unlimited number of client workstations.



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.

TECHNICAL SPECIFICATIONS

ANALOG AND IP CAMERA CONFIGURATIONS

Model	Maximum Analog Cameras	Maximum Analog and IP Cameras
DX8108	8	24
DX8116	16	32
DX8124	24	32
DX8132	32	32

The total number of IP cameras depends on analog and IP camera settings and DX8100 system resources. You can record the maximum number of analog and IP cameras when all cameras are set to record at CIF/1 ips.

AVAILABLE IP CAMERA BANDWIDTH

Analog Camera Image Rate	Available Mbps IP Stream* for Each DX8100 Series	
	DX8108	DX8116
1 ips (Low)	13	11
15 ips (Medium)	11	7
30 ips (High)	11	4
	DX8124	DX8132
1 ips (Low)	11	15
7 ips (Medium)	10	14
15 ips (High)	6	13

*Testing has determined that recording at CIF, 2CIF, and 4CIF resolutions produce only small differences in the available bandwidth.

PELCO IP CAMERA RESOURCE USAGE

The available recording resources of the DX8100 is determined by the resolution and bit rate of the attached cameras. For example, a DX8108 with eight analog cameras recording at CIF/30 ips supports up to eleven IP110 cameras recording at CIF/15 ips.

Stream	Resolution	Bit Rate
Primary	4CIF/30 ips	2 Mbps
Secondary	CIF/15 ips	1 Mbps

Note: Pelco cameras with Sarix™ technology and AXIS IP camera resolutions and bit rates are variable. Refer to the appropriate product specification sheet for information about resource usage.

MAXIMUM ANALOG CAMERA RECORDING

Model	Format	NTSC IPS		PAL IPS	
		Total	Per Camera	Total	Per Camera
DX8108	CIF	240	30	200	25
	2CIF	120	15	100	12
	4CIF	60	7	50	6
DX8116	CIF	480	30	400	25
	2CIF	240	15	200	12
	4CIF	120	7	100	6
DX8124	CIF	360	15	300	12
	2CIF	180	6	150	6
	4CIF	90	3	75	3
DX8132	CIF	480	15	400	12
	2CIF	240	6	200	6
	4CIF	120	3	100	3

Resolution and frame rate values can be assigned evenly among all cameras, or they can be configured independently for individual cameras. Frame rate values can also be customized according to recording mode (normal, motion, alarm, and ATM/POS).

TECHNICAL SPECIFICATIONS

VIDEO

Signal System	NTSC/PAL	
Recording Resolutions	NTSC	PAL
	320 x 240	320 x 288
	640 x 240	640 x 288
	640 x 480	640 x 576
	352 x 240	352 x 288
	704 x 240	704 x 288
	704 x 480	704 x 576
Compression	Pelco-engineered	
Video Inputs	8/16/24/32 (looping with automatic termination)	
VGA Output	1 primary	
Dual Display Card	1 switch-selectable VGA (DB15) or analog (BNC) output	
Analog Video Outputs	1 with DX8108/DX8116;	
	2 with DX8124/DX8132	

AUDIO

Audio Decoding	GSM610 Wave Format
Audio Bit Rate	8 Kbps
Audio Channels	2 on-board channels for local or live audio over the network
	Note: Optional audio channels are available for all analog channels; on-board audio channels are disabled when optional audio is added.
Input	Line-level input
Output	Line-level output

ELECTRICAL

Input Voltage	100 to 240 VAC $\pm$ 10%, 50/60 Hz, autoranging
Power Consumption	Maximum 350 W
Alarm Input Terminals	8/16/24/32 (user selectable, N.O./N.C.)
Relay Output Terminals	8/16/24 (user selectable, N.O./N.C.)
Relay Contact Ratings* Rated (Resistive) Load	0.5 A at 120 VAC or 1 A at 24 VDC
Remote Administration	Full remote control through TCP/IP network

MECHANICAL

Connectors	
BNC	Video inputs and outputs
6-pin mini-DIN	PS/2 mouse and keyboard
DB9	COM 1
DB15	VGA port
RJ-45	10/100/1000 Megabit Ethernet port and RS-485/RS-422 ports
USB	6 high-speed USB 2.0 ports (2 front, 4 back); connects the mouse, keyboard, and JBOD external storage
Audio Connectors	Miniature male phone plug for line in, microphone in, and audio output
Optional Audio Connectors	
Audio Connectors	Female RCA jacks
Audio Inputs	8 with the 8-channel unit; 16 with the 16-channel unit
Audio Outputs	1

ENVIRONMENTAL

Operating Temperature	50° to 95°F (10° to 35°C)
Relative Humidity	Maximum 80%, noncondensing

PHYSICAL

Dimensions	
Desktop	19.9" D x 17.0" W x 7.0" H (50.55 x 43.18 x 17.78 cm)
Rack Mount	22.0" D x 19.0" W x 7.0" H (4 RUs) (55.88 x 48.26 x 17.78 cm)
Expansion Unit Dimensions	
Desktop	8.19" D x 17.00" W x 1.73" H (20.80 x 43.18 x 4.39 cm)
Rack Mount	8.19" D x 19.00" W x 1.73" H (20.80 x 48.26 x 4.39 cm)
Approximate Weight†	Unit Shipping
DX8108-250	39.8 lb (18.1 kg) 61.0 lb (27.6 kg)
DX8108-8000	44.9 lb (20.4 kg) 67.0 lb (30.4 kg)
DX8116-250	40.3 lb (18.3 kg) 62.0 lb (28.0 kg)
DX8116-8000	45.4 lb (20.6 kg) 67.0 lb (30.4 kg)
DX8124-250	40.8 lb (18.5 kg) 62.0 lb (28.0 kg)
DX8124-8000	45.9 lb (20.8 kg) 68.0 lb (30.8 kg)
DX8132-250	41.3 lb (18.7 kg) 63.0 lb (28.5 kg)
DX8132-8000	46.4 lb (21.1 kg) 68.0 lb (30.8 kg)

CLIENT APPLICATIONS

- Remote client
- Web client
- DX8100 viewer
- Emergency agent
- DS ControlPoint version 1.5 or later

*Relays are grounded.

†Minimum and maximum weights shown for example models. Contact factory for specific model weights.

TECHNICAL SPECIFICATIONS

RECOMMENDED SYSTEM REQUIREMENTS

Processor	Dual core 1.6 GHz or greater
Memory	2 GB RAM, minimum
Video	AGP or PCI-e VGA card with minimum 64 MB video RAM (nonshared memory), 1024 x 768 or 1280 x 1024 display resolution, and DirectX® 8.1 application programming interface
Monitor	SVGA or XGA with 1024 x 768 or 1280 x 1024 resolution
Operating System	Microsoft® Windows® 2000 (SP4) or Windows XP; Professional DirectX 8.1 or later, 500 MB free disk space
Web Browser	
Multicast	Internet Explorer® 6.0
Remote Client	Internet Explorer 6.0 and 7.0
Web Client	Internet Explorer 6.0 and 7.0
Mobile PDA Client	A Pocket PC with Microsoft PPC 2002 or later, Intel XScale® CPU with minimum 64 MB of memory
Antivirus Software*	Symantec™ Endpoint Protection version 11.0.4

*Supported on Windows XP Embedded only.

CERTIFICATIONS

- CE and FCC, Class A (all DX8124-M, DX8124-MA, DX8132-M, and DX8132-MA models)
- CE and FCC, Class B (all except DX8124-M, DX8124-MA, DX8132-M, and DX8132-MA models)
- UL/cUL Listed
- CCC

THIRD-PARTY PRODUCT SUPPORT

The DX8100 Series HVR is compatible with the third-party domes listed in the following table. Please note that this list is subject to change. For more information about dome compatibility or third-party devices, contact Pelco Product Support.

Manufacturer	Model
GE™ (Kalatel)	CyberDome™ Day/Night
LG®	LPT-SD163HM
Panasonic®	WV-CW864
Samsung™	SCC-641
American Dynamics™ (Sensormatic®)	SpeedDome® Ultra VII
Philips® CSI	AutoDome® Day/Night
Baxall™	BPD1-RAS916

The DX8100 has been tested with the USB 2.0 JBOD ICY DOCK® model MB561US-4S-1. Pelco tested this unit with a maximum capacity of four Seagate 2 TB Barracuda 7200.11 (model ST31500341AS) drives.

Notes:

- The DX8100 version 2.0 interface is designed to work with AXIS standard definition cameras. The interface was written using VAPIX® Application Programming Interface (API) version 2.0 (Firmware 4.xx). Pelco Product Support is limited to the interface. The DX8100 has been tested to work with the AXIS Model 211 and 232D network cameras.
- Consult the appropriate product Web site for specific model information.

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.

TECHNICAL SPECIFICATIONS

MODEL NUMBERS

Use the following table to create a model number to specify your DX8100. For example, the model number for a 32-channel system with 1000 GB storage and audio option is DX8132-1000A. The model number for a DIACAP 32-channel system with 1000 GB storage, MUX, and audio options is DX8132-1000DMA.

Note: When a MUX or audio option is ordered, the MUX or audio option will have the same number of channels as the unit.

DX81XX – XXXXXXX		
Channels		
Storage (GB)		
Options		
Channels	Storage in GB	Options
8	250	M = MUX
16	500	A = Audio
24	750	MA = MUX and Audio
32	1000	D = DIACAP
	1500	DM = DIACAP and MUX
	2000	DA = DIACAP and Audio
	4000	DMA = DIACAP, MUX, and Audio
	6000	
	8000	

To order a custom system, specify the base unit first, and then specify the custom option. For example, for a 32-channel system with 1000 GB storage and 8 audio inputs, order the DX8132-1000 and the DX8108-AUD separately. For more information about ordering customized configurations, contact your Pelco sales representative.

SUPPLIED ACCESSORIES

Power Cords	1 USA and 1 European
USB Keyboard and Mouse	1 each for configuration and operation
Recovery Disc	1, for re-imaging the unit
Resource Disc	1, contains server and client software and documentation
Audio Input Breakout Cables	(optional)
Terminal Blocks	
Alarm (green)	1 (8 inputs) or 2 (16 inputs)
Relay (blue)	1 (8 inputs) or 2 (16 inputs)
Rack Mount Kit	1 standard kit (brackets, rails, and hardware)

Note: A monitor is not supplied with DX8100 Series HVR.

OPTIONAL ACCESSORIES

DX8100-EXP	DX8100 16-channel expansion unit kit; racks, 1 RU per unit (rack ears and screws are provided)
DX8108-AUD	DX8100 8-channel audio input card
DX8116-AUD	DX8100 16-channel audio input card
DX8100-512RAM	DX8100 memory upgrade from 512 MB to 1 GB*
DX8108-MUX	DX8100 8-channel graphics acceleration and additional composite output card
DX8116-MUX	DX8100 16-channel graphics acceleration and additional composite output card
DX8100-ISCI	DX8100 internal Ultra 160 SCSI card†
DX8100HDDI-2250	2.25 TB external RAID 5 storage expansion unit†
DX8100HDDI-4500	4.5 TB external RAID 5 storage expansion unit†
DX8100HDDI-6750	6.75 TB external RAID 5 storage expansion unit†
DX8100HDDI-9000	9 TB external RAID 5 storage expansion unit†
DX81HDD250KIT	DX8100 SATA 250 GB upgrade
DX81HDD500KIT	DX8100 SATA 500 GB upgrade
DX81HDD750KIT	DX8100 SATA 750 GB upgrade
DX81HD1000KIT	DX8100 SATA 1000 GB upgrade
DX81HD1500KIT	DX8100 SATA 1500 GB upgrade
DX81HD2000KIT	DX8100 SATA 2000 GB upgrade
Regcom	AVE® RS-485 network system unit‡
Hydra	AVE RS-485 network system control unit‡
VSI-PRO	AVE Video serial interface for ATM/POS§
KBD300A	KBD300A Universal keyboard (requires KBDKIT/KBDKIT-X)
KBDKIT/KBDKIT-X	Remote keyboard wiring kit
DX8100DSP-XP	Dual Display Card and version 2.0 software upgrade for Windows XP Embedded
DX81SWV20XPE	Software only upgrade for DX8100 Windows XP Embedded
DX8100XPEUP	Windows XP Embedded license upgrade
DX81SWV20XPED	Software for converting DX8100 version 1.0 (or later) to DIACAP version 2.0D**

*Provides pre- and post- alarm recording up to 15 minutes. Pre- and post-alarm recording is up to 60 seconds without upgrade.

†Not for use with DX8124 or DX8132 models.

‡One Regcom unit is required for each ATM/POS device; one Hydra unit is required for each DX8100 serial connection used. One to four serial ports may be used. Support is limited to 16 total ATM/POS devices. Hydra, Regcom, and the required cabling are available from AVE.

§The VSI-PRO and required cabling is available from AVE.

**For information about the DIACAP supported features, refer to the DX8100 v2.0D DIACAP Addendum (C4653M-A).

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