

PELCO

by **Schneider** Electric

OPERATION/CONFIGURATION

DX Series Client



**DX8000, DX8100, DX4700HD/DX4800HD,
DX4700/DX4800, DX4500/DX4600,
DX4104, DX4000**

C4654M-B (1/12)

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Description

The DX Series digital video recorders (DVRs) and hybrid video recorders (HVRs) address basic to advanced security applications. The applications range from entry-level, budget-sensitive 4-channel DVRs to full-featured, fully network-based HVRs with up to 32 channels.

- **DX8000, DX8100 DVR/HVRs:** DX8000 DVRs represent a large installation base of 16-channel recorders. The advanced DX8100 Series HVR and DX Series client have maintained backward compatibility with DX8000 DVRs. This means that legacy DX8000 Series units can be networked with and operated/configured using the newer advance DX Series client. DX8000 DVRs can also be added to the DX81000 HVR site tree. The DX8100 Series (DX8108, DX8116, DX8124, and DX8132) provides search tools, the ability to view up to 72 cameras at the server, and ATM and point of sale (POS). Version 2.0 and later offer hybrid IP camera recording capability. The DX8100 version 2.0 model meets Defense Information Assurance Certification and Accreditation Process (DIACAP) standards.
- **DX4700HD/DX4800HD Series HVRs:** The DX4700HD/DX4800HD Series hybrid video recorders (HVRs) bring a new range of performance and capability to the Pelco DX Series product line. Low or high-definition (HD) monitors can be used to display video at the server. The unit supports a wide range of resolutions: 800 x 600, 1024 x 768, 1280 x 720, 1280 x 1024, 1680 x 1050, and 1920 x 1080. The unit supports H.264 (Main Profile) video compression.

The DX4700HD/DX4800HD Series offers a cost-effective solution to expand existing analog systems with megapixel IP recording. And, the ability to support eight Pelco and Axis® IP cameras up to 3 megapixel (MPx) resolution, and gives new power and flexibility in IP migration. (Due to native display resolution, IP streams can be viewed in megapixel resolution at the server and client.)

- **DX4700/DX4800 Series HVRs:** DX4700/DX4800 Series H.264 HVRs (DX4708, DX4716, DX4808, and DX4816) bring a new range of performance and capability to Pelco's DX Series product line. Security applications that have continued requirements for 8 or 16 analog cameras can now expand their systems with megapixel IP recording. The DX4700/DX4800 Series support up to 2 megapixel (MPx) IP cameras (Pelco and Axis). The DX4800 Series records at up to 30 ips on all channels. The DX4800 Series supports recording at full-frame rate video at 4CIF resolution for all cameras. DX4700/DX4800 Series HVRs units support ATM/POS recording and meet DIACAP standards.
- **DX4500/DX4600 Series DVRs:** The DX4500/DX4600 Series (DX4508, DX4516, DX4508, and DX4616) is designed for the entry-level market that requires 8 or 16 camera inputs; greater internal hard drive storage capacity; fast frame rate recording; and efficient playback, search, and export capability.
- **DX4104 Series:** The DX4104 Series DVR is the next generation of an affordable entry-level DVR. The unit is designed for the entry-level market that requires one to four camera inputs, powerful video storage management with efficient H.264 compression, multi-event recording, quick and easy to use graphical user interface (GUI), internal storage capacity up to 2 TB, and remote client connectivity to as many as 100 DX4104 units.
- **DX4000 Series:** The DX4000 Series DVR is an entry-level, professional digital video recorder that not only replaces the traditional VCR and multiplexer combination but also offers the benefits derived from the latest in digital video processing. Designed to work with today's broadband networks, the DX4000 uses MPEG-4 compression, allowing the user the ability to view and control the DVR across a wide area network (WAN). With the ability to record at resolutions up to 704 x 480, the DX4000 Series DVR captures crystal clear pictures, creating effective footage for later use and retrieval.

For a detailed description of features and specifications, refer to the product specification sheet for each DX Series product.

CLIENT APPLICATION SOFTWARE

Fully implemented networking capabilities allow remote viewing of live video, playback, and administration of DVR/HVR server features. Versatile high-speed search operations include time and date, bookmark, event, pixel, thumbnail, and point of sale (POS) searching. Extensive scheduling features allow customizing of day, weekday, weekend, and special event recording. The DX Series client provides a graphical user interface (GUI), allowing for quick and efficient access to setup and operating features.

The DX Series DVR/HVRs support four software applications that run on a PC:

- **DX Series client software application:** Allows you to log on to, operate, and administer up to 16 DX Series DVR/HVRs. DX Series servers support a total of five simultaneous connections when using the DX Series client and Web client application.
- **DX Series export viewer:** Allows you to view exported video. The export viewer is designed to recognize and verify the digital watermark that is embedded in the Pelco-engineered *.exp video format for DX4104.
- **DX Series emergency agent:** Works with networked DX4700HD/DX4800HD, DX4700/DX4800, DX4500/DX4600, and DX4104 units to alert users when one or more channels detect an alarm, motion, text, or video loss event. The emergency agent runs on a networked client PC.
- **DX Series Web client:** Allows you to view live video and operate PTZ features of analog and IP cameras.

For information about the supported features, refer to *DX Series Client Supported Features* on page 12.

Important Notice

VIDEO QUALITY CAUTION

FRAME RATE NOTICE REGARDING USER-SELECTED OPTIONS

Pelco systems are capable of providing high quality video for both live viewing and playback. However, the systems can be used in lower quality modes, which can degrade picture quality, to allow for a slower rate of data transfer and to reduce the amount of video data stored. The picture quality can be degraded by either lowering the resolution, reducing the picture rate, or both. A picture degraded by having a reduced resolution may result in an image that is less clear or even indiscernible. A picture degraded by reducing the picture rate has fewer frames per second, which can result in images that appear to jump or move more quickly than normal during playback. Lower frame rates may result in a key event not being recorded by the system.

Judgment as to the suitability of the products for users' purposes is solely the users' responsibility. 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.

Product Overview

The DX Series client application supports the DX Series DX8000/DX8100, DX4700HD/DX4800HD, DX4700/DX4800, DX4500/DX4600, DX4104, and DX4000 DVR/HVRs. The DX Series client graphical user interface (GUI) is intuitive and easy to use. It allows you to operate and administer all of the DX Series units from one remote location. This manual describes how to operate and configure the DX Series DVR/HVRs, and documents many of the features, configuration menus, and settings that are common to most of the units.

DX SERIES CLIENT SUPPORTED FEATURES

Table A describes the features that are supported for each DVR/HVR. The table does not describe the complete feature set for each unit. For information about a feature not listed in the table, refer to the client operation/configuration manual for the unit. For detailed information about the setup menus and supported settings, refer to *DX Series Client Setup Window Overview* on page 58.

Table A. DX Series Client Supported Features (1 of 2)

Function	Feature	DX8000/DX8100	DX4700HD/DX4800HD, DX4700/DX4800	DX4500/ DX4600*	DX4100	DX4000
Connection	Log on to single system	✓	✓	✓	✓	✓
	Log on to multiple systems	✓	✓	✓	✓	—
	Get camera names	✓	✓	✓	✓	✓
	Same user logon from multiple clients	✓	✓	✓	✓	—
Live	Single and multiple cameras	✓	✓	✓	✓	✓
	View OSD items (camera name, time, and so forth)	✓	✓	✓	✓	✓
	PTZ	✓	✓	✓	✓	✓
	Motion borders	✓	✓	✓	✓	—
	Alarm borders	✓	✓	✓	✓	—
	Continuous record borders	✓	✓	✓	✓	—
	Audio playback	—	✓	✓	✓	—
	Support server local time	✓	✓	✓	✓	—
	Support GMT time	✓	✓	✓	✓	—
	Support client time	✓	✓	✓	✓	—
	Monitor sequence	✓	✓	✓	✓	—
	Pixel search	—	✓	✓	—	—
	Thumbnail search	✓	—	—	—	—
	View OSD items (camera name, time, and so forth)	✓	✓	✓	✓	✓
	Digital zoom	—	—	—	—	—
	Play every frame	✓	✓	✓	✓	—
	Multispeed playback (6X maximum)	✓	✓	✓	✓	✓

Table A. DX Series Client Supported Features (2 of 2)

Function	Feature	DX8000/DX8100	DX4700HD/DX4800HD, DX4700/DX4800	DX4500/ DX4600*	DX4100	DX4000
Export	Native compression support	—	✓	✓	✓	—
	Audio playback	—	✓	—	—	—
	Export viewer playback	—	✓	✓	✓	—
	AVI/Native	—	✓	✓	✓	—
Setup	Camera	✓	✓	✓	✓	✓
	Schedule	✓	✓	✓	✓	✓
	Display	✓	✓	✓	✓	—
	Linking	✓	✓	✓	✓	—
	User	✓	✓	✓	✓	✓
	System	✓	✓	✓	✓	✓
	Network	—	✓	✓	✓	✓
	Backup	—	—	—	—	—
	Site setup	—	—	—	—	—
	Ext. monitor	—	—	—	—	—
	Email notification	✓	✓	✓	✓	—
*The DX Series client supports pixel search on the DX4600 Series DVR. The DX4500 Series DVR is not supported.						

CLIENT APPLICATION WINDOW

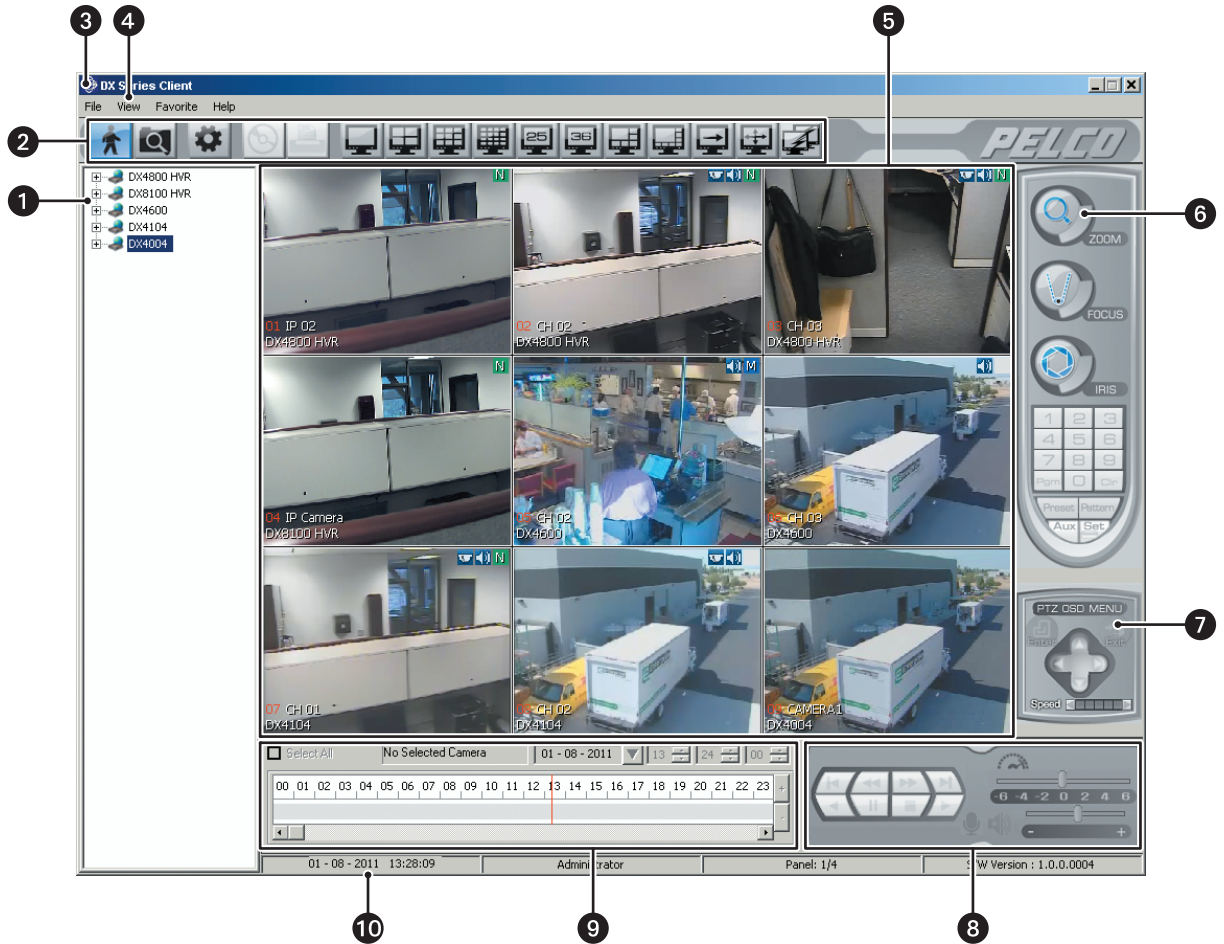


Figure 1. DX Series Client Application Window

- 1 **Site Tree:** Displays top-down, hierarchical management of DX Series resources, such as servers, cameras, alarms, and relays.
- 2 **Toolbar:** Provides buttons for quick access to Live, Search, Setup, Export, Print, screen display options, Full Screen, and Connection List Setup.
- 3 **Title Bar:** Displays the application title.
- 4 **Menu Bar:** Provides access to commands.
- 5 **View Panels:** Panel: Displays as many as 16 panes for viewing live and playback video. Each pane displays video for a single camera channel. For additional information about view panels and panes, refer to *Navigating View Panes* on page 27 for more information.
- 6 **PTZ Control Panel:** Allows users to operate cameras that support PTZ features.
- 7 **PTZ On-Screen Display (OSD) Menu:** Allows users to operate PTZ OSD features. Refer to *PTZ Controls* on page 31 for more information.
- 8 **Playback Control Panel:** Allows users with administrator- or power-level permissions to control video playback. Includes playback controls, playback speed, and volume.
- 9 **Playback Timeline:** Displays a 24-hour timeline marked with color-coded video events. Allows users with administrator- or power-level permissions to select a date and time for playback.
- 10 **Status Bar:** Displays current date and time and the permission level of the logged on user.

MENU BAR

The Menu bar allows you to access the File, View, and Help menu features.

FILE MENU

Table B. File Menu

Command	Description
Client Password	Allows you to change the client log on password.
Connect	Establishes the connection between the client application and DX Series server.
Disconnect	Disconnects the client from the site and discontinues displaying video from the disconnected site.
Save to JPEG	Allows you to save a screen shot in JPEG format to a designated location on the PC hard drive. The default location is <i>C:\DX4100 Exported files</i> .
Backup Search	Allows you to search backed up video stored on a media device.
End Backup Search	Ends the backup search mode.
Server S/W Update	Allows you to update the DX4700/DX4800 software remotely from the DX Series client.
Exit	Exits the client application.

VIEW MENU

Table C. View Menu

Command	Description
OSD	Opens the on-screen display (OSD) submenu with the following global display options. <ul style="list-style-type: none">• Channel Number: Displays the input channel (01 to 04) to which the camera is connected.• Site Name: Displays the site name.• Camera Name: Displays the camera name. The default name is CH 01 to CH 02.• Playback Time: Displays the date and time that the video was recorded.• PTZ: Displays the PTZ controls for each channel configured for PTZ operation.• Audio: Displays the Audio controls for each channel assigned to an audio input.• Select All: Selects all of the OSD options.
Resolution	Opens a submenu with the following choices:
Cycle View (Dwell Time)	Opens the dwell time submenu.
Date Format	Opens the date format submenu.
Language	Opens the language submenu.
HDD Information	Opens the HDD Information dialog box that displays the normal and event partition storage capacity status.
Log View	Displays system events that have occurred on the date selected in the Date box.
DirectX Draw	Improves performance by delegating graphics acceleration duties to your computer's video hardware instead of your computer's main processor.
System Health View	Opens the System Health dialog box.

FAVORITE MENU

Table D. Favorite Menu

Command	Description
Add to Favorites	Opens the Add to Favorites dialog box, where you can create and store a favorite to a specified folder.
Organize Favorites	Opens the Organize Favorites dialog box that allows you to perform the following options: <ul style="list-style-type: none">• Create a new folder.• Rename a folder• Move favorites to a specific folder• Delete a favorite or favorite folder

















HELP MENU

Table E. Help Menu

Command	Description
DX Series Client Help	Opens the DX Series client Help system.
DX Series Client Information	Provides model and version information about the DX Series client.

GUI TOOLBAR

Table F. GUI Toolbar Features and Functions

	Live: Displays the main application window.
	Search: Opens the Search window.
	Setup: Opens the Setup window.
	Export: Opens the Export dialog box.
	Print: Opens the Print dialog box.
	1-Division: Displays video from one camera.
	4-Division: Displays video from four cameras (2 x 2).
	9-Division: Displays video from nine cameras (3 x 3).
	16-Division: Displays video from sixteen cameras (4 x 4).
	25-Division: Displays video from twenty-five cameras (5 x 5).
	36-Division: Displays video from thirty-six cameras (6 x 6).
	6-Division: Displays video in one large pane and five smaller images (1 large and 5 small).
	8-Division: Displays video in one large pane and seven smaller images (1 large and 7 small).
	Cycle View: Starts and stops the window cycling display.
	Full Screen: Hides the GUI controls and displays video on the entire screen. Click the right mouse button to exit the full-screen view.
	Connection List Setup: Opens the Connection List dialog box. Use this dialog box to add, change, and delete a site.

VIEW PANES AND PANELS

The client application view panel is organized into panes. Video from each camera appears in its own view pane.



Figure 2. View Panes and View Panel

- 1 View Panel:** Displays video in 1 to 36 panes.
- 2 View Pane:** Displays video from a single camera.

SITE TREE

The site tree provides access to remote site resources (cameras and alarm inputs). To select a camera from the site tree, drag a camera to a pane. The site tree information reflects the current remote server configuration.

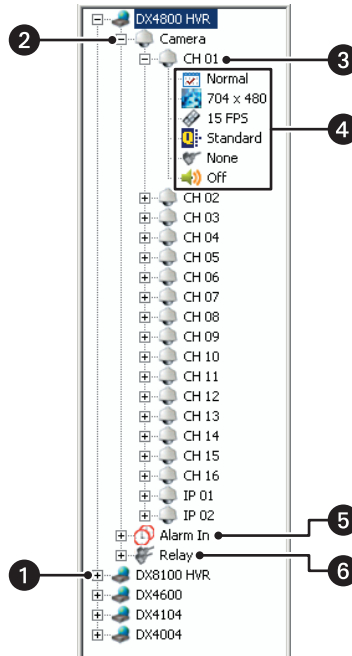








Figure 3. Site Tree











- 1 Remote Site Location:** Expands and collapses the remote site. Right-clicking the site name opens a shortcut menu containing the following commands:
 - **User Log-In:** Opens the Remote Login dialog box.
 - **User Log-Out:** Logs you off of the remote site.
 - **Connect:** Connects the client application to the remote site.
 - **Disconnect:** Disconnects the client application from the remote site.
- 2 List of Cameras:** Expands and collapses the Camera tree.
- 3 Camera Name:** Expands and collapses the camera settings.
- 4 Camera Configuration Settings:**
 -  Recording mode
 -  Resolution
 -  Frame rate
 -  Image quality
 -  Relay output
 -  Audio input
- 5 Alarm In:** Expands and collapses the Alarm In tree. Expand an alarm input to see the relay out and camera assignment.
- 6 Relay Out:** Expands and collapses the Relay tree. Right-click a relay for a short-cut menu to turn a relay on or off.

PTZ CONTROL

The PTZ control can be used to operate and configure cameras that have been configured for PTZ operation, including those that support Pelco P and Pelco D protocols and third-party dome cameras.



Figure 4. PTZ Control

	ZOOM: Zooms the camera in and out.
	FOCUS: Performs two functions: <ul style="list-style-type: none"> • In PTZ mode: Adjusts the camera focus. • In camera menu: FOCUS+ and FOCUS- is used to navigating up and down the camera menu choices.
	IRIS: Performs two functions: <ul style="list-style-type: none"> • In PTZ mode: Opens and closes the camera iris. • In camera menu: IRIS plus (+) selects an item. IRIS minus (-) exits an option setting. In the menu, the IRIS button moves the cursor to EXIT.
	Keypad: Use the keypad to enter presets or pattern numbers.
	Program: Accesses the camera programming mode.
	Clear: Deletes a programmed preset, pattern, or tour.
	PRESET: Performs three functions: <ul style="list-style-type: none"> • In preset programming mode: Stores the preset in the selected memory location. • In PTZ mode: Activates a preset. • Tour: Starts a preset tour.
	PATTERN: Performs two functions: <ul style="list-style-type: none"> • Pattern programming mode: Stores the pattern in the selected memory location. • PTZ mode: Activates a pattern.
	Auxiliary: Selects the auxiliary mode. Buttons 1 to 4 select the camera's auxiliary output. The buttons toggle (on/off). This feature is unsupported for DX4104 Series.
	SET: Performs two functions: <ul style="list-style-type: none"> • Enters PTZ programming mode. • Exits PTZ programming mode.

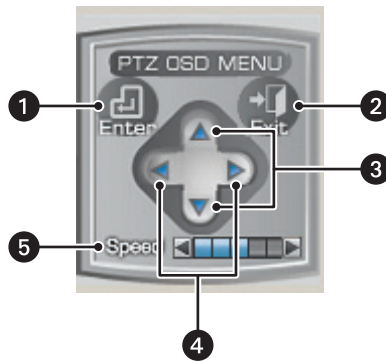


Figure 5. PTZ OSD Menu Control



- 1 **Enter:** *(Third-party cameras only)* Provides the following actions:
 - Displays the selected remote camera OSD menu for PTZ cameras.
 - Accepts the selected remote camera OSD menu choice.
 - Accesses menu option parameters.
- 2 **Exit:** *(Third-party cameras only)* Exits the camera menu.
- 3 **Up and Down Arrows:** Move the camera, navigate through the remote camera OSD menu, and cycle through a list of options or parameters.
- 4 **Left and Right Arrows:** Move the camera.
- 5 **Speed:** Increase or decrease the pan speed.

LIVE ON-SCREEN DISPLAY


The live on-screen display (OSD) consists of superimposed camera and site information. Each item in the OSD can be displayed or hidden. The OSD settings apply for all channels. Some labels are not supported by the DX4000 and do not display.



Figure 6. Live OSD Pane

- 1 **PTZ** : Indicates that the PTZ control is enabled.
- 2 **Audio** : Indicates that audio recording is enabled. The DX4104 compresses audio data to save space. In this case, recorded audio may not be of the same quality as live audio.
- 3 **Recording**: Indicates the camera recording mode and status.
 - No Record**: Live video is displayed but not record video.
 - Normal Record**: Video is continuously recorded.
 - Alarm Record**: Only video associated with an alarm event is recorded.
 - Motion Record**: Only video associated with a motion event is recorded.
 - Text Recording**: Indicates that the text recording mode is active.
 - Instant/Panic Recording**: Indicates that the instant recording mode is active.
- 4 **On-Screen PTZ Control**: Facilitates mouse control of PTZ functions. Refer to *PTZ Mode* on page 31 for more information.
- 5 **Channel Number and Camera Name**: Displays the channel input (BNC) and the camera name.
- 6 **Site Name**: Displays the created site name.

PLAYBACK CONTROLS

The playback controls start playback, control direction, and adjust speed. Click Stop  at any time to return to the Live mode. The DX4000 does not support playback in the Live mode; when a camera attached to a DX4000 is selected, the controls are not available. In the search mode, the DX4000 supports the playback, pause, stop, and play features.

PLAYBACK

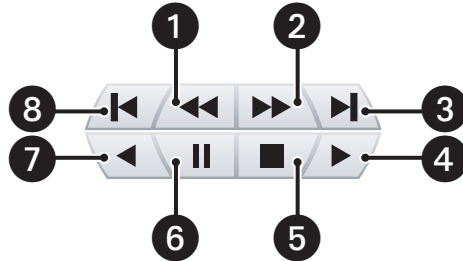


Figure 7. Playback Controls

- 1 **Frame-By-Frame Reverse:** Each frame is displayed in the reverse direction by continually clicking the button.
- 2 **Frame-By-Frame Forward:** Each frame is displayed in the forward direction by continually clicking the button.
- 3 **End of Video:** Advances the bookmark to the end of the latest recorded video.
- 4 **Forward Playback:** Initiates normal playback of recorded video in the forward direction.
- 5 **Stop:** Stops playback control activity and returns to the Live mode.
- 6 **Pause:** Pauses video playback.
- 7 **Reverse Playback:** Initiates normal playback of recorded video in the reverse direction.
- 8 **Beginning of Video:** Returns the bookmark to the beginning of the earliest recorded video.

PLAYBACK SPEED AND VOLUME

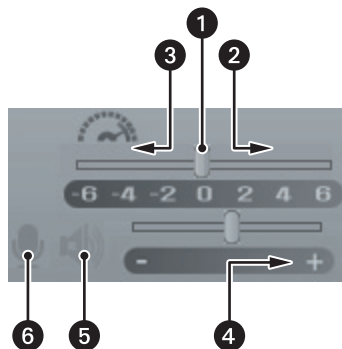


Figure 8. Playback Speed and Volume Controls

- 1 **Normal:** Plays back video at normal speed.
- 2 **Faster:** Plays back video at a faster rate than normal speed.
- 3 **Slower:** Plays back video at a slower rate than normal speed.
- 4 **Volume:** Increases or decreases the volume of played back video.
- 5 **Audio:** Activates or silences the audio output of played back video.
- 6 **Two-Way Audio:** Enables or disables transmitting and receiving audio simultaneously in both directions.

PLAYBACK TIMELINE

Use the timeline to select the date and time to begin playback. Time periods containing recorded video are represented as color-coded segments of the timeline. The timeline includes a horizontal pointer that shows the time in 1-hour segments. The pointer is positioned within the timeline by using the hour, minute, and seconds boxes to select playback time in 24-hour period. While in Live mode, you can drag the timeline pointer into the timeline. The scroll bar allows you to position the timeline within a 24-hour period.

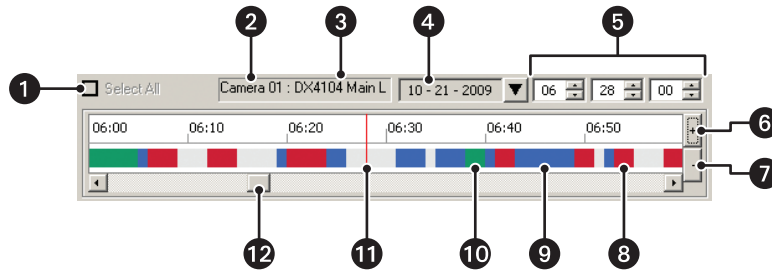


Figure 9. Playback Timeline

- 1 **Select All:** Allows all channels to be played back simultaneously.
- 2 **Camera Number:** Displays the selected camera name and number.
- 3 **Remote Site:** Displays the selected site name.
- 4 **Date Box:** Opens the calendar.
- 5 **Time Box:** Allows you to select the playback or search time in a 24-hour period (hour, minute, and seconds).
- 6 **Increase Detail:** Allows you to expand the time scale to view smaller increments of time.
- 7 **Decrease Detail:** Allows you to decrease the time scale to view larger increments of time.
- 8 **Alarm Recording:** Displays alarm event video in red.
- 9 **Motion Detection Recording:** Displays motion event video in blue.
- 10 **Normal/Instant Recording:** Displays normal and instant video in green.
- 11 **Pointer:** Provides a visible time indicator within the recorded data displayed in the timeline.
- 12 **Scroll Bar:** Allows you to scroll through the timeline.

Operation

CONNECTING TO AND LOGGING ON TO A SITE

Client-to-server connectivity allows operation from a remote location and can connect to as many as 100 DX Series systems simultaneously. Up to 100 systems can be added to the DX Series client site tree. Multiple DX Series clients, running on dispersed computers, can host a variety of servers in their respective site trees.

To connect to and log on to the DX Series client, perform one of the following options:

- **Site tree is not configured with DX Series servers:** When the DX Series client starts for the first time, server sites are not configured to appear in the site tree.

To start the DX Series client for the first time and add servers to the site tree, refer to *Starting the Client for the First Time* for more information.

- **Site tree is configured with DX Series servers:** To start the DX Series client, refer to *Connecting to and Logging On to a Site* on page 24 for more information.
- **Administering sites:** To administer an existing site, refer to *Administering Sites in the Site Tree* on page 26 for more information.

STARTING THE CLIENT FOR THE FIRST TIME

1. On the task bar, click Start, All Programs, Pelco, Pelco DX Series client, and then click DX Series client. The DX Series client Password dialog box appears.
2. Type the default client password **000000** (six zeros) and click OK. The client window and the Connection List dialog box appear.

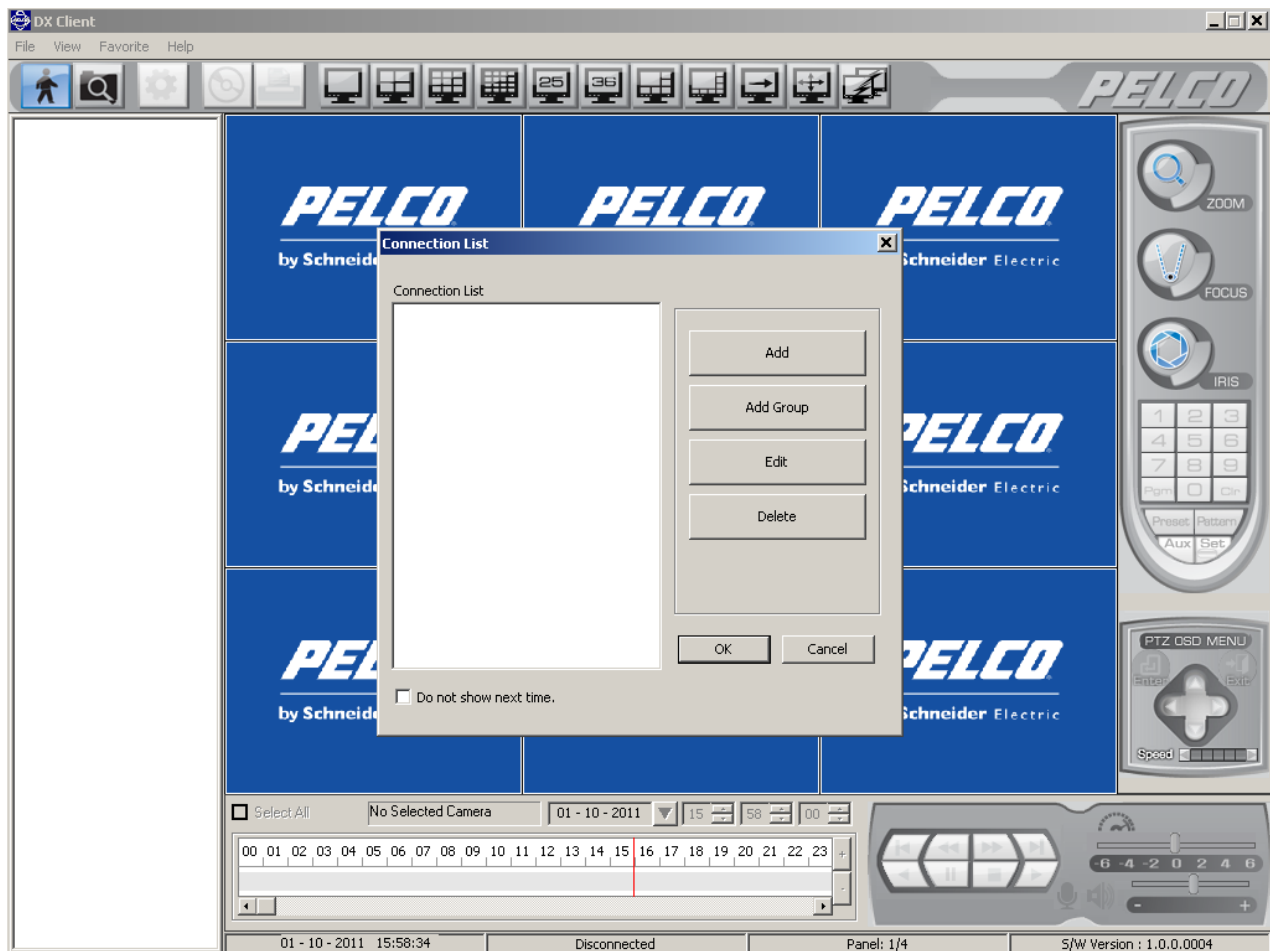


Figure 10. Starting the Client for the First Time

3. To create a site:
 - a. In the Connection List dialog box, click Add. The Connection Setup dialog box appears.
 - b. In the Site Name box, type a site name.

NOTE: Using special characters in the site name other than those listed below will cause the export process to fail.

 - Characters can include letters (a to z, upper and lowercase), numerals (0 to 9), and special characters ` , ~ , ! , @ , # , \$, & , () , - , _ , = , + , [] , . , and { } .
 - A site name must not exceed 18 characters in length.
 - c. In the IP Address box, type the server IP address.
 - d. *(Optional)* The DX Series client communication port is controlled by selecting the DVR/HVR model. By default, DX45/4600 appears in the Type box and the port number is 9001. Before you change a port number:
 - Consult your network administrator.
 - Make sure that the ports are not blocked internally and are protected from external threats by a firewall. Client and server ports must be identical.
 - e. Click OK. The server site appears in the Connection List.
 - f. Repeat steps 3a to 3e to create additional sites.
4. Click OK. The DVR/HVR sites appear in the site tree.
5. To connect to and log on to a site:
 - a. In the site tree, right-click a site. The shortcut menu appears.
 - b. Click Connect. Video from the site is displayed in the client window.
 - c. Right-click the site again.
 - d. Click User Log-in. The Remote Login dialog box appears.
 - e. In the User ID box, type your user name.
 - f. In the Password box, type your password.

To log off or disconnect from a site, refer to *Logging Off* on page 26.

STARTING THE CLIENT AND LOGGING ON TO A SITE

To start the client and log on to a site:

1. On the task bar, click Start, All Programs, Pelco, Pelco DX Series client, and then click DX Series client. The DX Series Client Password dialog box appears.
2. In the Password box, type the default client password **000000** (six zeros).
3. Click OK. The client window appears.
4. To connect to and log on to a site:
 - a. In the site tree, right-click a site. The shortcut menu appears.
 - b. Click Connect. Video from the site is displayed in the client window.
 - c. Right-click the site again.
 - d. Click User Log-in. The Remote Login dialog box appears.
 - e. In the User ID box, type your user name.
 - f. In the Password box, type your password.
 - g. Click OK.

To log off or disconnect from a site, refer to *Logging Off* on page 26.

LOGGING OFF

To log off from a remote site:

1. In the site tree, right-click a remote site. The shortcut menu appears.
2. Click User Log-Out. The system logs you off and Guest is displayed in the status bar.


END A SERVER CONNECTION

To end a server connection:

1. In the site tree, right-click a remote site. The site tree submenu appears.
2. Click Disconnect. The DX Series client is disconnected from the remote site, the Pelco logo appears, and Log Out is displayed in the status bar.


ADMINISTERING SITES IN THE SITE TREE

CHANGING A SITE

1. On the toolbar, click the Connection List icon .
2. In the Connection List, click a remote site.
3. Click Edit. The Connection Setup dialog box appears.
 - a. Click a settings box and type the updated setting.
 - b. Repeat step 3a for additional settings.
 - c. Click OK.

DELETING A SITE

NOTE: Once a site is deleted from the Site, it cannot be restored.

1. On the toolbar, click the Connection List icon .
2. In the Connection List, select a remote site.
3. Click Delete. The remote site is removed from the table, but it is not deleted from the site tree.
4. Perform one of the following options:
 - **Complete the deletion:** Click OK. The remote site is deleted from the site tree.
 - **Cancel the deletion:** Click Cancel. The remote site is not deleted.

CLIENT OPERATING MODES

The DX Series DVR/HVR has four primary operating modes: Live, Playback, Search, and Export. Refer to *Product Overview* on page 12 for more information.

Table G. Client Operating Modes

	<p>Live and Playback Modes:</p> <ul style="list-style-type: none"> • Live: Allows all users to view live video. • Playback: Allows users with playback/search-level permission to play back recorded video.
	<p>Search Mode: Allows users with playback/search-level permission to search video data using specific criteria.</p>
	<p>Export Mode: Allows users with export-level permissions to export video and audio from a DVR server. Users can also specify the media and location for storing the exported data.</p>

LIVE VIDEO

By default, the unit comes ready to view and record live video.

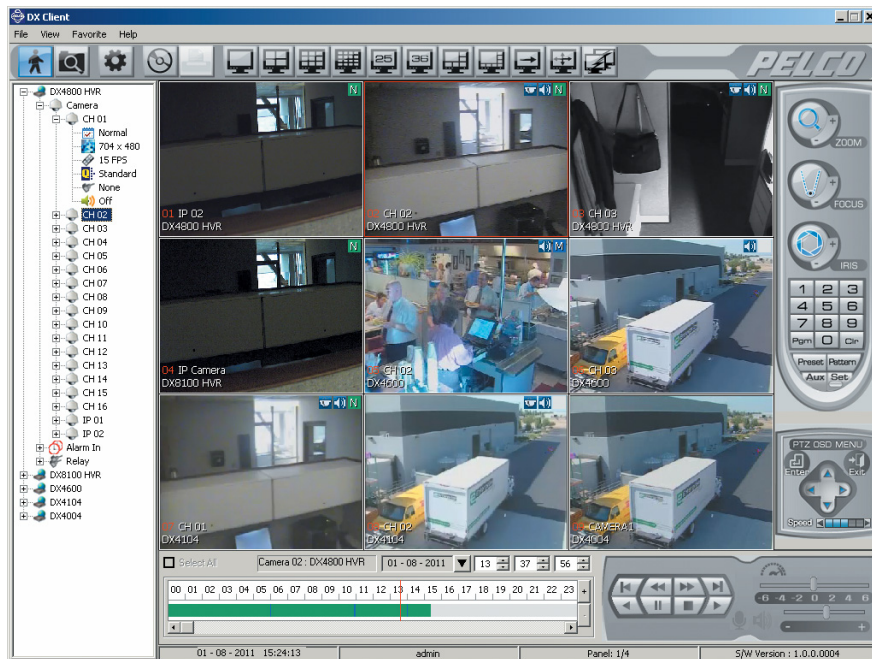


Figure 11. DX Series Client Window

NAVIGATING VIEW PANES

1. On the toolbar, click a display option.



Figure 12. Toolbar Display Buttons

2. Click a pane to make it active. A red border highlights the pane.

ASSIGNING CAMERAS TO VIEW PANES

In the site tree, click and drag individual cameras to a view pane. Repeat the process for up to 36 cameras.

In the site tree, click and drag Cameras to a pane. All cameras in the site tree are assigned sequentially to the panes.

NOTE: If you do not want a camera to be viewed, you must replace the camera with another one from a different remote site. If you have only one remote site, you cannot remove a camera from a pane.

LIVE MODE

CUSTOMIZING THE ON-SCREEN DISPLAY

By default, all of the OSD options are selected. The DX Series client allows you to customize the OSD settings. These settings apply globally for all panes and remote sites.

1. On the View menu, point to OSD. The OSD submenu appears.

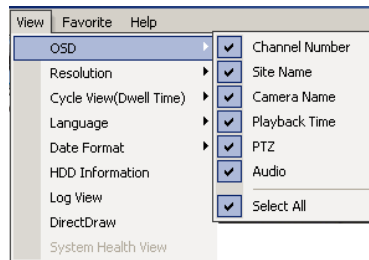


Figure 13. Client OSD Menu Options

2. Either select or clear an OSD option.
3. Repeat steps 1 and 2 to customize each display feature.

SEQUENCE DWELL TIME

Set the sequence dwell time to meet your security application requirements. Once you configure the dwell time, you have to manually start the sequence mode. The sequence dwell time has the following guidelines:

- Channel/cameras are sequenced in the order that they are assigned to panes.
- Channel/cameras are organized by groups:
 - Group 1, channels 1 to 4
 - Group 2, channels 5 to 8
 - Group 3, channels 9 to 12
 - Group 4, channels 13 to 16
- Groups are sequenced if video is displayed on at least one of the four channels in a group. Video from the active channel is displayed and the Video Loss message or the Pelco logo displays in the application window for all remaining channels in the group. If no video is displayed for any of the channels in a group, either Video Loss or the Pelco logo displays in the application window.

Selecting the Sequence Dwell Time

1. On the View menu, point to Cycle View (Dwell Time), and then click a setting.
2. On the toolbar, click display option.

Starting and stopping the Sequence View

On the toolbar, click the Cycle View icon . The icon changes color and the cycle process either starts or stops.

FULL-SCREEN DISPLAY

The DX Series client allows you to display video across the entire screen. In this view, the GUI controls are not displayed.

On the toolbar, click the Full Screen icon . The video panes are displayed in the application window (refer to Figure 14).

Right-click in the application to return to the standard application window.



Figure 14. Full-Screen Display

SELECTING A LANGUAGE

The DX Series client allows you to choose the display language for menus and dialog boxes. By default, the display language is English. You must restart the DX Series client for the new setting to take effect. Changing the DX Series client language does not change the server DVR/HVR language.

1. On the View menu, click Language, and then click a language. The DX Series client dialog box "Client software must be restarted for the language changes to take effect" appears.
2. Click OK. The message dialog box disappears.
3. Click File, and click Exit. The DX Series client closes.
4. Restart the DX Series client. The menus and settings are displayed in the configured language.

SELECTING A DATE FORMAT

The DX Series client allows you to choose the date format for menus and dialog boxes. By default, the date format is month, day, and year. Changing the DX Series client date does not change the server DVR/HVR system date.

On the View menu, click Date Format, and then click a date format. The displayed date changes to the new format in the status bar.

VIEWING HDD INFORMATION

The HDD Information dialog box displays data about server storage capacity (refer to Figure 15). The HDD space allocated to the normal and event partition is configured on the DX4104 server using the Hard Disk option on the System menu. HDD overwrite and full-warning options can be configured from the DX Series client.

To display the HDD information:

1. In the application window, click a camera pane.
2. Click the View menu, and then verify that the HDD Information option is available. The option is not available if the server does not support this feature.
3. If the HDD Information option is available, click HDD Information. The HDD Information dialog box appears.

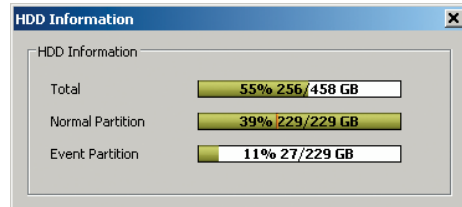


Figure 15. HDD Information Dialog Box

VIEWING THE SYSTEM LOG

The DX Series servers monitors specific system-related events and stores that information in a log file. The log file can be viewed from the DX Series client. Table H describes the system-related events.

Table H. System Log Events

Admin Login)	Configuration Imported	HDD Damaged (HDD3)	HDD Removed (HDD3)
Admin Login (Remote)	Export Failed	HDD Damaged (HDD4)	HDD Removed (HDD4)
Admin Logout (Local)	Export Finished	HDD Formatted (HDD1)	Normal User Login (Local)
Admin Logout (Remote)	Export Started	HDD Formatted (HDD2)	Normal User Login (Remote)
Backup Failed	Factory Default Set	HDD Formatted (HDD3)	Normal User Logout (Local)
Backup Finished	Guest Login (Remote)	HDD Formatted (HDD4)	Normal User Logout (Remote)
Backup Started	Guest Logout (Remote)	HDD Removed (HDD1)	–
Configuration Changed	HDD Damaged (HDD2)	HDD Removed (HDD2)	–

1. On the View menu, click Log View. The Log View dialog box appears.
2. In the Date box, click a date.

3. Click Search. The search results appear.

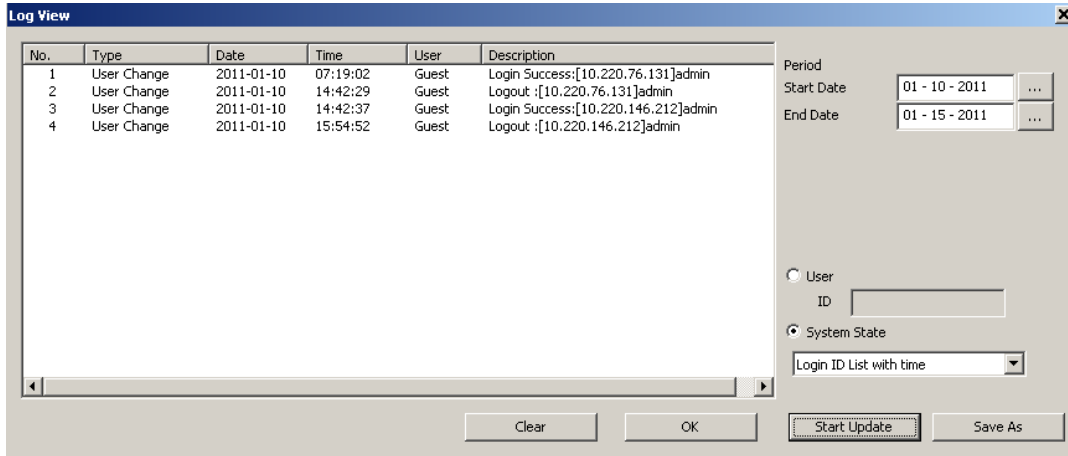


Figure 16. System Log Search Results

4. In the Scroll box, click the arrow buttons to view events on the current, previous, or next page.

ENABLING DIRECTDRAW VIDEO HARDWARE ACCELERATION

If your computer's video hardware supports Microsoft® DirectDraw® extensions, you can enable DirectDraw to enhance video performance. Enabling DirectDraw improves performance by delegating graphics acceleration duties to your computer's video hardware instead of your computer's main processor.

WARNING: Do not enable DirectDraw on the DX Series client unless you are certain that your hardware supports DirectDraw hardware acceleration. Check the documentation that came with your computer and your graphics card before enabling DirectDraw. Although some VGA cards support DirectDraw, not all are compatible with the DX Series client. Check the Pelco Web site for a complete list of compatible VGA cards.

To enable DirectDraw hardware acceleration, on the View menu, click DirectX Draw.



PTZ MODE

All user levels have access to the PTZ controls to operate and configure analog and IP cameras. PTZ functions can be controlled on the screen in live mode using the mouse. The PTZ control can be used to operate and configure cameras that have been configured for PTZ operation, including those that support Pelco C, Pelco P, and Pelco D protocols and third-party dome cameras. Each input channel for a PTZ camera must be configured for PTZ operation before the controls can be used. Refer to *PTZ Mode* on page 66 for more information.

NOTES:

- DX4700/DX4800 Series version 1.1 supports the PTZ feature for Pelco IP cameras.
- DX4700HD/DX4800HD supports the PTZ feature for Pelco and third-party IP cameras. PTZ configuration is performed at the IP camera. No PTZ setup is required at the DX4700HD/DX4800HD. For Axis IP cameras, the DX4700HD/DX4800HD supports the PTZ preset feature. The preset tour and pattern features and the camera's OSD configuration menu are not supported.
- Each input channel for a PTZ camera must be configured for PTZ operation before the controls can be used. Refer to *PTZ Mode* on page 66 for more information.
- A procedure must be performed before DS ControlPoint PTZ controls can operate a PTZ device connected to the DX4700/DX4800 HVR. From the HVR server or the DX Series client, send a PTZ command to the PTZ device. The HVR is ready to receive DS ControlPoint PTZ commands. You must perform this procedure anytime the HVR is restarted.

PTZ CONTROLS

1. On the toolbar, click the Live icon .
2. On the View menu, point to OSD, and verify that PTZ is selected.
3. In the client window, click a pane that displays the PTZ  icon.

4. Place the mouse pointer in the middle of the pane. The mouse pointer changes to a cross.



Figure 17. On-Screen PTZ Control

5. When the mouse pointer becomes a cross, drag the pointer in the direction you want to move the camera. The pointer changes to a directional arrow, indicating the direction of the mouse. You can also use the PTZ OSD MENU to move the camera vertically and horizontally.

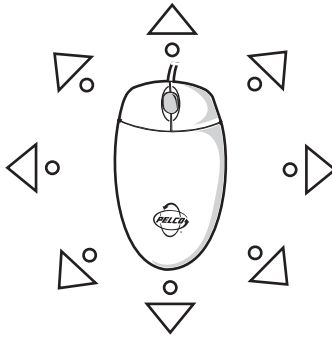


Figure 18. On-Screen PTZ Directional Arrows

6. Release the mouse button when you have repositioned the camera to the desired location.

7. To adjust the zoom, focus, and brightness, on the PTZ control:
 - **Zoom in or out:** Click ZOOM PLUS (+) or ZOOM MINUS (-).
 - **Focus:** Click FOCUS PLUS (+) or FOCUS MINUS (-).
 - **Increase or decrease brightness:** Click IRIS PLUS (+) or IRIS MINUS (-).
 - **Speed:** Click LEFT or RIGHT button to decrease or increase pan speed.



Figure 19. PTZ Control Toolbar with Camera Lens Controls

PTZ PRESETS

A preset is a user-defined camera configuration and position, which is set up using the PTZ controls and focus commands. The camera's auto focus option must be turned off when configuring presets. Only analog cameras that support positioning and configuration using the Pelco D, Pelco P, or supported third-party protocols can use this feature. The DX8100 Series HVR can address up to 150 PTZ presets. Preset 95 is reserved for remote camera setup, and preset 99 is reserved for camera autoscans mode.

NOTES:




- DX4700/DX4800 Series version 1.1 supports the PTZ feature for Pelco IP cameras.
- DX4700HD/DX4800HD supports the PTZ feature Pelco IP and other supported third-party IP cameras. For Axis IP cameras, only the preset PTZ feature is supported.


Configuring a Preset

The following PTZ operation guidelines apply:

- To program or clear presets, preset tours, and patterns, the Set button must be engaged; clicking the Set button places the DVR/HVR in PTZ configuration mode.
- While in PTZ configuration mode, multiple presets can be configured until the Set button is pressed again.

To configure a PTZ preset:

1. On the toolbar, click the Live icon .
2. On the View menu, point to OSD, and verify that PTZ check box is selected.
3. In the client window, click a pane that displays PTZ .
4. On the PTZ control, click Set .
5. To configure the preset location and camera settings:



- a. Using the mouse, move the camera to the desired location.
 - b. On the PTZ control, click ZOOM, FOCUS, and IRIS to enter the camera settings.
6. On the PTZ control:
 - a. Click the keypad and enter a number for the new preset.
 - b. Click Preset . The preset location and camera settings are stored in the camera's memory.
 7. Repeat steps 5 and 6 for each preset you want to configure.
 8. Click Set to exit the configuration mode.

Activating a Preset

Double- and triple-digit presets can be set or activated by pressing the first and second digits sequentially. For example, preset 20 can be selected by clicking the number 2 and then 0 (zero) on the PTZ keypad.



NOTE: To activate presets, tours, and patterns, the Set button must be deselected.

To activate a preset:

1. On the toolbar, click the Live icon .
2. In the client window, click the PTZ-enabled pane.
3. On the PTZ control keypad, click a number (1 to 150).
4. Click Preset . The camera moves to the location configured for the preset.

Clearing a Preset

To clear a preset:

1. In the client window, click the PTZ-enabled pane.
2. On the PTZ control, click Set .
3. On the PTZ control keypad, click the number of the preset you want to clear.
4. Click Clear . The preset is deleted from the camera's memory.
5. Repeat steps 3 and 4 to clear multiple presets.
6. Click Set to exit the configuration mode.


PRESET TOURS

A preset tour allows a camera to move through a configured sequence of PTZ presets. The DX8100 tour advances sequentially through presets 1 to 16. The system pauses for approximately four seconds between the end of the current preset and the start of the next preset. If the presets are configured sequentially (1, 2, 3, 4, and so forth), the time period between presets is brief. If one or more the presets are not configured sequentially, the time period between presets can be longer because the system still accounts for the four-second interval for the non-configured preset memory location. For example, if presets 1 and 2 are configured and presets 3 to 16 are not configured, the system pauses approximately 54 seconds before starting preset 1.

NOTE: For Axis IP cameras, the DX4700HD/DX4800HD does not support the preset tour feature.

A preset tour will operate continuously until another PTZ control action is performed. One or more presets must be configured to activate a preset tour.

To activate a preset tour:

1. In the client window, click the PTZ-enabled pane.
2. On the PTZ control, click Preset . The preset tour starts.

To stop a preset tour:

1. In the client window, click the PTZ-enabled pane.
2. On the PTZ control, click a button to initiate an action. For example, if you click ZOOM PLUS (+), the pattern stops.




PTZ PATTERNS

A pattern is a user-defined, viewable camera path with a specific beginning and end. Patterns are made up of a sequence of standard pan, tilt, and lens commands. Patterns are stored in the internal memory of the PTZ device, such as a Spectra® dome, connected to the DX8100. Once defined, a pattern can be activated with a series of on-screen commands. A pattern will run continuously until it is deactivated. Certain PTZ devices, such as Pelco's Spectra Series domes, will display an on-screen message about the amount of remaining available memory.

NOTE: For Axis IP cameras, the DX4700HD/DX4800HD does not support the pattern feature.

Configuring a Pattern

To configure a pattern:

1. On the toolbar, click the Live icon .
2. In the client window, click the PTZ-enabled pane.
3. On the PTZ control, click Set .
4. On the PTZ control:
 - a. Click the keypad and enter a number for the new pattern (1 to 4).
 - b. Click Pattern .
 - c. Using the mouse and PTZ control, move and configure the camera settings to create a pattern.
 - d. Click Pattern.
 - e. Click Set. The pattern is stored in the camera's memory.

Activating and Clearing a Pattern

When activated, a pattern will repeat indefinitely until it is cleared, another pattern is set, or the on-screen PTZ control is moved.


To activate a pattern:

1. On the PTZ control keypad, click 1 to 4.
2. Click Pattern.

To stop a pattern:

1. In the client window, click the PTZ-enabled pane.
2. On the PTZ control, click a button to initiate an action. For example, if you click ZOOM PLUS (+), the pattern stops.

To clear a pattern:

1. In the client window, click the PTZ-enabled pane.
2. On the PTZ control, click Set.
3. On the PTZ control keypad, click 1 to 4.
4. Click Pattern.
5. Click Clear .
6. Click Pattern.
7. Click Set to exit the configuration mode.



CONFIGURING A REMOTE CAMERA

You can access a camera's configuration menu using the PTZ OSD Menu controls or the PTZ control.

NOTE: For Axis IP cameras, the DX4700HD/DX4800HD does not support the camera's OSD menu.

Remote Camera Menu

To access the camera menu:

1. On the toolbar, click the Live icon .
2. In the client window, click the PTZ-enabled pane.
3. Access the camera configuration menu using one of the following options:
 - On the PTZ control, click Program . The camera configuration menu appears.
 - For Pelco cameras, click Set, 9, 5, and then click Preset. The camera configuration menu appears.

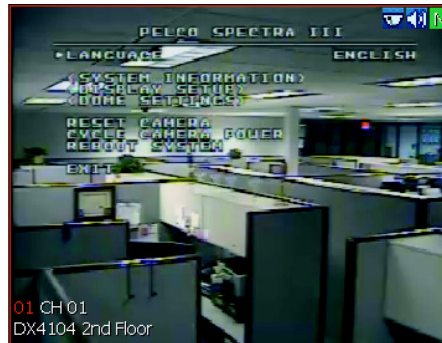


Figure 20. Camera Configuration Menu

4. To access menu commands and settings:
 - **Move up and down through the camera menu/display settings:**
 - Click the PTZ OSD Menu up and down button (refer to *PTZ Control* on page 19 for more information).
 - Click FOCUS PLUS (+) and FOCUS MINUS (-).
 - **Make a menu a selection:** Display a submenu or to move the cursor to the right, and then click IRIS PLUS (+).
 - **Cancel a menu selection:** Cancel a selection or to move the cursor to the left, and then click IRIS MINUS (-).
 - **Exit the camera menu/setting:**
 - Click IRIS MINUS (-) to select EXIT or to move the cursor to the left.
 - Click IRIS PLUS (+) to exit the camera menu.

SENDING AUXILIARY COMMANDS TO A DEVICE

The auxiliary feature allows you to control external equipment connected to the auxiliary outputs of Spectra domes or Esprit® positioning systems.

NOTE: For Axis IP cameras, the DX4700HD/DX4800HD does not support the PTZ control PGM, Aux, Pattern, or the Aux button.

The Aux button selects the auxiliary mode. Buttons 1 to 4 select which of the camera's auxiliary outputs to operate. Buttons 1 to 4 also operate as a toggle (on/off) each time they are clicked.

The device must be configured to respond to an auxiliary command. For detailed information about how a Spectra or Esprit camera system interprets auxiliary commands, refer to the documentation that accompanies your camera system.

To send an auxiliary command:

1. On the PTZ control, click Set. The programming mode is available.
2. Select a camera.

3. Click the Aux button. Buttons 1 to 4 are available.



Figure 21. Auxiliary Keypad Buttons

4. Click a button (1 to 4). The auxiliary command is sent to the camera.

PLAYBACK VIDEO

Only users with search/playback-level permission can play back video. Video is played back one channel at a time. Refer to *View Panes and Panels* on page 17 for more information.

PLAYBACK MODE

You can access the playback mode from the Live mode. Use the timeline to set the date and time for selecting recorded video for playback.

The timeline is displayed in a 24-hour format. While in the Live mode, you can select the time by dragging the timeline pointer along the timeline. The recorded video status bar is displayed in the timeline indicating the type of recording (normal, alarm, or motion). Blank areas in the timeline indicate the absence of recorded video. Click the Increase Timeline Detail and Decrease Timeline Detail buttons to see the 24-hour timeline in increments of 5 minutes to 1 hour.

NOTE: The DX4000 does not support playback in the Live View mode.

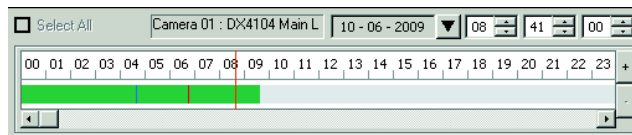


Figure 22. Playback Timeline in 24-Hour View

When video is played back, the on-screen display for played back video includes the date and time fields, channel number, and remote site name.



Figure 23. Playback OSD

To play back video:

1. On the toolbar, click the Live icon .
2. In the client window, click a pane.
3. To select the playback date and time:
 - a. In the timeline Date box, select a date. The calendar displays (in blue) the days on which data was recorded.

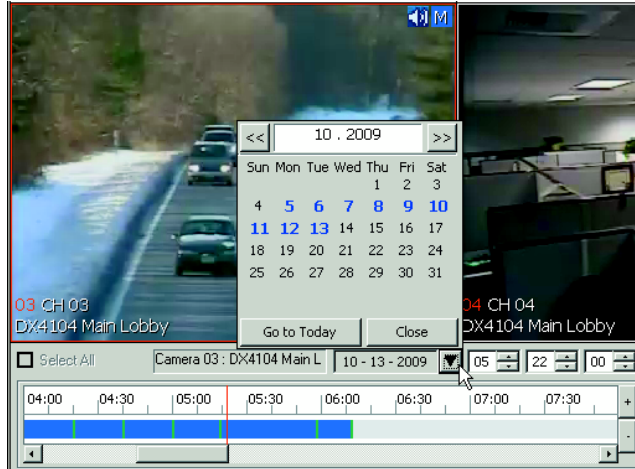




Figure 24. Date Box

- b. In the Time box, select a time.
4. To start playback:
 - a. (Optional) To listen to recorded audio during playback, on the Playback control, click the Audio icon .

NOTE: Your computer has to be configured for sound.






Figure 25. Red Indicates Audio Playback is Disabled

- b. On the Playback control, click the "Forward playback" button .
- c. On the Playback control, move the slider to the right to increase the volume.

SAVING A SCREEN CAPTURE TO JPEG FORMAT

The "Save to JPEG" menu command allows you to capture video. The menu command is available when video playback is paused in the Playback or Search modes. The screen capture is saved in JPEG format to a location on the remote client PC hard drive. You can specify the location or accept the default path: *C:\DX4100 Exported files*.

1. (Optional) Create a destination folder if you want the JPEG files stored to a specific location.
2. On the toolbar, click the Live icon .
3. In the client window, click a view pane.
4. To select the date and time, on the playback timeline:
5. To find a scene:
 - a. On the Playback control, click the "Forward playback" button .
 - b. Click Pause  when the video scene you want to capture appears.

6. On the File menu, click "Save to JPEG." The Export dialog box appears.

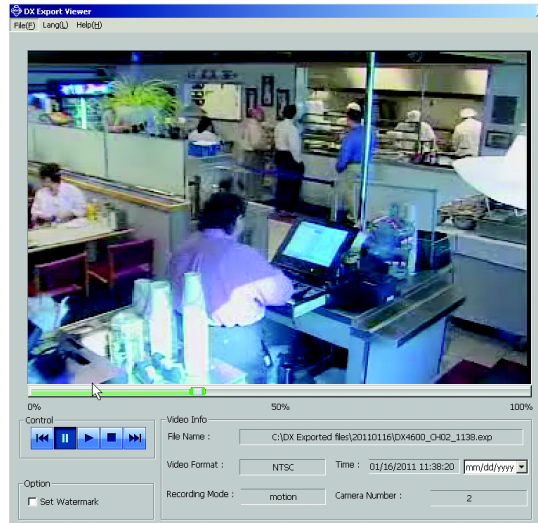


Figure 26. DX Series Export Viewer Dialog Box

7. To save the screen capture, perform one of the following options:

- **Accept the default entries:** Click Save. The screen capture is stored in JPEG format at the default location.
- **Specify the path and file name:**

(1) In the Saved Path box, click Browse . The Export dialog box appears.

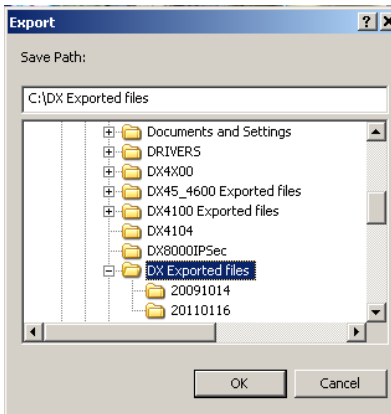


Figure 27. Export Dialog Box

- (2) To go to the save path destination folder, click the folder, and then click OK. The save path appears in the Save Path box.

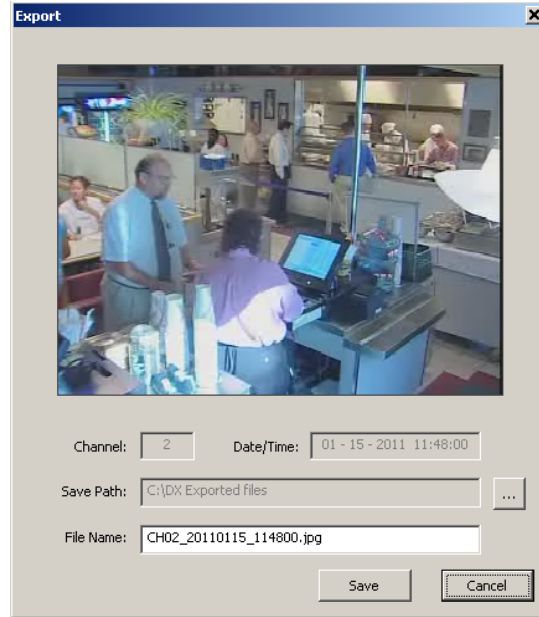


Figure 28. Saving a Screen Capture

- (3) Accept the default file name displayed in the File Name box, or type a file name.
(4) Click Save. The file is saved to the designated destination.

LIVE AND PLAYBACK AUDIO

DX Series DX4700/DX4800 and DX4700HD/DX4800HD HVRs support simultaneous live audio and the playback of recorded audio/video. The DX Series client can send live audio to the server. It can also receive live audio/video and playback audio/video from the server simultaneously.

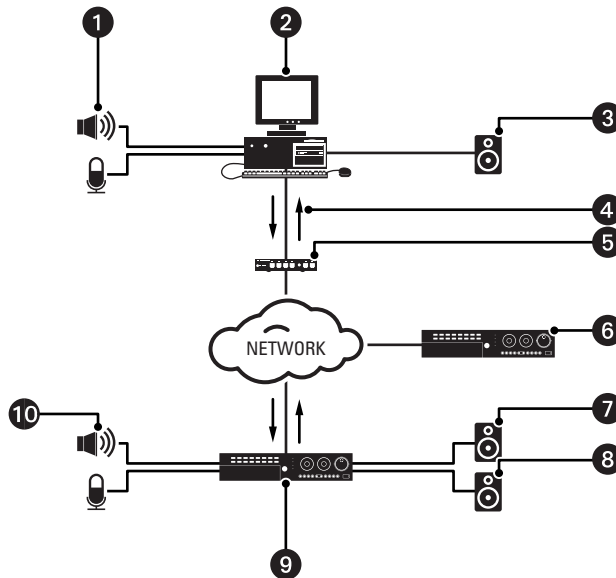


Figure 29. Live and Playback Audio/Video Configuration

- 1 Microphone/Audio Input System Connected to the DX Series Client Computer
- 2 DX Series Client Computer
- 3 Speaker or Audio Output System Connected to the DX Series Client Computer
- 4 Live and Recorded Audio and Video Received from the DX4700/DX4800 or DX4700HD/DX4800HD HVR Server
- 5 Network Switch
- 6 DX4700/DX4800 or DX4700HD/DX4800HD HVR Server 2
- 7 Speaker/Audio Output System Connected to Audio Out 1 (only live audio and recorded audio playback are sent to Audio Out 1)
- 8 Speaker/Audio Output System Connected to Audio Out 2 (only live audio from the DX Series client is sent to Audio Out 2)
- 9 DX4700/DX4800 or DX4700HD/DX4800HD HVR Server 1
- 10 Microphone/Audio Input System Connected to CH 01 to CH 04 (live audio can be heard and recorded at Audio Out 1)

DX4700HD/DX4800HD: CONFIGURING TWO-WAY LIVE AUDIO

NOTE: To send and receive live audio, CH 01 to CH 04 must be configured for audio.

The DX4700/DX4800 and DX4700HD/DX4800HD supports two-way live audio.


1. Verify that an audio input source (microphone) and an audio output device (speaker) are connected to the DX Series client computer.
2. Verify that a microphone and a speaker are connected to the unit (refer to the unit's installation manual for more information).
3. On the toolbar, click the Live icon .
4. In the client window, double-click a channel (camera pane) that is configured for audio. The application window changes to a 1 x 1 view, and the microphone and speaker buttons (located in the playback control) are disabled.



Figure 30. Disabled Microphone and Speaker Buttons



5. Click the microphone and speaker buttons to enable them.
6. Speak into the microphone (client computer or HVR) to have the sound heard at the opposite end.

NOTES:

- The audio input channel at the server must be the same channel that is selected at the client computer.
- Improper use of audio/visual recording equipment may subject you to civil and criminal penalties. Applicable laws regarding the use of such capabilities vary between jurisdictions and may require, among other things, express written consent from the recorded subjects. You are solely responsible for insuring strict compliance with such laws and for strict adherence to any/all rights of privacy and personality.

DX4700HD/DX4800HD: PLAYING BACK RECORDED AUDIO AND VIDEO

To play back recorded audio and video at the client:

1. On the toolbar, click the Live icon .
2. Double-click a channel (camera pane) that is configured for audio.
3. Click the Audio icon located in the playback control. The speaker button is enabled.
4. Select the playback date and time:
 - a. In the timeline Date box, select a date. The calendar displays (in blue) the days on which data was recorded.
 - b. In the Time box, select a time.
5. Click the "Forward playback" button  located in the playback control. You can adjust the playback volume by moving the slider to the right.

DX4500/DX4600 AND DX4104: PLAYING BACK RECORDED AUDIO AND VIDEO

NOTE: The DX4500/DX4600 has unique MPEG-4 recording characteristics. Images recorded at frame rates less than 7 ips, when viewed using the DX Series client software, might not be evenly distributed over a 1-second interval.

The DX Series client allows you to play back recorded video and audio. Playing back video with audio has the following guidelines:

- In the Live mode, only one channel at a time can be played back.
- Your computer must be configured to play audio.
- The channel containing the video and audio must be selected.

SEARCH WINDOW

The DX Series client supports the date/time, bookmark, event, Pixel, Thumbnail, and POS search modes. Users must have permission to search recorded video.

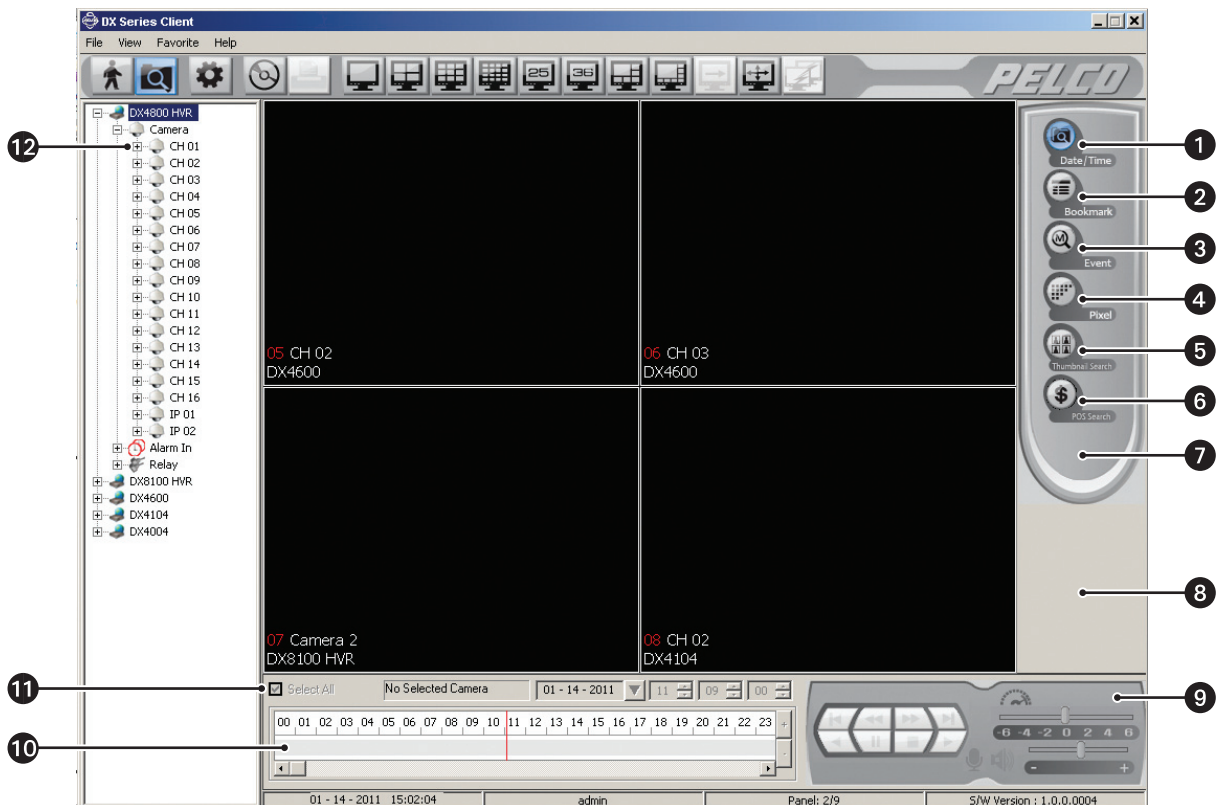


Figure 31. Client Search Window




- 1 **Date/Time:** Allows you to search recorded video by date and time.
- 2 **Bookmark:** Allows you to search video that was previously bookmarked at the server.
- 3 **Event:** Allows you to specify the date and time of an event search.
- 4 **Pixel:** Allows you to automatically search any 24-hour period of recorded video for changes in screen pixels.
- 5 **Thumbnail Search:** Allows you to visually search video that has been recorded over a 24-hour period. Each thumbnail represents the first image recorded during a specified period of time.
- 6 **POS Search:** Allows you to search ATM/POS transaction text data.
- 7 **Search Control:** Allows you to select a search mode.
- 8 **Search Window:** Allows you to access the search controls and view playback video.
- 9 **Playback Control Panel:** Allows you to access the playback and audio controls.
- 10 **Playback Timeline:** Allows users with administrator- or power-level permissions to enter a date and time for playback.
- 11 **Date and Time:** Allows you to playback video from a single camera or all cameras recorded at the time a specific event was detected.
 - **Select All:** When selected, allows you to playback video from multiple cameras. When deselected, allows you to play back video from the selected channel. This option must be deselected to play back video and audio.
 - **Device box:** Displays the name of the selected search channel.
 - **Date box and Time box:** Allows you to enter the date and time.
- 12 **Site Tree:** Allows you to view and select the site resources.

DATE/TIME SEARCH

The Date/Time search feature has the following guidelines:

- **Playback timeline:** Use the timeline calendar and time controls to specify the search criteria.
- **Searching for event-specific video:** While in the Live or Search modes, drag the timeline pointer to a position in the timeline to initiate a search. The timeline provides a status bar that represents video recorded during the various recording modes (normal, alarm, and motion).
- **Verifying the search device:** To ensure that the proper camera channel is selected, check the camera information box above the playback timeline or verify that the desired view panel is framed with a thin red outline.
- **View format:** The Date/Time search mode is supported in full-window view mode.
- **Select All:** Allows you to search and playback video from all cameras.

To search video by date and time:

1. On the toolbar, click the Search icon, . By default, the Search window appears in the Date/Time mode.
2. In the client window, click a pane.
3. *(Optional)* Verify that Select All check box is selected.
4. Select the date and time on the playback timeline:
 - a. In the Date box, select a date.
 - b. In the Time box, select a time.
5. To start playback:
 - a. *(Optional)* To listen to recorded audio during playback, on the Playback control, click the Audio icon .
 - b. On the Playback control, click the "Forward playback" button .

DST DATE/TIME SEARCH AND PLAYBACK

If the unit is configured for daylight saving time (DST), the DVR uses a different approach to store and display video. When DST ends, the DVR/HVR's internal time automatically adjusts backward one hour. Video is time-stamped and recorded one hour before and one hour after the time change. When DST begins, the DVR/HVR's internal time automatically adjusts forward one hour and the unit records normally.

The Date/Time search feature allows you to view video recorded before and after a DST time change (refer to Figure 32). For example, the DVR/HVR's is configured for DST to end at 2:00 a.m. on November 1, 2009. The time period between column 01 and column 02 for channel 1 represents two recording periods:

DST active (during DST): Video recorded between 1:00 a.m. to 2:00 a.m.

DST ended (after DST): Video recorded between 1:00 a.m. to 2:00 a.m.

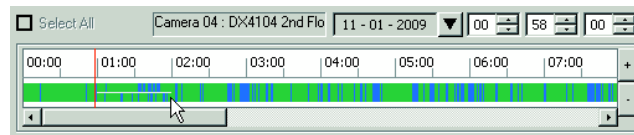


Figure 32. Video Recorded Before and After DST Change

When you select a DST time period for playback, the DST dialog box appears (refer to Figure 33 on page 44). You are prompted to select a time period from which to play back video: "DST off" (after the time shifts back one hour) or "DST on" (before the time shifts back one hour).

To perform a DST Date/Time search:

1. On the toolbar, click the Search icon .
2. In the client window, click a pane.
3. (Optional) Verify that the Select All check box is selected.
4. To start playback:
 - a. (Optional) To listen to recorded audio during playback, on the Playback control, click the Audio icon .
 - b. Click the "Forward playback" button . The DST dialog box appears.

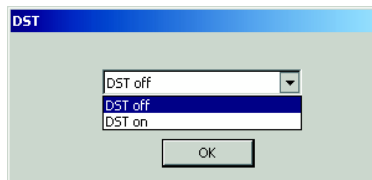






Figure 33. DST Dialog Box

- c. In the DST box, select "DST on," and then click OK.
5. To pause and resume playback or stop playback:
 - **Pause and resume playback:** Click Pause , and then click Play.
 - **Stop playback:** Click Stop . Playback stops.
 - **Restart playback:** To restart playback, repeat steps 4b and 4c.

BOOKMARK SEARCH

Bookmark Search allows you to search for video that was previously bookmarked on the server. The DX Series client does not support bookmarking video on the server.

1. On the toolbar, click the Search icon .
2. Click the Bookmark icon . The Bookmark Search window appears.
3. In the Bookmark Search section, click Search. All bookmarked data is displayed in the Bookmark Search table. To stop a search in progress, click Cancel.
4. In the Bookmark Search section, click Search. All bookmarked data is displayed in the Bookmark Search table. To stop a search in progress, click Cancel.
5. To playback bookmarked video:
 - a. Click a search result. The snapshot of the video image is displayed in the view pane.
 - b. To view video, on the Playback control, click "Forward playback."

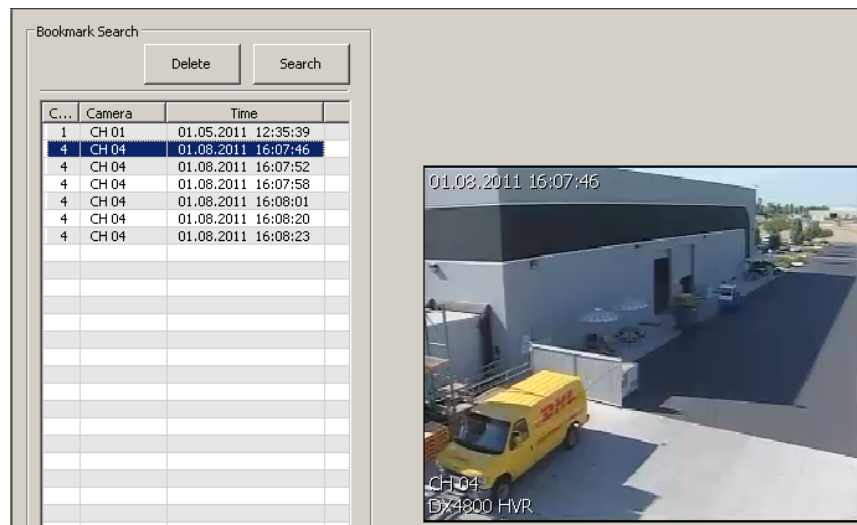



Figure 34. Selecting Bookmarked Data for Playback

EVENT SEARCH



The client Event Search feature allows you to search for event recorded video. The Event Search feature has the following guidelines:

- **Event type:** You can specify one of three event types: all (motion and alarm in), motion, or alarm in.
 - **Time constraints:** Date and time are specified as part of the search criteria. If an event occurred earlier than the specified date and time, the event is not found.
 - **Device:** The event search returns results for one device.
1. On the toolbar, click Search.
 2. Click Event. The Event search window appears.
 3. In the Type box, select an event.
 4. In the site tree, click a camera.
 5. Click Search. All bookmarked data is displayed in the Bookmark Search table. To stop a search in progress, click Cancel.
 6. To view video, click the Play Forward button .

THUMBNAIL SEARCH

Thumbnail search allows you to visually search video that has been recorded over a 24-hour period. Video is presented as a series of thumbnail images. Each thumbnail represents the first image recorded during a specified period of time. Thumbnails can be expanded and collapsed to represent hourly, 10-minute, and 1-minute intervals.

To start a Thumbnail search:

1. In the application window, click a site.
2. On the toolbar, click the Search button .
3. In the site tree, click a camera.
4. In the timeline, select a date and time.
5. In the Search window, click the Thumbnail Search button . The thumbnails for the 24-hour period appears.

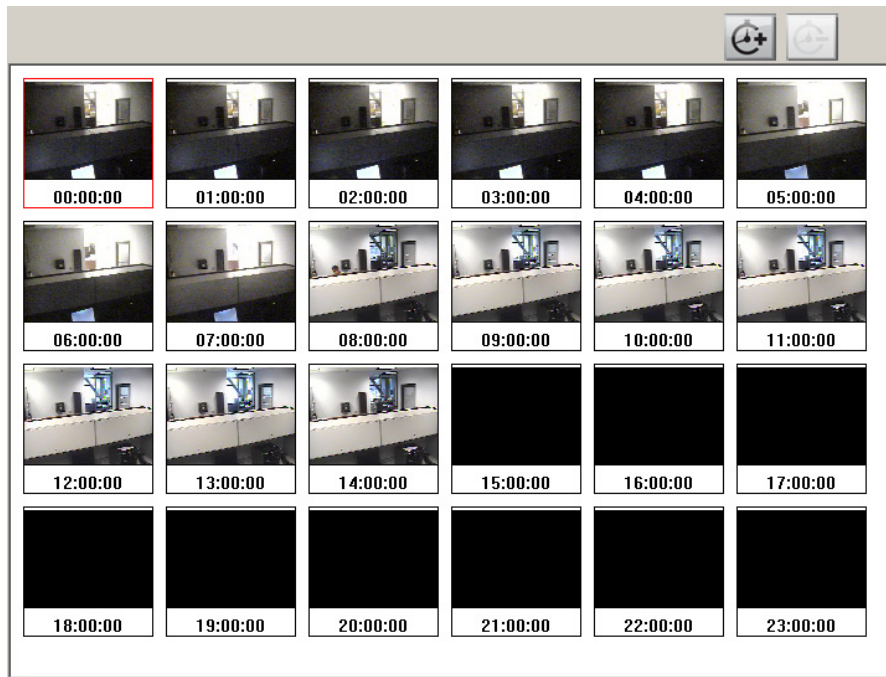





Figure 36. Thumbnail Search Over 24-Hour Period

6. To view the video of a thumbnail:
 - a. Click a thumbnail. The video playback appears in a single pane.
 - b. Use the Playback controls to view the video.
7. Click the thumbnail for the hour you want to begin searching.
8. To change the thumbnail interval:
 - a. To select a shorter interval, click the Expand button . Repeatedly click the button to change the interval from 1-hour to 10-minute intervals.
 - b. To select a longer interval, click the Collapse button . Repeatedly click the button to change the interval from 1-minute to 1-hour intervals.

POS SEARCH

You can search the recorded text information by ATM/POS device. This function is available through backup data from the internal or external HDD only.

To start a POS search:

1. In the application window, click a site.
2. On the toolbar, click the Search button .
3. In the site tree, click a camera.
4. In the Detail boxes, enter the transaction search values.

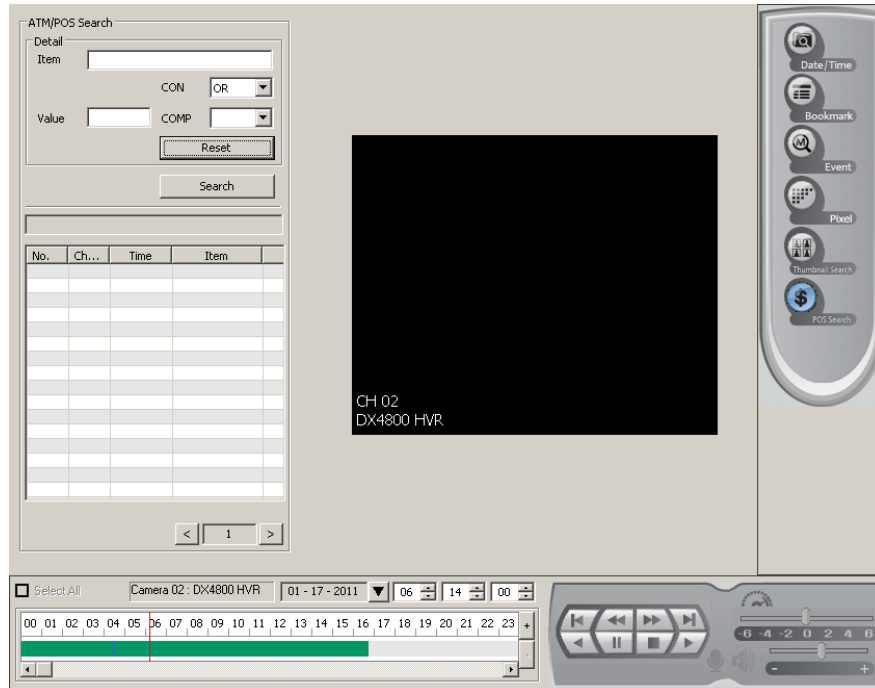


Figure 37. DX4700/DX4800 POS Search Window


BACKUP SEARCH

Backup search allows you to locate and playback video that was backed up to a USB drive or to CD/DVD media. You can also copy the backed up data from the media to the client PC's hard drive.

Select a Backup Media Device

NOTE: The backup location must contain backup files before the location can be added to the Backup Search dialog box.

To add a location:

1. At the computer, connect or insert the backup media. The location is accessible.
2. On the toolbar, click the Search button . By default, the Search window appears in the Date/Time mode.
3. On the File menu, click Backup Search. The Backup Search dialog box appears.

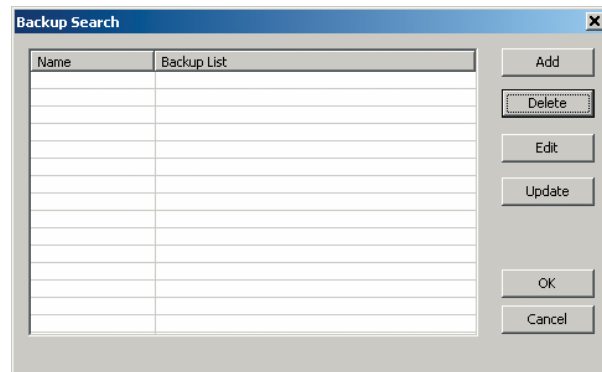


Figure 38. Backup Search Dialog Box

4. To add a backup location:
 - a. Click Add. The Add dialog box appears.
 - b. In the Name box, type a name for the location.
 - c. In the Open box, click the Browse button . The Open dialog box appears.
 - d. Find the backup location, and then click the location/device. The path appears in the Add dialog box.

5. Click OK. The location appears in the Backup Search dialog box.
6. In the Backup Search table, select the backup location, and then click Update.
7. Select the updated backup location, and then click OK. The backup media appears in site tree and the term "Backup" is displayed in each pane.

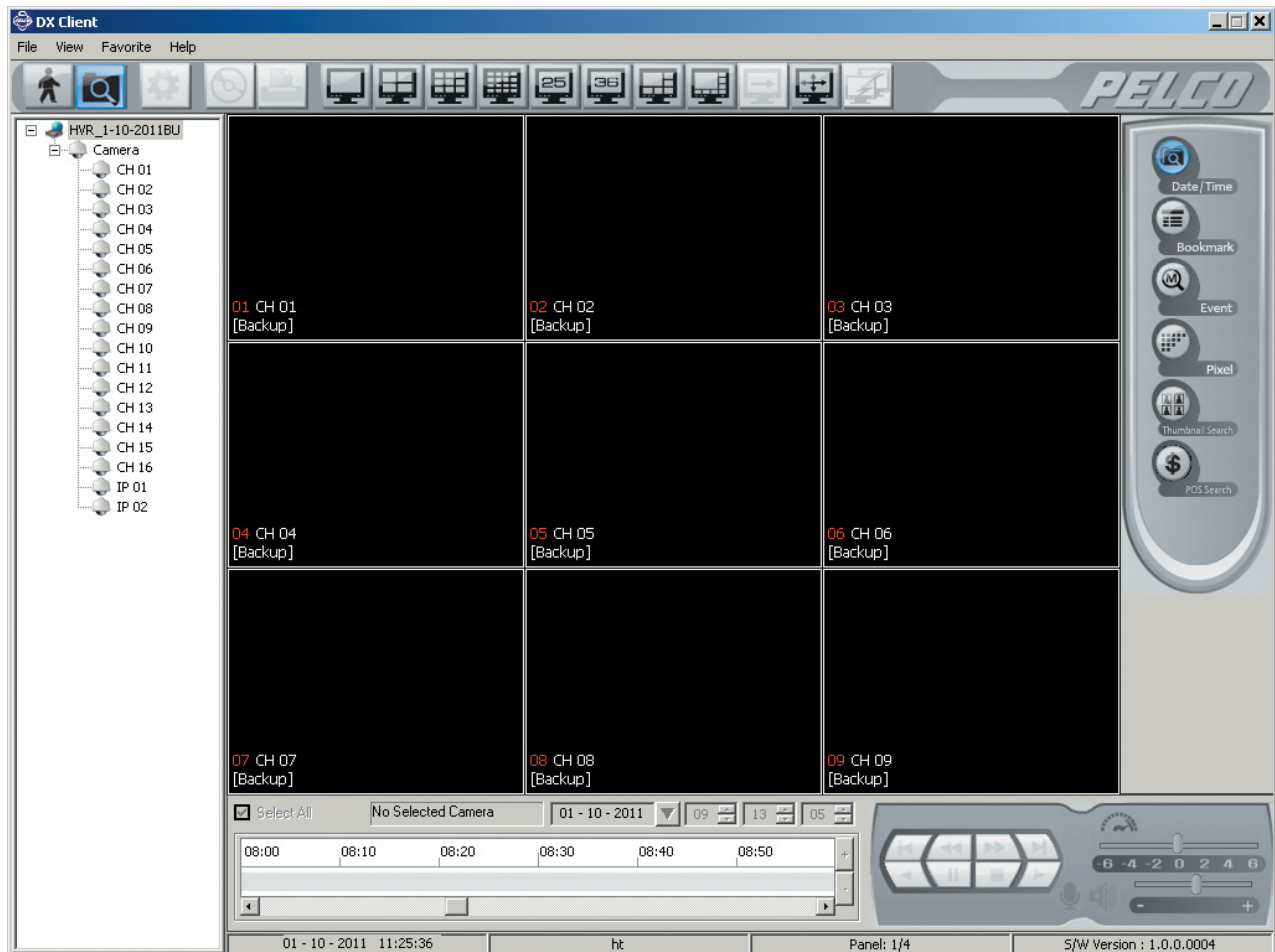





Figure 39. Backup Search Window

Search Backup Media

You can view backed up video in any search mode.

1. In the application window, click a pane. A red border highlights the selected camera pane.
2. In the Search control, select a mode.
3. Click Play .
4. To hear recorded audio, on the Playback control, click the Audio icon .

Exit Backup Search Mode

1. On the File menu, click End Backup Search. The unit returns to the local search mode.
2. To exit the search mode, on the toolbar, click the Live icon .

EXPORT MODE

Users must have administrator- or power-level permissions to export data. The export feature has the following guidelines:

- **Export data types:** Data is exported in either AVI or native format. AVI is the default format.
NOTE: DX4000 data is only exported in the proprietary AVI format. You must use the DX4004 client to view the exported data.
 - **AVI:** You must use a viewer such as a Windows® Media Player® to view this data.
 - **Native:** Use the DX Series export Viewer to view this data.
- **Export time periods:** There are five time periods to consider when exporting data:
 - **Standard time period:** Data exported during a time not associated with the DST transition time frame.
 - **During DST:** When exporting video for any duration between 01:00 and 01:59, the DX Series client will prompt you to select a time period for DST On (first hour) or DST Off (second hour). The default selection is DST Off.
 - **Before and during DST:** For example, if you select a time period of 00:58 to 01:15, the DX Series client will export data beginning at 00:58, export data for the entire first hour (DST On), and export data for the second hour (DST Off) until 01:15.
 - **During and after DST:** For example, if you select a time period of 01:45 to 02:15, the DX Series client will export data for the first hour (DST On) beginning at 01:45, export data for the entire second hour (DST Off), and then stop exporting standard data at 02:15.
 - **Incorporating both DST hours (DST On, DST Off):** If you select a time period that includes the full DST time frame (for example, 00:58 to 02:15), the DX Series client will start the export process at 00:58, export the entire first and second hours (DST On and DST Off) from 01:00. to 01:59:59. Data exporting will stop at 02:15.
- **Export file size limit:** The default size limit is 200 MB. During the export process, the system monitors the storage capacity of the destination folder. If the system detects that the storage capacity will exceed its limit, the export process is terminated and the message "Fail (Save folder is full.)" is logged in the status column for the respective export schedule.

To resolve this issue, perform one or more of the following options:

- Increase the size limit.
- Reduce the number of exported schedule files in the destination folder.
- Modify the Date/Time settings to reduce the size of the export schedule file.
- Store the exported file in another location.
- View exported data. For more information about Export mode, refer to Figure 40 on page 52.
- On the DX4500/DX4600 client computer, use the DX4500/DX4600 export viewer to view data exported in the native format. You can also use Windows Media Player to view data exported in AVI format.
- On a computer without the DX4500/DX4600 client or export viewer, you must install the PELCO CODEC to view exported video in AVI format. The AVI Codec is available on the DX4700HD/DX4800HD Resource disc or at our Web site at ftp://ftp.pelco.com/SupportSoftware/DXSeries/DX4700_4800/v2.0/DX47-48_HD_Video_Codec/. The file name is *PELCO_AVI_CODEC(v2.0.1.0033).zip*.
- The DS ControlPoint (version 7.1.90.0) pan/tilt/zoom (PTZ) control stops operating within approximately 2 to 3 seconds of use. For full PTZ control, use the DX Series client.

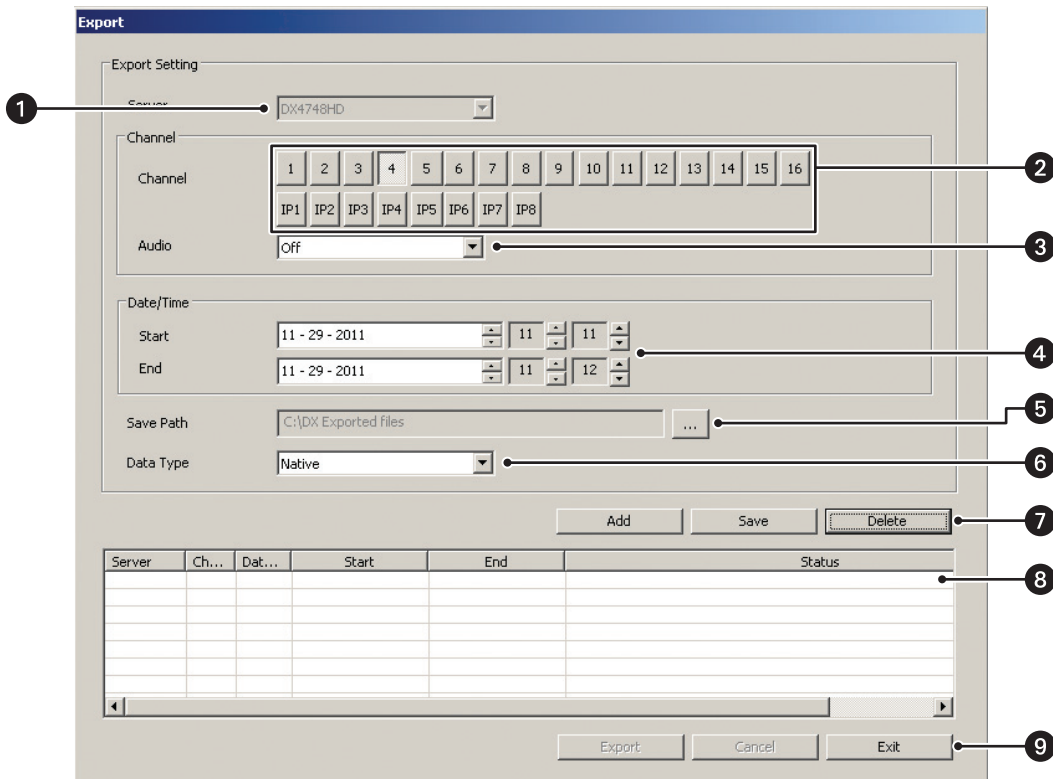



Figure 40. Client Export Mode

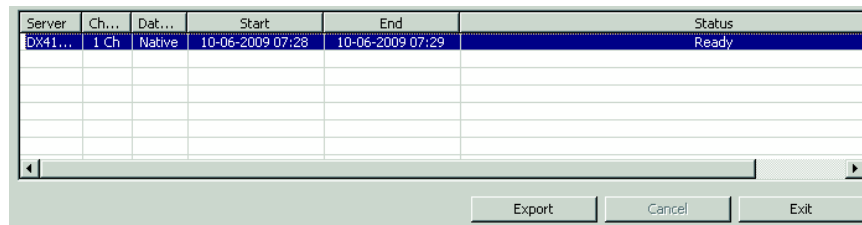
- 1 **Server:** Displays the name of the device for which data is being exported.
- 2 **Channel:** Selects the export channel.
- 3 **Audio:** Allows audio data to be export.
- 4 **Date/Time:** Configures the start/end date and time for exporting recorded video.
- 5 **Save Path:** Allows you to enter the location to store the exported data.
- 6 **Data Type:** Supports exporting data in native or AVI format.
- 7 **Export Table Buttons:**
 - **Add:** Populates the export table with the an export schedule.
 - **Edit:** Allows you to modify an existing export schedule.
 - **Delete:** Permanently removes the selected export schedule from the export table.
- 8 **Export Table:** Displays the export entry.
- 9 **Export controls:**
 - **Export:** Starts the export process.
 - **Cancel:** Stops the export process.
 - **Exit:** Exits the Export mode. Exiting the Export mode does not stop or cancel an active export process.

EXPORTING STANDARD DATA

NOTE: The DX Series client allows you to export a file to the computer's HDD, which can then be burned to a CD/DVD.

To export standard data:

1. In the site tree, click a site.
2. On the toolbar, click the Export icon .
3. To enter the export settings:
 - a. In the Server box, verify that the correct site appears. The Server box is unavailable, but the site name is visible.
 - b. In the Channel section, select the export channels (1 to 16, IP1 to IP8).
 - c. *(Optional)* To export audio data, in the Audio box, select On.
4. To select a folder to store the exported schedule, perform one of the following options:
 - **Accept the default path:** By default, the path is *C:\DX Exported files*. Go to step 6.
 - **Enter a different path:**
 - (1) In the Windows environment, create a folder.
 - (2) In the Save Path box, click Browse . The Export dialog box appears.
 - (3) Go to folder, click the folder, and then click OK. The path appears in the Save Path box.
5. In the Data Type box, select a format.
6. Click Add. The entry appears in Export Setting table.
7. To export data:
 - a. In the Export Setting table, select an entry.




Server	Ch...	Dat...	Start	End	Status
DX41...	1 Ch	Native	10-06-2009 07:28	10-06-2009 07:29	Ready

Figure 41. Export Dialog Box

- b. Click Export.

EXPORTING DATA RECORDED DURING DST


To export data recorded during DST:

1. In the site tree, click a site.
2. On the toolbar, click the Export icon .
3. To enter the export settings, in the Export Setting section:
 - a. In the Server box, verify that the correct site appears.
 - b. In the Channel section, select the export channels (1 to 4).
 - c. *(Optional)* To export audio data, in the Audio box, select On.
4. To select the DST start date and time:
 - a. In the Start box, select the date, and then select the start time to be 01:00 or later.
 - b. In the End box, select the date, and then select the end time to be later than the start time, up to 01:59.

NOTE: The export duration is from 1 to 59 minutes within the one-hour DST time period.

Date/Time			
Start	11 - 04 - 2007	01	00
End	11 - 04 - 2007	01	59

Figure 42. Configuring the DST Date/Time Settings

5. To select a folder to store the exported schedule, perform one of the following options:
 - **Accept the default path:** By default, the path is *C:\IDX4100 Exported files*. Go to step 6.
 - **Enter a different path:**
 - (1) In the Windows environment, create a folder.
 - (2) In the Save Path box, click the Browse button . The Export dialog box appears.
 - (3) Click the folder, and then click OK. The path appears in the Save Path box.

6. In the Data Type box, select a format.



7. To select the DST export mode:

NOTE: The DST dialog box allows you to select the DST time period from which to export data. Refer to *Exporting Data Recorded Before and After DST* on page 55 for more information.

- a. Click Add. The DST dialog box appears.
 - b. In the text box, select DST On, and then click OK. The export entry is added to the export table.
8. To export data:
- a. In the Export Setting table, select an entry.
 - b. Click Export.

EXPORTING DATA RECORDED BEFORE AND DURING DST



To export data recorded before and during DST:

1. In the site tree, click a site.
2. On the toolbar, click the Export icon .
3. To enter the export settings, in the Export Setting section:
 - a. In the Server box, verify that the correct site appears.
 - b. In the Channel section, select the export channels (1 to 4).
 - c. *(Optional)* To export audio data, in the Audio box, select On.
4. To select the DST start date and time:
 - a. In the Start box, select the date, and then select the start time to be before 01:00.
 - b. In the End box, select the date, and then select the end time to be between 01:00 and 01:59.
5. To select a folder to store the exported schedule, perform one of the following options:
 - **Accept the default path:** By default, the path is *C:\IDX4100 Exported files*. Go to step 6.
 - **Enter a different path:**
 - (1) In the Windows environment, create a folder.
 - (2) In the Save Path box, click the Browse button . The Export dialog box appears.
 - (3) Click the folder, and then click OK. The path appears in the Save Path box.
6. In the Data Type box, select a format.
7. To select the DST export mode:
 - a. Click Add. The DST dialog box appears.
 - b. In the text box, select DST On, and then click OK. The export entry is added to the export table.

8. To export data:
 - a. In the Export Setting table, select an entry.
 - b. Click Export.


EXPORTING DATA RECORDED DURING AND AFTER DST


To export data recorded during DST and after DST:

1. In the site tree, click a site.
2. On the toolbar, click the Export icon .
3. To enter the export settings, in the Export Setting section:
 - a. In the Server box, verify that the correct site appears.
 - b. In the Channel section, select the export channels (1 to 4).
 - c. *(Optional)* To export audio data, in the Audio box, select On.
4. To set the start/end date and time:
 - a. In the Start box, select the date, and then select the start time to be between 01:00 and 01:59.
 - b. In the End box, select the date, and then select the end time to be later than 01:59.
5. To select a location for storing the exported schedule, perform one of the following options:
 - **Accept the default path:** By default, the save path is *C:\DX4100 Exported files*. Go to step 6.
 - **Enter a different path:**
 - (1) In the Windows environment, create a folder.
 - (2) In the Save Path box, click the Browse button . The Export dialog box appears.
 - (3) Find the save path destination folder, click the folder, and then click OK. The save path appears in the Save Path box.
6. In the Data Type box, select a format.
7. To select the DST export mode:
 - a. Click Add. The DST dialog box appears.
 - b. In the text box, select DST On, and then click OK. The export entry is added to the export table.
8. To export data:
 - a. In the Export Setting table, select an entry.
 - b. Click Export.

EXPORTING DATA RECORDED BEFORE AND AFTER DST


To export data recorded before and after DST:

1. In the site tree, click a site.
2. On the toolbar, click the Export icon .
3. To enter the export settings, in the Export Setting section:
 - a. In the Server box, verify that the correct site appears.
 - b. In the Channel section, select the export channels (1 to 4).
 - c. *(Optional)* To export audio data, in the Audio box, select On.
4. To set the start/end date and time:
 - a. In the Start box, select the date, and then select the start time to be earlier than 01:00.
 - b. In the End box, select the date, and then select the end time to be later than 01:59.
5. To select a location for storing the exported schedule, perform one of the following options:
 - **Accept the default path:** By default, the save path is *C:\DX4100 Exported files*. Go to step 6.

- **Enter a different path:**
 - (1) In the Windows environment, create a folder.
 - (2) In the Save Path box, click the Browse button . The Export dialog box appears.
 - (3) Find the save path destination folder, click the folder, and then click OK. The save path appears in the Save Path box.
6. In the Data Type box, select a format.
 7. To select the DST export mode:
 - a. Click Add. The DST dialog box appears.
 - b. In the text box, select DST On, and then click OK. The export entry is added to the export table.
 8. To export data:
 - a. In the Export Setting table, select an entry.
 - b. Click Export.

EXPORTING DATA FROM THE DX4000

To export data for a DX4000:

1. In the Live View mode, perform one of the following options:
 - Click the view pane of the DX4000 camera from which you want to export recorded video.
 - In the site tree, click and drag a DX4000 camera to a view pane.
2. Click the Search button . The Export button is available.
3. To locate the data, in the timeline section, perform the following steps:
 - a. In the date drop-down box, select the date.
 - b. Select the time using the hours, minutes, and seconds boxes.
 - c. *(Optional)* To position the timeline pointer in the status bar:
 - (1) Click the Increase and Decrease Timeline Detail buttons to expand or reduce the timeline in increments of 5 minutes to 1 hour.
 - (2) Click and drag the timeline pointer to a position.
 - (3) Click and drag the timeline scroll bar to reposition the status bar display.



The date and timeline are accessible when the Export dialog box is opened.
4. On the toolbar, click the Export button . The Export dialog box opens.
5. To specify the export criteria, in the Export dialog box, perform the following steps:
 - a. In the Server drop-down box, verify that the correct server is listed. The Server drop-down box is not available, but it does display the name of the server selected for the exporting of data.
 - b. In the Channel section, click the button for each channel of exported data.
 - c. *(Optional)* In the Audio drop-down box, select On to export audio data for the selected channel. The default setting is Off.
 - d. In the Data/Time section, select a date/time parameter, and then click the UP/DOWN button to set the start/end date and time.



Figure 43. DX4000 Export Date/Time Settings

6. The default storage destination is located at: *C:\Program Files\pelco\PELCO DX4500_DX4600 Client\Export Viewer.*
To store the exported schedule at a different location than the default path:
 - a. Beside the Save Path text box, click the export path button . The Export Save Path dialog box opens.
 - b. Accept the default location, or navigate to another location and then select the folder.
 - c. In the Save Limit box, type the maximum storage capacity (in MB).

NOTE: By default AVI is the exported data type. The Data Type drop-down box is unavailable.

7. Click Add. The export schedule is added to the table.
8. To start the export, select a schedule from the Export table.

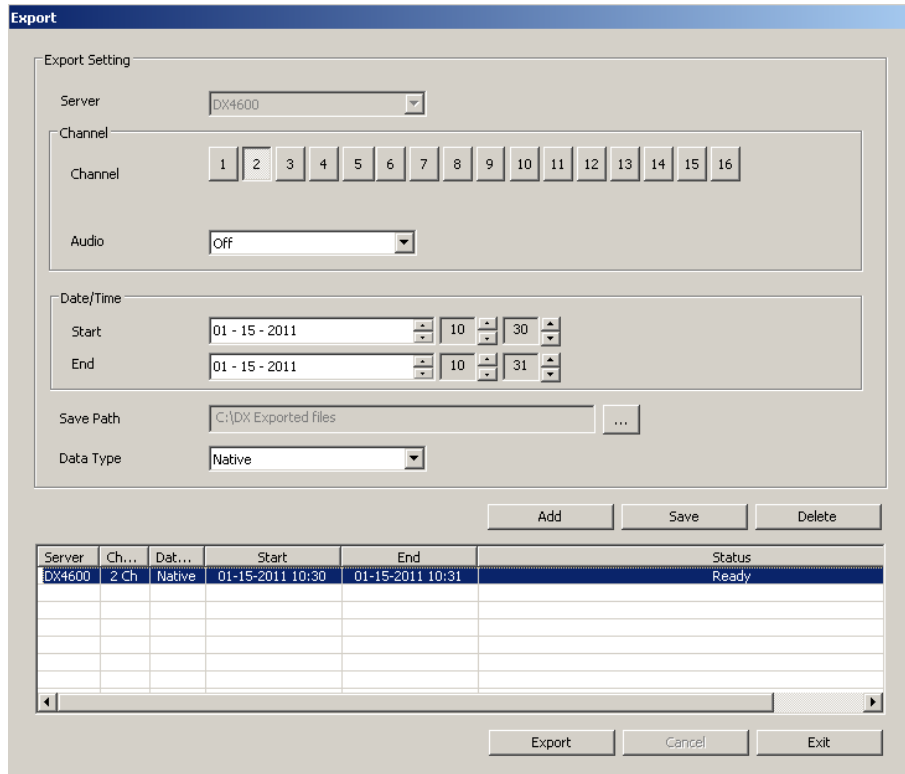






Figure 44. Export Dialog Box

9. Click Export. The export process starts. The status column changes to Complete if no issues arise during the export process.

PRINTING

The print feature is available when playback is paused. The DX Series client allows you to select a pane and then print the displayed image. Printers must be configured before using the DX Series client print feature.

To print an image:

1. On the toolbar, click the Live icon .
2. In the application window, click a view pane.
3. In the timeline, select a date and time.
4. On the Playback control, click Play .
5. When the scene you want appears, on the Playback control, click Pause . The Print button becomes available.
6. To print the image:
 - a. On the toolbar, click the Print icon . The Print dialog box appears.
 - b. Choose the printer settings, and then click OK. The image prints.

Configuration

DX Series DVR/HVRs come preconfigured to record video. The DX Series client Setup window allows you to customize the settings of any DX Series DVR/HVR server from a remote location. Depending on your unit, one or more users with administrator-level permissions can access the Setup window simultaneously. If your unit only allows one user at a time to have access, the DVR/HVR will allow access on a first-come, first-served basis.

The DX Series client GUI is intuitive and easy to use to configure all DX Series units. The setup instructions described in this section generally apply to all units. For specific instructions about the DX8000/DX8100, DX4500/DX4600, DX4104, and DX4000 Series DVR/HVRs, refer to the unit's client operation/configuration manual.

NOTE: The DX Series client Setup window is organized into a different set of menus, settings, and pages depending on the DX Series product model and the DX Series client to which it is connected. The menus and settings also appear on different pages. For information about the setup menus and settings that are available for your unit, refer to *DX Series Client Setup Window Overview* on page 58.

DX SERIES CLIENT SETUP WINDOW OVERVIEW

The DX Series client Setup window includes a variety of Setup menus that allow you to easily configure your unit's features. Table I describes the available Setup menus, the pages on which the settings are located, and the settings for configuring your particular DVR/HVR model.

Table I. DX Series Client Menus and Settings (1 of 2)






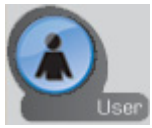
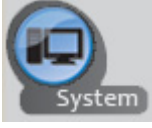
Setup Menu	Setting	Page Where Setting Is Located						
		DX8000 DX8100*	DX4700HD DX4800HD	DX4700 DX4800	DX4500 DX4600	DX4104	DX4000	
 Camera	Channel	Camera	Camera	Camera	Camera	Camera	Camera	
	Camera Name						Audio	
	Audio						Camera	
	PTZ		Record					
	Motion		Camera					
	Display		Record					
	Main Monitor		Camera					
	Spot Monitor		N/A					
	IP Camera		Network	Camera			Camera	N/A
 Display	Display	N/A	Display	Display	N/A	N/A	N/A	
	Video Adjustment							
	Motion Setting							
	Sequence							
	OSD							
	PTZ							
	Composition							
 Schedule	Schedule	Schedule	Schedule	Schedule	Schedule	Schedule	Record	
	Schedule Copy						N/A	
	Recording						Record	
	Alarm Record							
	Motion Recording							
	Instant Record						N/A	
	Text						N/A	N/A
	Holiday						Schedule	Schedule

Table I. DX Series Client Menus and Settings (2 of 2)

Setup Menu	Setting	Page Where Setting Is Located					
		DX8000 DX8100*	DX4700HD DX4800HD	DX4700 DX4800	DX4500 DX4600	DX4104	DX4000
	Event	Linking/ Schedule	Linking	Linking	Linking	Linking	Alarm
	Relay Off				System		System
	System Alarm Out						
	Network: TCP/IP	N/A	System	System	Network	Network	System
	Notification	Notification	Linking	Linking			N/A
	DDNS	N/A	System	System			
	Mail	Notification	Linking	Linking			
	Emergency						
	Group Authority	N/A	User	User	N/A	N/A	N/A
	User						
	Date/Time	N/A	System	System	System	System	N/A
	Sound	N/A	Linking	Linking			System
	Update	File	N/A	N/A			N/A
	User	User	User	User			System
	Hard Disk/Storage	N/A	Camera	Camera			N/A
	Log Out	User	User	User			

*The DX Series client does not support the following DX8100 Setup pages: Network, Backup, Site Setup, System (excluding the Log Information section), or Ext. Monitor.

CAMERA SETTINGS

Analog and IP camera settings for DX8000/DX8100, DX4500/DX4600, DX4104, and DX4000 Series units are easily configured through the Camera page. The camera settings for DX4700HD/DX4800HD and DX4700/DX4800 Series units are configured through both the Camera page and the Display page. Refer to the following figures for information about configuring the camera settings for your particular model.

DX8000/DX8100 SERIES CAMERA SETTINGS

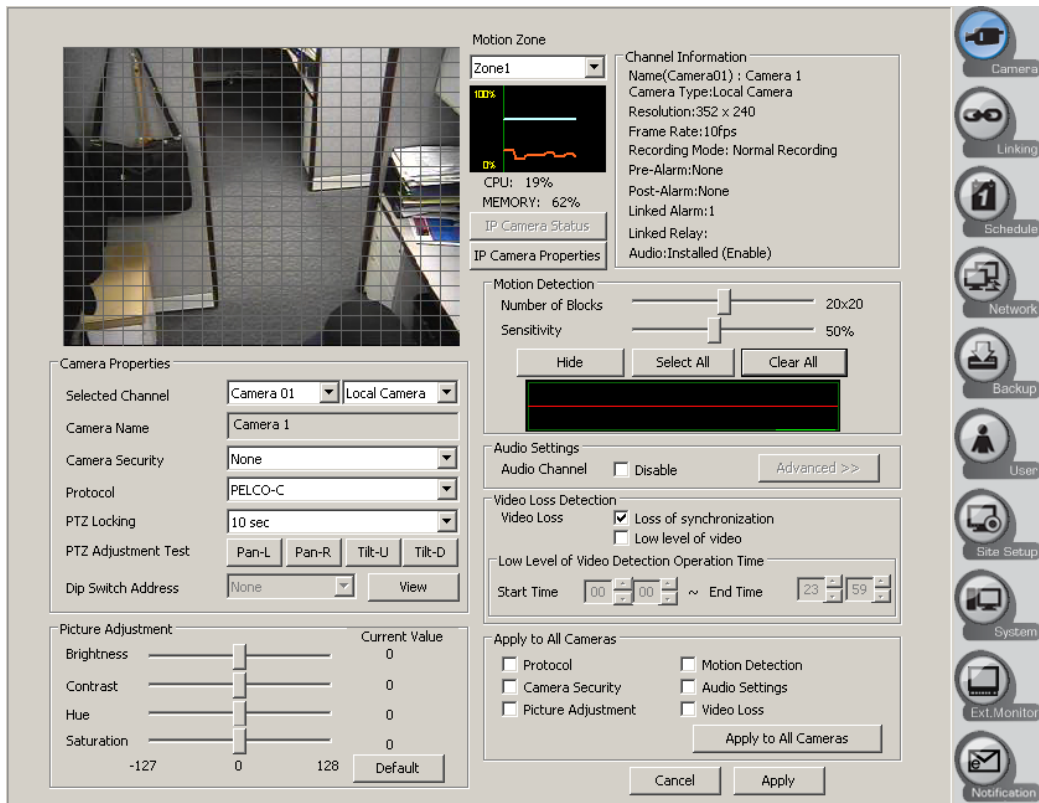


Figure 45. DX8100 Camera Page

DX4700/DX4800 SERIES CAMERA SETTINGS

Camera settings for the DX4700/DX4800 Series are located on both the Camera page and the Display page.

The screenshot shows the 'Camera' configuration page. It is divided into four main sections: 'Camera', 'IP Camera', 'Storage', and 'ATM/POS Setting'. A vertical sidebar on the right contains navigation icons for Camera, Schedule, Display, Linking, User, and System.

Section	Parameter	Value
Camera	Channel	CH 1
	Camera Name	CH 01
	Audio	Off
	Disable	Off
IP Camera	Channel	IP 01
	Vendor	PELCO
	Model Name	
	IP Address	10.220.77.37
	User Name	admin
	Password	••••••••
Port	554	
Storage	Overwrite	All
	Full Warning	Off
	Auto Delete	Off
	Event Partition	50%
ATM/POS Setting	Interface Device	Default
	Camera	CH 03
	Baud Rate	9600
	Data Bits	8
	Stop Bits	1
	Parity	None

Figure 46. DX4700/DX4800 Camera Page

The screenshot shows the 'Display' configuration page. It features a central video preview window showing a camera feed of a person in a hallway. The page is divided into several sections: 'Video Adjustment', 'Motion Setting', 'Composition', 'PTZ', 'Sequence', and 'OSD'. A vertical sidebar on the right contains navigation icons for Camera, Schedule, Display, Linking, User, and System.

Section	Parameter	Value
Video Adjustment	Brightness	50
	Contrast	50
	Color	50
Motion Setting	Sensitivity	05
	Relay Out	03
	Show Grid	<input type="checkbox"/>
	Buttons	Set All, Clear All
Sequence	Main Dwell Time	2 Sec
	Spot Dwell Time	2 Sec
OSD	Channel Name	<input checked="" type="checkbox"/>
	Channel Status	<input checked="" type="checkbox"/>
Composition	Name	CH 03
	Channel	03
PTZ	Port	COAXITRON
	Address	00
	Protocol	PELCO_C
	Baud Rate	9600

Figure 47. DX4700/DX4800 Display Page

DX4700HD/DX4800HD SERIES CAMERA SETTINGS

Camera settings for the DX4700HD/DX4800HD Series are located on both the Camera page and the Display page.

Camera

Channel: CH 1
 Camera Name: CH 01
 Audio: Off
 Disable: Off

IP Camera

Channel: IP 01
 Vendor: PELCO
 Stream: stream1
 Host Name: 10.221.221.114
 User Name: admin
 Password:
 Port RTSP/HTTP: 554 80

Storage

Overwrite: All
 Full Warning: Off
 Auto Delete: Off
 Event Partition: No Partition

ATM/POS Setting

Interface Device: Default
 Camera: CH 01
 Baud Rate: 9600
 Data Bits: 8
 Stop Bits: 1
 Parity: None

Figure 48. DX4700HD/DX4800HD Camera Page

Display

Channel: 01

Video Adjustment

Brightness: 50
 Contrast: 50
 Color: 50

Motion Setting

Sensitivity: 05
 Relay Out: None
 Show Grid
 Set All Clear All

Composition

Name: CH 02

PTZ

Port: COAXITRON
 Address: 00
 Protocol: PELCO_C
 Baud Rate: 9600

Sequence

Main Dwell Time: 2 Sec
 Spot Dwell Time: 2 Sec

OSD

Channel Name
 Channel Status
 Font Size: 12
 Position: BOTTOM

Figure 49. DX4700HD/DX4800HD Display Page

DX4500/DX4600 SERIES CAMERA SETTINGS

Camera

Channel: Camera 02 Camera Disable

Covert

Camera Name: CH 02

Audio: Audio 2

PTZ

Port: None

Address: 0

Protocol: PELCO_C

Baud Rate: 9600

Motion

Sensitivity: 5

Relay Out: None

Show Grid

Set All Clear All

Display

OSD

Language: English

Channel Name

Channel Status

Main Monitor

Dwell Time: 2 Sec

Spot Monitor

Dwell Time: 2 Sec

Event Popup: Off

Covert Camera

Navigation Bar: Camera, Schedule, Linking, NetWork, System

Figure 50. DX4500/DX4600 Camera Page

DX4104 SERIES CAMERA SETTINGS

Figure 51. DX4104 Camera Page

DX4000 SERIES CAMERA SETTINGS

The DX4000 Series Camera settings page (refer to Figure 51) organizes the camera configuration settings into five tabs. For detailed information about using the DX4000 Settings window to configure the unit, refer to the DX4000 Series Operation manual.

Camera	Size	Rec.Rate	Quality
1	352*240	30	Highest
2	352*240	30	Highest
3	352*240	30	Highest
4	352*240	30	Highest

3 frame available.

Camera	Record	Start	Stop
1	Off	0	24
2	Off	0	24
3	Off	0	24
4	Off	0	24

Pre-Alarm Duration (sec): 1
Post-Alarm Duration (sec): 5

Camera	Record	Mode	Start	Stop
1	On	Daily	0	24
2	On	Daily	0	24
3	On	Daily	0	24
4	On	Daily	0	24

Camera	Motion	Sensitivity	Region
1	Off	5	total
2	Off	4	total
3	Off	4	total
4	Off	4	total

Pre-Motion Duration (sec): 1
Post-Motion Duration (sec): 5

Figure 52. DX4000 Camera Settings Page

CAMERA PAGE FEATURES

The Camera page contains the following features:

- **Channel:** Allows up to 32 camera inputs to be connected to the DVR/HVR.
- **Camera Disable:** Enables or disables the display of video.
 - Camera not connected: If the Camera Disable box is not selected and a camera is not connected to the BNC input, the DVR displays Video Loss in the camera pane. In this case, the DVR records the message as video data. If the channel is disabled, the DVR displays the Pelco logo in the camera pane. In this case, the DVR does not record the video. To conserve hard drive space, Pelco recommends that you disable all channel inputs that are not being actively used to record video.
 - Camera connected: If the Camera Disable box is not selected and a camera is connected to the BNC input, video input from the camera is disrupted and Video Loss appears in the camera pane. In this case, the Video Loss message is recorded.
- **Covert:** Allows a camera to be configured, viewed, and operated by users who are logged on with administrator-level permissions.
- **Name:** Allows you to create a unique name for each camera. The camera name must adhere to the following guidelines:
 - Characters can include letters (a to z, upper and lowercase), numerals (0 to 9), and special characters.
 - The camera name must not exceed 13 characters in length.
- **Audio:** Associates the audio input with a specified camera input. An audio input can be assigned to multiple cameras.

NOTE: The DX Series client does not receive audio from the DX4000.

Configure the following settings for Live Audio:



- **Live Audio:** Select On or Off. When set to On, the remote agent (DX4000) can receive live audio from a camera through the DX4000.
- **Monitoring Channel:** Select the audio channel that is connected to the camera. Refer to the rear panel of the unit to verify the channel number.
- **Audio Network:** Select the type of audio the remote agent can receive: one-way or two-way. With one-way audio, you can listen to the audio associated with a camera. With two-way audio, the remote agent can send audio to a speaker that is connected through the DX4000. For example, you might use this feature to allow an operator at a remote computer to communicate with a person waiting at a locked door. Audio transmitted from the remote agent is not recorded. For more information about configuring the DX4000 audio feature, refer to the DX4000 Operation manual.
- **PTZ:** Allows the PTZ settings to be configured at the server for each camera. Refer to *PTZ Mode* on page 66 for more information.
 - **Port:** Allows you to assign a camera to a communication port: None, Data 1, Data 2, or Coaxitron®.
 - **Address:** Selects the camera's address.
 - **Protocol:** Selects the PTZ protocol used by the port. Multiple cameras assigned to a port must use the same protocol.

NOTE: For information about the supported third-party PTZ devices and the protocols, refer to *Appendix B: Supported PTZ Protocols* on page 131.

 - **Baud Rate:** Selects the baud rate for sending data to the camera. Available baud rates are as follows: 1200, 2400, 4800, 9600, and 19200.
- **Motion:** Allows you to preview the motion scene in a window, to configure the motion settings at the server and client for each camera. Refer to *Motion Detection Setup* on page 67 for more information.
 - **Sensitivity:** Allows you to adjust motion sensitivity. Move the slider to the left to decrease the sensitivity; move the slider to the right to increase the sensitivity.
 - **Relay out:** Allows you assign the relay output to a camera.
 - **Show Grid:** Allows you to show or hide the motion grid.
 - **Set All:** Selects all cells in the motion grid.
 - **Clear All:** Clears all selected cells in the motion grid.
- **Display:** Allows you to configure the global display settings at the server. Refer to *Display Setup* on page 67 for more information.
 - **OSD:** Selects the OSD language.
 - **Channel Name:** When selected, the channel name is displayed.
 - **Channel Status:** When selected, the channel status is displayed.
 - **Main Monitor:** Allows you to select the dwell time in seconds (2, 5, 10, 20, 30, 40, 50, 60, 70, 80, or 90).
 - **Spot Monitor:** Allows you to configure the dwell time in seconds (2, 5, 10, 20, 30, 40, 50, 60, 70, 80, or 90), Event Popup (Off, Alarm In, Motion, or All), and Spot Channel (Ch1, Ch2, Ch3, Ch4, Sequence 1, or Sequence 2).

CAMERA CHANNEL

To set up each camera:

1. On the toolbar, click the Setup icon . The Setup window opens to the Camera page.
2. In Camera section, perform one of the following options:
 - a. In the Channel box, select a camera.
 - b. *(Optional)* Click the Covert check box to select covert operation.
 - c. In the Channel Name box, type a name.
 - d. In the Audio box, select an input.
3. To save the changes, click the Live icon , and then click OK.

IP CAMERA

The DX Series client operates in conjunction with the DX Series HVR to record and display IP camera video.

To set up an IP camera:

1. On the toolbar, click the Setup icon .
2. In the IP Camera section, enter the IP camera settings.
3. To save the changes, click the Live icon , and then click OK.

ATM/POS

To set up ATM/POS:

1. On the toolbar, click the Setup icon .
2. In the ATM/POS section, enter the ATM/POS settings.
3. To save the changes, click the Live icon , and then click OK.



PTZ MODE

The PTZ mode provides the following functionality:

- **DX4700HD/DX4800HD:** IP cameras are networked to the unit. The DX4700HD/DX4800HD supports up to eight IP cameras. The IP camera must be enabled for PTZ control. Use the DX4700HD/DX4800HD PTZ control to configure each IP camera individually.
- **DX4700/DX4800 and DX4500/DX4600:** PTZ devices are connected to the unit using the DATA 1 and DATA 2 RS-422/RS-485 ports located on the back of the unit. The DX4708/DX4808 and DX4508/DX4608 supports up to eight serial PTZ cameras; the and DX4716/DX4816 and DX4516/DX4616 supports up to sixteen serial PTZ cameras. Multiple PTZ cameras are connected by daisy-chaining the camera connections. The DX4500/DX4600 allows you to address and control multiple PTZ cameras individually.
- **DX4104:** PTZ devices are connected to the DX4104 using the DATA 1 and DATA 2 RS-485 ports located on the back of the unit. The unit supports up to four serial PTZ cameras. Multiple PTZ cameras are connected by daisy-chaining the camera connections. The DX4104 allows you to address and control multiple PTZ cameras individually.
- **DX4000:** For information about connecting PTZ devices to the unit, refer to the DX4000 Installation manual. For information about configuring the PTZ settings, refer to the DX4000 Operation manual.

PTZ camera control is achieved by using the respective protocol for that camera. Third-party device control is achieved by using the respective protocol for that camera, to operate the PTZ, focus, iris, and preset features.

To select a protocol:

1. On the toolbar, click the Setup icon .
2. In the Protocol box, select a protocol.
3. To save changes, click the Live icon , and then click OK.



MOTION DETECTION SETUP

For analog camera motion recording, the motion area is configured through the application window. Use the outline tool to draw a boundary around multiple areas. You can define one or more motion detection areas in the window. For IP camera motion recording, the IP camera must be configured for motion recording. The DX4700/DX4800 and DX4700HD/DX4800HD must be configured for motion recording.

The sensitivity control has the following guidelines:

- **High sensitivity setting:** A high motion level is needed before the unit can detect motion and record the event.
- **Low sensitivity setting:** A low motion level causes the unit to detect and record video.
- **Medium 50% sensitivity setting (default):** A typical motion level causes the unit to detect and record video.

To select a motion detection area:

1. On the toolbar, click the Setup icon .
2. Click the Display icon . The Display page appears.
3. In the preview window, drag an area to the right. The dotted rectangle selection tool appears, and the selected area is highlighted green.

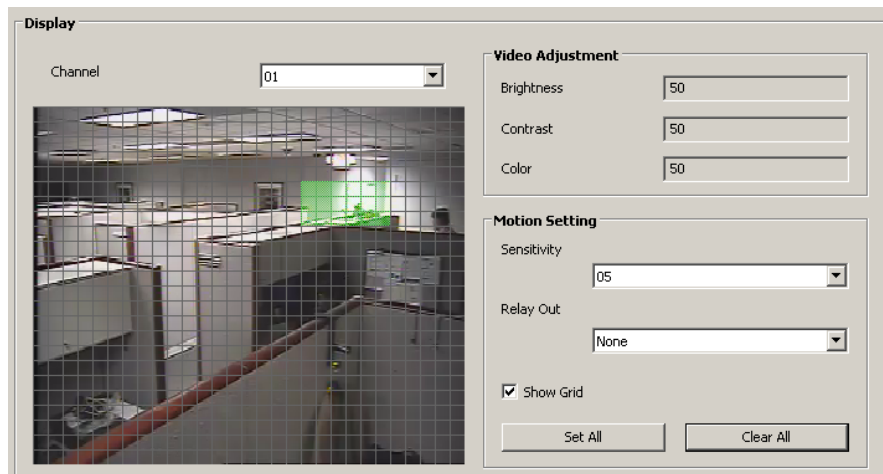



Figure 53. Motion Settings

4. To delete a motion area, right-click and drag to the right to select the area. You can also, click Clear All, which deletes all highlighted areas.
5. To enter the motion sensitivity setting, perform one of the following options:
 - **Decrease sensitivity:** Click the Sensitivity box, and select a lower setting.
 - **Increase sensitivity:** Click the Sensitivity box, and select a higher setting.
6. In the Relay Out box, select a setting.
7. To save the changes, click the Live icon , and then click OK.



DISPLAY SETUP

NOTE: You select the client OSD settings on the View menu.

The display setup has the following guidelines:

- **OSD:**
 - **Language:** Allows you to configure a specific language for each server. The server does not have to be restarted.
NOTE: Although the DX Series client can be configured to display information in multiple languages, the DX4000 only displays information in English.
 - **Channel name and channel status:** Global server settings that show or hide the channel name and status indicators (recording mode icons).
- **Main monitor:** Global setting that allows you to set the dwell time.
- **Spot monitor:** Global settings that allow you to select the dwell time, the event that will be displayed on the spot monitor, and the output channel for display.

To set up the OSD:

1. On the toolbar, click the Setup icon .
2. In the Display section, select the display settings.
3. To save the changes, click the Live icon , and then click OK.

DX8100 SERIES IP CAMERA SETUP

For information about the supported IP cameras, refer to the DX8100 Series HVR Version 2.0 Release Notes. To access this document, go to <http://www.Pelco.com> and navigate to the Hybrid Video Recorders page.

CONFIGURING THE DX8100 TO RECORD IP CAMERA VIDEO

The DX8100 allows you to assign an IP camera to a designated channel. Initially, camera channels above the DX8100 standard analog channels are not displayed in the site tree. These channels are listed in the Selected Channel drop-down box located on the Camera page. Each IP camera configured as a network camera is displayed in the site tree.

About Analog and IP Camera Channel Configurations

The DX8100 channel configuration is as follows:

- **Standard analog channel:** The DX8108 and DX8116 channel capacity can be expanded by 16 channels using the DX8100 16-channel expansion unit kit.
 - **DX8108 channel configuration:** Camera channels 1 to 8 are standard analog inputs and are displayed in the site tree; channels 9 to 24 (sixteen total) are available for assigning IP cameras.
 - **DX8116 channel configuration:** Camera channels 1 to 16 are standard analog inputs and are displayed in the site tree; channels 17 to 32 (sixteen total) are available for assigning IP cameras.
 - **DX8124 channel configuration:** Camera channels 1 to 24 are standard analog inputs and are displayed in the site tree; channels 25 to 32 (eight total) are available for assigning IP cameras.
 - **DX8132 channel configuration:** Camera channels 1 to 32 are standard analog inputs and are displayed in the site tree. Analog channels must be disabled to assign an IP camera.

NOTE: For information about the supported resources for configuring analog and IP cameras, refer to DX8100 Series HVR Version 2.0 Release Notes.

- **Disabling an analog or IP camera results in the following conditions:**
 - Frees up system CPU and memory resources.
 - Video from the disabled channel is no longer available for recording.
 - Settings specific to the disabled camera are preserved.
 - The IP camera is not removed from the IP Camera Properties dialog box.

For information about disabling a camera, refer to *Disabling an Analog Camera* on page 75 or *Disabling an IP Camera* on page 75. For information about restoring a camera, refer to *Restoring a Disabled Analog or IP Camera* on page 76.

For information about DX8100 supported analog and IP camera capacity, refer to DX8100 Series HVR Version 2.0 Release Notes. To access this document, go to <http://www.Pelco.com> and navigate to the Hybrid Video Recorders page.

Searching for IP Cameras

NOTES:

- The scan utility is a DX8100 server-based feature and discovers IP cameras within the DX8100 network. The scan utility is not available in the client application.
- If Axis IP cameras are on the network, the IP Camera Properties dialog scan utility might not discover all available IP cameras. The scan utility discovers Sarix cameras but does not discover other IP cameras (IP110, IP3701, Axis 211, and Axis 231D+).
- The scan utility discovers Axis and Pelco IP cameras if Sarix cameras are not on the network.

1. On the DX8100 toolbar, click the Setup button . The Setup dialog opens to the Camera page.
2. Click IP Camera Properties. The IP Camera Properties dialog box appears.

3. To search for IP cameras connected to the network:

- **Using the IP Camera Properties dialog box scan utility:** The scan utility locates Pelco IP devices, IP cameras, and Axis IP cameras.

NOTE: The DX8100 client application IP Camera Properties scan utility is unavailable.

- (1) Click Scan. The IP Camera Searching dialog box appears.
- (2) After the IP Camera Searching dialog box closes, the IP scan results are displayed in the scan table.

NOTE: The scan results are cleared if the IP Camera Properties dialog box is closed.



IP	Model	Manufacturer
192.168.2.215	IXE20DN	PELCO
192.168.2.86	IXS0DN	PELCO
192.168.2.213	IXE20DN	PELCO
192.168.3.15	IDE20DN	PELCO
192.168.1.86	IXE20DN	PELCO

Figure 54. DX8100 Scan Utility Results

- **Using the Pelco Device Utility:** For information about installing the Device Utility, refer to Utility Device for Pelco IP Cameras manual.

NOTE: Install the Device Utility only on a remote computer. Do not install it on the DX8100 server.

- (1) On a remote computer, start the Pelco Device Utility and allow the Device Utility to discover IP devices on the network.
- (2) Search the Device Utility IP Address column for supported IP camera devices. For information about the supported IP cameras, refer to DX8100 Series HVR Version 2.0 Release Notes. To access this document, go to <http://www.Pelco.com> and navigate to the Hybrid Video Recorders page.

4. Note the IP address and model number of the supported IP cameras to be configured.

5. Assign each IP cameras to a DX8100 camera channel (refer to *Assigning an IP Camera to a Camera Channel* on page 69).

Assigning an IP Camera to a Camera Channel

The DX8100 allows you to select the video format and recording stream. The MPEG-4 codec (video format) setting allows you to select the primary or secondary stream. The MJPEG codec setting only supports the primary stream.

- **Pelco IP cameras (IP110, IP3701, Spectra IP, and Spectra Mini IP):** These cameras record as follows:
 - Primary stream: 4CIF 30 ips
 - Secondary stream: CIF 15 ips
- **Pelco IX and IXE Series network cameras with Sarix™ technology:** The resolution, frame rate, and bit rate can be adjusted.
- **Axis Communications® Axis 211 or Axis 232D:** Frame rates are selectable from 1 to 30 ips; resolutions are selectable from 640x480, 480x360, 320x240, 240x810, or 160x120.

1. On the DX8100 toolbar, click the Setup button . The Setup dialog opens to the Camera page.
2. Click IP Camera Properties. The IP Camera Properties dialog box appears.

3. To assign an IP camera to a camera channel, perform one of the following options:

- **Manual assignment:**

- (1) Click a check box to select a camera.
- (2) Click the Manufacturer drop-down box and select a manufacturer. The port number, compression method, and video stream settings automatically appear in the camera row.

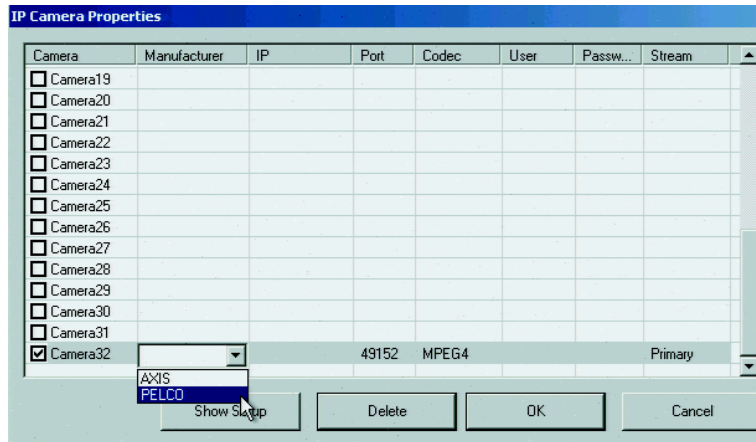


Figure 55. Manually Selecting a Camera Manufacturer

- (3) Click the IP drop-down box and enter the camera's IP address.

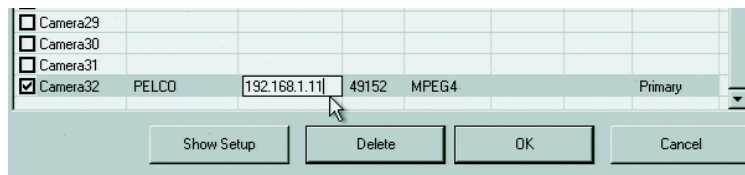



Figure 56. Manually Entering a Camera's IP Address

- **Automated assignment:**

- (1) Click Scan. Available IP devices appear in the Scan table.
- (2) Click a supported IP camera.
- (3) Click the Add button . The Connect dialog box opens.
- (4) In the Connect drop-down box, click a camera.
- (5) Click Apply. The selected camera is assigned to the designated camera channel.

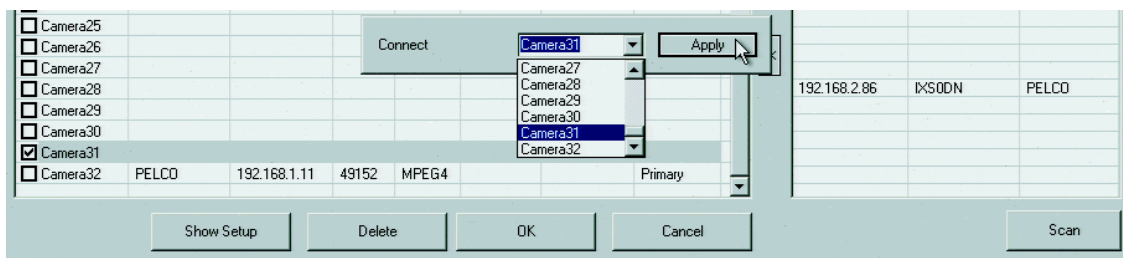


Figure 57. Automated Assignment of an IP Camera

4. (Optional) MPEG-4 is the default codec. Double-click the Codec drop-down box to select a different compression.
5. Double-click the User box and enter the user name.
6. Double-click the Password box and enter the password.

7. The DX8100 allows you to select the IP camera stream that the unit uses to record video.
 - **Stream 1:** Primary is the default stream. It supports a higher resolution and image rate.
 - **Stream 2:** Stream 2 supports a lower resolution and image rate.

NOTE: For information about supported resolution and image rates, refer to *DX8100 Series HVR Release Notes*. To access this document, go to <http://www.Pelco.com> and navigate to the Hybrid Video Recorders page.

Double-click the Stream drop-down box to select the Secondary stream.

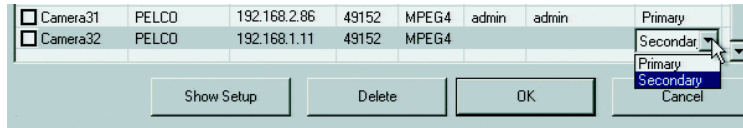


Figure 58. Entering the User Name, Password, and Stream


8. Repeat steps 2 to 7 to associate additional IP cameras with other camera channels.
9. Click OK. The channel assignments are saved and the Camera page appears.
10. (Optional) To adjust IP camera settings, refer to *Configuring IP Camera Settings*. Otherwise, refer to *Customizing IP Camera Display Settings* on page 72.

Configuring IP Camera Settings

For Pelco IP cameras, use the IP Camera Properties dialog box, the Web browser running on the DX8100 client computer, or the Device Utility.

For Axis IP cameras, use the Web-based Axis interface. For information about configuring Axis camera settings, refer to the Axis documentation that came with the camera.

Using the IP Cameras Properties Dialog to Configure IP Cameras

1. On the DX8100 toolbar, click the Setup button . The Setup dialog opens to the Camera page.
2. Click IP Camera Properties. The IP Camera Properties dialog box appears.
3. Click a check box to select an IP camera channel. The Show Setup button is available.
4. Click Show Setup. The IP Camera Properties setup content area appears and the Web browser accesses the IP camera's Settings page.

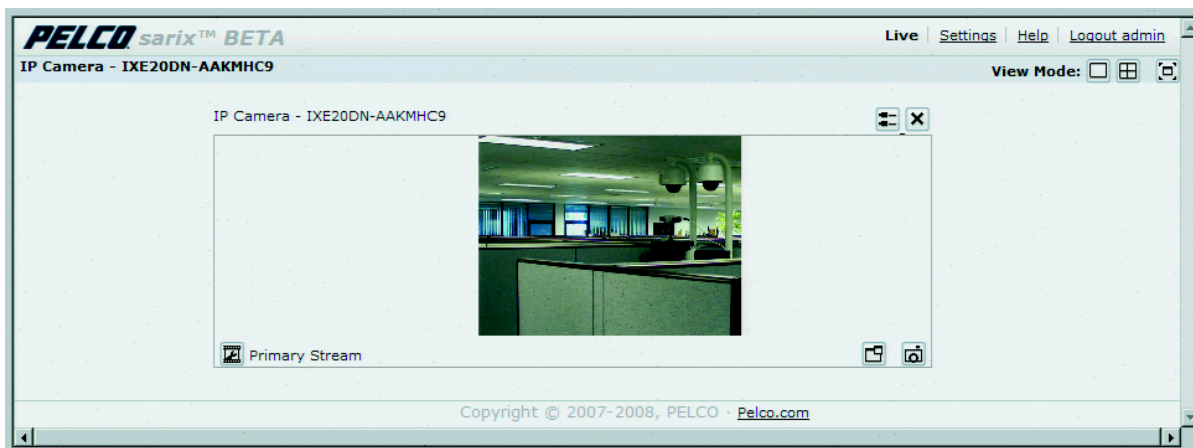


Figure 59. Pelco IP110 General Tab

5. Configure the IP camera settings.
6. Log out of the IP camera. A login dialog box appears.
7. Click Hide Setup.

8. Click OK. The camera settings are saved and the DX8100 Camera page appears.
9. Set up the IP camera to be displayed in the DX8100 site tree (refer to *Customizing IP Camera Display Settings*).

Using the Device Utility to Configure IP Cameras

1. Run the Device Utility on a remote computer and configure the IP camera settings.
2. Set up the IP camera to be displayed in the DX8100 site tree (refer to *Customizing IP Camera Display Settings*).

Customizing IP Camera Display Settings


The Camera page allows you to customize the IP camera display settings. Perform this step after the IP camera is assigned to a camera channel.

NOTE: The IP camera's status is automatically set to "Network Camera" when it is assigned to a camera channel, and assumes the default camera settings for that channel.

For information about assigning an IP camera to a camera channel, refer to *Assigning an IP Camera to a Camera Channel* on page 69.

For information about removing an IP camera from the site tree, refer to *Disabling an IP Camera* on page 75.

To customize an IP camera's display settings:

1. If the Camera page is not displayed, click the Setup button  on the DX8100 toolbar. The Setup dialog opens to the Camera page.
2. In the Camera Properties section:
 - a. Select an IP camera from the Selected Channel drop-down box.
 - b. Verify that the IP cameras is set to Network Camera in the related Selected Channel drop-down box.
 - c. *(Optional)* To disable an IP camera, refer to *Disabling an IP Camera* on page 75. To disable an IP camera, refer to *Disabling an IP Camera* on page 75.
 - d. Enter an optional new name in the Camera Name box.

Camera names can be up to 32 characters long and can include spaces and special characters. The Camera Name box cannot be left blank or have any spaces. If a valid name is not entered in the Camera Name box when you click Apply, the previous name is displayed.
 - e. Select the appropriate PTZ protocol setting. Select No PTZ if the selected IP camera does not support PTZ; select Network Camera PTZ if the IP camera supports PTZ.
3. Select an appropriate timeout value.
4. Adjust picture properties by moving the sliders for Brightness, Contrast, Hue, and Saturation.

As you adjust the picture properties of a camera on the local HVR, changes are reflected immediately in the viewing area near the top of the screen. Changes made to cameras at a remote site do not appear in the viewing area until you click Apply.
5. Click Default to return all picture property settings to the normal state.
6. Click Apply. The IP camera is added to the site tree.

- Verify that the IP camera resolution is displayed in the site tree and Channel Information area.

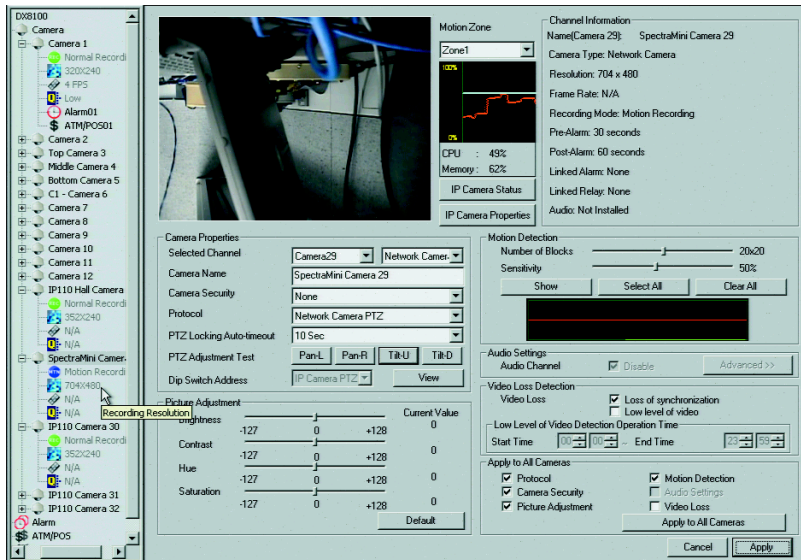



Figure 60. Viewing IP Camera Settings

- In the site tree, click the IP camera. The IP camera video is displayed in the Camera page preview window.
- Verify that the CPU (orange) and Memory (blue) levels are within the DX8100 Resource Meter's 0 to 100 percent range. If either level exceeds 100 percent, a warning dialog box appears.
Click the check box to disable future DX8100 System Resources Warning dialog boxes. If the unit is restarted, the DX8100 System Resources Warning dialog box is enabled again.



Figure 61. DX8100 System Resources Warning Dialog Box

- To configure the analog and IP cameras to bring the CPU or Memory level within range:
 - (Optional) Click the check box to disable the DX8100 System Resources Warning dialog box.
 - Go to *Configuring Analog and IP Cameras for Optimal Hybrid Video Recording* on page 74.
- Verify that the IP camera is communicating with the DX8100. Click IP Camera Status. The IP Camera Network Status dialog box appears and displays the IP camera's status.
- Click OK.
- Click Apply.
- On the DX8100 toolbar, click the Setup button . The DX8100 application window appears.
- Drag the newly configured IP camera to a camera pane.

UNDERSTANDING THE DX8100 RESOURCE METER

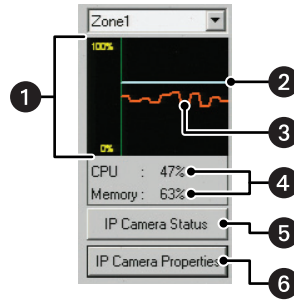


Figure 62. DX8100 Resource Meter

Table J describes the features of the DX8100 resource meter.

Table J. DX8100 Resource Meter

Item	Part	Description
1	View Pane	Displays the available system resources (CPU and Memory resource levels) for the DX8100 server. The meter range is 0 to 100 percent. The CPU and Memory resource levels cannot exceed 100 percent. If either level exceeds 100 percent, the DX8100 System Resources Warning dialog box appears. For information about configuring analog and IP cameras for optimal system resources performance in order to bring the system resources within an acceptable range, refer to <i>Configuring Analog and IP Cameras for Optimal Hybrid Video Recording</i> on page 74. NOTE: The DX8100 resource meter shows the CPU and memory resource levels that are specific to the DX8100 server application. They do not match the resource levels that appear in Windows Task Manager on the server.
2	Memory Level (blue)	Indicates the DX8100 server's memory usage.
3	CPU Level (orange)	Indicates the DX8100 server's CPU usage.
4	Data Area	Displays the CPU and Memory usage as a percentage.
5	IP Camera Status Button	Sends a command to the IP address of the camera displayed in the Selected Channel drop down box. The ping command opens and displays the results in the IP Camera Network Status dialog box.
6	IP Camera Properties Button	Opens a dialog box that allows you to assign an IP camera to a camera channel.

CONFIGURING ANALOG AND IP CAMERAS FOR OPTIMAL HYBRID VIDEO RECORDING

If the CPU level or the Memory level exceeds 100 percent, the DX8100 System Resources Warning dialog box appears.

Click the check box to disable the DX8100 System Resources Warning dialog box (refer to Figure 61 on page 73).

You can easily add, remove, and configure analog and IP cameras to achieve optimal hybrid video recording and system resources performance.

NOTE: The system operates best when the CPU and Memory levels are less than 100 percent. For information about the DX8100 resource meter, refer to *Understanding the DX8100 Resource Meter* on page 74.


The DX8100 resource meter provides a real-time display of available system resources. Use the DX8100 resource meter to help you fine tune the analog and IP camera recording settings.

In summary, to configure the unit for optimal hybrid video recording, perform any combination of the following options:

- Adjust the analog camera recording settings (refer to *Camera Channel* on page 66 and *Schedule Settings* on page 80)
- Adjust the IP camera recording settings (refer to *Configuring IP Camera Settings* on page 71 and *Customizing IP Camera Display Settings* on page 72)
- Disable an analog camera (refer to *Disabling an Analog Camera* on page 75)

- Disable an IP camera (refer to *Disabling an IP Camera* on page 75 and *Deleting an IP Camera* on page 75)
- Restore a disabled analog or IP camera (refer to *Restoring a Disabled Analog or IP Camera* on page 76)


Disabling an Analog Camera

1. On the DX8100 toolbar, click the Setup button . The Setup dialog opens to the Camera page.
2. From the Selected Channel drop-down box, select an analog camera. The camera is highlighted in the site tree.
3. From the extended Selected Channel drop-down box, select Disable.
4. Click Apply. The selected analog camera is removed from the site tree. The camera's customized settings are retained.

A disabled analog camera can be reassigned to the site tree. For information about restoring a disabled analog camera, refer to *Restoring a Disabled Analog or IP Camera* on page 76.

Disabling an IP Camera

Disabling an IP camera does not delete its customized settings. For example, you can temporarily disable an IP camera to recover system resources. For information about other reasons to disable an IP camera, refer to *About Analog and IP Camera Channel Configurations* on page 68.

1. On the DX8100 toolbar, click the Setup button . The Setup dialog opens to the Camera page.
2. In the Camera Properties section, perform the following steps:
 - a. In the site tree, select an IP camera. The IP camera name is displayed in the Selected Channel drop-down box.
 - b. Select Disable in Camera page Selected Channel drop-down box.

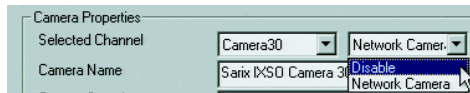



Figure 63. Disabling an IP Camera

3. Click Apply. The IP camera is removed from the site tree, but it is still assigned to the channel in the IP Camera Properties dialog box. The IP camera can be reassigned to the site tree. For information about restoring a disabled IP camera, refer to *Restoring a Disabled Analog or IP Camera* on page 76.

Deleting an IP Camera

1. On the DX8100 toolbar, click the Setup button . The Setup dialog opens to the Camera page.
2. Click IP Camera Properties. The IP Camera Properties dialog box appears.
3. In the IP Camera Properties dialog box, select the IP camera you want to delete.
4. Click Delete. The IP camera is deleted from the IP Camera Properties dialog box.
5. In the IP Camera Properties dialog box:
 - **To accept the deletion:** Click OK. The IP Camera Properties dialog box closes. The IP camera is removed from the site tree and its status changes to "Disable" in the extended Selected Channel drop-down box. The IP camera retains its customized camera name and display settings.

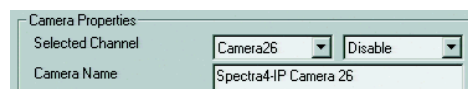


Figure 64. IP Camera Status: Disabled

If you select Network Camera in the extended Selected Channel drop-down box, a DX8100 message appears, stating that the IP camera is not registered (refer to Figure 65 on page 76). To register the IP camera, you must assign it to a camera channel. For information about assigning an IP camera to a camera channel, refer to *Assigning an IP Camera to a Camera Channel* on page 69.

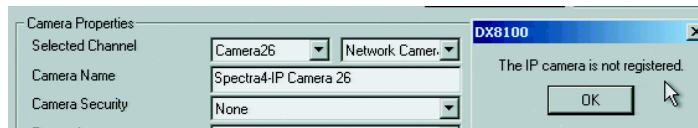


Figure 65. IP Camera Not Registered Dialog Box

- **To cancel the deletion:**

- (1) Click Cancel. The IP Camera Properties dialog box closes. The IP camera is not removed from the site tree, but its status changes to "Disable" in the extended Selected Channel drop-down box.

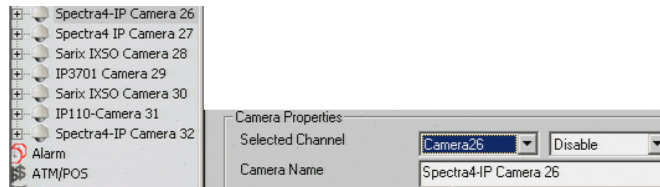


Figure 66. IP Camera in Site Tree and Status: Disabled

- (2) In the Camera page, click Cancel. The IP camera status changes to Network Camera in the extended Selected Channel drop-down box. The IP camera is not deleted from the IP Camera Properties dialog box.

Restoring a Disabled Analog or IP Camera

A disabled analog or IP camera can be restored. For information about configuring an IP camera, refer to *Assigning an IP Camera to a Camera Channel* on page 69.

NOTE: An IP camera that was deleted in the IP Camera Properties dialog box cannot be restored; a deleted IP camera must be reconfigured.

Analog Camera

1. From the Selected Channel drop-down box, select an analog camera. The camera name is displayed in the Camera Name box.
2. From the extended Selected Channel drop-down box, select Local Camera.
3. Click Apply. The camera name is displayed in the site tree and video is displayed in the Camera page preview window.


IP Camera

NOTE: An IP camera must be configured and assigned to a camera channel in the IP Camera Properties dialog box before it can be assigned as a network camera.

1. From the Selected Channel drop-down box, select an IP camera. The camera name is displayed in the Camera Name box.
2. From the extended Selected Channel drop-down box, select Network Camera. If an error message appears, reassign the IP camera to a camera channel (refer to *Customizing IP Camera Display Settings* on page 72).
3. Click Apply. The camera name is displayed in the site tree and video is displayed in the Camera page preview window.

DX4700/DX4800 SERIES IP CAMERA SETUP

This section describes how to set up the unit to record IP camera video. The DX4700/DX4800 supports up to two IP cameras.

1. On the toolbar, click the Setup icon .
2. In the IP Camera section, enter the IP camera settings. The Pelco IP camera user name and password are admin, admin.

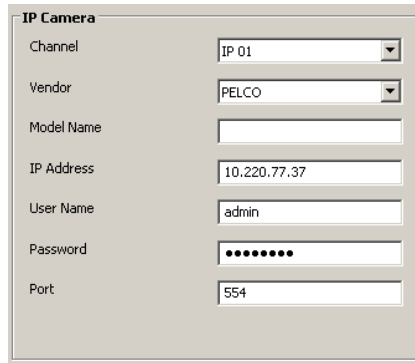



Figure 67. DX4700/DX4800 IP Camera Setup


3. To save the changes, click the Live icon , and then click OK.

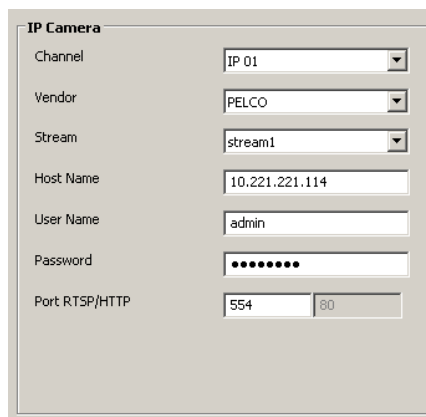
DX4700HD/DX4800HD SERIES IP CAMERA SETUP

This section describes how to set up the unit to record IP camera video. The DX4700HD/DX4800HD supports up to eight Pelco and third-party IP cameras. For information about the supported IP cameras, refer to the DX4700HD/DX4800HD product specification sheet. For information about the supported IP camera resolutions, refer to DX4700HD/DX4800HD Series Server Operation/Configuration manual.

NOTES:

- The unit does not support alarm recording for IP cameras.
- The DX4700HD/DX4800HD supports all resolutions for analog output from the Sarix TI Series IP thermal imaging cameras. The unit provides limited support for streaming video from the following models.
 - **T13 Series cameras:** Supports streaming video at 320 x 240 resolution
 - **T16 Series cameras:** Supports streaming video at 640 x 480 resolution
- IP cameras are recorded in the normal and motion recording mode.
- If the Sarix IP camera public user access level is set to disabled, you must configure the HVR's IP camera user name and password to view the IP camera's video stream.
- If the Sarix IP camera public user access level is set to viewers or operators, the IP camera's video stream can be viewed without configuring the HVR's IP camera user name and password.

1. On the toolbar, click the Setup icon .
2. In the IP Camera section, enter the IP camera settings. The Pelco IP camera user name and password are admin, admin.



The IP Camera setup dialog box contains the following fields:

- Channel: IP 01
- Vendor: PELCO
- Stream: stream1
- Host Name: 10.221.221.114
- User Name: admin
- Password: [masked]
- Port RTSP/HTTP: 554

Figure 68. DX4700HD/DX4800HD IP Camera Setup


3. To save the changes, click the Live icon , and then click OK.

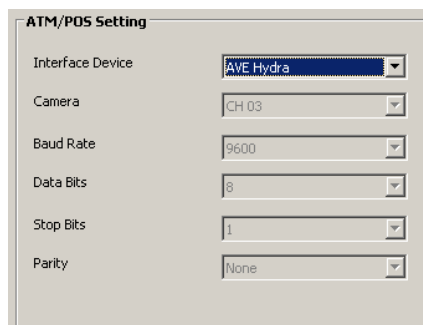
DX4700/DX4800 SERIES ATM/POS SETUP

This section describes how to set up the unit to record ATM/POS video. For information about configuring the unit for text recording, refer to *Schedule Settings* on page 80.

NOTE: The DX4700/DX4800 Series supports ATM/POS recording on one channel. The single channel can record any channel from CH 01 to CH 16.

SETTING UP THE ATM/POS INTERFACE

1. On the toolbar, click the Setup icon .
2. In the Interface Device box, select AVE Hydra.



The ATM/POS Setting dialog box contains the following fields:

- Interface Device: AVE Hydra
- Camera: CH 03
- Baud Rate: 9600
- Data Bits: 8
- Stop Bits: 1
- Parity: None

Figure 69. DX4700/DX4800 Series ATM/POS Settings

3. To save the changes, click the Live icon , and then click OK.

CONFIGURING ATM/POS TRANSACTION SETTINGS

ATM/POS transaction settings must be set up to complete the ATM/POS configuration. The ATM/POS Format section is located on the Linking page (refer to *Linking Page Features* on page 100).

The ATM/POS Format settings have the following guidelines:

- **Input Channel:** Allows you to select the camera channel associated with the ATM/POS data input.

- **Transaction Start:** Allows you to enter a text string that starts the recording of data and video. For more information about ATM/POS text strings, refer to the documentation supplied with your particular unit.
- **Transaction End:** Allows you to enter a text string that signals the end of the ATM/POS transaction.
- **Delimiter:** Allows you to enter the character(s) that the device uses to indicate the end of a line.
- **Ignore String:** Allows you to enter the strings of text that you want the HVR to ignore.
- **Time Out:** Allows you to set the amount of time the unit will continue to record video after receiving the transaction end text string.
- **Relay Output:** Allows you to link the ATM/POS recording camera channel to a relay output.

To configure the ATM/POS transaction settings:

1. On the toolbar, click the Setup icon .
2. Click the Linking icon . The Linking page appears.
3. In the ATM/POS Format, type the settings for each input channel assigned for ATM/POS recording.

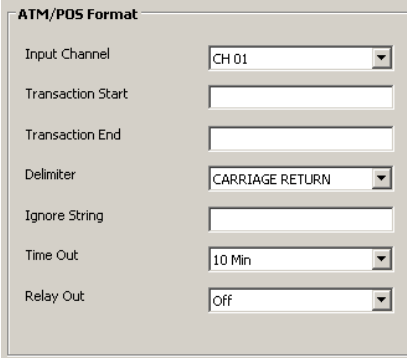


Figure 70. DX4700/DX4800 ATM/POS Format

4. To save the changes, click the Live icon , and then click OK.

SCHEDULE SETTINGS

The scheduling feature allows you to create daily, weekly, and holiday schedules, which are easily configured through the Schedule page.

Figure 71 shows the DX4700HD/DX4800HD Series Schedule page. For more information about configuring schedule settings, refer to the operation/configuration manual for your particular model.

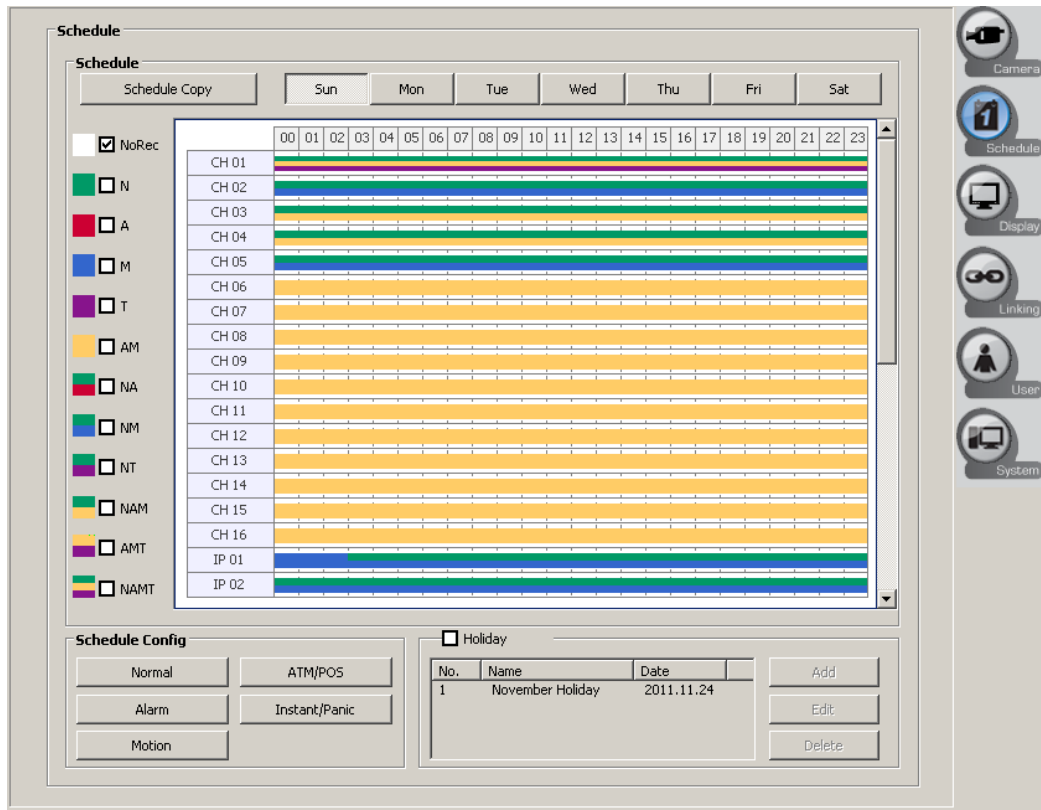


Figure 71. DX4700HD/DX4800HD Schedule Page

SCHEDULE PAGE FEATURES

DX Series units supports single- or multi-event recording. Each camera is easily configured to record at a specific resolution, quality, and image rate when an event is triggered. DX Series units also allow you to copy schedules between days, weekdays, and weekends.

NOTES:

- **DX4700/DX4800:** The DX4700/DX4800 Series supports the No Record and Normal recording modes for IP cameras.
- **DX4700HD/DX4800HD:** The DX4700HD/DX4800HD Series supports the No Record, Normal, and Normal/Motion recording modes for IP cameras.



The Schedule feature has the following guidelines:

- **Schedule periods:** Daily, weekly, and weekend.
- **Recording modes:** There are up to twelve color-coded recording modes. The order of priority is instant, alarm, motion, and normal. The instant recording mode is only started at the server.
 - **Single-event recording:**
 - **No record (white):** Video is displayed, but it is not recorded.
 - **Normal (green):** Video is recorded continuously over a 24-hour period. This mode uses the most hard disk storage.
 - **Alarm (red):** Video is displayed, but it is not recorded until an alarm event is detected.
 - **Motion (blue):** Video is displayed, but it is not recorded until a motion event is detected.
 - **Text (purple):** Video is displayed, but it is not recorded until a text event is detected.

- **Multi-event recording:**
 - **A/M (alarm/motion, yellow):** Video is only recorded if either an alarm or motion event is detected.
 - **N/A (normal/alarm, green and red):** Video is recorded continuously in the normal mode. The unit records alarm video if an alarm event is detected.
 - **N/M (normal/motion, green and blue):** Video is recorded continuously in the normal mode. The unit records motion video if a motion event is detected.
 - **N/A/M (normal/alarm/motion, green and yellow):** Video is recorded continuously in the normal mode. The unit records alarm or motion video if the respective event is detected.
 - **AMT (alarm/motion/text, yellow, purple):** Video is only recorded if an alarm, motion, or text event is detected.
 - **NAMT (alarm/motion/text, yellow, purple):** Video is recorded continuously in the normal mode. The unit records alarm, motion, or text if the respective event is detected.
- **Schedule Copy:** Allows you to copy a schedule from one day to another day, weekday (Monday to Friday), or weekend (Saturday and Sunday).
- **Camera recording settings:** Allows you to configure the following recording settings for the normal recording mode and the resolution, quality, and image rate for the alarm, motion, and instant recording mode.
 - **Resolution:** The default resolution is 352 x 240.
 - **Quality:** Sets the picture quality of recorded video. Selections include lowest, low, standard, high, and highest.
 - **Image Rate:** Sets the image rate.
 - **Prealarm:** Specifies the amount of time the DVR stores video that was recorded prior to the beginning of an alarm or motion event. Selections include OFF, 5, 10, 20, 30, 40, 50, and 60 seconds.
 - **Postalarm:** Specifies the amount of time that the DVR continues to record video after the alarm or motion event ends. Selections include 10, 20, 30, 40, or 50 seconds or 1, 2, 3, 5, or 10 minutes.
- **Holiday schedule:** Allows you to create up to 10 different holiday schedules. If a holiday schedule occurs on the same date as a weekday schedule, the holiday schedule will override the weekday schedule.

DAILY RECORDING SCHEDULE

To create a daily recording schedule:

1. On the toolbar, click the Setup icon .
2. Click the Schedule icon . The Schedule page appears. By default, all daily schedules are configured for motion/alarm recording.

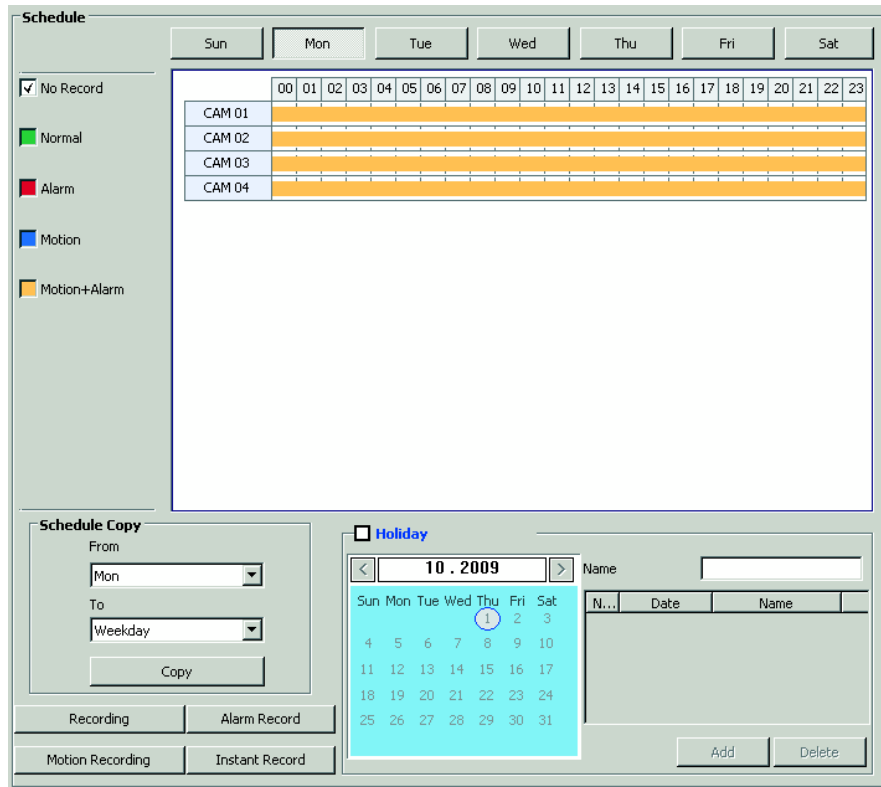


Figure 72. DX4104 Schedule Page

3. In the Schedule section, select a day.
4. In the recording mode section:
 - a. Perform one of the following options:
 - **Single recording mode:** Select a single recording mode: Normal, Alarm, or Motion.
 - **Multi-event recording mode:** Select two or three recording modes Alarm/Motion, Normal/Alarm, Normal/Motion, or Normal/Alarm/Motion.

For example, click the Normal and Alarm check boxes, to configure Normal/Alarm multi-event recording (refer to Figure 73).
 - b. In the CAM section, click a camera time cell, and then drag the pointer to the right to select the time range (1 to 24 hours). The cells change color based on the recording mode selected in step 4a.

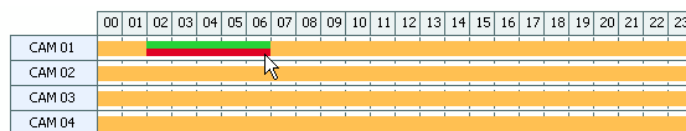



Figure 73. Scheduled for Normal/Alarm Recording

- c. Repeat steps 4a and 4b to schedule additional recording modes for the first camera.

5. Repeat step 4 to configure the recording modes for the remaining cameras.
6. To select the recording mode video settings (resolution, quality, and image rate):
 - a. Click Recording. The Recording dialog box appears.



Figure 74. Recording Dialog Box




- b. In the Resolution, Quality, Image Rate, Prealarm, and Postalarm box, select a setting for each channel.
 - c. Click OK.
7. Repeat step 6 to configure video settings for the alarm, motion, and instant recording modes.
8. To save the changes, click the Live icon , and then click OK.

COPYING SCHEDULES

The DX Series client allows you to copy a schedules as follows:



- **A day of the week (Sunday to Saturday):** The schedule for any day can be copied to another day, to the weekday, or to the weekend.
- **Weekday (Monday to Friday):** The schedule from the highlighted day is only copied to the respective channels for every day of the week except Saturday and Sunday.
- **Weekend (Saturday and Sunday):** The schedule from the highlighted day is copied to the respective channels for Saturday and Sunday.

NOTE: The DX Series servers support copying schedules between channels. The DX Series client allows you to view schedules created using that feature.

1. On the toolbar, click the Setup icon .
2. Click the Schedule icon .
3. In the Schedule Copy section:
 - a. In the From box, select a day.
 - b. In the To box, select a setting.
4. Click Copy.
5. To save the changes, click the Live icon , and then click OK.

HOLIDAY SCHEDULES

To create a holiday schedule:

1. On the toolbar, click the Setup icon .
2. Click the Schedule icon .
3. In the Holiday section, select the Holiday check box. The Holiday schedule appears (refer to Figure 75 on page 84).
The Holiday Schedule grid and scheduling controls are displayed. By default, the holiday schedule is set to No Record.

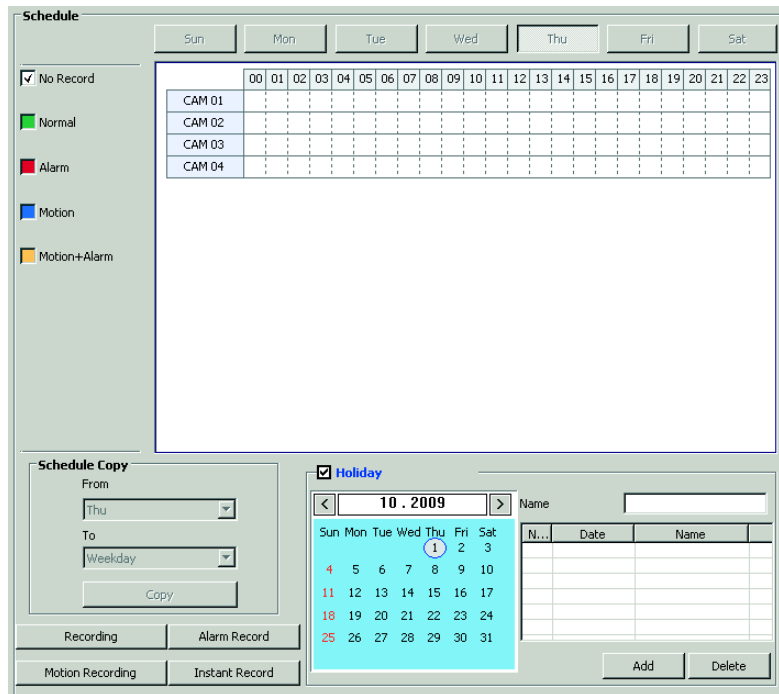


Figure 75. Holiday Schedule

4. In the Date box, select a date.
5. To select a name for the schedule, perform one of the following options:
 - **Create a name:**
 - (1) Click the Name box, and then type a name.
 - (2) Click Add.
 - **Accept the name assigned by the system:** Click Add. The system displays the entry in the Name list.

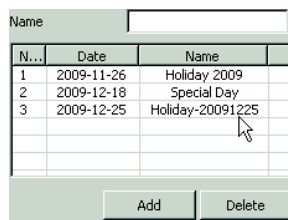




Figure 76. System Assigned Schedule Name

6. To configure a recording schedule.
 - a. In the Name list, click a schedule.
 - b. In the Schedule section, select a recording mode check box.
 - c. Click a time cell, and then drag the pointer to the right to select the time range (1 to 24 hours). The cells change color based on the recording mode selected in step 6b.
 - d. Repeat steps 6a to 6c to schedule additional recording modes for the first camera.
7. Repeat steps 6a to 6d to configure the recording modes for the remaining cameras.
8. To select the recording mode video settings (resolution, quality, image rate, and so forth):
 - a. Click Recording. The Recording dialog box appears.
 - b. In the Resolution, Quality, Image Rate, Prealarm, and Postalarm box, select a setting for each channel.
 - c. Click OK.

- Repeat steps 8a to 8c to configure video settings for the alarm, motion, and instant recording modes.
- To save changes, click the Live icon , and then click OK.

DELETING A HOLIDAY OR SPECIAL DAY SCHEDULE




To delete a holiday or special day schedule:

- On the toolbar, click the Setup icon .
- Click the Schedule icon .
- In the Holiday section, select the Holiday check box. The Holiday schedule appears.
- In the Name list, click a schedule.
- Click Delete. The selected schedule is deleted from the Name list.

WARNING: If you have not saved the changes after deleting a holiday or special day schedule, the deleted schedule can be recovered. If the changes are saved after deleting a schedule, the schedule cannot be recovered.

- To save the changes, click the Live icon , and then click OK.

To recover a deleted schedule:

- On the toolbar, click the Live icon . The "Configuration data has been changed. Save?" dialog box appears.
- Click Cancel and exit the Setup window. In this case, the changes are not saved.
- On the toolbar, click the Setup icon .
- Click the Schedule page icon . The Schedule page appears and the schedule that is to be deleted appears in the Name list.

DX8100: SERIES SCHEDULE SETUP

The DX8100 provides extensive scheduling capabilities. Flexible recording schedules can be established for daily, weekday, weekend, or individual day recording. Recording time can be broken up into increments of one-half hour, and each increment can be scheduled to record continuously or in response to an alarm, motion, or ATM/POS event. Users with Power User access and higher can create recording schedules.

Figure 77 shows the parts of the DX8100 Series Schedule page.

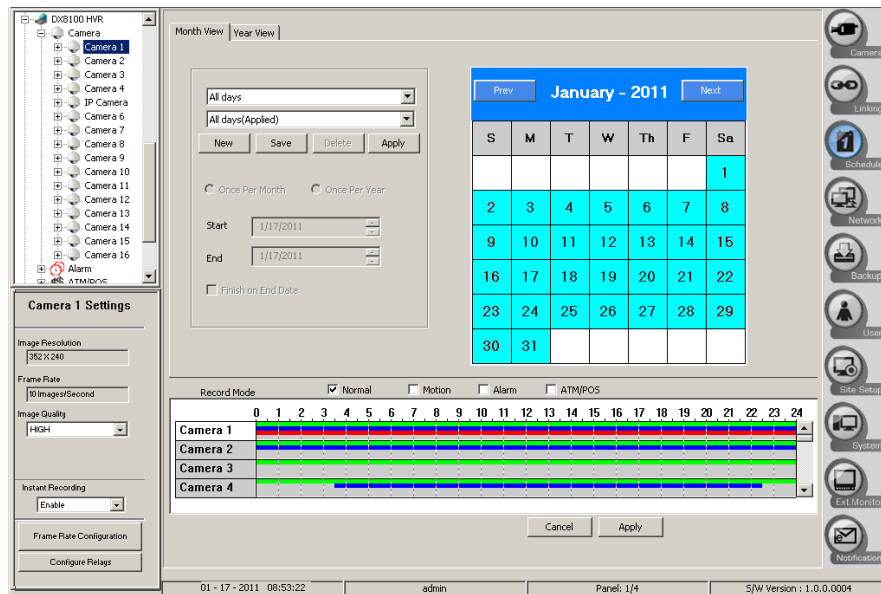


Figure 77. DX8100 Schedule Page

The DX8100 Schedule feature has the following guidelines:



- **Schedule Type Drop-down Box:** Allows you to select the type of schedule.
 - **All days:** Seven days a week
 - **Weekdays:** Monday through Friday, with the exception of any day assigned in Custom mode
 - **Weekends:** Saturday and Sunday, with the exception of any day assigned in Custom mode
 - **Custom Mode:** Any day, such as a holiday
- **Recording Schedule Profile:** Allows you to administer the schedule: select and apply an existing schedule profile, create and save a new profile, change an existing profile, or delete an existing profile.
- **Calendar:** Displays current schedule profile (All Days, Weekdays, Weekends, or Custom Mode).
- **Start and End Date Markers:** Sets the start and end dates for a custom schedule.
- **Record Mode:** Allows you to select a recording mode for each camera.
 - **Normal (green):** Continuous recording.
 - **Motion (blue):** Recording is triggered during the selected time block if a motion event is detected in the camera's predefined motion field. For information about motion detection, refer to *Schedule Settings* on page 80.
 - **Alarm (red):** Recording is triggered during the selected time block when an alarm is activated. At least one alarm must be linked to the camera for this option to work.
 - **ATM/POS (yellow):** Recording is triggered during the selected time block if an ATM or POS event is detected in the camera's predefined ATM/POS field. For information about ATM/POS detection, refer to *Linking Cameras to Record in Response to ATM/POS Events* on page 103.
- **Channel Scheduling Panel:** Allows you to assign recording modes across individual camera channels over a 24-hour period.
- **Camera Settings Panel:** Allows custom settings to be applied to individual cameras for each recording mode.
- **Frame Rate Configuration:** NA. Allows configuration of channel resolution and frame rates.
- **Configure Relays:** Allows configuration of relays that have been linked to cameras and alarms.
- **Instant Recording:** Enables or disables selection of instant recording from the View menu.
- **Apply:** Saves current schedule.

DX8100: SETTING UP RECORDING MODES

Scheduling a Recording Mode



The DX8100 allows you to schedule a camera for multiple event recording. In this case, pre-event (motion, alarm, or ATM/POS) recording is set at the frame rate of the active record mode when the alarm, motion, or ATM/POS event occurred. For example, if the DX8100 HVR is recording at 1 ips in the Normal recording mode when an alarm event occurs, video is recorded at 1 ips during the pre-event time period. After the pre-event time period expires, the recording rate switches to the frame rate configured for the event.

To schedule a recording mode for one or more channels:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. In the site tree, click a camera. The camera name is highlighted in the schedule area.
5. To configure a recording schedule.
 - a. In the Record Mode row, select a recording mode check box.
 - b. Click a time cell, and then drag the pointer to the right to select the time range (1 to 24 hours). The cells change color based on the recording mode selected in step 5a.
 - c. Repeat steps 5a and 5b to schedule additional recording modes for the first camera.
6. Repeat steps 4 and 5 to configure the recording modes for the remaining cameras.

Clearing a Recording Mode

To clear a recording mode:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. In the site tree, click a camera. The camera name is highlighted in the schedule area.
5. In the Record Mode row, select a recording mode check box.
6. Right-click and drag to highlight the time periods and channels for the recording modes you want to clear.
7. Release the right mouse button. The highlighted recording times are cleared.
8. To accept the change, click Apply. The selected time period is deleted. To cancel the change, click Cancel. The deleted recording times are restored.



DX8100: CREATING YEARLY RECORDING SCHEDULES

The year view allows you to customize recording schedules for individual days.

- Days circled in red have been assigned weekday, weekend, or everyday recording schedules.
- Days circled in blue have been assigned a custom recording schedule.
- Days without circles denote that no recording has been scheduled for that day.



Scheduling Individual Days Using the Year View

To schedule individual days using the Year View:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. Click the Year View tab. The Year View page is displayed.
5. Click the day you want to schedule.
6. Using your mouse, select the recording modes and times for each channel you want to schedule.
7. Repeat steps 5 and 6 for each additional day you want to schedule.
8. Click Apply.

Copying Schedule Attributes to a Different Day



To copy the schedule attributes of one day and apply them to a different day:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. Click the Year View tab. The Year View page is displayed.
5. Right-click the calendar day you want to copy.
6. Select Copy from the shortcut menu.
7. Right-click the day on the calendar you want to apply the copied schedule attributes.
8. Select Paste from the shortcut menu.
9. Click Apply.

To change a custom schedule day to a regular schedule day, right-click and select "Revert to daily schedule" from the shortcut menu.

DX8100: CREATING MULTIPLE-DAY SCHEDULES



To create a recording schedule to recur indefinitely:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. Click the Month View tab if it is not currently selected.
5. Select All days, Weekday, or Weekends from the drop-down box.
6. Click New. The New File Name dialog box opens.
7. In the New File Name box, enter a new filename for the profile.
NOTE: The profile file name follows the standard Windows file-naming conventions.
8. Click OK.
9. Using your mouse, select the recording modes and times for each camera you want to schedule.
10. Click Save.
11. Click Apply.
12. Click the Apply button at the bottom of the Schedule page.

DX8100: CREATING SINGLE-DAY SCHEDULES

Custom Mode schedules are defined for single days only. A custom-scheduled day can be set to recur on the same day of every month or the same day every year.



To set the HVR to record on a specific day:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. Click the Month View tab (if it is not currently selected).
5. Select Custom Mode from the drop-down box.
6. Click New. The New File Name dialog box opens.
7. Enter a new file name for the profile.
NOTE: The profile file name follows the standard Windows file-naming conventions.
8. Click OK.
9. Select Once Per Month or Once Per Year.
10. Select the date range for the custom schedule.
 - a. Set the start date with the Start spinner buttons.
The start date cannot be set later than the end date.
 - b. If you want the schedule to recur indefinitely, deselect the Finish on End Date check box.
 - c. Set the end date with the End spinner buttons.
11. On the calendar, click the desired date.

12. Select the recording modes and times for each camera you want to schedule. Refer to *DX8100: Setting Up Recording Modes* on page 86 for instructions.
13. Click Save.
14. Click Apply.
15. Click the Apply button at the bottom of the screen.

DX8100: COPYING AND APPLYING SCHEDULE ATTRIBUTES



To copy the schedule attributes of one day and apply them to a different day:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. Right-click the calendar day you want to copy.
5. Select Copy from the shortcut menu.
6. Right-click on the calendar day to which you want to apply the copied schedule attributes.
7. Select Paste from the shortcut menu.
8. Click the Apply button at the bottom of the screen.

To change a custom schedule day to a regular schedule day, right-click and select "Revert to daily schedule" from the shortcut menu.


DX8100: CHANGING AN EXISTING SCHEDULE PROFILE


To change a profile:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. Click the Month View tab if it is not currently selected.
5. In the drop-down box, select the type of schedule you want to change. Options are as follows:
 - All Days
 - Weekdays
 - Weekends
 - Custom Mode
6. Select the schedule profile from the drop-down box.
7. Using your mouse, assign new recording modes and times for each camera you want to schedule. Refer to *DX8100: Setting Up Recording Modes* on page 86 for instructions.
8. Click Save.
9. Click Apply.
10. Click the Apply button at the bottom of the screen.

DX8100: DELETING AN EXISTING SCHEDULE PROFILE



To delete a schedule profile:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .

3. Click the Schedule button . The Schedule page is displayed.
4. Click the Month View tab if it is not currently selected.
5. In the drop-down box, select the type of schedule you want to change. Options are as follows:
 - All Days
 - Weekdays
 - Weekends
 - Custom Mode
6. In the drop-down box, select a profile that is *different* from the one you want to delete. (This step is necessary because you cannot delete a schedule profile that is currently active.)
7. Click Apply.
8. In the drop-down box, select the profile you want to delete.
9. Click Delete.
10. Click Apply.

DX8100: CONFIGURING CUSTOM CAMERA SETTINGS

To customize camera settings for normal, motion, alarm, or ATM/POS recording:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. Click the plus (+) sign next to a camera in the site tree.
5. Select a recording mode from one of the following options:
 - Normal
 - Motion
 - Alarm
 - ATM/POS
6. In the Camera Settings section, click Frame Rate Configuration. The Frame Rate Configuration dialog box opens.
7. Adjust the parameters in the camera settings section.
8. Click OK.
9. Click Apply.

Examples of Custom Camera Settings

The DX8100 allows you to configure customized camera settings for the following recording modes:

- Normal
- Motion
- Alarm
- ATM/POS

Figure 78 on page 91 shows camera settings for the supported modes.

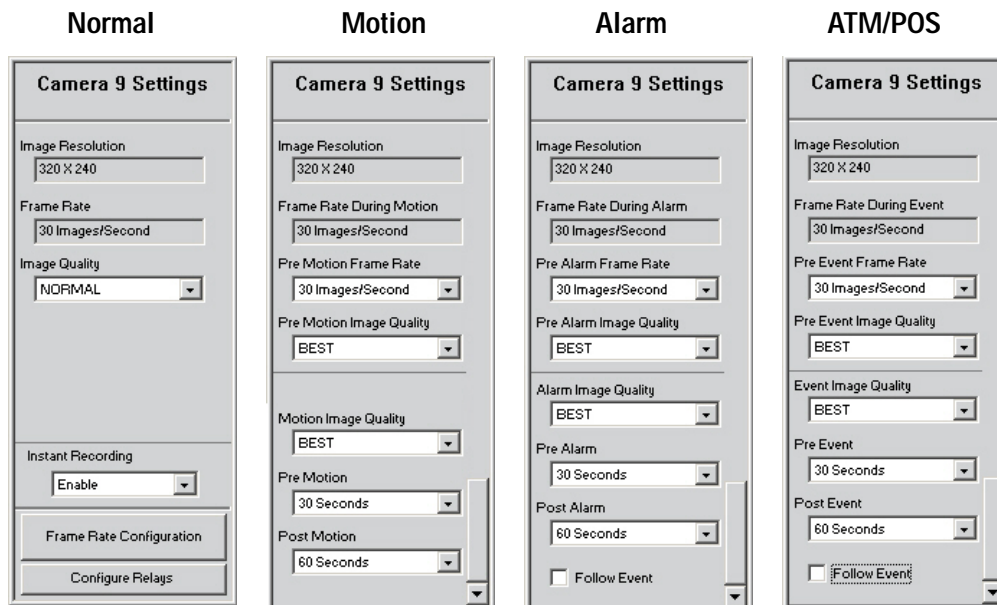


Figure 78. Examples of Custom Camera Settings

Table K describes the settings for the supported modes.

Table K. Camera Settings for the Supported Recording Modes

Normal	Motion	Alarm	ATM/POS
Image Resolution*	Image Resolution*	Image Resolution*	Image Resolution*
Frame Rate*	Frame Rate During Motion*	Frame Rate During Alarm*	Frame Rate During ATM/POS*
Image Quality [†] (Best, High, Normal, Low, Lowest)	Pre-Motion Frame Rate	Pre-Alarm Frame Rate	Pre-ATM/POS Frame Rate
—	Pre-Motion Image Quality [†] (Best, High, Normal, Low, Lowest)	Pre-Alarm Image Quality [†] (Best, High, Normal, Low, Lowest)	Pre-ATM/POS Image Quality [†] (Best, High, Normal, Low, Lowest)
—	Motion Image Quality [†] (Best, High, Normal, Low, Lowest)	Alarm Image Quality [†] (Best, High, Normal, Low, Lowest)	ATM/POS Image Quality [†] (Best, High, Normal, Low, Lowest)
—	Pre-Motion (1–60 sec)	Pre-Alarm (1–60 sec)	Pre-Event (1–60 sec)
—	Post-Motion (1–180 sec)	Post-Alarm (1–180 sec)	Post-Event (1–180 sec)

* This field appears for information purposes only. To change this setting, refer to *DX8100: Configuring the Frame Rate* on page 91.

[†] Image quality is a function of video compression. Higher quality video images require larger file sizes.

DX8100: CONFIGURING THE FRAME RATE



The DX8100 can record at frame rates up to 480 ips by National Television System Committee (NTSC) standards and 400 ips by Phase Alternating Line (PAL) standards.

This total frame rate capacity is distributed among 8, 16, 24, or 32 cameras, depending on the configuration of your unit. 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 type (normal, motion, alarm, or ATM/POS).

Power Users and Administrators can configure recording frame rates on the DX8100. All cameras are optimized to provide 30 ips frame rates at 320 x 240 resolution for NTSC (352 x 288 resolution for PAL). The DX8100 allows you to change the frame rates available to each camera, while resolution values must remain constant or change both frame rate and resolution settings.

Accessing the Frame Rate Configuration Dialog Box



To access the Frame Rate Configuration dialog box:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. In the Camera Settings section, click Frame Rate Configuration. The Frame Rate Configuration dialog box opens.

Setting the Frame Rate

The DX8100 Series HVR is optimized to provide 8, 16, 24, or 32 cameras of continuous video recording, with a frame rate of 30 ips at a resolution of 320 x 240 (NTSC) or 320 x 288 (PAL). The DX8100 allows you to change the frame rate independent of the resolution. For information about accessing the Frame Rate Configuration dialog box, refer to *Accessing the Frame Rate Configuration Dialog Box*.

To set the frame rate values for cameras:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. In the Camera Settings section, click Frame Rate Configuration. The Frame Rate Configuration dialog box opens.
5. Select the button for the recording mode you want to configure. Options are as follows:
 - 604
 - 704
 - Normal
 - Motion
 - Alarm
 - ATM/POS
6. Perform one of the following options:
 - Using the ALL frame rate settings slider, set the frame rate for all channels.
 - To set the frame rate for an individual channel, use the frame rate slider for that channel to select a frame rate from 1 to 30 ips (according to the available capacity for the channel). The frame rate of an individual channel is limited to the maximum setting of the ALL frame rate slider.



The frame rate ranges from 1 to 30 ips, depending on the DX8100 Series HVR configuration. The 8-camera HVR has 8 sliders, the 16-camera HVR has 16 sliders, the 24-camera HVR has 24 sliders, and the 32-camera HVR has 32 sliders.

7. Repeat step 6b for each camera you want to configure.
8. Click OK.
9. Click Apply at the Schedule page.

Setting the Resolution and Frame Rate

Both resolution and frame rate settings can be adjusted using the Frame Rate Configuration dialog box. For information about accessing the Frame Rate Configuration dialog box, refer to *Accessing the Frame Rate Configuration Dialog Box* on page 92.

To set recording resolution and frame rates for each channel:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. In the Camera Settings section, click Frame Rate Configuration. The Frame Rate Configuration dialog box opens.

5. Select the button for the recording resolution and mode you want to configure. Options are as follows:

- 640
- 704
- Normal
- Motion
- Alarm
- ATM/POS

The 640 resolution setting is for the standard VGA format. The 704 resolution is for the cropped D1 video (NTSC, PAL).

6. Select resolution values for individual channels from the drop-down boxes. Table L describes the available resolution values.

Setting a resolution value for one recording mode sets the resolution value for all modes. For example, setting resolution to 640 x 480 in Motion recording mode will change the resolution to 640 x 480 in the Normal and Alarm recording modes as well.

Table L. Resolution Values

Video Format	NTSC		PAL	
	640	704	640	704
CIF	320 x 240	352 x 240	320 x 288	352 x 288
2CIF	640 x 240	704 x 240	640 x 288	704 x 288
4CIF	640 x 480	704 x 480	640 x 576	704 x 576

7. Perform one of the following options:

- a. Using the ALL frame rate settings slider, set the frame rate for all channels.
- b. To set the frame rate for individual channels, use the frame rate slider for each channel to select a frame rate from 1–30 ips (according to the available capacity for that channel). The frame rate of an individual channel cannot exceed the maximum setting of the ALL frame rate slider.

8. Click OK.

9. Click Apply when you return to the Schedule Setup screen.

Understanding DX8100 Server Maximum IPS Recording

The DX8100 can record at frame rates up to 480 IPS NTSC and 400 IPS PAL. The total frame rate capacity is distributed among 8/16/24/32 channels, depending on the configuration of your unit. Resolution and frame rate values can be assigned evenly among all channels, or they can be configured independently for individual channel. Frame rate values can also be customized according to recording mode (normal, motion, alarm, and ATM/ POS). For information about setting up the DX8100 to record at the maximum rate and resolution, refer to *Setting Up DX8100 for Maximum IPS Recording* on page 94.

Table M. DX8100 Server Maximum IPS 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


Setting Up DX8100 for Maximum IPS Recording


Table N describes how the DX8100 organizes cameras (channels) into groups of four cameras per group. To achieve the maximum recording rate and resolution: (30 ips at 4CIF [NTSC] or 25 ips at 4CIF [PAL]), enable one camera from each group while the other three cameras in the group are disabled.

Table N. DX8100 Camera Grouping

Model	Group	Assigned Camera
DX8108	1	1 to 4
	2	5 to 8
DX8116	1	1 to 4
	2	5 to 8
	3	9 to 12
	4	13 to 16

To set up the DX8100 to record at the maximum rate and resolution:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon . The Setup dialog opens to the Camera page.
3. In the Camera Properties section, for Group 1, perform the following steps:
 - a. Select a camera from the drop-down box. (You can also select a camera from the site tree by clicking on it.)
 - b. For the camera you want to enable, verify that the Disable check box is not selected.
 - c. For the remaining cameras in the group, click the Disable check box to disable the respective camera.

4. Repeat step 2 for Groups 2, 3, and 4 (if applicable).
5. Click Apply.
6. Click the Schedule button . The Schedule page is displayed.
7. Verify that the enabled camera from each group is displayed in the site tree.

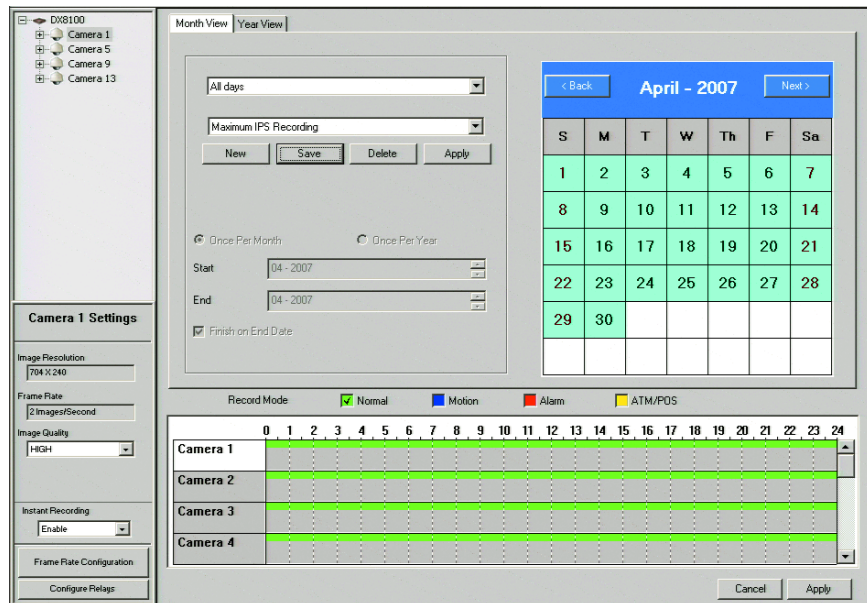


Figure 79. Setting Up DX8100 for Maximum IPS Recording

8. Click the Frame Rate configuration button. The Frame Rate Configuration screen is displayed.

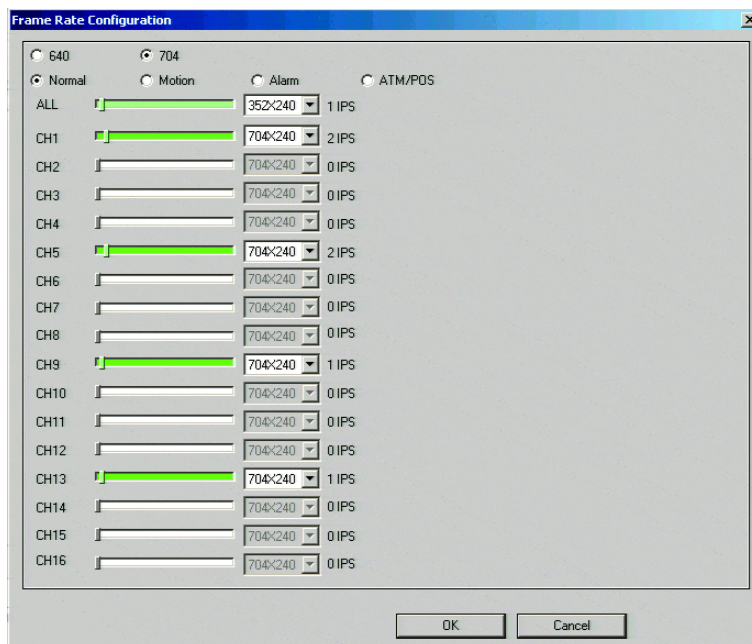


Figure 80. Frame Rate Configuration Screen

9. Perform the following steps:
 - a. Using the ALL frame rate settings slider, set the frame rate to 30 ips. The recording rate for each enabled camera is changed to 30 ips.
 - b. For the ALL resolution setting, from the drop-down box, select 704 x 480 from the drop-down box. The resolution for each enabled camera is set to 704 x 480.
 - c. Click OK.
10. Click Apply at the Schedule page, and verify that each enabled camera listed in the site tree is configured to record at 30 ips at 4CIF.

DX8100: SETTING UP ADVANCED RELAY OUTPUT

Relays work much like switches. When triggered, relays can activate external devices such as sirens, light fixtures, and door locks. The DX8100 Series HVR allows Administrators and Power users to link relays to cameras and alarms. Up to 20 seconds of delay can be set from the moment an event is triggered to the time when a relay is activated.

Make sure you have linked relays to the appropriate cameras and alarm inputs before attempting to configure them.

Configuring Advanced Motion Activated Relay Output

To configure a motion relay output:



1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. Click the Configure Relays button. The Configure Relays dialog box opens.
5. Click the Motion tab.
6. Configure each relay that is linked to a camera:
 - a. Click the drop-down box to select a relay.
 - b. Select a relay time value from the Activation Period drop-down box.
7. Click Save.
8. Click Exit.

Table O describes the available motion activated relay settings.

Table O. Motion Activated Relay Settings

Option	Result
Disable	Relay will not activate when motion is detected.
Follow Event	Relay will activate at the exact moment that motion is detected.
1, 3, 5, 10, 15, and 20 Seconds	Sets the amount of time the relay will remain active after motion has been detected.

Configuring Advanced Alarm Activated Relay Output

To configure an alarm relay output:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.

4. Click the Configure Relays button. The Configure Relays dialog box opens.
5. Click the Alarm tab if it is not already selected.
6. Configure each relay that is linked to an alarm:
 - a. Click the drop-down box to select a relay.
 - b. Select a relay time value from the Activation Period drop-down box.

Table P describes the available alarm activated options.

Table P. Alarm Activated Relay Settings

Option	Result
Disable	Relay will not activate when the alarm is triggered.
Follow Event	Relay will activate at the exact moment the alarm is triggered.
1, 3, 5, 10, 15, and 20 Seconds	Sets the amount of time the relay will remain active after the alarm has been triggered.

Configuring Advanced ATM/POS Activated Relay Output

To configure an ATM/POS activated relay output:



1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.
4. Click the Configure Relays button. The Configure Relays dialog box opens.
5. Click the ATM/POS tab if it is not already selected.
6. Configure each relay that is linked to an ATM/POS:
 - a. Click the drop-down box to select a relay.
 - b. Select a relay time value from the Activation Period drop-down box.

Table Q describes the available ATM/POS activated relay options.

Table Q. ATM/POS Activated Relay Settings

Option	Result
Disable	Relay will not activate when the ATM/POS event occurs.
Follow Event	Relay will activate at the exact moment the ATM/POS event occurs.
1, 3, 5, 10, 15, and 20 Seconds	Sets the amount of time the relay will remain active after the ATM/POS event occurs.

Configuring Advanced Video Loss Activated Relay Output

To configure an advanced video loss activated relay output:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Schedule button . The Schedule page is displayed.

4. Click the Configure Relays button. The Configure Relays dialog box opens.
5. Click the Video Loss tab if it is not already selected.
6. Configure each relay that is linked to an alarm:
 - a. Click the drop-down box to select a relay.
 - b. Select a relay time value from the Activation Period drop-down box.

Table R describes the available video loss activated relay settings.

Table R. Video Loss Activated Relay Settings

Option	Result
Disable	Relay will not activate when a video loss event occurs.
Follow Event	Relay will activate at the exact moment the video loss event happens.
1, 3, 5, 10, 15, and 20 Seconds	Sets the amount of time the relay will remain active after the video loss event occurs.

LINKING SETTINGS

The Linking page allows you to link an alarm input to a camera channel, and then associate the alarm input with a relay output. Refer to the following figures for information about configuring the linking settings for your particular model.

DX8100 SERIES LINKING PAGE SETTINGS

Figure 81. DX8100 Linking Page

DX4700/DX4800 SERIES LINKING PAGE SETTINGS

Linking

Alarm
Alarm Event Configuration

ATM/POS Format
Input Channel: CH 01
Transaction Start:
Transaction End:
Delimiter: CARRIAGE RETURN
Ignore String:
Time Out: 10 Min
Relay Out: Off

Event PopUp
Spot Monitor: Text

Mail
Mail Configuration

Notification
 Alarm On Video Loss
 Motion Detection Power On/Off
 Text In Disk Full
 Admin Password Changed

Sound
 Alarm Text
 Motion System

Emergency
Emergency Configuration

Output
Relay Off: Post Alarm Time
System Alarm Out: 01

Figure 82. DX4700/DX4800 Linking Page

DX4500/DX4600 AND DX4104 SERIES LINKING PAGE SETTINGS

Figure 83 shows the DX4500/DX4600 Series Linking page The DX4104 Series Linking page is similar to the DX4500/DX4600 Series.

Event

Alarm	Input Type	Camera	Relay Output
01	N.O.	Camera 01	Relay Out 01
02	N.O.	Camera 02	None
03	N.O.	Camera 03	None
04	N.O.	Camera 04	None
05	N.O.	Camera 05	None
06	N.O.	Camera 06	None
07	N.O.	Camera 07	None
08	N.O.	Camera 08	None
09	N.O.	Camera 09	None
10	N.O.	Camera 10	None
11	N.O.	Camera 11	None
12	N.O.	Camera 12	None
13	N.O.	Camera 13	None
14	N.O.	Camera 14	None
15	N.O.	Camera 15	None
16	N.O.	Camera 16	None

Etc
Relay Off: Alarm Acknowledged

Figure 83. DX4500/DX4600 and DX4104 Linking Page

DX4000 SERIES LINKING PAGE SETTINGS

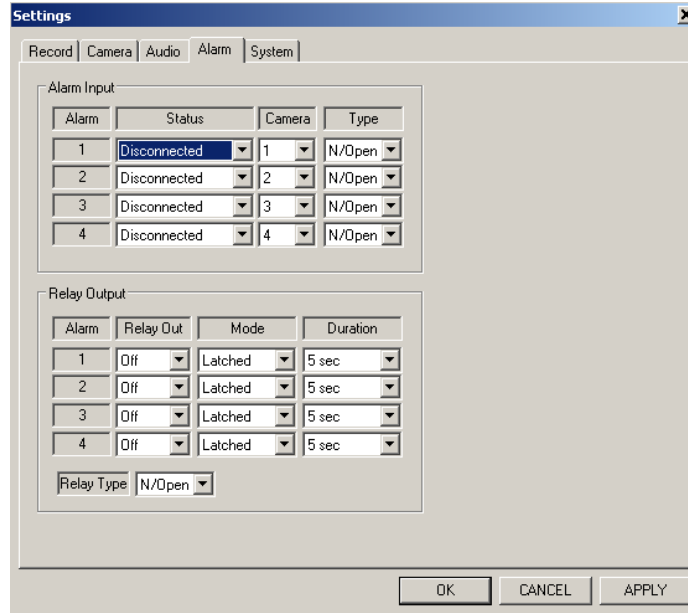


Figure 84. DX4000 Series Linking Page




LINKING PAGE FEATURES

The Linking page has the following guidelines:

- **Alarm:** Allows you to configure up to 16 alarm inputs.
- **Input type:** Alarms are configured for normally open (N.O.) or normally closed (N.C.) inputs.
- **Camera:** Allows you to select which camera (01 up to 16, NONE) is linked to the alarm input. Multiple cameras can be linked to one alarm input.
- **Output (relay action):** Allows you to link an alarm to a relay output.
 - **DX4700/DX4800:** Allows you to link an alarm to relay output 01 to 04, or None.
 - **DX4500/DX4600:** Allows you to link an alarm to relay output 01 to 04, or None.
 - **DX4104:** The relay state is ON or OFF.
- **Relay off:** Allows you to select how the relay output is turned off:
 - **Alarm acknowledged:** Manually. The relay output must be turned off at the server.
 - **Post-alarm time:** Automatically. The relay output is turned off based on the configured post-alarm time.
- **System alarm out:** Allows you to select one of the following models:
 - **DX4700/DX4800:** Allows you to select to which relay output (01 to 04, or None) the system alarm is sent.
 - **DX4500/DX4600:** Sounds an audible alarm at the server (ON or OFF).
 - **DX4104:** Sounds an audible alarm at the server (ON or OFF).

ALARM INPUT SETUP

To configure the alarm inputs:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. In the Event section, select the alarm linking settings for each camera.
5. To save the changes, click the Live icon , and then click OK.



DX8100 LINK SETUP

The DX8100 can support up to 32 alarm inputs and 24 relay outputs. Each 8-channel HVR has 8 dry contact alarm inputs and 8 relay terminals; each 16-channel HVR has 16 dry contact alarm inputs and 16 relay terminals. This section describes how to use the Link page to configure the following settings:

- Relay and alarm settings
- Event-relay link settings
- Event-recording link settings
- Event-PTZ link settings

Configuring Basic Relay Operating Properties



To configure basic relay operating properties:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. In the Relay Settings section, perform the following steps:
 - a. In the Relay Channel drop-down box, select the relay you want to configure.
 - b. In the Relay Name box, enter an optional new name for the relay. Relay names can be up to 32 characters long and can include spaces and special characters.

NOTE: You can also rename sites, cameras, alarms, and relays from the site tree by slowly clicking twice on each object's name.
 - c. In the Relay Type section, click the NO/NC button to toggle the default output type for each relay (normally open or normally closed).
5. Click Apply.

Configuring Basic Alarm Input Operating Properties


To configure basic alarm input operating properties:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears. In the Alarm Settings section, perform the following steps:
 - a. In the Alarm Channel drop-down box, select the Alarm you want to configure.
 - b. In the Alarm Name box, enter an optional new name for alarm. Alarm names can be up to 32 characters long and can include spaces and special characters.

You can also rename sites, cameras, alarms, and relays from the site tree by slowly clicking twice on each object's name.
 - c. In the Alarm Type section, click the NO/NC button to toggle the default output type for each alarm (normally open or normally closed).
4. Click Apply.

Linking Relay Outputs to Motion Events



To set relay outputs to activate in response to motion detection events:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. Click the Event-Relay Link Settings tab.

5. In the Motion Detection Link Settings section, perform the following steps:
 - a. Select a camera channel from the Camera Channel drop-down box.
 - b. Click the button for each relay you want to link to the selected camera.
You can also drag relays onto cameras in the site tree while in Live mode (main screen).
6. Click Apply.



Linking Relay Outputs to Alarm Events

To set relay outputs to activate in response to an alarm event:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. Click the Event-Relay Link Settings tab.
5. In the Alarm Link Settings section, perform the following steps:
 - a. Select an alarm channel from the Alarm Channel drop-down box.
 - b. Click the button for each relay you want to link to the selected alarm.
You can also drag relays onto alarms in the site tree while in Live mode (main screen).
6. Click Apply.



Linking Relay Outputs to ATM/POS Events

To set relay outputs to activate in response to an ATM/POS event:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. Click the Event-Relay Link Settings tab.
5. In the ATM/POS Link Settings section, perform the following steps:
 - a. Select an ATM/POS address from the ATM/POS Address drop-down box.
 - b. Click the button for each relay you want to link to the selected ATM/POS address.
You can also drag relays onto ATM/POS devices in the site tree while in Live mode (main screen).
6. Click Apply.



Linking Relay Outputs to Video Loss Events

To set relay outputs to activate in response to a video loss event:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. Click the Event-Relay Link Settings tab.
5. In the Video-Loss Link Settings section, perform the following steps:
 - a. Select a camera from the Video-Loss Channel drop-down box.
 - b. Click the button for each relay you want to link to the selected Video-Loss Channel.
6. Click Apply.



Linking Cameras to Record in Response to Motion Events

To link multiple cameras to record in response to motion detection events:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. Click the Event-Recording Link Settings tab.
5. In the Motion Record Link Settings section, perform the following steps:
 - a. Select a camera from the Motion Source Camera drop-down box.
 - b. Click the button for each camera you want to begin recording when motion is detected by the source camera.
6. Click Apply.



Linking Cameras to Record in Response to Alarm Events

To link multiple cameras to record in response to a single alarm input:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. Click the Event-Recording Link Settings tab.
5. In the Alarm Record Link Settings section, perform the following steps:
 - a. Select an Alarm channel from the Alarm Channel drop-down box.
 - b. Click the button for each camera you want to begin recording when the source alarm is triggered.
6. Click Apply.

Linking Cameras to Record in Response to ATM/POS Events

To link multiple cameras to record in response to an ATM/POS event:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. Click the Event-Recording Link Settings tab.
5. In the ATM/POS Record Link Settings section, perform the following steps:
 - a. Select an ATM/POS address from the ATM/POS address drop-down box.
 - b. Click the button for each camera you want to begin recording in response to an ATM/POS event.
6. Click Apply.

Linking Cameras to Record in Response to Video Loss Events

To link multiple cameras to record in response to a video loss event:



1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. Click the Event-Recording Link Settings tab.

5. In the Video-Loss Record Link Settings section, perform the following steps:
 - a. Select a camera from the Video-Loss Channel drop-down box.
 - b. Click the button for each camera you want to begin recording in response to a video loss event.
6. Click Apply.

Linking PTZ Presets and Patterns to Motion Events

The DX8100 can be configured in such a way that motion, alarms, ATM/POS transactions, and video loss events detected by one camera will result in the repositioning of another. Similarly, alarm inputs can be set to trigger camera-positioning presets. Only a single preset or pattern can be linked to a camera.



To link two cameras so that motion detected on one results in the repositioning of another:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. Click the Event-PTZ Link Settings tab.
5. In the Motion Detection Link Settings section, perform the following steps:
 - a. Select a camera from the Camera Channel drop-down box. (This camera will be the motion source.)
 - b. In the Linked PTZ Setting section, select a camera to be linked from the Linked Camera Channel drop-down box. (This camera will change PTZ position in response to motion detected by the source camera.)
6. To select a PTZ preset or pattern for the linked camera, in the Linked PTZ Setting section, perform one of the following options:
 - To force the linked camera to move to a PTZ preset in response to motion detected by the source camera:
 - (1) Click the Linked Camera Preset button to select this option.
 - (2) In the Preset drop-down box, select a PTZ preset (1–150).
 - To force a PTZ pattern to be activated in response to motion detected by the source camera:
 - (1) Click the Linked Camera Pattern button to select this option.
 - (2) In the Pattern drop-down box, select a PTZ pattern (1–4) to be activated on the camera.

The selected camera must support PTZ functions, and at least one PTZ preset/pattern must be defined for this function to work.
7. Click Apply.

Linking PTZ Presets and Patterns to Alarm Events

To link an alarm input to a camera so activation of the alarm results in a repositioning of that camera:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. Click the Event-PTZ Link Settings tab.
5. In the Alarm Record Link Settings section, perform the following steps:
 - a. Select an alarm from the Alarm Channel drop-down box.
 - b. In the Linked PTZ Setting section, select a camera to be linked from the Linked Camera Channel drop-down box. (This camera will change PTZ position in response to an alarm input detected by the source alarm.)
6. To select a PTZ preset or pattern for the linked camera, in the Linked PTZ Setting section, perform one of the following options:
 - To force the linked camera to move to a PTZ preset in response to an alarm input detected by the source camera:
 - (1) Click the Linked Camera Preset button to select this option.
 - (2) In the Preset drop-down box, select a PTZ preset (1–150).
 - To force a PTZ pattern to be activated in response to alarm input detected by the source camera:



- (1) Click the Linked Camera Pattern button to select this option.
- (2) In the Pattern drop-down box, select a PTZ pattern (1–4) to be activated on the camera.

The selected camera must support PTZ functions, and at least one PTZ preset/pattern must be defined for this function to work.

7. Click Apply.



Linking Presets and Patterns to ATM/POS Events

To link an ATM/POS input to a camera so the detected ATM/POS event results in a repositioning of that camera:

1. In the site tree, click a DX8100 site.
 2. On the toolbar, click the Setup icon .
 3. Click the Linking icon . The Linking page appears.
 4. Click the Event-PTZ Link Settings tab.
 5. In the ATM/POS Link Settings section, perform the following steps:
 - a. Select an ATM/POS address from the ATM/POS Address drop-down box.
 - b. In the Linked PTZ Setting section, select a camera to be linked from the Linked Camera Channel drop-down box. (This camera will change PTZ position in response to an ATM/POS input detected by the source ATM/POS device.)
 6. To select a PTZ preset or pattern for the linked camera, in the Linked PTZ Setting section, perform one of the following options:
 - To force the linked camera to move to a PTZ preset in response to an ATM/POS input detected by the source camera:
 - (1) Click the Linked Camera Preset button to select this option.
 - (2) In the Preset drop-down box, select a PTZ preset (1–150).
 - To force a PTZ pattern to be activated in response to ATM/POS input detected by the source camera:
 - (1) Click the Linked Camera Pattern button to select this option.
 - (2) In the Pattern drop-down box, select a PTZ pattern (1–4) to be activated on the camera.
- The selected camera must support PTZ functions, and at least one PTZ preset/pattern must be defined for this function to work.
7. Click Apply.

Linking Presets and Patterns to Video Loss Events

To link a video loss event to a camera so the detected video loss event results in a repositioning of that camera:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Linking icon . The Linking page appears.
4. Click the Event-PTZ Link Settings tab.
5. In the Video-Loss Link Settings section, perform the following steps:
 - a. Select a camera channel from the Video-Loss Channel drop-down box.
 - b. In the Linked PTZ Setting section, select a camera to be linked from the Linked Camera Channel drop-down box. (This camera will change PTZ position in response to a video loss event detected by the source camera.)
6. To select a PTZ preset or pattern for the linked camera, in the Linked PTZ Setting section, perform one of the following options:
 - To force the linked camera to move to a PTZ preset in response to a video loss event detected by the source camera:
 - (1) Click the Linked Camera Preset button to select this option.
 - (2) In the Preset drop-down box, select a PTZ preset (1–150) for the camera to move to.
 - To force a PTZ pattern to be activated in response to video loss input detected by the source camera:

- (1) Click the Linked Camera Pattern button to select this option.
- (2) In the Pattern drop-down box, select a PTZ pattern (1–4) to be activated on the camera.

The selected camera must support PTZ functions, and at least one PTZ preset/pattern must be defined for this function to work.

7. Click Apply.

NETWORK SETTINGS

The DX Series client allows you to configure certain network settings. You can view all of the network settings, but those settings that are unavailable must be configured on the DX Series server.

The available network settings for DX8000/DX8100 Series units are configured through the Notification page. The network settings for DX4700/DX4800 Series units are configured through both the Linking page and the System page. The network settings for DX4500/DX4600 and DX4104 Series units are configured through the Network page. The available network setting for DX4000 Series units is configured on the System page. For more information about configuring network settings, refer to the operation/configuration manual for your particular model.

Figure 85 shows the DX4700/DX4800 Linking page. The Mail and Emergency agent network settings are located on this page.

The screenshot displays the 'Linking' configuration page for DX4700/DX4800 units. The page is organized into several sections:

- Alarm:** Includes 'Alarm Event Configuration' with a 'Configuration' button.
- ATM/POS Format:** Contains fields for 'Input Channel' (set to CH 01), 'Transaction Start', 'Transaction End', 'Delimiter' (set to CARRIAGE RETURN), 'Ignore String', 'Time Out' (set to 10 Min), and 'Relay Out' (set to Off).
- Event Popup:** Includes 'Spot Monitor' set to Text.
- Mail:** Includes 'Mail Configuration' with a 'Configuration' button.
- Notification:** Features checkboxes for 'Alarm On', 'Video Loss', 'Motion Detection' (checked), 'Power On/Off', 'Text In', 'Disk Full', and 'Admin Password Changed'.
- Sound:** Features checkboxes for 'Alarm', 'Text', 'Motion', and 'System'.
- Emergency:** Includes 'Emergency Configuration' with a 'Configuration' button.
- Output:** Includes 'Relay Off' and 'System Alarm Out' (set to 01).

A vertical sidebar on the right contains navigation icons for Camera, Schedule, Display, Linking (highlighted), User, and System.

Figure 85. DX4700/DX4800 Network Settings Accessible Through Linking Page

Figure 86 shows the DX4700HD/DX4800HD Series System page. The TCP/IP, NTP, and DDNS network settings are located on this page. The RTSP port and IPv6 settings are only displayed for the DX4700HD/DX4800HD and are configured on the server.

The screenshot displays the 'System' configuration page for the DX4700HD/DX4800HD series. It is divided into several sections:

- Date/Time:** Includes Date Format (MM/DD/YYYY), Time Format (12 HR), Time Zone (GMT - 08:00), Daylight Saving (checked), Start Time (Mar 2nd Sun 02), and End Time (Nov 1st Sun 02).
- Properties:** Includes DVR Name, Language (ENGLISH), and Button (checked).
- NTP:** Includes NTP (unchecked), Server (Public Server), Private Time Server, and Sync. Interval (1 Day).
- Network:** Includes DHCP (checked), IP Address, Subnet Mask, GateWay, Primary DNS, Secondary DNS, TCP/IP Port (9001), Web Server Port (80), Audio Port (9003), Bandwidth Throttle (100Mbps), RTSP Port (554), and IPv6 Setup (Setup button).
- DDNS:** Includes DDNS Service (unchecked), User Name, and Password.
- Network Streaming:** Includes Streaming Config (Setup button).

A vertical sidebar on the right contains icons for Camera, Schedule, Display, Linking, User, and System.

Figure 86. DX4700HD/DX4800HD Network Settings Accessible Through System Page

Figure 87 shows the DX4500/DX4600 Series Network page. The DX4104 Series Network page is similar to the DX4500/DX4600 Series.

The screenshot displays the 'Network' configuration page for the DX4500/DX4600 and DX4104 series. It is divided into several sections:

- TCP/IP:** Includes DHCP (checked), IP Address, Subnet Mask, GateWay, Primary DNS, Secondary DNS, TCP/IP Port (9001), Web Server Port (80), and Bandwidth Throttle (100M).
- Notification:** Includes Alarm On, Video Loss, Motion Detection, Power On/Off, Disk Full, and Admin Password Changed (all unchecked).
- DDNS:** Includes User ID, Password, and Host Name.
- Mail:** Includes Notification (checked), TLS (unchecked), SMTP Server, SMTP Port No. (25), User Name, Password, Mail Address1, Mail Address2, and Mail Address3.
- Emergency:** Includes Notification (unchecked) and seven IP Address/Port pairs, each with IP address 0.0.0.0 and port 9002.

Figure 87. DX4500/DX4600 and DX4104 Network Page




Table S shows the ports used by the DX4500/DX4600 and DX4104 DVRs (as shown in Figure 88). Use Table S to configure the TCP/IP ports for your particular model.

Table S. TCP/IP Ports Used by the DX4500/DX4600, DX4104, and DX Series Client

Port Number	User Configurable	Description
9002	Yes	Base port for transmission of video, audio, and interface data
9003	Yes	Software upgrades
9004	Yes	Emergency agent notifications
9005	No	Information port
13900	No	Ping port

TCP/IP BANDWIDTH THROTTLE SETUP

To set up the bandwidth throttle:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Network icon . The Network page appears.
4. In the Bandwidth Throttle box, select a setting. The default bandwidth throttle setting is 100 Mbps.
5. To save the changes, click the Live icon , and then click OK.


NOTIFICATION SETUP

The notification feature has the following guidelines:

- **Alarm:** Sends a text-based alarm notification in response to an alarm event.
- **Motion:** Sends a text-based motion notification in response to a motion event.
- **Disk full:** Has the following guidelines based on the Hard Disk Overwrite setting at the server:
 - **ALL:** A disk full notification is not sent, because the server does not issue a disk full warning.
When the normal and event partitions are full, the server continues to record video by writing over previously recorded data (oldest recorded data is overwritten first).
 - **OFF:** Sends a disk full text-based notification in response to a normal or event partition disk full warning.
When the hard drive is full (normal, event partition, or both), the system stops recording.
 - **NORMAL:** Sends a disk full text-based notification in response to a event partition disk full warning.
When the normal partition is full, the system continues to record by writing over previously record data in the normal partition. When the event partition is full, the system stops recording data to the event partition.
 - **EVENT:** Sends a disk full text-based notification in response to a normal partition disk full warning.
When the event partition is full, the system continues to record by writing over previously record data in the event partition. When the normal partition is full, the system stops recording data to the normal partition.
- **Admin password changed:** Sends an administrator 01 ID notification in response to a change to the 01 ID administrator password. Changing the password of additional users assigned administrator-level permission will not initiate a notification message.
- **Video loss:** Sends a video loss notification in response if video loss is detected on any channel.
- **Power on/off:** Sends a power loss notification in response to the server power being turned off.

To configure the notification features:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Network icon . The Network page appears.

4. In the Notification section:
 - a. To select alarm indication, select the Alarm On check box.
 - b. Repeat step 4a to enter the settings for the remaining notification check boxes.
5. To save the changes, click the Live icon , and then click OK.

DDNS SETUP

The Dynamic DNS (DDNS) feature uses port 8245 provided by No-IP™. If the DVR is installed in a network with a firewall, port 8245 has to be opened. The server supports the following DDNS services:

- No-IP
- DynDNS®
- zoneedit®
- FreeDNS

To configure the DDNS service:

1. On the toolbar, click the Setup icon.
2. Click the Network icon.
3. In the DDNS section:
 - a. In the User ID box, type the user ID.
 - b. In the Password box, type the password.
 - c. In the Host Name box, type the host name.
4. To save the changes, click the Live icon, and then click OK.

MAIL SETUP

The server mail feature sends an e-mail text notification to all designated users if an event is detected. The notification feature must also be configured. Refer to *Notification Setup* on page 108 for more information.

NOTES:




- The mail feature is configured and operates independently from the emergency agent feature. When configured, the emergency agent feature sends an emergency text report to the designated computer on which the emergency agent application is installed. Refer to *Emergency Notification Setup* on page 110 for more information.
- To use emergency e-mail notification, the DVR must be connected to a local area network (LAN) that maintains a simple mail transfer protocol (SMTP) mail server. The network must also be connected to either an intranet or the Internet, depending on the location of the e-mail accounts to which you want to send notification. Consult your network administrator for information on configuring e-mail notification on your local network.
- The server supports SMTP-based e-mail clients: for example, Google Gmail™ is not supported.

The mail feature has the following guidelines:

- **Notification:** Turns the notification feature on and off.
- **TLS:** Select ON to use the Transport Layer Security (TLS) feature. By default, TLS is not enabled.
- **SMTP Server:** SMTP server IP address or host name. Supports up to 24 characters including 0.0.0.0 to 255.255.255.255, a to z, A to Z, numerals 0 to 9, and special characters.
- **SMTP Port No:** SMTP port. The default TCP/IP port used for SMTP is 25. Supported values are 25 and 1025 to 65535.
- **User Name:** Name of user to be notified. Supports up to 24 characters including 0.0.0.0 to 255.255.255.255, a to z, A to Z, numerals 0 to 9, and special characters.
- **Password:** User password. Supports up to 24 characters including a to z, A to Z, numerals 0 to 9, and special characters.
- **Mail Address (1 to 3):** User's e-mail address. Supports up to 24 characters including a to z, A to Z, numerals 0 to 9, and special characters.

The SMTP server IP address, port number, user name, and password are optional settings. The DVR can send e-mail without using an SMTP server or message transfer agent (MTA). In certain cases, e-mail should be forwarded to a SMTP server.

To set up mail notification:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Network icon . The Network page appears.
4. To select mail notification, in the Mail section:
 - a. Select the Notification check box.
 - b. In the SMTP Server box, type the serve user name.
 - c. *(Optional)* In the SMTP Port No. box, type the port number if it is not 25.
 - d. In the User Name box, type the user name where e-mail is to be sent.
 - e. In the Password box, type the password.
 - f. In the Mail Address1 box, type the e-mail address.
 - g. Repeat step 4f to for additional e-mail addresses.
5. To save the changes, click the Live icon , and then click OK.




EMERGENCY NOTIFICATION SETUP

The DX Series emergency notification feature sends an emergency report to the designated computer on which the emergency agent application is installed. The emergency notification feature is configured and operates independently of the mail feature. Refer to *Notification Setup* on page 108 for more information.

The emergency notification feature has the following guidelines:

- **Notification:** Turns the notification feature on and off.
- **IP Address/Port:** The remote computer's IP address and port. Supported characters include 0.0.0.0 to 255.255.255.255.
- **SMTP Port No.:** The default port is 9003. Supported values include 025 to 65535.

To set up emergency notification:

1. In the site tree, click a DX8100 site.
2. On the toolbar, click the Setup icon .
3. Click the Network icon . The Network page appears.
4. In the Emergency section:
 - a. Select the Notification check box.
 - b. In the IP address/Port box, type the destination computer's IP address.
 - c. Repeat step 4b for each additional computer.
5. To save the changes, click the Live icon , and then click OK.

DX4700HD/DX4800HD SYSTEM SETTINGS

System settings are easily configured through the System page. Refer to the following figures for information about configuring the system settings for your particular model. For more information about configuring network settings, refer to the operation/configuration manual for your particular model.

Figure 88 shows the DX4700HD/DX4800HD System page.

The screenshot displays the 'System' configuration page for the DX4700HD/DX4800HD. The page is organized into several sections:

- Date/Time:** Includes dropdowns for Date Format (MM/DD/YYYY), Time Format (12 HR), and Time Zone (GMT - 08:00). A checkbox for Daylight Saving is checked. Start Time is set to Mar 2nd Sun 02, and End Time is set to Nov 1st Sun 02.
- Properties:** Includes a text field for DVR Name, a dropdown for Language (ENGLISH), and a checkbox for Button.
- NTP:** Includes a checkbox for NTP, a dropdown for Server (Public Server), a text field for Private Time Server, and a dropdown for Sync. Interval (1 Day).
- Network:** Includes a checked checkbox for DHCP and text fields for IP Address, Subnet Mask, GateWay, Primary DNS, and Secondary DNS. It also has text fields for TCP/IP Port (9001), Web Server Port (80), Audio Port (9003), and RTSP Port (554). An IPv6 Setup button is present.
- DDNS:** Includes a checkbox for DDNS Service, a text field for User Name, and a text field for Password.
- Network Streaming:** Includes a Streaming Config button.

A vertical sidebar on the right contains icons for Camera, Schedule, Display, Linking, User, and System.

Figure 88. DX4700HD/DX4800HD System Page

SYSTEM PAGE FEATURES

The System page has the following guidelines:

- **Date/Time:** Allows you to select date and time format.
- **Network:** Allows you to view the server's network settings and set the bandwidth throttle and IPv6 settings.
- **DDNS:** Allows you to view the server's DDNS settings.
- **Network Streaming:** Allows you set the network streaming settings.
- **NTP:** Selects that the unit's time be synchronized with the Network Time Protocol (NTP) server.
- **Properties:** Allows you to specify the name of the DVR/HVR. The selected name is displayed in the server's System Information window.

DATE AND TIME SETUP




The date and time feature has the following guidelines:

- **Date/Time:** The date and time displayed in the client window is based on the date and time settings derived from and configured on the client computer. The server date and time cannot be configured from the DX Series client. Refer to the unit's operation/configuration manual for more information.
- **Date Format:** Allows you to select the date and time format. Refer to unit's operation/configuration manual for more information.

NOTE: When the date format is changed at the DX Series client, it becomes effective at the server after you enter and exit the server's Setup menu.

- **Time Zone:** Displays the time zone configured on the server.
- **Daylight Saving:** Enables or disables daylight saving operation. You must configure DST on both the server and the computer on which the remote DX Series client is running.
 - **Start:** Sets the start time. The effective time is 2:00 a.m.
 - **End:** Sets the end time. The effective time is 2:00 a.m.

To configure the date and time settings:


1. On the toolbar, click the Setup icon .
2. Click the System icon . The System page appears.
3. Select the date/time settings.
4. To save the changes, click the Live icon , and then click OK.

NETWORK

By default, the unit is configured to use Dynamic Host Configuration Protocol (DHCP). If a DHCP server does not reside on your network, the unit allows you to use a static IP address. If the DHCP setting on the TCP/IP menu is set to OFF, you can view the following settings, and configure those that are available:

- **DHCP:** This setting is unavailable and is configured at the server. This option is selected when a DHCP server is installed on the network to allow IP address assignment.
- **IP Address:** This setting is invaluable and is configured at the server.
- **Subnet Mask:** This setting is invaluable and is configured at the server.
- **Gateway:** This setting is invaluable and is configured at the server.
- **Primary DNS Server:** This setting is invaluable and is configured at the server.
- **Secondary DNS Server:** This setting is invaluable and is configured at the server.
- **TCP/IP Port No.:** This setting is invaluable and is configured at the server.
- **Web Server Port No.:** This setting is invaluable and is configured at the server.
- **Audio Port No.:** This setting is invaluable and is configured at the server.
- **Bandwidth Throttle:** Allows you to select the network bandwidth throttle to limit the amount of network resources allocated to client connections. The default bandwidth throttle is 100 Mbps.
- **RTSP Port:** This setting is invaluable and is configured at the server.
- **IPv6 Setup:** The TCP/IP v6 settings are configured at the server.
- **DDNS Service:** This setting is invaluable and is configured at the server.
- **Network Streaming:**
 - **Ch:** Displays the channel number.
 - **Resolution:** Selects the recording resolution. For information about the supported recording resolutions, refer to DX4700HD/DX4800HD Server Operation/Configuration manual.
 - **Quality:** Selects the recording picture quality.
 - **Frame Rate:** Selects the frame rate. The frame rate is the number of transportable frames per second. According to resolution, the frame rate is set automatically. If you want to configure the frame rate settings manually, refer to the following information.

To configure the network setting:

1. From the System menu, click the Network submenu.
2. Configure the remaining settings.
3. To save the changes, click the Live icon , and then click OK.

DDNS

DDNS settings are configured at the server.

NETWORK STREAMING

The unit allows you to configure the following settings:

- **Ch:** Displays the channel number.
- **Resolution:** Selects the recording resolution. For information about the supported recording resolutions, refer to the DX4700HD/DX4800HD Operation/Configuration manual.
- **Quality:** Selects the recording picture quality.
- **Frame Rate:** Selects the frame rate. The frame rate is the number of transportable frames per second. According to resolution, the frame rate is set automatically. If you want to configure the frame rate settings manually, refer to the following information.

To configure the network streaming settings:

1. From the System menu, click the Network Streaming submenu.
2. Configure the remaining settings.
3. Click Close.
4. Click OK.

NTP

The unit's internal time can be synchronized with an external time source using the Network Time Protocol (NTP) configuration option.

The unit allows you to configure the following settings:

- **NTP:** When selected, allows you to configure a NTP server to which the HVR's internal time is synchronized.
NOTE: If the NTP option is set to ON, the Date/Time option is unavailable.
- **Server:** Allows you to select a public or private NTP server. The default setting is PUBLIC SERVER. If you select a public NTP server, the HVR computes the average time from five public servers: time.nist.gov, time-a.nist.gov, timeb.nist.gov, ntp.nasa.gov, and clock.isc.org.
- **Private Time Server:** This setting is unavailable and is configured at the server.
- **Sync. interval:** Specifies how often the HVR synchronizes with the NTP server: daily (1 DAY), weekly (1 WEEK), monthly (1 MONTH), or hourly (1 HOUR). The default setting is 1 DAY.

DX4500/DX4600 AND DX4104 SYSTEM SETTINGS

System settings are easily configured through the System page. Refer to the following figures for information about configuring the system settings for your particular model. For more information about configuring network settings, refer to the operation/configuration manual for your particular model.

Figure 89 shows the DX4500/DX4600 Series System page. The DX4104 Series System page is similar to the DX4500/DX4600 Series.

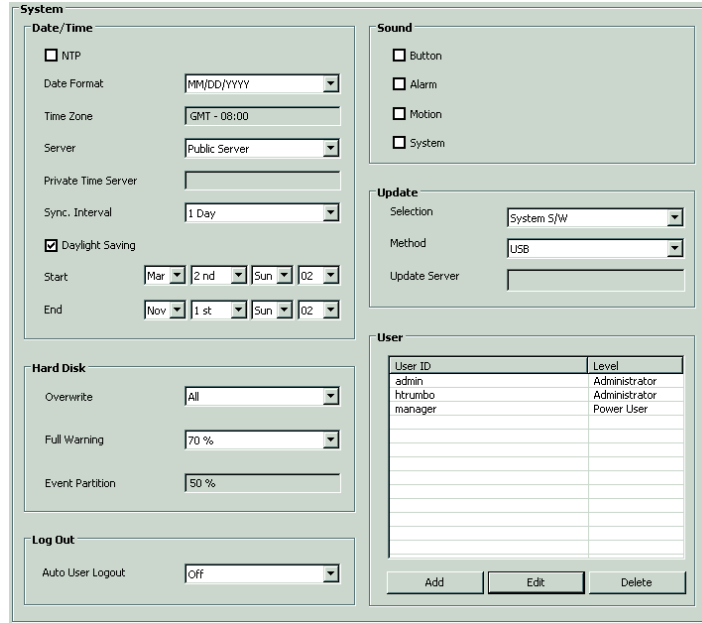


Figure 89. DX4500/DX4600 and DX4104 System Page

SYSTEM PAGE FEATURES

The System page has the following guidelines:

- **NTP:** Selects that the unit's time be synchronized with the Network Time Protocol (NTP) server.
- **Date/Time:** Allows you to select date and time format.
- **Server:** Allows you select the NTP server.
- **Sound:** Allows you configure the unit to sound in response to the following issues:
 - **Button:** Sounds a single beep when a front panel or remote control button is pressed.
 - **Alarm:** Sounds a continuous beep approximately once per second until the alarm event is acknowledged.
 - **Motion:** Sounds a continuous beep approximately once per second until the motion event is acknowledged.
 - **ATM/POS:** Sounds a continuous beep approximately once per second until the ATM/POS event is acknowledged.
 - **System:** Sounds a single beep when a system action occurs.

NOTE: Events are acknowledged at the server. Refer to the unit's operation/configuration manual for more information.



- **Update:** Allows you to update the system software, PTZ protocols, and the update media.
- **User:** Allows you to create and administer user accounts.
- **Hard Disk:** Allows you select the HDD overwrite method and set the full-warning setting.
- **Log Out:** Allows you to select the automatic user log off feature and time.


DATE AND TIME SETUP

The date and time feature has the following guidelines:

- **NTP:** Synchronizes the unit's time with the Network Time Protocol (NTP) server.
- **Date/Time:** The date and time displayed in the client window is based on the date and time settings derived from and configured on the client computer. The server date and time cannot be configured from the DX Series client. Refer to the unit's operation/configuration manual for more information.
- **Date Format:** Allows you to select the date and time format. Refer to unit's operation/configuration manual for more information.
NOTE: When the date format is changed at the DX Series client, it becomes effective at the server after you enter and exit the server's Setup menu.
- **Time Zone:** Displays the time zone configured on the server.
- **Server:** Allows you to select a private or public server. For the public server, the DVR obtains the average time from five public servers (time.nist.gov, time-a.nist.gov, timeb.nist.gov, ntp.nasa.gov, and clock.isc.org).
- **Private Time Server:** Allows you to enter the NTP server IP address or host name. Supports up to 24 characters including 0.0.0.0 to 255.255.255.255, a to z, A to Z, numerals 0 to 9, and special characters.
- **Sync. Interval:** Allows you to select how often the DVR's time is synchronized with the NTP server.
- **Daylight Saving:** Enables or disables daylight saving operation. You must configure DST on both the server and the computer on which the remote DX Series client is running.
 - **Start:** Sets the start time. The effective time is 2:00 a.m.
 - **End:** Sets the end time. The effective time is 2:00 a.m.




To configure the date and time settings:

1. On the toolbar, click the Setup icon .
2. Click the System icon . The System page appears.
3. In the Date/Time section:
 - a. *(Optional)* select the NTP check box.
 - b. In the Date Format box, select the date format.

NOTE: The time zone setting is displayed but is unavailable. This setting must be configured on the server. Refer to the unit's operation/configuration manual for more information.
 - c. In the Server box, perform one of the following options:
 - **Accept the default server setting:** Go to step 3d.
 - **Enter a private time server:** In the Private Time Server box, type the server's IP address or host name.
 - d. In the Sync. Interval box, select an interval.
 - e. *(Optional)* Select the DST start and end dates.
4. To save the changes, click the Live icon , and then click OK.

SOUND SETUP

To configure the sound feature:


1. On the toolbar, click the Setup icon .
2. Click the System icon .
3. In the Sound section:
 - a. To select the button sound feature, select the Button check box.
 - b. Repeat step 3a to enter the settings for the remaining sound check boxes.
4. To save the changes, click the Live icon , and then click OK.

UPDATE SOFTWARE SETUP

The update feature has the following guidelines:

- **Selection:** Allows you to select to update the server software and PTZ protocols.
- **Method:** Allows you to select the update media.
- **Update Server:** Allows you to enter the update server's IP address. This setting becomes available if the update method is set to Network.

To configure the update feature:

1. On the toolbar, click the Setup icon.
2. Click the System icon.
3. In the Update section:
 - a. In the Selection box, select the update process.
 - b. In the Method box, select the update device
 - c. *(Optional)* In the Update Server box, type the update server IP address.
4. To save the changes, click the Live icon , and then click OK.

USER ACCOUNT SETUP

User Account Features

User accounts can be added, changed, or deleted. By default, admin is both the user name and password.

- **User ID:** Allows you to create user accounts.

The user name has the following guidelines:

 - Characters can include letters (a to z, upper and lowercase), numerals (0 to 9), and special characters.
 - The user name must not exceed 23 characters in length.
- **Level:** Allows you to create three user levels: Administrator, Power User, and Normal User. A user is assigned a level when the user account is created. Table T describes the user levels and permissions granted to each level.
- **Password:** Allows you to administer the user account password.

If you change the password, it must adhere to the following guidelines:

- Characters can include letters (a to z, upper and lowercase), numerals (0 to 9), and special characters.
- The password must contain 4 to 8 characters.

The server supports 10 user accounts including the default administrator account.

Table T. User Levels and Permissions

DVR/HVR Operation	User Level		
	Administrator	Power User	Normal User
Live	Yes	Yes	Yes
Search	Yes	Yes	No
PTZ	Yes	Yes	Yes
Alarm Off	Yes	Yes	Yes
Instant Playback	Yes	Yes	Yes
Instant Record	Yes	Yes	Yes
Instant Backup	Yes	Yes	No
Select Display Mode	Yes	Yes	Yes
View System Log	Yes	Yes	Yes
View System Information	Yes	Yes	Yes
Setup	Yes	No	No
Export	Yes	Yes	No

Changing the Administrator User Password

To change the administrator password:

1. On the toolbar, click the Setup icon .
2. Click the System icon .
3. In the User section:
 - a. In the User ID list, select admin, and then click Edit. The Password Confirm dialog box appears.

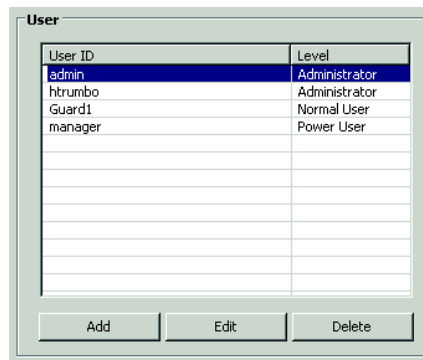




Figure 90. Selecting the Administrator Level User

- b. In the Password box, type the current administrator password, and then click OK. If the password is correct, the User Setting dialog box appears.
 - c. In the User Settings dialog box, perform one of the following options:
 - (1) In the Password box, type a new password.
 - (2) In the Confirm Password box, retype the new password.
 - (3) Click OK. The administrator password is changed. If the DVR is configured for e-mail notification, a message is sent to the designated user that the password has been changed.
 4. To save the changes, click the Live icon , and then click OK.




Adding a New User

To create a new user:


1. On the toolbar, click the Setup icon.
2. Click the System icon.
3. In the User section, click Add. The User Setting dialog box appears.
4. In the User Setting dialog box:
 - a. In the User ID box, type a user ID.
 - b. In the Password box, type a password.
 - c. In the Confirm Password box, retype the password.
 - d. In the Level box, select a user level.
 - e. Click OK. The user ID and permission level appears in the User ID list.
5. To save the changes, click the Live icon , and then click OK.

Changing a User Account

To change an account:

1. On the toolbar, click the Setup icon .
2. Click the System icon .
3. In the User ID list, select a user ID, and then click Edit. The User Setting dialog box appears.
4. In the User Settings dialog box:
 - a. In the User ID box, type a new user ID.
 - b. In the Password box, type a new password.
 - c. In the Confirm Password box, retype the password.
 - d. In the Level box, select a different user level.
 - e. Click OK. The updated user ID and permission level appears in the User ID list.
5. To save the changes, click the Live icon , and then click OK.

Deleting a User


1. On the toolbar, click the Setup icon.
2. Click the System icon.
3. In the User ID list, select a user ID, and then click Delete. The user ID is removed from the User ID list.
4. To save the changes, click the Live icon , and then click OK.

HARD DISK STORAGE ALLOCATION SETUP

You can remotely configure the server overwrite and full warning features. The event partition setting is unavailable and is configured directly at the server.

The Hard Disk feature has the following guidelines:

- **Overwrite:**
 - **ALL:** When the normal and event partitions are full, the system will begin overwriting those partitions. The oldest recorded data is overwritten first. The default setting is ALL.
 - **NORMAL PARTITION:** When the normal partition is full, the system will begin overwriting only the normal partition. The oldest recorded data is overwritten first.
 - **EVENT PARTITION:** When the event partition is full, the system will begin overwriting only the event partition. The oldest recorded data is overwritten first.
 - **OFF:** Protects all partitions from being overwritten.
- **Full Warning:** Displays a warning message when the HDD has reached the configured percentage (size) capacity. The default setting is OFF.
- **Event Partition:** Specifies the percentage (size) of the total hard disk space allocated for storing event-related recorded video. The remaining disk space is allocated for storing instant recorded video and normal recorded video. This option cannot be configured remotely using the DX Series client.

 **WARNING:** If you change the event partition setting at the server, the system will reformat all of the hard drives. All recorded video will be erased.

Administering the DX4700/DX4800

Software updates are available for both the DX Series DVR/HVR servers and the DX Series client. These updates are free and are available on the product resource disc or on our Web site at www.pelco.com. Contact Pelco Product Support for more information.

The DX Series client allows you to upgrade your server software remotely. Once installed on a server, updates are automatically distributed to clients on the same network when the DX Series clients are started. Remote DX Series servers can be updated from a local HVR using the software upgrade feature.

UPGRADING DX4700/DX4800 HVR SOFTWARE

The update files are located on the DX Series client computer hard drive, optical media, USB device, or on the network.

To start the update process:

1. In the site tree, click a site.
2. On the File menu, click Server S/W Upgrade. The Update Settings dialog box appears.

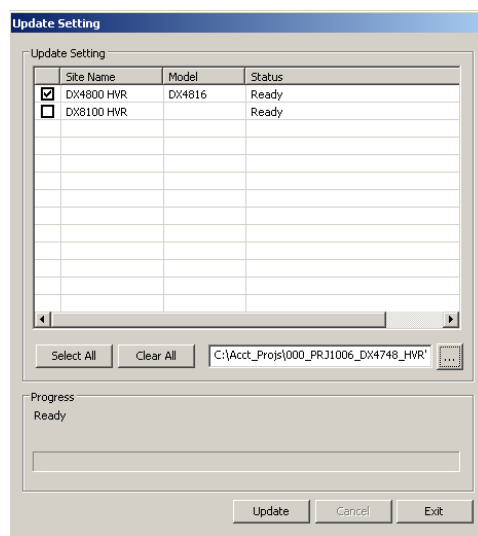


Figure 91. DX Series Client Update Settings

3. To select the update file:
 - a. In the Update Settings box, click the Browse button . The Open dialog box appears.
 - b. Find the backup location, and then click the location/device. The path appears in the File name box.
4. Click Open. The path appears in the Update Setting box.
5. Click Update. The update process starts.
6. After the update process is complete, the progress message is displayed in the Update Setting dialog box.
7. Click Exit. The server will restart.
8. To view the updated server's video, you must log on to the unit again.

DX Series Emergency Agent

This section describes the DX Series emergency agent, which is installed with the DX Series client. The DX Series emergency agent supports the DX4500/DX4600 Series and DX4104 Series DVRs. The emergency agent (v2.0.00.2711) and above supports the DX Series HVRs.

The DX Series emergency agent works with networked DVRs to alert you when an event has occurred. The DX Series emergency agent has the following guidelines:

- **Emergency events detected:** Alarm, motion, disk full, administrator password change, video loss, and power on/off.
- **Configuration required:**
 - **Server:** The schedule (event recording mode), network notification (event to be monitored), and emergency settings must be configured on each DVR/HVR for which you want to monitor.
 - **Remote computer:** The DX Series emergency agent must be running and configured to receive emergency notifications.

DX SERIES EMERGENCY AGENT WINDOW

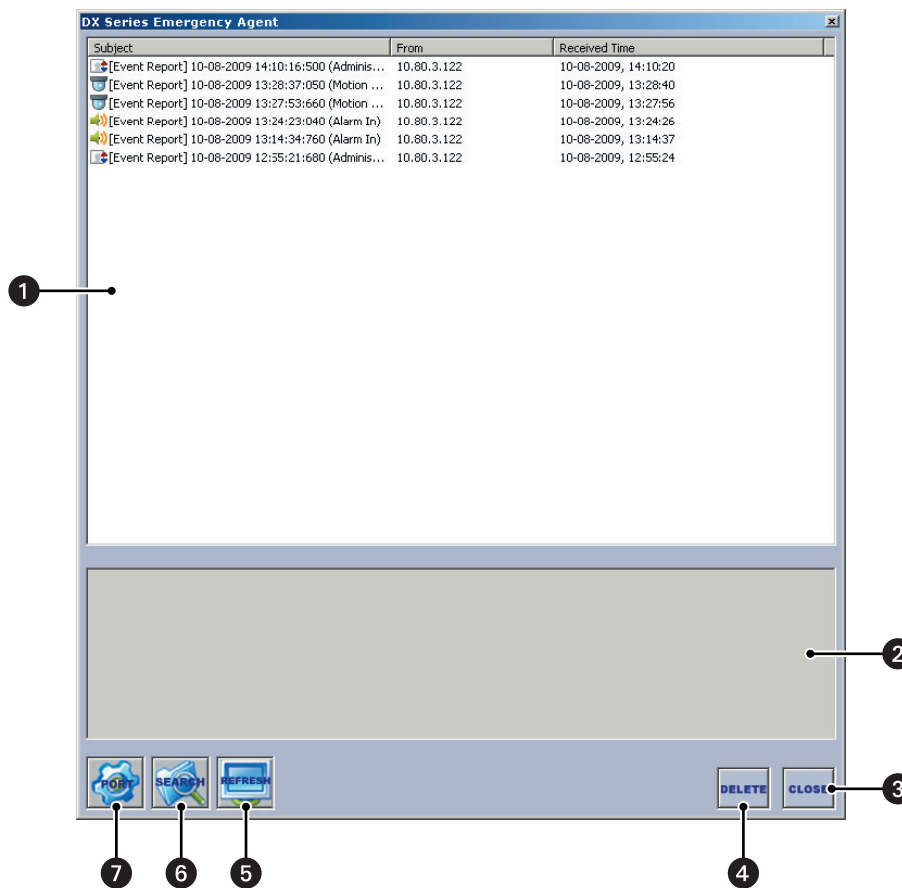


Figure 92. Received Messages Window

- 1 **Event Report List:** Displays event reports.
- 2 **Message Area:** Displays details about the selected event.
- 3 **CLOSE:** Closes the received Messages window, but does not exit the DX emergency agent application.
- 4 **DELETE:** Permanently deletes the selected event.
- 5 **REFRESH:** Updates the entries.
- 6 **SEARCH:** Opens the Message Search dialog box that allows you to search for a specific event.
- 7 **PORT:** Opens the Option dialog box that allows you to verify or change the port number.

STARTING AND STOPPING

STARTING THE DX SERIES EMERGENCY AGENT


To start the DX Series export viewer:

1. Click the Start button.
2. Point to All Programs, Pelco, and PELCO DX Series client.
3. Click DX Series Export Viewer.

The DX emergency agent application starts and the Pelco logo appears in the Windows task bar.



Figure 93. Starting the DX Series Emergency Agent

To open the DX emergency agent menu, on the Windows task bar, right-click Pelco . The DX emergency agent menu appears.

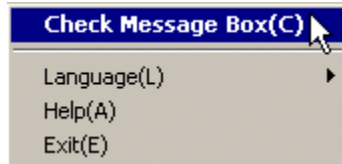


Figure 94. DX Series Emergency Agent Menu

STOPPING THE DX SERIES EMERGENCY AGENT

NOTE: To ensure that the DX emergency agent monitoring events, verify that Pelco is displayed in the Windows task bar.

To stop the DX emergency agent:

1. On the Windows task bar, right-click Pelco. The DX emergency agent menu appears.
2. Click Exit.

EVENT MONITORING

An event warning sent from the DVR server causes a 5-second message to appear in the lower-right corner of the remote computer screen.

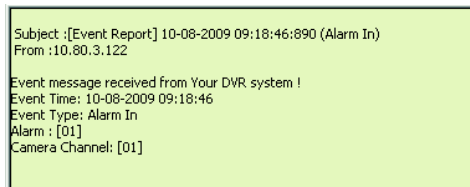



Figure 95. DX Series Emergency Agent Message

VIEWING MESSAGE DETAILS

To view details about an event:

1. Perform one of the following options:
 - **Message:** Within 5 seconds, click the message. The Received Message window appears. The event appears in the event report list.
 - **DX emergency agent menu:**
 - (1) On the Windows task bar, click Pelco .
 - (2) On the DX emergency agent menu, click Check Message Box. The Received Message window appears.
2. Click a message. Details about the event appears in the message area.

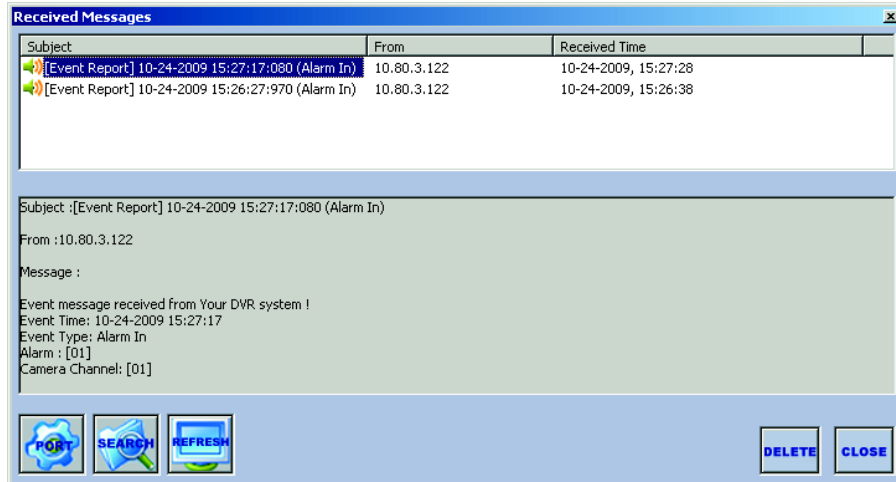




Figure 96. Viewing Event Message Details

SEARCHING FOR AN EVENT

To search for a logged event:

1. On the Windows task bar, click Pelco .
2. On the DX emergency agent menu, click Check Message Box.
3. On the Received Messages toolbar, click Search . The Message Search dialog box appears (refer to Figure 97 on page 123).

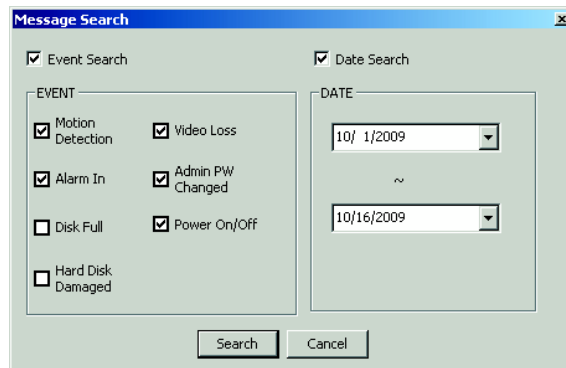


Figure 97. Selecting Event Type Search Settings

4. To select the search method (refer to Figure 97), perform one or both of the following options:
 - **Search by event:**
 - (1) Select Event Search check box. The Event check boxes become available.
 - (2) In the Event section, select the event's check box.
 - **Search by date:**
 - (1) Select the Date Search check box. The Date check boxes become available. The start date is the top box and the end date is the bottom box.
 - (2) In the Date section, select start and end date.
5. Click Search. The logged events appear in the Received Messages window.

DELETING AN EVENT REPORT


1. In the Received Messages window, click an entry.
2. Click DELETE. The DvrEA dialog box appears.
3. Click Yes to permanently delete the entry.
4. In the Received Messages window, click CLOSE. The Received Messages window closes, but the DX emergency agent application is still active.

SELECTING THE LANGUAGE

1. On the Windows task bar, click Pelco .
2. On the DX emergency agent menu, point to language, and then click a language.

CONFIGURING THE NETWORK PORT

To change the network port:

1. On the Windows task bar, click Pelco.
2. On the DX emergency agent menu, click Check Message Box. The Received Messages window appears.
3. In the Received Messages window, click Port . The Option dialog box appears.
4. In the DX Emergency Agent Port No. box, type a new port number. The default port number is 9002.

NOTE: You should keep the default port setting unless there is a conflict on your network. Consult your network administrator before changing network port settings. If the port number must be changed, the number must be an integer between 1025 to 65535.

5. Click OK.

DX Series Export Viewer

This section describes the DX Series export viewer, which supports DX4700/DX4800, DX4500/DX4600, and DX4104 Series units. The DX8100 export viewer supports the DX8100 Series HVRs.

The DX Series export viewer allows you to play back video that is exported from the server. You can verify the digital watermark embedded in native video. Watermarking is used to authenticate the originality of a video file and to alert users to possible image tampering. The DX Series export viewer application runs automatically each time a CD/DVD created by the unit's export feature is inserted into a Windows-based personal computer (PC). The software can also be installed on a PC and opened independently, when necessary. The USB mouse is used to access the export viewer GUI controls and features. Menu commands can be selected with the mouse, or you can press Alt + C to select the command.

NOTE: When video recorded on a server located in one time zone (for example, GMT -8:00) is exported and played back on a computer located in a different time zone (for example, GMT -5:00), the video's original recording time is adjusted to and displayed based on the time zone of the playback computer.

DX SERIES EXPORT VIEWER WINDOW

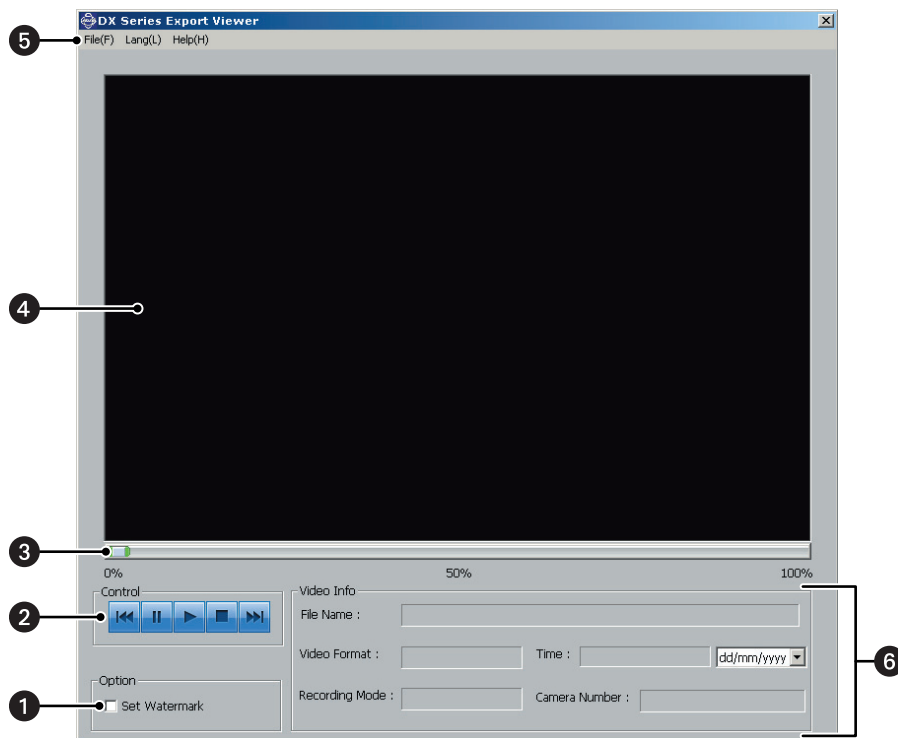


Figure 98. DX Series Export Viewer Window

- 1 Set Watermark
- 2 Playback Controls
 - ▶ Play
 - Stop
 - || Pause
 - ▶▶ Fast Forward to End
 - ◀◀ Fast Reverse to Beginning
- 3 Playback Slider
- 4 View Panel
- 5 Menu Bar
- 6 Video Information Section

STARTING AND STOPPING

STARTING THE DX SERIES EXPORT VIEWER

To start the DX Series export viewer:

1. Click the Start button.
2. Point to All Programs, Pelco, and PELCO DX Series client.
3. Click DX Series Export Viewer.

STOPPING THE DX SERIES EXPORT VIEWER

To exit the DX Series export viewer application, on the File menu, click Exit.

EXPORTED VIDEO FILE NAMING CONVENTION

The exported video file name contains details about the exported video.

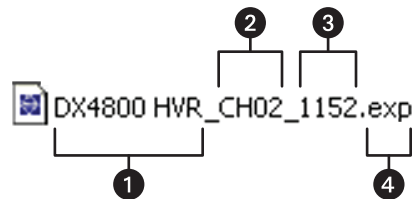


Figure 99. Exported Video File Naming Convention

- 1 Name of DX Series Server
- 2 Channel/Camera Number
- 3 Time of Recorded Video
- 4 Pelco-Engineered Video Format

VIEWING EXPORTED VIDEO

The exports video to USB media and CD/DVD +RW media.

To view exported video:

1. Perform one of the following options.
 - **USB media:**
 - (1) Insert the USB drive into the computer.
 - (2) Click the Start button, and then point to All Programs, Pelco, PELCO DX4100 client, and then click DX Series Export Viewer. The DX Series Export Viewer application window appears.
 - **CD/DVD media:**
 - (1) Insert the CD/DVD disc. The export viewer application starts automatically.
2. On the File menu, click Open. The Open dialog box appears.
3. In the "Look in" box, select device, and then select the export file.
4. Click Open. The file opens in the DX Series Export Viewer window.
5. To view video, on the Control, click Play ►.

VERIFYING THE WATERMARK

Watermarking is used to authenticate the originality of a video file and to alert users to possible image tampering. The export viewer will display a message if the video image has been altered.

To verify the watermark:

1. In the Option section, select the "Set Watermark" check box.
2. Open the exported file for which you want to verify the watermark. Playback starts. The export viewer performs a check to authenticate the watermark. If the watermark is authentic, no action is taken. If the video image has been altered, the export viewer displays the INFO dialog box.

CHANGING THE LANGUAGE

To change the language, on the Lang (L), select a language. The export viewer GUI changes to the selected language.

DX Series Web Client

This section describes the DX Series Web client, which is available with the DX Series client. The DX Series Web client supports the DX4500/DX4600 and DX4104 Series DVRs. The DX8100 Web client supports the DX8100 Series HVRs. For information about the DX8100 Web client, refer to the DX8100 Series Operation/Configuration manual.

The DX Series Web client supports DX4700/DX800 Series HVRs, DX4500/DX4600 Series DVRs, and DX4104 Series DVRs. The DX8100 Web client supports DX8100 Series HVRs.

NOTE: The DX Series Web client is only compatible with Microsoft® Internet Explorer®.

INSTALLING THE DX SERIES WEB CLIENT

The first time you use a Web browser to connect to a DVR server, an ActiveX® control application is downloaded and installed on your local computer. This control facilitates usage of the Web client's interactive features.

1. Start Internet Explorer.
2. In the browser Address bar, type the DVR's server IP address.
3. Click Go. The ActiveX installation message appears. near the top of your application window.
4. Click the ActiveX installation message. The submenu appears.

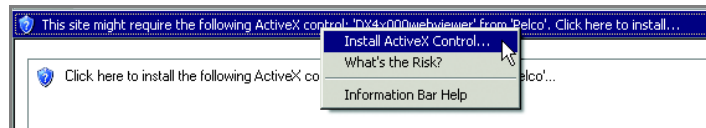


Figure 100. ActiveX Submenu

5. Click Install ActiveX Control. The Security Warning dialog box appears.
6. Click Install. Wait while the ActiveX controls are downloaded to your PC and your browser software is updated. The Remote Login dialog box appears.

Web Client Window



Figure 101. Web DX Series Client Window

- 1 **Site Tree:** Displays top-down, hierarchical management of DVR resources, such as servers, cameras, alarms, and relays.
- 2 **Display Options:** Displays video in one or four panes.
- 3 **Cycle View:** Starts and stops the window cycling.
- 4 **Full Screen:** Hides the GUI controls and displays video across the entire screen. Click the right mouse button to exit the full-screen display.
- 5 **Snapshot:** Captures the video image displayed in the view pane.
- 6 **PTZ ZOOM:** Zooms the camera in and out.
- 7 **PTZ FOCUS:**
 - **In PTZ mode:** Adjusts the camera focus.
 - In the camera menu: FOCUS plus (+) and FOCUS minus (-) are used to navigate up and down in the camera menu.
- 8 **PTZ IRIS:**
 - **In PTZ mode:** Opens and closes the camera iris.
 - In the camera menu: IRIS plus (+) selects an item. IRIS minus (-) exits an option setting; in the camera menu, it moves the cursor to EXIT.
- 9 **PTZ Keypad:** Use the keypad to enter presets or pattern numbers.
- 10 **PTZ OSD MENU:** Allows users to operate the PTZ OSD features.
- 11 **View Pane:** Displays video from a single camera channel.

STARTING AND LOGGING ON

To start the DX Series Web client, cookies must not be blocked by your browser. Refer to the Internet Explorer Help for instructions on enabling cookies.

NOTES:

- User names and passwords are case sensitive; type them exactly as shown.
- To avoid potential problems and conflicts with your computer's video subsystem, run either the DX Series client or the DX Series Web client. Do not run both of them at the same time.

To start and log on to the DX Series Web client:

1. Start Internet Explorer.
2. In the browser Address bar, type the DVR/HVR server IP address. The DX Series Web client window and the Remote Login dialog box appear.
3. In the User Name and Password box, type the user name and password, and then click OK.

LOGGING OFF AND STOPPING

To log off and exit from a remote site:

1. In the site tree, right-click a site. The shortcut menu opens.
2. In the shortcut menu, click User Log-Out.
3. To exit the DX Series Web client window, click Close.










VIEWING VIDEO

For viewing live video and operating PTZ cameras, refer to *PTZ Mode* on page 31. Some of the features shown in *Operation* on page 24 may not be available in the DX Series Web client.

CONFIGURING VIEW PANELS

The DX4700/DX4800 Series Web client can display up to 16 cameras simultaneously. The following table describes the toolbar.

Table U. DX4700/DX4800 Web Client Toolbar

	1-Division: Displays video from one camera.
	4-Division: Displays video from four cameras simultaneously.
	9-Division: Unavailable.
	16-Division: Unavailable.
	6-Division: Unavailable.
	8-Division: Unavailable.
	Cycle Views: Turns the window cycling feature on and off when in the single-pane display mode.
	Full Screen: Displays video from one camera, expanding the application window to occupy the entire screen. Click the right mouse button to exit full-screen view.
	Video Capture: Initiates a screen capture of the current view panel. The file is automatically named (using the YYYYMMDD_hhmmss format) and stored in JPEG format at C:\DX4104 (default location).

Appendixes

APPENDIX A: HARDWARE AND SOFTWARE UPGRADE POLICY

Pelco's representations regarding product features and performance are limited to those made in the specification sheet and installation/operation manuals at the time the product was manufactured. Pelco does not represent or warrant that any upgrades to product hardware or software will be made available in the future. When possible, Pelco will offer product upgrades to purchasers of its products.

HARDWARE UPGRADES

Pelco provides hardware options for upgrading the DX4104 hard disk storage and optical drive. For information about DX4104 upgrade options, refer to the DX4104 product specification sheet. Hard disk upgrades are available as follows:

1. Additional hard drives or an optical drive cannot be installed in some models. To determine if your model can be upgraded, refer to the DX4104 Installation manual or contact Pelco Product Support for assistance.
2. Hard disk upgrades are available through Pelco at established prices and are subject to the usual 24-hour turnaround for service.

When a larger hard drive is being substituted for a smaller one, the smaller drive will be returned to the customer along with the upgraded unit.

While Pelco will perform all upgrades with the utmost consideration and care, Pelco cannot guarantee that any of the data and/or video stored on the existing hard drives will not be lost or damaged. Pelco is not responsible for damage or loss of data.

SOFTWARE UPGRADES

1. All upgrades for Pelco software shall be free to the customer for the duration of the warranty period. This offer does not apply to software that may be installed in a Pelco product that is licensed from another supplier. All other software, such as operating systems, drivers for accessory devices, and so forth, shall be governed by the software manufacturer's upgrade policy, even when said upgrades are necessary to implement an upgraded version of Pelco software.
2. Whenever possible, software upgrades with detailed instructions shall be provided to the customer through Web site download. Pelco will not be responsible for loss of data, losses due to downtime, or damage to product as a result of a customer attempting to perform an upgrade.
3. Hard copies on appropriate medium (CD/DVD, ZIP, or floppy disk) shall be sent to the customer at no charge upon request.
4. It shall be the customer's responsibility to procure necessary hardware to perform upgrades if required (necessary drives, such as CD-R, DVD-R, or ZIP).
5. Pelco cannot guarantee that all future software versions will be backward compatible with earlier hardware platforms.

APPENDIX B: SUPPORTED PTZ PROTOCOLS

Table V. Supported PTZ Protocols (1 of 2)

Protocol Name	DX8000/ DX8100	DX4700/DX4800, DX4500/DX4600, DX4104	DX4000	Pan/Tilt	Zoom	Focus	Iris	Preset	Tour	Setup
LG_MULTIX	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LG_SD168	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PELCO_C	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PELCO_D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PELCO_P	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GANZ_DSCP	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GANZ_P360V1	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
KALATEL™_CYBERDOME	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
PANASONIC®_CS850	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SAMSUNG™_SCC	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table V. Supported PTZ Protocols (2 of 2)

BOSCH_AUTODOME	(not supported at this time)									
LG [®] _ZOOM	No	No	No	No	Yes	Yes	Yes	No	No	Yes
LPT_A100L	No	No	No	Yes	No	No	No	No	No	No
VICON [®]	Yes	No	No	No	No	No	No	No	No	No
Honeywell [™] (HSD251)	Yes	No	No	No	No	No	No	No	No	No
American Dynamics [™]	Yes	No	No	No	No	No	No	No	No	No
Phillips [®] (TC8560, TC700 Series)	Yes	No	No	No	No	No	No	No	No	No
LG (v1.0)	Yes	No	No	No	No	No	No	No	No	No

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years:
 - Fiber optic products
 - Unshielded Twisted Pair (UTP) transmission products
 - CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models
- Three years:
 - Fixed network cameras and network dome cameras with Sarix® technology
 - Sarix thermal imaging products (TI and ESTI Series)
 - Fixed camera models (CCC1390H Series, C10DN Series, C10CH Series, and IP3701H Series)
 - EH1500 Series enclosures
 - Spectra® IV products (including Spectra IV IP)
 - Spectra HD dome products
 - Camclosure® Series (IS, ICS, IP) integrated camera systems
 - DX Series video recorders (except DX9000 Series which is covered for a period of one year), DVR5100 Series digital video recorders, Digital Sentry® Series hardware products, DVX Series digital video recorders, and NVR300 Series network video recorders
 - Endura® Series distributed network-based video products
 - Genex® Series products (multiplexers, server, and keyboard)
 - PMCL200/300/400 Series LCD monitors
 - PMCL5xxF Series and PMCL5xxNB Series LCD monitors
- Two years:
 - Standard varifocal, fixed focal, and motorized zoom lenses
 - DF5/DF8 Series fixed dome products
 - Legacy® Series integrated positioning systems
 - Spectra III™, Spectra Mini, Spectra Mini IP, Esprit®, ExSite®, ExSite IP, and PS20 scanners, including when used in continuous motion applications
 - Esprit Ti and TI2500 Series thermal imaging products
 - Esprit and WW5700 Series window wiper (excluding wiper blades)
 - CM6700/CM6800/CM9700 Series matrix
 - Digital Light Processing (DLP®) displays (except lamp and color wheel). The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.

- Six months:
 - All pan and tilts, scanners, or preset lenses used in continuous motion applications (preset scan, tour, and auto scan modes)

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to a Pelco designated location. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental, or consequential damages (including loss of use, loss of profit, and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, sales order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product that does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

To expedite parts returned for repair or credit, please call Pelco at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair) and designated return location.

All merchandise returned for credit may be subject to a 20 percent restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid.

Revised 5-6-11

 The materials used in the manufacture of this document and its components are compliant to the requirements of Directive 2002/95/EC.



This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

HISTORY

Manual #	Date	Comments
C4654M	2/11	Original version.
C4654M-A	6/11	Updated the link to the AVI codec file, corrected references to the DX Series client, and described the DX products supported by the Web client.
C4654M-B	1/12	Updated to document DX4700HD/DX4800HD support.

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