



by **Schneider** Electric

OPERATION/CONFIGURATION

DX4104 Series Digital Video Recorder



Server Software Application

C4631M-A (8/10)

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Description

The DX4104 Series digital video recorder (DVR) is designed for the entry-level market. The unit provides one to four camera inputs, powerful video storage management with efficient H.264 compression, multi-event recording, a quick and easy-to-use common user interface, greater internal storage (up to 2 TB), and network connectivity for up to 100 units. The DX4104 replaces the traditional VCR and multiplexer combination and can be used in stand-alone or networked installations.

The DX4104 is easily operated and configured using the mouse, remote control, or front panel. User-configurable disk partitioning is used to allocate specific hard disk space for storing normal (continuous) and event-initiated video data. The retention time can be different for normal and event-initiated recorded video. All recorded video is compressed and stored using the latest H.264 compression technology.

The DVR supports single-event and multi-event (a combination of normal, alarm, and motion) recording. You can immediately start and stop recording through the instant record feature. Each camera can be configured to record at a resolution, quality, and image rate specific to each event. By default, the DX4104 is configured for automated multi-event recording.

For surveillance applications requiring pan/tilt/zoom (PTZ) capability, the DX4104 addresses and controls PTZ equipment such as Spectra® domes, mini domes, or third-party cameras. The unit operates Pelco and third-party PTZ cameras that support Pelco D and Pelco P protocols.

Video critical to investigation and archiving can be exported from the DX4104 server to USB memory or optional CD/DVD±RW media. Use the exported video preview feature to verify the video content and quality.

The DX4104 remote client can be used to remotely operate and administer the unit. The remote client includes an export viewer, Web client, and emergency agent application. You can play back exported video using the export viewer or a Microsoft® Windows®-based media player application.

The DX4104 remote client is Vista-compliant. At the remote client, users can easily and quickly capture a video scene, save it in JPEG format, and then store it on the hard drive. Additionally, the remote client can be used to preview and search backed up video. The DX4104 remote client also allows live viewing and video playback from up to 16 DX4104 units simultaneously. The remote client can connect to as many as 100 DX4104 units.

REMOTE CLIENT SOFTWARE APPLICATIONS

DX4104 supports four software applications that run on a personal computer (PC):

- **Remote Client software application:** Allows you to log on to, operate, and administer up to 16 DX4104 units. The DX4104 supports a total of five simultaneous connections when using the client and Web client applications. For more information about the remote client software application, refer to the DX4104 Client Operation/Configuration manual.
- **Export Viewer:** Allows you to view exported video. It is designed to recognize and verify the digital watermark that is embedded in the Pelco-engineered *.exp video format for DX4104.
- **Emergency Agent:** Works with networked DX4104 units to alert users when one or more channels detect an alarm, motion, or video loss event. The emergency agent runs on a networked client PC.
- **Web Client:** Allows you to view live video and operate PTZ features of cameras attached to a DX4104.

Product Overview








APPLICATION WINDOW

The DX4104 is accessed through the graphical user interface (GUI). Use the mouse, remote control, or front panel controls to operate and configure the unit. This section describes the application window, GUI toolbar, Setup menu, PTZ control, and on-screen keyboard.

NOTE: This manual describes how to operate and administer the unit using the mouse. For information about using the remote control or front panel controls, refer to *Appendix B: DX4104 Operation Methods* on page 64. For a description of the remote control and front panel, refer to the DX4104 Series Installation manual.



Figure 1. Application Window

- 1 **View Panels:** Display live and playback video in one to four view panes.
- 2 **Status Icons:** Display the unit's current operating status:
 -  **PTZ:** Indicates that the channel is configured for PTZ operation.
 -  **Audio:** Indicates that the channel is configured for audio operation.
 -  **No Record:** Indicates that video is not being recorded.
 -  **Normal Record:** Indicates that the normal recording mode is active.
 -  **Alarm Record:** Indicates that alarm event recording mode is active.
 -  **Motion Record:** Indicates that motion event recording mode is active.
 -  **Instant Recording:** Indicates that the instant recording mode is active.
- 3 **Channel Label:** Displays the input channel number (01 to 04) and the assigned channel name.
- 4 **PTZ Control:** Allows users with access rights to operate and program PTZ cameras.
- 5 **White Border:** Indicates the selected channel.
- 6 **Toolbar:** GUI toolbar for unit operation and configuration.

GUI TOOLBAR

The GUI toolbar is used to access the Setup menu, dialog boxes, and controls that allow you to operate and configure the DVR. You can use the mouse to easily and quickly change settings and to operate the system.



Figure 2. GUI Toolbar

	Status: Shows the current date and time.
	Setup: Displays the Setup menu: Camera, Record, Display, Linking, Network, and System.
	Search: Opens the Search menu to select the following search modes: Date/Time, Event Search, and Bookmark Search.
	PTZ: Opens the PTZ control to configure and operate PTZ cameras.
	FULL: Changes from the full-screen display mode to the 4-Division display mode.
	SEQUENCE: Displays video from each channel in sequence in the full screen display mode. For normal and power-level users, video for channels that are configured for covert operation do not appear.
	Login: Displays the on-screen keyboard to log on and log off users.
	Alarm Off: Turns off the alarm.
	System Log: Displays the System Log List.
	Information: Displays System Information.
	Mark: Inserts a bookmark at the specified time during playback mode.
	Export: Displays the export dialog box.
	Reverse: Provides two modes: <ul style="list-style-type: none"> Reverse playback: Plays back recorded video in the reverse direction at the normal speed. Continue to click the icon to increase playback speed 2X, 3X, 4X, or 5X the normal speed. Step backward: Activates when playback is paused. Continue to click the icon to reverse playback, frame-by-frame.
	Play: Starts video playback.
	Pause: Pauses video playback.
	Stop: Stops video playback.
	Forward: Provides two modes: <ul style="list-style-type: none"> Forward playback: Plays back recorded video in the forward direction at the normal speed. Continue to click the icon to increase playback speed 2X, 3X, 4X, or 5X the normal speed. Step forward: Activates when playback is paused. Continue to click the icon to forward playback, frame-by-frame.

PTZ CONTROL

The PTZ control is available for cameras that support PTZ functions using Pelco P and D protocols. It is also available for supported third-party dome cameras.

NOTE: When operating third-party cameras, the PTZ control supports the up, down, left, right, zoom in, and zoom out functions.



Figure 3. PTZ Control

	Move: Pans and tilts the camera in the direction of the selected arrow.
	Exit: Closes the PTZ control.
	ZOOM: Zooms the camera in and out.
	FOCUS: Adjusts the camera focus.
	IRIS: Opens and closes the camera iris.
	PRESET NUMBER: Displays the preset number.
	Keypad: Use the numeric keypad to enter presets or pattern numbers.
	PRESET: Performs two functions: <ul style="list-style-type: none"> • Preset programming mode: Stores the preset in the selected memory location. • PTZ mode: Activates a preset.
	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.
	Clear: Deletes a programmed preset, pattern, or tour.
	Program: Accesses the camera programming mode.
	Auxiliary: Unsupported at this time.
	SET: Performs two functions: <ul style="list-style-type: none"> • Enters PTZ programming mode. • Exits PTZ programming mode.

ON-SCREEN KEYBOARD

The unit provides an on-screen keyboard to perform the following functions:

- Select a user name and type a password to log on to the unit
- Create camera names
- Create holiday schedule names
- Assign TCP/IP settings (IP address, subnet mask, and so forth)
- Set up mail accounts
- Assign emergency agent IP addresses
- Create user accounts

Figure 4 shows the on-screen keyboard for logging on to the unit. All DX4104 on-screen keyboards operate similarly, but display task-specific fields.

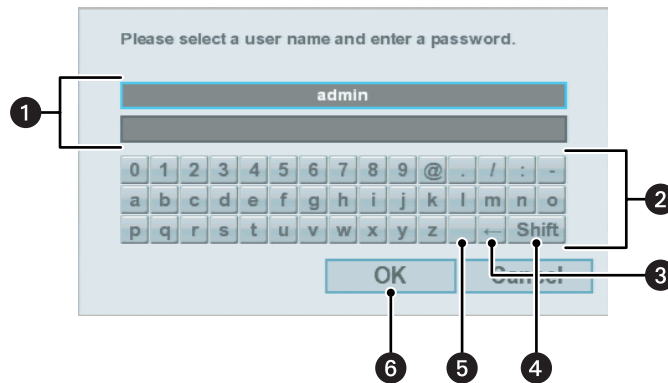



Figure 4. On-Screen Keyboard Features and Functions

- ❶ **Character Boxes:** The boxes into which characters are entered from the on-screen keyboard.
- ❷ **On-Screen Keyboard:** Contains the keys for entering characters.
- ❸ **Backspace:** Deletes one character from the end of the text string.
- ❹ **Shift:** Changes the case of the text.
- ❺ **Space:** Enters one space.
- ❻ **OK/Cancel:** Saves or cancels the changed information in the character boxes.

Operation

 **WARNING:** Before you use the DX4104 to record video, refer to Figure 5 and read the Hard Disk Option Partition Notification.

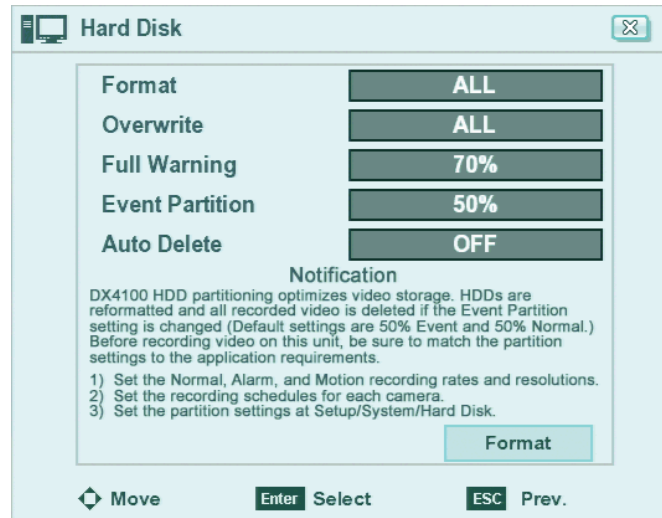


Figure 5. Hard Disk Option Partition Notification

UNIT STARTUP

The DX4104 does not have a power switch. To start the unit, connect the power cord. The DX4104 application window and the GUI toolbar appear (refer to *Application Window* on page 8 and *GUI Toolbar* on page 9).

LOGGING ON AND LOGGING OFF


You must log on to the unit with a valid user name and password to operate the DVR. User names and passwords are case sensitive. By default, the unit includes one administrator logon account; both the default user name and password are admin.


NOTES:

- The unit's front panel LOGIN and arrow buttons are available for logging on to the unit. The remaining front panel controls become available after you log on to the unit.
- When you log on for the first time, the system does not automatically prompt you to change the default administrator password. Anyone who knows the administrator user name (ID) and the default password can access the unit; therefore, Pelco recommends that you change the password and store it in a secure location. (The admin user name cannot be changed.)

Passwords must be from four to eight characters in length.

To log on to the unit:

1. On the toolbar, click Login .
2. Type the password using the on-screen keyboard.
3. Click OK. The system logs you on the Login icon turns blue.

To log off from the unit, click Login . The system logs you off and the Login icon turns black.

UNIT SHUTDOWN

The Power Off feature allows you to properly shut down the unit. Only users with administrator-level permissions can access the Power Off feature, which is located in the shortcut menu.

⚠ WARNING: Do not disconnect the power cord to shut down the unit. You must perform the proper shutdown procedure to avoid data loss.

1. To shut down the unit:
 - a. Log on to the unit with administrator-level permissions.
 - b. Right-click a pane in the application window. The shortcut menu appears.

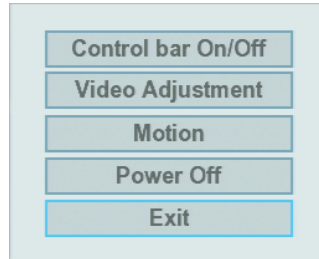


Figure 6. Application Window Shortcut Menu

- c. Click the Power Off button. The on-screen keyboard appears.
 - d. Type the administrator password.
 - e. Click OK.
2. Disconnect the power cord.

NOTE: The power cord must be disconnected and then reconnected before you can log on to the unit again.

ABOUT BASIC SYSTEM DEFAULTS

The DX4104 comes preconfigured with system defaults that allow the DVR to be used to immediately to view and record video. For a list of system defaults, refer to *Appendix A: DX4104 Factory Defaults* on page 60.

WORKING IN THE APPLICATION WINDOW

By default, the toolbar is displayed at the bottom of the application window. It cannot be moved to a different location.

TOOLBAR DISPLAY

To hide or display the toolbar:

1. Right-click a pane in the application window. The shortcut menu appears (refer to Figure 6).
2. Click the "Control bar On/Off" button.

VIDEO DISPLAY

You can adjust the video display (brightness, contrast, and color) at the application window. The adjustments are recorded and stored for each camera.

To adjust the video display:

1. From the application window, click a channel pane. A white border highlights the selected pane.
2. Right-click the selected pane. The shortcut menu appears.
3. Click Video Adjustment.
4. Adjust the video settings.
5. Click OK.

MOTION AREA SELECTION

You configure the motion area at the application window. Use the bounding outline (dotted rectangle) to select multiple areas.

Selecting a Motion Area

To select a motion area:

1. From the application window, click a channel pane. A white border highlights the selected pane.
2. Right-click the selected pane. The shortcut menu appears.
3. Click Motion.
4. Drag the bounding outline over an area (left to right). The selected cells are highlighted in green.



Figure 7. Selecting a Motion Area

5. Right-click the grid. The shortcut menu closes.
6. Click OK.

Clearing a Motion Area

To clear a motion area:

1. From the application window, click a channel pane. A white border highlights the selected pane.
2. Right-click the selected pane. The shortcut menu appears.
3. Click Motion.
4. Drag the bounding outline over the green highlighted cells (right to left).



Figure 8. Clearing a Motion Area

5. Right-click the motion area.
6. Click OK.

INSTANT RECORDING AND PLAYBACK


The instant recording feature allows you to start a manual recording session immediately from the live view mode. Initiate the instant recording mode for channels that are scheduled for normal, alarm, or motion recording. Instant recording is the highest priority recording event.

Observe the following instant recording conditions:

- Instant (or normal) recording cannot start if the following conditions exist:
 - Video loss is displayed for the channel.
 - The Overwrite option is set to OFF and the hard disk normal partition storage space is full.
 - The normal record mode is not available. If the event partition is set to 100 percent, the normal record mode is disabled because hard disk space for storing normal record video is not available.
- Recording is affected by the available storage and settings for each partition (folder).
 - **Normal partition:** Video recorded in the instant and normal record mode is stored in the normal partition. If the normal folder is set to 0 (zero) percent (the event partition is 100 percent), the DVR will not record video in the instant or normal record mode.
 - **Event partition:** Video recorded in the alarm and motion record mode is stored in the event partition. If the event partition is set to 0 (zero) percent, the DVR will not record video in the alarm or motion record mode.
- Instant, normal, alarm, and motion recording mode priority.

STARTING AND STOPPING INSTANT RECORD

NOTE: Use the remote control (or front panel) to select the instant recording mode.

To start instant recording, press the REC button and the channel number on the remote control. The recording indicator changes to the Instant Record indicator .

To stop instant recording, press REC and the channel number on the remote control. The recording indicator changes to the scheduled recording indicator.

INSTANT PLAYBACK

The unit supports two playback modes, instant playback and playback. Instant playback is initiated from the live view mode. The DVR simultaneously plays back and records live video. Live quad view is not available during instant playback. Instant playback video is displayed in a single pane. For information about the playback mode, refer to *Playback* on page 21.

The instant playback mode supports the following features:

- **Playback:** Video is played back for one channel at a time.
- **Playback controls:** All controls are available.
- **Timing:** Playback begins two minutes prior to the current time.

To start an instant playback:

1. From the application window, click a camera pane. A white border highlights the selected pane.
2. To start instant playback, click the play button ▶.



Figure 9. Instant Playback View

PTZ IN LIVE VIEW

The DVR displays a control for operating PTZ cameras. The PTZ option must be configured for each camera to use the PTZ control.

- **Programming:** To program or clear presets, preset tours, and patterns, the SET button must be engaged. While in PTZ programming mode, multiple presets can be programmed.
- **Activating a PTZ feature:** To activate presets, tours, and patterns, the SET button must be disengaged. The PTZ option must be configured for each camera channel before the PTZ control can be used. For information about setting PTZ options, refer to *Normal Record Mode* on page 30.
- **PTZ operation:**
 - The PTZ feature is available to administrator, power, and normal level users.
 - When the PTZ control is displayed, only PTZ operations are available.
 - When a PTZ camera is controlled from the remote client, PTZ operation is not available on the DX4104. Likewise, when a PTZ camera is controlled from the DX4104, PTZ operation is not available at the remote client.
 - Instant record is not available when the PTZ control is displayed.
 - The PTZ control has a drag and drop feature.
 - The PTZ control opens in the last location in which it was used.

Refer to *PTZ Presets* on page 18 and *PTZ Control* on page 10 for more information.

ACTIVATING PRESETS

1. Click a camera pane.
2. On the toolbar, click PTZ . The PTZ control is displayed.





Figure 10. PTZ Operation

3. Click the number pad on the PTZ control, and then click PRESET. The camera moves to the preset location.

ACTIVATING PATTERNS

A pattern is a user-defined, viewable camera path with a specified 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 that is connected to the DX4104. Depending on the type and configuration of the PTZ device, the DX4104 can address up to four unique PTZ patterns. Once defined, a pattern can be activated with a series of on-screen commands and will run continuously until it is deactivated.




To activate a pattern:

1. Click a camera pane, and then click PTZ .
2. Click the number pad on the PTZ control, and then click PATTERN. The pattern runs.
3. To halt the pattern, click the move buttons .

PTZ PRESETS

A preset is a user-defined camera position using PTZ and focus commands (the camera's auto focus option must be turned off). The DX4104 preset range is 0 to 255. For information about the number of presets supported by a given camera, refer to the documentation supplied with the camera.

Programming a Preset

1. Click a camera pane, and then click PTZ .
2. Click the Move , ZOOM, and FOCUS buttons to position, zoom, and focus the camera.
3. Store the preset to a memory location.
 - a. Click SET. The camera is now in the programming mode.
 - b. Click the numbers on the keypad for the preset memory location.
 - c. Click PRESET. The camera's position, zoom factor, and focus setting are stored to the memory location.
4. To create additional presets for the same camera, repeat steps 2 and 3.
5. Click SET to exit the programming mode.
6. Verify that you can activate the preset.
 - a. Click the Move buttons .
 - b. If you changed the camera's zoom or focus, verify that the settings are different than the preset settings, and then click PRESET. The camera performs the programmed preset.

Preset Tours

A preset tour allows a camera to move through a programmed sequence of PTZ presets. The DX4104 tour advances sequentially through presets 1 to 16. There is approximately a four-second pause between the end of the current preset and the start of the next preset. If the presets are programmed sequentially (1, 2, 3, 4, and so forth), the time period between presets is brief. If any presets are not programmed sequentially, the time period between the end of the current preset and the start of the next can be longer, because the system still accounts for the four-second interval for the unprogrammed preset memory location. For example, if presets 1 and 2 are programmed and presets 3 to 16 are not programmed, the system waits approximately 56 seconds (14 unprogrammed presets at four seconds each) before starting preset 1.

A preset tour operates continuously until another PTZ control action is performed. At least one PTZ preset must be set in order to create a preset tour.



To activate a preset tour, click the PRESET button without entering a preset number. This activates a preset tour for all PTZ-enabled cameras.

Clearing a Preset

1. Click SET, and then click PRESET.
2. Click a number, and then click CLR. The preset is cleared from the camera's memory.

PTZ PATTERNS

Programming a Pattern

1. Click SET. The camera is now in the programming mode.
2. Click a number representing the pattern (1 to 4).
3. Click PATTERN.
4. Move the camera through a series of movements using the on-screen PTZ and focus controls.
 - a. Click the Move buttons .
 - b. Click ZOOM, and then click FOCUS.
5. When you have finished programming the pattern, click PATTERN, and then click SET.
6. To verify that the pattern can be activated, click the pattern number, and then click PATTERN. The pattern executes.
7. To stop the pattern, click the Move buttons .

Clearing a Pattern



1. Click SET, and then click a number.
2. Click PATTERN, and then click CLR.

The preset is cleared from the camera's memory.

ACCESSING A REMOTE CAMERA MENU

You can use the PTZ function to program features in Pelco camera systems. Only cameras that support remote programming through Pelco D, Pelco P, or supported third-party protocols can use this feature.

To access the camera programming menu for a PTZ camera:

1. Click a camera pane, and then click the PTZ button .
2. Click PGM. The camera's programming menu is displayed. Alternately, click SET, 95, and then click PRESET.
3. Click the Move buttons  to move through camera menu choices.
4. Click IRIS+ to select an option from a menu item.
5. Click IRIS- to cancel an option or select the Exit command.

COPYING AND EXPORTING VIDEO

The unit allows you to copy and export recorded video from the hard drive to an external storage device (USB or an optional DVD device). For information about copying and exporting video, refer to *Exporting Video* on page 26.

ACKNOWLEDGING AN ALARM OR MOTION EVENT

The DX4104 allows you to manually acknowledge an event state that has activated a relay output. By default, the DVR's output relay is turned off when the post-alarm time expires. Acknowledging an alarm or motion event does not end alarm or motion event recording. The post-alarm time determines the time period for alarm recording. For information about configuring the relay off setting, refer to *Relay Output Setup* on page 41. For information about configuring the post-alarm time, refer to *Schedule Menu* on page 34.

The acknowledge alarm feature supports the following actions:

- **Output:** A relay associated with a channel and linked to an alarm input. If the relay is configured for an acknowledged alarm, the relay output is activated until it is manually deactivated.
- **Sound alert:** An audible signal from the unit when an unacknowledged event occurs.
- **Visible indicator:** An indicator in the camera pane that appears for the length of time set by the post-alarm time.
- **Remote notification:** Mail notification and emergency notification to alert remote users that an event has occurred.


To acknowledge an event, click the Alarm OFF button .

The event is acknowledged and the relay output is deactivated. If sound is enabled, it is turned off.



DISPLAY VIDEO ON THE MAIN AND SPOT MONITOR

MAIN MONITOR

To display video from one channel in the single view mode, double-click a pane.

To display video from all four channels in individual panes, double-click a pane or click the 4-division button .

To view all channels in the sequenced mode:


1. Double-click the pane.
2. Click the Sequence button .
3. To return to the quad mode, click the 4-division button .

SPOT MONITOR

For information about configuring the spot monitor, refer to *Spot Monitor* on page 39.

SYSTEM LOG LIST

The system log provides a list of events by description, date, and time. You must log on to the system to view the system log.

To view the System Log, click the System Log icon .

No.	System Log	Date/Time
1	Admin Login (Local)	09/22/2009 - 16:36:29
2	Power On	09/22/2009 - 16:36:13
3	Power On	09/22/2009 - 16:30:00
4	Configuration Changed	09/22/2009 - 15:22:07
5	Configuration Changed	09/22/2009 - 15:15:57
6	Configuration Changed	09/22/2009 - 15:15:14
7	Configuration Changed	09/22/2009 - 15:05:16
8	Admin Login (Local)	09/22/2009 - 15:04:42


◀ 001/036 ▶

OK

Figure 11. System Log

SYSTEM INFORMATION

The System Information option displays system and hard disk information. To view all system information, you must be logged on to the unit.

To view system information, click Information . The System Information screen displays all system information.

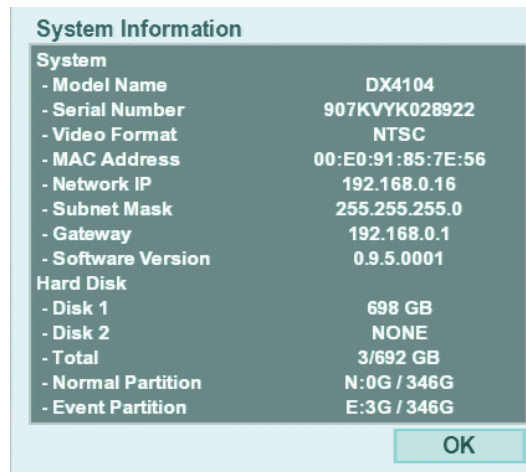


Figure 12. Viewing System Information: Full Details

Use the Pelco serial number when corresponding with Pelco about your unit. The MAC address is an internal number.

NOTE: If you do not log on to the unit, you can still view the unit's model name, serial number, and network IP address.

PLAYBACK


The DX4104 supports two playback modes: playback and instant playback. The playback mode is accessed from the search window and is used by the search feature to display video resulting from a search operation. The unit supports simultaneous playback and live recording. For information about the instant playback mode, refer to *Instant Playback* on page 16.

The playback mode has the following conditions:

- **Playback:** Video is only displayed for the selected playback channels. For example, if channel 01 and 03 are selected for playback, playback video is displayed in the top two panes. No video is displayed in the two bottom panes. If one channel is selected for playback, video is displayed in a single pane.
- **Selecting playback channels:** One to four channels can be selected in the date/time and event search mode. One channel can be selected in the bookmark search mode.
- **Playback controls:** All playback channels are controlled simultaneously. An operation performed on one channel is automatically performed on all playback channels.
- **Supported search modes:** The playback mode is available for all search modes. The bookmark toolbar icon is unavailable if an external backup device is selected.
- **DVR operation:** Recorded video can be viewed in the playback mode while simultaneously recording live video.

SEARCH VIDEO

The search feature allows you to use the date/time, event, and bookmark search feature to find and play back video stored to the unit. You can use the date/time and event search features to view backed up video stored on a USB or CD/DVD media.

To display the search menu, click the Search icon .

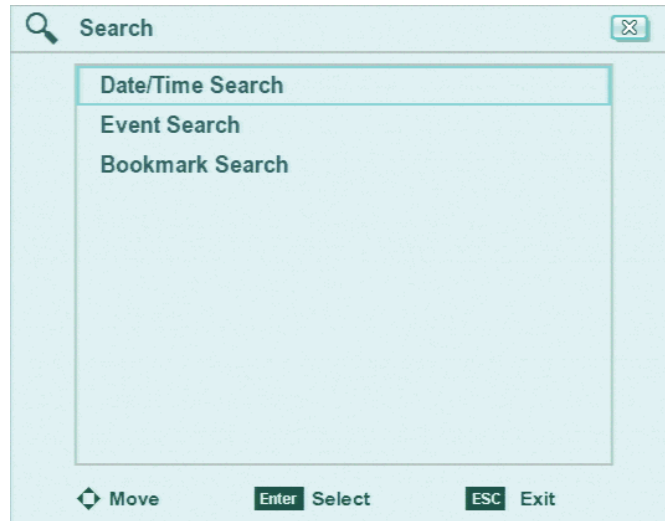


Figure 13. Search Menu

DATE/TIME SEARCH AND PLAYBACK

You can search video data based on a calendar date (month, day, and year) and the time of day. For information about searching and playing back video recorded between Daylight Saving Time (DST) 1:00 a.m. to 2:00 a.m., refer to *DST Date/Time Search and Playback* on page 23.

1. From the Search menu, click Date/Time Search.
2. Click the Target Device box, and select a media.
3. To enter the search date:
 - a. Click the Year box, and then select a year.
 - b. Click the Month box, and select a date.

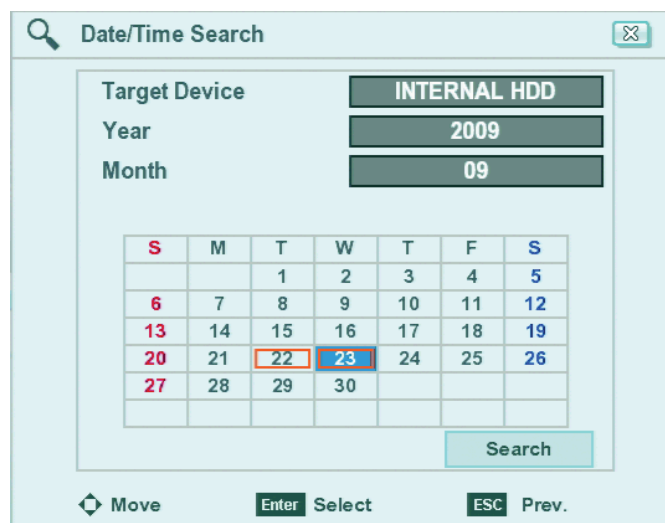


Figure 14. Entering the Search Date

4. Click Search.

5. Click the Time box, and then select a time.
6. Click the number box to select a playback channel.

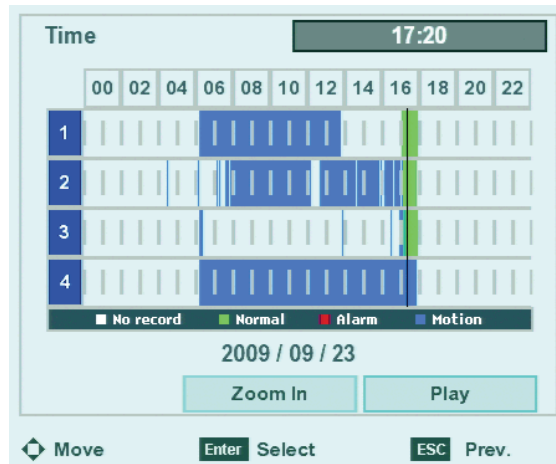



Figure 15. Selecting Playback Time and Channels

7. Click Play.
8. To exit playback, click the Stop icon .

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'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'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 16). For example, the DVR 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.

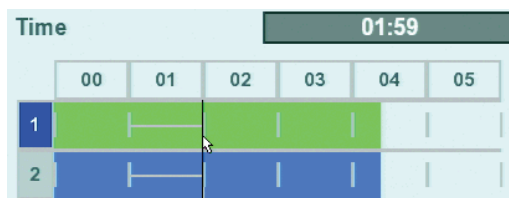


Figure 16. Video Recorded Before and After DST Changed

When you initiate playback, the "Select data" dialog box appears, prompting you to select a DST time period from which to play back video: "DST off" (after time shifts back one hour) or "DST on" (before the time shifts back one hour).

To conduct a DST date and time search:

1. From the Search menu, click Date/Time Search.
2. To enter the DST search date:
 - a. Click the Year box, and then select a year.
 - b. Click the Month box, and select 11.
3. Click Search. The Time view appears.

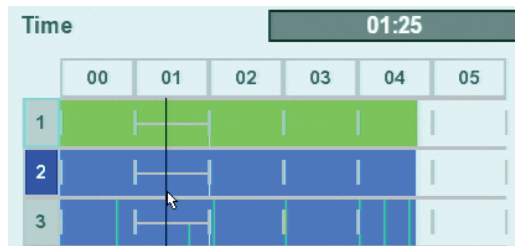



Figure 17. Selecting Playback Time and Channels

4. Click the Time settings box, and then right-click the box to enter a time setting (refer to Figure 17). You can also click and drag the time line to enter a time.
5. Click Play. The "Select data" dialog box appears.
6. Select the time period from which to play back data:
 - **Video recorded before daylight saving ends:**
 - (1) Click the settings box, and right-click the box to select "DST on."
 - (2) Click OK.
 - **Video recorded after daylight saving ends:** Click OK. Video playback starts.
7. Click the Stop icon  to exit the playback mode.

EVENT SEARCH

To conduct an event search:

1. From the Search menu, click Event Search.
2. To enter the event search settings:
 - a. Click the Target Device box, and then select a device.
 - b. Click the Date box, and then select a date.
 - c. Click the Time box, and then select a time.
 - d. Click the Channel box, and select one or more channels.
 - e. Click the Event Type box, and select an event.
3. Click Search.

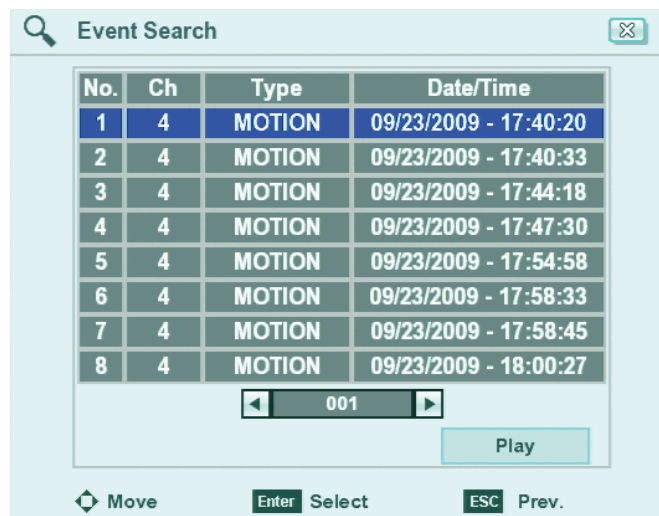


Figure 18. Event Search Results

4. Click an event, and then click Play (refer to Figure 18).

BOOKMARK SEARCH

The bookmark search feature allows you to search for and play back bookmarked video. You can also bookmark playback video (instant or search). This feature is not supported for data backed up to external media.

NOTE: The DX4104 supports the play ►, pause ||, and stop ■ buttons when playing back exported video. The reverse start, reverse, forward, end playback controls are not supported.

Bookmarking Instant Playback Video

1. From the application window, click a pane.
2. On the toolbar, click the Play icon ►. Video playback starts two minutes before the current time.
3. Click the Bookmark icon ✓ to bookmark a scene.
4. Click the Stop icon ■ to stop playback.

Bookmarking Playback Video

1. On the toolbar, click the Search Icon 🔍.
2. From the Search menu, select a search method.
 - **Date/Time Search:** Refer to *Date/Time Search and Playback* on page 22.
 - **Event Search:** Refer to *Event Search* on page 24.
3. Click Play.
4. Click the Bookmark icon ✓ to bookmark a scene.
5. Click the Stop icon ■ to stop playback.

Searching and Playing Back Bookmarked Video

1. From the Search menu, click Bookmark Search. The Bookmark Search dialog box appears.

NOTE: Video must first be bookmarked before it will appear in the Bookmark Search dialog box.

2. Click an entry, and then click Play.

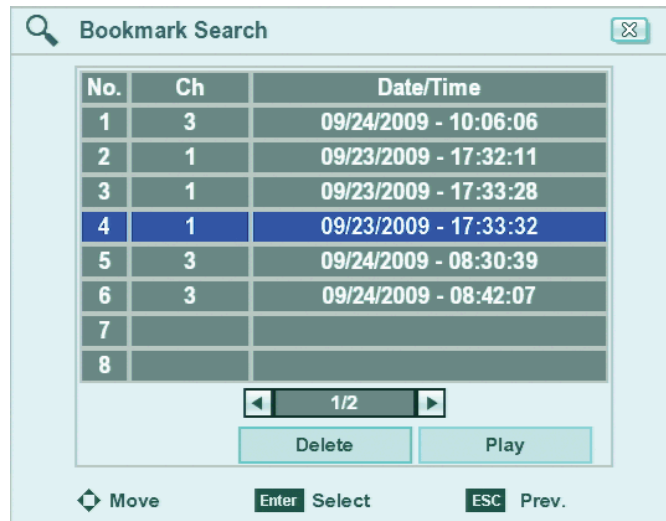


Figure 19. Displaying Bookmark Search Entries

3. View the playback bookmark search video.

Clearing Bookmarks

1. From the Search menu, click Bookmark Search.
2. Click an entry, and then click Delete. The selected entry is deleted.


EXPORTING VIDEO

The DX4104 allows you to export data to CD/DVD or USB media. You can view the exported video on the unit or at the remote client computer.


NOTES:

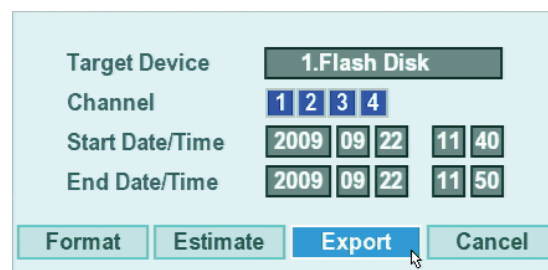
- The erase and format features allow you to format media for use with the DVR. Although media can be formatted on a PC, Pelco recommends that you format the media on the DVR to guarantee functionality. For information about formatting media, refer to *Erasing and Formatting Media* on page 57.
- When exporting video, the start time must be set at least two minutes before the current time.
- The unit's recorded video, time stamp is affected by different time zones. When video recorded on a DVR located in one time zone is exported and played back on a computer located in a different time zone, the video's original recording time adjusts and displays based on the time zone of the playback computer. To play back exported video so its original recording time displays correctly, you must change the time zone setting of the playback computer to match the time zone of the DVR on which the video was recorded. Refer to *Date and Time Setup* on page 45 for more information.

FORMAT MEDIA

1. On the toolbar, click the Copy/Export button .
2. Connect or insert the export media.
3. Click Format.

EXPORT VIDEO

1. On the toolbar, click the Copy/Export button .
2. To enter the export settings:
 - a. Click the Target Device box, and then select a device.
 - b. Click the Channel box, and select one or more channels.
 - c. Click the Start Date/Time box, and then select the date and time.
 - d. Click the End Date/Time box, and then select the date and time.
3. Click Export.



The screenshot shows an 'Export Dialog Box' with the following fields and controls:

Target Device	1.Flash Disk
Channel	1 2 3 4
Start Date/Time	2009 09 22 11 40
End Date/Time	2009 09 22 11 50


At the bottom of the dialog box are four buttons: Format, Estimate, Export (highlighted with a mouse cursor), and Cancel.

Figure 20. Export Dialog Box

Configuration

NOTE: The DX4104 is preconfigured for immediate operation. For a list of system defaults, refer to *Appendix A: DX4104 Factory Defaults* on page 60. Only administrator-level users can configure the DVR.

The Setup menu allows you to access the Camera, Schedule, Display, Linking, Network, and System menus to configure the DX4104 for your specific application requirements (refer to Figure 21). You must be logged on with administrator-level permission to configure the unit.

To access the Setup menu, on the toolbar, click the Setup icon .

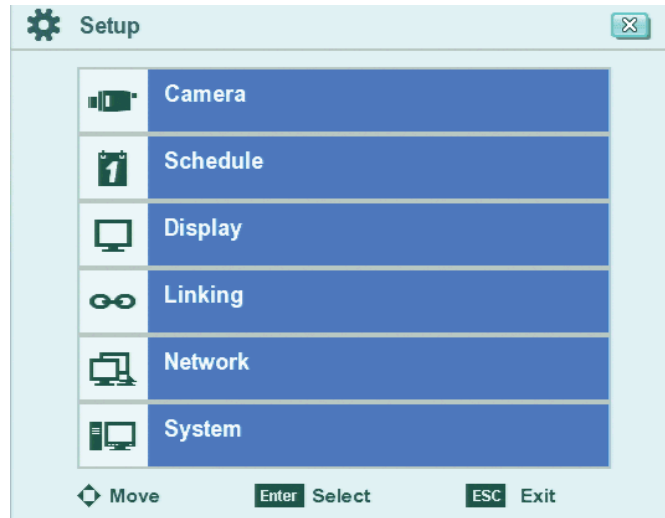


Figure 21. Setup Menu

CAMERA MENU

To access the Camera menu options, click Camera.

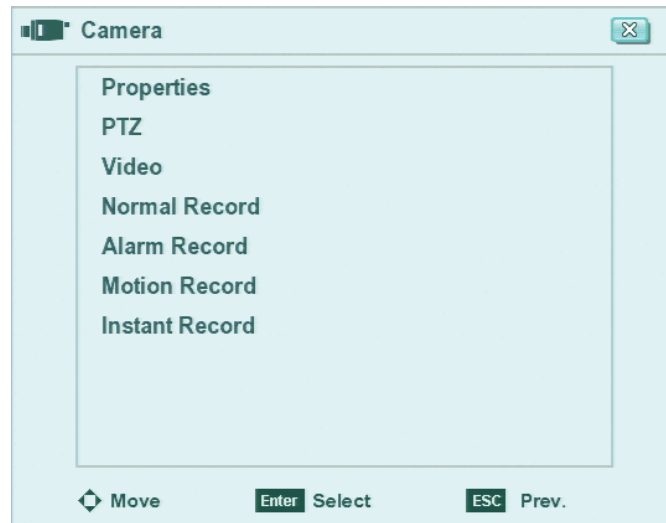


Figure 22. Camera Menu

The DX4104 allows you to configure the following properties settings for each camera:

- **Channel:** Selects the channel (01 to 04) for configuration.
- **Name:** Allows you to create a unique name for each camera.
- **Covert:** Allows a camera to be configured, viewed, and operated only by users who are logged on with administrator-level permission.
- **Audio:** Associates the audio input (1 to 4) with the selected channel.

To set the properties settings:

1. From the Camera menu, click Properties.
2. Click the Channel box, and select the channel to configure.
3. To enter a name:
 - a. Click the Name box. The on-screen keyboard appears.
 - b. Enter a name.
 - c. Click OK.
4. Click the Covert and Audio boxes to enter their settings.
5. Repeat steps 2 through 4 to configure the other channels.
6. Click Close.
7. Click OK.

PTZ MODE

The DX4104 supports up to four serial PTZ cameras. Multiple PTZ cameras can be connected and controlled individually by daisy-chaining the camera connections. The unit also allows you to assign each camera a PTZ control address.

The DX4104 allows you to configure the following PTZ settings for each camera:

- **Channel:** Selects the channel (01 to 04) for PTZ configuration.
- **Port:** Sets the communication port for the camera: NONE, DATA1, or DATA2.
- **Address:** Sets the camera's PTZ control address: 0 to 255.
- **Protocol:** Sets the PTZ protocol for all cameras on the port. Multiple cameras assigned to a port must use the same protocol. Table B lists the supported device protocols.
- **Baud Rate:** Sets the baud rate for sending data to all cameras on the selected port: 1200, 2400, 4800, 9600, and 19200.


Table A. Supported PTZ Protocols

Protocol Name	Pan/Tilt	Zoom	Focus	Iris	Preset	Tour	Setup
LG_MULTIX	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LG_SD168	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PELCO_D	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PELCO_P	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GANZ_DSCP	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GANZ_P360V1	Yes	Yes	Yes	Yes	Yes	Yes	No
KALATEL_CYBERDOME	Yes	Yes	Yes	Yes	Yes	Yes	No
PANASONIC_CS850	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SAMSUNG_SCC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BOSCH_AUTODOME	Unsupported at this time.						
LG_ZOOM	No	Yes	Yes	Yes	No	No	Yes
LPT_A100L	Yes	No	No	No	No	No	No

To set up the PTZ mode:

1. From the Camera menu, click PTZ.
2. Click the Channel box, and select the channel to configure.
3. Click the boxes to enter their settings.
4. Repeat step 2 and 3 to configure the other channels.
5. Click Close.
6. Click OK.

VIDEO FORMAT

 **WARNING:** If you change the video format, the unit will delete all existing data, reformat the HDD, and restart.

1. From the Camera menu, click Video.
2. Click the Video Format box, and then select NTSC or PAL. (NTSC is the default.) A warning message appears.
3. Click OK. The unit reformats the HDD and restarts automatically.

NORMAL RECORD MODE

The DX4104 allows you to configure the following recording settings for each camera:

- **Channel:** Selects the channel (01 to 04) for configuration.
- **Resolution:** Sets the resolution for the channel. The default is 352 x 240.

Table B. Resolution and Image Rate

	Resolution	Image Rate
NTSC	352 x 240	1, 3, 5, 7.5, 15, 20, 30
	704 x 240	1, 3, 5, 7.5, 15
	704 x 480	1, 3, 5, 7.5
PAL	352 x 288	1, 3, 5, 6, 12.5, 20, 25
	704 x 288	1, 3, 5, 6, 12.5
	704 x 576	1, 3, 5, 6

- **Quality:** Sets the picture quality of recorded video: LOWEST, LOW, STANDARD, HIGH, HIGHEST.
- **Image Rate:** Sets the image rate. Refer to Table B for more information.
- **Prealarm:** Specifies the amount of time the DVR stores video that was recorded before an alarm or motion event: OFF, 5 SEC, 10 SEC, 20 SEC, 30 SEC, 40 SEC, 50 SEC, 60 SEC.
- **Postalarm:** Specifies the amount of time that the DVR continues to record video after the alarm or motion event ends: OFF, 5 SEC, 10 SEC, 20 SEC, 30 SEC, 40 SEC, 50 SEC, 1 MIN, 2 MIN, 3 MIN, 5 MIN, 10 MIN.

To set up the normal recording mode:

1. From the Camera menu, click Normal Record.
2. Click the Channel box, and select the channel to configure.
3. Click the boxes to enter their settings.
4. Repeat steps 2 and 3 to configure the other channels.
5. Click Close.
6. Click OK.

ALARM RECORD MODE

You can configure each camera to record at a different resolution, quality, and image rate to capture alarm-triggered video. The unit also allows you to configure the prealarm and postalarm settings for each camera. Refer to *Normal Record Mode* on page 30 for more information. You must configure the respective camera for alarm recording before the unit will respond to an alarm event. Refer to *Schedule Menu* on page 34 for more information.

The DX4104 allows you to configure the following alarm recording settings for each camera:

- **Channel:** Selects the channel (01 to 04) for configuration.
- **Resolution:** Sets the resolution for the channel. The default is 352 x 240.

Table C. Resolution and Image Rate

	Resolution	Image Rate
NTSC	352 x 240	1, 3, 5, 7.5, 15, 20, 30
	704 x 240	1, 3, 5, 7.5, 15
	704 x 480	1, 3, 5, 7.5
PAL	352 x 288	1, 3, 5, 6, 12.5, 20, 25
	704 x 288	1, 3, 5, 6, 12.5
	704 x 576	1, 3, 5, 6

- **Quality:** Sets the picture quality of recorded video: LOWEST, LOW, STANDARD, HIGH, HIGHEST.
- **Image Rate:** Sets the image rate. Refer to Table C for more information.

To set up the alarm recording mode:

1. From the Camera menu, click Alarm Record.
2. Click the Channel box, and select the channel to configure.
3. Click the boxes to enter their settings.
4. Repeat steps 2 and 3 to configure the other channels.
5. Click Close.
6. Click OK.

MOTION RECORD MODE

The unit supports multi-event recording. You can configure each camera to record at a different resolution, quality, and image rate to capture motion-triggered video. You must configure the respective camera for motion recording before the unit will respond to a motion event. Refer to *Schedule Menu* on page 34 for more information.

The DX4104 allows you to configure the following motion recording settings for each camera:

- **Channel:** Selects the channel (01 to 04) for configuration.
- **Resolution:** Sets the resolution for the channel. The default is 352 x 240.

Table D. Resolution and Image Rate

	Resolution	Image Rate
NTSC	352 x 240	1, 3, 5, 7.5, 15, 20, 30
	704 x 240	1, 3, 5, 7.5, 15
	704 x 480	1, 3, 5, 7.5
PAL	352 x 288	1, 3, 5, 6, 12.5, 20, 25
	704 x 288	1, 3, 5, 6, 12.5
	704 x 576	1, 3, 5, 6

- **Quality:** Sets the picture quality of recorded video: LOWEST, LOW, STANDARD, HIGH, HIGHEST.
- **Image Rate:** Sets the image rate. Refer to Table D for more information.

To set up the motion recording mode:

1. From the Camera menu, click Motion Record.
2. Click the Channel box, and select the channel to configure.
3. Click the boxes to enter their settings.
4. Repeat steps 2 and 3 to configure the other channels.
5. Click Close.
6. Click OK.

INSTANT MOTION RECORD MODE

The unit allows you to manually start and stop the instant recording mode. You can configure each camera to record at a different resolution, quality, and image rate to capture instant recording video.

The DX4104 allows you to configure the following instant recording settings for each camera:

- **Channel:** Selects the channel (01 to 04) for configuration.
- **Resolution:** Sets the resolution for the channel. The default is 352 x 240.

Table E. Resolution and Image Rate

	Resolution	Image Rate
NTSC	352 x 240	1, 3, 5, 7.5, 15, 20, 30
	704 x 240	1, 3, 5, 7.5, 15
	704 x 480	1, 3, 5, 7.5
PAL	352 x 288	1, 3, 5, 6, 12.5, 20, 25
	704 x 288	1, 3, 5, 6, 12.5
	704 x 576	1, 3, 5, 6

- **Quality:** Sets the picture quality of recorded video: LOWEST, LOW, STANDARD, HIGH, HIGHEST.
- **Image Rate:** Sets the image rate. Refer to Table B for more information.

To set up the instant recording mode:

1. From the Camera menu, click Instant Record.
2. Click the Channel box, and select the channel to configure.
3. Click the boxes to enter their settings.
4. Repeat steps 2 and 3 to configure the other channels.
5. Click Close.
6. Click OK.

SCHEDULE MENU

The scheduling feature allows you to create daily, weekly, and holiday schedules for each channel. Up to 10 different holiday schedules can be created. If a holiday schedule occurs on the same date as a weekday schedule, the holiday schedule will override the weekday schedule. You can manually start an instant recording mode (refer to *Instant Recording and Playback* on page 15). The instant record mode takes precedence over the current recording schedule. You can copy schedules between channels, days, weekdays, and weekends.

The DX4104 supports eight color-coded recording modes as follows:

- **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.
- **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.

DAILY RECORDING SCHEDULE

1. From the Setup menu, click Schedule, and then click a day of the week (Monday to Friday).
2. Click a channel cell once to set the starting time.
3. Continue to click the cell to select a recording mode.

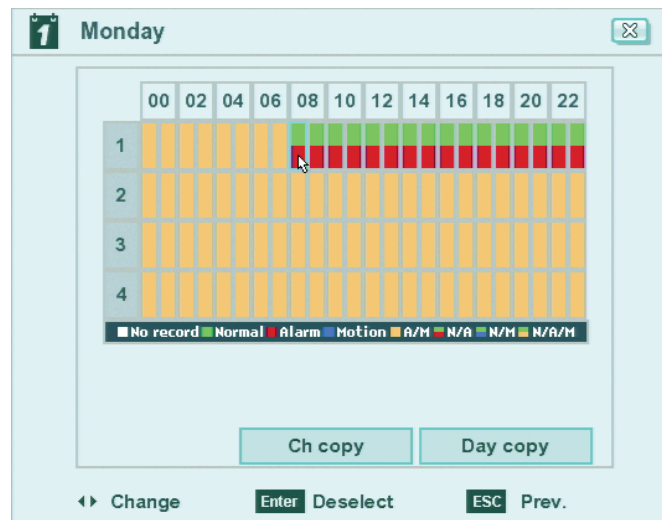


Figure 23. Daily Recording Schedule

4. Click the cell to set the ending time.
5. Continue to click the cell to select a new recording mode.
6. Repeat steps 2 to 5 to configure the recording mode for each channel.
7. Click Close.
8. Click OK.

COPYING SCHEDULES

The DX4104 supports four methods for copying schedules:

- **Weekday (M to F):** The schedule from the highlighted day is 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 only.
- **Day (Sun to Sat):** The schedule for any day can be copied to any other day, all weekdays, or the weekend.
- **Channel-to-channels:** The schedule from the selected channel is copied to the selected destination channels.

Copying By Weekday, Weekend, Day

1. From the Schedule menu, click the source schedule day.

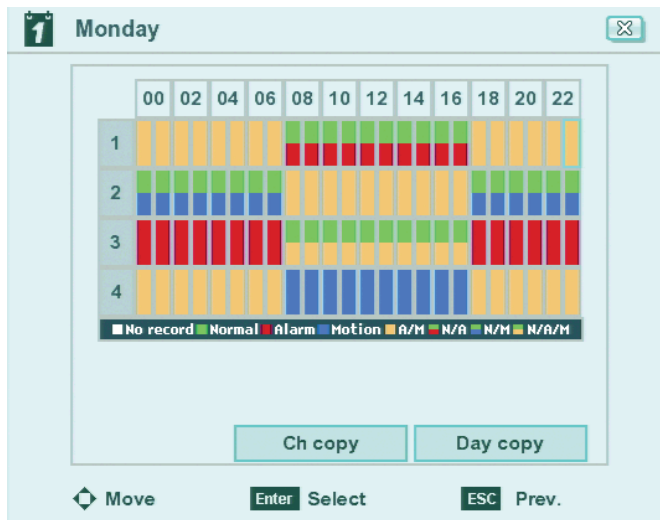


Figure 24. Copying by Day

2. Click the "Day copy" (channel copy) option.
3. Right- or left-click the settings box to select Weekday, Weekend, or Day.
4. Click OK.
5. Click Close.
6. Click OK.

Copying By Channel

1. From the Schedule menu, click the source schedule day.
2. Click a source channel.

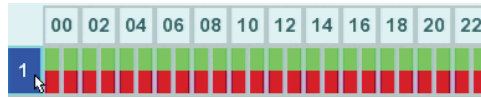


Figure 25. Selecting a Source Channel

3. Click the "Ch copy" (channel copy) option.
4. Click each destination channel.

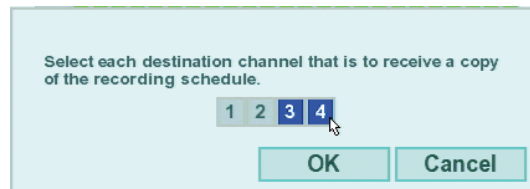


Figure 26. Selecting the Destination Channels

5. Click OK.
6. Click Close.
7. Click OK.

HOLIDAY SCHEDULES

The unit supports up to 10 holiday schedules. When a holiday and a weekday schedule occur on the same date, the holiday schedule overrides the weekday schedule.

Creating a Holiday Schedule

1. From the Schedule menu, click Holiday.
2. Click Add.
3. Enter a holiday date.



Figure 27. Creating a Holiday Schedule

- Click OK. The on-screen keyboard appears.

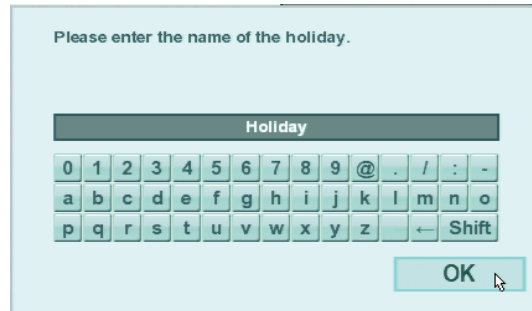


Figure 28. Naming a Holiday Schedule

- Click the settings box to enter the schedule name.
- Click OK. The schedule appears.
- Create a recording schedule for each channel.

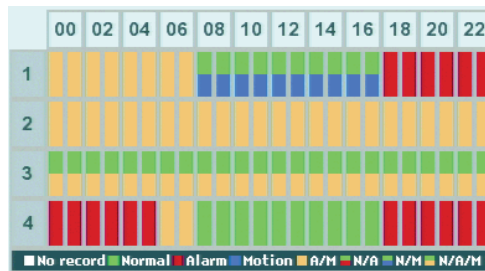


Figure 29. Creating a Holiday Recording Schedule for Each Channel

- Click Close.
- Click OK.

Editing a Holiday Schedule

- From the Schedule menu, click Holiday.
- Click List.
- Select a holiday recording schedule, and then click Edit.

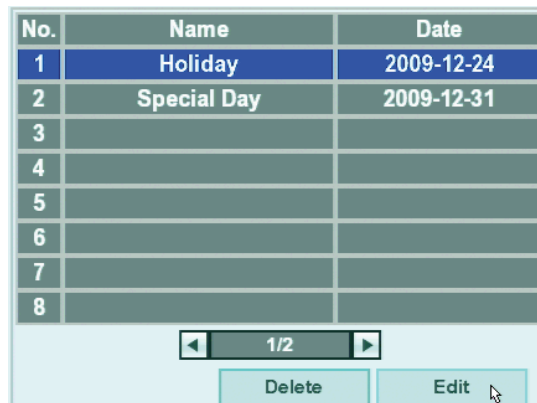


Figure 30. Selecting a Schedule

4. Edit the holiday recording schedule settings for a channel.

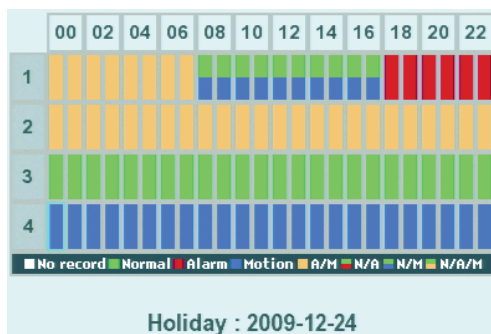


Figure 31. Editing a Holiday Recording Schedule

5. Click Close.
6. Click OK.

Deleting a Holiday Schedule

1. From the Schedule menu, click Holiday.
2. Click List.
3. Select a holiday recording schedule, and then click Delete.
4. Click Close.

DISPLAY MENU

To access the Display menu options, click Display.

OSD (ON-SCREEN DISPLAY)

The DX4104 allows you to configure the following display settings for the unit:

- **Language:** Sets the unit display language. The default is English (United States). You must log on with administrator-level permission to change the language.
- **Channel Name:** When set to ON, displays the channel name.
- **Channel Status:** When set to ON, displays the channel status icons.

To configure the OSD settings:

1. From the Setup menu, click Display.
2. Click the boxes to enter their settings.
3. Click Close.
4. Click OK.

MAIN MONITOR

You can set the sequence dwell time for the main monitor in increments of 2, 5, 10, 20, 30, 40, 50, 60, 70, 80, or 90 seconds as follows:

1. From the Display menu, click Main Monitor.
2. Click the Dwell Time box, and select the main monitor dwell time.
3. Click Close.
4. Click OK.

SPOT MONITOR

You can configure the following settings for the spot monitor:

- **Dwell Time:** Sets the channel sequence time in increments of 2, 5, 10, 20, 30, 40, 50, 60, 70, 80, or 90 seconds.
- **Event Popup:** Displays video for selected events on the spot monitor: OFF, ALARM, MOTION, ALL
- **Spot Channel:**
 - **01 to 04:** Displays video from a single channel on the spot monitor.
 - **SEQUENCE 1:** Displays video from the selected channels in sequence. Users with administrator-level permissions can view video from covert channels or channels that display Video Loss. Users with power- or normal-level permissions cannot view video from covert channels or channels that display Video Loss.
 - **SEQUENCE 2:** Displays video from all channels in sequence, except video from covert channels or channels that display Video Loss.

To configure the spot monitor settings:

1. From the Display menu, click Spot Monitor.
2. Click the boxes to enter their settings.
3. Click Close.
4. Click OK.

LINKING MENU

The Linking menu allows you to set up alarm inputs, motion inputs, and the relay output.

NOTE: The prealarm and postalarm recording settings are configured in the normal recording option on the Camera menu. Refer to *Normal Record Mode* on page 30 for more information.

ALARM INPUT SETUP

The unit allows you to configure the following alarm input settings:

- **Input Channel:** Selects the alarm input (01 to 04) for configuration.
- **Input Type:** Alarms are programmed for normally open (N.O.) or normally closed (N.C) inputs.
- **Camera:** Selects the camera (01 to 04, NONE) to be linked to the alarm input. Multiple cameras can be linked to one alarm input.
- **Relay off:** Sets the relay output to either off or on.

Note the following information for alarm input operation:

- Use the Input Channel setting to assign one alarm input to one specific camera channel.
- Use the Camera setting to assign multiple cameras to one alarm input or to link one camera to a specific alarm input.
- All alarm inputs are linked to one relay output.

To set up the alarm input channels:

1. From the Setup menu, click Linking.
2. Click Alarm.
3. Click the Input Channel box, and select the channel to configure.
4. Click the boxes to enter their settings.
5. Repeat steps 2 and 3 to configure the other channels.
6. Click Close.
7. Click OK.

MOTION DETECTION SETUP

The unit allows you to configure the following motion channel settings:

- **Channel:** Selects the motion channel (01 to 04) for configuration.
- **Sensitivity:** Sets the motion sensitivity: OFF, 01 to 10. Select a lower value to decrease unit sensitivity to motion; increase the value to make the unit more sensitive to motion.

NOTE: If sensitivity is set too low, the unit may not record a motion event. If sensitivity is set too high, the unit may record false motion events.

- **Relay Output:** Sets the relay output to either off or on. Refer to *Motion Area Selection* on page 14 for information about configuring a motion area.

To set up the motion channel:

1. From the Linking menu, click Motion.
2. Click the Motion Channel box, and select the channel to configure.
3. Click the boxes to enter their settings.
4. Repeat steps 2 and 3 to configure the other channels.
5. Click Close.
6. Click OK.

RELAY OUTPUT SETUP

You can configure how the relay output is controlled: alarm acknowledge or post-alarm time. The relay out OFF setting does not control the actual alarm recording function. Turning off the relay output does not terminate the alarm recording mode.

- **Relay Off:**
 - **ALARM ACKNOWLEDGE:** The relay output feature must be turned off manually.
 - **POST-ALARM TIME:** Turns off the relay output feature automatically when the post-alarm time expires. This setting is configured individually for each channel. For information about configuring post-alarm time, refer to *Normal Record Mode* on page 30.
- **System Alarm Out:** Sets the relay output to either off or on.

To set up the relay output:

1. From the Linking menu, click Output.
2. Click the boxes to enter their settings.
3. Click Close.
4. Click OK.

NETWORK MENU

You must configure the DVR network settings to use the following features:

- **Client software application:** Allows you to operate and administer up to sixteen DX4104 servers. The DX4104 server supports up to five simultaneous connections when using the client and Web client applications. For more information about the remote client software application, refer to the DX4104 Client Operation/Configuration manual.
- **Web client application:** Allows you to use a Web browser to view live video and operate PTZ features of cameras attached to a DX4104. You can remotely monitor up to 16 cameras from the Web client application.
- **Software update over the network:** Allows you to update the server software over the network.
- **Network Time Protocol (NTP):** Allows you to use a public or private time server.
- **Mail notification:** Sends e-mail notification when an event is detected (alarm, motion, disk full, administrator password change, video loss, or when the unit is turned off and on).
- **Emergency Agent:** When the unit detects an event (alarm, motion, disk full, administrator password change, video loss, or the unit is turned off and on), a warning message is sent to the remote computer. The message displays for five seconds in the lower-right corner of the remote client PC screen.

The unit must be turned on and connected to a network, and you must be logged on at the administrator level, to configure network settings. You must restart the DVR for the network configuration changes to take effect. Therefore, do not change network settings unless unit recording can be interrupted.

TCP/IP SETUP

The unit by default 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 configure the following settings:

- **IP Address:** Enter the static IP address (if used by your network).
- **Subnet Mask:** Enter the IP address of the subnet mask.
- **Gateway:** Enter the IP address for the Internet gateway server. On smaller systems, this will be the IP address of the DX4104. On larger systems, there might be a gateway server.
- **Primary DNS Server:** Enter the IP address of the primary Domain Name System (DNS) server that the DX4104 will use to convert names to IP addresses. If you are using the DDNS server, you do not need to enter a DNS server.
- **Secondary DNS Server:** Enter the IP address of the backup DNS server that the DX4104 will use. This server is used if the primary DNS server fails.
- **TCP/IP Port:** Enter the port number. The default port number is 9001.
- **Web Server Port:** Enter the port number that the Web client will use to communicate with the DX4104 over the Internet. The default port number is 80.

NOTE: If you use the Web client to access the unit and you change the port number, you must include the new port number with the IP address or the Web address. For example, the revised IP address would be `http://192.168.0.40:8080`, where 8080 is the revised port number.

- **Bandwidth Throttle:** Select the network bandwidth throttle to limit the amount of network resources allocated to client connections. The default bandwidth throttle is 100 Mbps.

To set up TCP/IP:

1. From the Setup menu, click Network.
2. Click TCP/IP.
3. Select the DHCP setting.
 - **ON:** Use a DHCP server. Skip to step 5.
 - **OFF:** Use static IP address settings. Continue with step 4.
4. Click the boxes to enter their settings.
5. Click Close.
6. Click OK.

DDNS SETUP

The DDNS feature uses the services provided by No-IP™. Prior registration with No-IP to obtain a user name and password is required before configuring the DVR.

The DDNS feature uses port 8245 provided by No-IP. If the DVR is installed in a network that has a firewall, port 8245 has to be open to allow DDNS data to get through the firewall. For information about setting up the firewall, refer to your network administrator or network service provider. The unit allows you to configure the following DDNS settings:

- **User Name:** Assigned the DDNS server provider during registration.
- **Password:** User password. Assigned the DDNS server provider during registration.
- **Host Name:** Obtained from the DDNS server provider.

To set up DDNS:

1. From the Network menu, click DDNS.
2. Click the boxes to enter their settings.
3. Click Update. The system searches for and registers the unit with the DDNS server.
4. Click OK, and then click Close.

NOTIFICATION SETUP

The notification feature has the following guidelines if the setting is ON:

- **Alarm:** Sends an alarm notification in response to an alarm event.
- **Motion:** Sends a motion notification in response to a motion event.
- **Disk full:** Sends a disk full notification if the Hard Disk Overwrite setting is not set to OFF.
- **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 DX4104 power being turned off.

To set up notification:

1. From the Network menu, click Notification.
2. Click the boxes to enter their settings.
3. Click OK, and then click Close.
4. Click OK again.

MAIL SETUP

The mail feature sends an e-mail text notification to all designated users when an event is detected. Use the notification option to configure an event to trigger an e-mail notification. For information about configuring the notification option, refer to *Notification Setup* on page 43.

The mail feature is configured and operates independently of the emergency agent feature. For information about setting up the emergency notification feature, refer to *Emergency Notification Setup* on page 44.

The unit allows you to configure the following mail settings:

- **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:** Enter the Simple Mail Transfer Protocol (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.:** Enter the 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 MTA (message transfer agent). In certain cases, e-mail should be forwarded to a SMTP server.

To set up the mail feature:

1. From the Network menu, click Mail.
2. Click the Notification box, and then select ON. The remaining boxes become available.
3. Click the remaining boxes to enter their settings.
4. Click SMTP Test to verify the SMTP server connection. A pass or fail message appears and a test e-mail message is sent to each e-mail address. The "Test email sent successfully" message indicates a successful SMTP server configuration. Verify that each addressee received the test e-mail message.

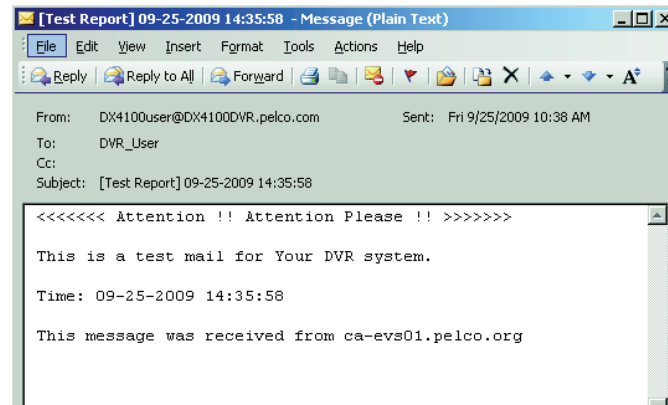


Figure 32. Test E-mail Message

5. Click OK, and then click Close.

EMERGENCY NOTIFICATION SETUP

The emergency notification feature notifies the designated computer when an event occurs. The Emergency Agent application must be running on the computer when the event occurs. This event must be configured on the Notification menu. For information about configuring the notification option, refer to *Notification Setup* on page 43.

The emergency notification and e-mail notification features operate independently. The Emergency Agent application is installed on the remote client computer and is used to display and administer emergency reports. For information about setting up the e-mail feature, refer to *Mail Setup* on page 43.

The unit allows you to configure the following emergency notification settings:

- **Notification:** Turns on and off the notification feature.
- **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. From the Network menu, click Emergency.
2. Click the Notification box, and then select ON. The remaining boxes become available.
3. Click the remaining boxes to enter their settings.
4. Click Close.
5. Click OK.

SYSTEM MENU

The system settings should be configured before the unit is put into service. Some of the settings affect how video data is stored and backed up. The settings can also affect how the unit is operated and administered from a remote client application.

- **Date/Time:** Establishes the time frame for configuring recording schedules and automated backup. Also provides the time stamp for recorded video, e-mail notifications, and emergency notifications.
- **Network Time Protocol (NTP):** Allows you to use a public or private time server.
- **User:** Allows you to create user accounts for local and remote system operation and administration.
- **Update:** Updates the unit's software over the network or from the USB port.
- **Hard Disk:** Allows you to configure how the system administers hard disk storage.
- **Backup:** Schedules automatic backups.

DATE AND TIME SETUP

The Date/Time option allows you to configure the following settings:

- **Date:** Sets the date and establishes the DVR's internal calendar for all recorded video.
- **Time:** Sets the system time and establishes the time for all recorded video.
- **Date Format:** Sets the date format for displayed and recorded video. Selections include MM/DD/YYYY, DD/MM/YYYY, and YYYY/MM/DD.
- **Time Format:** Sets the time format for displayed and recorded video. Selections include 12- and 24-hour time format.
- **Time Zone:** Sets the time zone in which the DVR is located.
- **Daylight Saving:** Enables or disables daylight saving operation. Select ON if the DVR is located in a state or country that observes daylight saving time. You must configure daylight saving time on both the DX4104 and the computer on which the remote client application is running. For information about configuring the time zone on the remote client PC, refer to the DX4104 Client Operation/Configuration manual.
- **Daylight Saving Start:** Sets the start date and time for daylight saving time (month, week of the month, day of week, time). The effective time is 2:00 a.m.
- **Daylight Saving End:** Sets the end date and time for daylight saving time (month, week of the month, day of week, time). The effective time is 2:00 a.m.

To set up the date and time:

1. From the Setup menu, click System.
2. Click Date/Time.
3. Click the remaining boxes to enter their settings.
4. Click Close.
5. Click OK.

NTP SETUP

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

- **NTP:** Synchronizes the DVR's time. This feature must be set to ON before the NTP server is selected.
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 public, the DVR 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:** Allows you to enter the IP address of a private NTP server. Server must be set to PRIVATE SERVER before you can enter an IP address.
- **Sync. interval:** Specifies how often the DVR synchronizes with the NTP server: daily (1 DAY), weekly (1 WEEK), monthly (1 MONTH), or hourly (1 HOUR). The default is 1 DAY.
- **NTP Test:** Verifies network access to the NTP server.

To set up NTP:

1. From the System menu, click NTP.
2. To enter the NTP settings:
 - a. Click the NTP box, and then select ON. The remaining boxes become available.
 - b. Click the Server box, and select a setting. If you select ON, click the Private Time Server box, type an IP address, and then click OK.
 - c. Click the Sync. Interval box, and then select a setting.
 - d. Click NTP Test to verify your settings.
3. Click Close.
4. Click OK.

SOUND SETUP

The sound feature allows you to configure the DVR to issue an audible sound in response to the activation of a button, an event (alarm or motion), and a system state.

- **Button:** If set to ON, the system beeps whenever a front panel or remote control button is pressed.
- **Alarm:** If set to ON, the system beeps about once per second until the alarm event is acknowledged.
- **Motion:** If set to ON, the system beeps about once per second until the motion event is acknowledged.
- **System:** If set to ON, the system beeps when any system action occurs.

To set up the sound:

1. From the System menu, click Sound.
2. Click the boxes to enter their settings.
3. Click Close.
4. Click OK.

USER ACCOUNT SETUP

User accounts can be added, changed, or deleted. By default, both the user name and password for user number 01 are admin; only the password can be changed. The user ID (admin) and Level (Administrator) for user 01 cannot be changed.

A user account consists of the following settings:

- **Number:** The unit supports 10 users (01 to 10).
- **ID:** The user name is created by the system administrator and can have up to 23 characters.
- **Level:** Defines the features that are available to the user. Table F describes permissions for each user level: Administrator, Power User, and Normal User.

Table F. User Levels and Permissions

Operation	User Level		
	Administrator	Power	Normal
Live View	Yes	Yes	Yes
Search	Yes	Yes	No
PTZ	Yes	Yes	Yes
Alarm Off	Yes	Yes	Yes
Instant Playback	Yes	Yes	Yes
Instant Recording	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

- **Password:** The password is created by the system administrator. If you change the password, it must contain 4 to 8 characters.

Changing a User

1. From the System menu, click User. The default is 01.

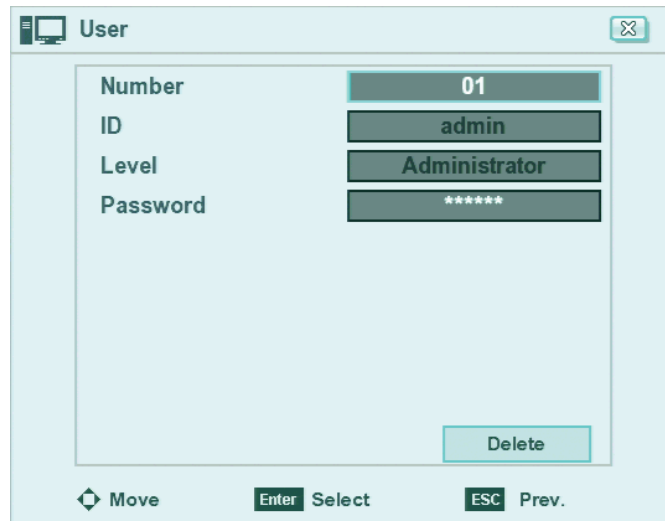


Figure 33. Changing the Default Administrator Password

2. Click the Password box.
3. Type the current password and click OK.
4. Type the new password and click OK. The new password must contain 4 to 8 characters.
5. Click Close.
6. Click OK.

Adding a New User

Only a user with administrator-level permissions can add, change, or delete users. Refer to *User Account Setup* on page 47 for more information.

To add a new user:

1. From the System menu, click User.
2. Click the Number box to select a blank ID.



Figure 34. Adding a New User

3. Click the ID box and enter the user name.
4. Click OK.
5. Click the Level box and select a user level.
6. Click the Password box.
7. Type a new password and click OK.
8. Click Close.
9. Click OK.

Deleting a User

To delete a user:

1. From the System menu, click User.
2. Click the Number box to select an ID.
3. Click Delete. The user assigned to the selected ID is deleted.
4. Click Close.
5. Click OK.

UPDATE SOFTWARE

The update feature allows you to upgrade DVR software and add or upgrade PTZ protocols. The current DVR settings are not deleted or replaced during the update process. You can perform an update from either the USB drive or a network server.

- **Selection:**
 - **System S/W:** Select to install a software update.
 - **PTZ Protocol:** Select to install new or updated PTZ protocols.
- **USB drive:**
 - All USB devices, except the USB device containing the update file, must be disconnected before you can attach the USB drive.
 - Format the USB drive using the DVR erase media utility before starting the update process.
 - If the system cannot find a valid update file, the "Cannot find valid update file." message appears. Verify that a valid update file is located in the USB device's root directory, and then repeat the procedure.
 - If the system finds a valid update file, the "S/W update is in progress." message appears.
- **Network server:**
 - The DVR network settings must be configured.
 - If the update server IP address is not configured, the "Change update server to Update Server for all entries." message appears.
 - If the incorrect update server IP address is configured or the system cannot locate the update server, the "Update Server access failed." message appears.
 - If the system finds a valid update server and file, the "S/W update is in progress." message appears. The unit must be turned on and connected to a network, and you must be logged on at the administrator level, to update the DVR. The DVR will restart to complete the update. Therefore, do not update the DVR unless unit recording can be interrupted.

Updating from a USB Device

To update from a USB device:

1. From the System menu, click Update.
2. Click the Selection box, and then select a setting.
3. Click the Method box, and then select USB.
4. Click the Update Server box. The on-screen keyboard appears.
5. Type the IP address for the update server, and then click OK. Click OK.
6. Wait while the system searches the media for the update file and starts the update process. After the update process is complete, the "Restart the System" dialog box appears.
7. Click OK to restart the unit.

Updating Over the Network

To update over the network:

1. From the System menu, click Update.
2. Click the Selection box, and then select a setting.
3. Click the Method box, and then select NETWORK.
4. Click the Update Server box, and then type the update server IP address.
5. Click Update and click OK.
6. Wait while the system searches for the update server and starts the update process. After the update process is complete, the "Restart the System" dialog box appears.
7. Click OK to restart the unit.

HARD DISK STORAGE ALLOCATION SETUP

The unit allows you to configure how internal hard disk storage is allocated for storing recorded video. The DVR combines the storage space of multiple HDDs into one logical disk and creates two partitions: TEMP and DATA. The system allocates 6 GB of disk space to the TEMP partition; the remaining space is allocated to the DATA partition. When the HDDs are formatted, the system creates two folders (Normal and Event) based on the Event Partition settings. A percentage of space is allocated to the Event Partition (event folder); the default setting is 50 percent. The remaining storage capacity is allocated to the Normal Partition (Normal folder).

NOTE: Before you use the DX4104 to record video, read the HDD Partition Notification (refer to Figure 35). If the Event Partition setting is changed, the system reformats all drives and re-allocates space to the Normal and Event folders based on the new event partition percentage.

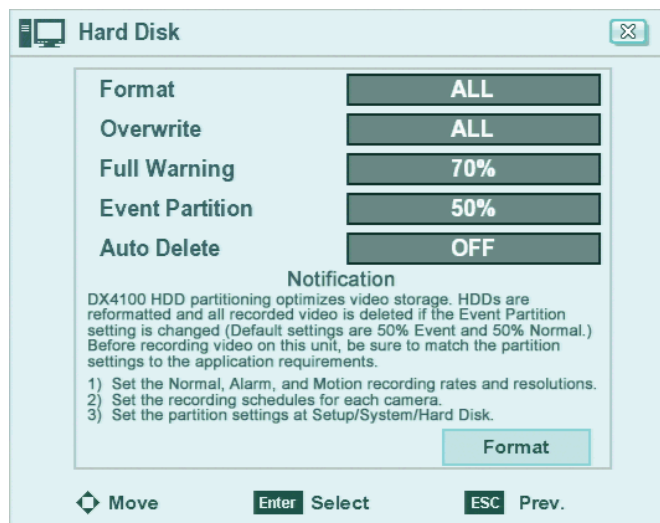


Figure 35. Hard Disk Notification

- **Format:** Initializes all installed HDDs. The System Information dialog box lists the installed drives and their respective capacities. If you install a new drive, the system prompts you to format the drive. When you format the drive, all data on the drive is erased.
- **Overwrite:**
 - **ALL:** When the normal and event partitions are full, the system will begin overwriting recorded video. 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 recorded video in the normal partition. The oldest recorded data is overwritten first.
 - **EVENT PARTITION:** When the event partition is full, the system will begin overwriting recorded video in the event partition. The oldest recorded data is overwritten first.
 - **OFF:** Protects all partitions from being overwritten. When the partitions are full, the unit stops recording.
- **Full Warning:** Displays a warning message when the HDD has reached the configured percentage (size) capacity. The default setting is 70 percent. When the partitions are full, the unit stops recording.
- **Event Partition:** Specifies the percentage (size) of the total hard disk space allocated for event-related recorded video. The remaining disk space is allocated for storing instant recorded video and continuous recorded video. The default setting is 50 percent.
- **Auto Delete:** Allows you to configure when the DVR automatically deletes all data (OFF, 1 DAY, 2 DAYS, 5 DAYS, 10 DAYS, 20 DAYS, 30 DAYS, 40 DAYS, 50 DAYS, or 60 DAYS). The default setting is OFF.

Formatting the System Drives

NOTES:

- A different formatting process is required when installing a new HDD. Refer to the DX4104 Hard Drive Installation manual for more information.
- The default setting is ALL. The Settings box can be accessed, but it cannot be changed. If a new drive is installed, the system only formats the newly installed drive; the current drives are not reformatted.

To format the system drives:

1. From the System menu, click Hard Disk.
2. Click Format, and then click OK.
3. Wait while the system drives are formatted. After the format process is complete, the "Restart the System" dialog box appears.
4. Click OK.

Customizing HDD Recording Settings

Before using the unit to record video data, configure the Overwrite, Full Warning, Event Partition, and Auto Delete settings for your application requirements.

To customize the HDD settings:

1. From the System menu, click Hard Disk.
2. Click a settings box, and then select a setting.
3. Click Close.
4. Click OK.

BACKUP SCHEDULE SETUP

The backup feature allows you to perform an instant backup of recorded data. It also allows you to configure the system to perform an automatic backup of data on a scheduled basis. You must have administrator permissions for setting up and conducting backup procedures.

The backup feature allows you to schedule how the DVR backs up recorded video data. The backup settings common to all modes are as follows:

- **Partition Selection:** Allows you to specify the type of data to be backed up: all (instant, normal, and multi-event), normal (instant and normal), or event (alarm and motion).
- **Schedule:** Specifies the backup period.
 - **OFF:** Disables the backup feature.
 - **Daily:** Backs up data daily using one start time and one end time.
 - **Weekly:** Backs up the current week's data.
 - **Instant:** Backs up data using a specific date, start time, and end time.
- **Device:** Indicates the destination backup media. The DVR determines what media is available and displays those media as options. If a USB device is installed, the system displays the manufacturer's name of the device (for example, a ClipDrive or Flash Drive). Table G lists the guidelines for backing up data to media devices.

Table G. Backing Up to Media Devices

Guideline	Media				
	CD±R	CD±RW	DVD±R	DVD±RW	USB
Media can be formatted.	No	Yes	No	Yes	Yes
Media can be formatted on a PC using the FAT32 file system. This media may or may not work in the DVR; therefore, Pelco recommends formatting the media on the DVR.	No	Yes	No	Yes	Yes
Media must be formatted on the DX4104 before backing up or exporting data to the device.	N/A	Yes	N/A	Yes	Yes
A device can be used for instant backup.	Yes	Yes	Yes	Yes	Yes
A device can be used for daily or weekly backups.	No	No	No	No	Yes

- **Schedule Start:** Specifies the day and time (in hours and minutes) that the scheduled backup begins. Refer to the instant, weekly, or daily backup section for more information.
- **Time Range Date:** Defines the date that the backup process begins. Refer to the instant, weekly, or daily backup section for more information.
- **Time Range Start:** Indicates the time that the backup process begins. Refer to the instant, weekly, or daily backup section for more information.
- **Time Range End:** Indicates the time that the backup process ends. Refer to the instant, weekly, or daily backup section for more information.

NOTES:

- You cannot use the Estimate Size, Start Backup, or Erase Media options while the backup process is running.
- The USB device should not be removed while the backup process is running. Doing so can disrupt the formatting of the USB drive. If the USB is removed, it will have to be reformatted to work properly.
- A scheduled backup process will not start if the unit is exporting to or searching for backed up data on an external USB device. The scheduled backup process will start after the export or backup search process is completed.
- Once started, a backup process will continue until it is complete.
- The unit does not back up audio data.

Instant Backup

The instant backup feature allows you to manually back up data. The backup settings unique to the instant backup mode are as follows:

- **Schedule Start:** Unavailable and is not used.
- **Time Range Date:** Sets the date of the backup process.
- **Time Range Start:** Sets the starting time (in hours and minutes) within the recorded data base where the backup process begins.
- **Time Range End:** Sets the ending time (in hours and minutes) within the recorded data base where the backup process ends.

To manually back up data:

1. Connect or insert the backup media.
2. From the System menu, click Backup.
3. Click the Partition Selection box, and select a partition setting.
4. Click the Schedule box, and select INSTANT.
5. Click the Time Range Date box, and select a date.
6. Repeat steps 5 to configure the other times.


Partition Selection	ALL
Schedule	INSTANT
Device	1.Flash Disk
Schedule Start	00:00
Time Range Date	09 / 21 / 2009
Time Range Start	14:32
Time Range End	14:33

Start Erase Estimate

Move Enter Select ESC Prev.

Figure 36. Instant Backup Schedule

7. Click Estimate to make sure the backup media has enough space.
8. Click OK.
9. Click Start. The "Would you like to start backup dialog" box appears.
10. Click OK. The backup process starts (no backup status information is displayed).
11. Exit the Setup menu.

12. (Optional) To view the backup status:
 - a. Exit the Setup menu.
 - b. Click the System Information icon .

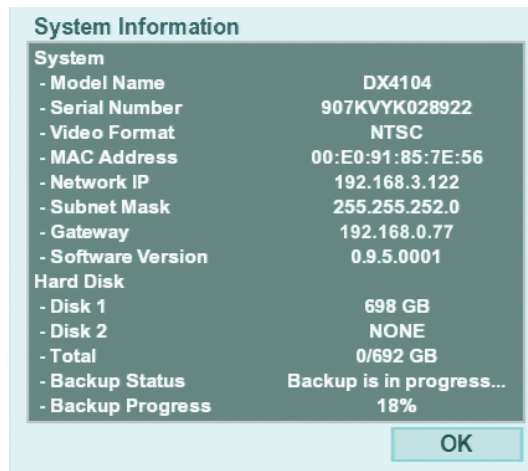


Figure 37. Instant Backup Status Information

- c. Click OK.

Weekly Backup Schedule

The weekly backup feature allows you to perform an automatic backup of the current week's data to a USB device only. The week begins at 00:00 hours on Monday and ends at 23:59 hours on Sunday. Data can be backed up for one or more days and from one minute to 24 hours. The unit can be configured to back up all, normal (instant and normal recorded video), or event-initiated (alarm and motion) recorded video.

The weekly backup settings are as follows:

- **Device:** USB device.
- **Schedule Start:** Sets the date and time within the current week to start the backup process. Sunday at 23:59 hours is the last day and time of the week from which to start a backup process.
- **Time Range Date:** Unavailable and is not used.
- **Time Range Start:** Sets the date and time within the recorded database where the backup process begins.
- **Time Range End:** Sets the ending date and time within the recorded database where the backup process ends.

To set up a weekly backup schedule:

1. Connect the backup media device.
2. From the System menu, click Backup.
3. To enter the weekly backup settings:
 - a. Click the Schedule box, and then select WEEKLY.
 - b. Click the Device box, and then select a USB device.
 - c. Repeat step 4a to enter the settings for the remaining boxes.

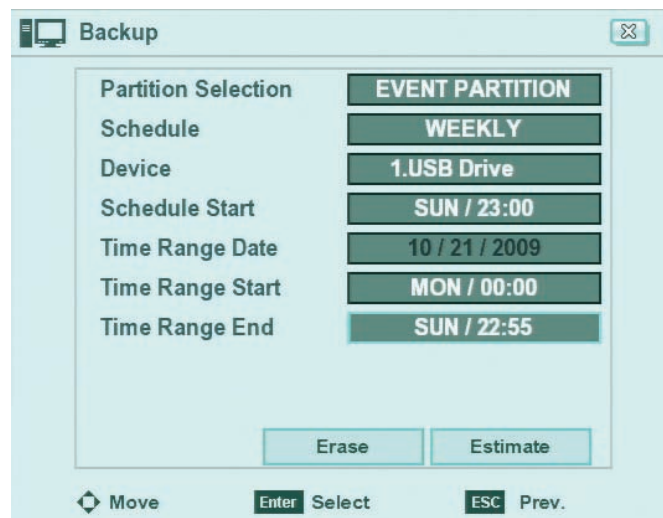



Figure 38. Weekly Backup Schedule

4. Click Estimate to make sure that the backup media has enough space.
5. Click OK.
6. Click Close.
7. Click OK.
8. Exit the Setup menu to the application window. The weekly backup will start according to the Schedule Start setting.

(Optional) To view the backup status, click the System Information icon .

Daily Backup Schedule

The daily backup feature allows you to perform an automatic backup of recorded data to a USB device. You can configure the time when the backup process starts and ends. The start and end times can be specified, and the DVR can be configured to back up all, normal (instant and normal recorded video), or event-initiated (alarm and motion) recorded video.

The daily backup settings are as follows:

- **Device:** USB media.
- **Schedule:** Daily.
- **Schedule Start:** Sets the time of day (in hours and minutes) that the backup process begins.
- **Time Range Date:** Unavailable and is not used.
- **Time Range Start:** Sets the starting time (in hours and minutes) within the recorded database where the backup process begins.
- **Time Range End:** Sets the ending time (in hours and minutes) within the recorded database where the backup process ends.

To set up a daily backup schedule:

1. Connect the backup media device.
2. From the System menu, click Backup.
3. To enter the daily recording backup settings:
 - a. Click the Schedule box, and then select DAILY.
 - b. Click the Device box, and then select a USB device.
 - c. Repeat step 3a to enter the settings for the remaining boxes.


Partition Selection	ALL
Schedule	DAILY
Device	1.Flash Disk
Schedule Start	17:15
Time Range Date	09 / 21 / 2009
Time Range Start	17:08
Time Range End	17:10

Erase Estimate

Move Enter Select ESC Prev.

Figure 39. Daily Backup Schedule

4. Click Estimate to make sure the backup media has enough space.
5. Click OK.
6. Click Close.
7. Click OK.
8. Exit the Setup menu to the application window. The daily backup will start according to the Schedule Start setting.

(Optional) To view the backup status, click the System Information icon .

Erasing and Formatting Media

The erase and format features allow you to format media for use with the DVR. Although media can be formatted on a PC, Pelco recommends that the media be formatted on the DVR to ensure optimal equipment function.

The DVR does not support a weekly or daily backup to CD/DVD media. If you try to format a CD or DVD when the unit is configured for a weekly or daily backup, a warning message appears. For information about supported media, refer to Table G on page 52.

To erase or format media data:

1. Connect or insert the backup media.
2. From the System menu, click Backup.
3. Click Erase.
4. Click OK.
5. Click OK again after the media is formatted.
6. Click Close.

SYSTEM

IR Remote ID

The infrared (IR) ID feature allows you to transmit a unique IR Remote ID (01 to 09) from the remote control to one or more DVRs. Each DVR that is preconfigured with the transmitted ID can respond to and be operated by the remote control. DVRs with a different ID are disabled from responding to the remote control but are not disabled from normal operation.

NOTE: For proper operation and control, all IR receivers must be in the line of sight of the remote control (refer to the following examples).

- For example, you have two DVRs: Lobby and Front Entrance. Both are in the line of sight of the remote control. Lobby is preconfigured for IR Remote ID 02 and Front Entrance is preconfigured for ID 03.
 - If the remote control transmits ID 02, Lobby is enabled to respond to the remote control and Front Entrance is disabled from responding.
 - If the remote control transmits ID 03 to both DVRs, Front Entrance is enabled to respond to the remote control and Lobby is disabled from responding.
- For example, Front Entrance (which was previously enabled) is not in the line of sight of the remote control but Lobby is in its line of sight. The remote control transmits ID 02.
 - Front Entrance remains enabled because it did not receive the IR transmission. It continues to respond to remote control commands intended for Lobby.
 - Lobby is enabled and responds to the remote control.

To set up the IR remote ID:

1. From the System menu, click System.
2. Click the IR Remote ID box, and select an IR remote ID.
3. Click Close.
4. Click OK.
5. Click Close again to exit to the application window.
6. Verify that the DVRs are in the line of sight of the remote control.
7. Transmit an IR Remote ID from the remote control to the DVRs:

NOTE: Programming the remote control requires a quick response.

- a. On the remote control, press the ID button. Within two seconds, press a number representing the DVR's IR remote ID. The system beeps.
- b. To verify that the remote control is communicating with the selected DVR, press MENU/ESC. The Setup window appears.

Auto User Logout

You can configure the unit to automatically log off users.

1. From the System menu, click System.
2. Click the Auto User Logout box, and select a time period.
3. Click Close.
4. Click OK, and then click Close again.

Export/Import Configuration Settings

NOTE: Resetting the DVR to its factory defaults deletes the customized settings. To save the customized settings, be sure to perform a configuration export before resetting the factory defaults.

The export feature allows you to save the DVR configuration settings to a USB device. The import feature allows you to import the settings to quickly configure a DVR for operation. Multiple DVRs can be configured quickly using this method.

Export Settings

1. From the System menu, click System.
2. Insert a USB device.
3. Click Export.
4. Click OK, and wait for the process to complete.
5. Click OK again.
6. Click Close.

Import Settings

1. From the System menu, click System.
2. Insert a USB device.
3. Click Import.
4. Click OK, and wait for the process to complete.
5. Click OK again.
6. Click Close.

Reset Unit to Factory Defaults

Factory defaults can be easily reset. For a list of the factory default settings, refer to *Appendix A: DX4104 Factory Defaults* on page 60.

NOTE: Resetting the DVR to its factory defaults deletes all customized settings except date, time, daylight saving, time zone, and user accounts. To save the customized settings, be sure to perform a configuration export before resetting the factory defaults.

To reset the factory defaults:

1. From the System menu, click System.
2. Click Default Set.
3. Click OK.

Appendixes

APPENDIX A: DX4104 FACTORY DEFAULTS

NOTE: Resetting the DVR to factory defaults deletes the customized settings. To save the customized settings, be sure to perform a configuration export before resetting the DVR to the factory defaults. For information about exporting the configuration settings, refer to *Export/Import Configuration Settings* on page 59.

Table H. Factory Default Settings (1 of 4)

Menu Command	Option	Property	Default Setting	Factory Default	Client Application
Camera	Properties	Channel	01 to 04	Yes	Yes
		Name	CH 01 to 04	Yes	Yes
		Covert	OFF	Yes	Yes
		Audio	01 to 04, NONE	Yes	Yes
	PTZ	Channel	CH 01	Yes	Yes
		Port	NONE	Yes	Yes
		Address	0	Yes	Yes
		Protocol	PELCO_D	Yes	Yes
		Baud Rate	9600	Yes	Yes
	Video	Video Format	NTSC	Yes	No
	Normal Record	Channel	CH 01 to CH 04	Yes	Yes
		Resolution	352X240 (NTSC) / 352X288 (PAL)	Yes	Yes
		Quality	STANDARD	Yes	Yes
		Image rate	7.5 (NTSC)/6.25 (PAL)	Yes	Yes
		Prealarm	OFF	Yes	Yes
		Postalarm	10 SEC	Yes	Yes
	Alarm Record	Channel	CH 01 to CH 04	Yes	Yes
		Resolution	352X240 (NTSC) / 352X288 (PAL)	Yes	Yes
		Quality	STANDARD	Yes	Yes
		Image rate	30 (NTSC)/25 (PAL)	Yes	Yes
	Motion Record	Channel	CH 01 to CH 04	Yes	Yes
		Resolution	352X240 (NTSC) / 352X288 (PAL)	Yes	Yes
		Quality	STANDARD	Yes	Yes
		Image rate	30 (NTSC)/25 (PAL)	Yes	Yes
	Instant Record	Channel	CH 01 to CH 04	Yes	Yes
		Resolution	352X240 (NTSC) / 352X288 (PAL)	Yes	Yes
		Quality	STANDARD	Yes	Yes
		Image rate	30 (NTSC)/25 (PAL)	Yes	Yes
Schedule	Sun to Sat	1 to 4	Alarm/Motion	Yes	Yes
	Holiday	1 to 4	No record	Yes	Yes

Table H. Factory Default Settings (2 of 4)

Menu Command	Option	Property	Default Setting	Factory Default	Client Application
Display	OSD	Language	ENGLISH	Yes	Yes
		Channel Name	ON	Yes	Yes
		Channel Status	ON	Yes	Yes
	Main Monitor	Dwell Time	2 SEC	Yes	Yes
	Spot Monitor	Dwell Time	2 SEC	Yes	Yes
		Event Popup	OFF	Yes	Yes
Spot Channel		01	Yes	Yes	
Linking	Alarm	Input Channel	01	Yes	Yes
		Input Type	N.O.	Yes	Yes
		Camera	01	Yes	Yes
		Relay Output	ON	Yes	Yes
	Motion	Channel	01	Yes	Yes
		Sensitivity	05	Yes	Yes
		Relay Output	OFF	Yes	Yes
	Output	Relay	ALARM ACKNOWLEDGE	Yes	No
		System Alarm Out	OFF	Yes	Yes
Network	TCP/IP	DHCP	ON	Yes	No
		IP Address	Unavailable	Yes	No
		Subnet Mask	Unavailable	Yes	No
		Gateway	Unavailable	Yes	No
		Primary DNS	Unavailable	Yes	No
		Secondary DNS	Unavailable	Yes	No
		TCP/IP Port	9001	Yes	No
		Web Server Port	80	Yes	No
		Bandwidth Throttle	100 Mbps	Yes	Yes
	DDNS	User Name	Unavailable	Yes	No
		Password	Unavailable	Yes	No
		Host Name	Unavailable	Yes	No

Table H. Factory Default Settings (3 of 4)

Menu Command	Option	Property	Default Setting	Factory Default	Client Application
Network (Continued)	Notification	Alarm On	OFF	Yes	Yes
		Motion Detection	OFF	Yes	Yes
		Disk Full	OFF	Yes	Yes
		Admin Password Changed	OFF	Yes	Yes
		Video Loss	OFF	Yes	Yes
		Power On/Off	OFF	Yes	Yes
	Mail	Notification	OFF	Yes	Yes
		SMTP Server	Unavailable	Yes	Yes
		SMTP Port Number	25 (Unavailable)	Yes	Yes
		User Name	Unavailable	Yes	Yes
		Password	Unavailable	Yes	Yes
		TLS	OFF (Unavailable)	Yes	Yes
		Mail Address 1	Unavailable	Yes	Yes
		Mail Address 2	Unavailable	Yes	Yes
		Mail Address 3	Unavailable	Yes	Yes
		SMTP Server Test	SMTP Server Test (Unavailable)	Yes	Yes
	Emergency	Notification	OFF	Yes	Yes
		Emergency ID	01	Yes	Yes
		IP Address	Unavailable	Yes	Yes
		Port	9002	Yes	Yes
System	Date/Time	Date	06/09/2009 PST	No	No
		Time	Current Time	No	No
		Date Format	MM/DD/YYYY	Yes	Yes
		Time Format	12 HR	Yes	No
		Time Zone	GMT (-08:00)	Yes	No
		Daylight Saving	ON	Yes	No
		Daylight Saving Start	MAR 2nd, SUN 02	Yes	No
		Daylight Saving End	NOV 1st, SUN 02	Yes	Yes
	NTP	NTP	OFF	Yes	Yes
		Server	PUBLIC SERVER	Yes	Yes
		Private Time Server	Unavailable	Yes	Yes
		Sync. Interval	1 Day (Unavailable)	Yes	Yes
		NTP Test	NTP Test	Yes	No
	Sound	Button	OFF	Yes	Yes
		Alarm	OFF	Yes	Yes
		Motion	OFF	Yes	Yes
		System	OFF	Yes	Yes
	User	Number	01	Yes	No
		ID	admin (Unavailable)	Yes	Yes
		Level	Administrator (Unavailable)	Yes	Yes

Table H. Factory Default Settings (4 of 4)

Menu Command	Option	Property	Default Setting	Factory Default	Client Application
System (Continued)	User (Continued)	Password	admin	Yes	Yes
	Update	Selection	SYSTEM S/W	Yes	Yes
		Method	USB	Yes	Yes
		Update Server	Unavailable	Yes	Yes
	Hard Disk	Format	ALL	Yes	No
		Overwrite	ALL	Yes	Yes
		Full Warning	70%	Yes	Yes
		Event Partition	50%	Yes	No
		Auto Delete	OFF	Yes	No
	Backup	Partition Selection	ALL	Yes	No
		Schedule	OFF	Yes	No
		Device	Not Available)	Yes	No
		Schedule Start	SUN / 00:00 (Unavailable)	Yes	No
		Time Range Date	06/09/2009 (Unavailable)	Yes	No
		Time Range Start	SUN / 00:00 (Unavailable)	Yes	No
		Time Range End	SUN / 00:00 (Unavailable)	Yes	No
		Start B	Unavailable	Yes	No
		Erase	Unavailable	Yes	No
		Estimate	Unavailable	Yes	No
	System ID	IR Remote ID	01	Yes	No
		Auto User Logout	OFF	Yes	No

APPENDIX B: DX4104 OPERATION METHODS

The manual describes how to use the mouse to operate and configure the unit. This appendix provides a quick tutorial for using the remote control and front panel controls to operate the unit. You can use any or a combination of all three methods.

NOTE: The unit's front panel LOGIN and arrow buttons are available for logging on to the unit. The remaining front panel controls are only available after you log on to the unit.

Table I. DX4104 Operation Methods

Task	Procedure	
	Mouse	Remote Control Keypad or Front Panel Control
Display the on-screen keyboard	Click the toolbar Login icon	Press the LOGIN button.
Enter a setting in the on-screen keyboard	Click a character.	Use the arrow buttons to select a character, and then press ENTER.
Display the Setup Menu	Click the toolbar Setup icon.	Press MENU/ESC.
Select a Setup command	Click a command.	Use the up and down arrow buttons to select a command, and then press ENTER.
Enter an option setting	Click an option.	Use the up and down arrow buttons to select an option, and then press ENTER.
Enter a setting	Click the settings box, and then right- or left-click to increment or decrement a setting.	Use the up and down arrow buttons to go to a settings box. Press ENTER. Use the right and left arrows to display the settings. Press ENTER to accept a setting.
Close a dialog box	Click Close.	Use the up arrow to select Close, and then press ENTER.
Select a pane	Click a pane.	Use arrow buttons to highlight a pane.
Toggle between views	Double click a pane to display a single view. Double-click the pane again to display the quad view.	Use the channel buttons (1 to 4) to display video in a single pane. Press SPLIT to return to the 4-division view.
Operate the unit from toolbar	Click a toolbar icon.	Press the assigned button.
Display the application window shortcut menu	Click a pane, and then right-click the selected pane.	Press the OSD button.

APPENDIX C: HARDWARE AND SOFTWARE UPGRADE POLICY

Pelco's representations regarding product features and performance are limited to those made in the specification sheet and product 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, contact Pelco's technical support.
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 D: RECOVERING THE ADMINISTRATOR PASSWORD

1. On the left side of the unit, locate and note the manufacturer's serial number.
2. In the toolbar, locate and note the current date.
3. Contact Pelco Product Support to receive the administrator password:
4. Enter the password provided by Pelco Product Support:
 - a. On the toolbar, click Login  . The on-screen keyboard appears.
 - b. Type the password.
 - c. Click OK.

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:
 - Pelco-designed fixed network cameras and network dome cameras with Sarix™ technology.
 - Pelco-branded fixed camera models (CCC1390H Series, C10DN Series, C10CH Series, and IP3701H Series)
 - EH1500 Series enclosures
 - Spectra® IV products (including Spectra IV IP)
 - Camclosure® Series (IS, ICS, IP) integrated camera systems
 - DX Series digital 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
 - PMCL5xx Series FHD 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®, 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.
 - Intelli-M® eIDC controllers
- One year:
 - Video cassette recorders (VCRs), except video heads. Video heads will be covered for a period of six months.

- 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.

2-10-10

 Green 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.

REVISION HISTORY

Manual #	Date	Comments
C4631M	11/09	Original version.
C4631M-A	8/10	Divided the Unit Startup and Shutdown section into two separate sections. Also revised the Unit Shutdown section to include the proper unit shutdown procedure.

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