

Linksys Video Monitoring System User Guide

BUSINESS SERIES

**Model:
LBAVMS16**

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Getting Started

Linksys Business Internet Video Cameras provide high quality monitoring system that can be optimized for many different applications. This guide instructs you how to use the camera monitoring system and recording technology on your PC, which allows you to easily monitor and record video.

This section includes the following topics:

- ["Before You Begin," on page 1](#)
- ["System Requirements," on page 2](#)
- ["What's In This Guide?" section on page 3](#)

Before You Begin

This document assumes that you have your camera or cameras previously installed and configured. For installation instructions, see www.linksys.com for the Quick Installation Guide, the User Guide, and the Datasheet for your particular Linksys camera model.

The following Linksys cameras use the video monitoring software described in this document:

- PVC2300—Linksys Business Internet Video Camera with Audio and POE
- WVC2300—Wireless-G Linksys Business Internet Video Camera with Audio
- WVC210—Linksys Business Internet Video Camera with Audio

Please check www.linksys.com for compatibility if your camera is not included in this list.

Camera Installation Guidelines

Consider the following guidelines before installing and mounting your cameras. While the detection window and the degree of sensitivity can be optimized later, it is best to optimize your camera location first.

- Choose a location that provides adequate coverage of the area to be monitored.
- The Linksys IP cameras have a built-in microphone. If using the microphone in the camera, note that the cameras are designed to pick up audio from a distance (unlike a web camera that you would place near you.)
- Two-way audio requires an external speaker to be attached to the camera. If using an external microphone or speaker, place the microphone far enough away from the speaker to avoid feedback. The volume of the speaker and the background noise of the environment will determine the exact distance, possibly up to one yard away.
- Cameras mounted outdoors should be installed in an IP66-certified enclosure to protect the camera from the elements, while maintaining acceptable operating temperatures. If an enclosure is used, an external microphone is required for audio.

- If using motion detection, consider potential sources of false positives, such as trees and shrubs, drastic light changes, wandering animals, and traffic.
- Consider any wiring that you may need to do before installing the camera. You may want to connect the camera to devices such as:
 - sirens
 - passive infrared (PIR) sensors
 - smoke detectors
 - lighting controls (on/off)
 - door sensors
 - alarms
- If using a wireless camera, a wireless-enabled device (such as an WRVS4400N Wireless-N Gigabit Security Router with VPN or a Linksys One Ready WAP2000 RangeBooster Wireless Access Point) is required to provide connectivity to the camera.

System Requirements

The following is required to run the Linksys Video Monitoring System on your camera.

Number of Cameras at VGA Resolution, 30 FPS	1-4	4-8	8-16
CPU	Intel P4 2.4 GHz	Intel P4 2.8 GHz	Intel Pentium D 930
RAM	512 MB	512 MB	1 GB
Motherboard	Intel 945 or 965 chip, Intel Chipset recommended		
Display	ATI Radeon 9200, nVIDIA GeForce FX-5200, Intel 945 / 965, or above (ATI recommended)		
Ethernet	100 BaseT or above, Gigabit LAN recommended		
Hard Disk	80 GB or above		
OS	MS Windows 2000 / XP Pro SP2 / 2003 MS Windows Vista (Note: You must disable User Account Control (UAC) before running Linksys Video Monitoring software.		

What's In This Guide?

This guide covers how to install and use the Linksys Video Monitoring System. For complete information on other components of the Linksys Video Monitoring System (for example, installing Linksys cameras), see your particular camera documentation as found on www.Linksys.com.

The following topics are covered in this guide:

- ["Getting Started" section on page 1](#)—Provides system requirements.
- ["Installing the Linksys Video Monitoring System Software" section on page 4](#)—Describes the installation of the video monitoring software.
- ["Linksys Video Monitoring System Quick Start" section on page 8](#)—Provides several procedures to set up and use the video monitoring software.
- ["Getting to Know the Linksys Video Monitoring System" section on page 20](#)—Describes the icons found on the Main Console window of the video monitoring software.
- ["Using the Playback Application" section on page 25](#)—Describes the icons found on the Playback window and describes how to playback recorded events.
- ["Setting a Schedule" section on page 35](#)—Describes how to set up a recording schedule.
- ["Configuring Video Settings" section on page 41](#)—Describes how to configure cameras, save or load configuration settings, backup your data, or access information about the Main Console.

Installing the Linksys Video Monitoring System Software

This chapter instructs you on how to install and use the Linksys Video Monitoring System on your PC. The Linksys Video Monitoring System allows you to easily view and record video.

The following procedures are discussed in this chapter:

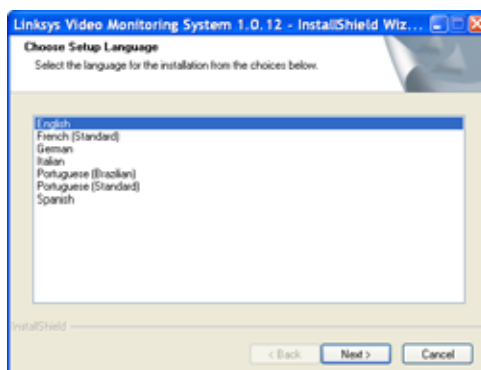
- “Running the Installation CD” section on page 4
- “Launching the Video Monitoring Software” section on page 7

Running the Installation CD

1. Insert the installation CD.
2. When the **Welcome** window appears, click **Install Video Monitoring System**.



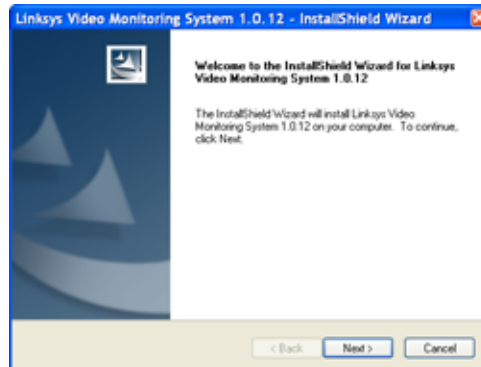
3. The **Select Language** window appears. Select your language, and press **Next**.



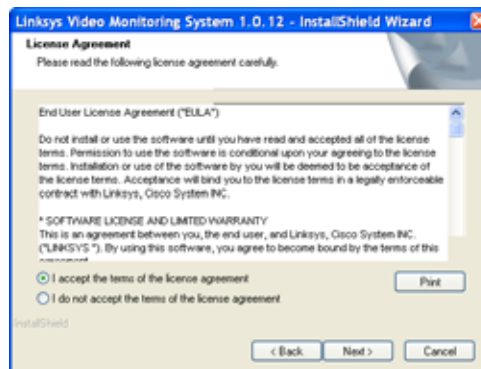
Installing the Linksys Video Monitoring System Software

Running the Installation CD

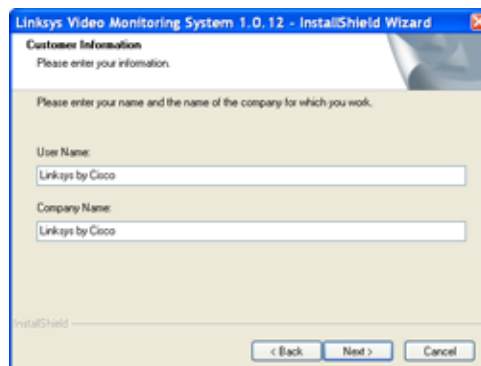
- The **Welcome** window appears. Click the **Next** button to proceed.



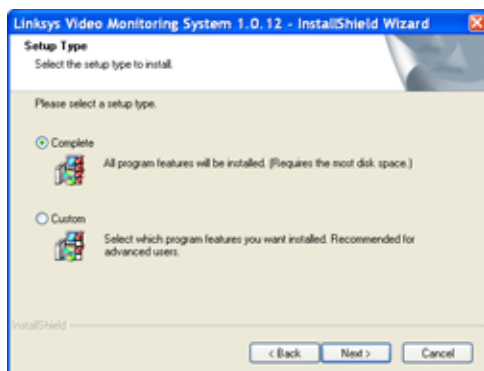
- The **License Agreement** window appears. Click **"I accept the terms of the license agreement"** and click the **Next** button to proceed.



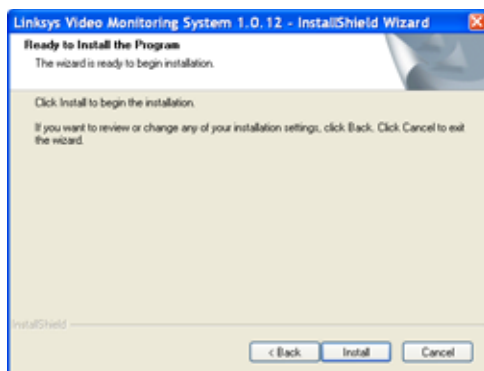
- The **Customer Information** window appears. Provide your customer information and click the **Next** button to proceed.



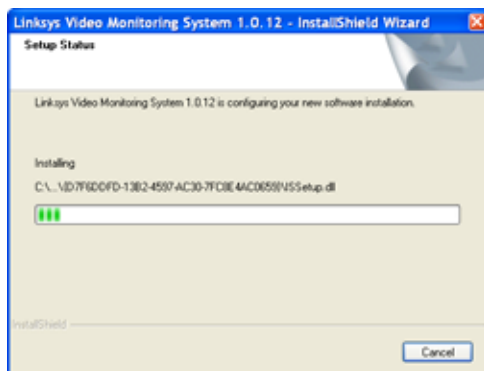
- The **Setup Type** window appears. Select the type of installation and click the **Next** button. (**Complete** is recommended for most users.)



- The **Ready to Install the Program** window appears. The selected destination path will be displayed. If you wish to change the path, click the **Back** button. If you are satisfied with the location, click **Install**.



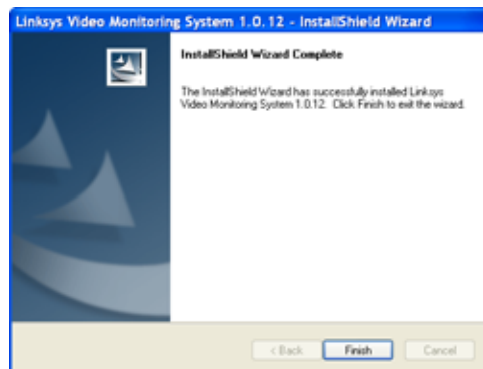
As the program is installing, the **Setup Status** window displays the software installation status.



Installing the Linksys Video Monitoring System Software

Launching the Video Monitoring Software

9. When completed, click **Finish** to exit the wizard.

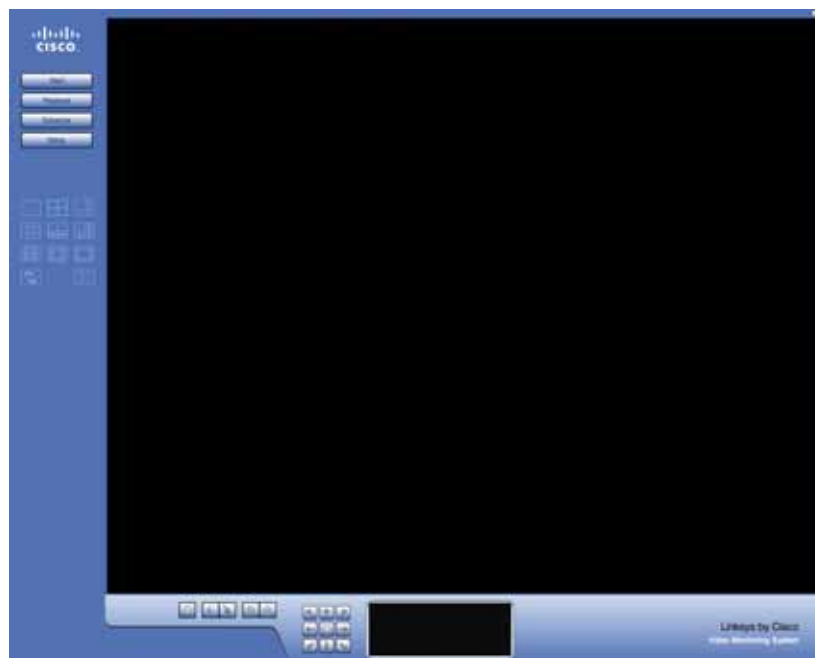


Launching the Video Monitoring Software

1. From the Microsoft Windows **Start** menu, launch the Linksys software by clicking on Main Console.



2. After launching, the Login/Password window appears. Enter a password into the edit box and enter it again to confirm. Click **OK**.
3. The Main Console window appears:



Linksys Video Monitoring System Quick Start

After you have installed your cameras and the video monitoring software, use this chapter to get started quickly with some basic video monitoring and recording operations. The following procedures can be found in this chapter:

- ["Adding Local Network Cameras" section on page 8](#)
- ["Adding Cameras Manually" section on page 11](#)
- ["Configuring a Schedule for Recording on Motion" section on page 13](#)
- ["Recording Events" section on page 16](#)
- ["Playing Back Recorded Events" section on page 17](#)
- ["Deleting Cameras" section on page 18](#)

Adding Local Network Cameras

This procedure is for cameras within your local network. UPnP™ must be enabled on both the camera and the PC. If your camera is not within your local network, or if you wish to not enable UPnP™, you can manually insert your camera; see the ["Adding Cameras Manually" section on page 11](#).

1. In the Main Console window, click the **Setup** icon.

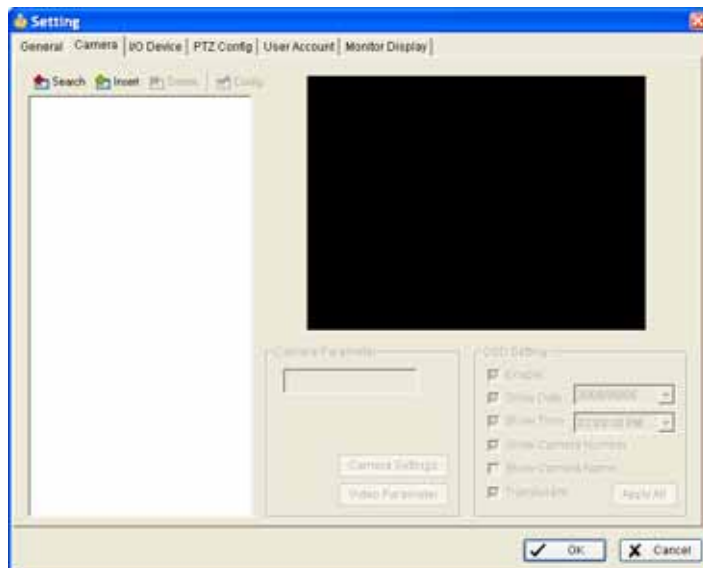


2. Choose **Setting** to bring up the **Setting** window.

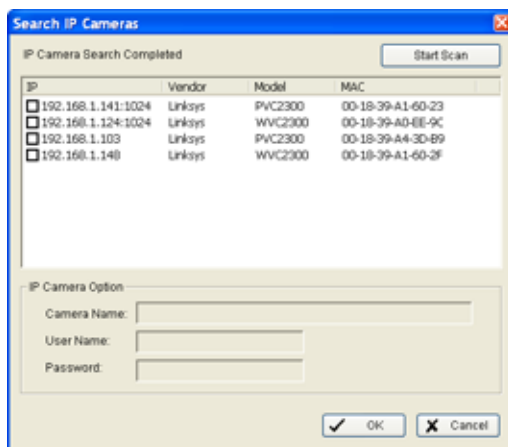
Linksys Video Monitoring System Quick Start

Adding Local Network Cameras

3. Click the **Camera** tab.



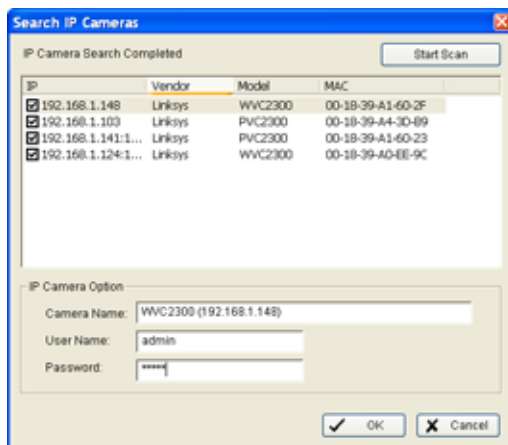
4. Click **Search** to search for the IP cameras that are available.



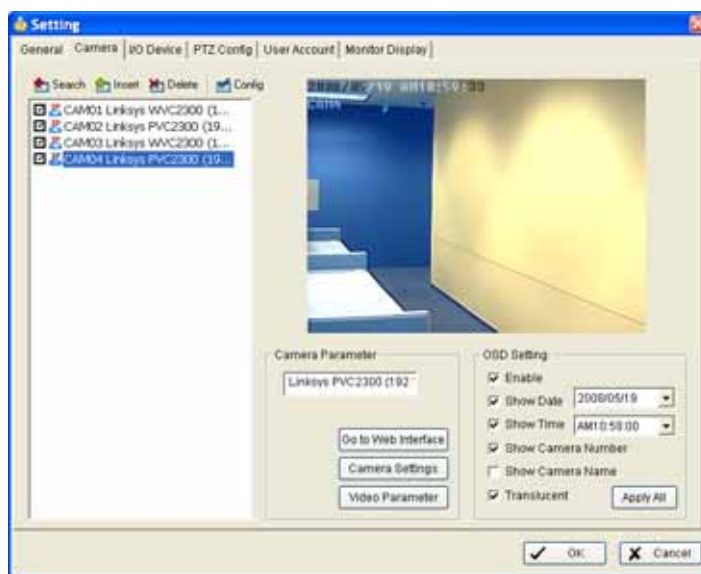
Linksys Video Monitoring System Quick Start

Adding Local Network Cameras

5. Select one or more of the IP cameras that are available by checking the camera and enter the camera's username and password.



6. Click **OK** to add the cameras. The detected cameras display in the camera window.

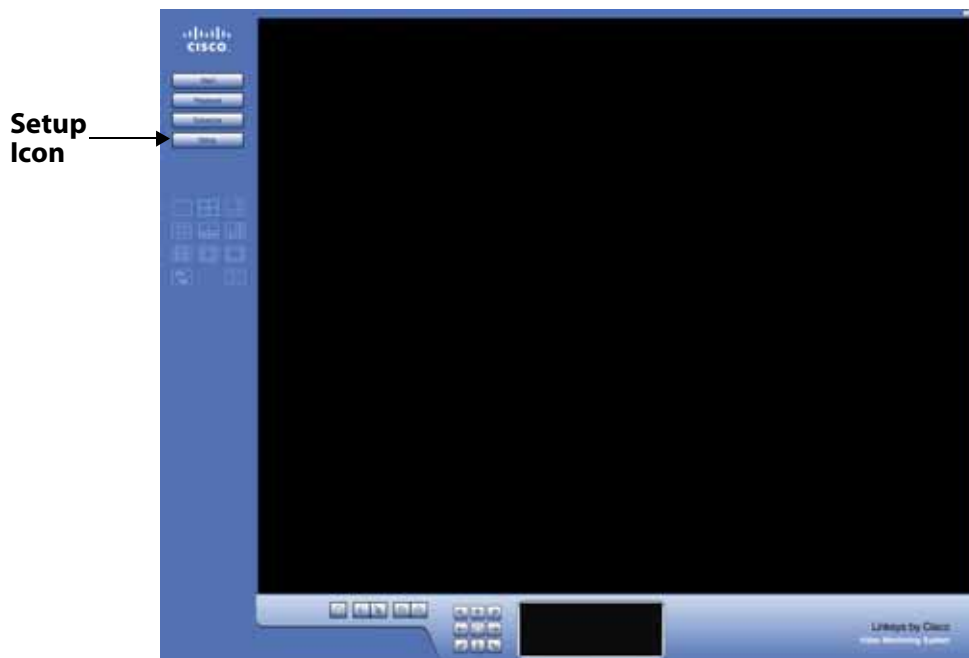


7. Configure any On Screen Display (OSD) Settings, Camera Settings, or Video Parameters as you wish. See the "Camera Tab" section on page 44.
8. Click **OK** to add the cameras and go back to the Main Console. The Main Console window displays all available cameras.

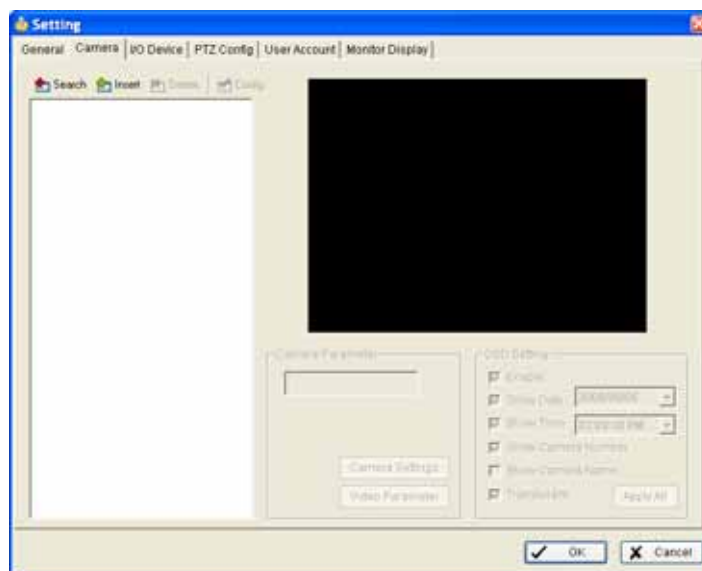
Adding Cameras Manually

If your camera is not within your local network, or if you wish to not enable UPnP™, you can manually insert your camera.

1. In the Main Console window, click the **Setup** icon.



2. Choose **Setting** to bring up the **Setting** window.
3. Click the **Camera** tab.



4. Click the **Insert** icon; the **IP Camera /Video Server Setting** window appears.

5. In the **IP Camera /Video Server Setting** window, enter the IP address or domain name, HTTP Port, Username, and Password of the camera.



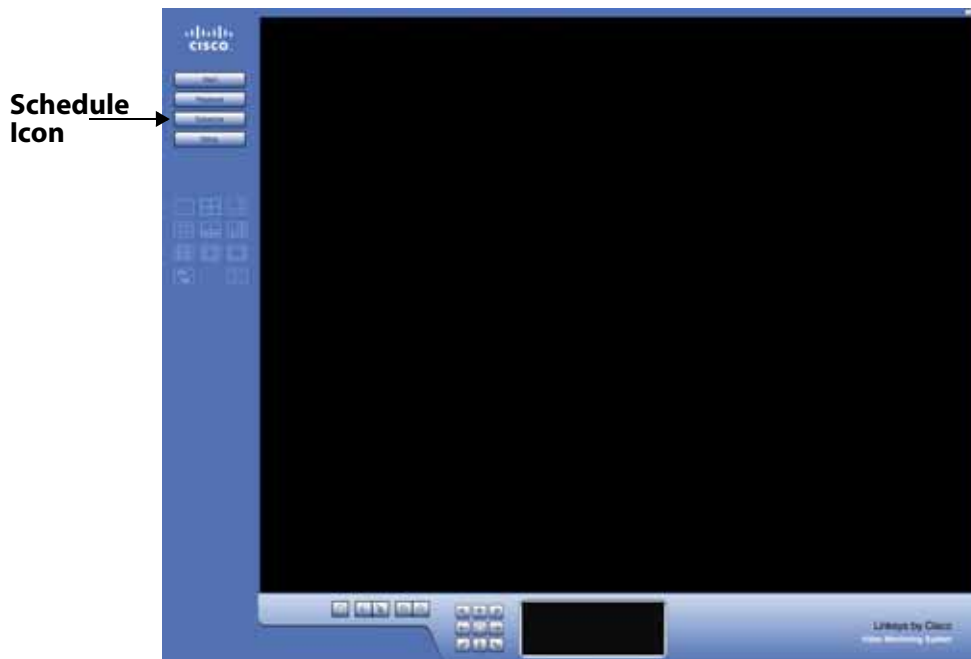
The screenshot shows a dialog box titled "IP Camera / Video Server Setting". It is divided into three sections: Network, Device, and Description. The Network section contains fields for Name (Linksys PVC2300 (192.168.1)), IP Address (192.168.1.103), Http Port (80), User Name (admin), Password (masked with asterisks), and Protocol (HTTP selected). The Device section has Vendor (LINKSYS) and Camera Model (PVC2300) dropdown menus, and an Auto Detect button. The Description section lists Video Codec: MPEG4 MJPEG, Audio Codec: G.726, and Camera 1, DE2, DO:2. At the bottom are OK and Cancel buttons.

6. Click **Auto Detect**. **Auto Detect** automatically finds your camera model number, the supported video codec, audio codec, and input/output ports.
7. Click **OK** to add the camera.
8. Configure any On Screen Display (OSD) Settings, Camera Settings, or Video Parameters. See the ["Camera Tab" section on page 44](#).
9. Click **OK** to add the cameras and go back to the Main Console. The Main Console window displays all available cameras.

Configuring a Schedule for Recording on Motion

By default, after adding a camera into the system, the recording schedule is automatically set to record everything, 24 hours a day. This procedure allows you to change the recording schedule to record only when the camera detects motion, and record that motion only during certain times of the day.

1. In the Main Console window, click the **Schedule** icon.



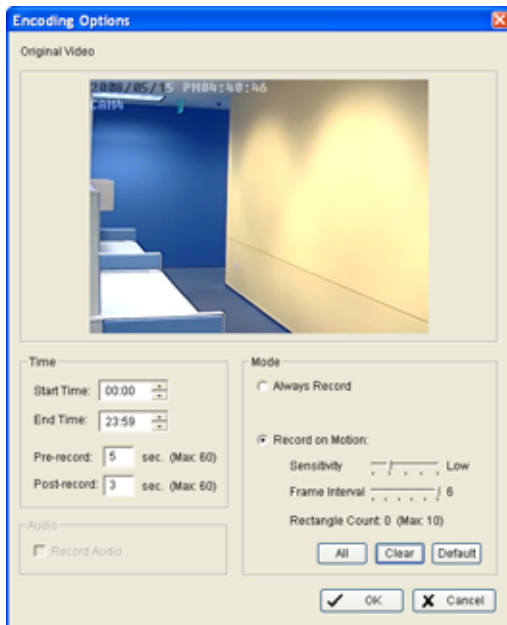
The Schedule Configuration window appears. A red bar indicates that the camera is always recording.



Linksys Video Monitoring System Quick Start

Configuring a Schedule for Recording on Motion

- To change your default recording settings, double click the red bar of the camera you wish to configure. Or, you may click the camera you want to configure, and then click the **Configure** icon found in the middle of the Schedule Configuration window. The **Encoding Options** window appears:



- Click the radio button for **Record on Motion**.
- Left-click and drag the mouse to draw up to 10 (green) rectangular detection zones of the area you want to monitor.



Linksys Video Monitoring System Quick Start

Configuring a Schedule for Recording on Motion



NOTE: When motion is detected in the defined area of interest, the area starts flashing green and red.



5. Configure the recording schedule on the right side of the screen.
6. Set the Sensitivity to "Normal" and the Frame Intervals to "5" to start. These settings may be adjusted later.
7. Click **OK** to go back to the Schedule Configuration window.
8. A green bar indicates that the recording is now done when the camera detects motion.



9. Click **OK** again to go back to the Main Console. When triggered, the area set as the detection zone area turns red.

Recording Events

To begin recording events, in the Main Console window, click **Start > Start Recording Schedule**.

Recording begins immediately on all configured cameras. During recording, the Main Console window displays a radio button on the upper right hand corner. A red radio button means "recording (in session)." During motion recording, when the video monitoring software starts to record a motion, the radio button turns red. When there is no movement and nothing is being recorded, the radio button turns green.

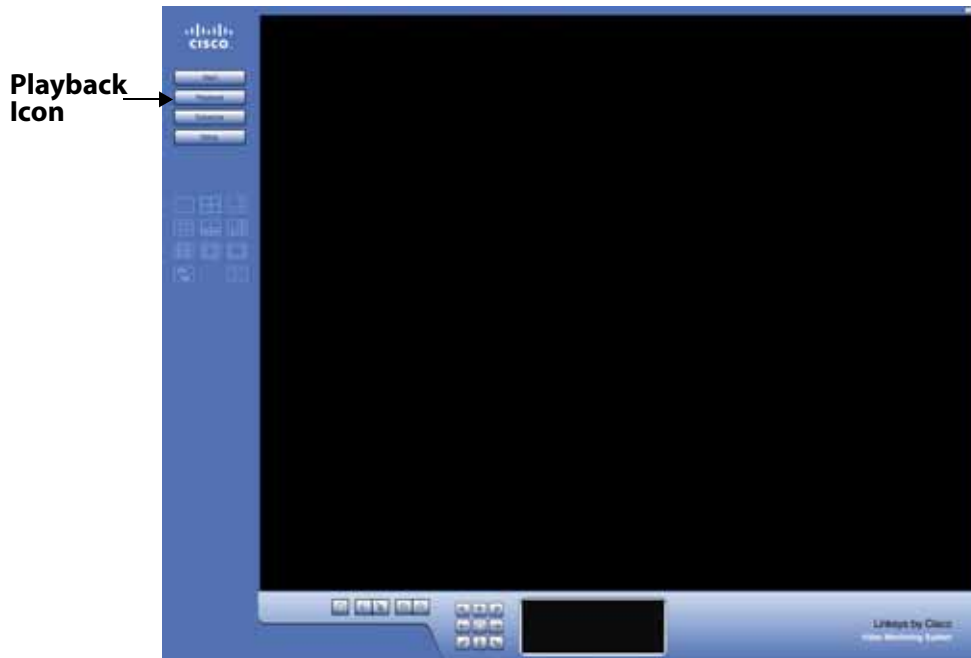
If you choose "Always Record" instead of "Record on Motion" the radio button remains red.



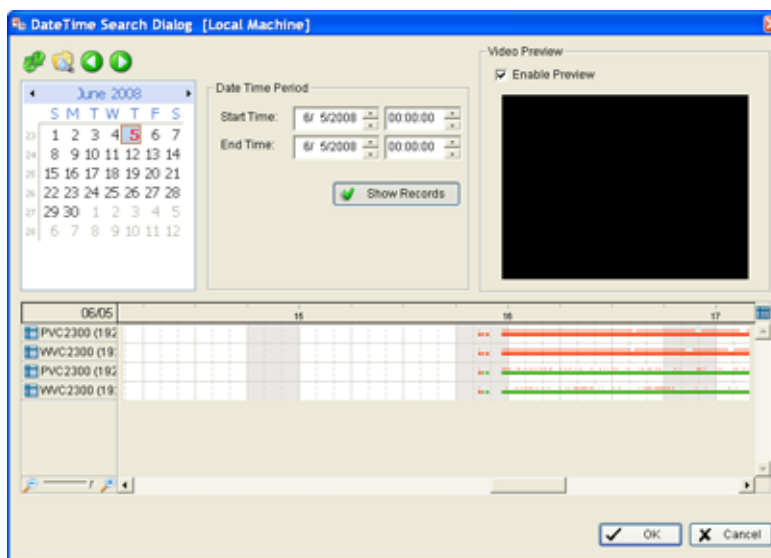
Playing Back Recorded Events

Use the following procedure to playback recorded events.

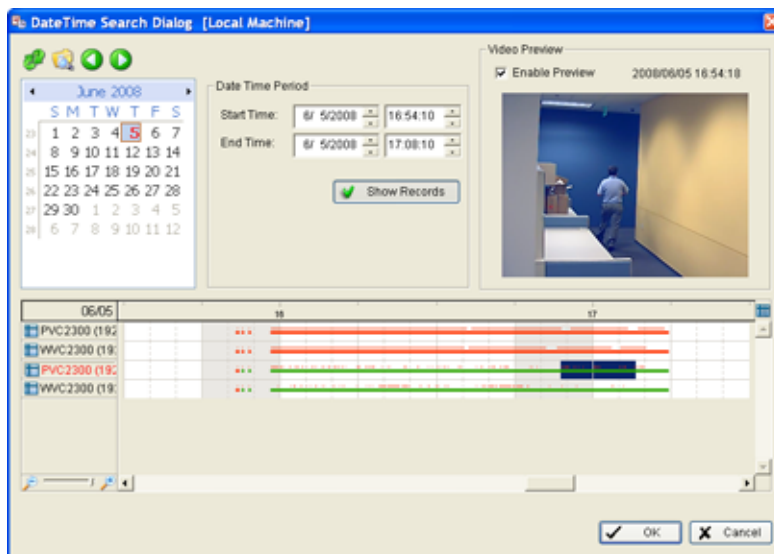
1. In the Main Console window, click the **Playback** icon.



2. The Playback window appears. Click on **Open Recording** to retrieve records from selected cameras at a specific date and time.



3. In the time table, recorded files are displayed in color bars or colored dots. Highlight any bar or dot to select playback section.



4. Click **OK** to return to Playback Console. The recorded files can now be viewed in the Playback window.

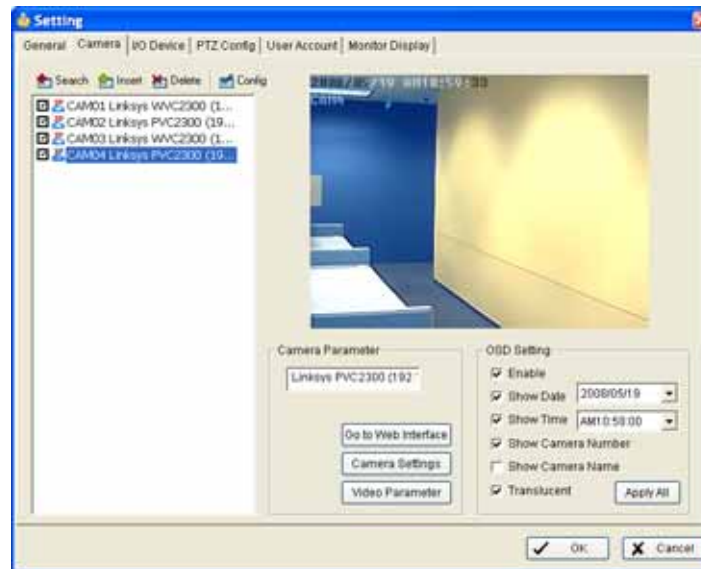
Deleting Cameras

1. In the Main Console window, click the **Setup** icon.



2. Choose **Setting** to bring up the **Setting** window.

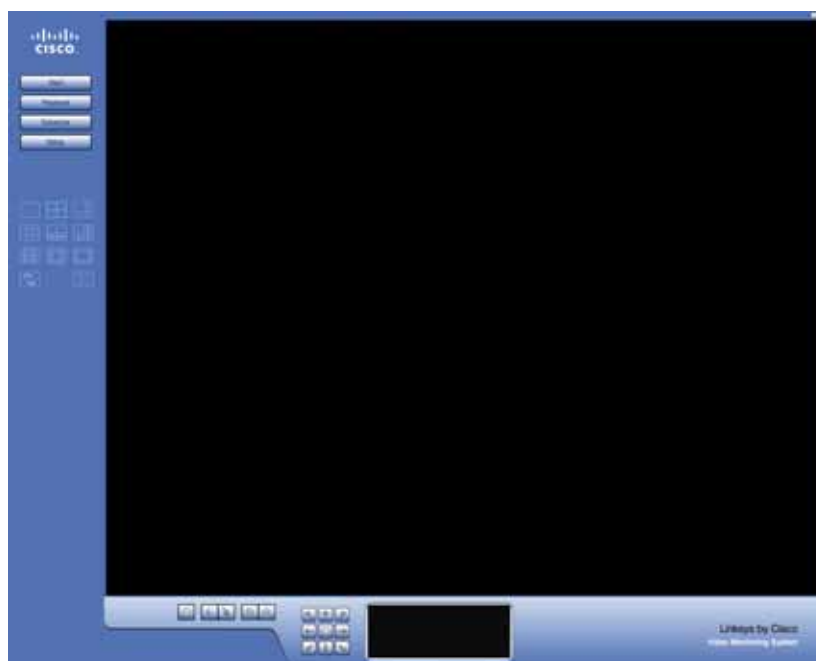
3. Click the **Camera** tab.



4. In the left window, click on the camera or cameras you would like to delete.
5. Click the **Delete** icon.
6. Click **OK**.

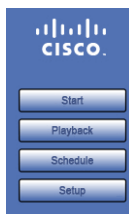
Getting to Know the Linksys Video Monitoring System

Once you have launched the Linksys Video Monitoring software, you will see the Main Console window. From the Main Console window you can configure and control your cameras.



Understanding the Main Console Window

On the right side, the following menu icons are active.



Start

The Start icon allows you to activate Start or Stop recording. During recording, a radio button appears on the upper right corner of each camera. Red means that the camera is always recording. Green means the camera is recording only on motion.

Playback

Click on the **Playback** icon to access the Playback window. You can watch recorded videos, adjust images of the stored data, save video and pictures, print images, check log information and event records. See ["Using the Playback Application," on page 25](#) for full information.

Schedule

Click on the Schedule icon to set up a recording time schedule and to record on motion. See ["Setting a Schedule," on page 35](#) for full information.

Setup

Click on the Setup icon to configure and modify general camera settings, save or load configuration settings, view logging data, backup your data, or access information about the Main Console window. See ["Configuring Video Settings," on page 41](#) for full information.

Screen Division Options

Under the menu icons are the screen division icons. Click on the desired layout icon. To switch to a single camera display, double-click on a particular sub-screen. Double click on the screen again to return to the previous screen layout. The **Esc** key on your keyboard will take you back to your default Main Console window.



Camera Control for PTZ Cameras

At the bottom of the Main Console window are PTZ camera controls that allow you to direct the movement of your camera. T

Patrol

The Patrol icon allows you to move the camera in a preconfigured pattern in order to scan the field of vision.



When you click the Patrol icon. The following menu items appear:

- **Start Patrol**—Rotates through the defined preset positions.
- **Stop Patrol**—Stops the patrol rotation.
- **Set Patrol**—Define the rotation sequence of the preset positions and the interval in seconds.
- **Start Autopan**—Continuous rotation of the camera in the horizontal axis.
- **Stop Autopan**—Stops the autopan rotation.

Preset Points

The Preset Point icons (Set and Go) allow you to set preset points and then move the camera in conjunction with these points.



- **Set**—The **Set** icon allows you to adjust the camera view. Click on the **Set** icon and set up the view as the preset point 01. Adjust the camera view again and set up the preset point 02. Repeat the process until you finish setting up all preset points. You can enter any names you like to instead of the preset point 01, preset point 02, preset point 03.
- **Go**—View the result of your preset point settings.

Zoom

Click on the + and – signs to zoom the view in and out.



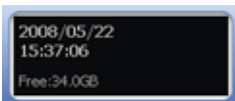
PTZ Directional Movement

Allows you to incrementally adjust the camera in eight directions, and back to home.



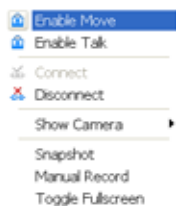
Information Window

At the bottom of the Main Console window, the Information window can display the video date and time and free disk space. You can change the information display at any time. See [“Informational Display” on page 43](#).



On Screen Menu

Right click on the Main Console and the **On Screen Menu** appears:



This menu allows you to do the following tasks:

- **Enable Move**—With cameras that support PTZ functionality, you may adjust the camera's view by clicking on the display screen. The clicked location becomes the center of the view for the camera. To cancel this function, right click on the screen and select **Disable Move**,



NOTE: You can only work on the current camera after clicking Enable Move.

- **Enable Talk**—With cameras that have audio enabled, and that support two-way audio, this function enables two-way communication.

The Linksys IP cameras have a built-in microphone or you can attach an external microphone and/or speakers. Two-way audio requires an external speaker to be attached to the camera. When using a two-way audio connection, consider setting the speaker a few feet away from the microphone on the camera.



NOTE: Audio must first be enabled on your camera. See your camera user guide for details.

- **Connect/ Disconnect**—Modifies the connecting status of the camera.
- **Show Camera**—Selects the camera to be displayed in the Show Camera Menu.
- **Snapshot**—Captures the current video image immediately. You have the option to copy the image to the clipboard so you can use it in graphic application software, or you can save the image on your PC.
- **Manual Record**—Saves the video clip to a defined storage path (defined in **Setup>Setting>General>Storage>Location**). Use the Playback window to retrieve the recording video clips.
- **Toggle Full Screen**—Views a specific camera in full screen format.

Exit and Minimize

As in most programs, click on the “_” to minimize and the “X” in the upper right hand corner to exit the application:.



Using the Playback Application

In the Playback window, you can watch the recorded video, set recording options, view log files, and save and print your files.

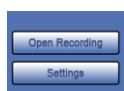


This chapter describes the options found on the Playback window and how to access recorded video:

- ["Understanding the Playback Window" section on page 25](#)
- ["Accessing Recorded Video" section on page 31](#)
- ["Setting Recording Options" section on page 33](#)

Understanding the Playback Window

On the right side of the window, the following menu icons are active immediately:



Open Recording

Click on the **Open Recording** button to access the **Date-Time Panel** and withdraw the video record that you want to review. See ["Accessing Recorded Video" on page 31](#) for further information.

Settings

Brings up the Options menu. See ["Setting Recording Options" on page 33](#) for more information.

Video Settings

On the right side of the window, the following menu icons are active while video is played:



Enhancement

The Enhancement **Post Processing Tool** allows you to enhance your playback video in real time according to the selections you make in the processing tool.



Field Definitions

- **Visibility**—Check the option and adjust the gamma value of the image to enhance the image and make it cleaner.
- **Sharpen**—Check the option to activate the function. Move the slider control to the right to sharpen the image, to the left to soften it.
- **Brightness**—Check the option to activate the function. Move the slider control to the right to make the image brighter.
- **Contrast**—Check the option to activate the function. Move the slider control to the right to increase contrast.
- **Grey Scale**—Check the option to show the record in grey scale mode so the image displays in black and white.

Save Video

The Linksys Video Monitoring System stores all recorded data in a proprietary format. For video to be shared and viewed on common media players, the video must first be saved in a standard compression format. The choices of format are ASF and AVI.

1. Click on the display screen to choose the camera display that you want to save as a video clip.
2. Set up the cue in and cue out points; the cue in and cue out time will show on the Playback window's information window.



3. Click the **Save Video** icon and choose the folder where you want to save the file.
4. Enter the file name and click **Save**. After clicking **Save**, you may choose to export the file with both audio and video or video only.
5. Choose the compression format and then save the video.

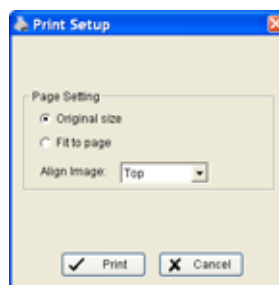
Save Image

1. Click on the display screen to choose the camera display from which you want to save pictures.
2. Click **Save Image** button when the image you want is shown on the screen. You may click Pause to freeze the video, or use the Step Forward/ Step Backward function to find the picture(s) that you want to save.
3. Choose the folder and the format of image (BMP or JPEG) you prefer and then click **Save**.

NOTE: You may skip step 3 by pre-setting a folder and format that you want to save the images. See **Automatically save the image file** in ["Setting Recording Options,"](#) on page 33.

Print

This **Print Setup** window allows you to print the current image of a video.

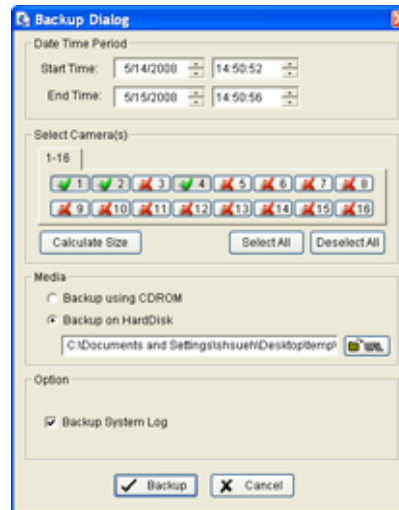


Field Definitions

- **Print in original size**—Select to have the image print in original size.
- **Fit the page**—Select to have the image fit the page.
- **Align Image**—Align the image to the top, center, or bottom.

Back Up

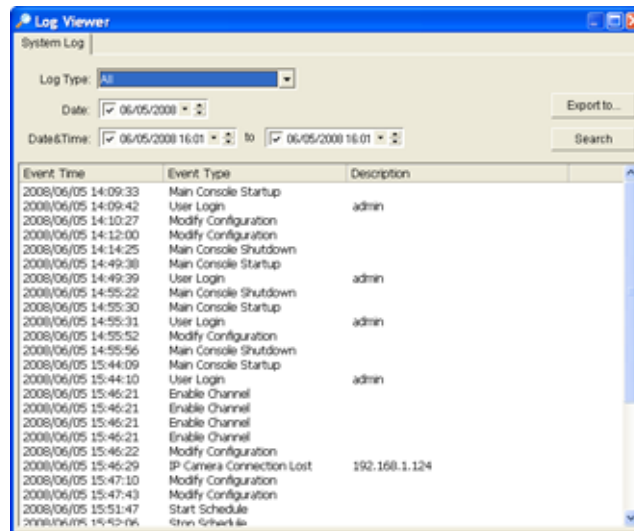
The Backup function saves video and log information. You can load backup files onto a fully-functioning Playback Console on any Microsoft Windows computer. This means that you can monitor the video real time on one PC and work on the backup files on different computer simultaneously.



Use the following procedure to backup your files:

1. Press **Open Recording** in the Playback window to select the data to backup. Click **OK**.
2. Press the **Backup** button.
3. Adjust the Start Time and End Time of the data that you want to backup.
4. Select the Cameras that you want to backup.
5. Calculate the size of the backup data.
6. Select how you want the backup data stored.
7. Check the log you want to backup.
8. Press **Backup**.

Log Viewer



Viewing the System Log

System Log—You can choose the log type from the drop-down menu. A list of some of the available log types follows:

- All
- Main Console Startup
- Main Console Shutdown
- User Login
- User Login Failed
- Start Schedule
- Stop Schedule
- Execute Recycle
- Execute Backup
- Enable Channel
- Disable Channel
- Modify Schedule
- Modify Configuration
- IP Camera Connection Lost
- Auto Restart Main Console

1. Choose the event from the Log Type menu or select **All** from the drop-down menu for all types of events.
2. You may view events that happened on a particular date or during a given time period. To search and view unusual event happened on a particular date, mark the box right next to **Date** and indicate the date.

You may also point out two different time points and search for unusual events that happened during the period. Mark the box in the Date&Time column and then enter the date and time.

3. Click **Search**.

Exporting from the Log Viewer

After searching the log, you can export to an .xls or .txt file.

1. Press **Export to**.
2. Type the file name and choose the file format (.xls or .txt).

Playback Controls

At the bottom of the playback window are the playback controls.



- **Play**—Plays the recorded video.
- **Pause**—Pauses the recorded video.
- **Step Forward/Step Backward**—Speeds the video forward by frame.
- **Previous/Next**—Speeds the video forward in minutes. You can set the amount of time in [“Setting Recording Options”](#) on page 33.
- **Stop**—Stops the playback of the video.
- **Zoom**—Click on the + and – signs to zoom the view in and out. To get a close up view of the recorded video; move to the spot you want to view by dragging the screen.
- **Speed**—Controls the speed of the playing video. Click + to speed up and – to slow down.
- **Audio Volume Control**—Adjusts the sound level.
- **Scroll bar**—Indicates the status of the playing video and allows you to drag it to what you want to review.
- **Information Window**—Displays video date and time, current video status, cue in/ out time, and speed.

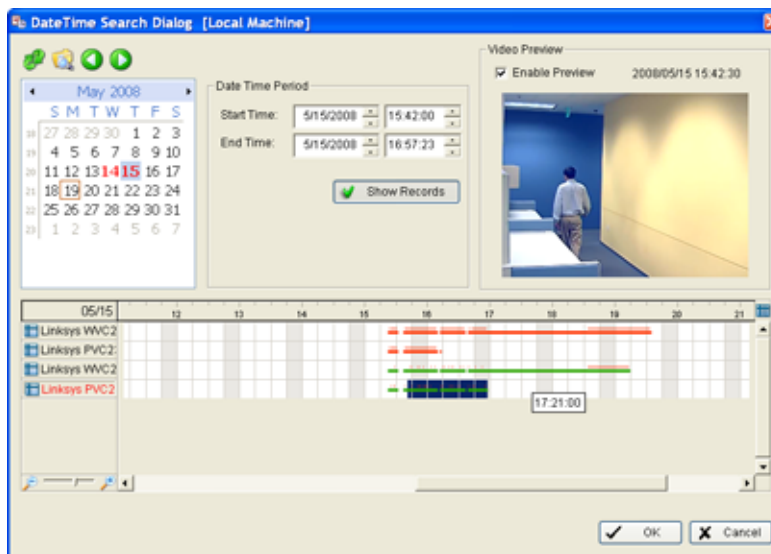
Exit and Minimize

As in most programs, click on the “_” to minimize the Playback window and the “X” in the upper right hand corner to exit the Playback window (returns you to the Main Console window).



Accessing Recorded Video

The **Open Recording** button found in the Playback window, brings up the **Date Time Search Dialog** window. The **Date Time Search Dialog** window allows you to view recorded events. It may show in calendar or list control view. To change the view, see the **Options** window described in the “[Setting Recording Options](#)” section on page 33.



Understanding the Date Time Search Dialog Window

Icons



- The green arrow icons refresh the record display window.
- The file icon brings up Log Viewer. See “[Log Viewer](#)” section on page 29.
- The forward and back icons allow you to switch between recording dates.

Field Definitions

- **Date Time Period**—Selects the start and end time points for the time period you would like to view.
- **Show Records**—Places a thin red line, a red dot, or a red dotted line above the recording bar when a recording occurs. This is especially useful when recording on motion. In such a case, a red dot or dotted line is placed over the green bar indicating motion-triggered recording.
- **Video Preview**—Check the enable preview option to view the selected video.
- **Time Table**—Shows the recording made throughout a 24-hour period. Use the scroll bar to zoom into a particular time period. The +/- in the time table help you change the resolution of the time graph so you can pick the correct time period you want to watch. When you zoom out you can see all 24 hours in the bar. To select a very small piece of video, zoom in so you can manage the time more minutely.

Using the DateTime Search Dialog Window

The **DateTime Search Dialog** window can be shown in (a) calendar view or (b) list control view. To modify the setting of the record display window, click on the **Setting** button (see [“Setting Recording Options” on page 33](#)) in the Playback Console.

To access immediate recorded events:

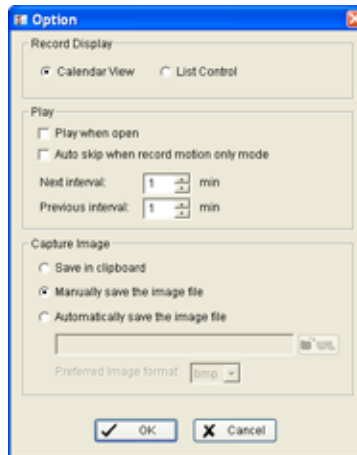
1. From the **Main Console** click the **Playback** icon. The Playback window appears.
2. Click the **Open Recording** button. The **DateTime Search Dialog** window appears.
3. Recorded events are shown in red (Record Always), or green (Record on Motion). Highlight the event in the main window by left clicking and dragging.
4. Check the **Enable Preview** option to see a preview of the video you selected.
5. Click **OK**.

To access recorded events by date:

1. From the **Main Console** click the **Playback** icon. The Playback window appears.
2. Click the **Open Recording** button. The **DateTime Search Dialog** window appears.
3. Select the date of the record that you want to withdraw. The red and green lines shown on the time table indicate available recorded video records.
4. Highlight the video clip you want to review by left-clicking and dragging for the required time period. You may also pick a Start Time and End Time.
5. Modify the scale of the time table with the + and – signs found at the bottom left of the screen.
6. Check the **Enable Preview** option to get the preview of the video you select.
7. Click on specific camera names to increase or decrease the number of cameras you want to playback.
8. Click **OK**.

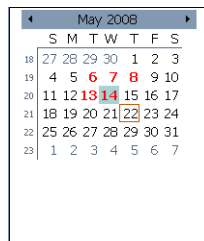
Setting Recording Options

The **Options** window allows you to change the settings within the **DateTime Search Dialog** window. It also allows you to change video recording and saving parameters. To access this window, click the **Settings** button in the Playback window.

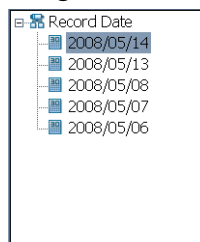


Field Definitions

- **Calendar View**—Shows dates of recording in red, with the red square indicating the current date.



- **List Control**—Shows dates of recording.



- **Play when open**— Check this option to start playing the video clip every time a record is withdrawn.
- **Auto skip when record motion only mode**—Check the option to set up the system to automatically skip to the points where there were motions recorded.
- **Next interval**—Set the time interval the video goes forward when you click on the **Next** icon on the control panel.

- **Previous interval**—Set the time interval the video goes backward when you click on the **Previous** icon on the control panel.
- **Save in clipboard**—The image is saved in the clipboard so you can use it in graphic application software.
- **Manually save the image file**—Select where you want to save the image, name the saved file, and choose the format you want to save the image.
- **Automatically save the image file**—By pre-setting a path/URL and the image format, the system automatically saves the image accordingly when you click the **Save** button in the control panel.

Setting a Schedule

Using the Schedule Configuration window you can set up the time duration for video recording.



Day Mode

You can schedule the cameras to turn the recorder on and off at the same time every day. To setup the time schedule for each camera, you may do one of the following:

- [“Load Preset Modes” on page 35.](#)

or

- [“Insert New Schedules Manually” on page 36](#)

Load Preset Modes

Click on the **Load** icon (upper left of the Schedule window) for the drop-down menu. Choose one of the following modes:

- **Regular Mode**—Sets recording to 24-hours a day with the setting of 30 FPS (frames per second), normal video quality, and normal resolution.
- **Office Mode**—Sets recording from 8 am to 8 pm (08:00 – 20:00). The recording is shown on the red bar in the Schedule Configuration panel with the setting of 30 FPS, normal video quality, and normal resolution.
- **Shop Mode**—Sets recording from 10 am to 10 pm (10:00 – 22:00) with 30 FPS, normal video quality, and normal resolution.
- **Highly Secure Mode**—Sets recording 24-hours a day with the setting of 30 FPS, the highest video quality, and with high resolution.
- **Disk Saving Mode**—Sets recording to start only when a motion is detected on the screen, 24 hours a day (shown on the green bar in the Schedule Configuration panel), with the setting of 30 FPS, normal quality, and normal resolution. You can adjust the sensitivity, interval, and area of motion detection in the Schedule Configuration.

- **Minor Mode**—Sets recording to always record, with the setting of 15 FPS, low quality, and low resolution. You can adjust the sensitivity, interval and area of motion detection in the Schedule Configuration.

Insert New Schedules Manually

1. Click the **Schedule** icon. The Schedule Configuration window appears. The red bar indicates that the camera is always recording



2. Click the **Day Mode** button.
3. Choose a camera from the list on the left.
4. Left-click in the main window and draw a bar indicating the time that you want scheduled on the time table. The scheduled time shows as a grey bar.



5. Click the **Insert** icon to add a new schedule in the Regular Mode. That is, to record video during the time period you set with 30 FPS, normal video quality, and normal resolution.
6. Click **OK**.

Copying a Schedule

You may set up the schedule for each camera by repeating the process above, or by using the **Copy to** icon (upper left of the Schedule Configuration window) to apply the setting of a single camera to all the others.

Week Mode

You may schedule the cameras differently for each day of the week. In addition, you may assign extra holidays under Week Mode.

- **Default**—Sets up the schedule for every day in a week.
- **Holiday**—Assigns holidays and the system works according to a Sunday schedule.
- **Custom**—Assigns a particular date(s) and the system works according to a special schedule(s) different from the other schedules.

To set up a schedule for every day in a week:

1. Click **Week Mode**. The **Week Mode** window appears.
2. In the left window, scroll down to the selected day of the week.
3. Left-click in the main window and draw a bar indicating the time that you want scheduled on the time table. The scheduled time shows as a grey bar:



4. Click the **Insert** icon to add a new schedule in the Regular Mode. That is, to record video during the time period you set with 30 FPS, normal video quality, and normal resolution.
5. Click **OK**.

Copying a Schedule

You may set up the schedule for each camera by repeating the process above, or by using the **Copy to** icon (upper left of the Schedule Configuration window) to apply the setting of a single camera to all the others.

Adjusting Configuration Settings

Many settings are configurable and you can manually change the setting at any time after you insert or load a period of schedule in either **Day** or **Week** mode. To change your settings, click the **Configure** icon. The **Encoding Options** window appears:



Field Definitions

- **Start and End Time**—Sets your recording time.
- **Pre-record and Post-record Time**—Saves the recording data accordingly. For instance, a 5-second pre-record time means the system starts saving the recording data 5 seconds before the event happens.
- **Always Record**—Select this option to record the video at all time.
- **Record on Motion**—Select this option to start recording when motion is detected.

To record motion, you need to define one or more detection zones:

1. Click the radio button for **Record on Motion**.
2. Left-click and drag the mouse to draw up to 10 (green) rectangular detection zones of the area you want to monitor.



NOTE: When motion is detected in the defined area of interest, the area starts flashing green and red.



3. Configure the recording schedule on the right side of the screen.
4. Set the Sensitivity to "Normal" and the Frame Intervals to "5" to start. These settings may be adjusted later
5. Click **OK** to go back to the Schedule Configuration window.
6. A green bar indicates that the recording is now done when motion is detected.



7. Click **OK** again to go back to the Main Console window. When triggered, the area set as the detection zone area turns red.



NOTE: Specific recording events are shown in the center of the Schedule window. Double click any event to go back to the **Encoding Options** window to change any setting.

Configuring Video Settings

The **Setup** menu allows you to configure cameras, save or load configuration settings, backup your data, or access information about the Main Console. To access the **Setup** menu, click on the **Setup** icon in the main window and the following menu appears:

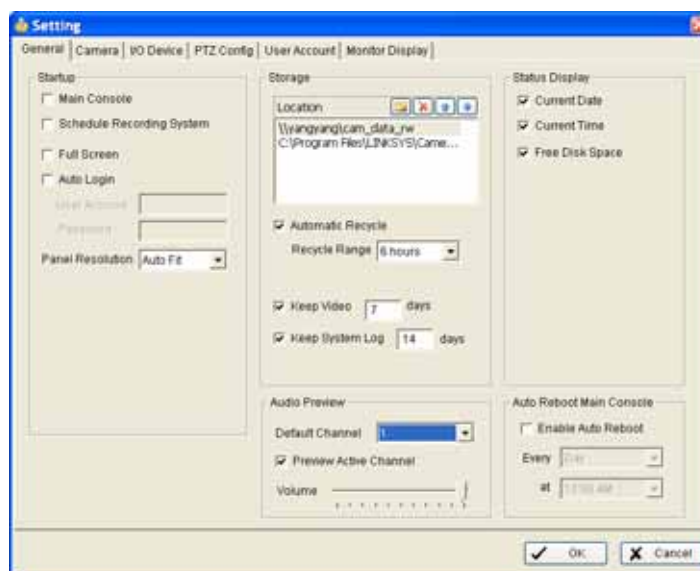


The following menu items that are discussed in this chapter:

- ["Configuring Settings" section on page 41](#)
- ["Saving and Loading to a Configuration File" section on page 49](#)
- ["Log Viewer" section on page 49](#)
- ["Backup" section on page 50](#)
- ["About Main Console" section on page 54](#)

Configuring Settings

When you choose the **Setting** from the **Setup** menu, the following window appears:



General Tab

The General tab consists of five active sections: **Startup**, **Storage**, **Audio Preview**, **Status Display**, and **Auto Reboot**.

Startup

Check the features that you would like active upon startup of the Linksys Video Monitoring System. These features will also be active upon an "Auto Reboot".

- **Main Console**—Brings up the Main Console window when the Linksys Video Monitoring System starts.
- **Schedule Recording System**—Activates recording upon startup. You may start or stop this function in the Main Console window.
- **Full Screen**—Opens the Linksys Video Monitoring System to full screen upon startup.
- **Auto Login**—Automatically login with your pre-configured login name and password upon startup.
- **Panel Resolution**—Defines the system resolution upon startup. Select **Auto Fit** to have the system choose the best resolution for you.

Storage Settings

- **Location**—Used to assign the default folder for the system to store all data files. You can also define more than one location as a storage location. The configured locations are limited to one path per partition drive. For example, you may not set two or more paths in the same C:/ or D:/ drive, or two or more paths in one partition in a network storage unit.
- **Automatic Recycle**—Automatically deletes the earliest defined recycle range in the configured storage. For example, if your storage space is 30 Gb (which equals approximately 72 hours at 640x480, 10 FPS) and your Recycle Range is set for "6 hours," the Linksys Video Monitoring System deletes the first 6 recorded hours once the recording gets close to using up the full storage space.
- **Keep Video**—Keeps the recordings for the defined number of days. Only "0" or a positive number of days is allowed. When "0" (day) is entered, it means the video is only kept the day of the recording. If **Automatic Recycle** and **Keep Video** are both enabled, the recording is kept for the defined number of days and the earliest hours/days in the range are deleted. If your storage space is less than what is set in **Keep Video**, the Linksys Video Monitoring System falls back to deleting the defined range set in **Automatic Recycle**, ignoring the days set in **Keep Video**.
- **Keep System Log**—Deletes the system log data that is older than the number of days set. Only "0" or a positive number of days is allowed. When "0" (day) is entered, it means the log is only kept the day of the recording.

Audio Preview Settings



NOTE: The Linksys IP cameras have a built-in microphone or you can attach an external microphone and/or speakers. Two-way audio requires an external speaker to be attached to the camera. When using a two-way audio connection, consider setting the speaker a few feet away from the microphone on the camera.

- **Default Channel**—Select a camera channel to play audio.
- **Preview Active Channel**—Check the **Preview Active Channel** option to hear the audio from the camera you selected on the Main Console. The camera selected in **Default Channel** plays if no camera was selected on the Main Console.
- **Volume**—Adjust the volume with the **volume bar**.

Informational Display

Check the boxes of the information that you wish displayed in the Information window at the bottom of the Main Console window:

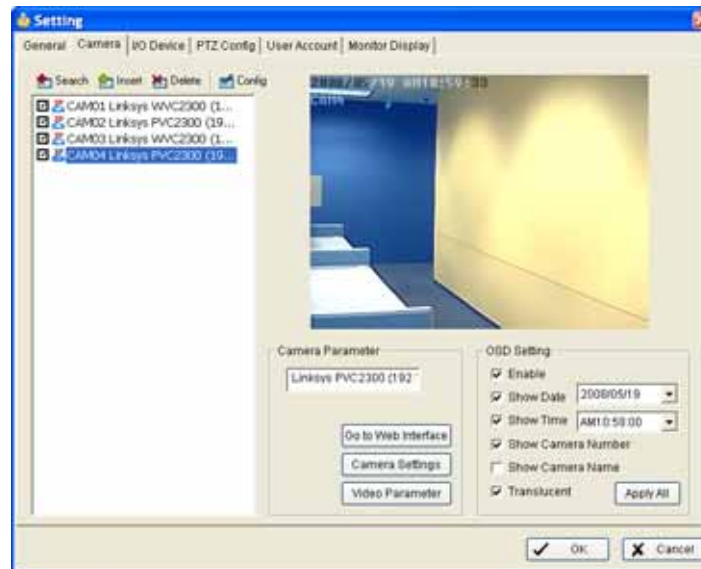
- **Current Date**
- **Current Time**
- **Free Disk Space**

Auto Reboot

Check **Enable Auto Reboot** so that you can reboot the system at the time you select, then select the reboot time.

Camera Tab

The following are descriptions of the fields found on the camera tab:



Camera Functions

Four function buttons are included in the Setting and Camera window.

- **Search**—Click on the Search icon to obtain the Search IP Camera panel. The system starts scanning automatically once the panel is opened; stop scanning by clicking on the Stop Scan button.

Fill in the user name and password for each IP camera found and click **OK** to add it to the camera list.

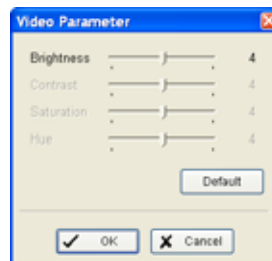
- **Insert**—Click on the **Insert** icon to obtain the IP/Video Server Setting panel and add IP cameras to the list. See [“Adding Cameras Manually” section on page 11](#) for details.
- **Delete**—Click on the **Delete** button to remove the selected IP camera(s) from the system. Click **OK** to finalize the modification.
- **Config**—Click on the **Config** button to obtain the **IP Camera/Video Server Setting** panel.
 - **Network**—Modify the IP camera settings including Name, IP Address, Http Port, User Name, Password and Protocol) as provided by the camera manufacturer. Check “Use DNS” to use domain name instead of IP address.
 - **Device**—Choose the IP camera manufacturer from the drop-down menu. Click on **Auto Detect** and the model name will show in the box.
 - **Description**—Shows information about the IP camera.
- **Camera List**—Lists the camera(s) connected to the system. Click the name of the camera to adjust the setting.

Camera Parameter

- **Go to Web Interface**—Takes you to the camera's main page, where you can view live video, control the camera, and set other camera functions.
- **Camera Settings**—Sets camera parameters such as video type (MPEG4, MJPEG), resolution, bit rate, quality, frame rate, and enabling audio inputs and outputs.



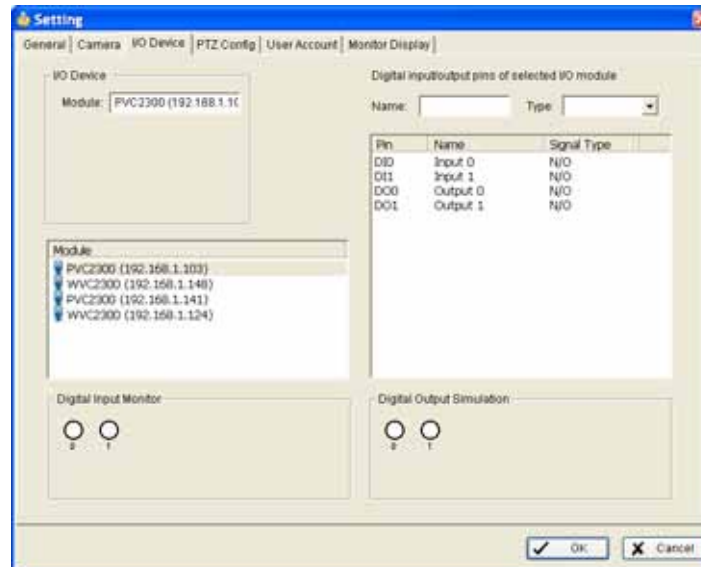
- **Video Parameter**—Adjusts the video's brightness, contrast, saturation, and color hue.



- **OSD Setting**—Selects the information that you wish to see in the on-screen display. Options include: enable, date, time, camera number and name, and translucent. Translucent allows OSD text to be transparent, and not block out the video.

I/O Device Tab

The I/O Device tab is for your information only and is not configurable. The following are descriptions of the fields found on the I/O Device tab.

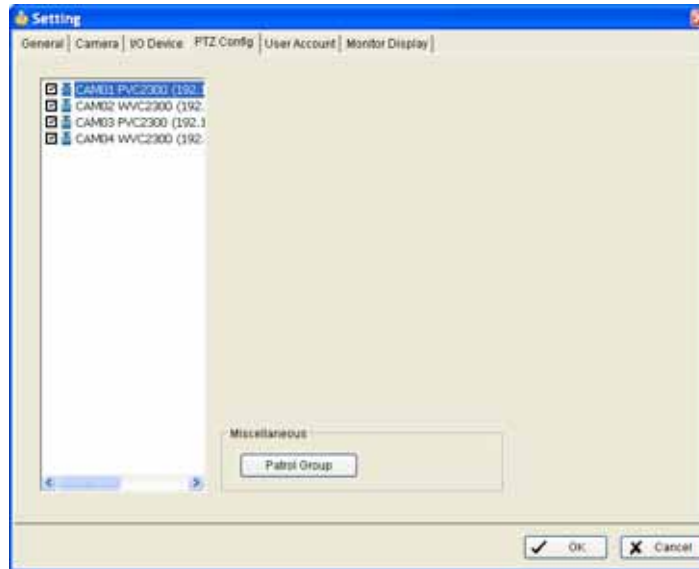


I/O Device Tab

- **Module**—Camera name.
- **Module**—Displays the device(s) already installed to the system.
- **Digital Input Monitor**—The device(s) is turned on if the dot is red.
- **Name**—These fields are not configurable.
- **Type**—These fields are not configurable.
 - **N/O**—Normal Open.
 - **N/C**—Normal Close.
- **Digital Output Simulation**—The device(s) is turned on if the dot is red.

PTZ Config Tab

The following are descriptions of the fields found on the PTZ Config tab:



Cameras without built-in Pan Tilt Zoom capabilities control a PTZ base through an RS-485 serial connection. Refer to the camera user guide for setup and configuration of the RS-485 interface to a Pan Tilt base.

Miscellaneous

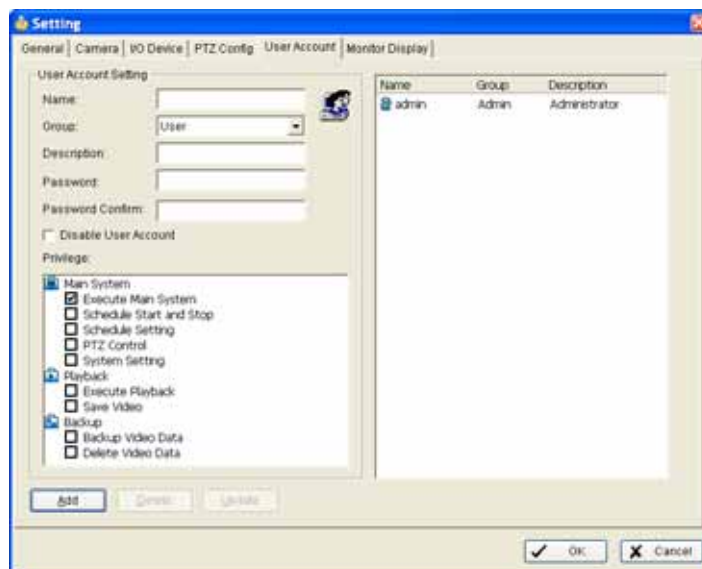
Patrol Group—Setup the Patrol Group. The **Patrol Setup** window allows you to define the sequence of the preset positions and the interval periods between the preset points.



In the left side of the Patrol Setup window, select the cameras that you would like to have in the patrol group. Align the cameras in order in the right window and adjust the time. Rename the group name, as desired. After completing the setup, check the **Active** option, and then click **OK**.

You can setup up to four groups of auto patrol.

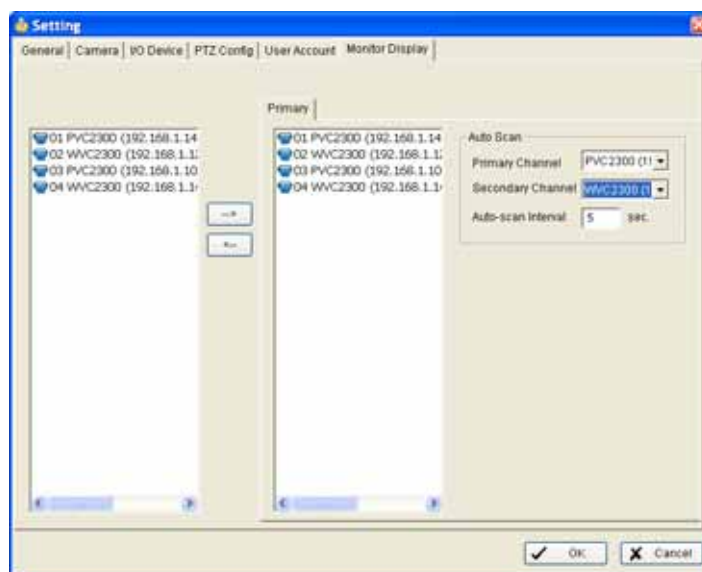
User Account Tab



The administrator may manage the user accounts here. From the list on the right, highlight each account and modify the privilege setting.

Monitor Display Tab

The following are descriptions of the fields found on the Monitor Display tab:



- **Cameras List**—The left side displays a list of all cameras; modify the cameras shown in the Primary (right) window.

- **Auto Scan**—Activate auto scan to rotate the channels/ cameras on the display screen.

For instance, you may select to show only 4 sub-screens on the main console while having 16 channels connected to the system. With auto scan, you will be able to see all 16 channels in turn. You can set the auto-scan interval and a primary channel that will always be on the screen and a secondary channel that has secondary priority.

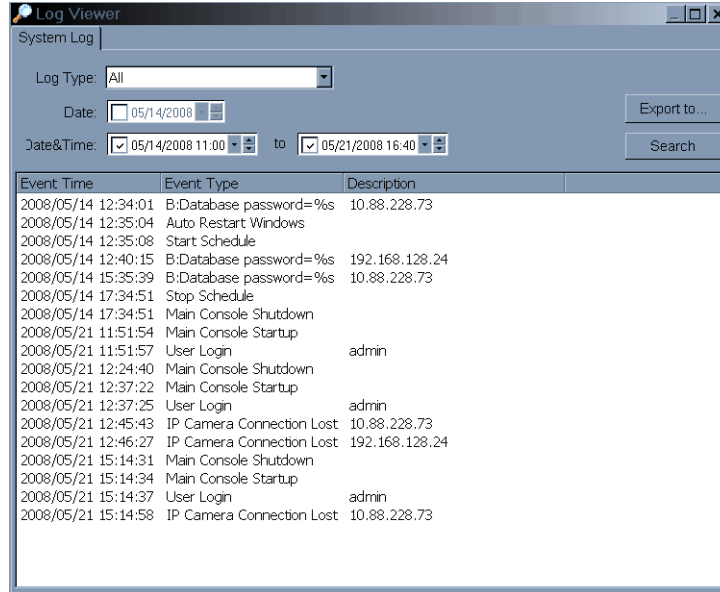
Saving and Loading to a Configuration File

The Save/ Load Configuration function allows system users to save any specific setting as a .cfg (config) file. You may save up several different .cfg files at any time

Save Configuration—To save a specific setting, go to **Setup > Save/ Load Configuration > Save**. In the popup window, type in the file name and then save it as a .cfg file.

Load Configuration—To load a specific setting, go to **Config > Save/ Load Configuration > Load**. In the popup window, go to the directory where you saved the .cfg files at, select any one of them and then click **OK** to load the file. The Main Console window is automatically shutdown after loading a new configuration. Please re-start the Main Console window manually.

Log Viewer



The screenshot shows the 'Log Viewer' application window. It has a title bar with 'Log Viewer' and standard window controls. Below the title bar is a 'System Log' tab. The interface includes a 'Log Type' dropdown menu set to 'All', a 'Date' field with a calendar icon set to '05/14/2008', and a 'Date&Time' range selector from '05/14/2008 11:00' to '05/21/2008 16:40'. There are 'Export to...' and 'Search' buttons. The main area is a table with three columns: 'Event Time', 'Event Type', and 'Description'.

Event Time	Event Type	Description
2008/05/14 12:34:01	B:Database password=%s	10.88.228.73
2008/05/14 12:35:04	Auto Restart Windows	
2008/05/14 12:35:08	Start Schedule	
2008/05/14 12:40:15	B:Database password=%s	192.168.128.24
2008/05/14 15:35:39	B:Database password=%s	10.88.228.73
2008/05/14 17:34:51	Stop Schedule	
2008/05/14 17:34:51	Main Console Shutdown	
2008/05/21 11:51:54	Main Console Startup	
2008/05/21 11:51:57	User Login	admin
2008/05/21 12:24:40	Main Console Shutdown	
2008/05/21 12:37:22	Main Console Startup	
2008/05/21 12:37:25	User Login	admin
2008/05/21 12:45:43	IP Camera Connection Lost	10.88.228.73
2008/05/21 12:46:27	IP Camera Connection Lost	192.168.128.24
2008/05/21 15:14:31	Main Console Shutdown	
2008/05/21 15:14:34	Main Console Startup	
2008/05/21 15:14:37	User Login	admin
2008/05/21 15:14:58	IP Camera Connection Lost	10.88.228.73

Viewing the System Log

System Log—You can choose the log type from the drop-down menu. A list of some of the available log types follows:

All	Execute Backup
Main Console Startup	Enable Channel
Main Console Shutdown	Disable Channel
User Login	Modify Schedule
User Login Failed	Modify Configuration
Start Schedule	IP Camera Connection Lost
Stop Schedule	Auto Restart Main Console
Execute Recycle	

1. Choose the event from the Log Type menu or select **All** from the drop-down menu for all types of events.
2. You may view events that happened on a particular date or during a given time period. To search and view unusual event happened on a particular date, mark the box right next to **Date** and indicate the date.

You may also point out two different time points and search for unusual events that happened during the period. Mark the box in the Date&Time column and then enter the date and time.

3. Click **Search**.

Exporting from the Log Viewer

After searching the log, you can export to an .xls or .txt file.

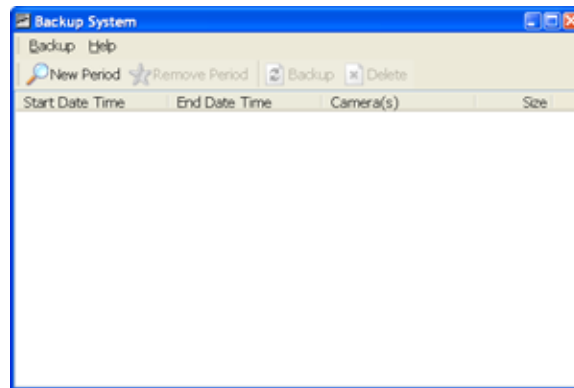
1. Press the **Export to**.
2. Type the file name and choose the file format (.xls or .txt).

Backup

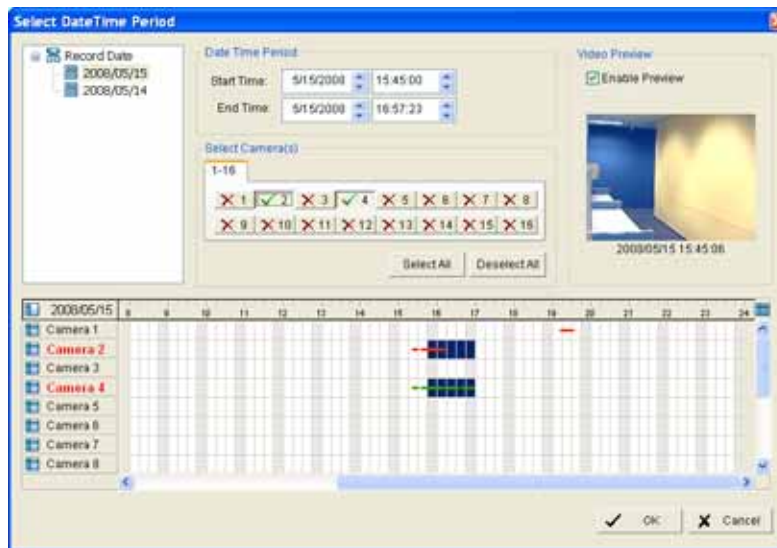
Different from **Save Video**, the Backup function saves everything from the Playback panel, including log information.

You can load backup files onto a fully- functioning Linksys Video Monitoring Playback Console on any Microsoft Windows computer. This means that you can monitor the video real time on

one PC and work on the backup files on different computer simultaneously. Follow the instructions below to obtain backup files

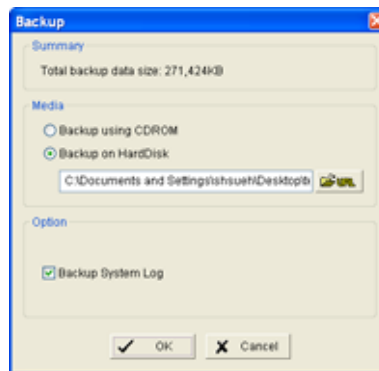


1. Click on **New Period** to obtain the **Select DateTime Period** panel.

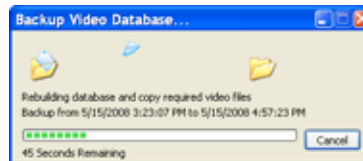


2. Select the date you want to backup. The color lines indicate available data recorded. Red indicates "record always", and green indicates "record on motion".
3. Select the data you want to backup by right clicking and dragging over the time period. Besides the time-table, you may also set up start time and end time in the Date Time Period section.
4. Click on the camera number icon to add camera(s) or click **Select All** to add all the cameras.
5. Check the **Enable Preview** box to get the preview of the video you select.
6. Click **OK** when the settings are complete.

7. The Backup window appears, with your new data. Click the Backup icon to see the backup summary window.



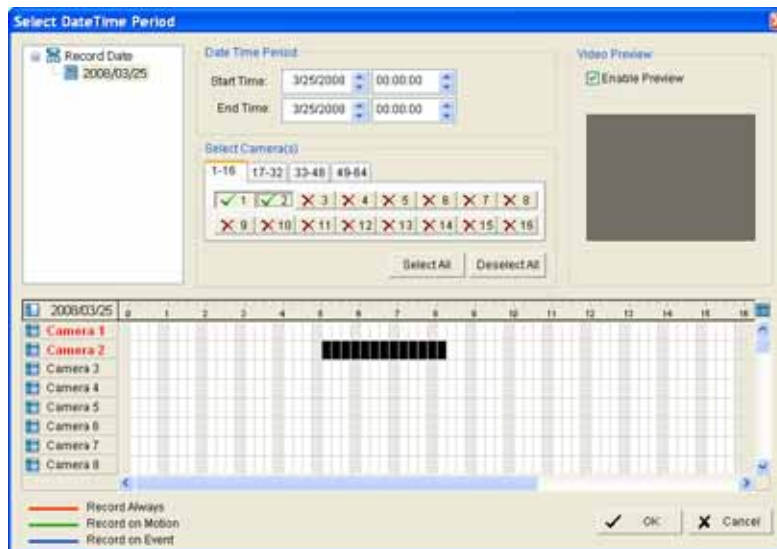
8. The backup summary provides the size of the file. You can also choose the path where you want to save the file, or if you want to burn the file into a CD (direct CD burning is available for Windows XP only).
9. Select **Backup System Log**.
10. Click **OK**. As the backup process complete, a status dialog box appears.



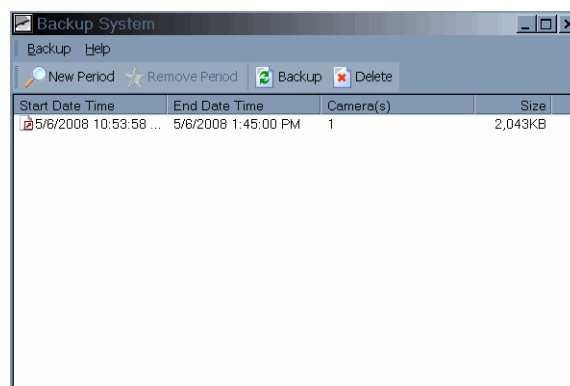
11. A confirmation window appears when the backup is complete allowing you to view the video that was backed up.

Delete Recorded Information from the System

1. Click on **New Period** to obtain the **Select DateTime Period** panel.



2. From the record date section, select the date you want to backup. You will see color lines appear in the time table implying available data recorded. Red indicates "record always", and green indicates "record on motion".
3. Select the data you want to delete by highlighting the time period. Besides the time-table, you may also set up start time and end time in the Date Time Period section.
4. Click on the camera number icon to add camera(s) or click **Select All** to add all the cameras.
5. Check the **Enable Preview** box to get the preview of the video you select.
6. Click **OK** when the settings are complete.
7. The Backup window appears, with your new data.



8. Highlight the data to delete, and click on the **Delete** icon to delete the data.

NOTE: The deleted video cannot be recovered.

About Main Console

Go to About Main Console to view the version of your monitoring system and the hardware information.



Frequently Asked Questions

How many cameras can I monitor? How many people can monitor a camera?

You can monitor up to 16 cameras at one time. Each camera can be monitored by up to 10 different computers at the same time. When the 11th user tries to access the camera, that user will receive a message that indicates the maximum number of viewers has been reached. (One computer can also be set to monitor the same camera multiple times, up to the maximum of 10.)

Can I monitor cameras at other sites within my multi-site network?

Yes. The Linksys Video Monitoring System can be accessed from a remote location.

Can I place the camera in an enclosure?

The compact design of the PVC2300 and WVC2300 cameras allow them to be placed in a protective enclosure for exterior or interior installations. IP66-certified enclosures are recommended. Any camera enclosure should have sufficient ventilation and cooling to ensure that the camera stays within its environmental operating parameters.

My camera doesn't show up when do a search in settings/camera. But I can see the camera is working by logging into the IP address of the camera.

The camera must have UPnP enabled to be detected by the Linksys Video Monitoring System. Using a browser, login to the camera and verify that UPnP is enabled.

I save all of my videos in C:\My Documents\videos, but I can't play any of these files.

The Linksys Video Monitoring System stores all recorded data in a proprietary format. For video to be shared and viewed on common media players, the video must first be saved in a standard compression format. The choices of format are ASF and AVI. See ["Save Video" on page 26](#) for more information.

I setup my recording schedule to record on motion. When I playback recordings, I don't see any motion. Why is the application recording?

Motion detection can be triggered by changes in lighting (such a clouds or sunset/sunrise). While no objects are physically moving in the video, the camera has detected changes which triggers the recording. You can adjust motion detection settings by changing the sensitivity and frame interval settings. See ["Adjusting Configuration Settings" on page 38](#) for more information.

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