

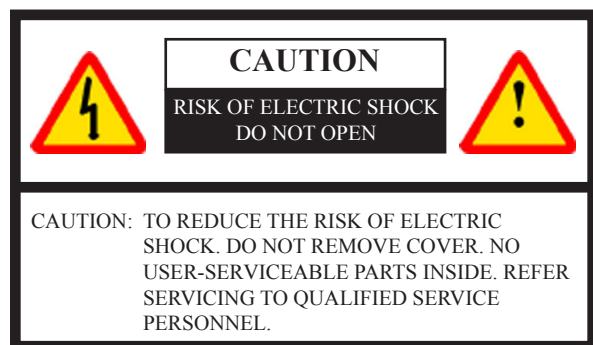
CDVS-7000 Series DVR Setup And Users Manual



Crest Electronics, Inc.
Version 02.28.06

Caution

This installation should be performed by qualified service personnel and should conform to all Federal, State and local laws.



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE

WARNING: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and uses radio frequency energy, and if not installed and used in accordance with instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following methods:

- Relocate the receiving antenna
- Increase the amount of space between the equipment and the receiver.
- Connect the equipment to an outlet which is on a separate circuit than that of the receiver.
- Consult the dealer or an experienced radio/TV technician for help

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance with the FCC Rules could void the user's authority to operate this equipment.

Important Safeguards



Warning

1. Turn off power to the unit prior to changing the battery.
2. Check the polarity of the lithium battery while changing.
3. When changing battery use the same type as original or similar type recommended by your vendor.
4. Dispose of old battery in accordance with the manufacturer of the battery.

General Warning



Warning

1. Use the power cord, which is supplied or recommended by the manufacturer. Failure to do so could cause a fire.
2. Use the power transformer, which is supplied or recommended by the manufacturer. Failure to do so could cause a fire.
3. Do not dismantle or assemble the product. Doing so could cause malfunction or fire.
4. Service should only be done by manufacturer or authorized vendor. Electrical shock or fire could result if repair is not done properly.
5. Do not touch product with wet hands as electric shock may occur.
6. Product must be installed by a qualified professional. Failure to do so could result in malfunction, electrical shock or fire.
7. Consult the place of purchase if the need for installation arises. Poor installation could cause malfunction, electric shock or fire.
8. Ground applies to video products equipped with a 3-wire grounding type plug having a third (grounding) pin. This plug only fits into a grounding type power outlet. If grounding is not done, equipment malfunction or electric shock may occur.
9. Ground connection must not touch gas pipe, water pipe or telephone lines.
10. Prevent foreign metallic substance from going inside the product. Failure to do so could result in malfunction or electric shock.
11. Prevent water or other liquids from entering inside the product. Use damp cloth to clean outside of product. Failure to do so could result in malfunction or electric shock.



Caution

1. Use the power cord and power transformer supplied by the manufacturer or one recommended by the manufacturer.
2. The internal fan rotates at high speed and may cause injury.
3. Do not drop, give unit strong vibration or shock to the product; doing so will cause malfunction.
4. Slots and openings in the front and back of the cabinet are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug or similar surface. The unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and/or the manufacturer's instructions are adhered to.
5. Do not install the product near or on top of heating source. The internal temperature of the product would be greater than the allowable and could cause malfunction or fire.
6. Do not install the product on inclined or unstable locations such as an unstable cart, slant tripod, bracket, or table. The unit may fall, causing serious injury, and serious damage to the unit.

Cautions about the Power



Warning

1. This unit should be operated only from the type of power indicated on the power plate. If you are not sure of the type of power supply at your location, consult your dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.
2. Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to the cord at plugs, convenience receptacles, and the point where they exit from the appliance.
3. Do not cut power cord to connect in the middle of the power cord or use extension cord. Doing so could generate heat or cause fire.
4. Do not touch power cord in wet area or with wet hands.
5. Hold the body of the plug when removing the power cord. Do not pull cord as doing so may generate heat or cause fire.
6. Remove the power cord from the outlet when not in use for long periods of time. This will prevent damage to unit due to lightning and power line surges.

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Chapter 1

Overview of Main Screen

Overview of Main Screen

This section describes the main screen and its menu buttons. The image below details the name of the buttons.

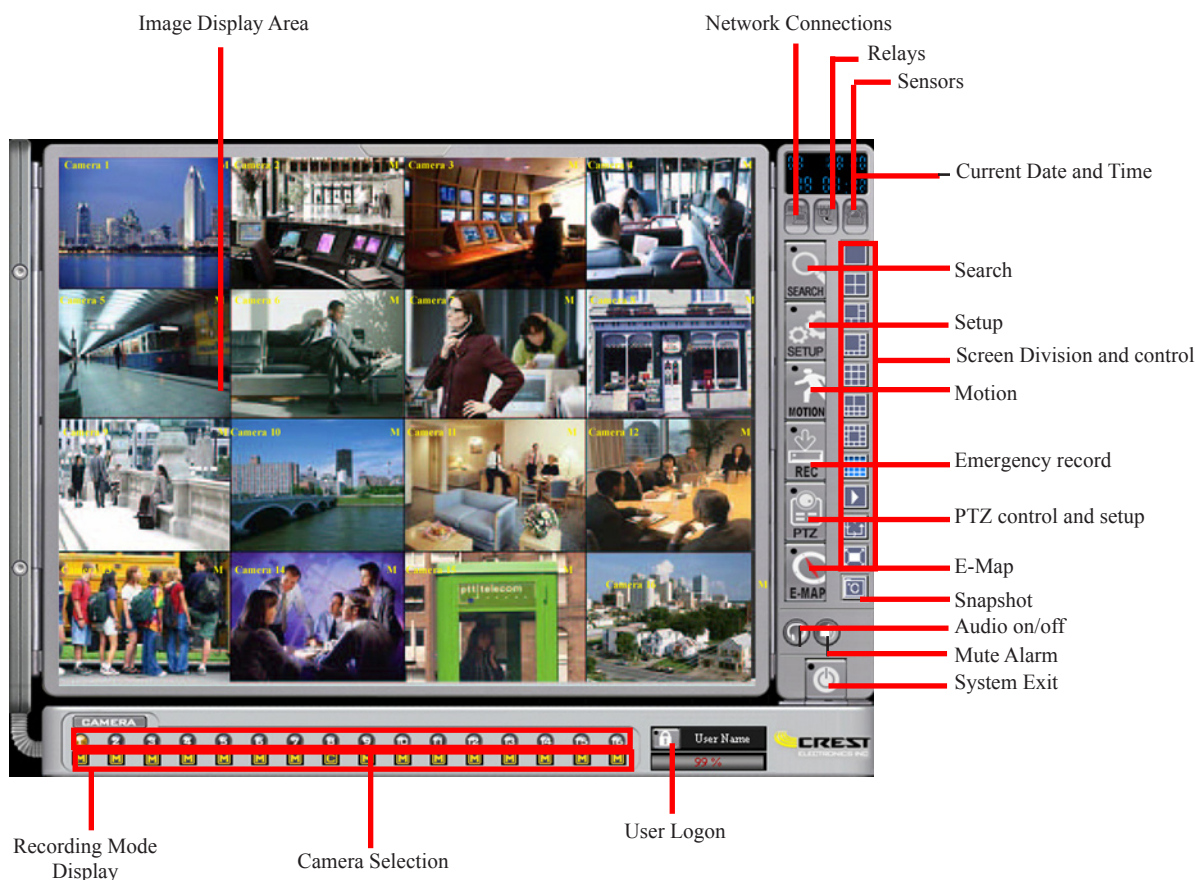


Image Display Area

The image display area displays the live images of the current cameras. This display can be changed by clicking on the screen division buttons (see screen division section on the different views available). To change the screen from multi camera view to single camera view, double click the left mouse button in the image you want to bring up in single view, or click in the image making it the selected camera (will be highlighted in red), then click the single camera division button. To change back, double click within the image. Each image displays the camera name and the recording mode in use at the top of every image. The various modes are: C - Continuous recording, S - Sensor recording, M - Motion recording, MS - Motion and Sensor recording, N - No recording. (To change these settings please see Scheduling in Chapter 4, System Setup)

Camera Display Buttons

The following is a description of the different views available in the Crest CDVS-7000 series DVR software.

Single Camera Display Button

This will allow the user to view only one camera at a time. To view a single camera, left click highlighting the desired camera in a red outline. Next, left click the single camera display button. The selected camera will replace the current view with a single camera view. To have the system rotate from one camera to another, click the Next button. To have the system automatically change from one camera to another, click the Auto Rotate button (see below).



4 Camera Display Button

This will allow the user to view four cameras at a time. The system displays the cameras in the following configurations: cameras 1,2,3,4, cameras 5,6,7,8, cameras 9,10,11,12, cameras 13,14,15,16. To have the system rotate from one 4 camera view to another, click the Next button. To have the system automatically change from one 4 camera view to another, click the Auto Rotate button (see below).



6 Camera Display Button

This will allow the user to display six cameras at a time. The different configurations are: cameras 1 - 6, 7 - 12, and 11 - 16. To view, click on one of the cameras you want to view and click the 6 camera display button. To have the system rotate from one 6 camera view to another, click the Next button. To have the system automatically change from one 6 camera view to another, click the Auto Rotate button (see below).



9 Camera Display Button

This will allow the user to display nine cameras at a time. The different configurations are: cameras 1 - 9, and 8 - 16. To view, click on one of the cameras you want to view and click the 9 camera display button. To have the system rotate from one 9 camera view to another, click the Next button. To have the system automatically change from one 9 camera view to another, click the Auto Rotate button (see below).



10 Camera Display Button

This will allow the user to display ten cameras at a time. The different configurations are: cameras 1 - 10, and 7 - 16. To view, click on one of the cameras you want to view and click the 10 camera display button. To have the system rotate from one 10 camera view to another, click the Next button. To have the system automatically change from one 10 camera view to another, click the Auto Rotate button (see below).



13 Camera Display Button

This will allow the user to display thirteen cameras at a time. The different configurations are: cameras 1 - 13, and 4 - 16. To view, click on one of the cameras you want to view, and click the 13 camera display button. To have the system rotate from one 13 camera view to another, click the Next button. To have the system automatically change from one 13 camera view to another, click the Auto Rotate button(see below).



16 Camera Display Button

This will allow the user to display 16 cameras at a time.



Display Next Screen Button

If you are in any other screen display mode other than 16 camera display, use this button to go to the next display configuration. By repeatedly clicking this button you will rotate through all the available display screens for the currently selected screen division.



Auto Rotate

This button is used to have the system automatically rotate through the available screens for the currently selected screen division (see system setup section for more details).



Full Screen Mode

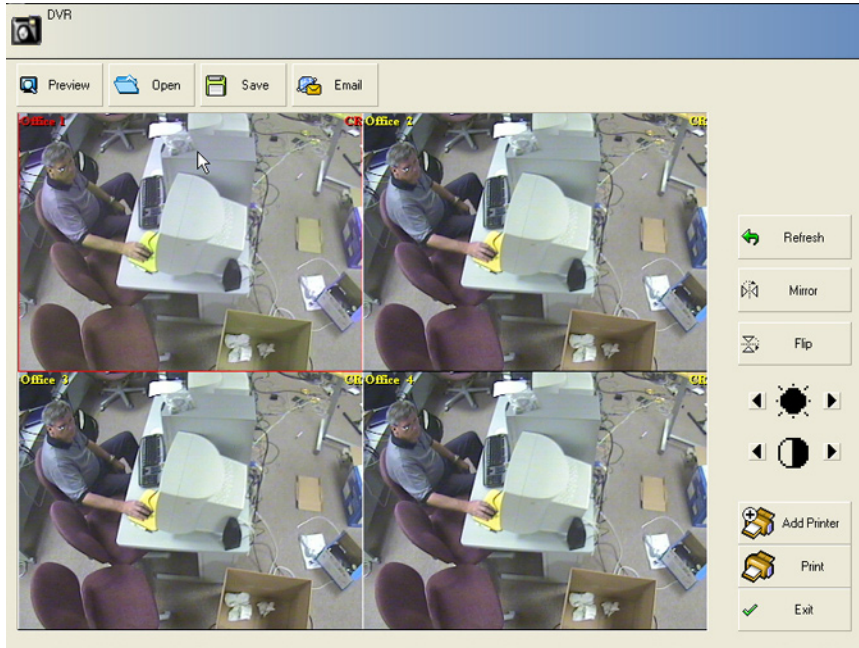
This button is used to hide the GUI. Click this button to have the live images go full screen.



Snapshot Button



This function allows the user to capture a snapshot of the live screen. Click this button to take a snapshot of the current live screen. After clicking, the snapshot interface will come on screen as shown below. Snapshot allows you to manipulate the contrast, brightness, flip or mirror the image. You can save, print or email the image. Printing requires that you have a printer connect and set up on the DVR. E-Mail requires that you have an email account and email set up on the DVR.



LIVE SNAPSHOT VIEW IN 4 CAMERA DIVISION

Live Audio Button



This button turns live audio on and off. To listen to live audio, click on the desired camera (image will be highlighted in red) and click the audio button (button will turn blue). To listen to another microphone, click in the image (will become highlighted in red) where the desired audio is linked. To stop listening to live audio, click the audio button (button will turn from blue to gray). Please see the section on setting up audio in the Setup Chapter.

Audible Alarm Mute Button



This feature allows you to turn off the audible alarm. See Setup section for setting up alarms.

Current Date and Time

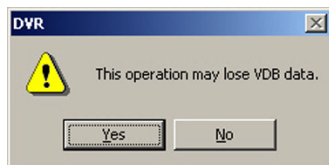
This is the system clock; it displays the current date and time.



date and time screen

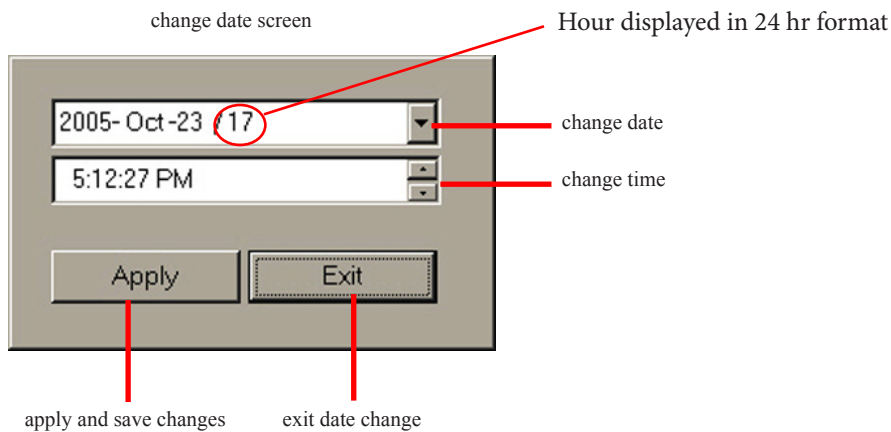
Change Date and Time

To change current date and time, double click inside the date and time screen. **Caution:** *You could lose data by changing the date and time*



change date warning

After clicking yes to the change date warning screen, the following screen appears allowing you to change the system time or date. See image below.



Camera Display Bar

The camera display bar allows the user to see which camera is currently selected (currently selected image will be highlighted in red). To change the selected camera, simply click the camera number. The letters below the camera number indicate the recording mode the camera is currently in. The following is a list of recording modes:

- C - Continuous recording
- S - Sensor recording
- M - Motion recording
- MS - Motion and sensor recording
- N - No recording

The recording mode is also displayed in the image at the top right corner of each image.



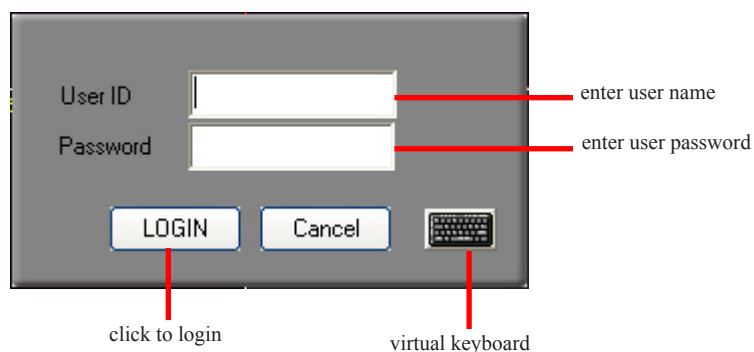
User Log On

To log on, click the lock in the left corner of the user login button.

click here to log on.



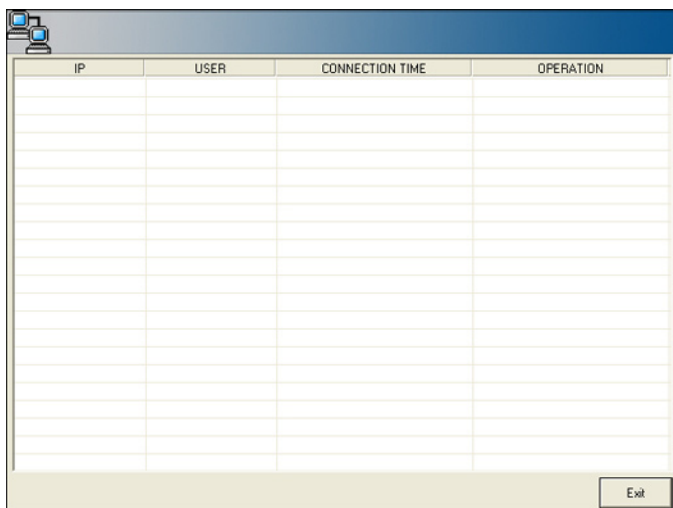
The following screen will display allowing you to enter a user name and password. The factory default user name is: **system** The password is: **manager**. Use caution when entering usernames and passwords as they are case sensitive. The default password will work until a user is added to the system. After a user has been added the default password will be disabled. If you should forget your password, call the company that installed your DVR.



Network Connection Button



When the network connection button is highlighted, it means that there is a remote connection to the DVR. To see who is connected, click this button to display the network connection screen. It will list all connections to the DVR (see picture below).

A screenshot of a software window titled "Network Connection". It has a blue header bar with a computer icon on the left. Below the header is a table with four columns: "IP", "USER", "CONNECTION TIME", and "OPERATION". The table has 15 empty rows. At the bottom right of the window is an "Exit" button.

IP	USER	CONNECTION TIME	OPERATION

Relay/Control Button



When a relay is activated, this button will flash. To bring up the relay and sensor bar, click on this button. Activated relays will be highlighted.

Sensor Button



When a sensor is activated, this button will flash. To see the sensor and relay bar, click this button. Active sensors will be highlighted.



Sensor and Relay display bar

Channel Swapping

Crest provides channel swapping function for user's convenience. One channel position can be swapped with another by clicking and dragging one channel to another. The swapped positions are not permanent. The swapped channels are returned to their original positions when the user chooses another screen division or the DVR is rebooted.



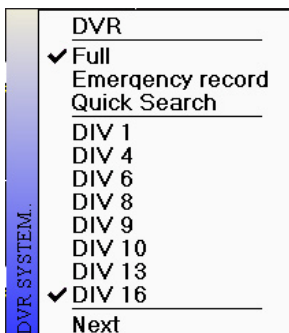
Partial Zoom

Crest CDVS-7000 series DVR system provides a partial zoom in function on both live and playback image. The area selected by clicking and dragging is expanded into the whole screen area.

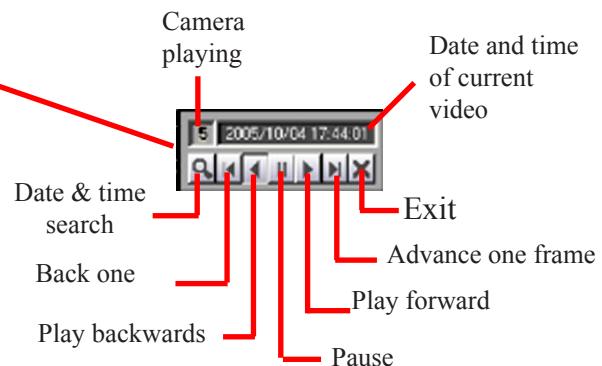
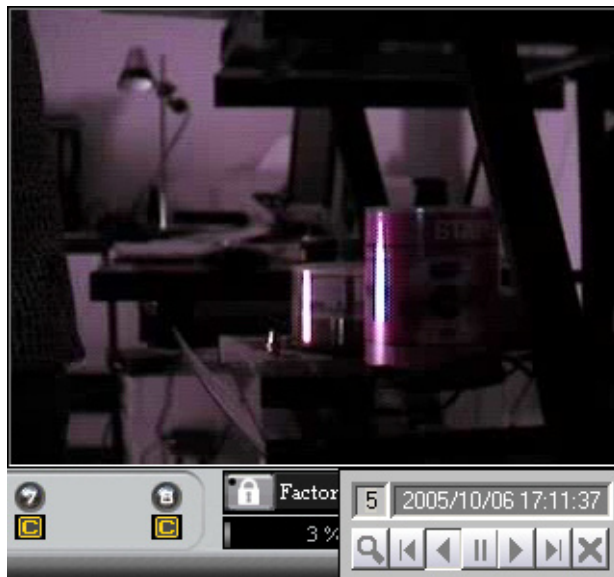


Quick Search Function

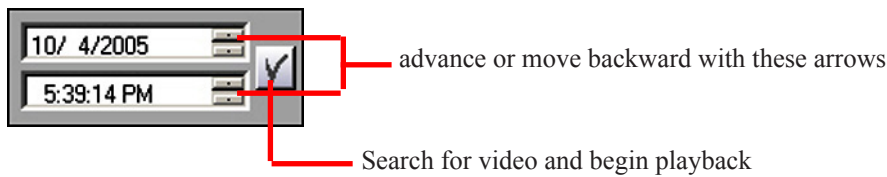
The quick search function allows the user to view recorded video from one camera without leaving the main screen. The system starts playback from the last recorded image and starts playing video backwards. The quick search function allows the users to specify a date and time to review video. To start quick search, select the camera you want to view (selected camera is the camera image highlighted in red) by clicking in the image area. You could also select one of the camera numbers at the bottom of the screen. After selecting the camera, right click in the image area. This will bring up the live screen pop up menu.



Click Quick Search from the pop up menu. The quick search screen appears in the lower right corner of the screen. Quick search searches for the last video recorded to the hard disk and starts playing video backwards from that date. The following images show the quick search screen and the functions of its buttons.



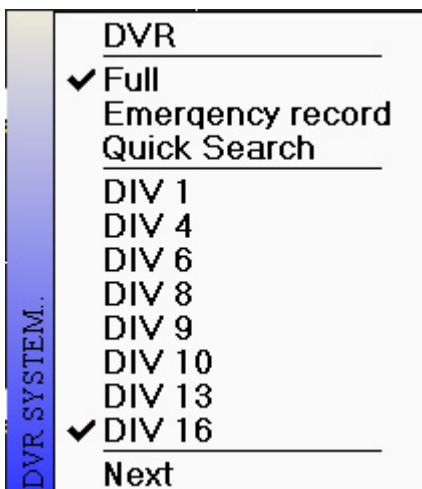
Quick search by date and time



User can search by date and time by clicking on the month, day, or year and advancing backward or forward using the buttons to the right of the date bar. Do the same for the desired time. Click the search button; Quick Search searches for that date and time. If there is recorded video, it starts playing video back. If there is no video for the date and time selected, quick search will playback the first recorded video after the requested time. Example: User chooses October 4, 2005 at 5:39:14 PM; quick search looks for video on that date and time, but cannot find any recorded video. The system then begins searching for recorded video from the date and time entered by the user. In this case 10/4/2005, 5:39:14 PM and going forward from that date and time until it finds recorded video. It then starts playback from this point.

Quick Search assumes that the user wants to play back the most recent file or knows the date and time of the requested video. For more comprehensive search features, please see Chapter 2 Search Screen Functions.

Image Screen Pop Up Menu



This pop up menu allows the user to access the different screen divisions, as well as quick search and emergency record while the screen is in Full mode (No GUI showing). To return the GUI to the screen, uncheck Full on the menu. Using the Emergency Record function on the pop up menu allows the user to select only the current (highlighted) camera for Emergency Record. This is different than using the emergency record button on the main screen which puts all cameras in Emergency Record. The camera will continue to record in Emergency Record mode until the user unchecks emergency record.

Search Menu Button



The search menu allows the user to playback and search for recorded video. The user can search one or all cameras by date and time. During search the user can play video forward, backward, fast or slow, or frame by frame. The user can change the brightness or contrast of the images during playback. From this menu the user can do a backup of recorded video for all cameras or just one camera. The backup function also allows for watermarking of the video, as well as exporting video as an AVI file. The backup function allows the user to export a snapshot in JPEG format. The search menu allows the user to bookmark an event allowing for easy retrieval at a later date. Through the Search menu the user can do an event or motion search. Please see the Chapter 2 Search Screen Functions for details on these and other features available in the search menu.

Setup Menu Button



The setup menu is where the user sets up the system environment. These functions include Camera setup, Sensor setup, Relay setup, scheduling of recording mode and time, setting of pre and post alarm recording, the setting of channels for analog output, video database management, network environment setup, user management and more. Please refer to the Chapter 4 System Setup for detailed information on the different functions available in the setup menu.

Motion Setup Button



Click this button to set the motion fields for each image. The CDVS 7000 series allows the user to have multiple sensitivity settings within the camera picture. Other systems will only allow a single sensitive setting for each camera. This can cause problems if the field of view contains elements requiring different sensitivity before triggering motion. This menu also allows the user to adjust the brightness, contrast and saturation for each camera image displayed on the live view screen. This menu allows the user to adjust the volume for the audio associated with each camera (if used). Please see Chapter 4 System Setup for detailed information on using this menu.

Emergency Record Button



When clicked, the emergency record button will begin the continuous recording of all cameras. After emergency recording has been activated, the record mode indicator will change to an E. The system will continue recording in emergency mode until the emergency record button is clicked a second time. Clicking this button will affect all cameras. To use emergency mode with a single camera, right click in the image area bringing up the pop up menu and select emergency record. To turn off, repeat actions and uncheck emergency record. Please see live screen pop up menu earlier in the section for information on the other items in this menu.

PTZ Button



The PTZ button gives the user access to the Pan Tilt Zoom controller for controlling any PTZ cameras which have been set up in the system. For information on PTZ setup, please refer to Chapter 5 Set Up PTZ Function.

E-map Button



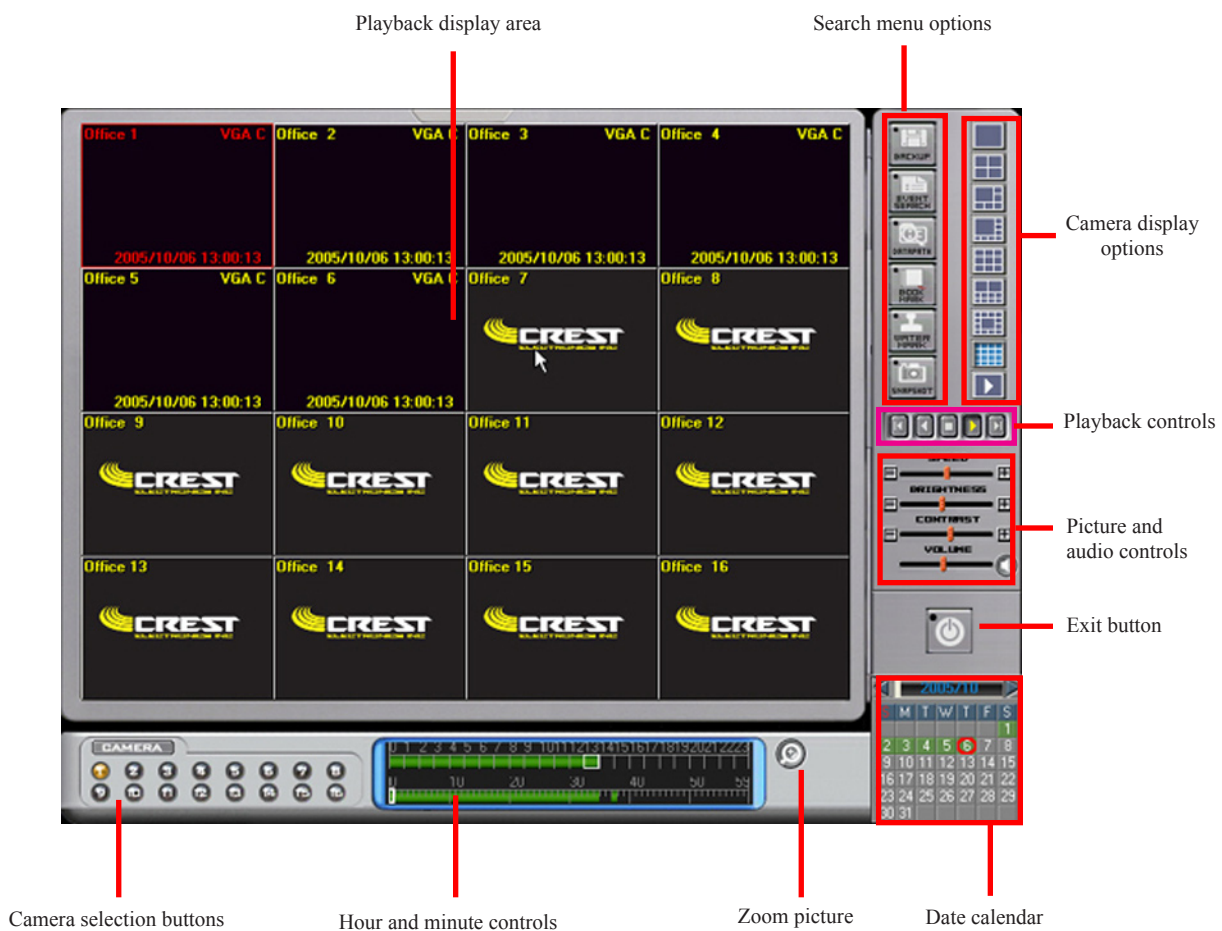
The E-map button allows the user to access any camera maps that may have been loaded into the system. The function allows the user to create visual maps on which Sensor, Relay and/or Camera icons may be placed. The sensor and relay icons will turn red and flash indicating that an alarm has occurred. The user can then see, on the map, where in the building the alarm is coming from, and can then click on a camera to view live images from that particular area. This feature comes in handy in large buildings where all the images look the same, such as hallways. By using maps, the user can easily identify which area is giving the alarm.

Chapter 2

Search Screen Functions

Search Screen Functions

The image below lists the functions of the search screen.



Search Screen Menus

The following options are available from the search screen menu buttons. For detailed information on the functions of each option, please refer to each option's detailed section.

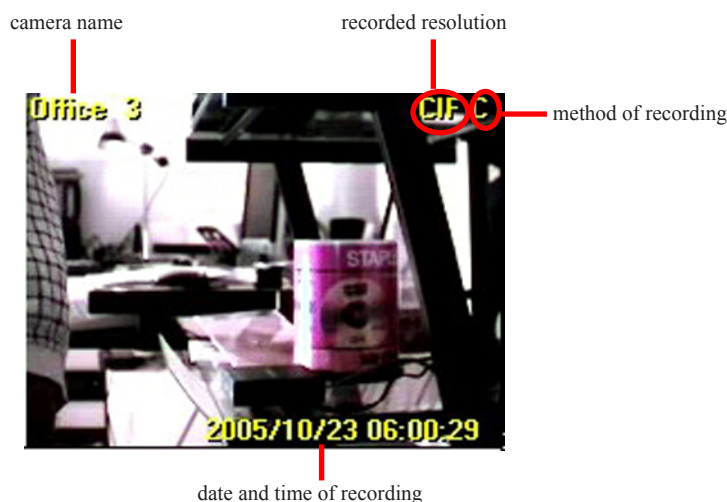


Using the Search Screen

The search screen is used to review previously recorded video. When entering the *Search Screen* for the first time, the system starts playing the last hour of recorded video. The system will display the maximum number of cameras your system was designed to have. If your system was designed for sixteen cameras, it will display in 16 camera mode. If designed for 8, it will display 9 cameras with the ninth camera being blank. If designed for four cameras, it will display in 4 camera mode.

Playback Screen

Each camera's OSD (on screen display) shows the camera's name, recorded resolution, method of recording, and time and date of recording.



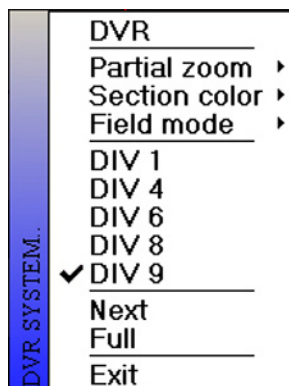
Screen Swapping

The system allows the user to swap screens from one screen to the other. For example, if the user would like to view camera 8 in camera one's position, just click and drag camera one to eight's position. The image below shows camera eight, five, and three moved to the top row of the screen, and camera seven, one, and six moved to the bottom row.



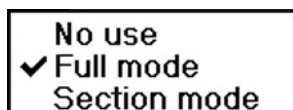
Playback Screen Shortcuts

The playback screen offers several shortcut options. These options are accessible by right clicking anywhere in the playback screen. The following popup menu appears.



Partial Zoom

To use the partial zoom feature, the picture screen must be in single camera mode and be playing video. There are three options for the zoom feature: no zoom, full mode or section mode. To use the zoom feature, click and drag to highlight the area of the picture you want to zoom. The images below show the screen after each zoom method.



The images below show the screen after a Full zoom and a Section zoom.



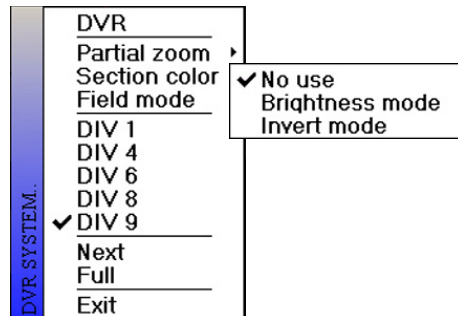
Full Mode



Section Mode

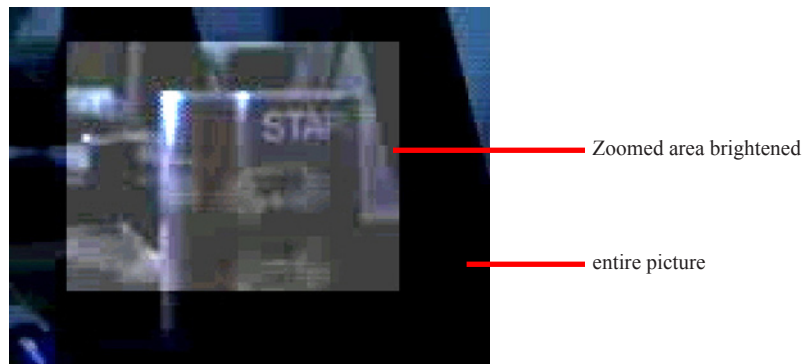
Section Color

The section color shortcut allows the user to increase the brightness or invert the color of a portion of the screen. To use this feature, the user must be in single camera mode with the image playing. Right click within the image and select Section color from the popup menu. Select either the Brightness or Invert mode as shown in the image below.



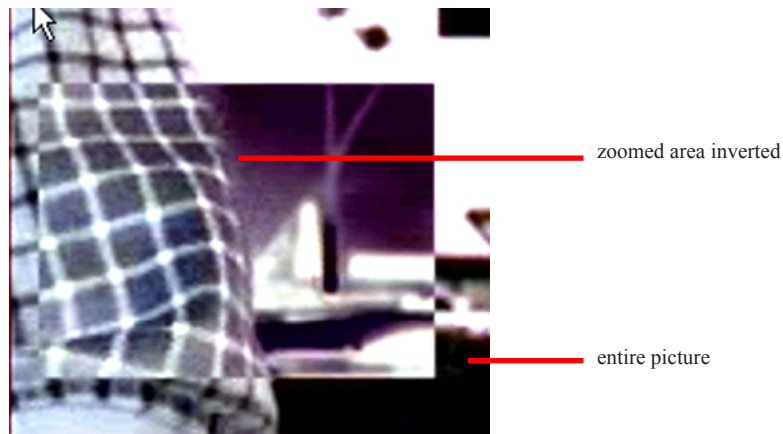
Brightness Mode

Click and drag the area within the image you want to make brighter. The area you highlighted will fill the entire screen and become brighter. The image below shows both the zoomed and surrounding areas.



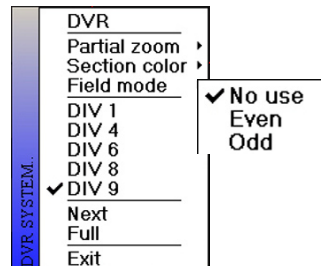
Invert Mode

Click and drag the area within the image you want to invert. The area you highlighted will fill the entire screen and become inverted. The image below shows both the zoomed and surrounding areas.



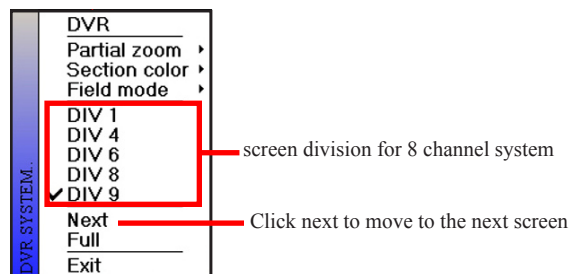
Field Mode

Field mode allows the user to change the playback frame method. This will remove picture tearing which sometimes occurs in digital playback. To remove picture tearing, right click any one of the playback images. Click on Field mode from the popup menu and click Even. Odd is not used at this time. Image below shows the popup menu in the Field Mode.



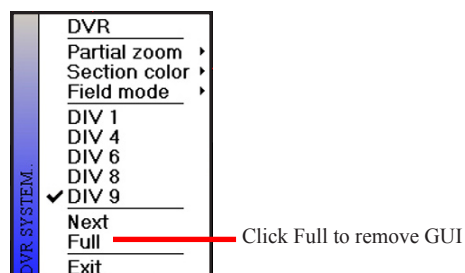
Screen Division

The popup menu allows the user to choose the camera view desired. The available options depend on which system you have purchased (4, 8, 16 channels). If you are in a screen division that is not showing all cameras, you can move to the next screen by clicking the next button. See image below.



Full

Clicking Full on the popup menu will show all cameras without the GUI showing. To show GUI, right click anywhere on the screen and uncheck Full on the popup menu.

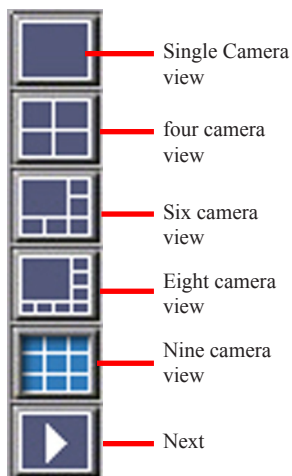


Exit

Click exit from the popup menu to exit the search mode and return to the live view mode.

Screen Display Buttons

The camera display buttons control the camera views on the playback screen. Options for this menu depend on the number of cameras your system has. The image below shows the display options for an eight camera system.



Camera Selection Buttons

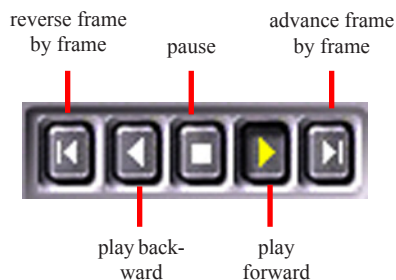
To select a camera, either click in the camera you want to make active (will have red border), or click on the camera button from the camera selection screen (see image below).



Select desired camera. Active camera will display in orange color

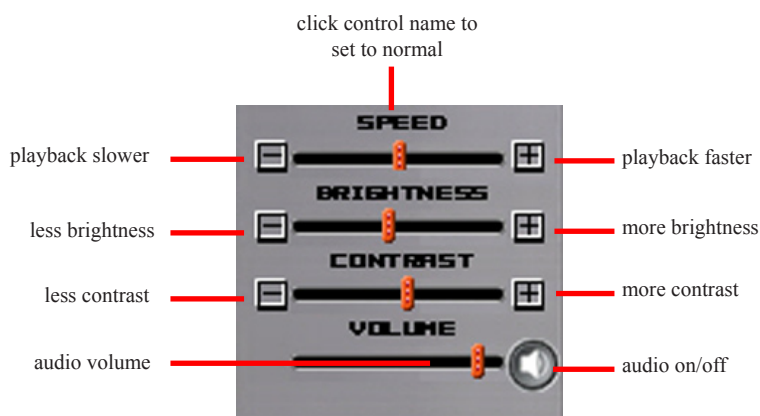
Playback Control Buttons

Use the playback control buttons to control the direction of the video being played. There are 5 buttons to control the video: forward, backward, advance frame by frame, reverse frame by frame, and pause. The active button will be highlighted in yellow. To advance the pictures frame by frame, click either the frame by frame reverse or the forward button. The system stops playing and goes back or forward 1 frame at a time. Remember, if cameras are recording 30 fps it could take 30 clicks for the screen picture to advance 1 second. The image below shows these buttons.



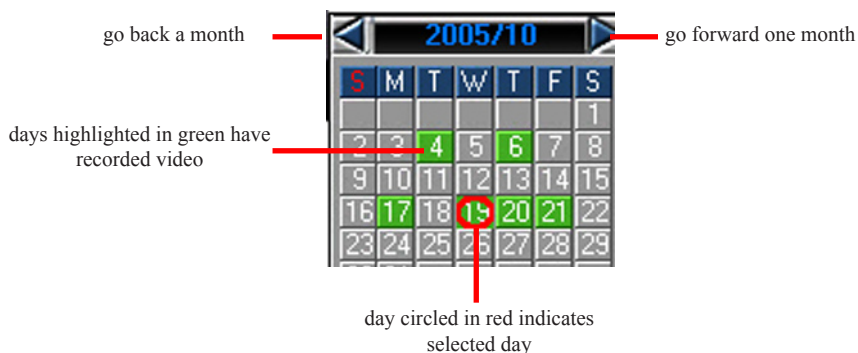
Speed, Brightness, Contrast, & Audio Control

The DVR system lets the user control the playback speed, brightness, contrast, audio on/off, and audio volume. Use the picture and audio controls shown below to control these features. To control the speed of the playback, click the + or - buttons on the speed control, or just click and drag the red slider bar left (slower) or right (faster). To reset the speed to normal, click the word Speed. The brightness and contrast features work the same as the speed control. To turn on live audio, click on the camera you linked (see camera setup) to your microphone and click the speaker button. Use the slider bar to increase or decrease the volume. Click the audio button a second time to turn off live audio.



Date Calendar

The date calendar is used to tell the system the date for playback. By default, the system goes to the oldest day's file and starts playback. Days highlighted in green indicate that there is recorded video for that day. The currently selected day is circled in red. To change to a different day, click a day highlighted in green. Use the arrows to the left and right of the month display to change to a different month. The image below shows the date calendar.



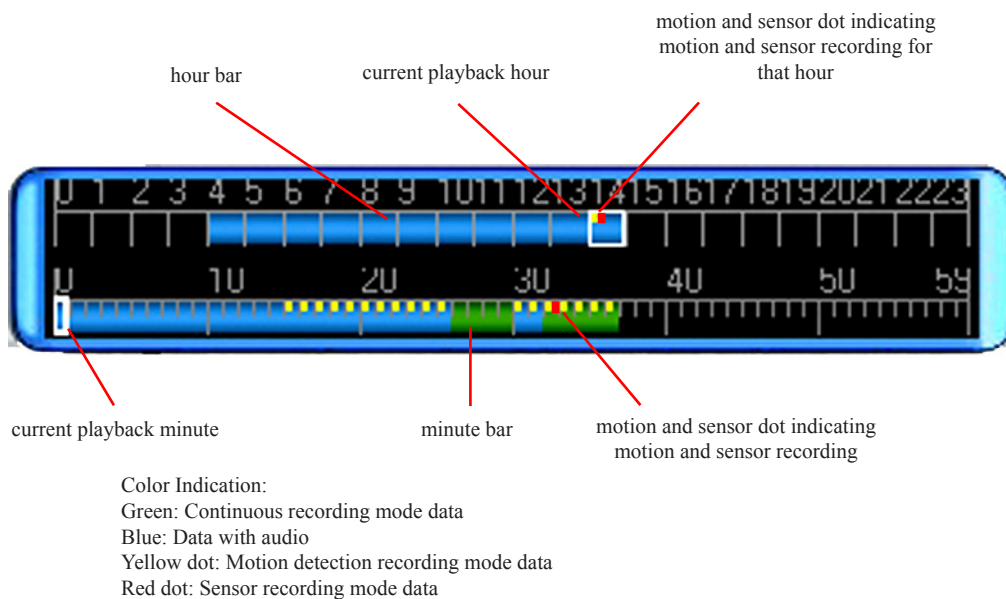
Zoom

To zoom an individual picture to full screen, click the zoom button.



Time Control Bar

The hour and minute controls display the currently playing hour and minute. Time that video was recorded in continuous mode displays in green. Time that video was recorded with audio displays in blue. Time that video was recorded in motion mode displays a small yellow dot. Time that video was recorded in sensor mode displays a small red dot. The hour in which the video is playing is represented by a white box, the minute by a white vertical bar. The hour and minute can be changed by clicking anywhere in the blue hour or minute bar. The image below shows the different recording modes.



Exit Button

Use the exit button to stop playback and return to the live view screen.



Chapter 3

Backing Up Data

Backing up Data on the CDVS-7000 Series DVR

There are three different methods of backing up recorded video on the CDVS-7000 series DVR. They are:

1. Smart Backup

Smart backup allows the user to backup all cameras in the 7000's native file format. It allows the user to choose the date and time of the files to backup. It also allows the user to backup either all cameras or designate which individual cameras to backup. The user can further breakdown backup based on the method of recording. Smart backup can backup to a CD-R, CD-RW, hard disk, or USB drive.

2. AVI Backup

AVI backup allows the user to create an AVI file from recorded video by entering a start and end date and time for a single camera. It also allows the user the choice of recording audio. AVI will record to CD-R, CD-RW, hard disk, or USB drive.

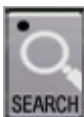
3. Media backup

Media backup allows the user to create both AVI video and JPG snapshots. Creating an AVI file in Media backup differs from AVI backup in two ways. 1st) it allows the user to view the video before it creates the file. 2nd) it allows the user to batch AVI and JPG files before writing to disk. This saves the user time in that he does not have to create and save each file, but can review, add or delete the files he chooses before writing to disk.

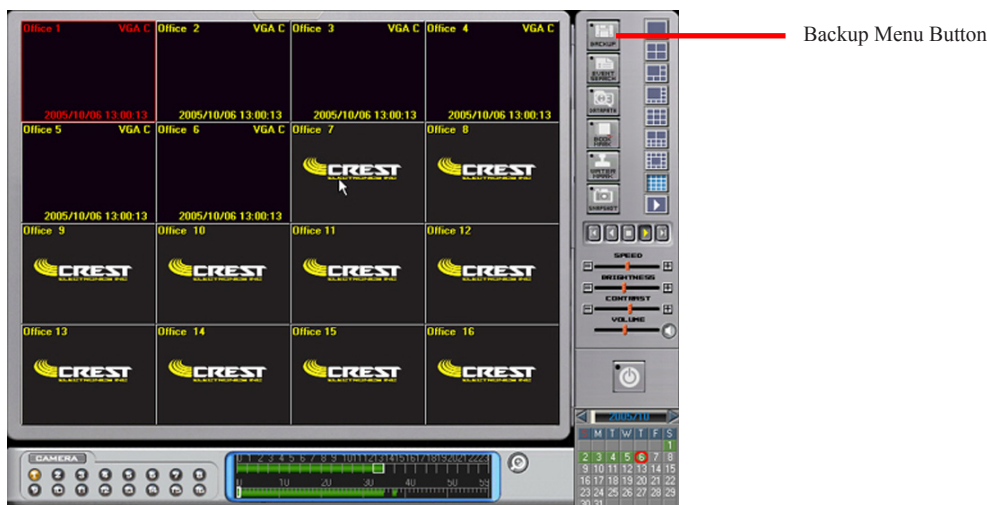
This section will explain in detail how to perform each of the 3 different types of backups.

Navigating to the Backup Menu

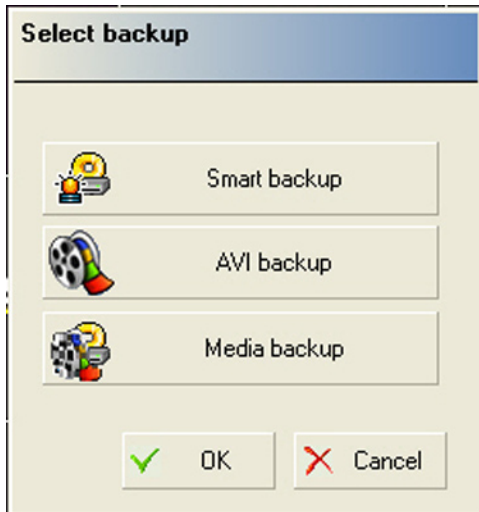
From the main screen click the search button;



The search screen appears, click the backup menu button;



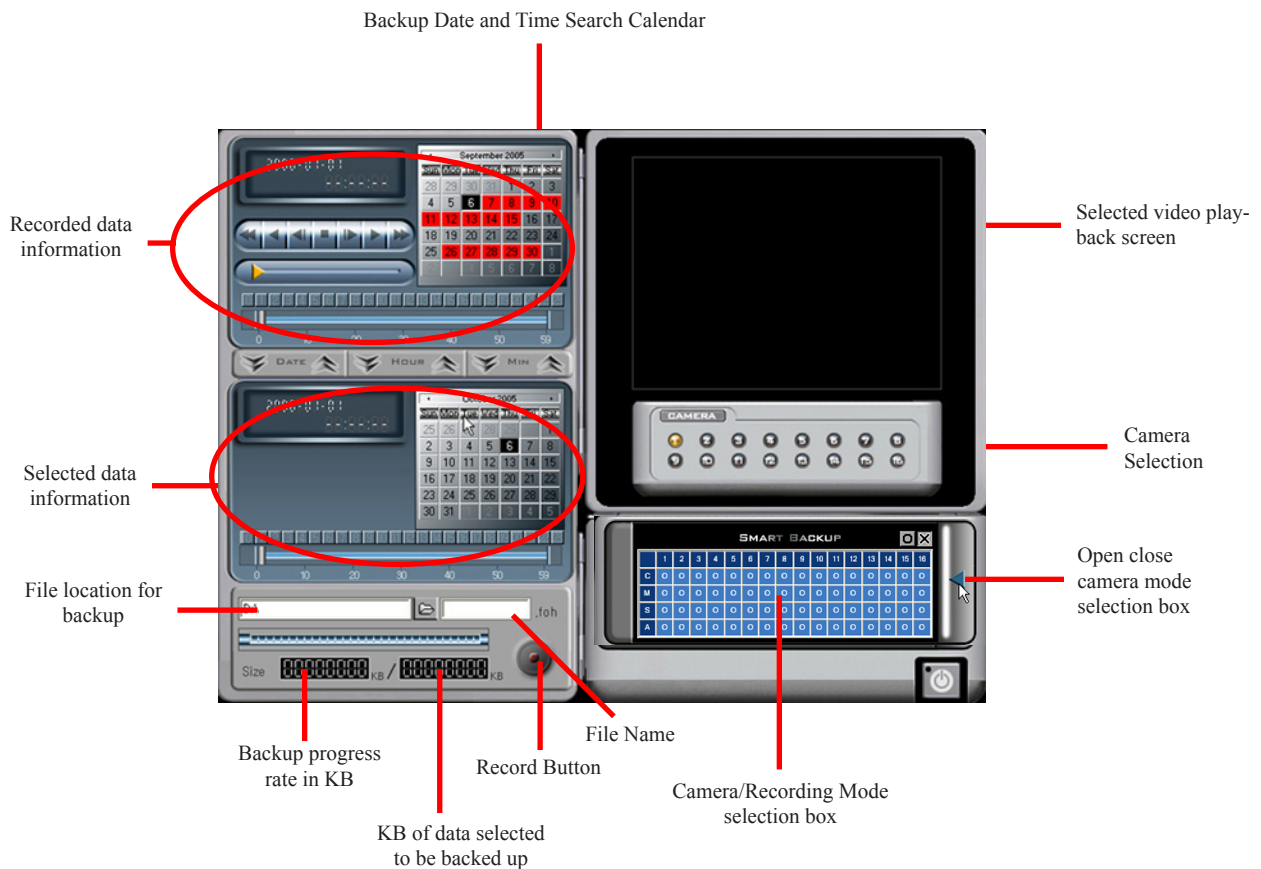
The Select Backup menu appears;



Select the type of backup you want to perform and click the OK button.

Using Smart Backup

Select Smart backup from the Select backup menu (see above) and click OK. The system takes you to the smart backup screen as shown below.

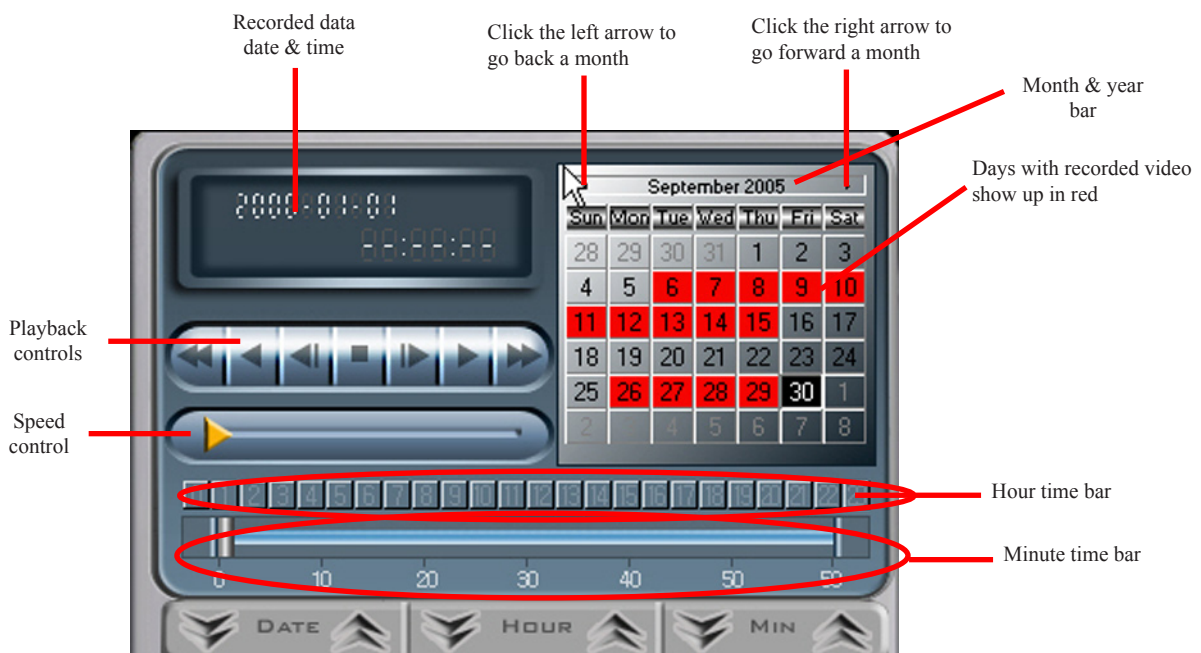


Detail Description of the Smart Backup Screen

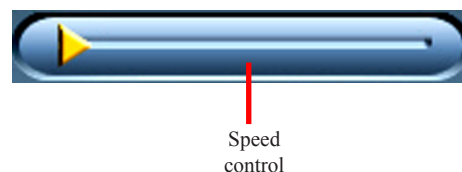
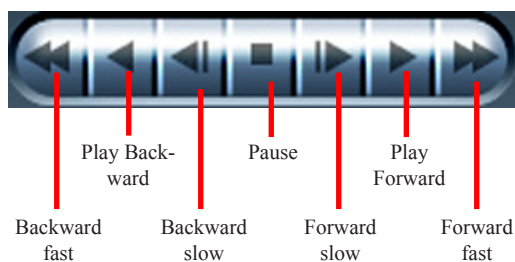
The Smart Backup screen is made up of 5 different screens; the *Recorded Data Screen*, the *Video Playback Screen*, the *Selected Data Screen*, the *File Location Selection Screen*, and the *Camera/Record Mode Screen*. This section will break out each of these 5 screens and give the user detailed information on the various aspects of each screen.

Recorded Data Screen

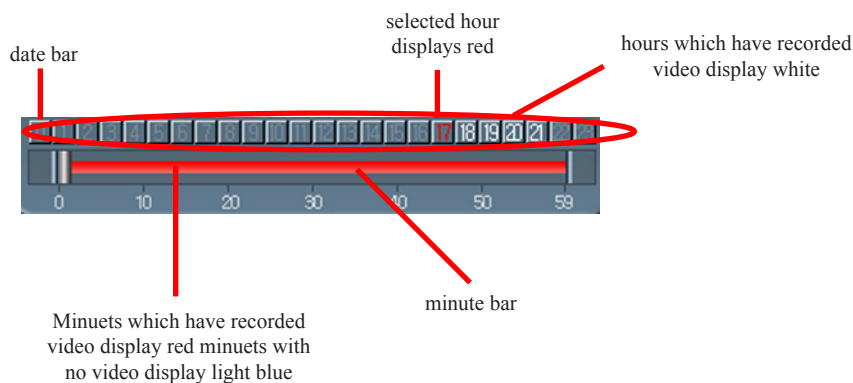
The Recorded Data Information screen (see picture below) is used to find and choose the recorded video you wish to back up. The month & year bar allows you to choose the month the video was recorded. Days that have recorded video are highlighted in red. To go back to a previous month, click the small arrow to the left of the month name (see below). To move forward a month, click on the small arrow to the right of the month name (see below).






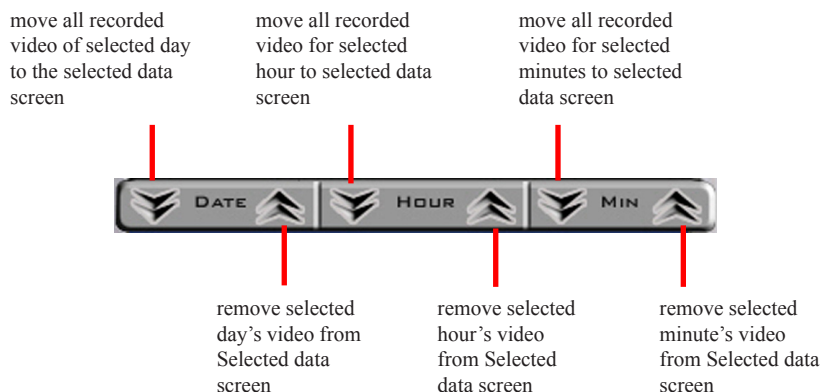
The playback and speed controls allow the user to control the video being played back. The image below describes the functions of the playback control. The speed control only works when the user has selected forward fast or backward fast. Moving the slider to the right plays the video faster; move it back to the left to playback slower.

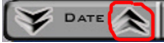




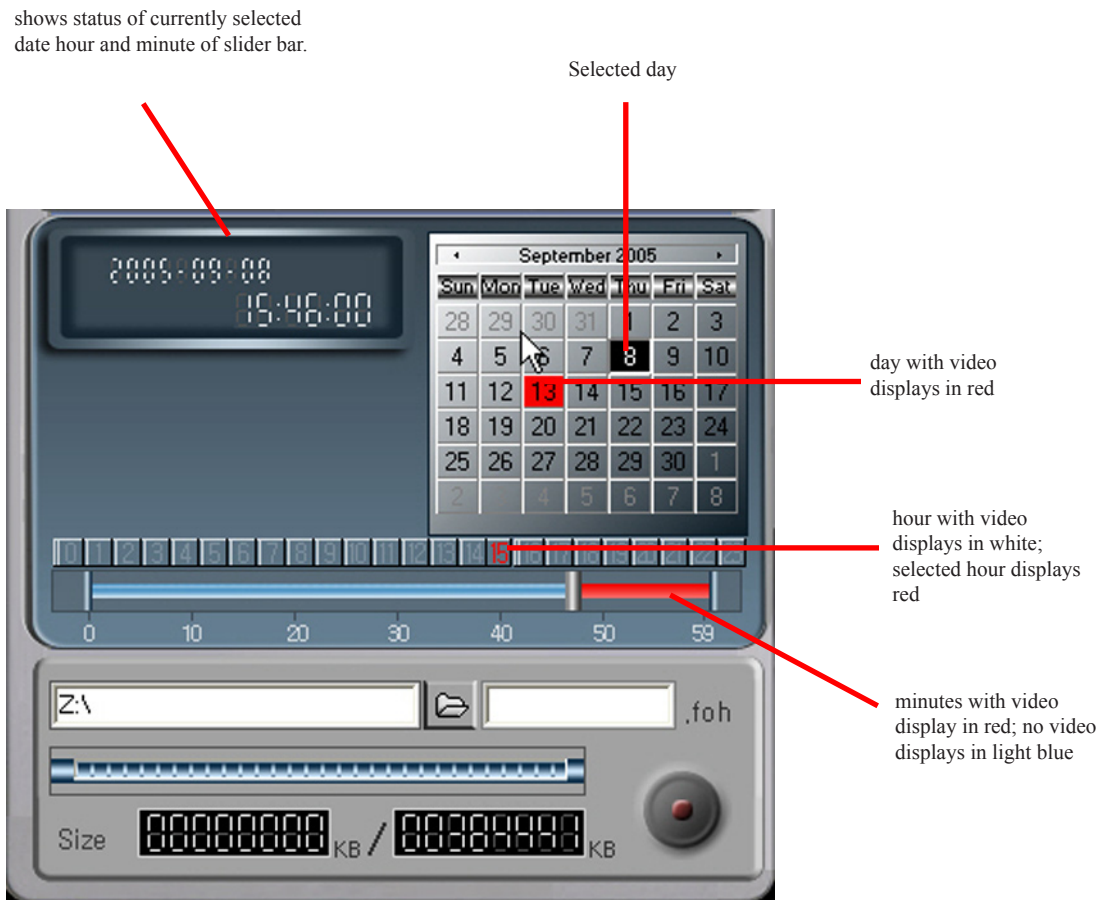
The hour and minute bar displays the recorded video by hours and minutes the selected day has. Hours that have recorded video are displayed in white. The selected hour displays in red. The slider bar displays recorded video in minutes. Recorded video displays in red; time in which there is no recorded video displays in light blue. This bar is also used to select video to transfer to the *Video Selection Screen*. Click and drag the slider bar to select minutes to back up. The selected minutes display dark blue.



The date, hour, and minute bar is used to transfer or remove recorded video to the *Selected Data Screen* for backup. To move an entire day's recorded video to the *Selected Data Screen* for backup, select the day and click the Date down arrow button . To move all recorded video for an hour to the *Selected Data Screen* click on the desired hour (selected hour will display from white to red) and click the hour down arrow button . To move minutes, you must first select the minutes by clicking and dragging the slider bar (selected minutes will turn from red to dark blue. Light blue displays no recorded video). Then click the down arrow of the Min button  to move selected minutes to the *Selected Data Screen*. To remove selected minutes, you select the minutes, hours, or day from the *Selected Data Screen* and click the appropriate up arrow button.



The *Selected Data Screen* displays all recorded data that has been selected for backup. Smart backup allows the user to back up data from several days, hours, or different minutes from several different hours. Once the user has selected data and transferred it to the *Selected Data Screen*, the day of the selected data will display in Red. The hour for any selected data will display white. The minute bar will display in red any minutes selected for backup. The currently selected day and hour will turn black. If the user wants to remove video from the *Selected Data Screen*, there are several different ways to accomplish this depending on how much time is needed to be removed. If user wants to remove all video selected for a day, click the day in the *Selected Data Screen* (day turns black to show it is selected day) and click the Date up arrow button . If the user wants to remove an entire hour, select the day and hour of the video you want to remove from the *Selected Data Screen* and click the hour up button . If you want to remove the next hour for the selected day click again. If the user wants to remove one or several minutes, select the day and hour for the minutes you want to remove. Next, click and drag to highlight the minutes you want to remove (they will be highlighted in dark blue) and click the Min up arrow button . If you want to remove the minutes one at a time, position the slider bar at the first minute and click the Min up arrow button. The first minute is removed; continue clicking until all the desired minutes are removed.

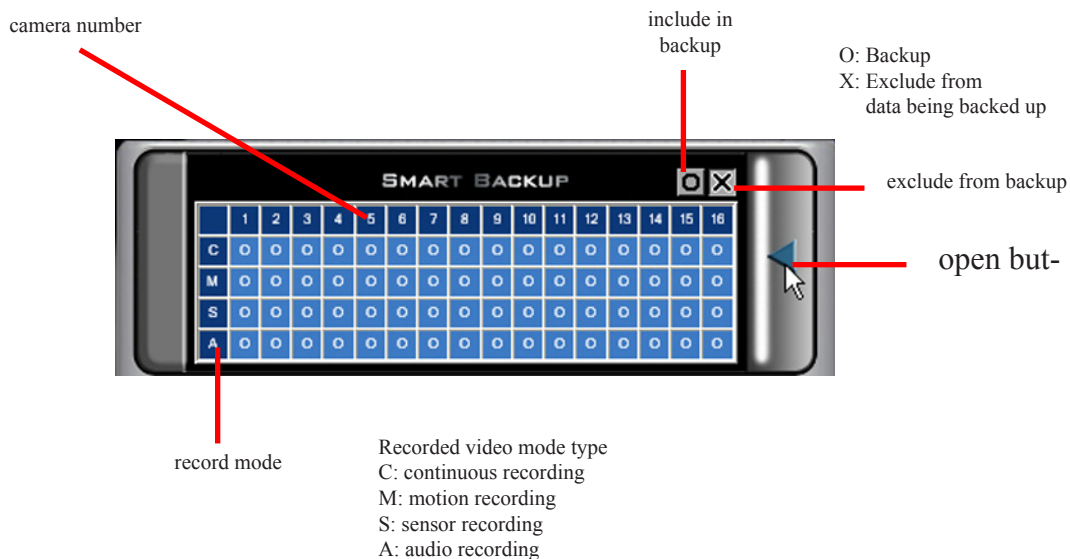


Smart Backup allows video from the *Recorded Data Screen* to be viewed in the Video Playback Screen. To change to a different camera, click on the desired camera. If there is recorded video it will display here. Control for viewing video is done from the *Recorded Data Screen*. **Please note that this screen is not intended to find the camera where an incident happened, but to help the user pinpoint the exact time to back up. Use the search screen to find the incident first.**

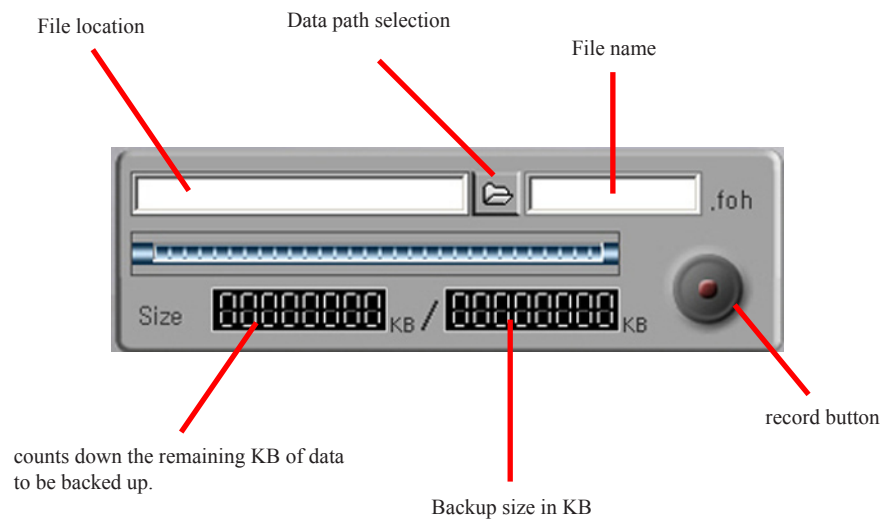


select camera for viewing.

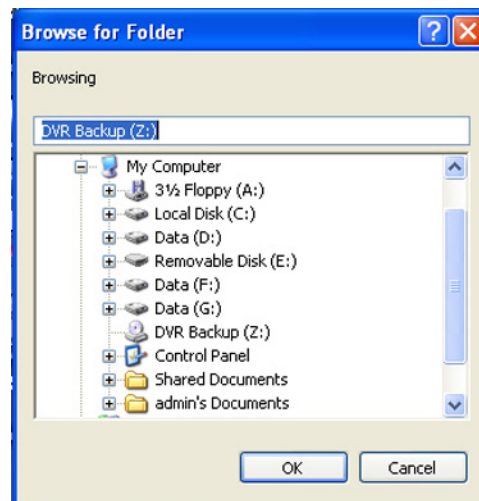
Camera/Record Mode Screen allows the user to select which cameras are to be backed up. Camera mode selection also allows the user to control what recording mode to back up. Example: user wants to backup only video that was recorded by motion activity only. The different modes to backup are *continuous*, *motion*, *sensor*, and *audio*.



The image shown below is from the *File Location Selection Screen* and displays where the user will save the recorded video, and displays the size of the backup in KB. It also contains the record button.




To change the location where the backup files are to be saved, click the data path selection button. The following Windows screen appears. Select the drive and folder you want the backup saved to and click OK.

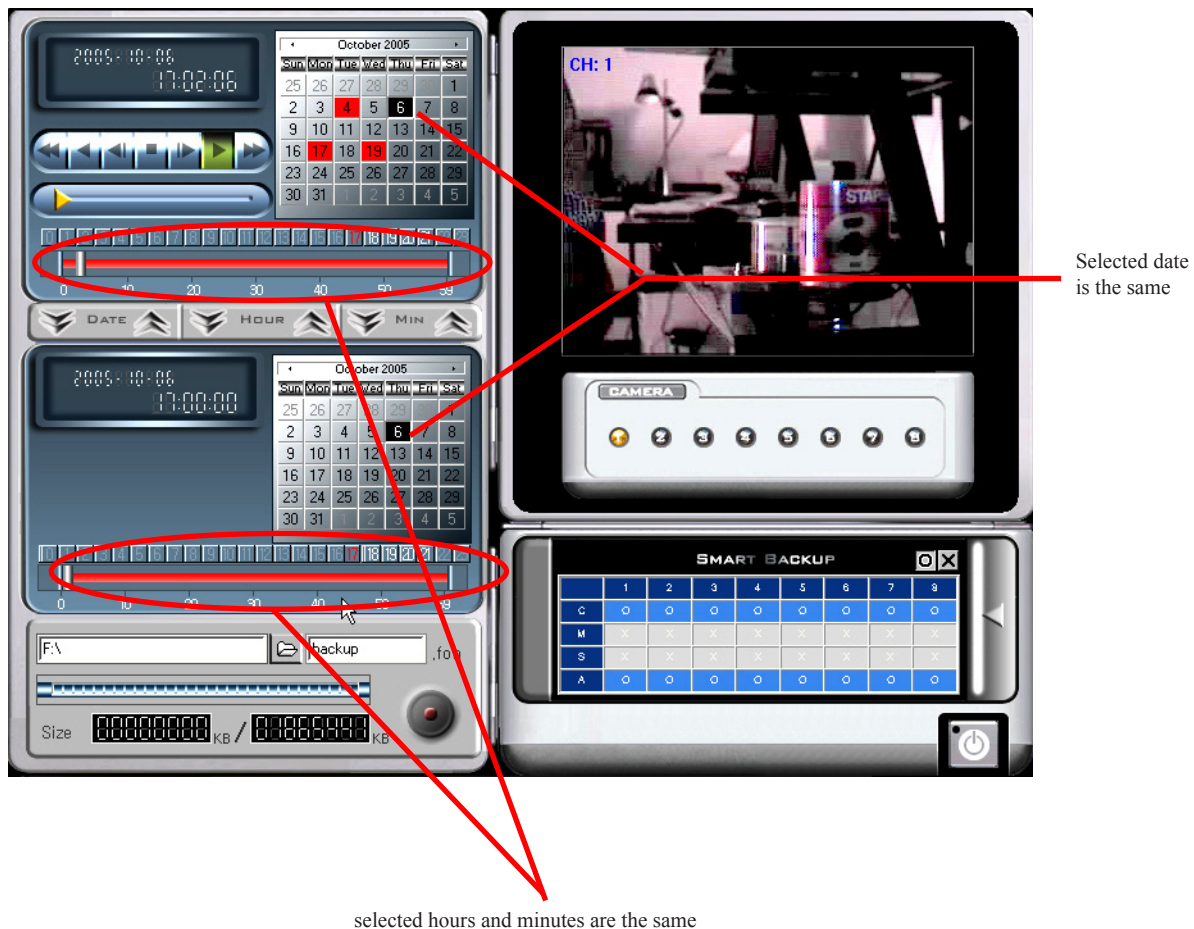


Using Smart Backup is a four step process; 1). find the video you would like to backup. 2). move the video you want to backup to the *Selected Data Screen*. 3). choose the cameras and record mode you want to backup. 4). select the drive and the folder where you want the backed up video to be placed, and click record. The three examples that follow will show the user how to back up an entire day, hour, and minute backup.

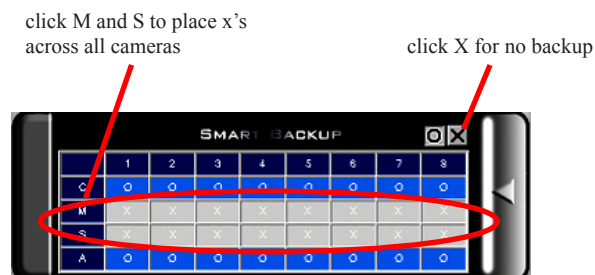
In this example I want to back up an entire day of video and audio for 16 cameras that were recorded continuously. I want to back up November 6, so I choose the 6th day of November (you can see I have chosen the 6th as it is displayed in black). As you can see, there is recorded video for the hours 17 through 21. You know this because hours with video are not grayed out. The 1st hour with video is selected automatically and is highlighted in red. The other hours with video are highlighted in white. The system will not let you select any day or hour where there is no recorded video. The next step is to transfer the day's video to the *Selected Data Screen*



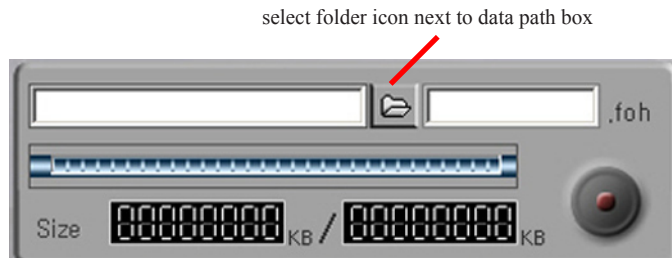
After selecting the date, we move the entire day's data to the *Selected Data Screen* by clicking the Date down arrow button . As you can see from the image below, the date and video transferred to the Selected data screen.



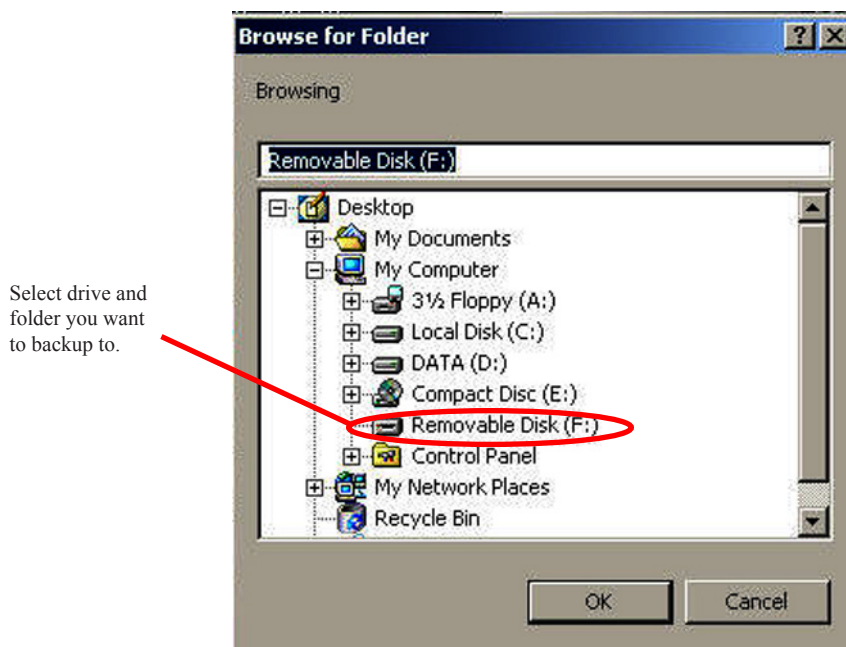
After transferring the video to the *Selected Data Screen*, we need to select the cameras and mode we want to backup. We want to backup all cameras, but only video that has been recorded continuously as well as any audio that has been recorded. We need to tell the system that you do not want any video backed up that was recorded by motion or sensor. To do this we click the X button in the camera mode selection screen. We then click the M and S buttons to place x's across all cameras for this type of mode. See below.



We next need to choose the data path from the *File Location Screen*, where we will save the recorded video. In this case because we are backing up so much data (remember we backed up an entire days worth of video), we will have to save to a removable device such as the Crest RHDR with a 250 GB hard disk. To do this we click on the folder icon next to the data path box (see below).



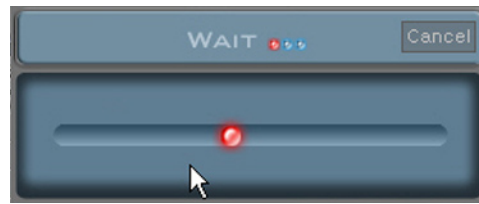
The Windows “Browse for Folder” menu appears (see below). Select the drive and folder you wish to save the back up to. In our case this is “Removable Disk F:”. Click OK.



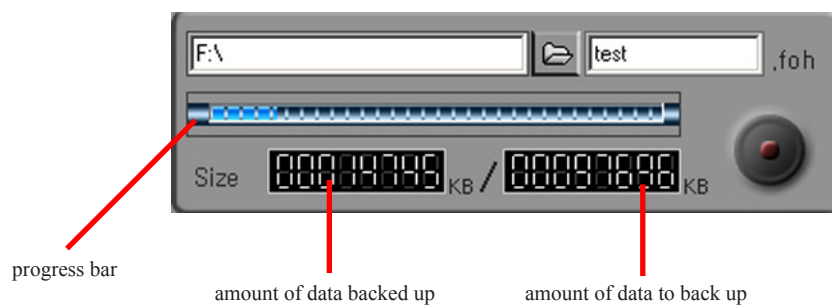
The data path will fill in the drive and folder you selected. Type in a name for the backup file in the file name box (see below). You are now ready to record the file. Click the record button to start backup.



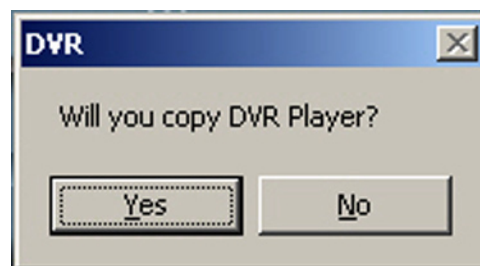
The system will start the back up process. The system displays the wait screen as shown below.



The system displays the status of the backup with a progress bar and shows the amount of data that has been backed up. See below




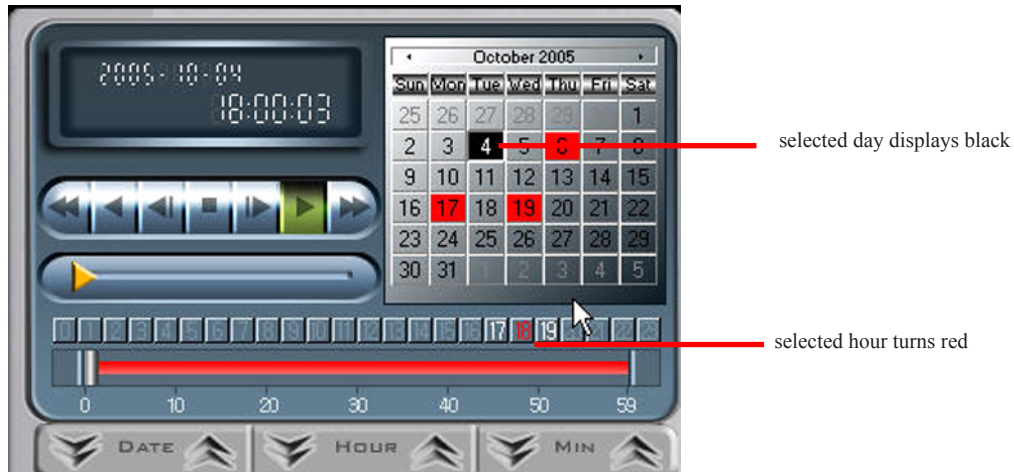
After the system completes writing the files to the disk, it will ask if you want to save a copy of the Player software to the disk (see image below). To do so, place a check mark in the box and click *Yes*.




The back up is now complete! Remember that during this back up the system was still recording.

Example 2: Backup 2 hours of recorded video on 2 different days.

In this example we are going to backup 2 hours of recorded video. We will backup from 6:00 to 7:00PM on October 4, 2005 and from 7:00 to 8:00PM on the 6th of October 2005. To do this we click the 4th on the calendar (displays black after being selected). We then click on 6:00 hour (18 as system displays 24hr time). Next we click the hour down button  to transfer information to the *Selected Data Screen*. The screen below reflects our choices.



Next choose the 6th of October (will change from red to black). Click the 19th hour to highlight it (will change from white to red). Click the hour down button . The screen below reflects our choices.




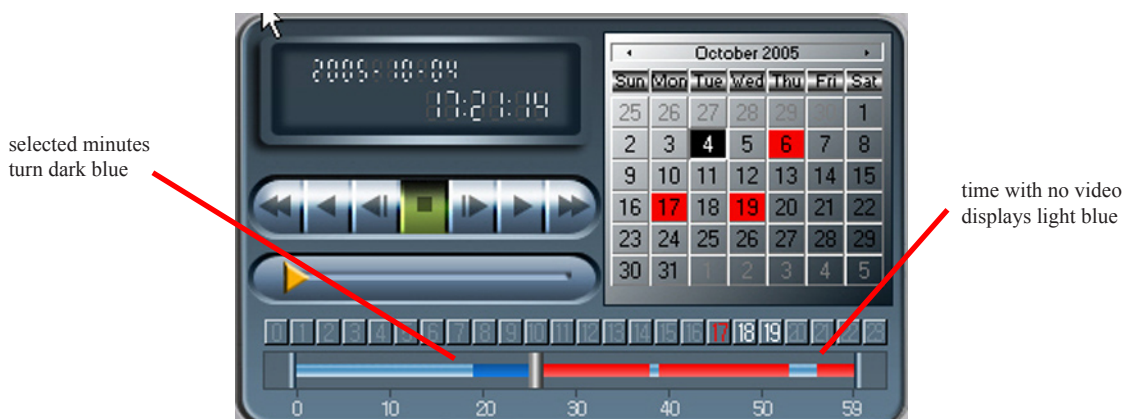
The *Selected Data Screen* reflects our moving the two hours of video. As you can see, the two days, the 4th and the 6th, are highlighted in red. We can now choose our data path, and name our backup file. The next step is to choose the cameras and record mode to be backed up. See previous example 1 for instructions on how to do this. After choosing the above parameters, click the record button to start recording. See example 1 for back up progress screens.



Example 3: Select various minutes from different days and only backup cameras 1 & 5.

In this example we will demonstrate how to backup several minutes of recorded video from different days. From the 4th of October we will be backing up 17:20 to 17:25. From the 19th of October we will be backing up from 9:00 to 9:15. We also want to back up all record modes, but we only want to back up cameras 1 & 5.

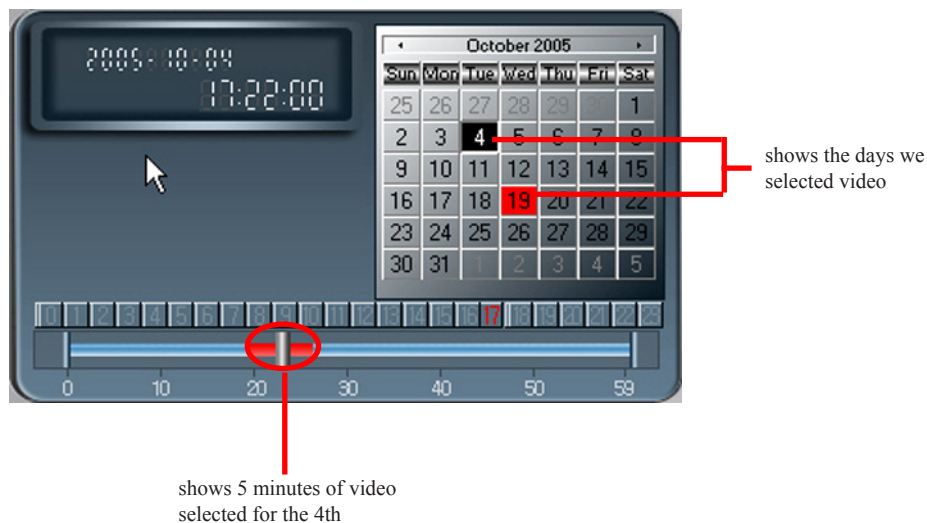
As in the previous examples choose the date to back up. In this example I have chosen the 4th of October. Next choose the hour to backup which is the 17th hour. To select the minutes to back up (in our example 5 minutes from 17:20 to 17:25), click the pause button stopping playback. Then click in the minute bar representing my beginning time 27:20. Next click and drag the slider bar to 17:25; the selected time turns dark blue indicating it is selected for transfer. To transfer, click the Min down button .



To select the minutes from October 19, click the 19th in the date calendar. We want to back up 9:00 to 9:15, so select the 9th hour. Then, click the pause button, and click on the minute representing 9:00 in the minute bar. Click and drag the minute slider bar until it selects 15 minutes. See picture below.



To transfer the selected minutes, click the Min down button . After transferring, the Selected data screen displays our selections as shown below.



We next choose the data path where we want to save the backup to. We also need to name our file.



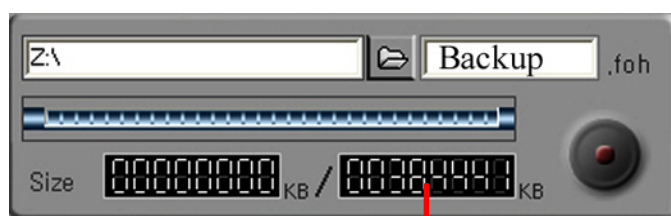
We now want to set our camera mode to select only cameras 1 and 5. To do this we click the X button in the *Camera/Mode Selection Screen* and click on camera numbers 2, 3, 4, 6, 7, and 8. This places an X under the camera numbers we do not want to record. The image below shows the camera mode selection screen with these changes made.

Click camera number to change from O to X



After selections are made, we are now ready to back up. Push the record button and the system starts the backup process.

Important note: When backing up make sure that the device you are backing up to has enough free space to hold your backup. To see how much space is needed, look at the *Selected data screen* which will tell you in KB how much data you have selected to back up. To convert KB into MB, divide KB by 1024. The average CD-R or CD-RW can hold about 400 MB or 409,600 KB. This will leave space for copying the 7000 series backup player software to the disk (approximately 8.2 mb).



amount of data selected to be backed up.

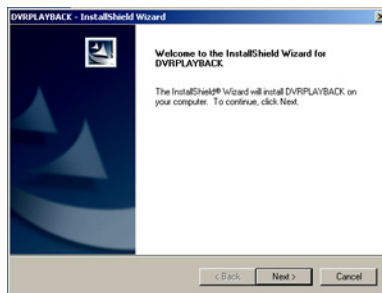
Caution: Do not reinsert the CD into the DVR after the backup program has finished writing the back up files and ejected the disk. Doing so will cause the install program to run. This could cause problems with the DVR program. If you do this remove the CD and restart the DVR program.

Playing Back A Smart Backup CD on PC

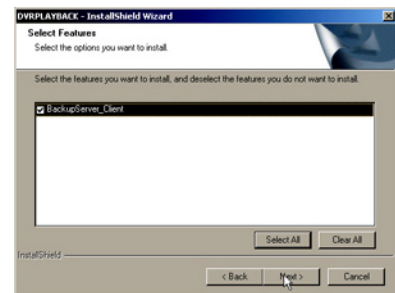
Take the backup CD to another computer and insert disk. The CD will start automatically if the Backup Player software was copy to the CD. If the Backup Player is not installed on the computer then the Install program will start. If auto play is turned off on the computer then go to the CD drive in My Computer and double click the DPRun file.

The images below will display the install process.

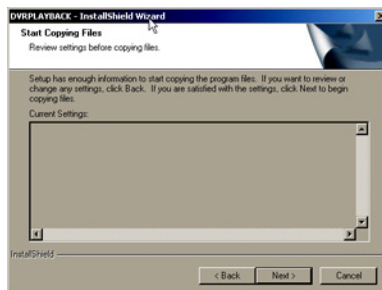
Click Next to start installing Backup Player.



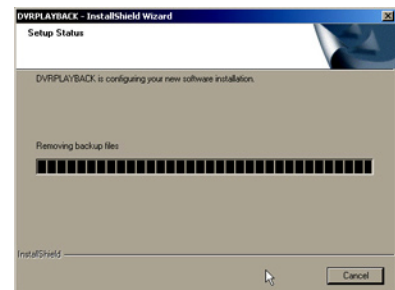
Select Backup Server_Client and click next



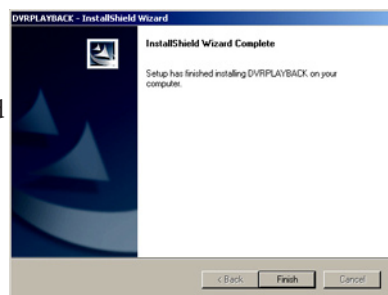
Click Next to start copying files



Display the status of the install program.

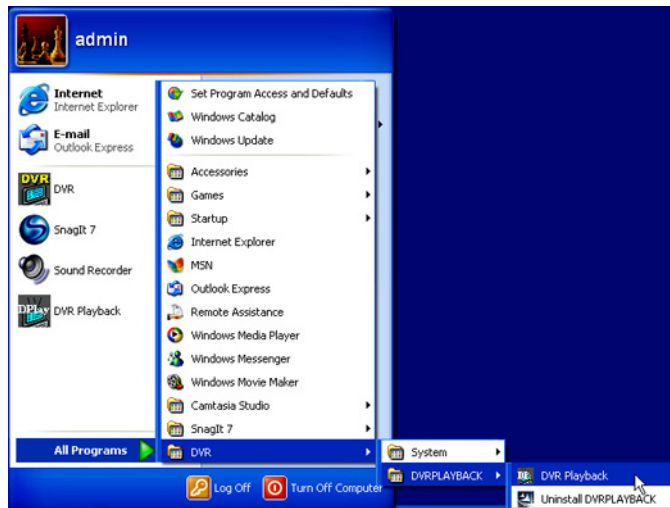


Click Finish to end installation.

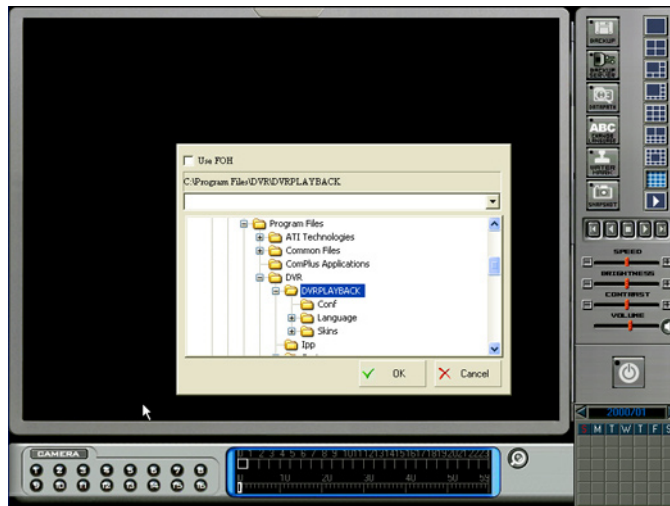


After the installation has finished the program can be started in one of two ways. One way is to eject the CD then re-insert the CD if auto play is turned on the Playback program loads automatically and starts playing the data on the CD. (Going into MY Computer and double clicking the CD drive letter will do the same thing). The second way is to go to Windows Start > Programs Files > DVR > DVRPlayback > DVR Playback. If the playback program is started this way the system will ask for the directory in which the Data is stored. See images on next page.

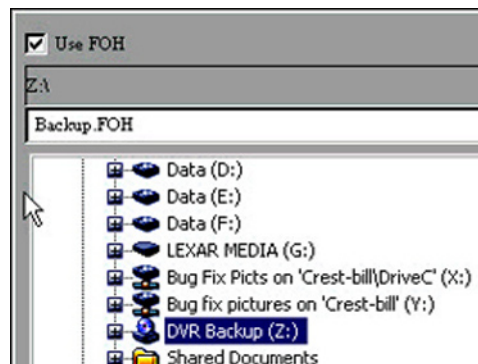
Select the Backup program from the Windows start menu



Program starts and ask for the directory the video data is stored.



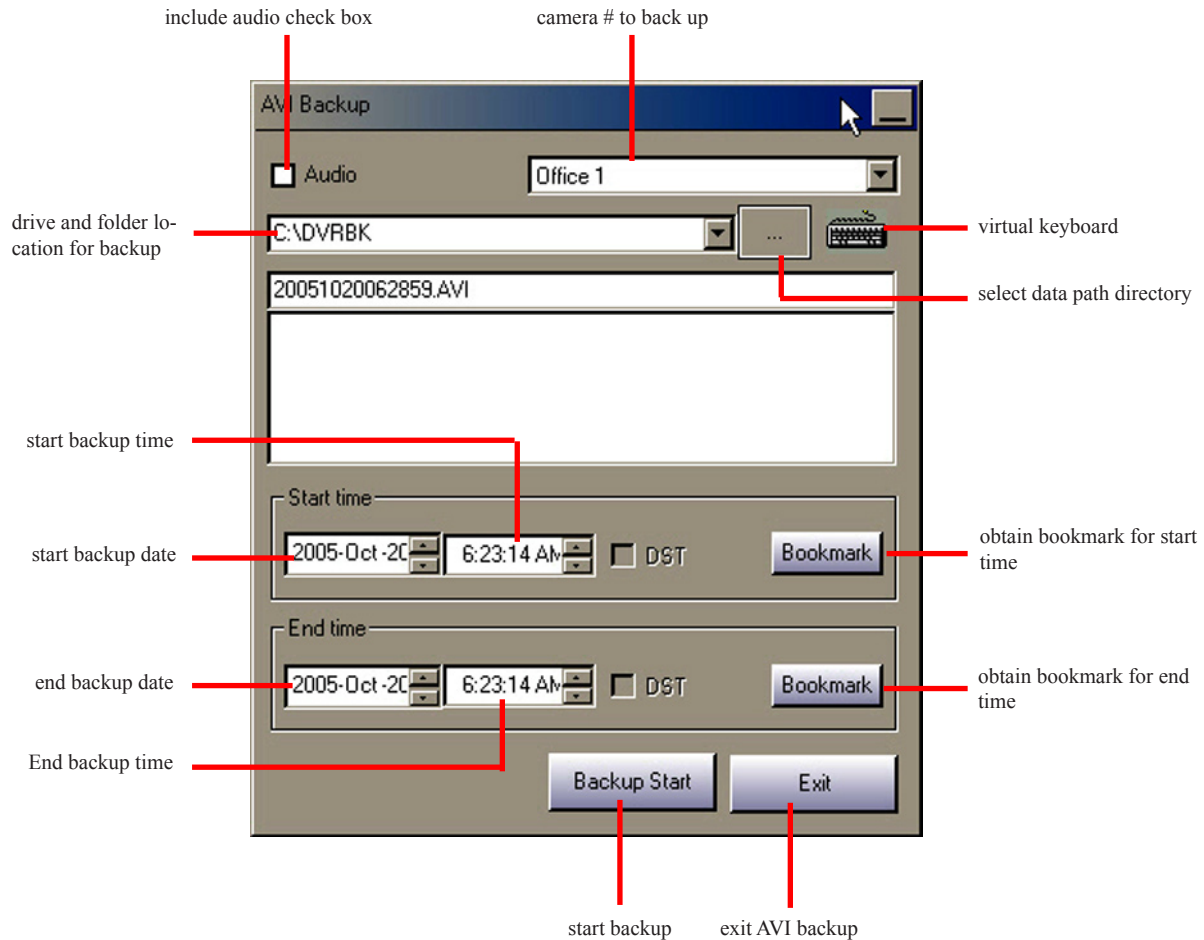
Check use FOH and highlight the CD-RW drive the backup CD was inserted into. Click OK and the video data on the CD starts playing.



For information on using Playback software pleas refer to Chapter 6 DVR Playback software.

AVI Backup

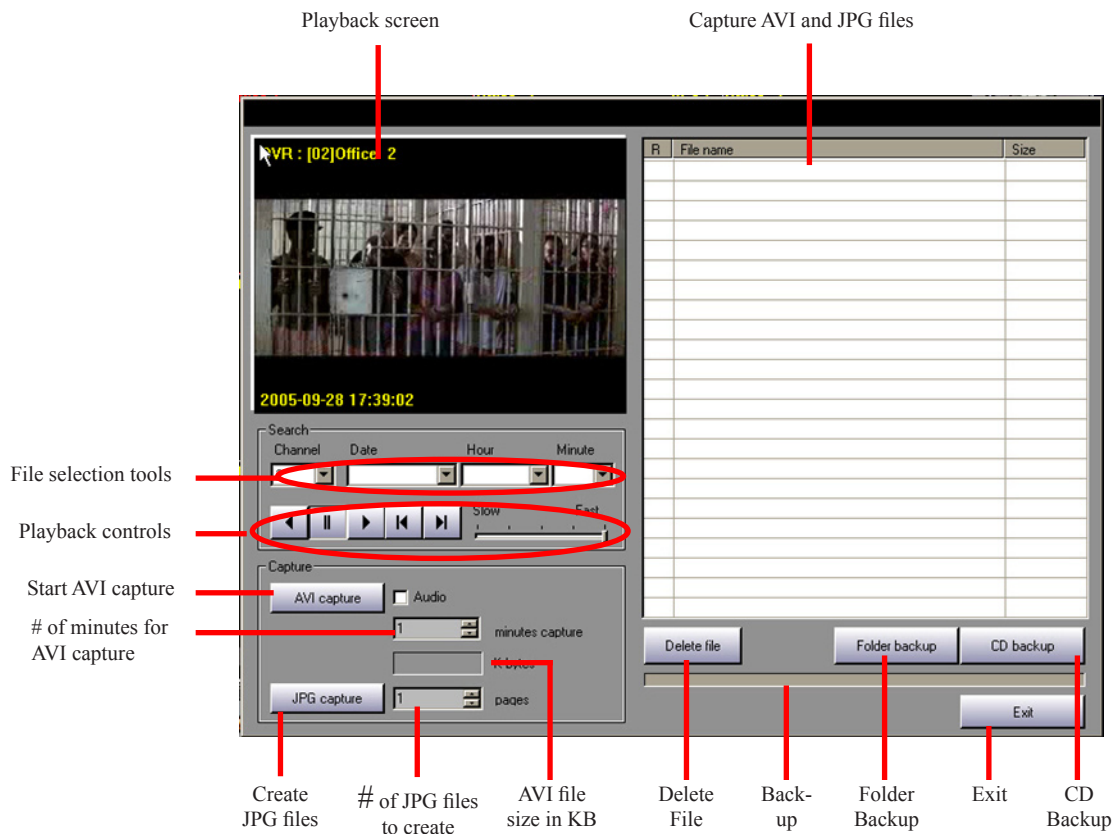
AVI backup allows the user to convert streaming video files from the CDVS-7000 series native file format to a standard AVI file. This file can then be played back on a standard Windows media player. The system assumes that the user knows the date, time and camera that is to be backed up to AVI file format. AVI backup allows you to back up only one camera at a time. AVI backup can burn to CD-R, CD-RW, Hard Disk, and USB Device. The screen below details the buttons on the AVI Backup Screen.



After entering all selections click Backup Start. The system will begin the AVI backup. Please note that it takes about a minute and 15 seconds to backup one minute of recorded video. One minute of AVI video is approximately 8.5 MB. Please make sure that the device location you are backing up to has sufficient space to hold your backup. The system has the ability to write more than one file to a CD-R disk. After the disk is ejected, just reinsert it and wait for it to spin up. You can then backup another AVI file provided there is space left on the disk.

Media Backup

Media Backup allows the user to save video files in two formats: AVI and JPG. The main difference between *AVI back up* and *Media Backup* is that the user can review the video in the *Media Backup* screen. *Media Backup* allows the user to batch both AVI and JPG files before writing them to disk. The image below shows the functions of the *Media Backup* screen.

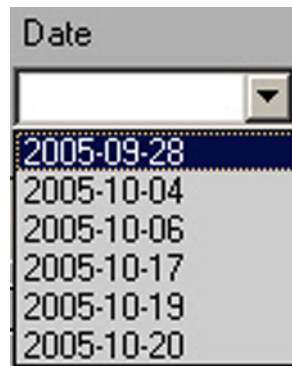


Searching in Media Backup

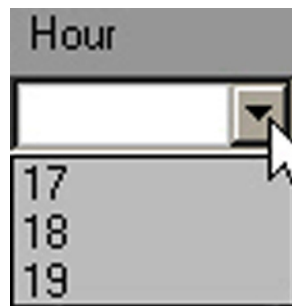
When *Media Backup* begins, it starts playing the oldest recorded file for camera 1. The user can control the camera view with the camera selection window as shown below.



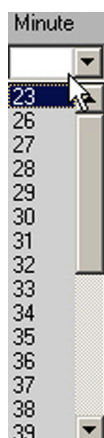
To select the date of the files to search, click the date down arrow. The date will display all dates where there is video in the system. The image below shows the date function.



To select the hour for searching, use the hour box. Click the down arrow to expand the box. The expanded box shows the hours for the selected camera and days that have recorded video. The image below shows the hour box expanded. If there is no video for the selected camera, and the date selected, this expanded box will be blank.

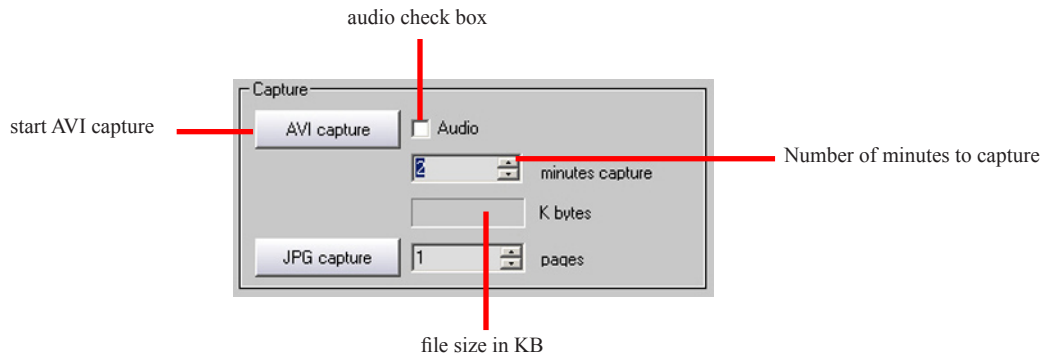


The system lets the user select down to the minute when searching video. Click the down arrow in the minute box to expand the minute box. The image below shows the minute box expanded. If there is no video, the box will be blank.

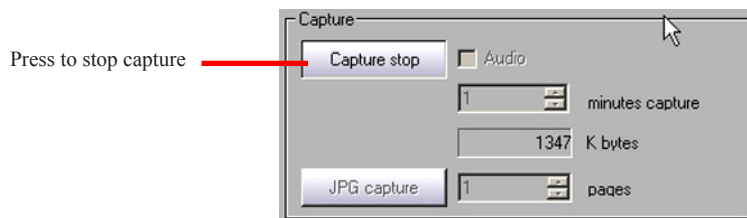


AVI Capture

After selecting the camera, date, hour, and minute, the video automatically begins playback. Navigate to the beginning of the desired file, and press the pause button. Set the desired number of minutes to convert to an AVI file. If you have recorded audio and wish to include audio, click the audio check box. Click the AVI Capture button to start capture. The system will display the file's size as it captures the video. See images below.

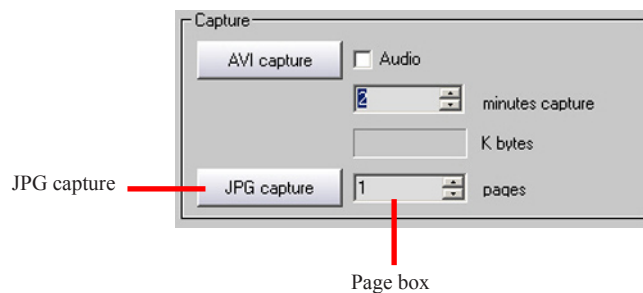


To capture less than a minute of AVI video, the user can simply click the AVI capture button. The button will change to a stop AVI capture button. Click again and the capture is stopped and saved. See image below.

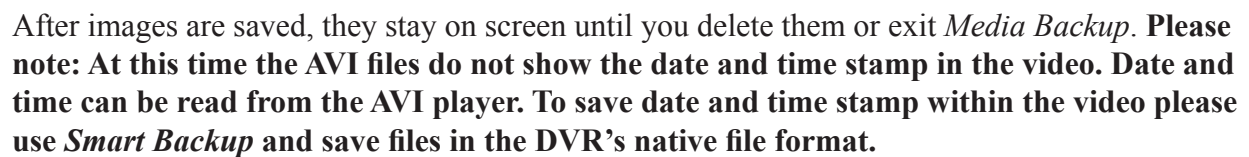


JPG Capture


JPG file capture is a snapshot image. The system allows the user to capture several images consecutively. To do this, just tell the system how many images you want to capture in the pages box, then click the JPG capture button. See image below

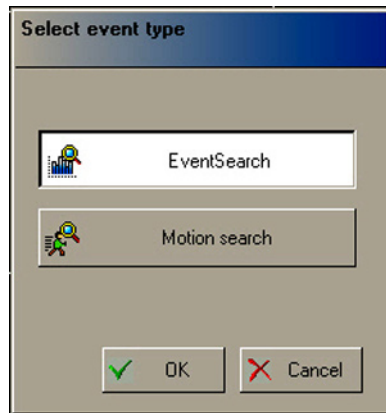


The file list display box shows a list of the files you have captured. The user can delete a file by highlighting the file and clicking the delete button. If the user does not want to save one of the files in the list, just uncheck the check box to the left of the file name. This will unmark the file for backup. Snapshot images can be displayed for review before saving. To view in the playback screen, double click the file name. AVI files cannot be reviewed. Files created in Media backup can be saved to a network drive via folder backup which can be saved to a CD-R, or CD-RW via disk backup. Image below shows the image list screen.

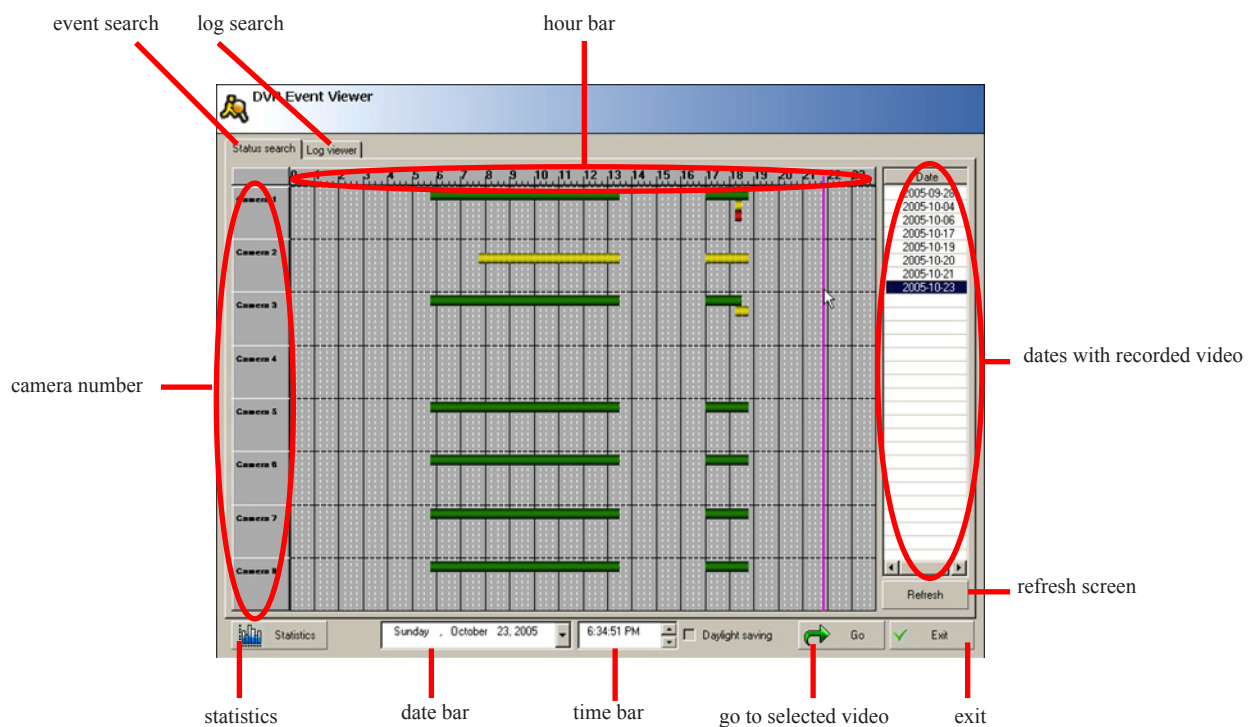


Event Search

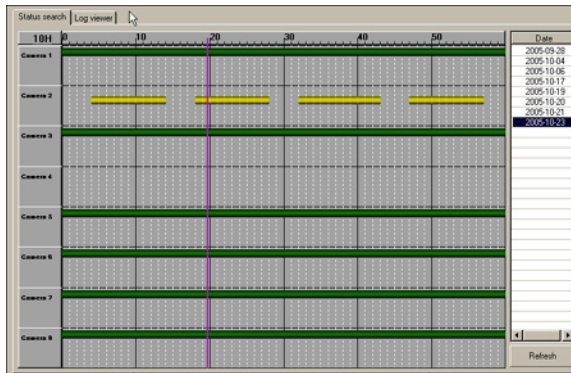
From the *Playback Screen* click the event search button . This will bring up the Select event type popup menu. There are two different types of searches available. Event Search and Motion Search. Select *Event Search* and click OK.



The main DVR Event Viewer screen appears. There are two tabs in the *Event Search Screen*, Status Search and Log Viewer. The default tab is the Event Search. This view gives the user a general overview of the recording status for the date selected on the right side of the screen. The color of the graph bar indicates the type of recording (continuous - green, motion detection - yellow, and sensor - red). When you move the purple select line and click, the time selected displays at the bottom of the screen in the date and time bar. The user can change the date to be searched by clicking on the arrow in the date bar at the bottom of the screen.



To see a particular hour's video in detail, click on that hour at the top of the table.

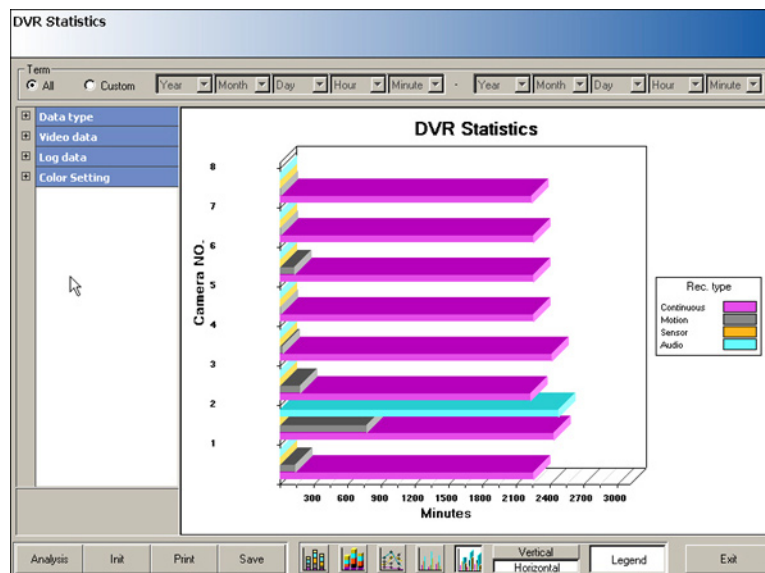


detail hour screen

The user can also enter the date and time in the date and time bar. Clicking the go button will take the user to the playback screen and start playing video from the selected time. The user can also double click on a position on the graph to start playing recorded video in the playback screen. If the user chooses a time where there is no recorded video, the “Can not find the recording data” message appears as shown below.

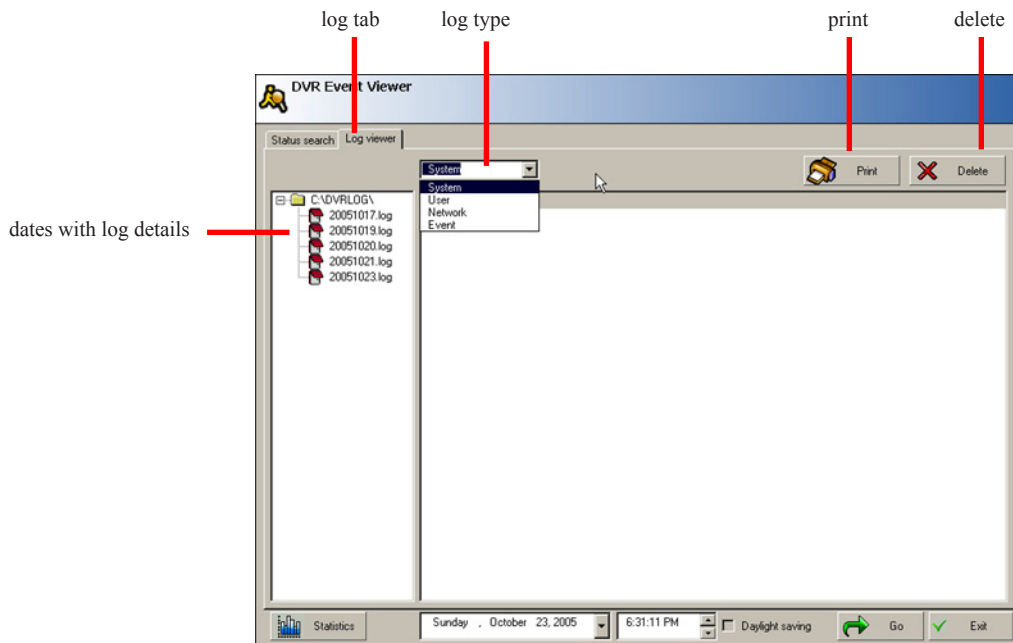


The Statistics button lets the user see statistics from the recorded video. Click this button to get the following screen.



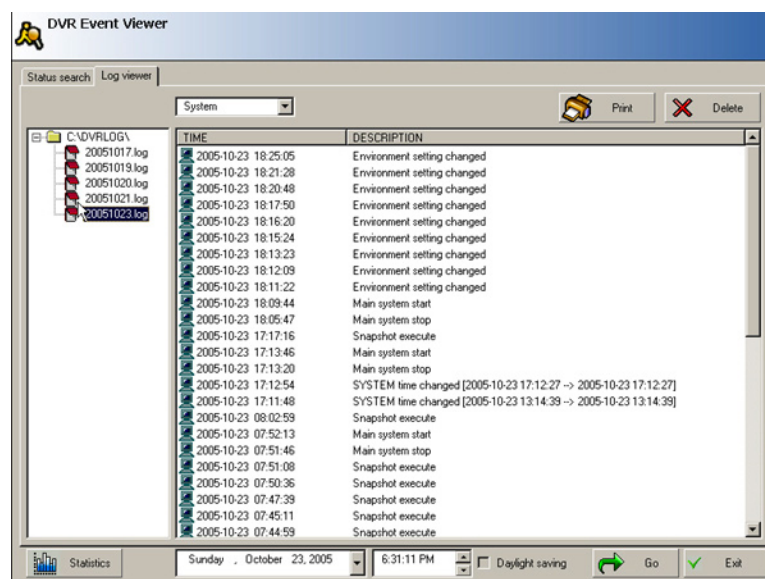
Log Viewer

To enter log viewer, click the log viewer tab. Log viewer gives the user a detailed view from the following logs: system, user, network, and event. Click the arrow on the type window and choose the type of log you would like to view. Next click on the date you would like to review from the date screen. The images that follow show the different types of logs you can review.



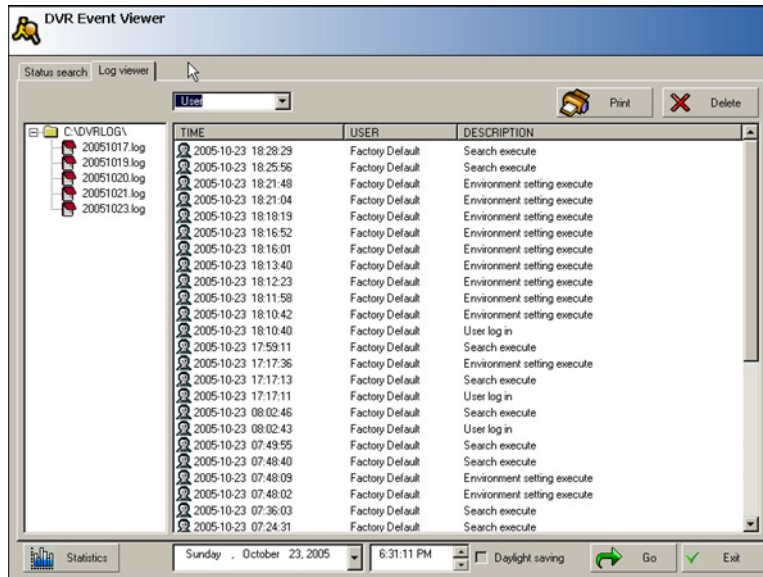
System Log

System log gives details of changes to the DVR system. If the user changes the time or makes changes to the DVR setup it is logged here.



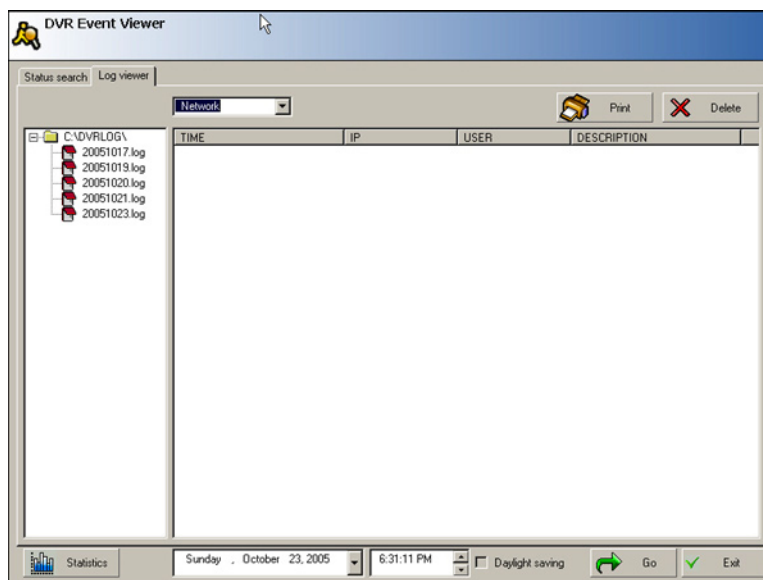
User Log

System changes that a particular user makes to the system are logged here. Examples of such changes include log on, log off, environment changes, and searches.



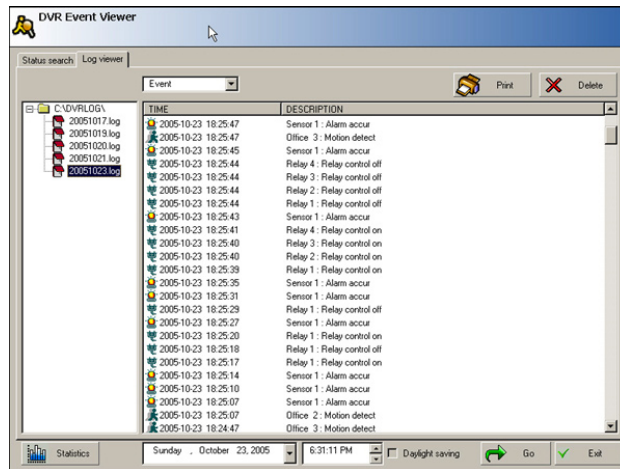
Network Log

Network log gives details as to who logged into the system remotely.



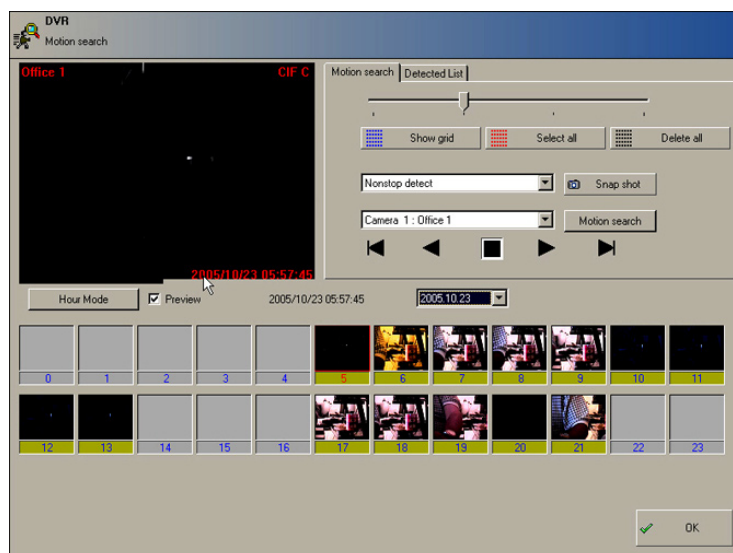
Event Log

Event log shows details on the different alarm events which have occurred. The alarm events are motion detection, sensor detection, and relay detection. When the user clicks on one of the events, it changes the date and time in the date and time fields at the bottom of the screen. Click *GO* to exit the event screen, and go to the playback screen to review video from the selected day and time.



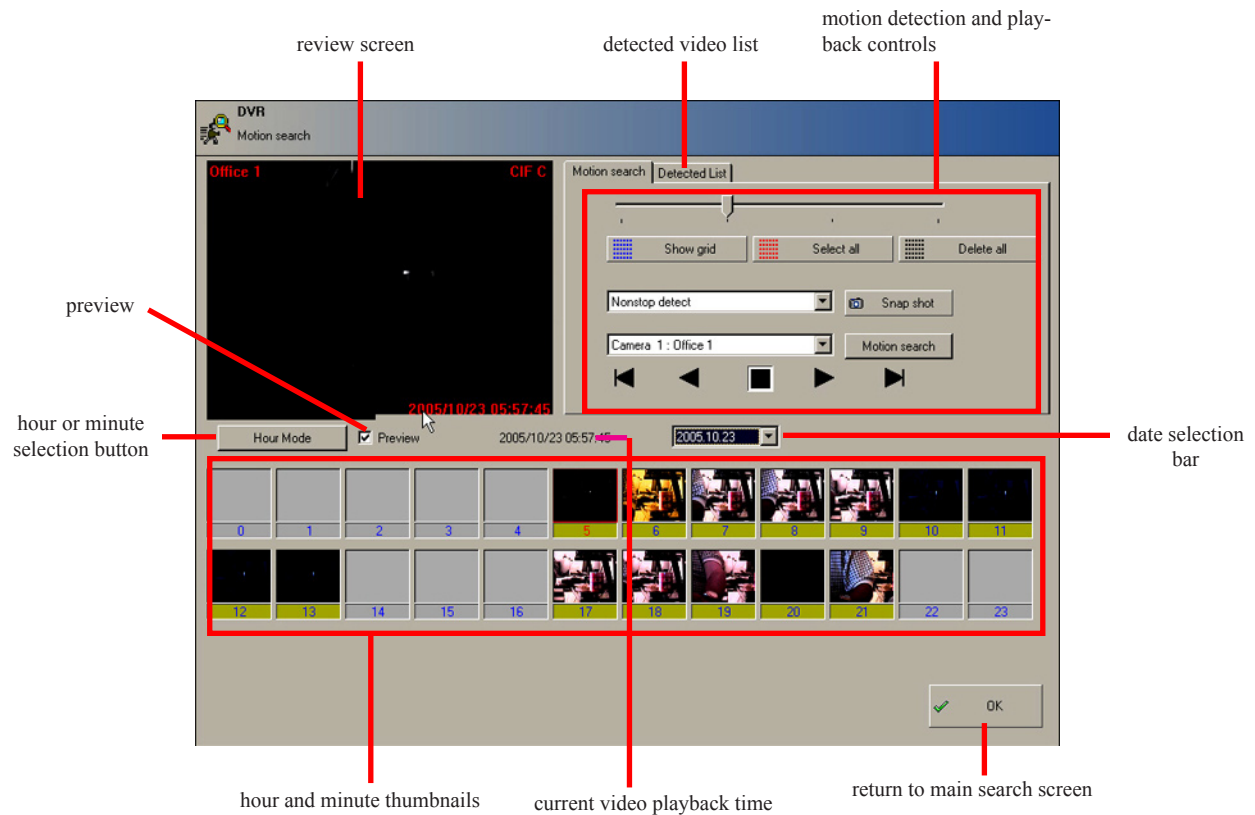
Motion Search

The motion search function breaks a selected day's video into 24 individual thumbnail pictures. The system displays the first recorded image for every hour that there is recorded data for the selected day. One of these 24 thumbnails can then be further broken down into 60 thumbnails. Each thumbnail displays the first recorded image for every minute of the selected hour. The user can choose any date where there is recorded data in the system. He can also select the camera he wishes to view. With motion search, the viewer has the option of using motion detection on either an hour or minute thumbnail to aid his search. To start motion search, click the search button from the live mode screen. Next, click the Event search button from the playback screen, choose motion search, and click OK. The following screen appears.



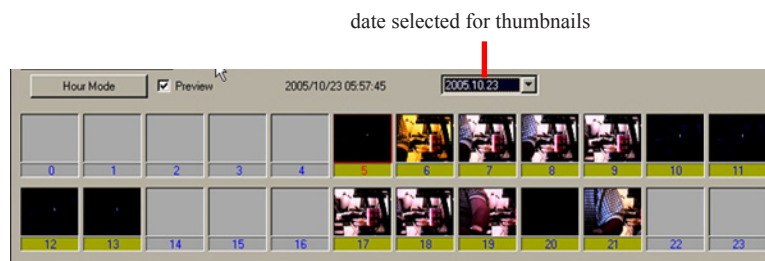
Detail of Motion Search Screen

The following is a detailed list of the functions on the motion screen.



Hour Thumbnails

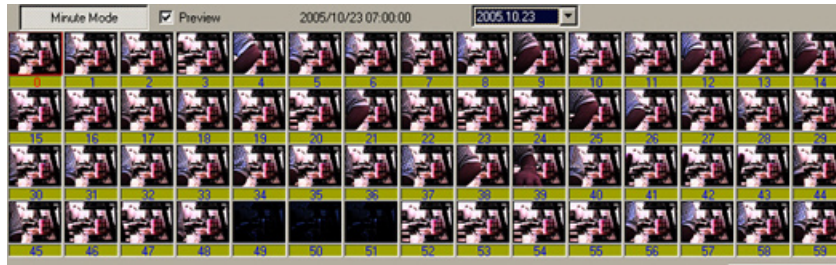
The image below is a sample of the hour thumbnails. The thumbnails display the first frame of video for each particular hour. If the thumbnail is gray it means that there is no video for that hour and date.



hour thumbnail displays 24 thumbnails; 0 representing midnight

Minute Thumbnails

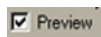
There are 60 minute thumbnails, each displaying the first image of each minute for the selected hour. Images that display gray do not have any recorded video for that minute. Select one of the minutes by clicking in its thumbnail picture and it begins to play in the playback screen.



60 thumbnail images representing each minute of the selected hour.

Preview Check Box

The preview check box allows the user to control the display of the hour and minute thumbnails. If the box is not checked, only the first thumbnail time with recorded video will display. If preview box is checked, all time thumbnails with recorded video will display the first image for that particular hour or minute.



Hour/Minute Display Button

The Hour/Minute display button toggles the thumbnail display from hour to minute.



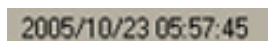
Date Selection Bar

Date selection bar is used to select the date you want to search. Click the down arrow to display a list of recorded video.



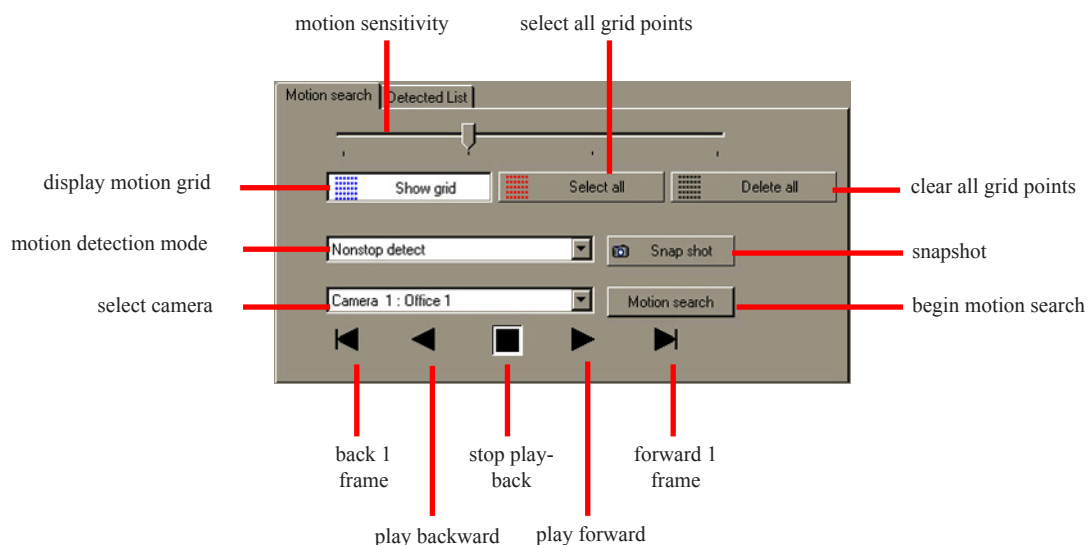
Selected Video Time

This displays the record time for the currently selected thumbnail.



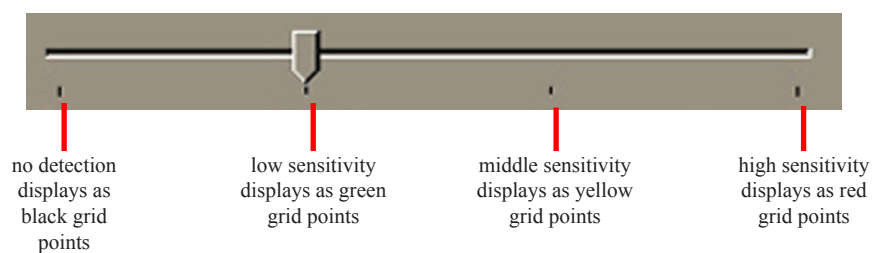
Motion and Playback Controls

The image below shows the motion and playback control box. This image lists the functions of each control.



Motion Sensitivity

With motion sensitivity, the user can set different sensitivity settings for the video being searched. Motion sensitivity is used in conjunction with the motion grid (see below). There are four different settings on the motion sensitivity slider bar. The image below shows the different settings.



To select motion sensitivity where the entire screen has the same sensitivity setting; click Show Grid, and a grid will display in the playback screen. Select the sensitivity setting you want and click select all. For example, if you wanted the entire screen to have low sensitivity, you would select show grid, then move the sensitivity slider to the second from the left as shown in the image above. Click select all, and all the grid points turn green indicating a low sensitivity. It is possible to have several different sensitivity levels within the same grid. This is done by setting the sensitivity slider, then click and drag a small section of the screen. Select another sensitivity setting and click and drag another portion of the screen. In this way the more important part of the image can have a higher sensitivity than other parts of the screen, giving the users a more accurate motion scan.

The images below show the detection grid after a select all and a multiple selection. The grid points in white indicate motion.



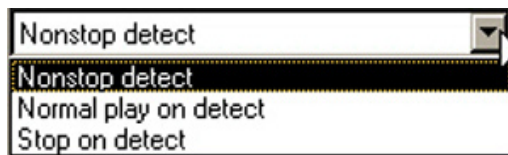
grid with all points set to same sensitivity



grid with different points set to different sensitivity

Motion Detection Mode

There are three different modes in the detection process: Nonstop detect, Normal play on detect, and Stop on detect.



Nonstop detect

In nonstop detect, the image is played back fast while it is detecting motion. If motion is found, playback slows to normal speed. After the motion, playback resumes its fast speed until another motion event is found, then plays at normal speed: Nonstop detect continues this pattern until the user clicks the motion button or the pause button.

Normal play on detect

In Normal play on detect, the image is played back in fast speed until motion is detected. Once motion is detected, the image is played back in normal speed until the user clicks the pause button.

Stop on detect

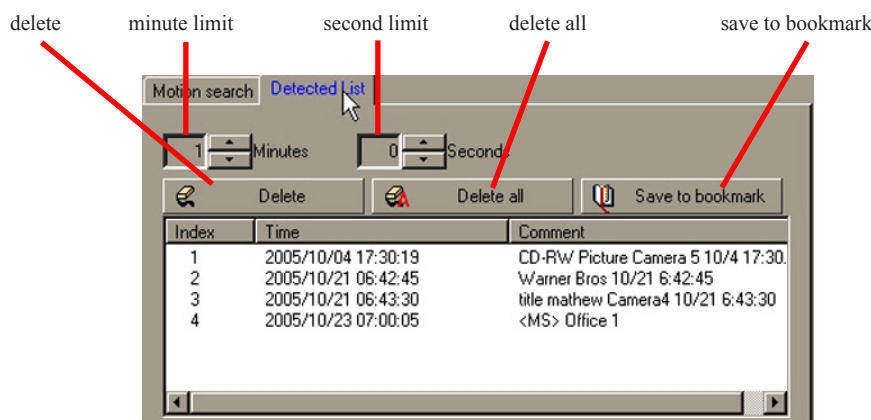
With Stop on detect, the image is played back in fast mode until motion is detected. After detecting motion the playback stops.

Snapshot

To save or print a snapshot of the image in the playback screen, click the snapshot button. For details on using the snapshot screen, see the snapshot section.

Motion Detection List

Click the motion detection list tab for a list of detected motion in sequential order. The minute and second time settings limit the number of detected images in the list. They do this by setting a time limit between motion detections. With the first motion the system will add it to the list, but will ignore all other motion detections for the set time period. Individual items in the list can be deleted by clicking to highlight them and clicking the delete button. The entire list or individual items can be saved as a bookmark to be searched later with the bookmark feature.



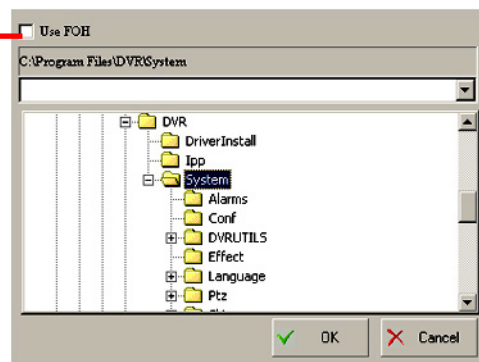
Data Path

Data path is used by the system to review video backed up with Smart Backup. To review the video backed up using Smart Backup, the user must tell the system which disk contains the backed up video. To do this, click the data path button; the windows explorer screen appears. Choose the location where the backup resides. Be sure to click the Use FOH check box as this is the format that the video was saved in. After choosing the correct drive path, click OK. If the system finds the backup, it will change the calendar and start playing the video in the playback screen. While in this mode, the system can also verify the backed up data's watermark. To return the system to recorded playback, click the Data Path button and click cancel. The images below show the Data Path icon and Windows Explorer screen.




Data Path button

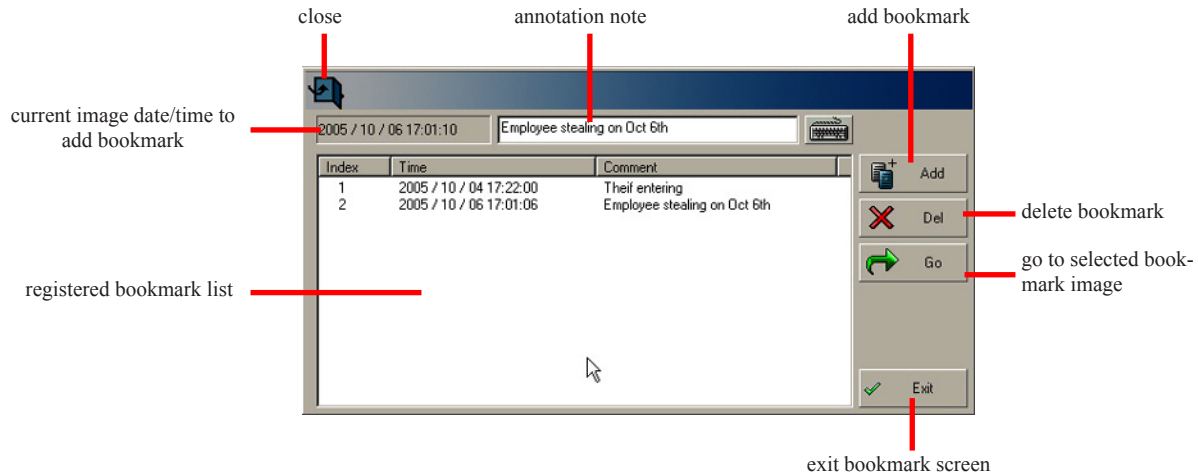
use FOH check box




explorer screen

Bookmark

Bookmark is used to mark video that you want to quickly return to without having to search. To set or retrieve a bookmark from the playback screen, click the bookmark icon . The bookmark window appears.




To add a bookmark, first find the video to be bookmarked in the search screen, then click the pause button. Next enter the bookmark screen by clicking the bookmark icon . The bookmark window appears with the currently paused search screen date and time in the window to the left of the annotation note field. Type a note as to the reason for creating the bookmark in the annotation field, then click ADD. The new bookmark is added to the list.

To play a bookmark, highlight the bookmark you want to review and click GO. The system returns to the playback screen and begins playing back the selected date and time. Double clicking the selected bookmark will also return you to the playback screen with the selected date and time.


NOTE: Registering a bookmark will not keep the system from overwriting the data. If the data is important it should be backed up as soon as possible. If the registered video is no longer available in the HDD due to overwriting, it cannot be played back. In this case the bookmark should be deleted.

Watermark

Watermark is a process where the system can check to see if the recorded video data has been modified. By clicking the watermark button , the system will step through the video displaying the watermark symbol verifying it has not been forged. The display can be turned off by clicking the watermark button a second time.



Snapshot

The snapshot function allows the user to capture a screen shot in a JPG file format. The function allows for previewing the image, saving, or e-mailing the image. This function also allows for minor modifications to the image such as brightness and contrast adjustments and flipping and mirroring the image. The snapshot function also allows for installation of a printer for printing the image. To use the snapshot function, click the snapshot icon . The snapshot window appears with the image that was on screen at the time the icon was clicked. If only one camera is desired, change the playback screen to one camera display mode before clicking the snapshot icon. The image below shows the capabilities of the snapshot function.

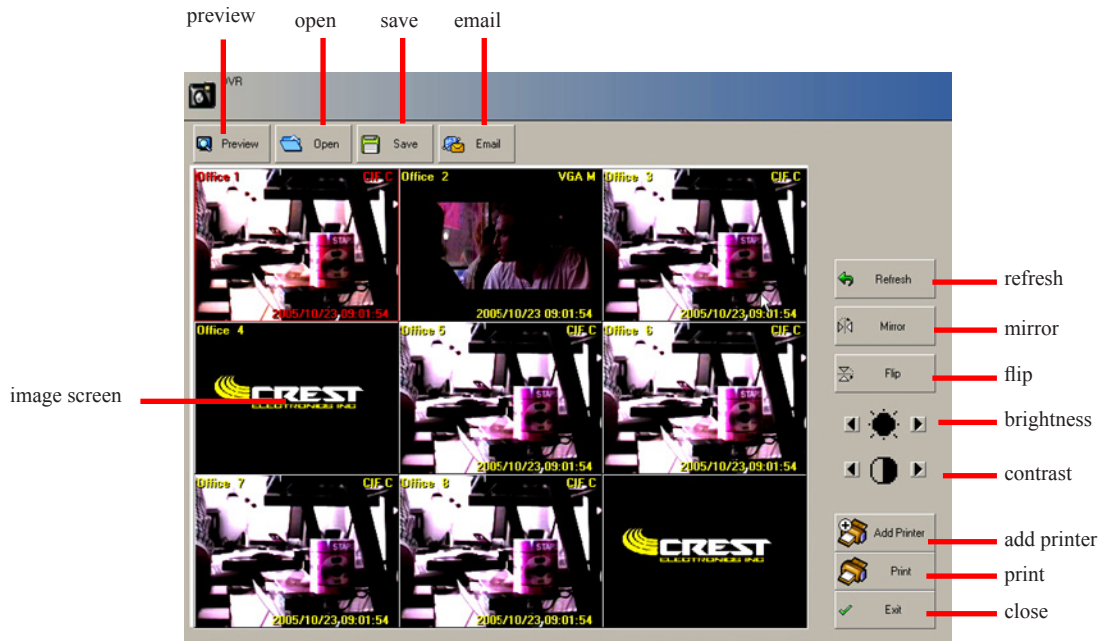
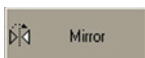


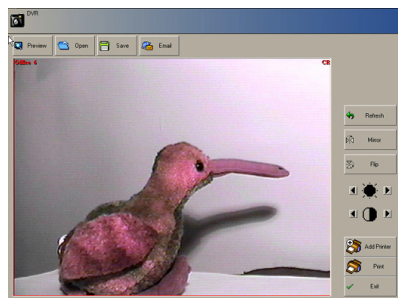
Image Enhancement Tools

The following tools are available to enhance the image before saving, printing, or e-mailing.

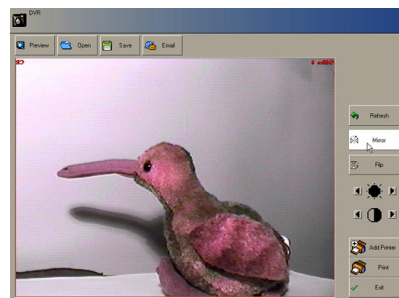
Mirror Image



Mirror function will flip the image as if it were being viewed in a mirror. See pictures below.

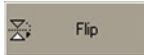


before mirror

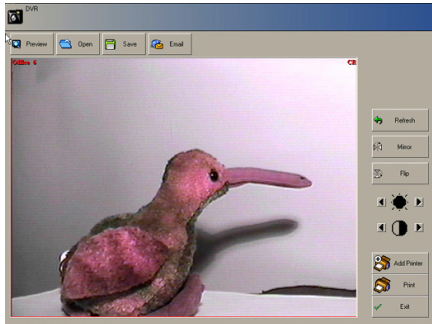


after mirror

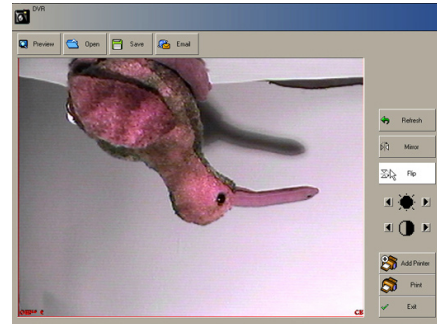
Flip Image



The flip function will flip the image horizontally from bottom to top as the pictures below demonstrate.



before flip

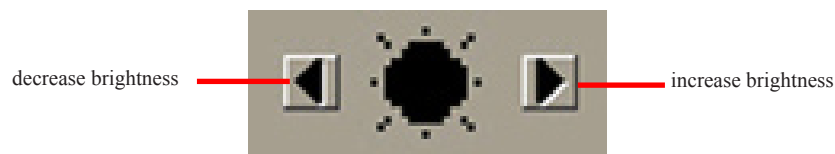


after flip

Brightness Control



With the brightness control the snapshot can be brightened or darkened. The arrow to the right increases brightness while the arrow on the left darkens the picture.



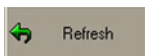
Contrast Control



The contrast function controls the amount of contrast in the image. To increase contrast, click the arrow on the right. To decrease contrast, click the arrow on the left.

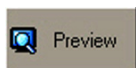


Refresh



The refresh function will undo any changes made to the image, bringing it back to its original condition.

Preview



The preview function will give the user a preview of the image before printing. See the image below.

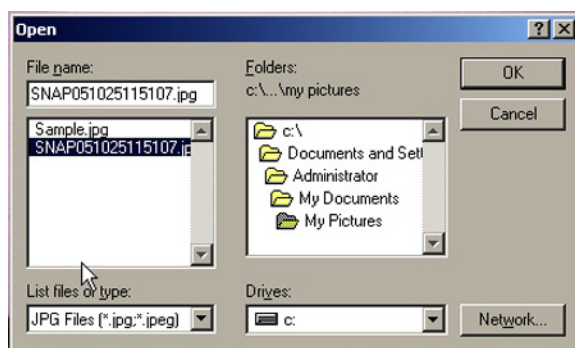


preview

Open

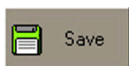


With the open button, the system can retrieve previously saved snapshots. Click the open button to open the explorer window and select the data path where the file resides. Select the file you want to open and click OK, or double click the file name to open the image in the snapshot viewer.

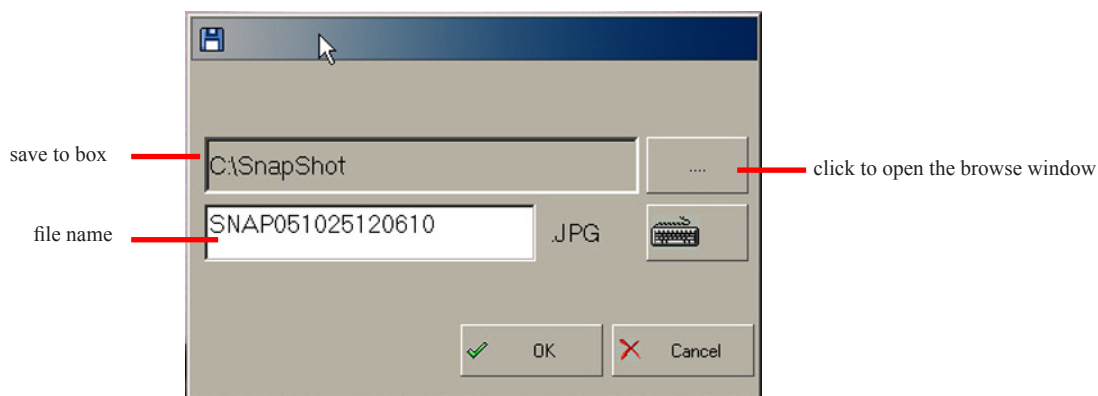


select file for viewing

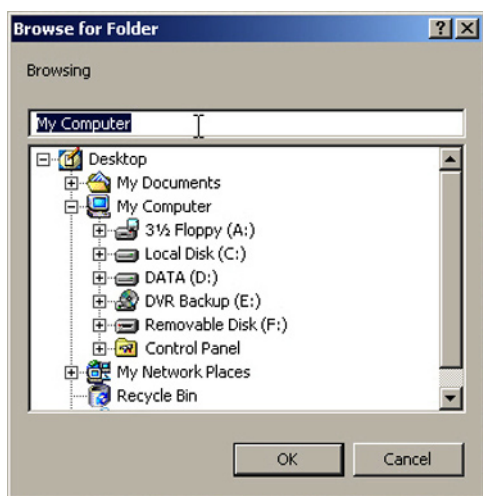
Save



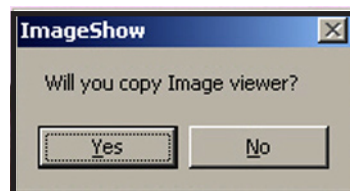
The save function allows the user to save the snapshot to the FDD, HDD folder, network, or USB device. When saving a snapshot, two files are created; the image file and a text file with the picture information in it. The system uses this text file to place the camera information in the screen when using the snapshot function or using the image viewer to print. Be sure to copy both files when transferring files from one directory to another. Click the save button to open the save window. This function will automatically give the file a name. This filename can be changed by clicking in the filename box and typing a name for the file. The default data path is displayed in the save to box. If you wish to change this location, click the eclipse to open the browse window. Click OK to save the image. When saving, the system will ask if you want to save a copy of the DVR image viewer. To do so, click yes. The images below show the different windows.



save window



Use the browse window to locate the data path where you want to save the image and text files

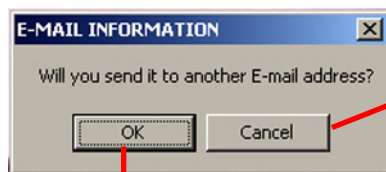


to save a copy of the DVR's image viewer software, click yes

E-Mail

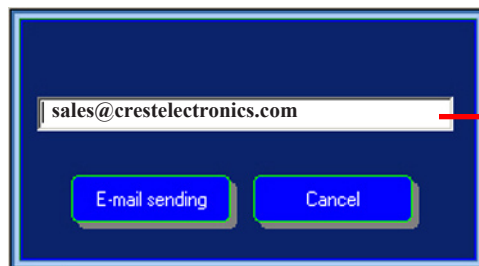


The E-Mail function allows the system to send your picture to another user via email. You must have set up Email on your system before using this feature. See the setup section of this manual to learn how to do this. To use the email feature click the email button. The system asks if you want to send the image to an email address other than the one set up during the email setup. If you click cancel, the system will send the image to the default email address. If the OK button is clicked, the address input box will display allowing the user to enter an address for the image to be sent.



If cancel button is clicked, the image will be sent to the default address listed when email was set up in the initial DVR setup.

If OK button is clicked the email address input window appears as shown below




Input the new email address for the image to be sent. The system will send the image to this address instead of the default email address

Chapter 4

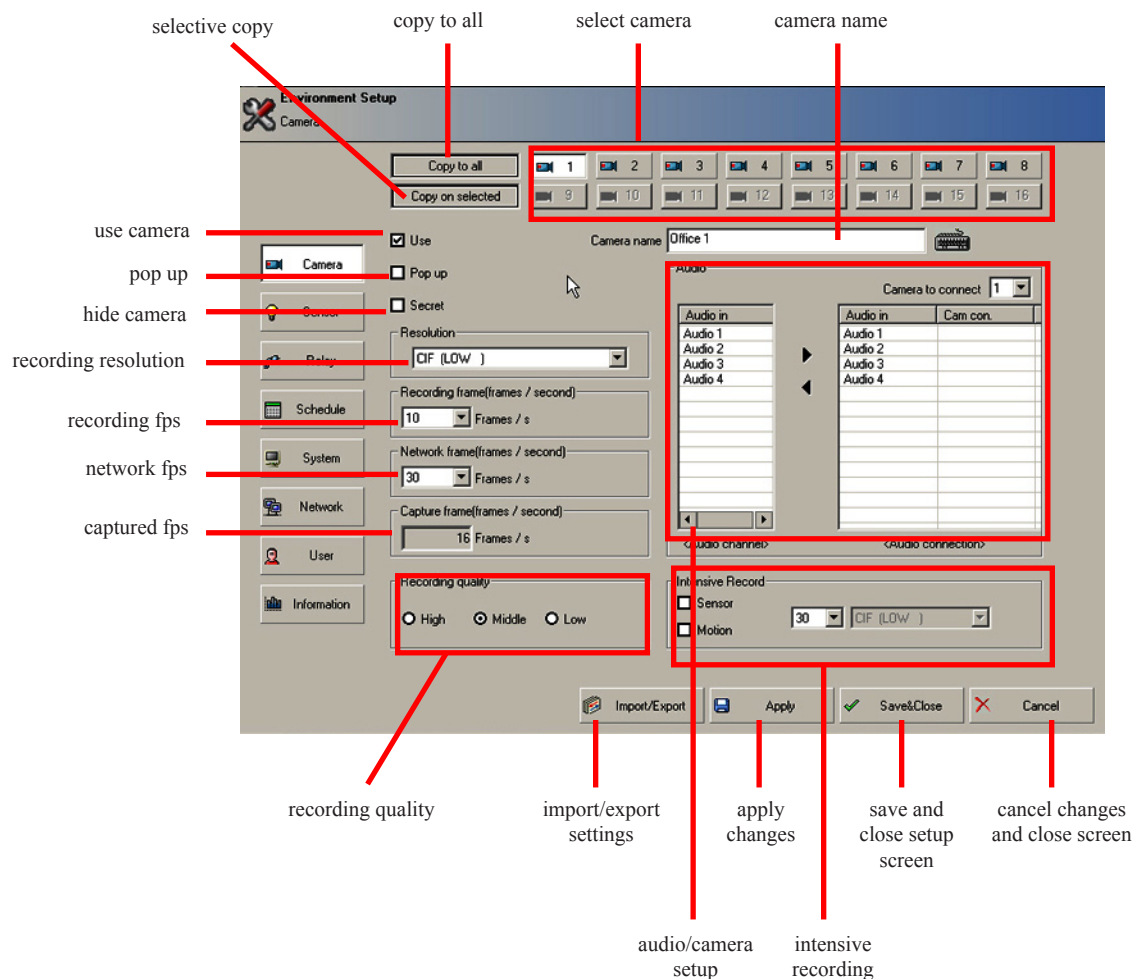
System Setup

SYSTEM SETUP

To set the various function settings, use the setup menu. The setup menu is where the DVR's environment is controlled. This section will give details for setting up the DVR's cameras, sensors, relays, recording schedule and mode of recording, audible alarms, network, and users. This function also gives the user information on different aspects of the system such as network settings, database settings and usage, and product. To launch the setup menus, click the setup icon . The camera setup window appears.

Camera Setup

The following image shows the camera setup window and gives details on using this window.



Camera Selection

Click the camera input number to be set up. Any settings you make on this screen will apply to this camera only. If you want to make different settings to another camera, select it and make changes. If all cameras are to be set up the same, please read *Copy to All* and *Copy to Selected* below.

Copy to All

If all cameras are to be set up the same then set up one camera and click *Copy to All*. This will apply the current settings to all camera channels. **Note: Some models of the CDVS-7300 series will display jumpy video both in live and playback mode if this check box is checked and there is no camera connected to the port.**

Copy to Selected

Use copy to selected when you need to copy the current setting to some, but not all the cameras. To use the *copy to selected* function, make changes to one camera, then with this camera still selected, hold down the control button (Ctrl) on the keyboard and click the other cameras needing the same setup. After selecting the necessary cameras click the *Copy on Selected* button. **Note: Some models of the CDVS-7300 series will display jumpy video both in live and playback mode if this check box is checked and there is no camera connected to the port.**

Use Camera check box

Check this box for each camera input used.

Note: Some models of the CDVS-7300 series will display jumpy video both in live and playback mode if this check box is checked and there is no camera connected to the port.

Pop Up check box

Check this box if you want the selected camera to pop up full screen when motion or sensor alarm is detected. The channel will stay full screen until there is another motion, alarm detection, or the user changes the screen mode display.

Secret Camera

Check this box if you want the camera hidden. At this time the camera will be hidden from all users including the administrator. The administrator will however be able to see the hidden camera with the use of the remote software.

Recording Resolution

Each camera can be set for the following resolutions individually.

CDVS-7500 SERIES		CDVS-7300 SERIES	
CIF(LOW)	320X240	CIF(LOW)	320X240
2CIF(MIDDLE)	720X240	2CIF(MIDDLE)	640X240
VGA(HIGH)	720X480	VGA(HIGH)	640X480

Recording Frames Per Second

The user can set the recording frames per second from 1 fps to 30 fps for each camera. The actual captured fps may be different from the chosen camera based on the resolution and model DVR you have.

Captured Frames Per Second

The captured frames per seconds display box shows the actual fps captured for the selected camera. This may be different from the fps in the camera's recording frames per second due to the resolution setting of the camera and model DVR you have.

Network Frames Per Second

Network frames per second allows the user to limit the fps that transmit over the network. Other DVR's can only limit the entire system's transmission. This causes all cameras to transmit at the same slow speed. The Crest CDVS-7000 series fixes this problem by allowing individual cameras to transmit at different speeds. This means that if you have an important camera to view over the network you can increase just this camera's speed with little or no effect on the networks bandwidth. To use this feature simply enter the number of frames for each camera to transmit across the network. Remember you can use the *copy to all* or the *copy to selected* to help set the network fps (see section on these features in the beginning of this chapter).

Recording Quality

The user can set the recording quality for each channel independently. The following recording quality levels are available:

HIGH: This is the best image quality, but data size is large and will result in fewer days recording

MIDDLE: This is the default quality level and is a good compromise between quality and days recording.

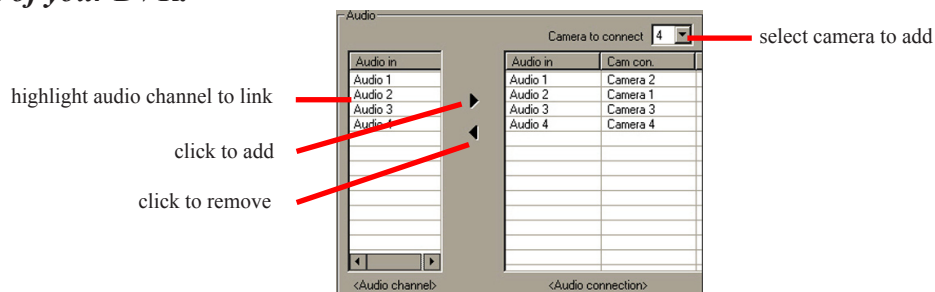
LOW: Poor image quality, but data size is very small.

Camera Name

The system allows the user to name each channel of video. To use this feature, highlight the camera name and type a new name. The new name will show on the live and playback screens. The new name will also be shown in the snapshot text file. ***Note: Changes to the name will not affect video that has already been recorded to the hard disk.***

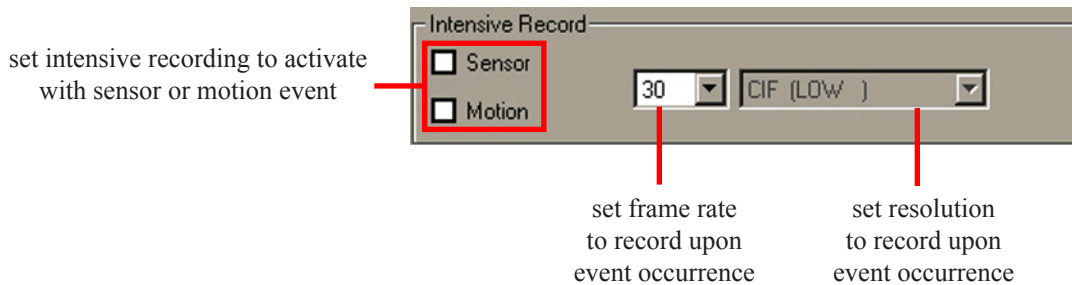
Audio/Camera Setup

Use this feature when connecting microphones to your system. Setting each audio channel to a specific camera allows the user to hear live and recorded audio. By selecting the camera channel from the live or playback screen, the user is able to hear audio. One camera channel can be linked to only one audio channel. ***Note: The number of audio channels you have depends on the model of your DVR.***



Intensive Recording

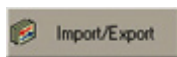
Intensive recording function allows the user to use a different camera setup for recording based on a specific event such as motion or sensor. The frame rate and resolution can be changed to record at a higher setting than originally set. An example would be if Camera 1 was set to record at 5 fps continuously but when a sensor event occurs on camera 1 the recording rate increases to 30 fps. Intensive recording will take frame rate away from other cameras and give it to the camera or cameras where the event occurs.



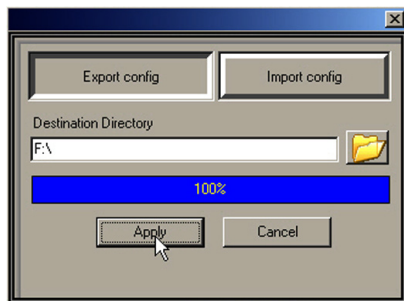
Import/Export

The import/export button allows the user to save the DVR's settings to a separate file. If something were to happen to the system, the user could just import this file and all the DVR's old settings would be back in place. The images below describe this process.

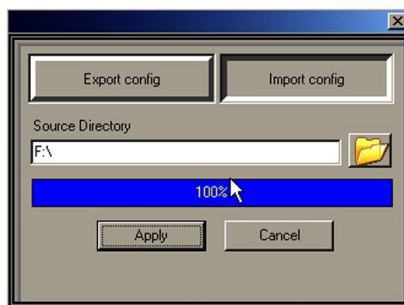
Click the Import/Export button



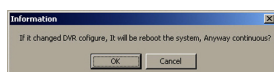
The import/export config window pops up.



To export a file, click the export button. Next click the folder icon and choose a drive and/or directory to export the file. Click apply; the file is saved. Remove disk and put in safe place.

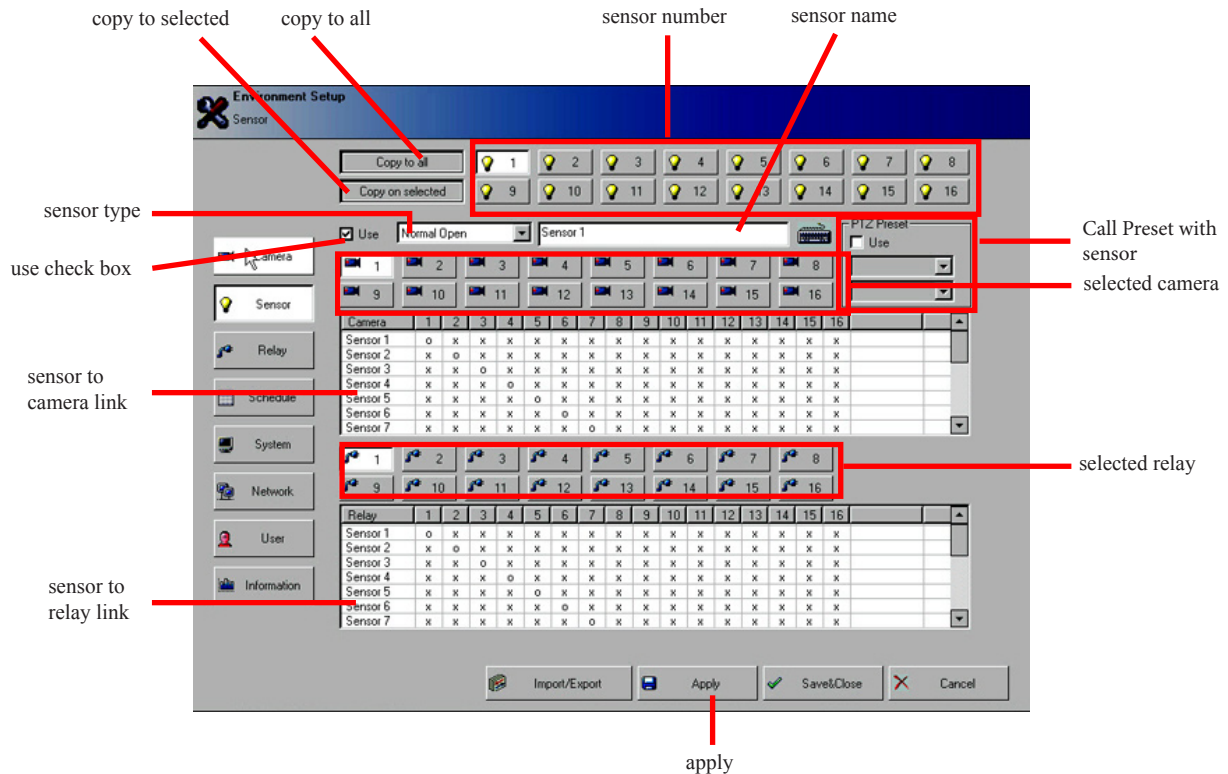


To Import a file, click the import button. Next click the folder icon and choose a drive and/or directory where the exported configuration file resides. Click apply. The reboot system warning button pops up telling you the system must be rebooted after changing the configuration files. Click OK and the file is imported; click cancel to exit the window. If you used a floppy or USB disk, remove it. Return to live screen mode and reboot the system.



Sensor Setup

The sensor setup menu is used to set up the sensors on the DVR. The number of sensors activated on screen depends on the model DVR you have. This section deals only with the DVR setup for the sensors. See the Installation guide for the physical connecting of a sensor to the DVR. To set up sensors on your system, click the sensor button. The following window appears.



Sensor Type

Type of alarm sensor used: NO (normally open) or NC (normally closed)

Use Check Box

The use check box tells the system if the sensor is used or not. To use a sensor, click the sensor number you want to use and click the use check box.

Sensor to Camera Link

This screen is a display telling the user what cameras are associated with each sensor. It is not very practical, but it is possible to have all cameras associated with one sensor or have all cameras associated with all sensors. To associate a camera with a sensor, follow these steps:

- 1). Click the sensor to link to a camera; it will highlight in white indicating it is selected.
- 2). Click the camera or cameras you want associated with the selected sensor. Each camera selected will highlight in white and the sensor to camera link screen will display your links. X = not linked O = linked.

Sensor to Relay Link

This screen is a display telling the user what relays are associated with each sensor. It is not very practical, but it is possible to have all relays associated with one sensor or have all sensors associated with all relays. To associate a relay with a sensor, follow these steps:

- 1). Click the sensor to link to a camera; it will highlight in white indicating it is selected.
- 2). Click the relay or relays you want associated with the selected sensor. Each relay selected will highlight in white and the sensor to relay link screen will display your links. X = not linked O = linked.

Sensor Name

The system allows the user to rename the sensor. To rename the sensor, highlight the current name and begin typing. The old name is overwritten with the new sensor name.

Copy to All

User can apply the selected sensor setting to all sensors.

Copy to Selected

User can copy selected sensor settings to selected sensors. To select other sensors, hold down the control (CTRL) button on the keyboard and click the sensor or sensors desired.

Apply Button

Use the Apply button to save the changes without exiting the setup screen. You can then go to another setup menu without exiting the setup window.

Save and Close Button

Use the save and close button when you have finished making changes and want to exit the setup window.

Cancel

The cancel button is used to exit the setup screen without saving any changes. If you click the apply button before clicking the cancel button only the changes made after clicking the apply button will be canceled.

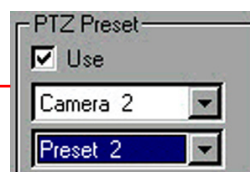
PTZ Preset

The PTZ Preset function gives the system the ability to have a PTZ camera move to a preset location when the sensor is activated. Only one preset can be assigned to each sensor. To use the PTZ Preset function select the sensor which will activate the PTZ Preset. Then select the PTZ camera, followed by the preset position you wish to call. See Image below.

Select camera with
PTZ preset

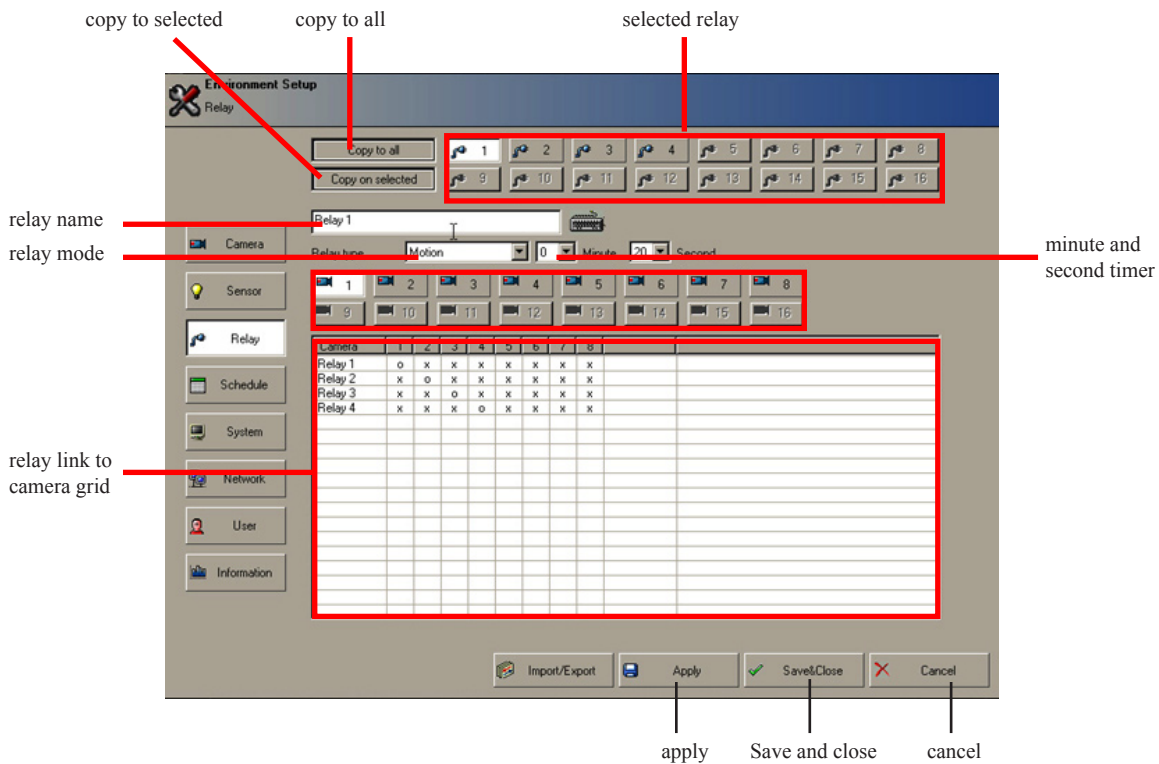


Click use, select PTZ camera;
then select preset location
number



Relay Setup Window

Your DVR system is able to send an outgoing signal to another device. The number of relays available is determined by the DVR model. See model specifications in other part of manual. To enter the relay setup window; 1). From the main screen (Live Mode) click the setup button. 2). Click the the relay button, the relay setup window appears. The following image shows a detailed listing of the functions of the relay setup window.



Copy to All

User can apply the selected sensor setting to all sensors.

Copy to Selected

User can copy selected sensor settings to selected sensors. To select other sensors, hold down the control (CTRL) button on the keyboard and click the sensor or sensors desired.

Selected Relay

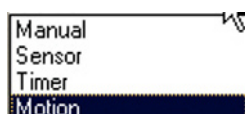
Used to select the relay for setup. Currently selected relay will be highlighted in white.

Relay Name

System allows users to change the name of the sensor to better identify it.

Relay Type

Used to set the relay mode of operation. Click the down arrow in the relay type box. The following drop down box displays allowing the user to choose the relay operation mode.



The following relay types are available:

Manual Operation: Sends a signal when either a sensor or motion event occurs. System will continue to send signal until user clicks the activated relay in the sensor/relay display box in the main screen (live mode).

Sensor Alarm Operation: Sends a signal when the sensor alarm is activated. The relay will continue to send signal for as long as sensor is activated.

Set Time Operation: Sends a signal when either a sensor or motion event occurs. System will send a signal for the time set in the minute and second time setting box.

Motion operation: Relay will send signal when motion is detected and camera and recording schedule are set for motion recording. Relay starts when motion is detected and stops when motion is finished.

Relay Link to Camera Grid Box

The relay to camera grid box shows the link between a specific camera and the system relays. All relays can be linked to one camera or all cameras. To create a link to a camera, click the relay to be linked. Then click the camera or cameras you want linked to the relay. The grid box will reflect the camera links. O represents a link between a camera and a relay. X represents not linked.

Minute and Seconds Timer Boxes

The minute and seconds timer boxes allow the user to set the amount of time the relay will send signal when relay is activated and relay type is set to manual.



Apply Button

Use the Apply button to save the changes without exiting the setup screen. You can then go to another setup menu without exiting the setup window.

Save and Close Button

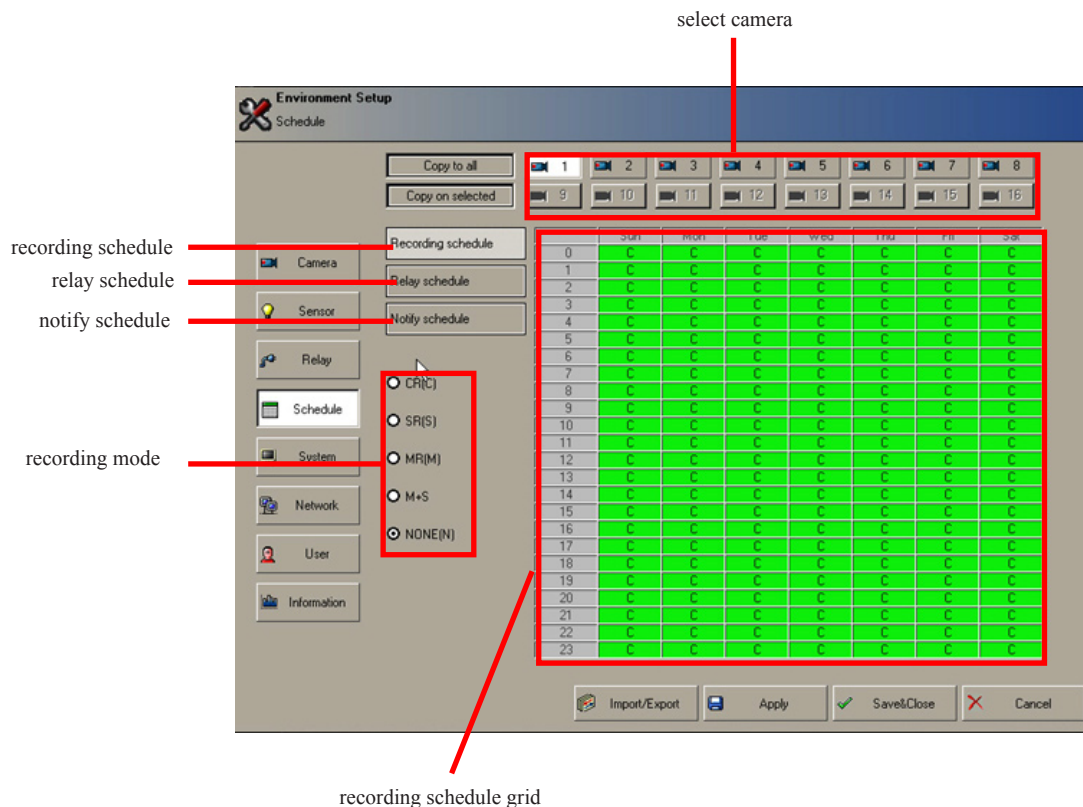
Use the save and close button when you have finished making changes and want to exit the setup window.

Cancel

The cancel button is used to exit the setup screen without saving any changes. If you click the apply button before clicking the cancel button, only changes made after clicking the apply button will be canceled.

Recording Schedule Setup Window

Recording schedule setup window is used to set up when, and under what conditions, each camera will record video. Recording can be scheduled by hour, day, and by type. This screen also allows the user to set up the relay and remote notification schedule. The image below shows the recording schedule window.



Recording Mode

The system allows for several different types of recording modes. The following is a list of the different modes available.

Continuous Recording:	Symbol - C	Color - Green
Sensor Recording:	Symbol - S	Color - Red
Motion Recording:	Symbol - M	Color - Yellow
Motion + Sensor Recording:	Symbol - M+S	Color - Orange
No Recording:	Symbol - N	Color - Beige

Continuous mode recording

In continuous mode recording, the image is saved at a fixed resolution based on the recording schedule set up in the recording schedule grid. It is possible to set by hour or day. To activate continuous recording use the following instructions. 1). Select camera or cameras. 2). Click the CR (C) radio button. 3). Click and drag the mouse icon in the recording schedule grid to select the days and hours for operation. If user wants to select all, click the blank square in the upper left corner of the recording grid. Day and time selected will display in green with the C symbol indicating they have been selected. If all cameras are to record the same, click copy to all. To repeat settings on selected cameras hold the control key (CTRL) on the keyboard and select cameras to copy settings to, then click copy to selected.

Sensor Recording

Sensor alarm only records video for cameras set up for and linked to sensors. Recording begins when sensor is activated and continues for duration of alarm. This recording mode is used when the user only wants to record video when there is a sensor activation. It is possible to set by hour or day. To activate sensor recording use the following instructions. 1). Select camera or cameras. 2). Click the SR (S) radio button. 3). Click and drag the mouse icon in the recording schedule grid to select the days and hours for operation. If user wants to select all, click the blank square in the upper left corner of the recording grid. Day and time selected will display in Red with the R symbol indicating they have been selected. If all cameras are to record the same, click copy to all. To repeat setup on selected cameras hold the control key (CTRL) on the keyboard and select cameras to copy settings to, then click *copy to selected*.

Motion Recording

Motion recording records video only when motion is detected. Cameras where there is no motion will not be recorded. This is the most used method of recording, as the system does not record until there is motion in the selected areas (see motion area setup). It is possible to set by hour or day. To activate motion recording use the following instructions. 1). Select camera or cameras. 2). Click the MR (M) radio button. 3). Click and drag the mouse icon in the recording schedule grid to select the days and hours for operation. If user wants to select all, click the blank square in the upper left corner of the recording grid. Day and time selected will display in yellow with the M symbol indicating they have been selected. If all cameras are to record the same, click copy to all. To repeat setup on selected cameras hold the control key (CTRL) on the keyboard and select cameras to copy settings to, then click *copy to selected*.

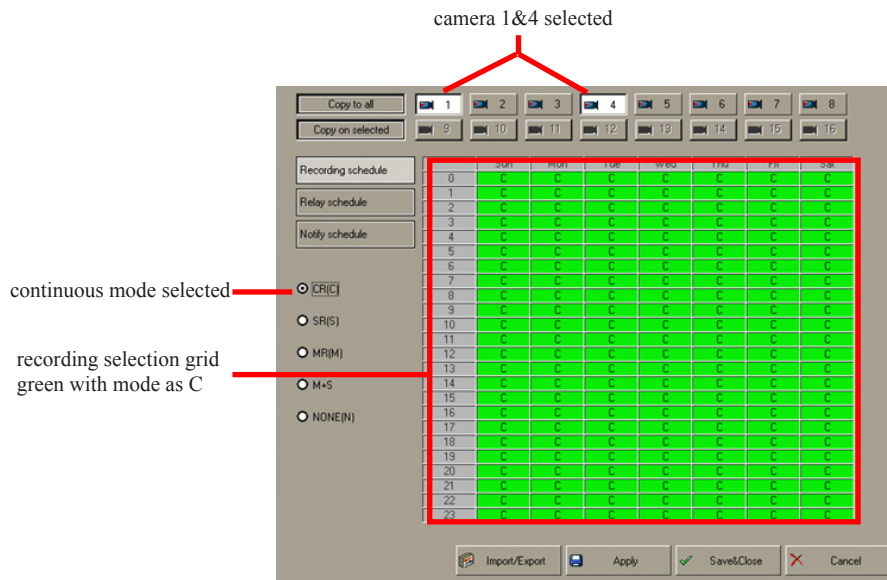
Motion and Sensor Recording

Motion and sensor recording combine both motion and sensor recording. If a camera has a sensor or motion event the system will record video. It is possible to set by hour or day. To activate motion and sensor recording use the following instructions. 1). Select camera or cameras. 2). Click the M+S radio button. 3). Click and drag the mouse icon in the recording schedule grid to select the days and hours for operation. If user wants to select all, click the blank square in the upper left corner of the recording grid. Day and time selected will display in orange with the M+S symbol indicating they have been selected. If all cameras are to record the same, click copy to all. To repeat setup on selected cameras hold the control key (CTRL) on the keyboard and select cameras to copy settings to, then click *copy to selected*.

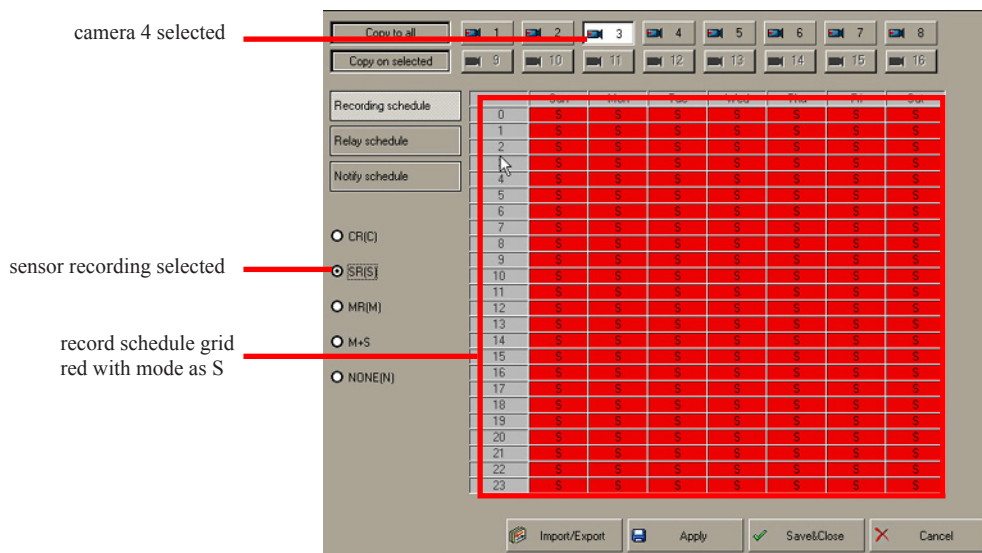
Recording Example:

The following example will detail setting up cameras 1 & 4 for Continuous recording, camera 3 for sensor recording, cameras 2,5,6,7 for motion recording, and camera 8 with no recording at 9:00am and motion recording the rest of the time.

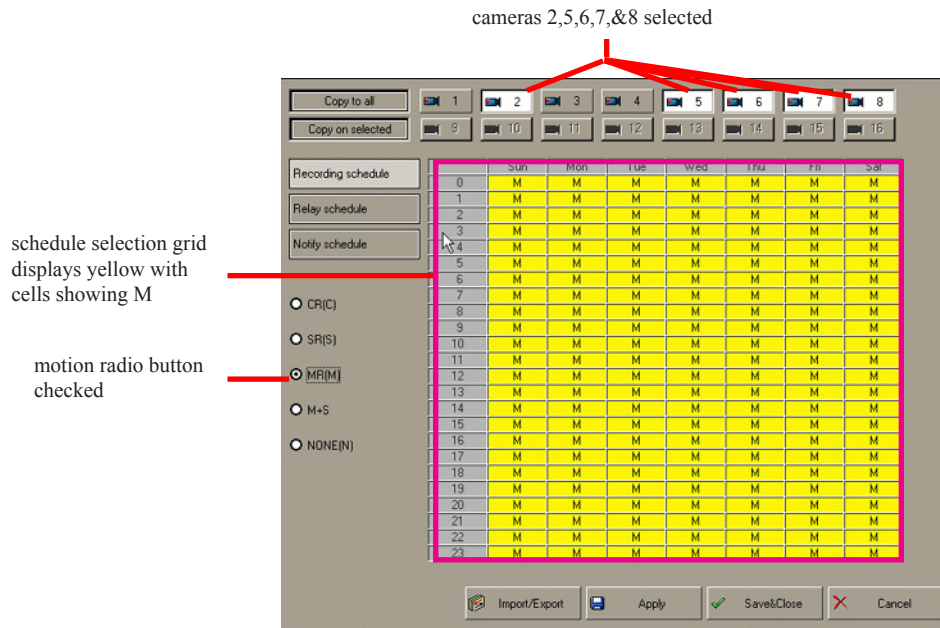
To begin, camera one should be highlighted. If it isn't, do so now. We are going to set camera one and four to record in continuous mode. 1). Now we need to select camera four. We do this by holding down the control button (CTRL) on the keyboard. This will select both camera one and four (they are highlighted in white). 2). We need to set the recording mode to continuous mode. Do this by selecting the radio button CM (C). 3). We now will set the days and time for recording these cameras in continuous mode. Because we want these cameras to record everyday, 24 hrs a day, we will click in the upper left corner of the day and time schedule grid. The entire grid will turn green and every hour will have a C indicating continuous mode as the image below shows.



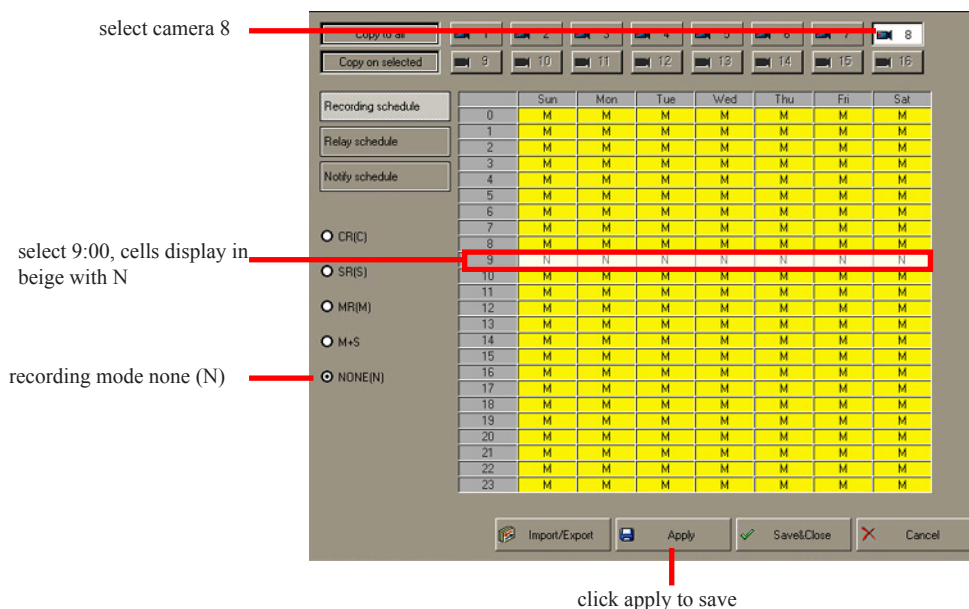
Now we need to set camera three for sensor recording. 1). Select camera 3. 2). Click sensor radio button to select sensor recording click and drag to select the entire schedule selection grid. Grid will turn red with each hour displaying S indicating sensor recording mode. See image below.



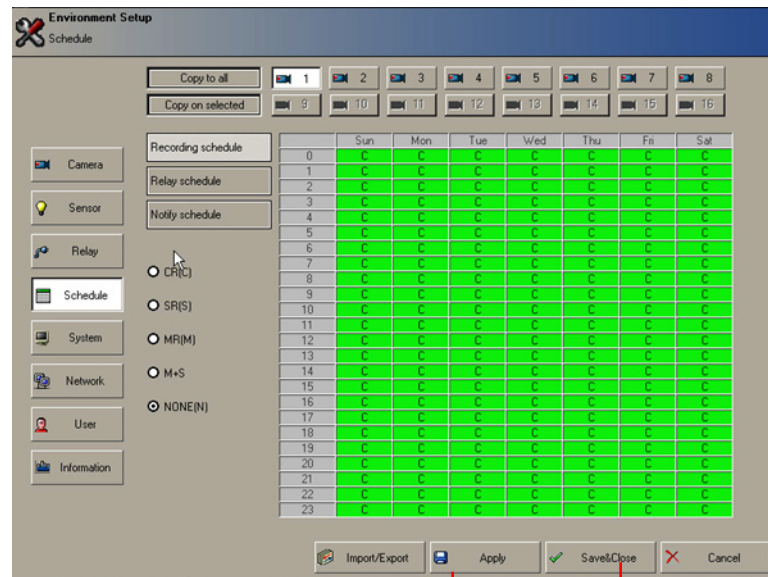
We are going to set cameras 2,5,6, and 7 for motion recording. We will also select camera 8 because it will record in motion except for one hour starting at 9:00 am. 1). Select cameras 2,5,6,7,8. 2). Select the motion recording radio button MR (M). 3). Click the upper left corner of the recording selection window to select the complete grid. Grid will turn yellow and the hour cells will contain a M indicating that they have been selected for motion recording as indicated by the image below.



Next we need to set the schedule to not record for 9:00 am for camera eight. 1). Click camera eight. 2). Click None (N) recording mode radio button. 3). Click 9:00 to select from 9:00 am to 9:59 am. The cells for the 9:00 hour turn beige with a N indicating no recording. 4). Click apply button to save the changes you made. Image below displays these changes.



After setting the recording schedule we now need to set the motion grid and sensitivity for each of the cameras we set to record only when there is motion. This is done with the motion function located on the main screen. Before exiting the Setup screen we need to save the changes made. Click the apply button then the save and close button. See Image below.



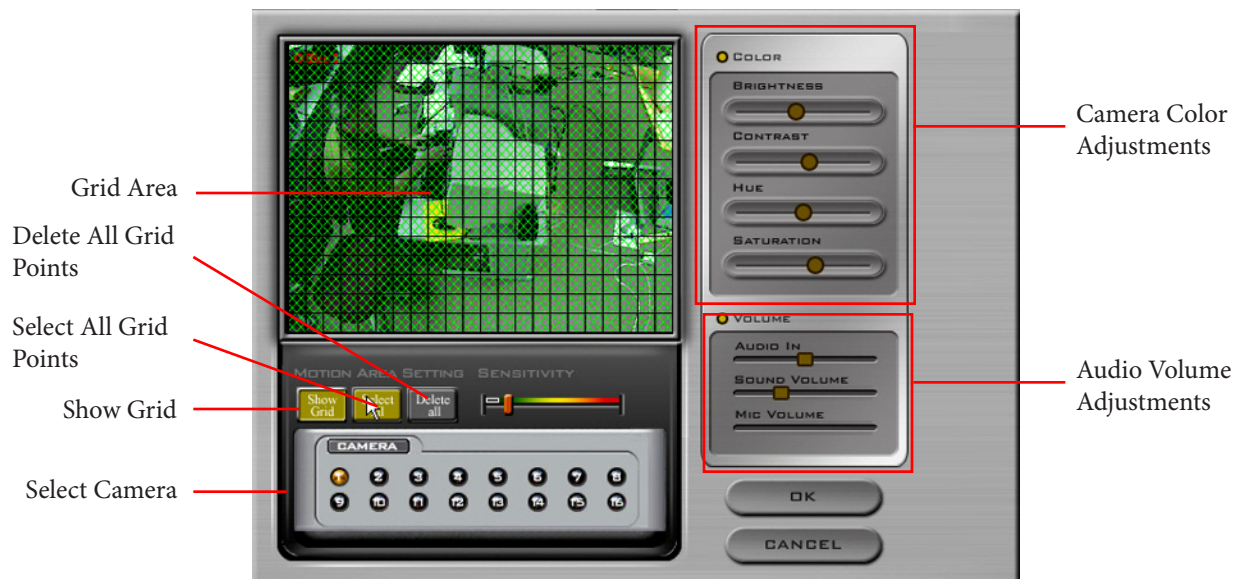
Click Apply to save changes

Click Save and Exit to save the changes and exit to main menu.

From the main menu click the Motion button; the motion setup screen appears. See image below.

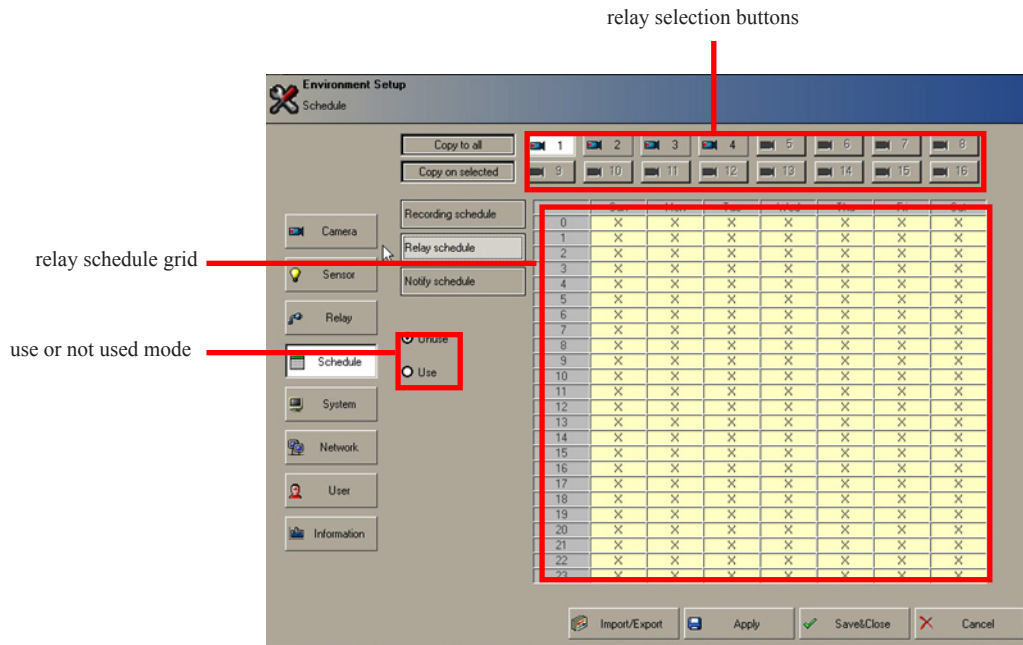


The motion Setup screen controls three functions. First it controls the motion grid and sensitivity of each grid point. Second it controls the Brightness, Contrast, Hue, and Saturation of each camera picture. The third function controls the audio volume. In the example we set cameras 2,5,6,7 and 8 to record when there is motion. Click the number of the camera to select that camera. Click Show Grid and the camera picture will display the grids that can be set for motion. The sensitivity can be set by sliding the sensitivity slider bar either left (less sensitive) or to the right (more sensitive). Moving the slider completely to the left (white square) will allow the user to remove the grid. When an area is removed, from the grid the system will ignore any motion in this area. When motion is detected the grid boxes will turn white indicating that there is motion. To change the sensitivity, move the slider bar to the left or right and click the grid area to change the color. Green is less sensitive, yellow is medium sensitivity and red is more sensitive. Set cameras 2,5,6,7 and 8 in our example for motion. The system will now record cameras 2,5,6,7 and 8 when there is motion.



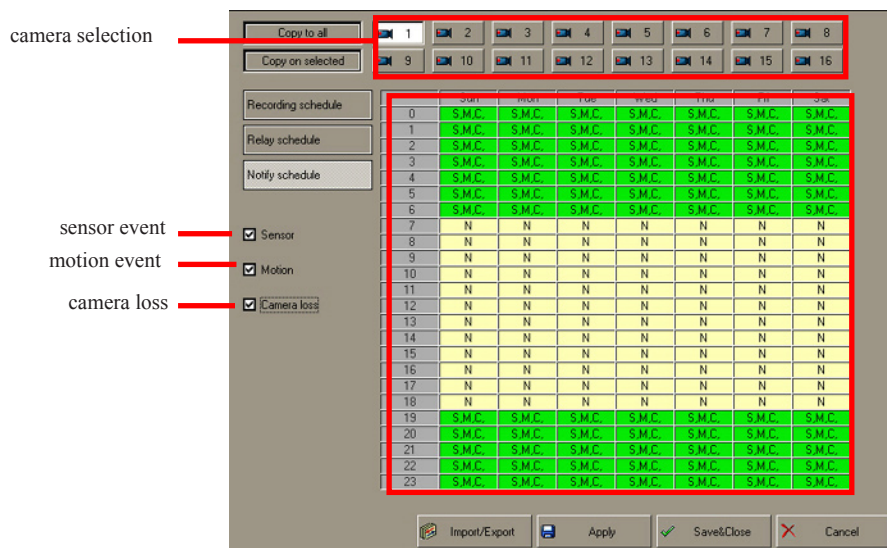
Relay Schedule

Relay schedule tells the system when to use the relays. This is useful when the user does not need the system to send a signal to a device such as an alarm. For example, the user has motion detection turned on and has linked a camera to a relay, but does not want to set off the alarm during normal business hours. The user can tell the system to not send a signal during these hours. There are two options for this window, *use* and *not used*. The system allows the user to set each relay by day and hour, independent of the other relays. The image below shows the Relay schedule window.



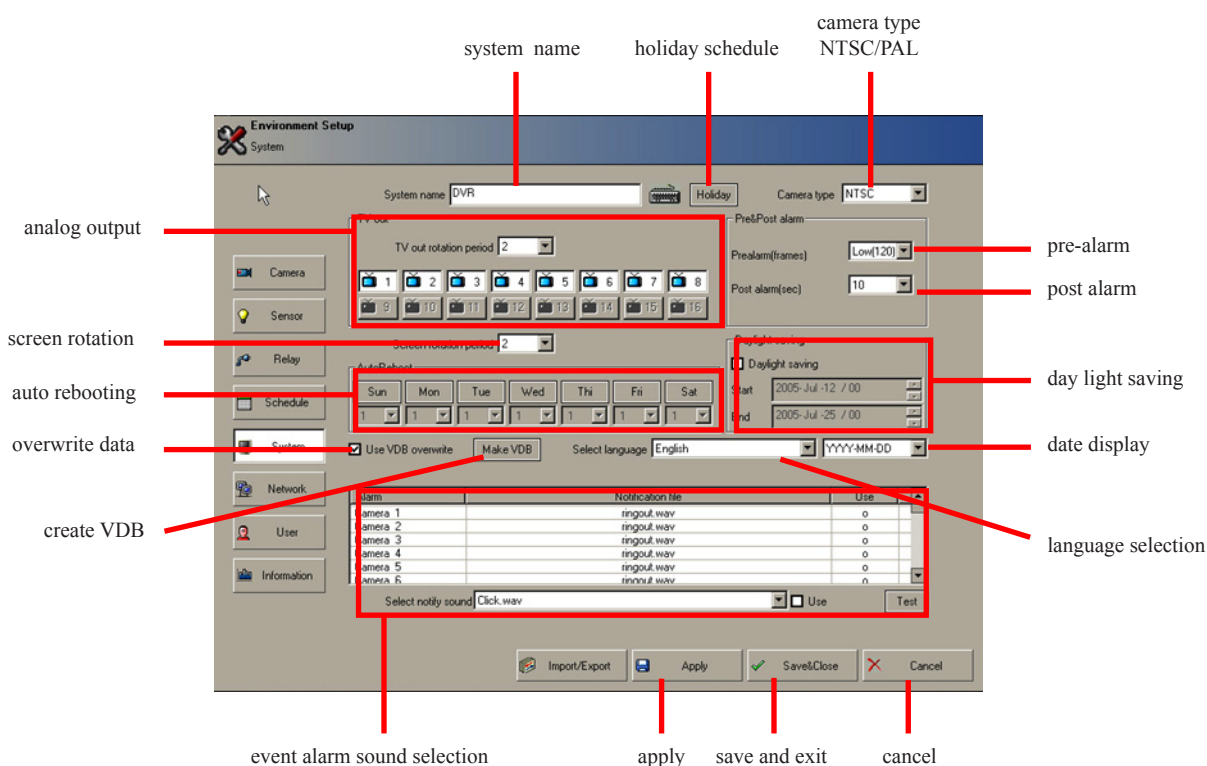
Event Notification Schedule Setup Window

This window allows the user to set by day, hour, and event when to notify the remote client of an emergency situation such as an alarm event. Using this schedule will prevent the user from getting unwanted event notifications, such as during normal business hours. There are three events the remote client can be notified of: Sensor, motion, and video loss. The user can choose any combination of these.



System Settings Window

The system settings window is where the user sets global settings for the DVR. The image below shows the functions of the system settings window.



System Name

System allows user to give the DVR a name to distinguish it from other systems. This is very useful when connecting to multiple DVRs remotely.

Holiday Schedule

Specific days can be created for holidays. Recording schedule for Holiday follows the schedule set up for Sunday regardless of the actual day.

Camera Type

The system supports both NTSC and PAL. Select the type of cameras connected to the system. System must be rebooted for change to take effect.

Analog Output

This function controls the analog output. If no cameras are chosen (highlighted), analog output will mimic that of live screen. Example: with no cameras chosen and the live screen in 4 camera mode, the analog output will be in 4 camera mode. If user chooses cameras, the analog output will be in single camera mode and will rotate between cameras. User can set camera rotation by entering the number of seconds in the *TV out* rotation period box.

Pre-Alarm

Pre alarm is the number of frames the user wishes the system to record before an event alarm. The choices are None, Low-(120), Middle-(240), or High-(360).

Post Alarm

Post alarm is the number of seconds the user wishes to record after an event alarm. The choices are from 0 - 59 seconds.

Screen Rotation

Screen rotation is used to rotate the live image screens. User can set the amount of time in seconds before the screen rotates to the next screen.

Day Light Savings

Day light savings allows the system to be set for daylight savings time. To set up daylight savings: 1). Select the day light savings check box. 2). Enter the months for the beginning and end of daylight savings. At the beginning of daylight savings one hour moves forward and at the end one hour moves backward. The system will mark the saved video table with a “D” during daylight savings time.

Automatic Rebooting

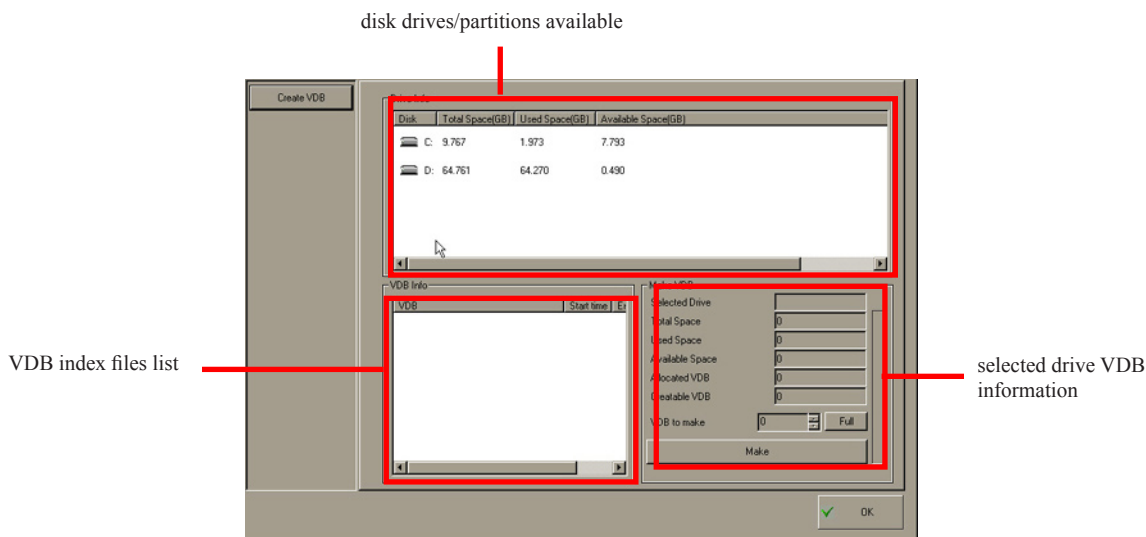
This allows the user to specify a time to automatically reboot the system. User can select multiple days and time or single day and time for rebooting the system.

Overwrite Data

By checking this box the system will overwrite existing recorded data when all hard drive space is used. The system will overwrite the first file and continue in order until the last VDB file is overwritten. It then repeats the cycle. For information on VDB files, see create VDB in this section. When the system begins to overwrite data, it changes the HDD usage bar to display overwrite and the slide indication starts over again.

Create VDB

The DVR uses a state of the art indexing system. When the DVR was manufactured, all data drives were written with the VDB index. This index creates a fixed file for the system to fill with recorded data. This file holds both the recorded video and index information. By utilizing the VDB index, data drives will never get fragmented causing a loss of performance. To create VDB, click the create VDB button. The VDB create window will open. ***Note: Extreme caution should be used when using Create VDB as existing data can be lost. This is preset at the factory and should not be changed except by an authorized service repairman. Incorrect usage could render your system inoperable. To add HDD contact your supplier.***



Language Selection

User can change language display of the DVR.

Date Display

The system allows the user to change the date display. The available options are:

Year, Month, Day : YYYY-MM-DD

Month, Day, Year : MM-DD-YYYY

Day, Month, Year : DD-MM-YYYY

Alarm Event Sound Setting

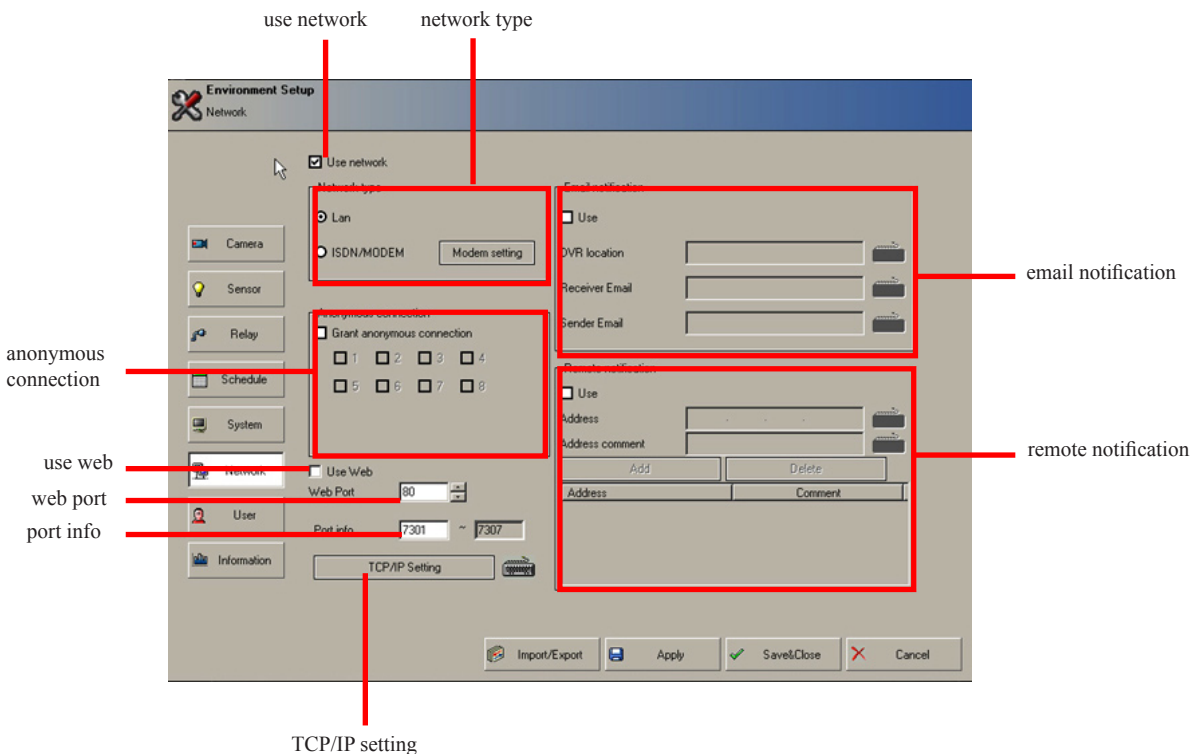
The system provides for alarm sound when alarm event occurs. There are three different alarm events that can sound: 1). Camera loss. 2). Motion detection. 3). Sensor alarm. The user has the option of choosing the sound for each individual camera and event. To select a different sound for a particular event, use the down arrow to scroll to the camera and event you want to set up. Highlight this event, then click the down arrow on the file type and select a sound effect. For custom sound effects contact the manufacturer.

Two Way Audio

The CDVS 7000 system provides for two way audio communication between a remote user and the DVR system. The DVR and the remote station requires computer speakers and a computer microphone (not provided) to work. There is no setup required in the DVR software but the user must have rights to use this feature. Two way audio is not recorded and separate from recorded audio. The DVR cannot initiate the two way audio, this is started from the remote user. Please refer to the remote users manual for its operation.

Network Setup Window

Network setup is used to establish communications with remote users. In order for the user to use the remote surveillance features and send email or remote notifications, the DVR must be connected to a network.



Network Type

There are two types of networks that the DVR supports: 1). LAN 2). ISDN/Modem. Select which network is connected to the DVR. Only one network type can be supported at a time.

LAN

A LAN is a high speed connection using a dedicated line (such as cable) / ASDL / VSDL. This is the recommended type of connection because of its bandwidth speed.

ISDN/Modem

This type of connection has a low and limited bandwidth for handling image, voice, and sensor/relay data. Video is very slow to refresh using this type of connection.

Grant Anonymous Connection

User has the right to grant or not to grant unknown users permission to use basic surveillance features (image monitoring and search). By checking or unchecking the camera number in the anonymous connection box the user can grant or deny access to camera. Placing a check mark grants access to that camera. Unchecking takes away access to that camera. Remember that access to network without user name and password is possible when using anonymous connection.

Use Web

Check the use web check box when remote users will be connecting remotely through the internet browser.

Web Port

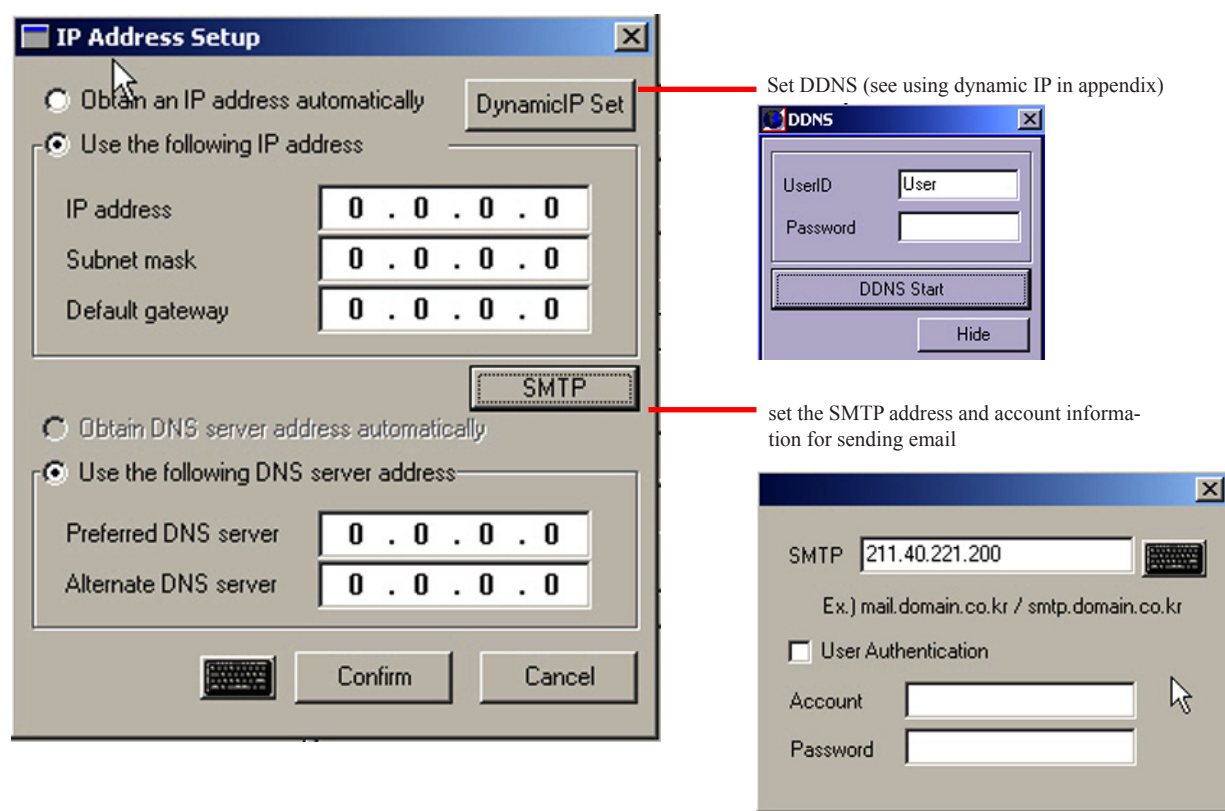
Indicates the port number for the web browser. By default, this is port 80.

Port Information

This lets the user change the port address for remote connecting with the remote software. If the default ports 7301-7307 are changed, the same port change must be made in the remote software.

TCP/IP Settings

TCP/IP settings window is used to set the IP and subnetmask address for the system's use. It is also used to set the SMTP address and account information for using email notification.



Email Notification

Email notification sends information on the DVR system, sensor alarm, motion event, and camera loss to the user set up in this menu. The system also uses this default email when sending jpg images via email (see section on using the snapshot function). For motion and sensor, alarm image is attached to the email. To use email notification, DNS server address must be setup in system. There is no need to have separate mail server. (SMTP Relay application). **Note: For email notification to work, Event Notification Schedule must be set up (see Setup, Event Notification).**

Remote Notification

Remote notification is used to transmit DVR system information as well as alarm data to specific client site. Remote Notification must be set up when automatic connection and pop up window feature is used with remote client program. To use, 1). Click to place a check mark in the use box 2). Enter IP address of the client. 3). Press the add button to add the client. To delete a site, highlight it and click the delete button. Up to 10 sites can be entered to receive remote notification.

User Setup Window

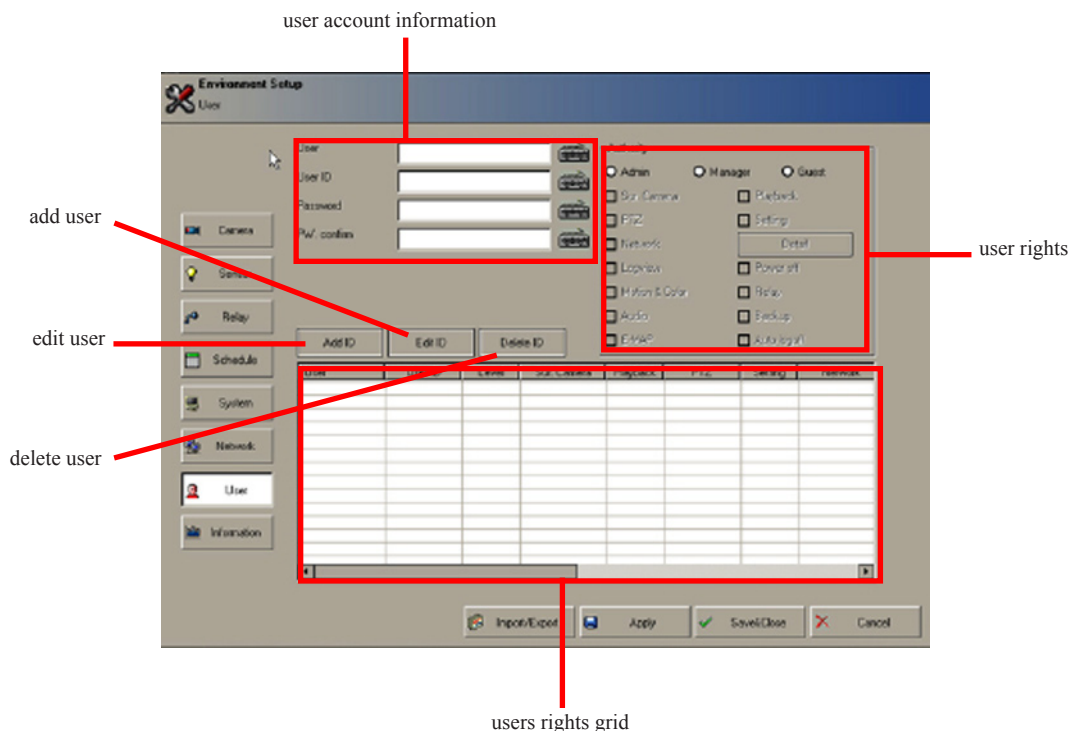
The user setup window is used to add, modify, or delete user accounts. There are three predefined accounts which can be used to quickly set up users. These predefined user accounts can be further modified by selecting or unselecting individual options. The three predefined accounts are:

ADMIN : Highest level of users. This level has no usage restrictions (unless modified from predefined state). The admin has the right to remove, add, or modify accounts with equal or lower level privilege (Manager, Guest).

MANAGER : One level below Admin. Basically includes the same rights as Admin, except auto logoff cannot be disabled. Because manager is one level below admin, he does not have rights to create, modify, or delete admin accounts. Manager does have the right to add, modify, or delete equal or lower level accounts.

GUEST : Lowest level of user. Guest is restricted to the use of viewing live video, searching recorded video, and remote connection. When in search mode, guest cannot back up data or do an event search.

Note: Be careful in assigning user rights. Remember that custom rights can be set for individual user accounts. If an individual user has the right to make setup changes and does so without proper training or understanding of the system functions this could make the DVR not record video. Only trained individuals should be given the settings rights.



ADD NEW USER

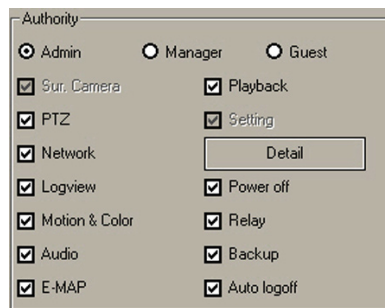
To add a new user, follow the steps below.

- 1). Enter user name (max of 16 alphanumeric characters)
- 2). Enter user ID (max of 8 alphanumeric characters)
- 3). Enter user password (max of 8 alphanumeric characters).
- 4). Re-Enter Password.
- 5). Setup user level.
- 6). Set up user permissions.
- 7). Press *Add ID* button.
- 8). Check user grid to confirm user added.



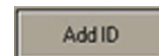
A form with four input fields labeled 'User', 'User ID', 'Password', and 'PW confirm'.

add new user name and password



An 'Authority' dialog box with three radio buttons: 'Admin' (selected), 'Manager', and 'Guest'. Below are two columns of checkboxes for permissions: 'Sur. Camera', 'PTZ', 'Network', 'Logview', 'Motion & Color', 'Audio', 'E-MAP' on the left; and 'Playback', 'Setting', 'Power off', 'Relay', 'Backup', 'Auto logoff' on the right. A 'Detail' button is located between the two columns.

select user permissions



A rectangular button labeled 'Add ID'.

click to add user

Remove User

To remove user, follow the instructions below:

- 1). Select user ID to be deleted from the user grid.
- 2). Click the delete button.
- 3). Check the user name grid, the user should be removed.

Edit User

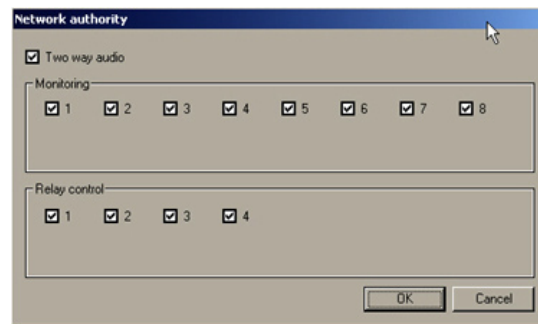
To edit user, follow the instructions below:

- 1). Select user ID in the grid for editing. User name and ID are shown in the user name box.
- 2). Edit the permissions for this user.
- 3). Press the *Edit ID* button.
- 4). The edit user pop up box confirming the edit is complete will appear.
- 5). The changes made to the users permissions are shown in the user grid.

Note: If the current user is a lower level than the user to be edited, the edit will not be allowed. Edits are only possible for equal or lower level users.

Detail Items

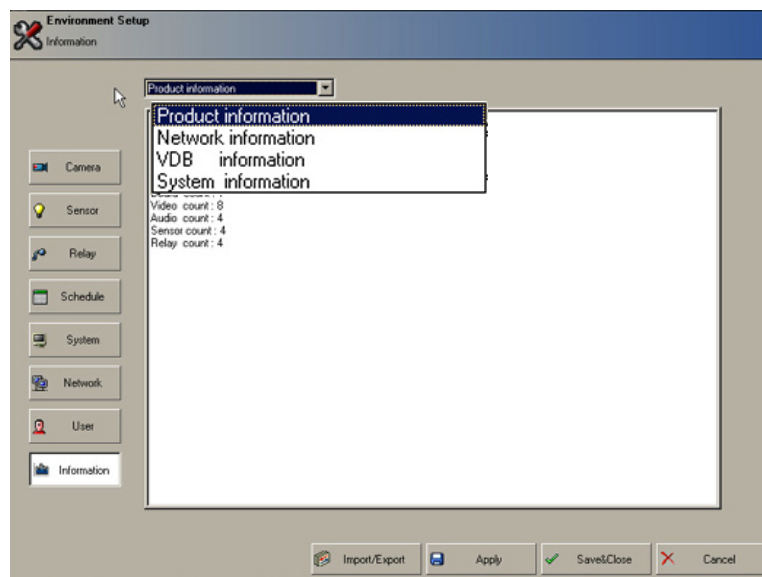
Only a user with network permissions is allowed to restrict detail items. Detail items grant users permission for two way voice communication, remote image surveillance, and remote relay control. To grant permission for the user, place a check mark in appropriate boxes. The image below shows the Detail setup window.



Information Window

The information window displays different settings as they pertain to the DVR. The following information screens can be chosen from the drop down menu box:

- 1). Product information
Displays information related to the DVR system such as the number of boards installed in the system, the number of camera channels the system has, the number of audio channels the DVR has, and the number of sensors and relay contained in the system.
- 2). Network Information
Displays system information related to the network such as host name, domain name, DNS server, TCP/IP settings, network adapter.
- 3). VDB Information
Displays the related database information. It gives the path for the VDB directory and the time of start and end of each saved video file.
- 4). System Information
Displays the Operating System, computer name, RAM capacity, RAM usage rate, Usable memory, CPU information, and DirectX version.



system information window

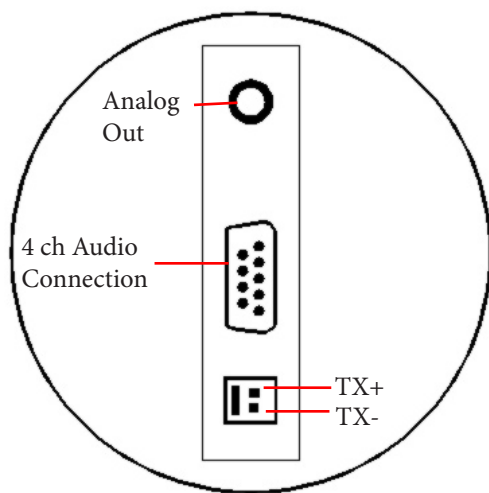
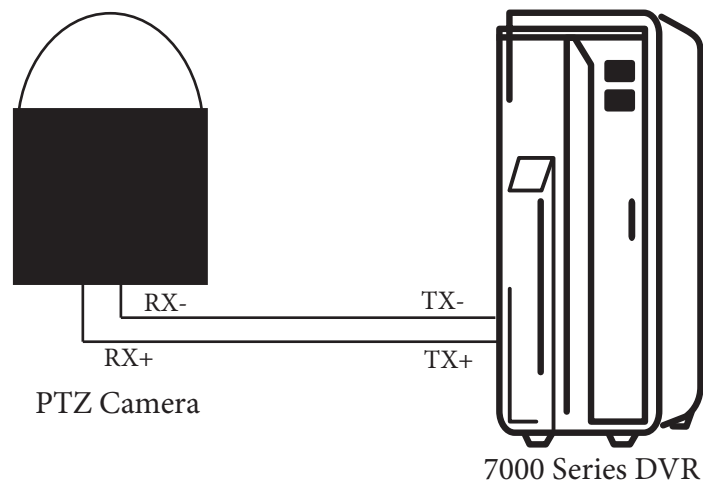
Chapter 5

Setup PTZ Function

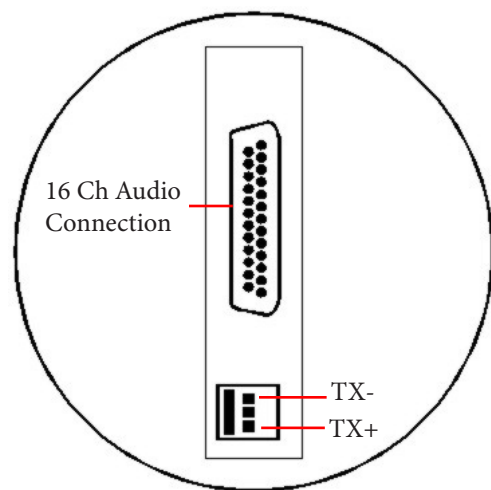
PTZ Function

PTZ connection

Most PTZ cameras use a 485 or 422 connection to connect to a DVR. Some, however, require a RS-232 connection. To connect a PTZ using 485 or 422 use the supplied cable. Connect the TX+ cable of the DVR with the RX+ cable of the PTZ camera and the TX- cable of the DVR to the RX- cable of the PTZ camera. See example below.



7300 Exploded View of PTZ connection




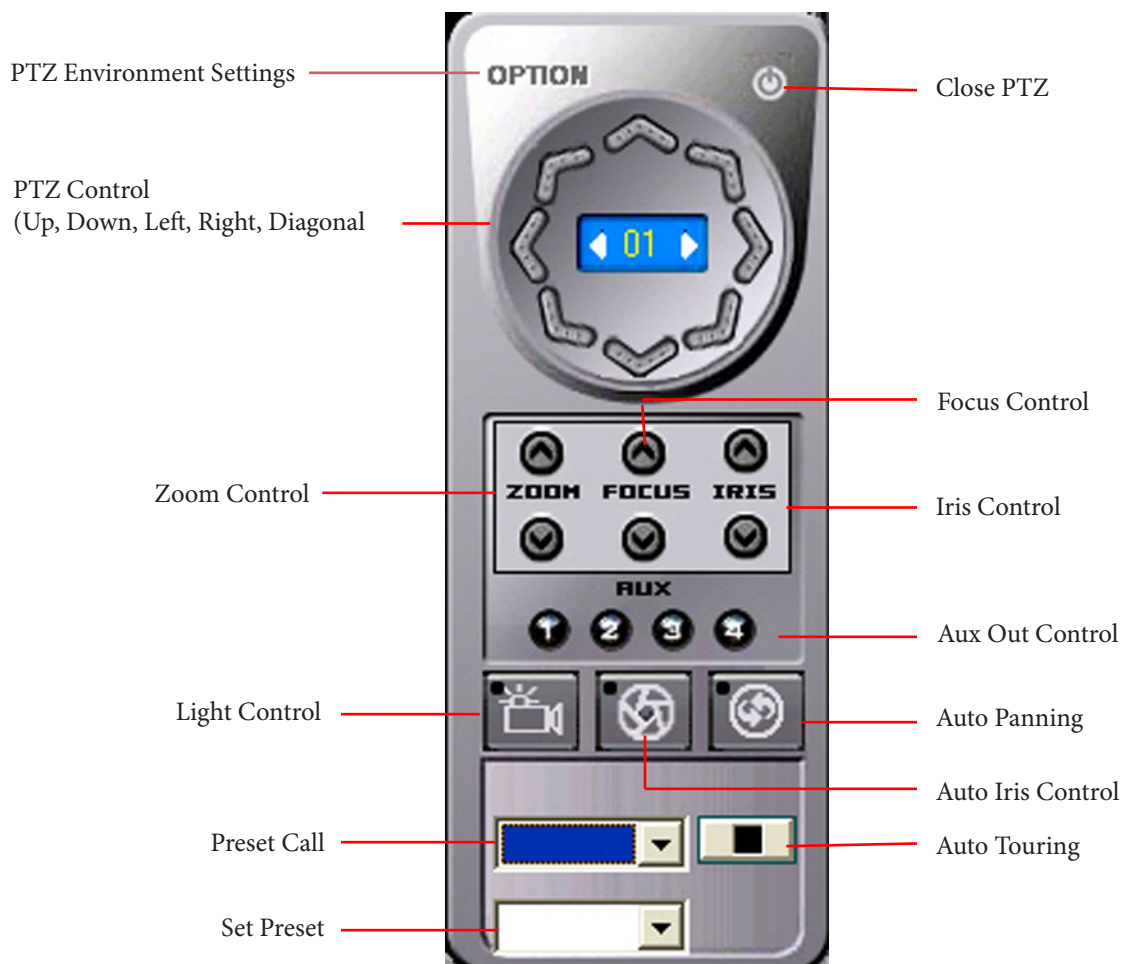
7500 Exploded View of PTZ connection

Connecting PTZ Using RS-232 Device

If the PTZ requires a RS-232 connection use the RS-232 cable supplied by the PTZ camera manufacturer to the RS-232 (9 pin serial connection) port on the DVR.

PTZ Function Controls

To use the PTZ Function controls, make sure you are logged in with a user that has rights to use the PTZ function. Click the PTZ button  on the main DVR screen to bring up the PTZ controller. The following is an overview of the PTZ controller.



PTZ Environment Setting - Opens PTZ Camera Setup Screen.

PTZ Control - Control movement of PTZ Camera Up, Down, Left, Right, Diagonal

Zoom Control - Allows the PTZ camera to zoom in and out on a particular object.

Focus Control - Allows the user to control the focus of the PTZ camera.

Iris Control - Allows the user to open or close the iris of the PTZ camera.

AUX Out Control - Allows user to turn on or off aux pieces such as heater/blowers, wipers.

Light Control - Allows user to control light on/off

Auto Iris - Controls the camera's iris control automatically

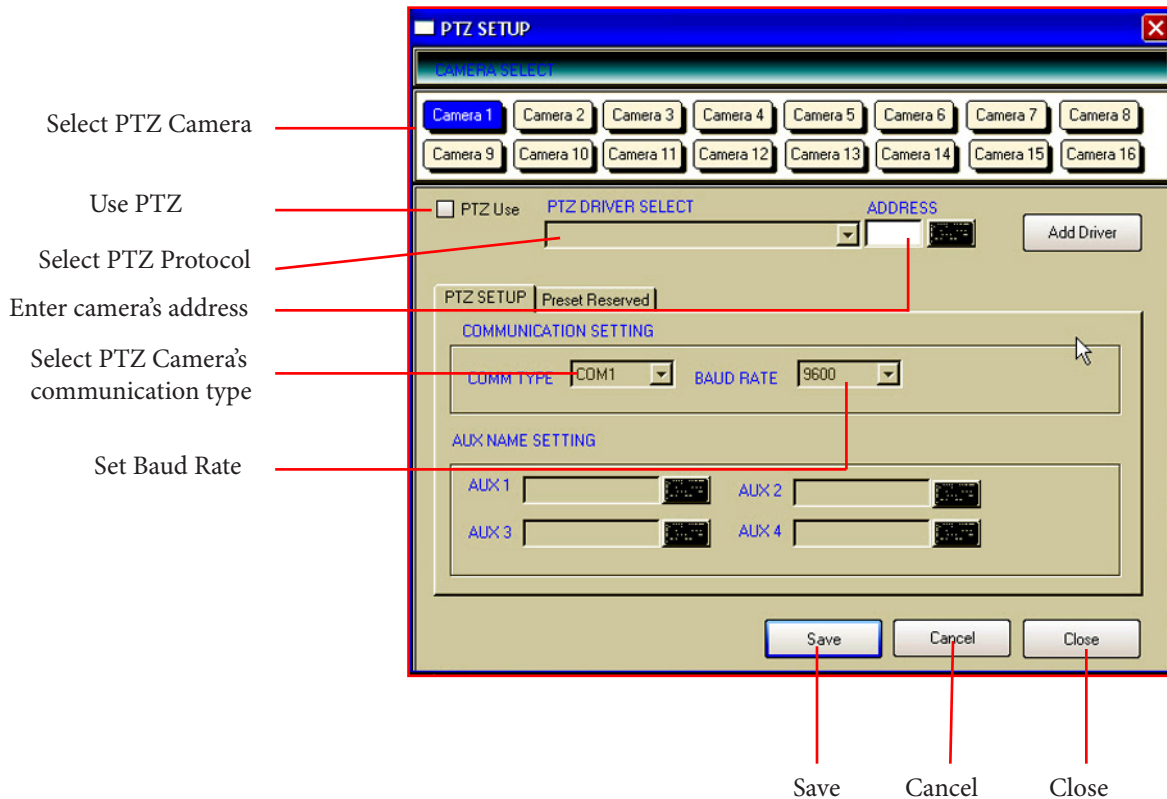
Auto Panning - Turns on camera's auto panning feature (if available)

Preset Call - Moves camera to a preset position (Must have been set using Set Preset.)

Set Preset - Sets a camera position to a specific preset number.

Auto Touring - Will automatically cycle through presets as set up in preset reserved grouping.

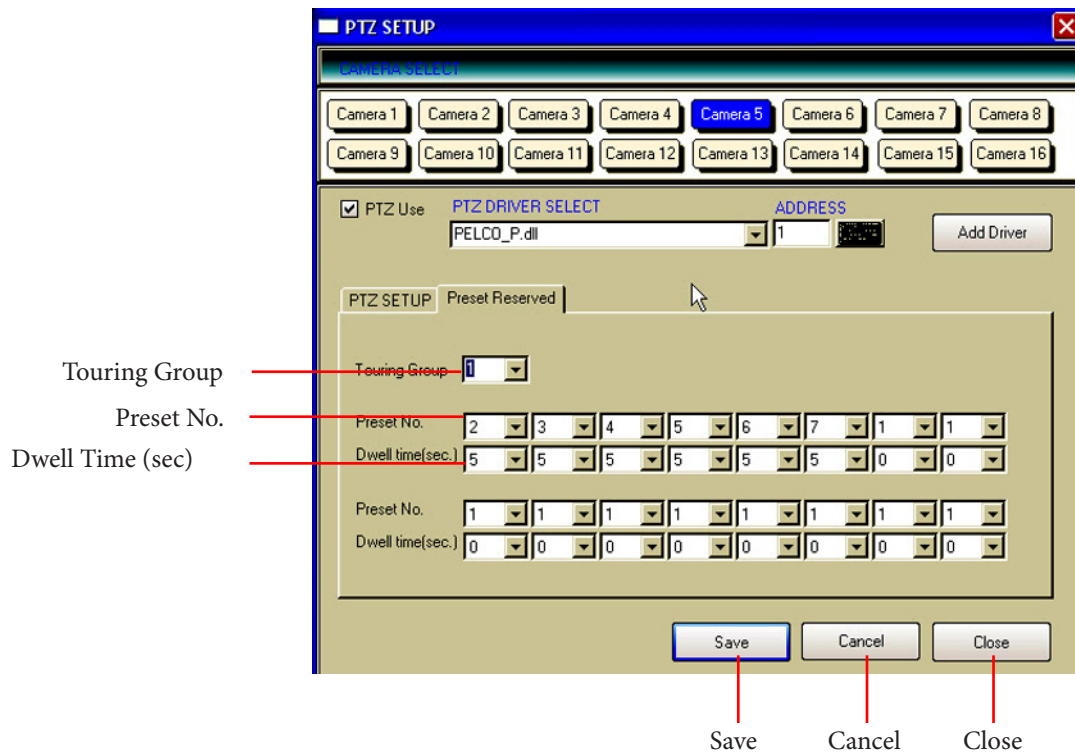
Click the Option button to bring up the PTZ Environment Settings screen. The following is an overview of the PTZ environment settings screen.



- Select PTZ Camera - Select the camera port where the PTZ Camera is connected.
- PTZ Use - Check box to turn on PTZ function.
- Select PTZ Protocol - Select the PTZ Camera's protocol type from the drop down menu.
- Address - Enter the PTZ Camera's address, (See PTZ camera manual for information on setting the PTZ camera's address).
- Comm Type - Enter the type of communication the PTZ Camera uses (422/485 or RS-232).
- Baud Rate - Enter the baud speed that the PTZ Camera's data port operates.
- Save - Click to save settings.
- Cancel - Click to cancel and return to the PTZ controller.
- Close - Click close to return to the PTZ controller.
- Preset Reserved - Click this Tab to go to the Preset Tour setup screen.

Preset Tour Setup Screen

To set up a tour of preset locations click the Preset Reserve tab from the PTZ environment screen. The Preset Tour Setup Screen allows the user to set up the order in which the system will tour the presets. The system allows for 4 groups of 16 presets for a total tour of up to 64 presets. The example below shows the Preset Reserve Setup Screen.



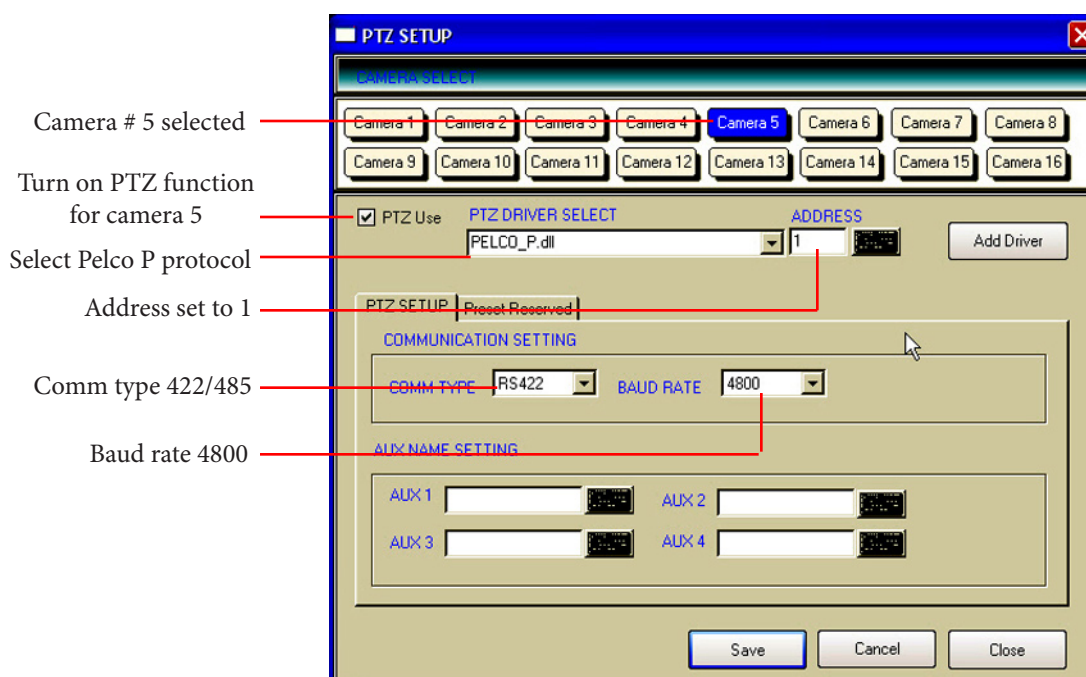
- Touring Group - The group number, up to 4 groups are available.
- Preset No. - User enters the number of the preset the tour is go to. Up to 16 stops per Group.
- Dwell Time (sec) - User selects the dwell time the system will pause at each stop before going to the next preset stop.
- Save - Save the preset tour's settings.
- Cancel - Cancel changes and exit.
- Close - Exit the screen and return to the PTZ controller.

PTZ Setup Example

The figure below shows the PTZ setup Screen for Camera number 5 using a Pelco PTZ camera with the following settings:

- Pelco P protocol
- address 1
- RS-422 communication
- 4800 baud rate

Please Note: If any one of these settings are not correct your PTZ camera will not work. Please consult the manual that came with your camera for instructions on setting up the camera. If after reading the manual you are still unsure of the settings, please check with the manufacturer before calling Crest technical support.



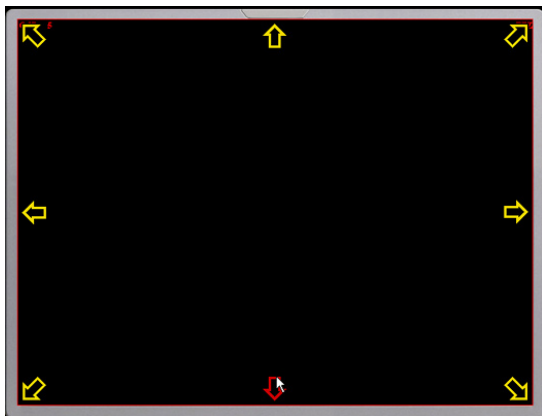
After entering your camera's settings click the save button to save the settings. Click the close button to exit the PTZ controller and the main DVR screen. Press cancel to exit without saving the changes made to the screen.

Controlling The PTZ Camera

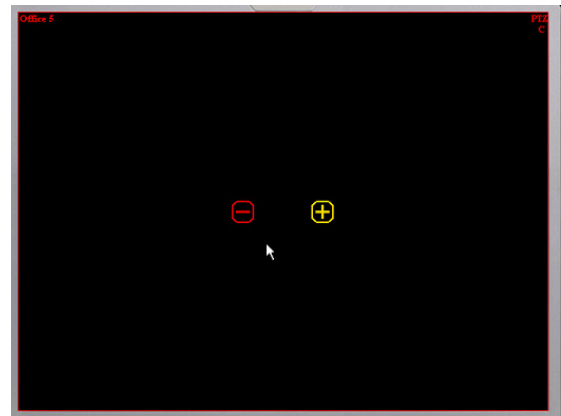
In order to control the PTZ camera the PTZ controller must be on screen. To activate the PTZ controller click the PTZ button on the main DVR screen. Click anywhere in the PTZ camera's image, this will select the PTZ camera as the active image. The PTZ controller will display the number of the selected camera. See image below.



The system also allows the user to control the PTZ camera with the mouse. To use the mouse controls double click the live image of the PTZ camera so the only camera showing is the PTZ camera. Click the PTZ button to bring up the PTZ controller. Click the left mouse button and hold it down, the control arrows appear (see image below). Click and drag the controller in the direction you wish to move the PTZ camera. Release the mouse button to stop the camera. To zoom in and out use the mouse scroll wheel. Scroll the wheel forward to zoom in, backward to zoom out. On screen guides will appear as a guide (see image below).



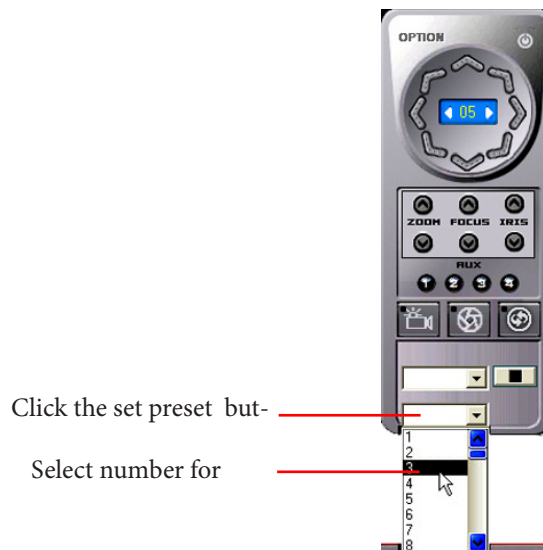
Click and drag mouse icon to move camera



Scroll mouse wheel to zoom camera

Setting Presets

The 7000 series allows up to 64 presets. (See PTZ camera documentation for number allowed by camera). To set a preset move the camera to the desired location, click the down arrow button on the “Set Preset box. Select the preset number you wish to associate this camera location with. The image below displays the set preset box. **Caution: Many PTZ camera manufacturers program their cameras using 0 as the beginning preset number. Others, such as Pelco begin preset numbering with 1. The CDVS-7000 preset number 1 relates to the number 0, which means that preset number 1 will not work with a PTZ camera that uses Pelco P or D protocol. There is a patch available from Crest Electronics which will renumber based on the Pelco protocol, but the system will then only support 63 presets.**



Calling a Preset

To move the PTZ camera to a preset, click the down arrow button in the call preset window. Click the number of the preset you set the camera to and the camera moves to the location set. Image below displays the call preset function.



Example of Preset Tour Setup

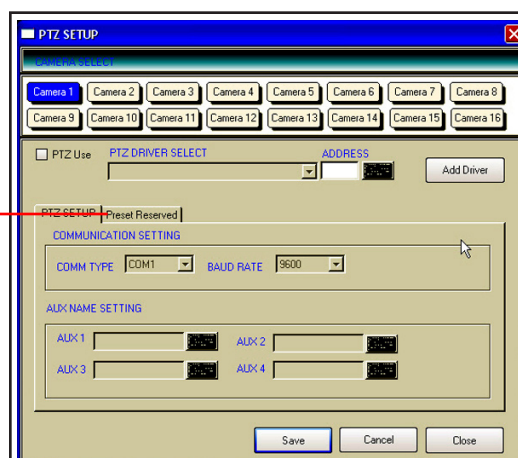
To set up a preset tour user must first set up all presets that will be included in tour. Next click the option icon on the PTZ controller, this will bring up the PTZ setup screen. Click the Preset Reserved Tab.

Click Option Button



PTZ Controller

Click Preset Reserved Tab



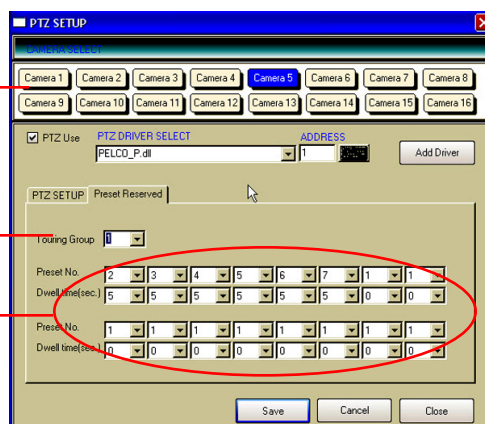
PTZ Setup Screen

Click the number of the PTZ camera that the preset tour is to be set up. The CDVS-7000 series allows for up to 64 presets (actual number of presets may be limited by camera). The preset reserved function will allow the system to travel to each of the 64 presets. The screen is composed of 4 touring groups, each with 16 preset stops. To set up a stop click the down arrow button and select the number of the preset previously set, then click and set the dwell time for that stop. If dwell time is set to 0 the tour will not be included in the tour. Click save to save the setup and click close to return to the PTZ controller. Click the tour button to begin tour.

Select PTZ camera

Select Group Number

Select preset stop and set dwell time.



Click Tour Button to start tour



Chapter 6

Backup Player

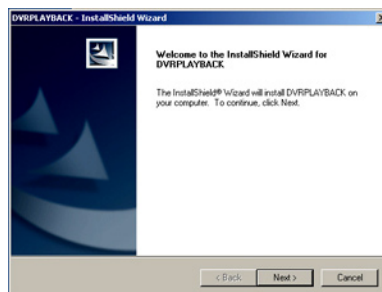
Backup Player

The Backup Player software is used to view previously recorded video saved to a CD disk or other media. Typically the backup player is copied when the user has created a backup and answered yes when asked if DVR Player is to be copied.

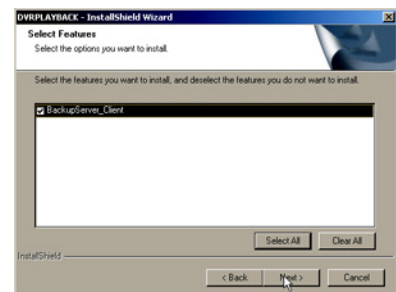
If the user saved the backup files to a CD then the Backup Player install program will automatically begin the install process when the disk is inserted into the CD-RW drive. The images below will go through the install process.

Caution: Do not reinsert the CD into the DVR after the backup program has finished writing the back up files and ejected the disk. Doing so will cause the install program to run. This could cause problems with the DVR program. If you do this remove the CD and restart the DVR program.

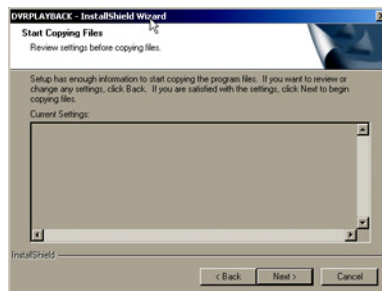
Click Next to start installing Backup Player.



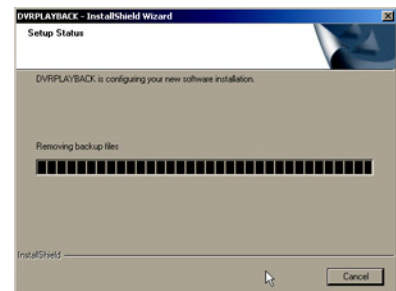
Select Backup Server_Client and click next



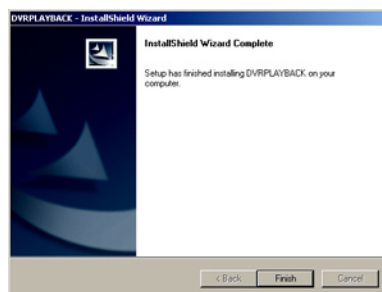
Click Next to start copying files



Display the status of the install program.

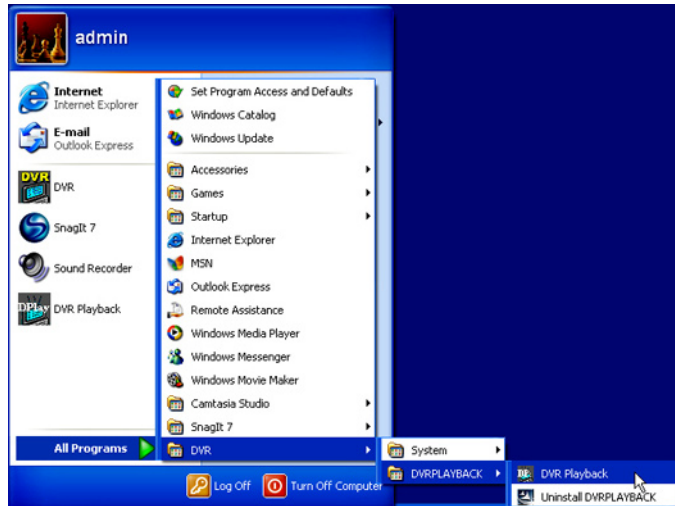


Click Finish to end installation.

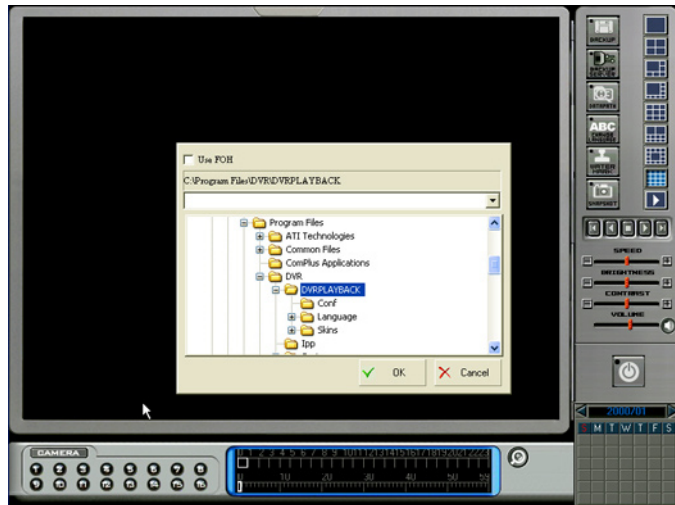


After the installation has finished the program can be started in one of two ways. One way is to eject the CD then re-insert the CD if auto play is turned on the Playback program loads automatically and starts playing the data on the CD. (Going into MY Computer and double clicking the CD drive letter will do the same thing). The second way is to go to Windows Start > Programs Files > DVR > DVRPlayback > DVR Playback. If the playback program is started this way the system will ask for the directory in which the Data is stored. See images on next page.

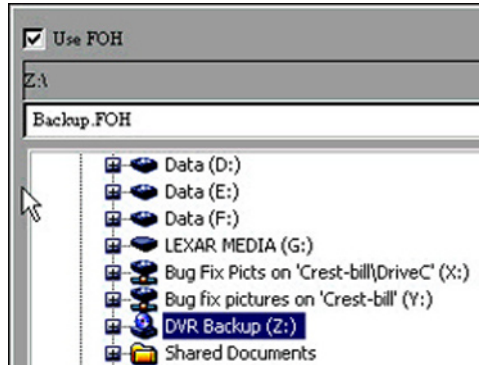
Select the Backup program
from the Windows start
menu



Program starts and ask
for the directory the video
data is stored.

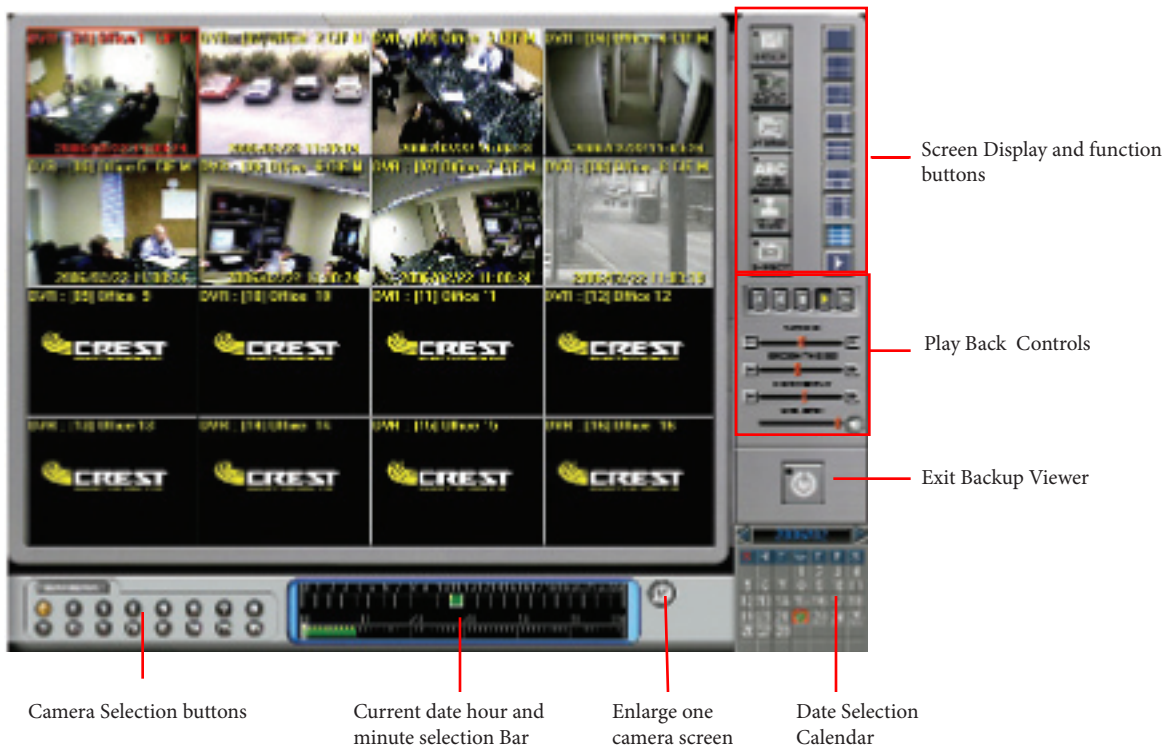


Check use FOH and highlight the CD-RW drive the backup CD was inserted into. Click OK and the video data on the CD starts playing.



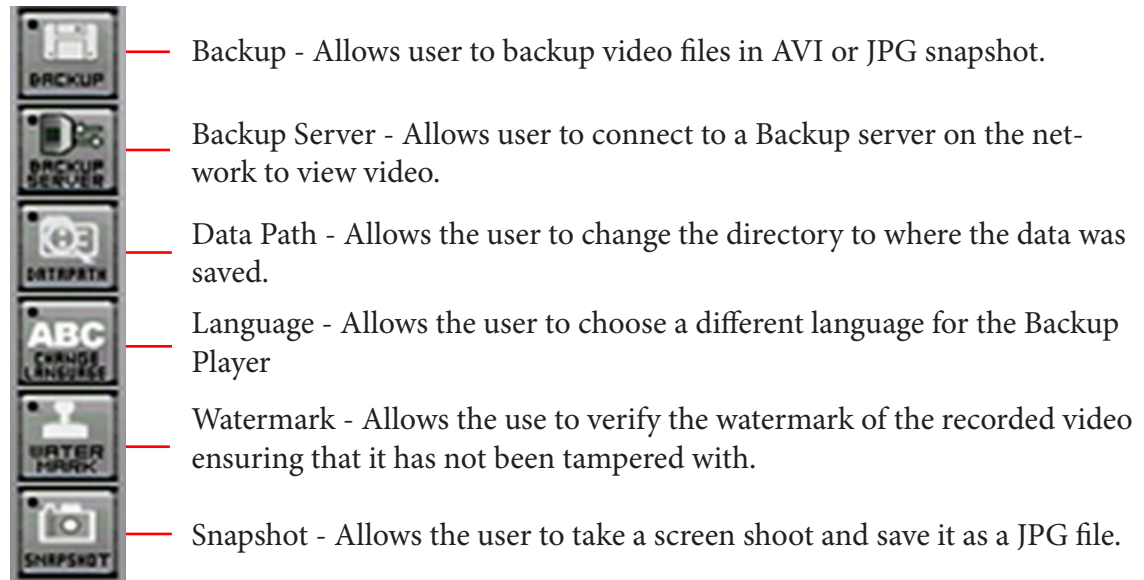
Overview of the Backup Player Screen

The Backup Player allows users to view video that has been backed up from a CDVS-7000 Series DVR. The data can be on a USB thumb drive, CD, DVD, removable hard disk, floppy disk, or network back up server. The Backup Player uses a similar interface the DVR uses to replay recorded video. The image below displays the Backup Player.



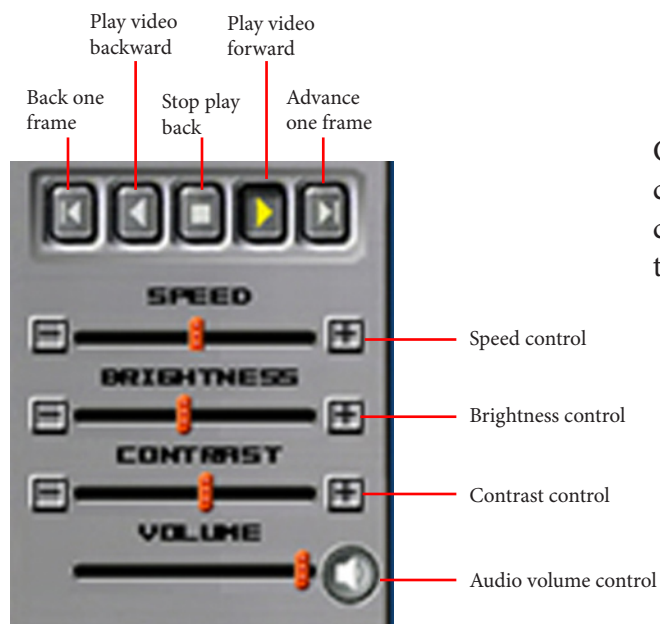
Functions Buttons

The function buttons control the different functions available with the Backup Player. The image below describes the various functions available with the Backup Player.



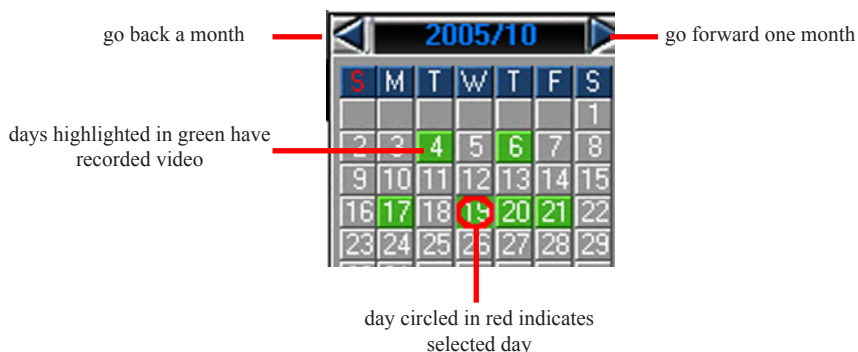
Playback Controls

Allows the user to control how video is played.



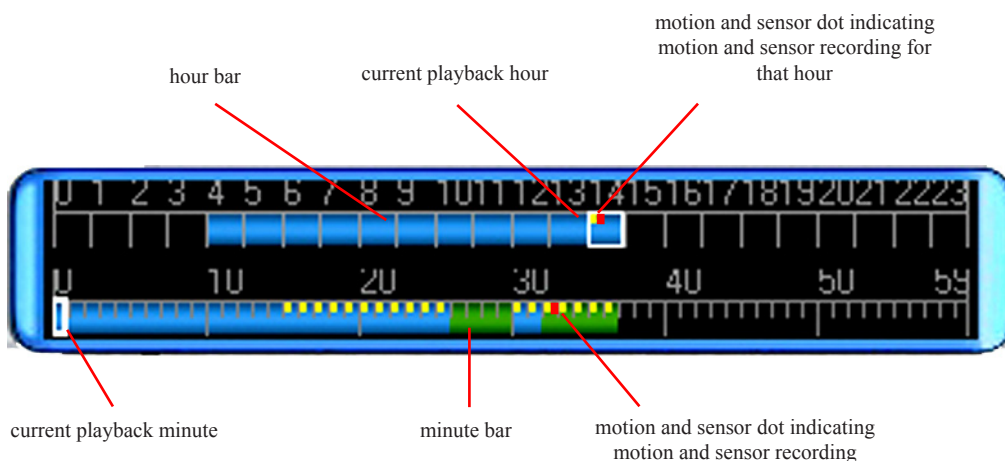
Date Calendar

The date calendar is used to tell the system the date for playback. By default, the system goes to the oldest day's file and starts playback. Days highlighted in green indicate that there is recorded video for that day. The currently selected day is circled in red. To change to a different day, click a day highlighted in green. Use the arrows to the left and right of the month display to change to a different month. The image below shows the date calendar.



Time Control Bar

The hour and minute controls display the currently playing hour and minute. Time that video was recorded in continuous mode displays in green. Time that video was recorded with audio displays in blue. Time that video was recorded in motion mode displays a small yellow dot. Time that video was recorded in sensor mode displays a small red dot. The hour in which the video is playing is represented by a white box, the minute by a white vertical bar. The hour and minute can be changed by clicking anywhere in the blue hour or minute bar. The image below shows the different recording modes.



Zoom

To zoom an individual picture to full screen, click the zoom button.



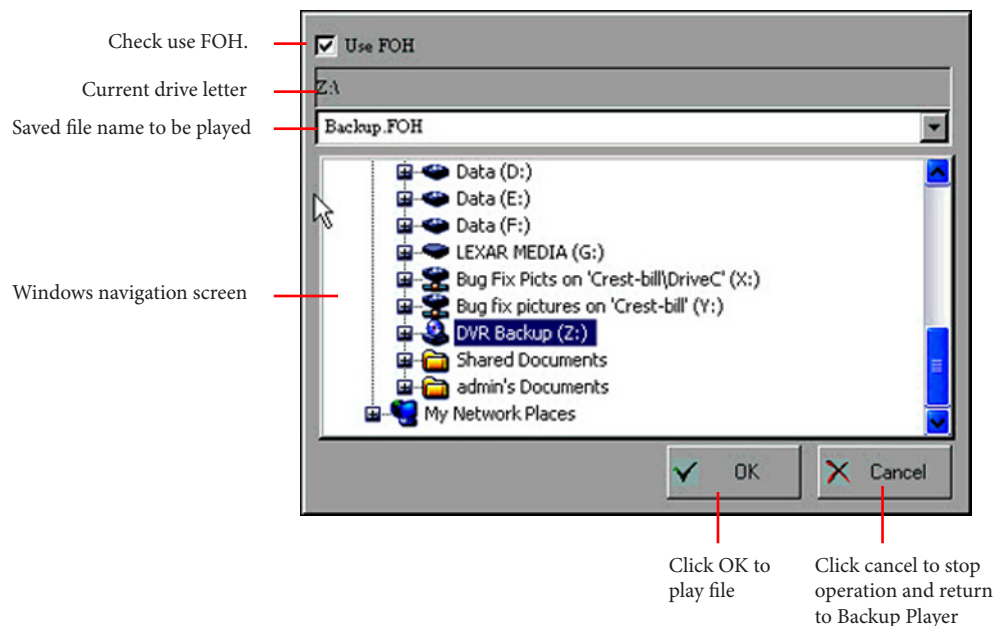
Exit Button

Use the exit button to stop playback and return to the live view screen.



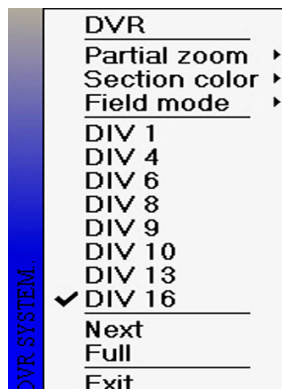
Using Data Path

Use the Data Path function to tell the Backup Player where the Video data resides on the system. Click the Data Path button to bring up the data Path window. Click the use FOH button to tell the system you want to view files created in the CDVS-7000 native file format. Failure to check this box will result in not being able to play back saved video. After checking “Use FOH” use the scroll bars to navigate to the directory where the saved video is stored. The saved video files will be displayed in the file window. See Image below.



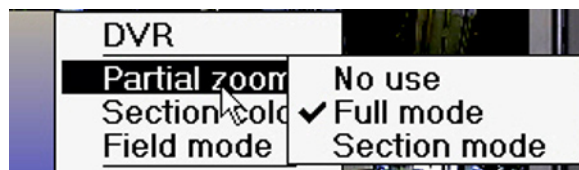
Full Screen Pop Up Window Navigation

The playback screen offers several shortcut options. These options are accessible by right clicking anywhere in the playback screen. The following popup menu appears.



Partial Zoom

To use the partial zoom feature, the picture screen must be in single camera mode and be playing video. There are three options for the zoom feature: no zoom, full mode or section mode. To use the zoom feature, click and drag to highlight the area of the picture you want to zoom. The images below show the screen after each zoom method.



The images below show the screen after a Full zoom and a Section zoom.



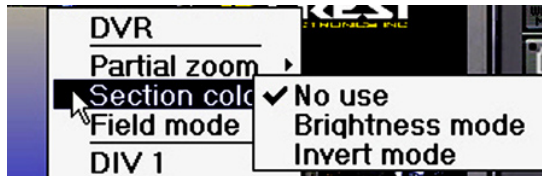
Full Mode



Section Mode

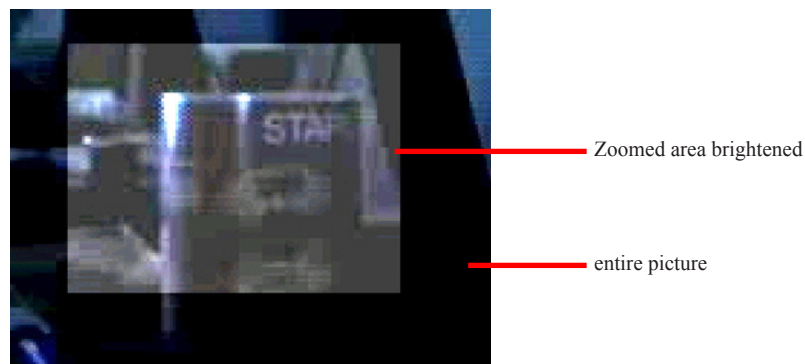
Section Color

The section color shortcut allows the user to increase the brightness or invert the color of a portion of the screen. To use this feature, the user must be in single camera mode with the image playing. Right click within the image and select Section color from the popup menu. Select either the Brightness or Invert mode as shown in the image below.



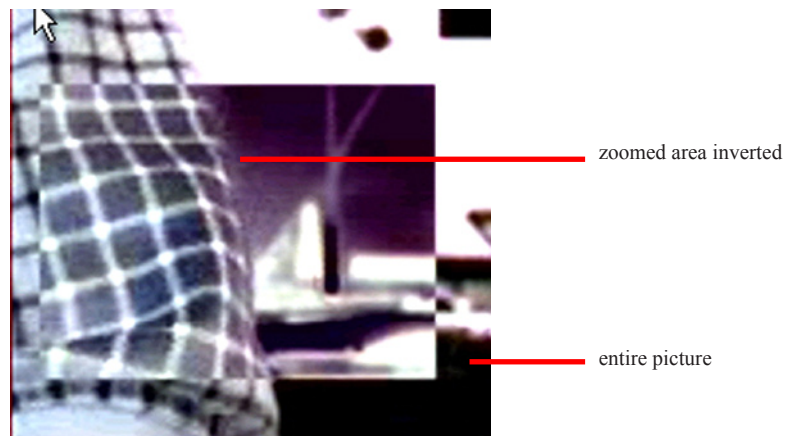
Brightness Mode

Click and drag the area within the image you want to make brighter. The area you highlighted will fill the entire screen and become brighter. The image below shows both the zoomed and surrounding areas.



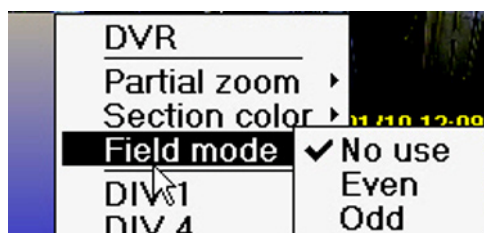
Invert Mode

Click and drag the area within the image you want to invert. The area you highlighted will fill the entire screen and become inverted. The image below shows both the zoomed and surrounding areas.



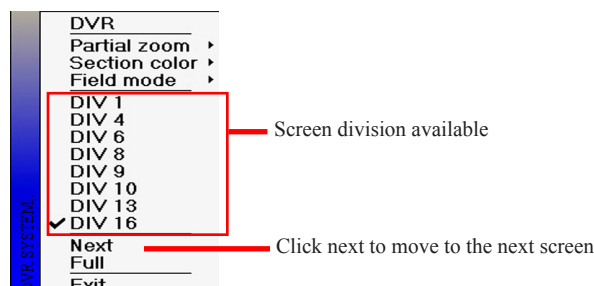
Field Mode

Field mode allows the user to change the playback frame method. This will remove picture tearing which sometimes occurs in digital playback. To remove picture tearing, right click any one of the playback images. Click on Field mode from the popup menu and click Even. Odd is not used at this time. Image below shows the popup menu in the Field Mode.



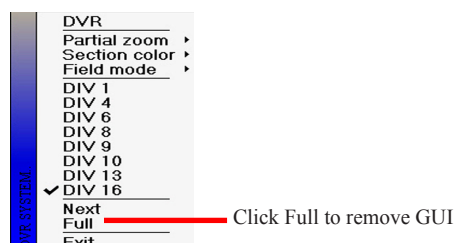
Screen Division

The popup menu allows the user to choose the camera view desired. The available options depend on which system you have purchased (4, 8, 16 channels). If you are in a screen division that is not showing all cameras, you can move to the next screen by clicking the next button. See image below.



Full

Clicking Full on the popup menu will show all cameras without the GUI showing. To show GUI, right click anywhere on the screen and uncheck Full on the popup menu.

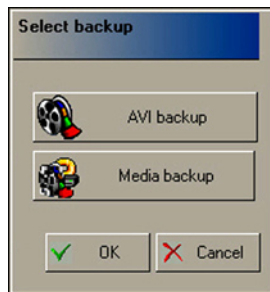


Exit

Click exit from the popup menu to exit the search mode and return to the live view mode.

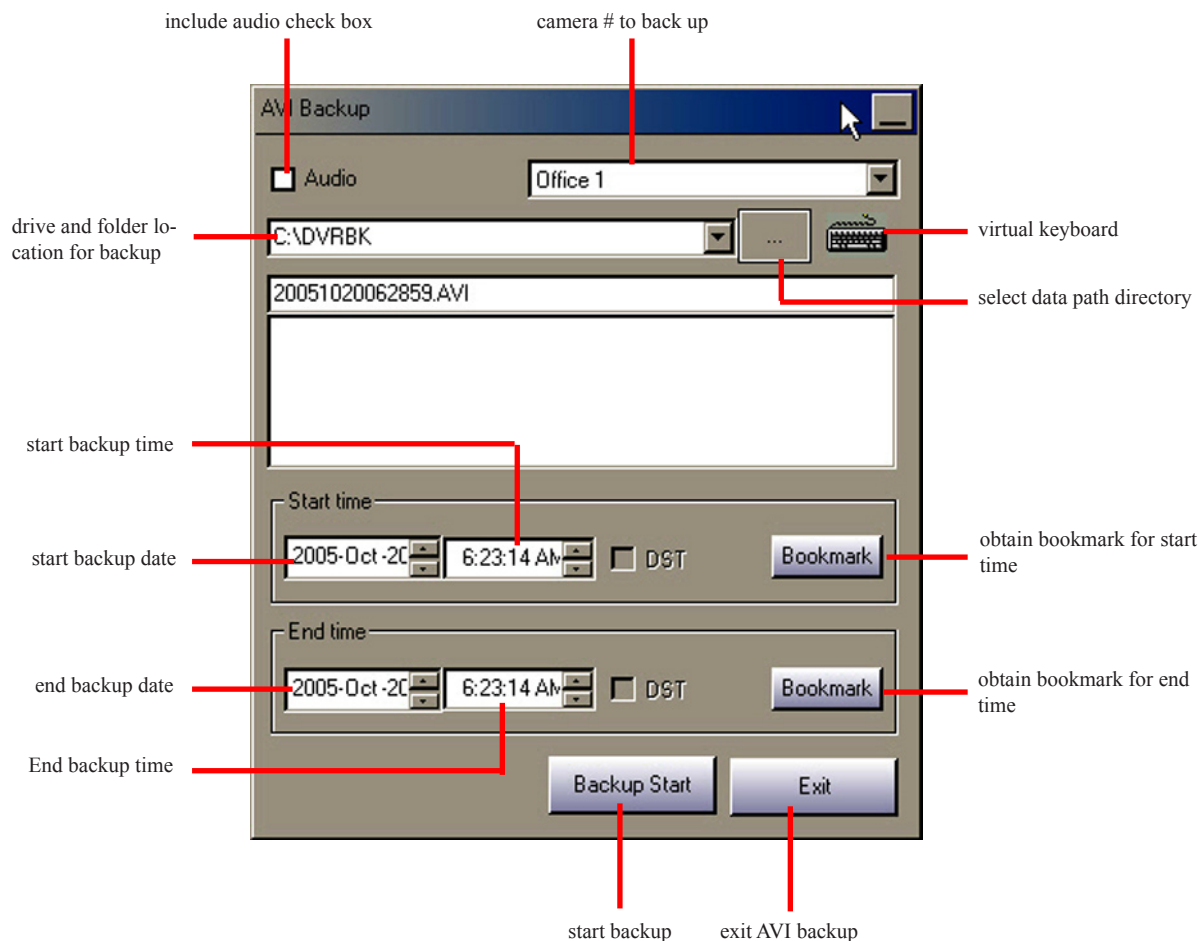
Backup Function

The backup function allows the user to convert the saved video files into AVI file format or JPG snapshot. To start the backup process click the backup button the following menu appears. Click either AVI backup or Media backup then click OK.



AVI Backup

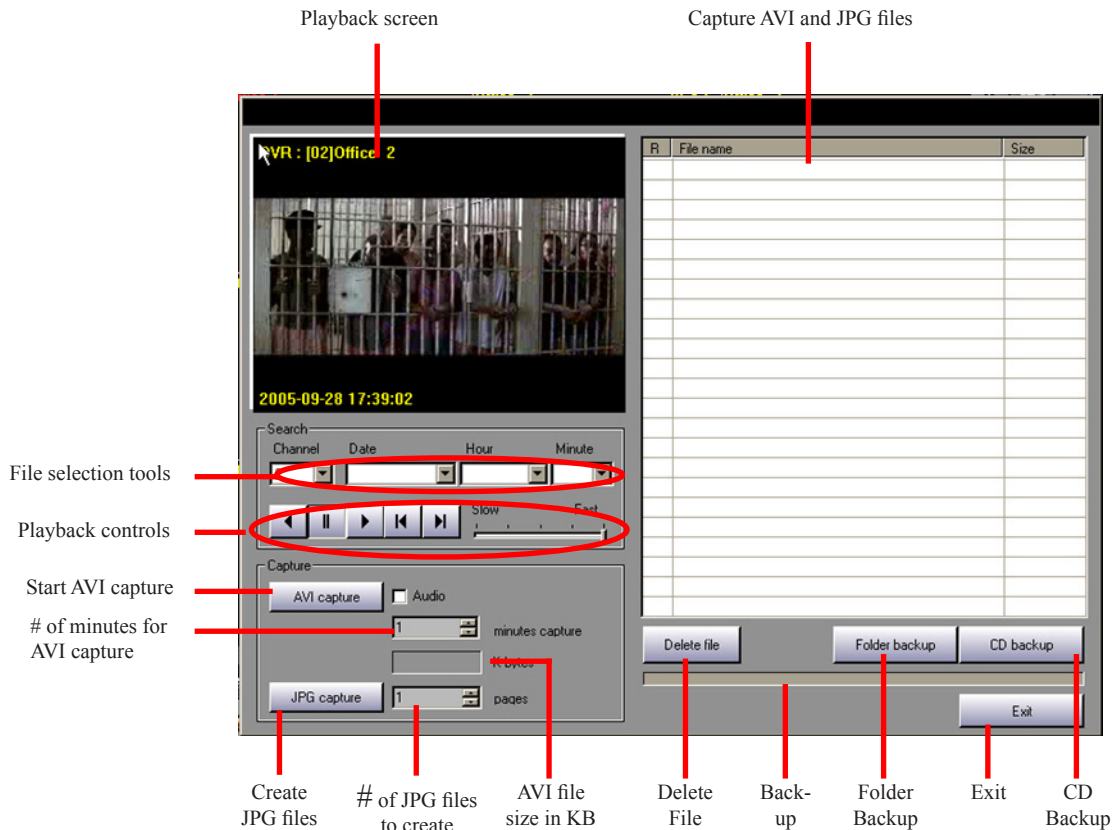
AVI backup allows the user to convert streaming video files from the CDVS-7000 series native file format to a standard AVI file. This file can then be played back on a standard Windows media player. The system assumes that the user knows the date, time and camera that is to be backed up to AVI file format. AVI backup allows you to back up only one camera at a time. AVI backup can burn to CD-R, CD-RW, Hard Disk, and USB Device. The screen below details the buttons on the AVI Backup Screen.



After entering all selections click Backup Start. The system will begin the AVI backup. Please note that it takes about a minute and 15 seconds to backup one minute of recorded video. One minute of AVI video is approximately 8.5 MB. Please make sure that the device location you are backing up to has sufficient space to hold your backup. The system has the ability to write more than one file to a CD-R disk. After the disk is ejected, just reinsert it and wait for it to spin up. You can then backup another AVI file provided there is space left on the disk.

Media Backup

Media Backup allows the user to save video files in two formats: AVI and JPG. The main difference between *AVI back up* and *Media Backup* is that the user can review the video in the *Media Backup* screen. *Media Backup* allows the user to batch both AVI and JPG files before writing them to disk. The image below shows the functions of the *Media Backup* screen.

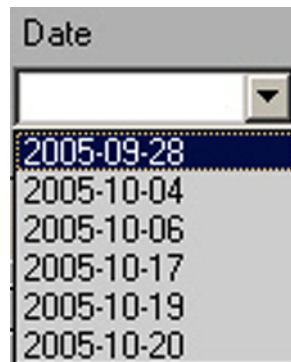


Searching in Media Backup

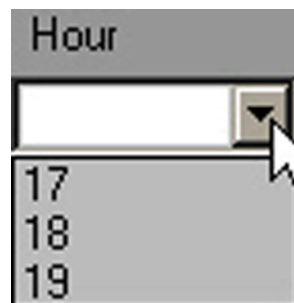
When *Media Backup* begins, it starts playing the oldest recorded file for camera 1. The user can control the camera view with the camera selection window as shown below.



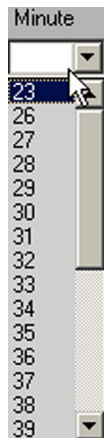
To select the date of the files to search, click the date down arrow. The date will display all dates where there is video in the system. The image below shows the date function.



To select the hour for searching, use the hour box. Click the down arrow to expand the box. The expanded box shows the hours for the selected camera and days that have recorded video. The image below shows the hour box expanded. If there is no video for the selected camera, and the date selected, this expanded box will be blank.

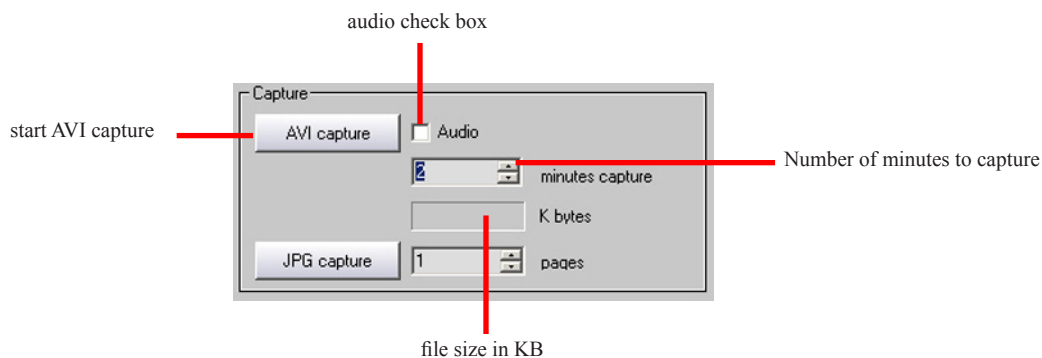


The system lets the user select down to the minute when searching video. Click the down arrow in the minute box to expand the minute box. The image below shows the minute box expanded. If there is no video, the box will be blank.

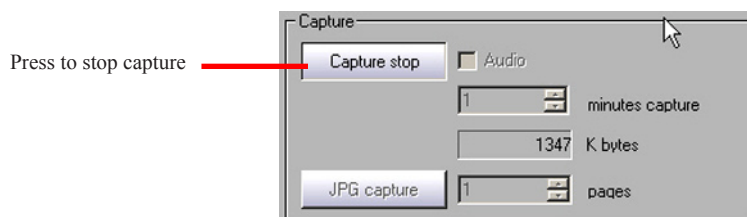


AVI Capture

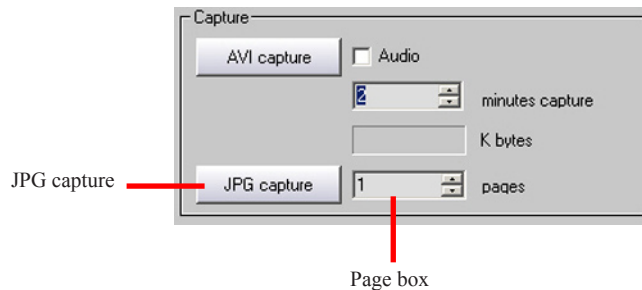
After selecting the camera, date, hour, and minute, the video automatically begins playback. Navigate to the beginning of the desired file, and press the pause button. Set the desired number of minutes to convert to an AVI file. If you have recorded audio and wish to include audio, click the audio check box. Click the AVI Capture button to start capture. The system will display the file's size as it captures the video. See images below.



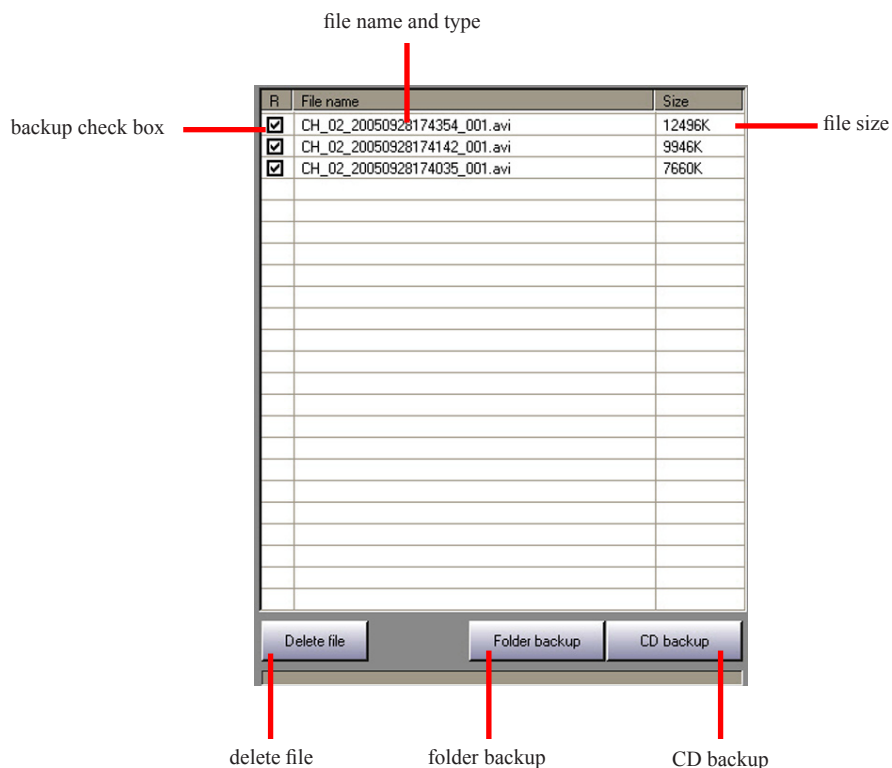
To capture less than a minute of AVI video, the user can simply click the AVI capture button. The button will change to a stop AVI capture button. Click again and the capture is stopped and saved. See image below.



JPG file capture is a snapshot image. The system allows the user to capture several images consecutively. To do this, just tell the system how many images you want to capture in the pages box, then click the JPG capture button. See image below



The file list display box shows a list of the files you have captured. The user can delete a file by highlighting the file and clicking the delete button. If the user does not want to save one of the files in the list, just uncheck the check box to the left of the file name. This will unmark the file for backup. Snapshot images can be displayed for review before saving. To view in the playback screen, double click the file name. AVI files cannot be reviewed. Files created in Media backup can be saved to a network drive via folder backup which can be saved to a CD-R, or CD-RW via disk backup. Image below shows the image list screen.



After images are saved, they stay on screen until you delete them or exit *Media Backup*. **Please note: At this time the AVI files do not show the date and time stamp in the video. Date and time can be read from the AVI player. To save date and time stamp within the video please use *Smart Backup* and save files in the DVR's native file format.**