CDVS-7000 Series S2 DVR Setup And User's Manual

Crest Electronics, Inc.
Version 02.01.08

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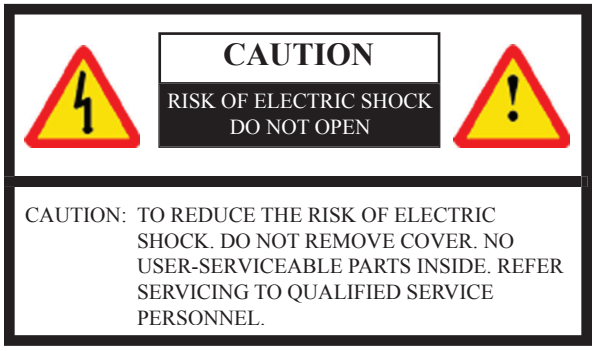
Caution

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 occour.

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 malfunc tion 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 mal function 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.

1

Chapter 1
Overview of Main Screen

Overview of the Main Screen

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

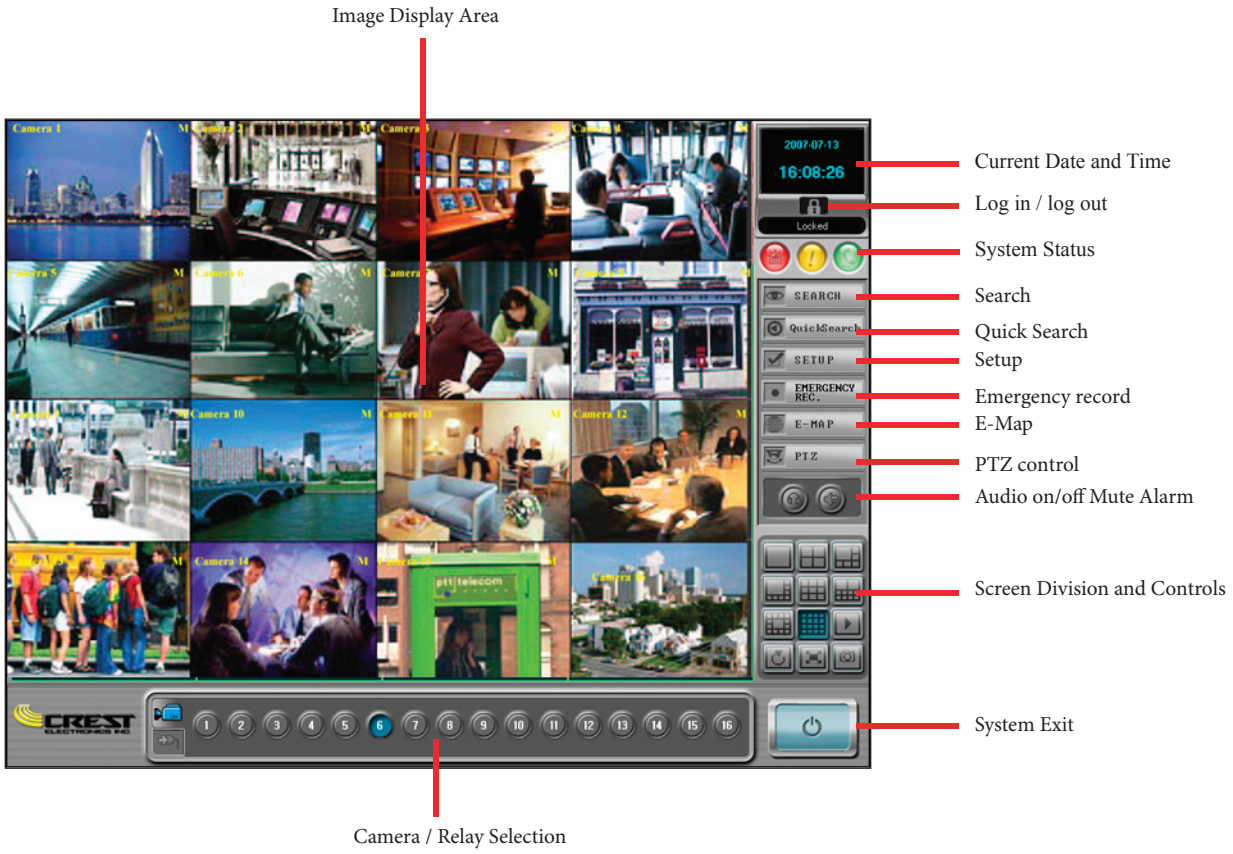
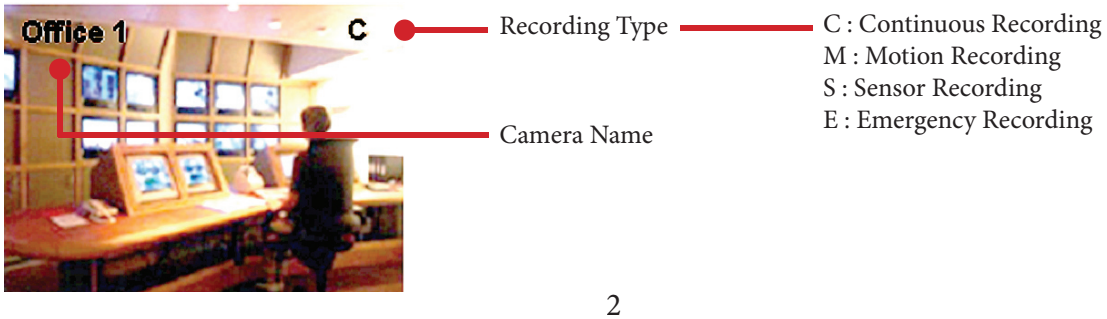


Image Display Area

The image display area displays live images of the current cameras. This display can be changed by clicking on the screen division buttons (see screen division section for 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 (screen will not display <S> unless there is an alarm event), M - Motion recording or E - Emergency recording (To change these settings please see Scheduling in Chapter 2, System Setup).



Current Date and Time

This displays the current date and time. The date is displayed in 24 hour format. The date is displayed in year/month/day format by default. (See Chapter 2 System Setup to change the date format).

Date and Time Display

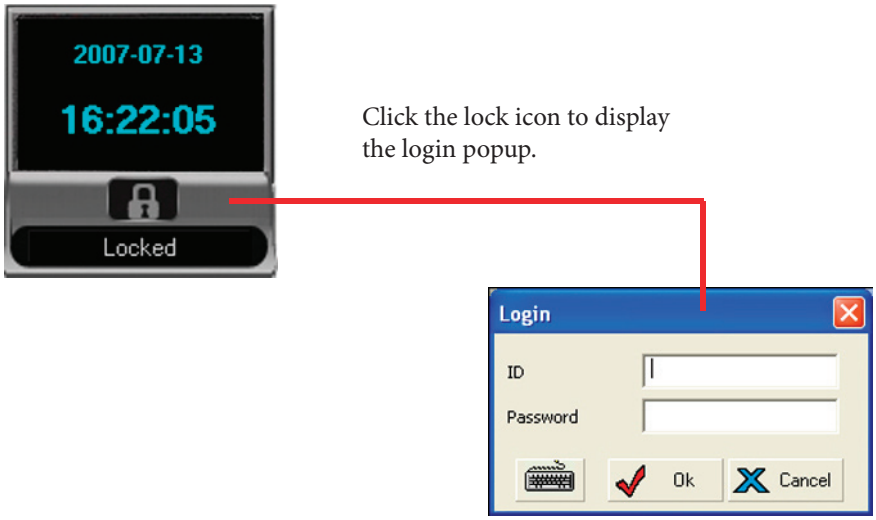
User Login

This button is used to login or logout a user. It also displays which user is currently logged into the system. If no one is logged into the system, click the Lock icon to display the user login screen. If someone is logged on, the lock will display the user's name. Clicking the lock again will log the user off.

To login the first time, use the factory default username and password. The factory default user ID and password are **system / manager. The maximum user id and password are limited to 7 characters.**

Auto Logoff Function

If there is no activity for 10 minutes (fixed) the system will automatically logoff the current user. The user will have to login to regain system functions. The user name will indicate "Locked" to show that the user has been logged off the system.

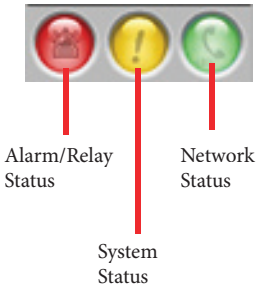


Factory default user id and password are: system / manager

CAUTION After anAdmin user has been registered, user login by factory default will be disabled and login can only be done by registered users. Factory default login can be reinstated by deleting all registered users.

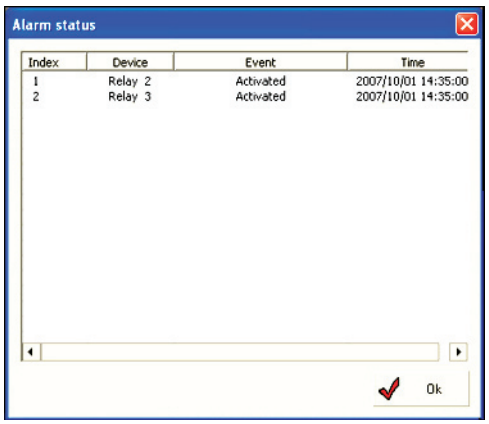
System Status

There are three system status buttons. These display information about active alarms/relays, system status and network status.



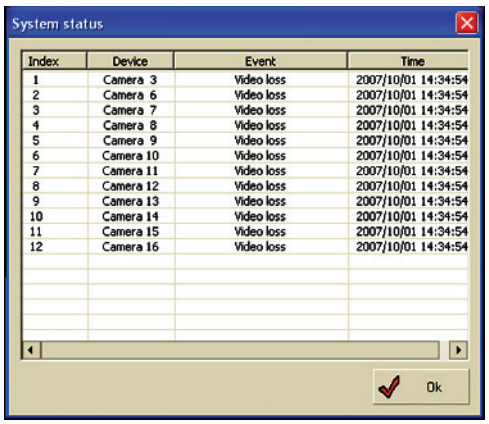
Alarm Status

Select the icon and alarm status window will open. Sensor alarm and relay on status will be shown. When the alarm and/or relay is over, message will disappear. Icon will turn bright red indicating an alarm.



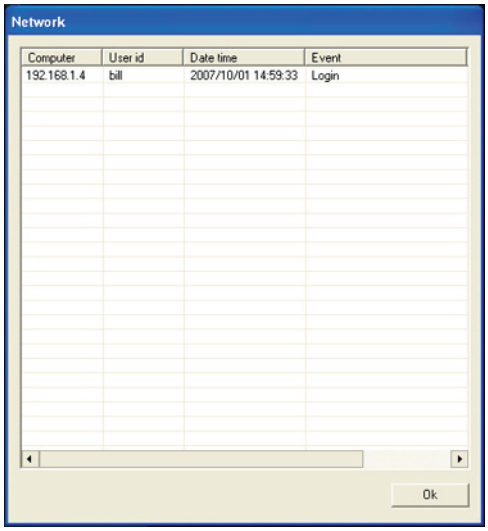
System Status

Select icon and system status window will open displaying the system error. The icon will display a smiley face when in normal state and an exclamation mark when in an abnormal state.



Network Status

Select the icon and the network status window will open. Window will show connected network client information. The information will disappear when the network client has disconnected from the DVR.



Search Screen

The search screen is used to search previously recorded video. The search function is only allowed when the user has been granted search function authority by the DVR administrator. The function will be restricted when the user has not been granted search rights. Please refer to Chapter 3 Search Function for search details. For details on setting up user rights, please refer to Chapter 2 System Setup.

Quick Search

Quick Search allows the user to review video from the selected camera without leaving the live screen. Please refer to Chapter 3 Search Functions for details on Quick Search.

Setup Function

Click the setup icon and the setup windows appear. Here the user can do such things as set the recording function for the cameras, set the recording frame rate, name the cameras, set the motion grid for a camera, set up PTZ cameras, set the networking functions for the DVR, set the alarm functions just to name a few. Please see chapter 2 System Setup for more details.

Emergency Record

The Emergency Record button provides an efficient way to record all channels in an emergency situation. By clicking this button the system will record all channels until emergency record is turned off. To turn off Emergency Record, click the Emergency Record button a second time. To use emergency record on a single channel please read the section titled Main Screen Pop-up Menu later in this chapter.

E-Map Function

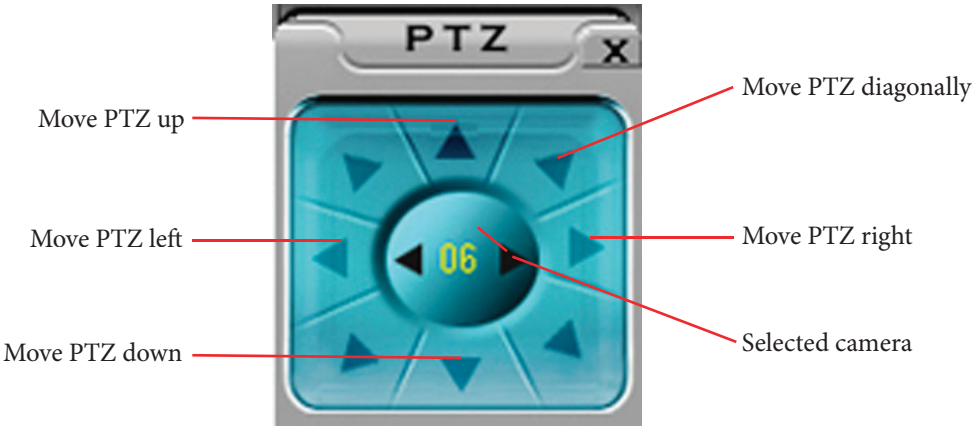
Provides an electronic map showing the location of cameras and sensors. The system provides several default maps or a custom map can be designed and imported into the e-map function. For details on setting up and using the E-Map Function please refer to Chapter 5 E-Map Function.

PTZ Controller

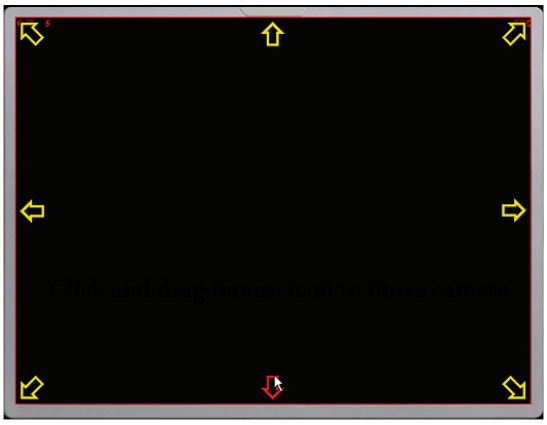
Click the PTZ button to open the PTZ controller. With the PTZ controller the user can control the PTZ camera. Please refer to Chapter 2 System Setup - PTZ Setup for details on setting up the PTZ camera..

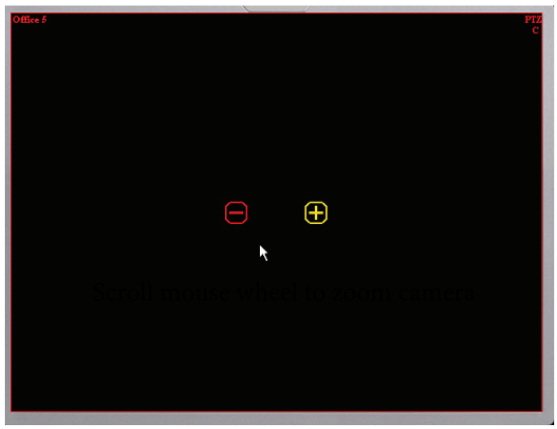
Controlling The PTZ Camera

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.



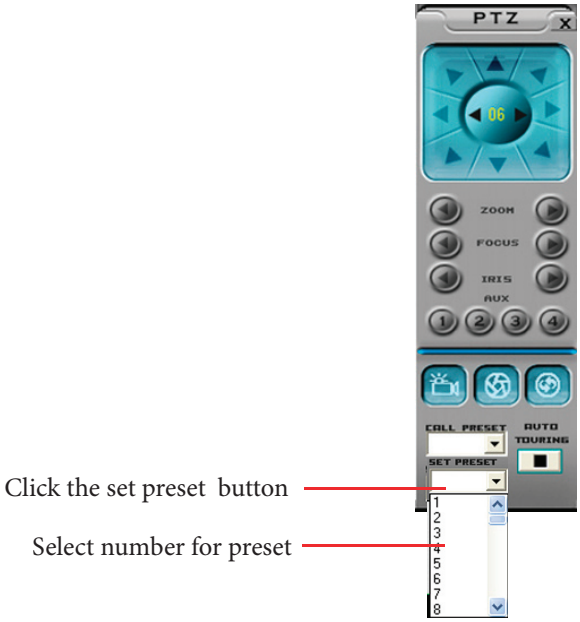
The system also allows the user to control the PTZ camera with the mouse. To use the mouse controls double click the live image of the PTZ camera so the only camera showing is the PTZ camera. Click the PTZ button to bring up the PTZ controller. Click the left mouse button and hold it down, the control 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).





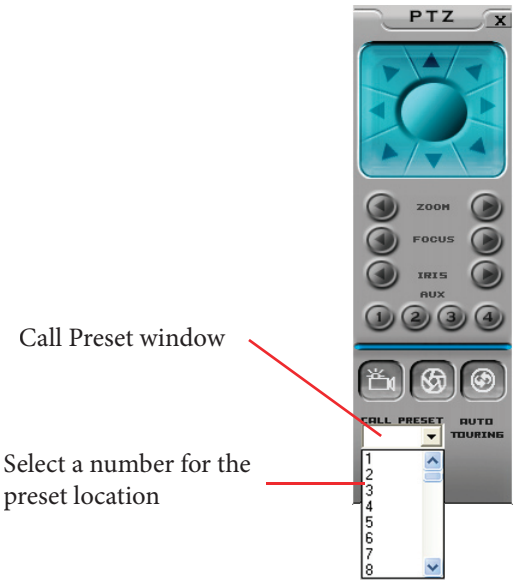
Setting Presets

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.



Audio and Alarm Indicator

Use these buttons to listen to live audio and audible alarm. Please see Chapter 3 Audio Setting for setting up audio and Chapter 2 Alarm Event Sound Effect for setting up audible alarm.

Click Button to hear selected channel live audio. Blue indicates that audio is on. Click again to turn off.

Click Button to hear audible alarm. Blue indicates that audible alarm is on. Click again to turn off.

Screen Division and Control Function

16 Channel Screen Division Buttons

The different screen modes are as follows 1, 4, 6, 8, 9, 10, 13, 16. All screen divisions will allow for sequencing through all 16 cameras. See chapter 2 Setup Function for details on setting the sequencing dwell time.

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).

Four 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).

Six 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).

Nine 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).

Ten 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).

Thirteen 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).

Sixteen Camera Display Button

This will allow the user to display 16 cameras at a time. On the 32 channel system, click the Next button to sequence to cameras 17-32.

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.

Screen Sequencing (Auto Rotation)

This button is used to have the surveillance screen rotate in order according to the sequencing interval value set on the environment setting. (See Chapter 2 System Setup for more details).

Full Screen Mode

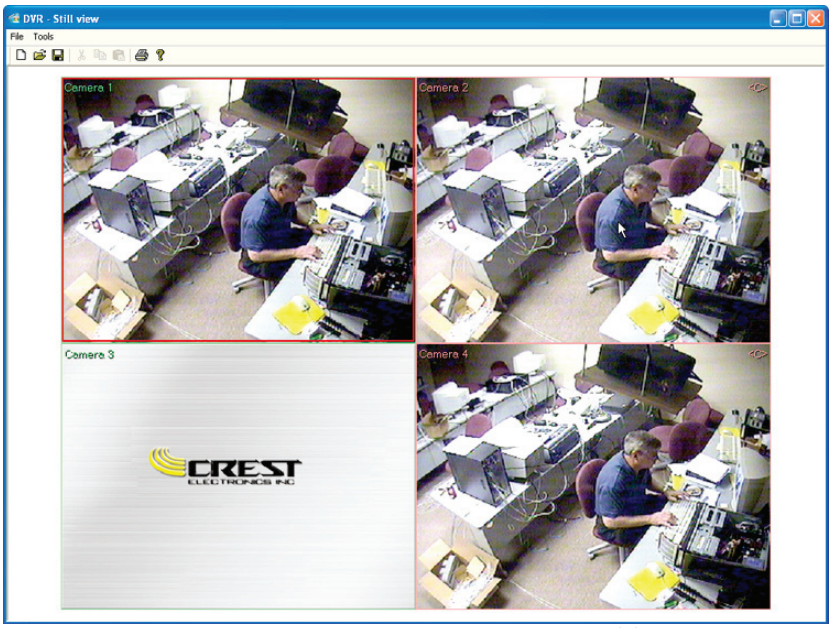
Click this button to change the display to full screen. Use this mode to minimize the screen's GUI menu to the bottom of the screen. Click the right mouse button to display Main Screen pop-up menu and click Normal Screen to change back to the original screen. (See Image below).

GUI Minimized when in full screen mode

Click Normal to change screen back to default screen with GUI.

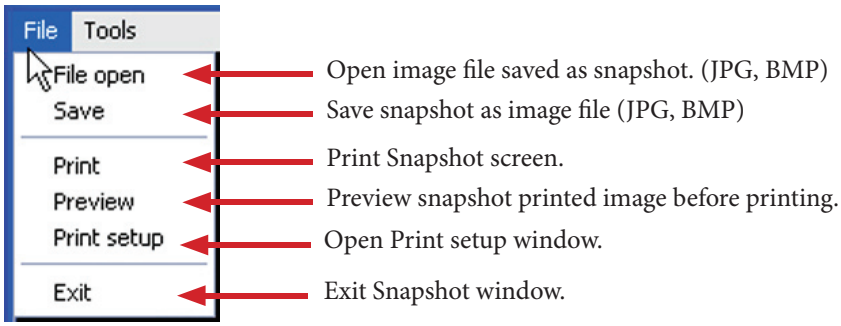
Snapshot

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 window will come up as shown below. Snapshot allows you to flip or mirror the image, and manipulate the contrast and brightness. You can save or print the image. Printing requires that you have a printer connected and set up on the DVR.



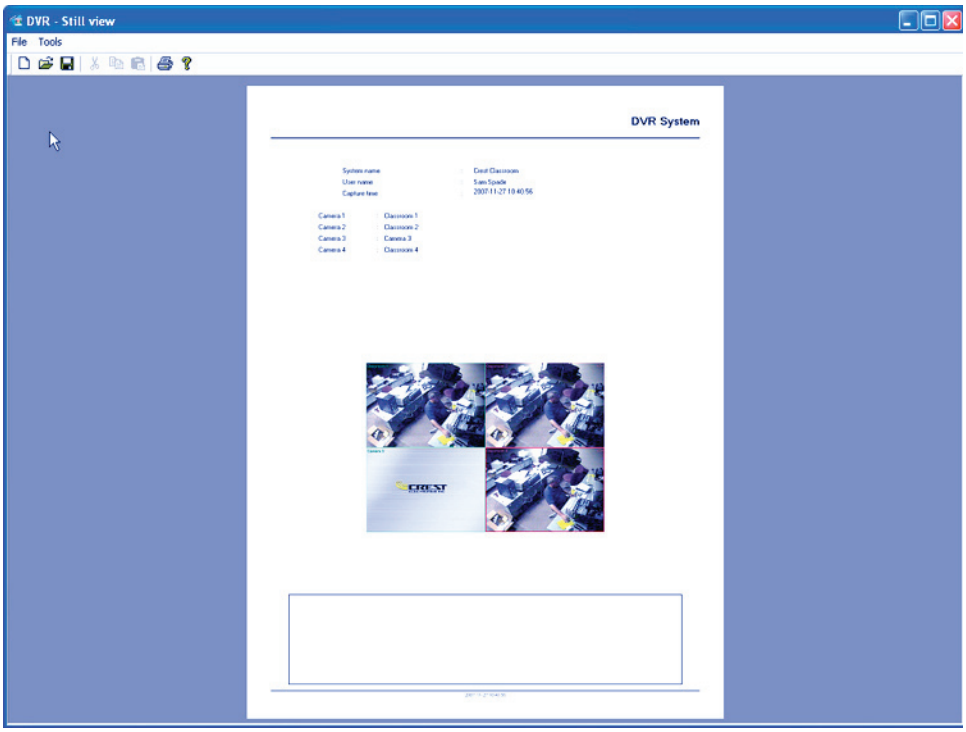
Snapshot File Menu

This menu controls the opening, saving and printing functions for the snapshot image.



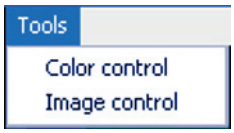
Print Preview

Previews what the printed snapshot will look like. Displays the system name, user name, capture time and camera name.

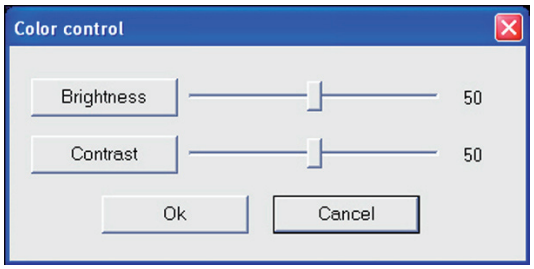


Snapshot Tool Popup Menu

Allows the user to adjust the snapshot image. Adjustments are brightness, contrast, image size, mirror, flip and invert.



Color control window



Brightness - Adjust the image's brightness
Contrast - Adjust the image's contrast

Image control window

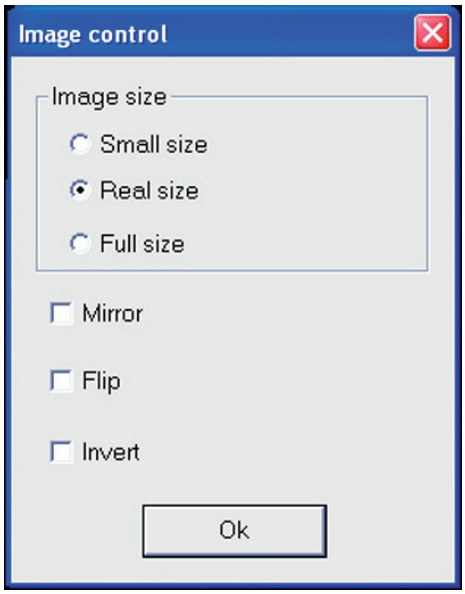
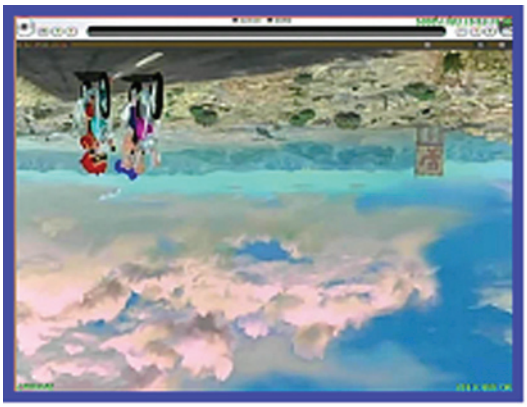


Image size (3 levels - Small, Original and Full)

Original image mirrored

Original image flipped



Original Snapshot Image

Original image inverted

Camera Selection Function

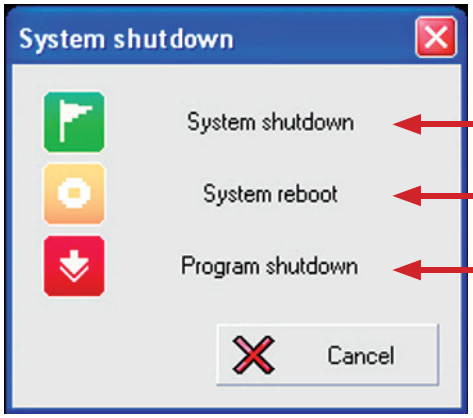
This function allows the user to select a specific camera. The selected camera is highlighted in blue. When the screen is in a screen division that does not display all cameras, selecting a camera will bring up the screen division that contains that camera.

Use buttons to select camera for surveillance.
Press relay icon to view relay status and control relays

System Shutdown

Use the system shutdown button when you want to shutdown the DVR, reboot the DVR or exit the DVR program and go into the Crest System Desktop. Click the system shutdown button to bring up the system shutdown pop up menu. Choose the option you want to perform that action. If the user log in appears then you must log in with a user that has sufficient rights to power down the system.

System shutdown



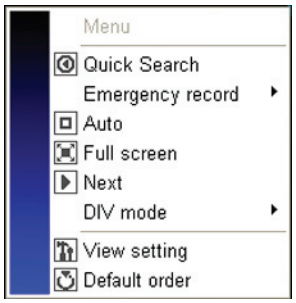
Power off the system

Reboot the system

Shut down DVR recording and go into the Crest Desktop

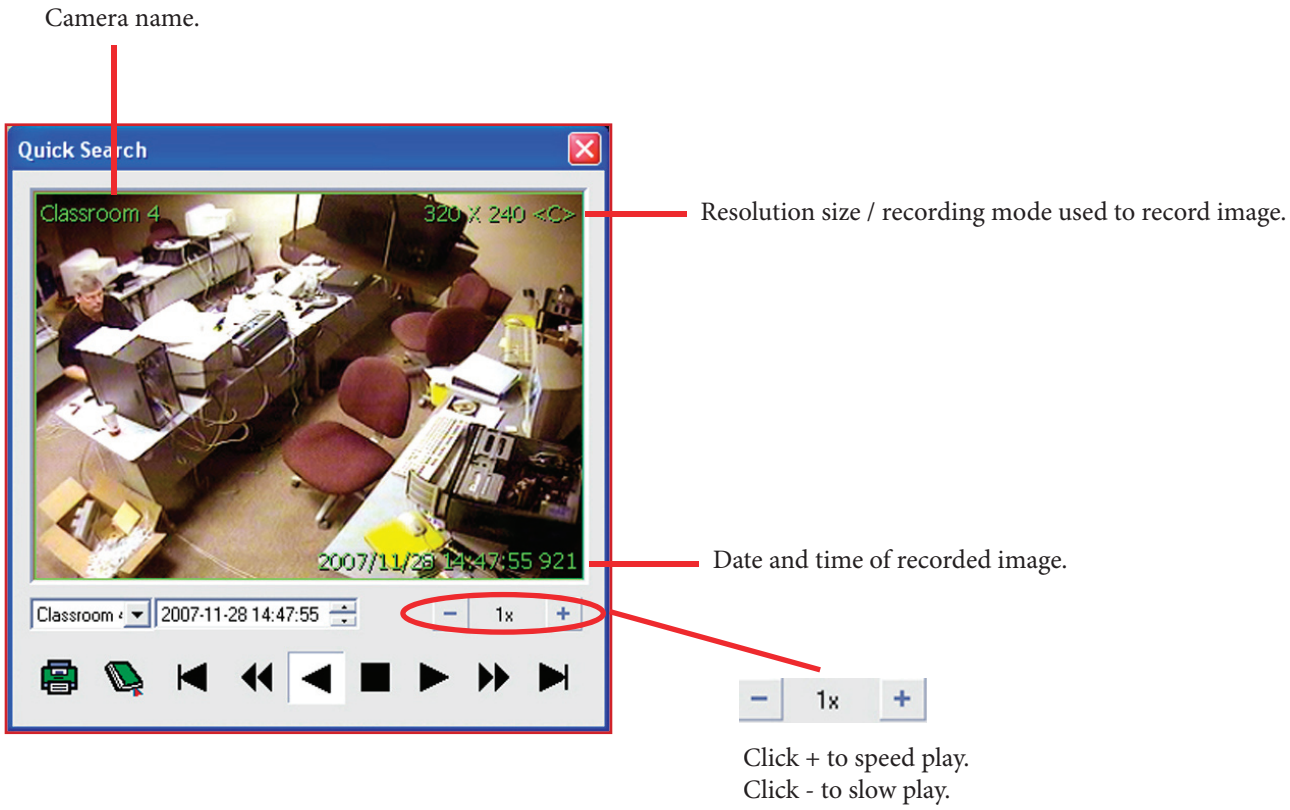
Main Screen Pop up Menu

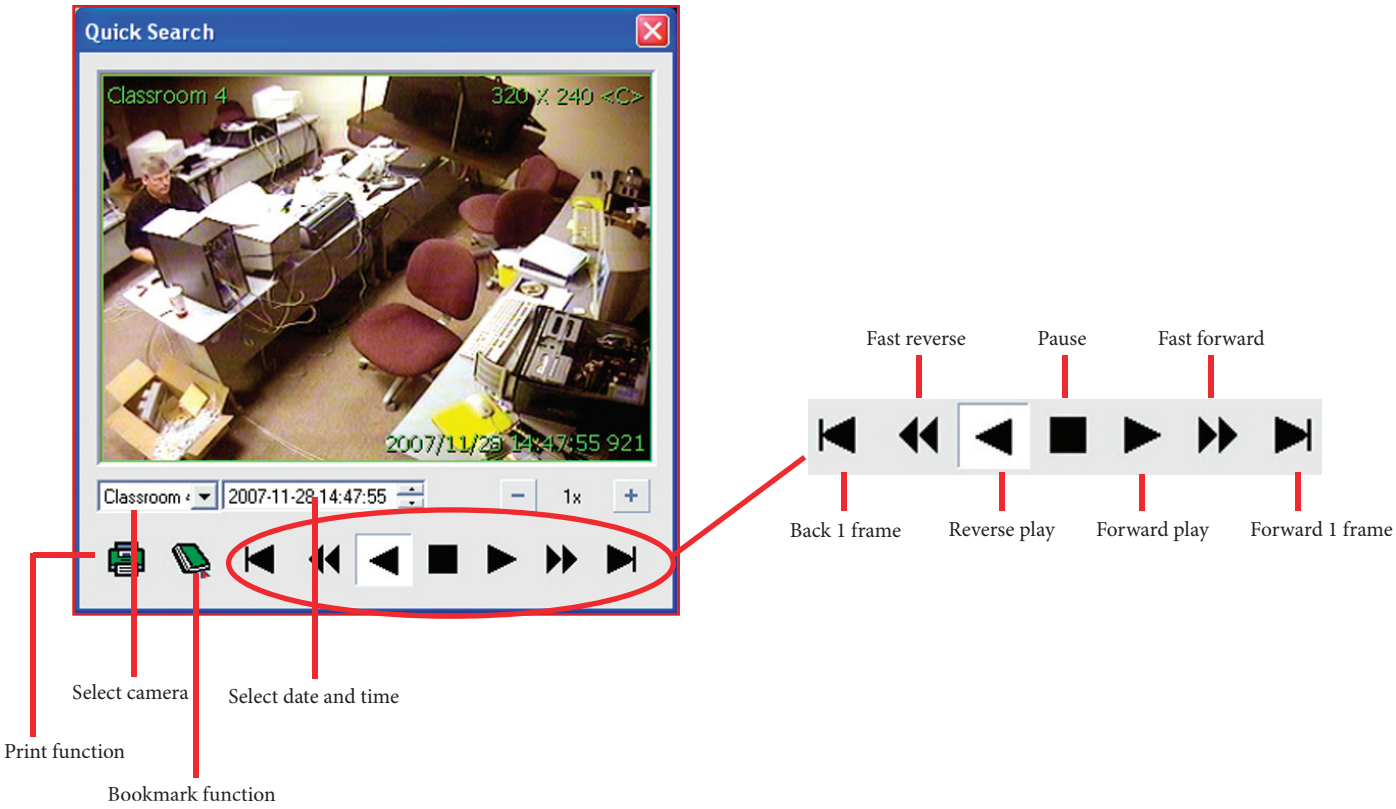
The main screen pop up menu can be used instead of using the menu controls on the right side of the main screen. This is particularly useful when the main screen is in full screen mode and the GUI is hidden. The following are descriptions of the various functions available from the pop up menu.



Quick Search

The Quick Search function allows the user to review recorded video from one camera. Select the camera you want to review using the camera buttons at the bottom of the screen or just click the live image of the camera you want to review. The camera will be highlighted indicating that it is the selected camera. Right click in the image area to bring up the pop up menu and click the "Quick Search" icon. The quick search window will be displayed.





Emergency Record

The emergency record function of the main screen pop up menu allows for the image recording during an emergency. There are two modes of emergency recording. Emergency recording of all channels and emergency recording of just the selected channel. Emergency recording will override all other recording modes. After emergency recording has been enabled the image will display <E> for the recording type. It will continue to record in emergency mode until it is turned off by the user.

Auto

The auto function turns on /off auto sequencing. If the live screen is in any division mode the DVR will sequence automatically through all the screens of the selected division. For example if the screen is in one camera division then when turning on auto sequencing the DVR will automatically rotate through cameras 1-16. For more information on controlling sequencing please refer to Chapter 2 System Setup.

Full Screen / Normal Screen

This function allows the user to change the main screen to “Full Screen” mode moving the GUI to the bottom of the screen. When the screen is in “Full Screen” mode menu item will change to read “Normal Screen” allowing the user to change the screen mode back to normal mode.

“Next” Screen

Click this to move to the next screen when in division screen mode.

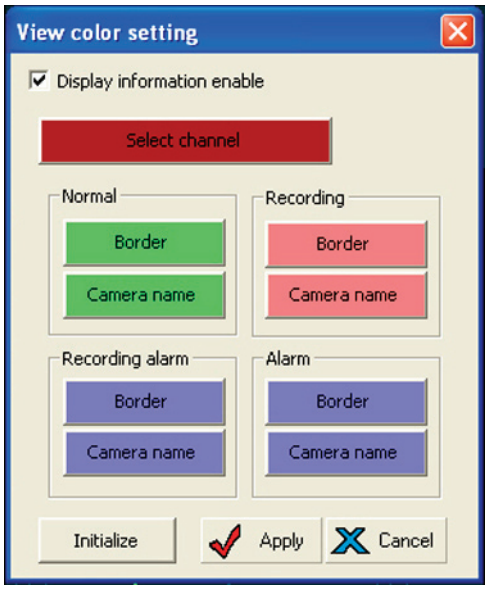
DIV Mode

Allows the user to choose the preferred screen division. Varies based on the number of channels the DVR has.

View Settings

Allows the user to change the default colors used by the system for image border and camera name.

- Normal : Color settings indicating normal status.
- Recording : Color settings indicating recording status.
- Recording alarm : Color settings indicating alarm status while recording.
- Alarm : Color setting during sensor alarm activation.



Default Order

The DVR allows the user to move the cameras from their original screen position by clicking on an image and dragging it to a new screen location. The image will then stay in that new position until the DVR program is shut down or rebooted. The Default Order function allows the user to change the image screen order back to the system default without rebooting the system.

2

Chapter 2
System Setup

System Setup

Chapter 2 details various options for setting up the Crest 7000 series DVR. The setup function consists of 9 different setup menus. The different menu tabs are shown below. This chapter will explore each of the different menus and explain the various options available with each.

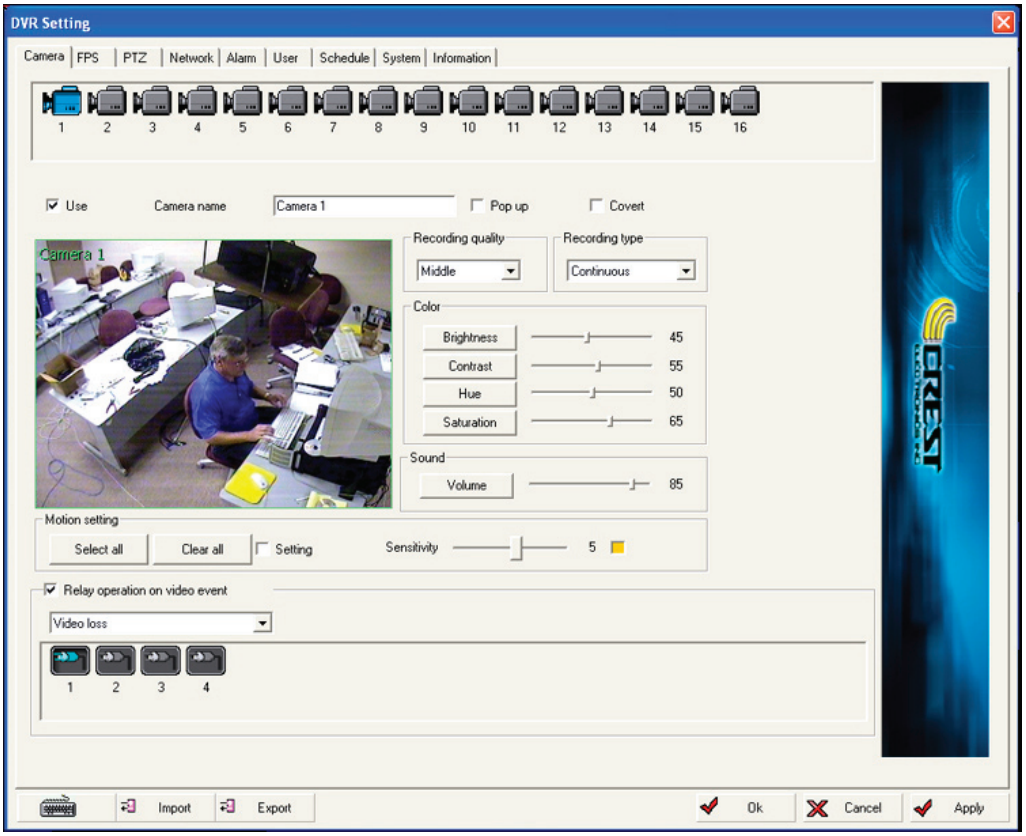
The available setup menus are:

- Camera
- FPS
- PTZ
- Network
- Alarm
- User
- Schedule
- System
- Information

9 different setup menu tabs

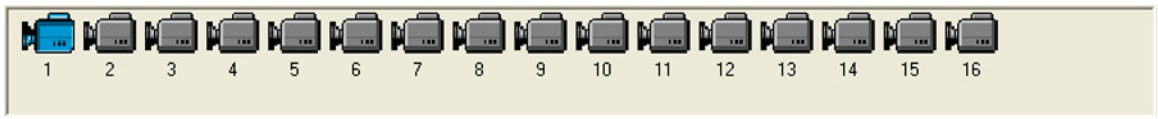
Camera Settings

The camera settings menu allows the user to set the various settings for each camera. This menu also sets the motion grid and sensitivity per camera for motion recording. The image below is the camera settings window.

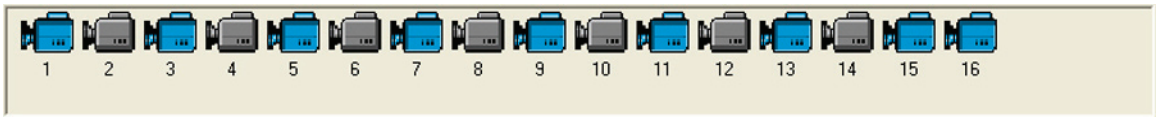


Camera Selection

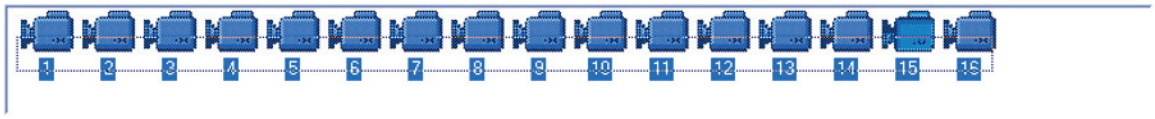
The camera selection bar is used to select the camera or cameras that settings are to be changed. To select a single camera just click the selected camera icon. The icon will change from gray to blue indicating that it has been selected for changes.



To select multiple cameras for changing, hold down the control (Ctrl) key when clicking the camera icons.



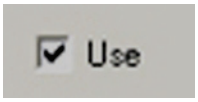
To select all cameras click and hold down the left mouse button while dragging on top of the camera icons.



Select Camera for Use

This sets whether the camera port is turned on or off in the system. If this box is left unchecked the system will turn off the camera port. The system will ignore any input from this channel even if there is a camera connected.

If this box is checked the system will try and detect a camera signal even if there is no camera connected. The system will give a video loss alarm if this box is checked and there is no camera connected to the port. To prevent unwanted alarms camera ports with no cameras connected should be unchecked.



Warning

Disabling a camera port will reset the FPS for that camera to the lowest frame rate. Please check frame rate when using camera port again

Camera Name

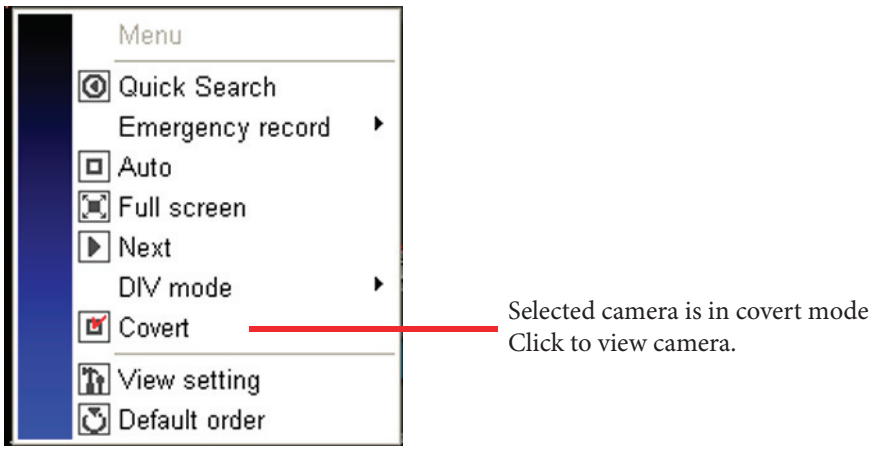
Enter a name to identify the selected camera. The camera name can be up to 32 characters long.

Camera Pop Up

Check this check box to have the system pop up the selected camera when motion or a sensor alarm is detected. The length of time the pop up is displayed can be set in the system. Please see section on System Tab "use pop up release time".

Covert

When covert is checked the camera image will be hidden on the live, playback and remote view screens. The system will continue to record the camera but the selected camera will not be displayed. To view a covert camera the user must be an administrator and log on to the DVR. The live screen will not display the image until the administrator uses the live screen pop up menu and selects covert. If the user does not have administrator rights the covert option will not display on the pop up menu of the live screen (Please see image below). When the administrator logs out of the system the covert camera will revert to hidden or the administrator can click covert in the pop up menu. The hidden camera cannot be displayed at anytime while in playback at the DVR. In order to see playback the covert check box must be unchecked.



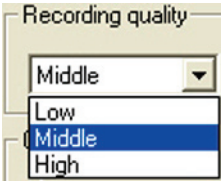
Caution Please be aware that if you give a user rights to backup recorded video they will be not able to backup the covert camera. Only administrators can backup hidden cameras.

Image Quality

Image quality setting is used to control the amount of compression the system uses to store video. There are three settings:

1) High: Highest image quality with very little compression, the file size is very large.
2) Middle: Middle picture quality with normal compression and normal file size.
3) Low: Very low picture quality but very high compression with small file size.

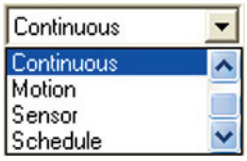
The factory default is Middle and it is recommended that this setting be used.



Recording Type

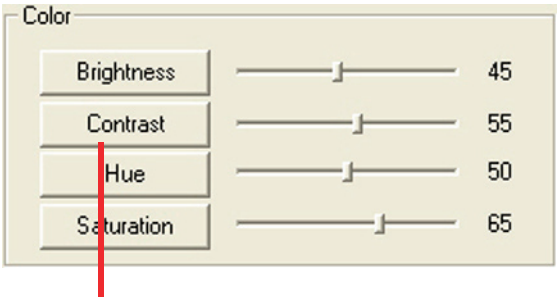
This function sets the mode of how the camera will record video. There are 5 different modes.

1) No Recording: The system does not record video for the selected camera.
2) Continuous: The system records the selected camera 24hrs continuously.
3) Motion: The system records the selected camera only when it detects motion.
4) Sensor: The system records the selected camera only when there is a sensor alarm.
5) Schedule: The system records each camera following the recording schedule set for it in the Schedule tab.



Color

This function allows the selected camera to be adjusted for brightness, contrast, hue and saturation. Changes made to the camera image are recorded. Pressing the name of each adjustment will return the value to the system default.



Click these buttons to return to default values.

Motion Area Selection

Click the setting check box to all motion areas for the selected camera. To set the area that the system monitors for motion detection, click and drag to select area. The Select All button can also be used to select the entire area of an image for motion detection. Clear All will clear the entire image area, if no area is selected the DVR will not record.

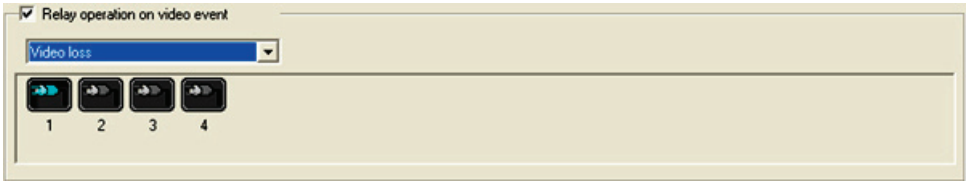
To set the sensitivity, drag the slider left (less sensitive) or right (more sensitive). The area selected will have different colors based on the sensitivity setting used. Red is more sensitive and green is less sensitive. Moving the slider bar all the way to the left is no sensitivity. The sensitivity setting must be set before clicking and dragging on the image. Multiple areas with different sensitivity can be set in the image area. Red squares will appear indicating motion in a selected area. This is useful when trying different sensitivities to eliminate false motion.

Image area showing different motion areas with different sensitivity settings. Square boxes indicate motion in that area.

Use motion setting bar to view selected motion areas. Select entire image, clear entire image, and set sensitivity.

Relay Operation On Motion Event

Use this function to activate a relay contact when the system detects motion or a signal loss. Multiple relays can be set for each camera.



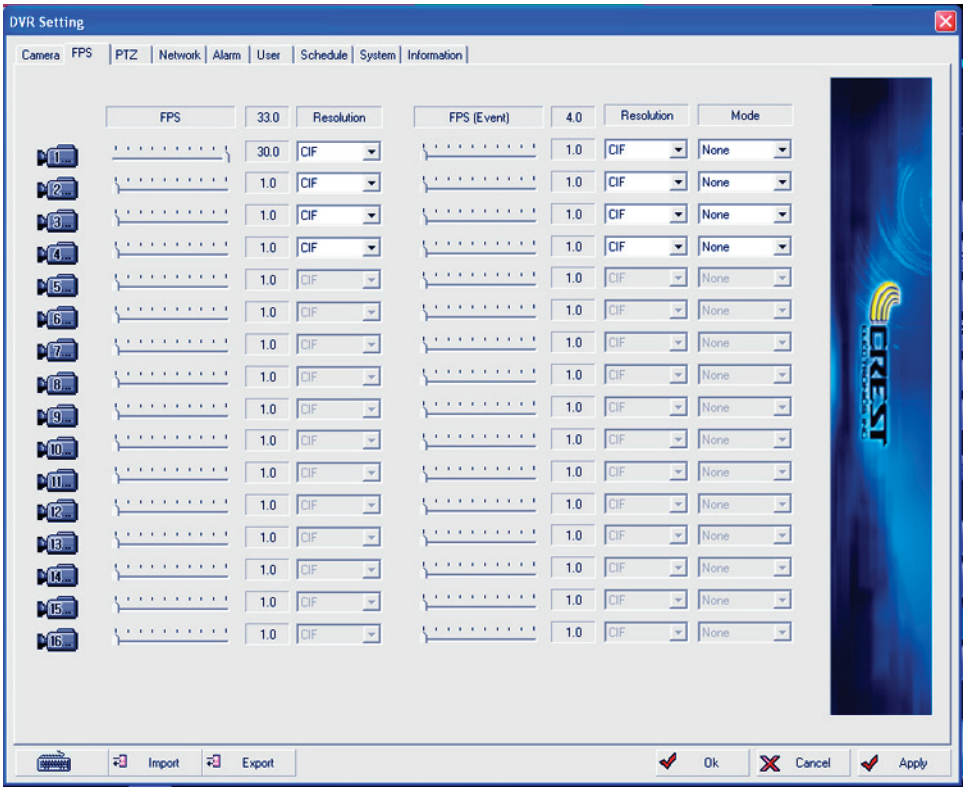
Caution

Relay will not operate when Relay Activate mode is set to schedule. Schedule mode overrides all other modes. Please refer to Alarm Tab later in this chapter.

FPS Settings

This tab is used to set the frames per second used when recording video. The following chart shows the maximum frame rate available based on the resolution setting.

Model	Max Frames for each resolution	
CDVS-7516	CIF (Low) 360 X 240	480 fps
	2CIF (Middle) 720 X 240	240 fps
	4 CIF (High) 720 X 480	120 fps
CDVS-7316	CIF (Low) 320 X 240	120 fps (7.5 max per camera)
	2CIF (Middle) 640 X 240	60 fps (3.0 max per camera)
	VGA (High) 640 X 480	30 fps (1.0 max per camera)
CDVS-7308	CIF (Low) 320 X 240	120 fps (15 max per camera)
	2CIF (Middle) 640 X 240	60 fps 7.5 max per camera)
	VGA (High) 640 X 480	30 fps (3.0 max per camera)
CDVS-7304	CIF (Low) 360 X 240	120 fps (30 max per camera)
	2CIF (Middle) 720 X 240	60 fps (15 max per camera)
	VGA (High) 720 X 480	30 fps (7.5 max per camera)

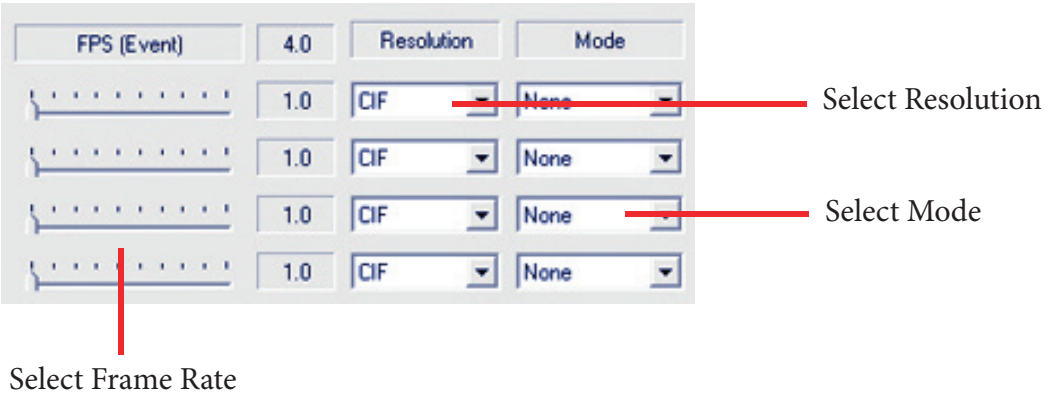


Adjusting FPS

Move the frames per second slider bar to the left or right to change the frames per second. The total FPS used will display at the top of the FPS column. Please note that with the 7300 series you will only be able to use a total of 48 FPS when in 2 cif mode and a total of 16 fps in 4 cif when using all 16 cameras. This is because of the algorithm, it is not able to distribute the remaining frames.

Intensive Recording

Intensive recording is to be used when recording is done with low picture quality, such as recording in CIF. After the motion or sensor event is detected the intensive recording will take place with the preset settings. Please be aware that intensive recording cannot be used to gain more frame rate than the system is capable of producing. For example if you are recording all cameras on a CDVS-7316 in VGA mode (4 CIF) you will still only be able to get 1 fps.

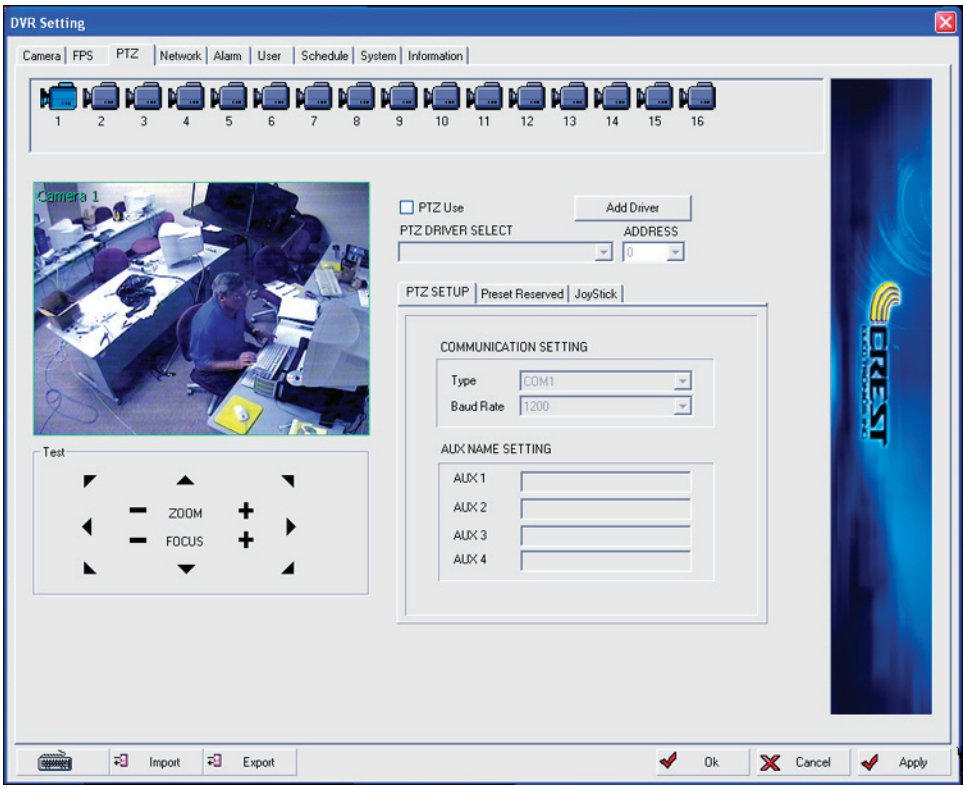


Modes used for intensive recording

Resolutions used for intensive recording

PTZ Setup

The PTZ Tab is used to setup any PTZ cameras that may be on your system. This is also used to set preset tours as well as set the joystick to control the dvr.



Camera Selection

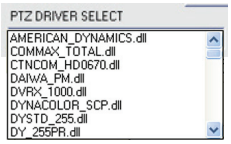
Used to select the PTZ camera that will be set up.

PTZ Use

Choose if camera is a PTZ camera.

PTZ Driver Protocol

Select the proper PTZ protocol for the selected camera.

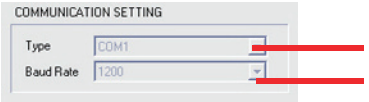


PTZ Address

Enter the PTZ camera's address in this box. The address is set at the camera and then entered here. Failure to set proper address could result in PTZ camera malfunction.

PTZ Communication Setting

Use to set PTZ communication type. RS-485 and RS-232 are both supported. Set baud rate. Please note the communication type and baud rate are determined by the PTZ camera settings. Please check these settings on the camera before setting in DVR. Failure to use the proper settings will result in a malfunction of the PTZ camera.

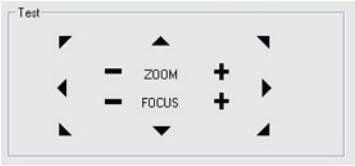


Aux Name Settings

Input the name for the contact control device on AUX terminal. Aux terminal supports a maximum of 4 devices. The number differs according to the device.

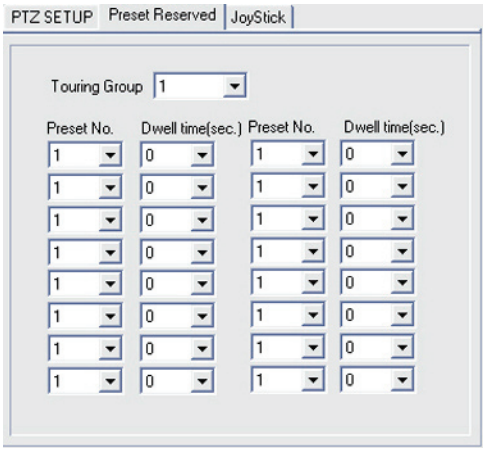
PTZ Test

Used to test if the DVR can conrol the PTZ. If the DVR cannot control the PTZ camera recheck the settings to be sure they match that of the PTZ Camera. Also check to see if the RS-485 or the RS-232 connections are correct. Please see the connections later in this chapter.



Preset Tour Setup

The DVR has the ability to sequence through a series of presets set in the PTZ camera. Use the preset reserve tab to set the presets to be used. For information on setting the camera preset please see chapter 1 Setting Presets.



To set up a preset tour follow the following steps:

1) Select the touring group.
The system has four touring groups with each group supporting 16 presets. For a total of 64 presets.

2). Select the camera preset number.
The system has 16 preset and each preset supports up to 64 camera presets.

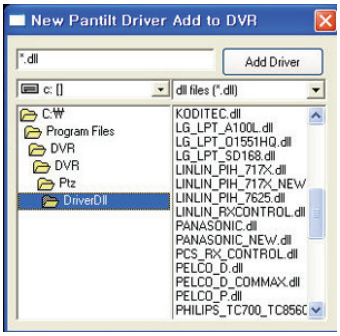
3). Select the dwell time.
Set the dwell time to 0 if you want the DVR to skip the preset otherwise set the dwell time between 3 - 60 seconds. The minimum dwell time is 3 seconds maximum is 60 seconds.

Joystick Setting

Not supported at this time.

Add PTZ Driver

The system allows for the addition of new PTZ drivers. Use this button to add a new driver. Only drivers provided by the manufacturer should be added to the system. Please be careful not to delete any of the protocols as this may lead to a malfunction with existing PTZ cameras.



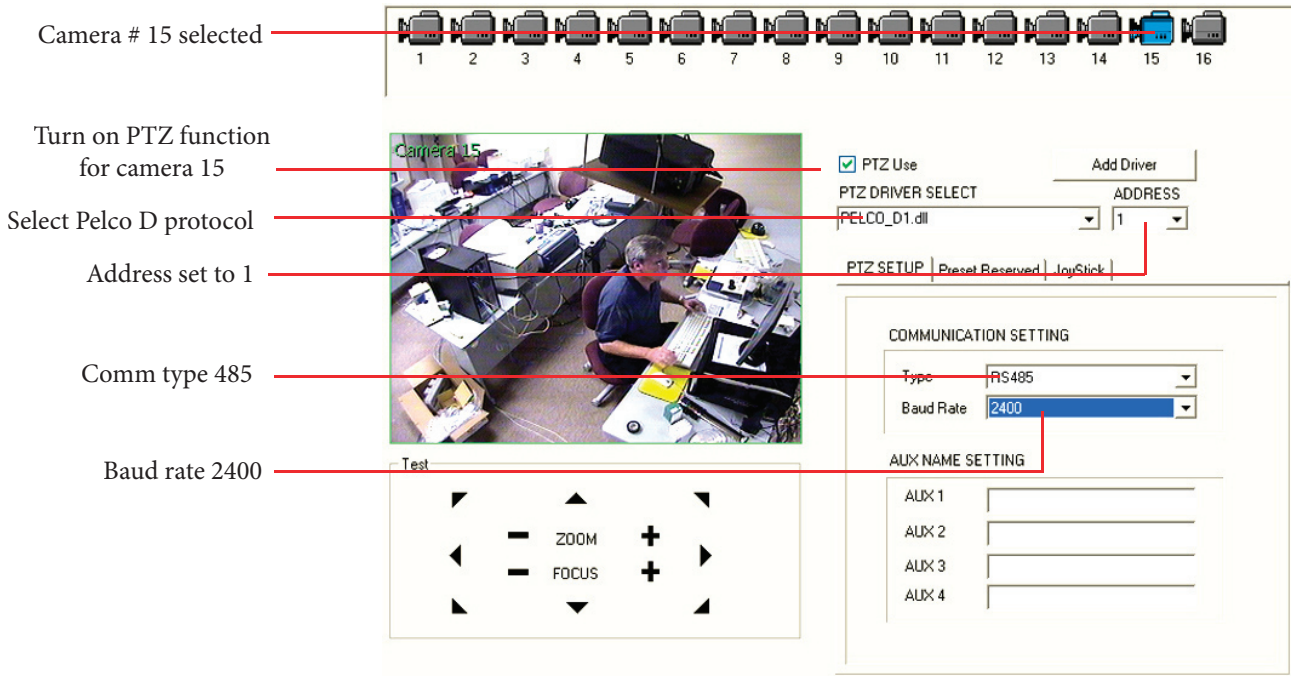
Navigate to the directory that contains the driver you want to add; highlight the driver and click Add Driver button

PTZ Setup Example

The figure below shows the PTZ setup Screen for Camera number 15 using a Pelco PTZ camera with the following settings:

- Pelco D protocol
- address 1
- RS-485 communication
- 2400 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 technical support.



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

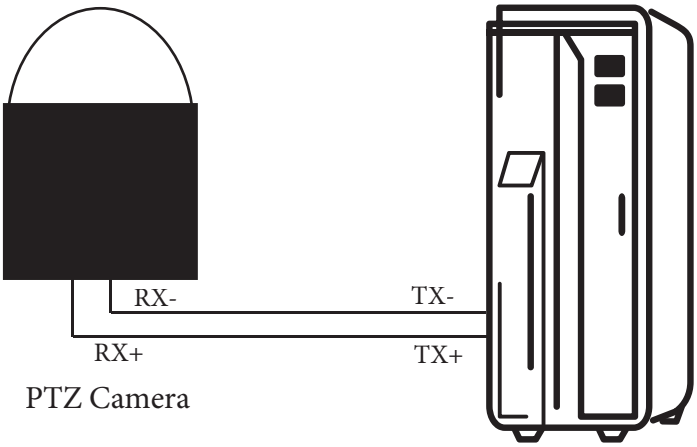
Caution

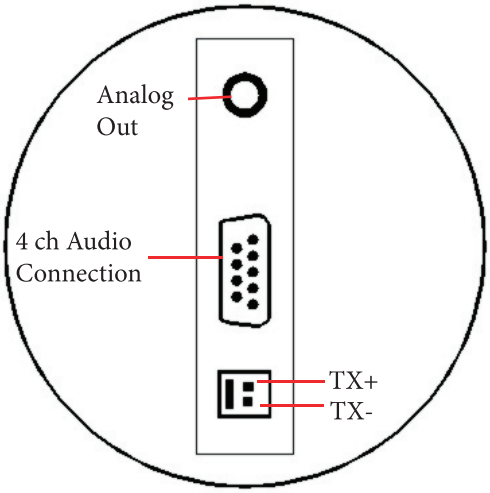
Please make sure to set the proper communication type when setting up the PTZ dome. Unless specified at time of ordering all CDVS units will not come with a RS-232 port.

PTZ Function

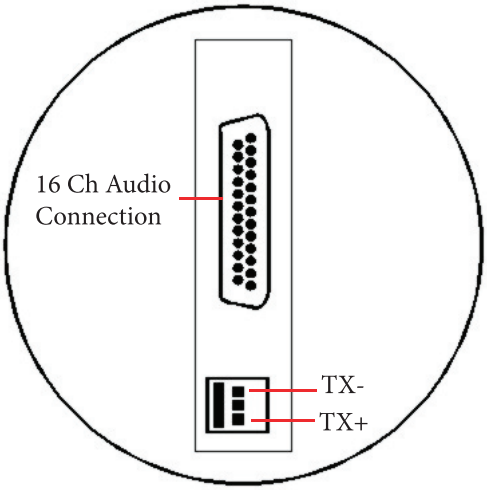
PTZ connection

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



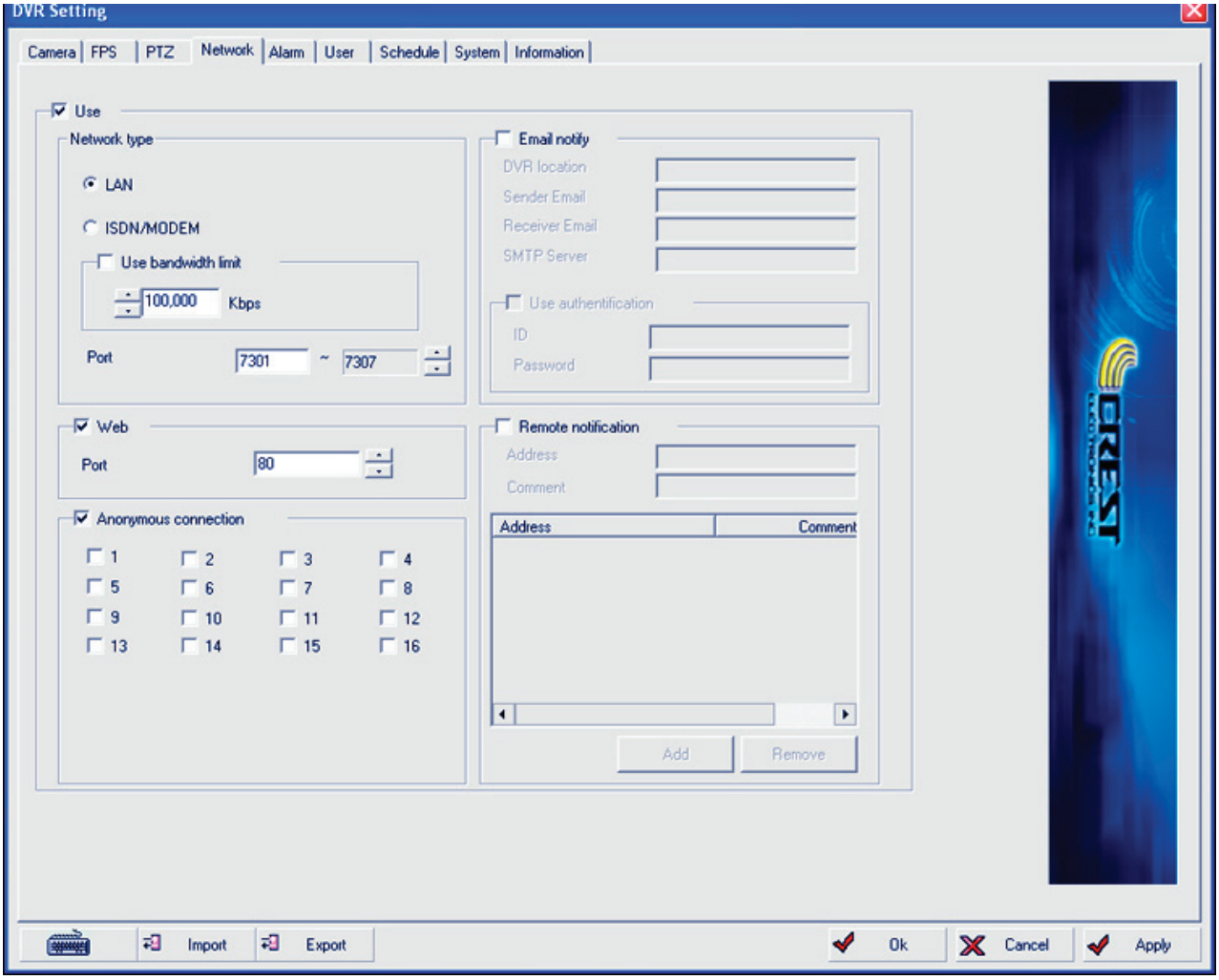
7500 Exploded View of PTZ connection

Connecting PTZ Using RS-232 Device
The CDVS-7000 series must be special ordered to include a serial port. The standard CDVS-7000 series DVR does not include a serial port.

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.

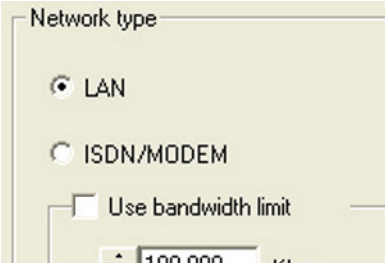
Network Settings

Click the network tab to enter the network setup page. This page allows the user to set up the DVR for remote connection. This page only controls the DVR program, it will not set up the network communications for the operating system. This must be done on the Crest System Desktop. Please refer to Chapter 3TCP/IP for setting up the network connections.



Place a check mark in this box to enable remote connections.

Network Type



Network Type - Allows the user to identify the type of network connection the system is using. The available options are LAN or ISDN/Modem.

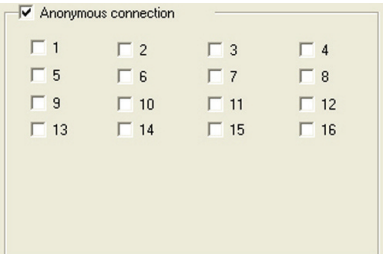
The DVR can limit the bandwidth it sends to the network. Check limit bandwidth and set the desired bandwidth in kbs.

The user must also notify the system what ports the DVR system will be using to communicate with. The default ports are 7301-7307. To change the program ports, just type in the first port number and the system will automatically select the rest of the ports based on the first port number.

Use Web

Check the Web check box if the user will be doing remote monitoring via the web browser. The default port number used for web browsing is port 80. This can be changed by the user if desired.

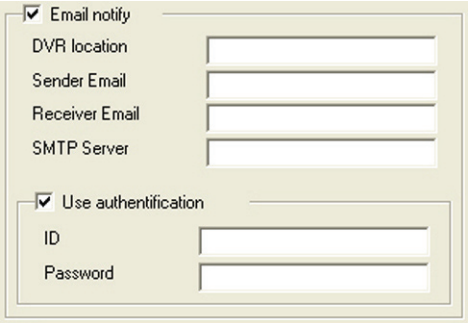
Anonymous Connection



Place a check mark in the anonymous connection check box to allow users to connect to the DVR via a guest mode without using a password, Select the cameras the guests are allowed to view. Please note that if no cameras are selected no video can be seen in guest mode. When the user is connected in guest mode they will have limited rights.

Caution Please use caution when enabling anonymous connection as this opens up your system to outside connections.

E-Mail Notification



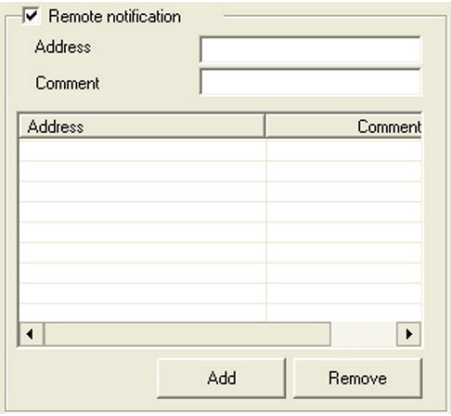
By checking E-mail Notify the user can have the DVR send notification when an event occurs.

• DVR Location: Enter unique name to identify the DVR
• Sender Email: Sender's E-Mail address
•Receiver Email: Receiver's Email address
•SMPT Server: The senders mail server

Event notifications can be sent to more than one person. Just place a semicolon ; after each person's email address. Example for three emails: jbk@test.com;kbj2@test.com;Jane@test.com

•Use Authentification

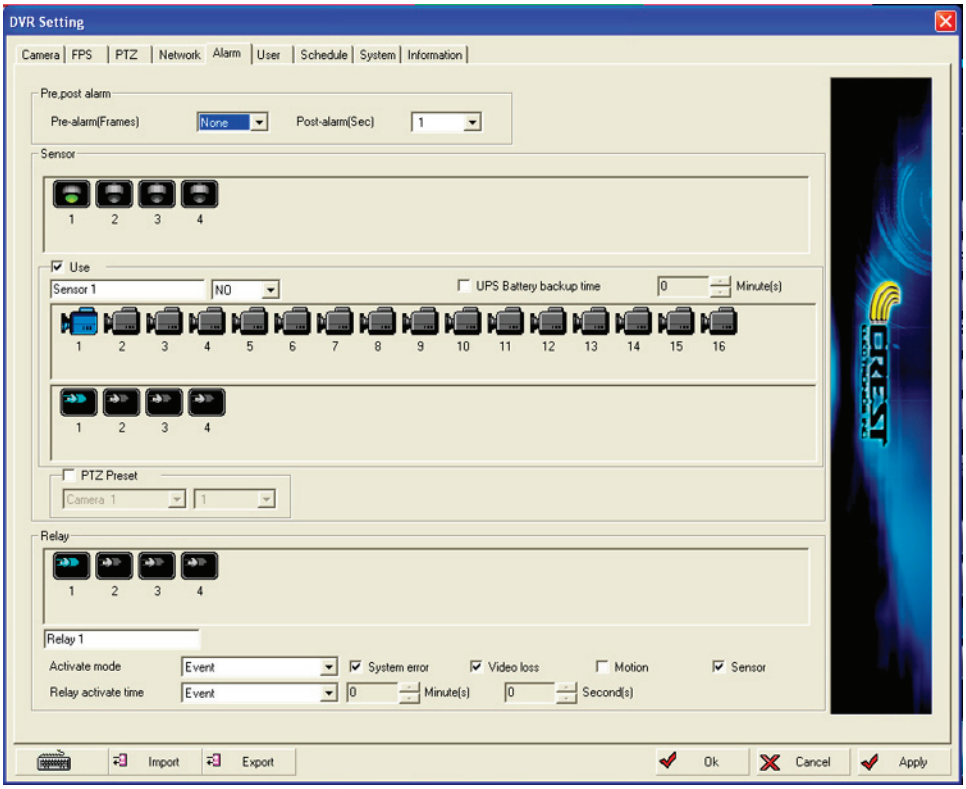
Many SMTP Servers require authentification to prevent hacking by unauthorized users. If your mail server requires authentification enter ID and password here. Please check with you Email administrator if you are not sure if authentification is used.



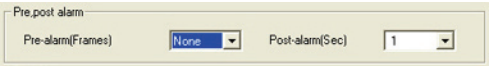
Remote Notification is used to notify a remote client of an emergency event. Enter the remote client's static IP address and any comments to identify the remote client. A maximum of 20 clients can be set up for notification.

Alarm Setup

The alarm setup page allows the user to configure pre and post event recording, assign cameras to alarms and set the event which activates the alarm or relay. The CDVS-7300 series has 4 alarms and 4 relays while the 7500 series has 16 alarms and 16 relays.



Pre/Post Alarm

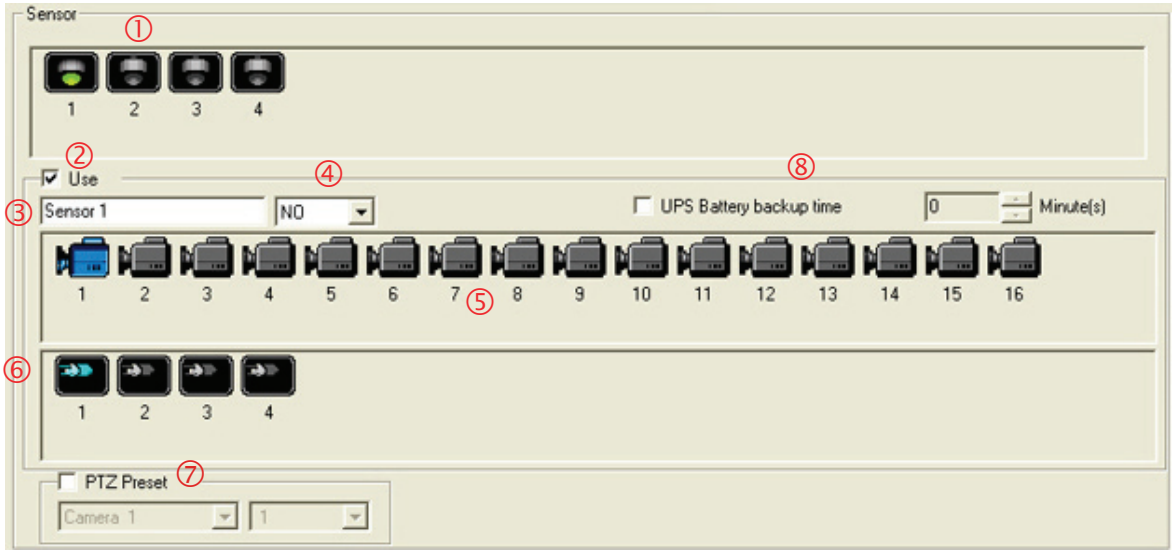


Pre/post alarm frame buffering allows the user to set the number of frames buffered before and after an alarm or motion event occurs.

• Pre alarm has three settings - Low, Middle and High. The low setting allows 120 frames (for all cameras) buffering, Middle setting allows for 240 frames (for all cameras) buffering and High setting allows for 360 frames (for all cameras) buffering.

• Post alarm allows the user to set the number of seconds to continue recording after an alarm or motion event ends.The post alarm setting is from 0 to 59 seconds.

Sensor Setup



1. Select Sensor: Select the sensor you want to set up. The sensor icon will turn green when it is selected. If multiple sensors are selected the values will apply to all selected sensors. CDVS-7300 series DVRs only have 4 sensors. CDVS-7500 series DVRs have 16 sensors.

2. Activate Sensor: Turn on the selected sensor by placing a check mark in the Use check box.

3. Name Sensor: Enter a name to identify the sensor.

4. Sensor Type: Enter the sensor type as NO-normally open or NC-normally closed.

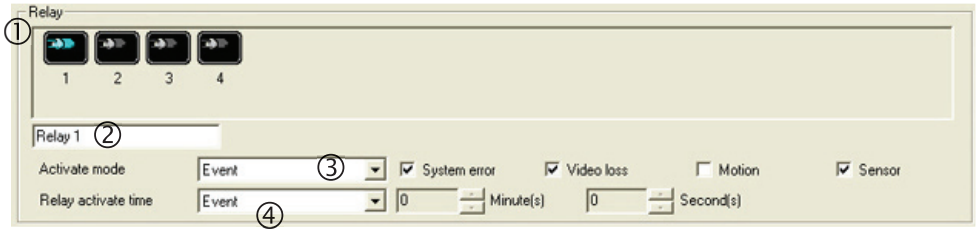
5. Assign Camera: Select the camera or cameras to associate with the selected sensor. Any number of cameras can be associated with a sensor. A camera can also be associated with multiple sensors. For example if you want cameras 2 and 3 to record when sensor 1 is activated. Select Sensor 1 it will become highlihted, next click both camera 1 and camera 2. Their icons will turn blue indicating that they have been selected.

6. Assign a Relay: Select the relay or relays you want to activate when the sensor has an event. If no relay activation is desired then unselect all relays.

7. PTZ Preset: The DVR has the ability to call a preset from a PTZ camera when there is an alarm event. To activate this function, click the check box for the PTZ preset, select the PTZ camera and select the camera's preset to call.

8. UPS Battery Backup Time: This feature allows the system to receive a signal from a UPS when there is a power outage. Place a check mark in the check box and select the number of minutes to wait before shutting down the system. After the designated time, if the relay is still active, the system is shutdown automatically.

Relay Settings



1. Relay Selection: Select the relay or relays icon to be changed.

2. Relay Name: Enter a name to identify the corresponding relay.

3. Relay Activation Mode: Select the method for activating the relay. There are three types - manual, event or schedule.

- Manual: Relay will activate only when the user clicks the relay icon at the bottom of the main screen. Please see chapter 1 for information on main screen features.

- Event: Relay will activate when there is an event. It will stop when the event is terminated.

  Event Types

  1) Detected system error.
  2) Camera signal disconnection.
  3) Motion detection.
  4) Sensor detection.

- Schedule: The relay will automatically activate/deactivate by the settings in the Relay Schedule. Please see the section on Schedule Setup for information on setting up the relay schedule.

NOTE

Please note that the admin level user can forcefully disconnect a relay when the relay activation mode is set to schedule. Also if schedule is used the system will not activate the relay when motion or camera loss is detected.

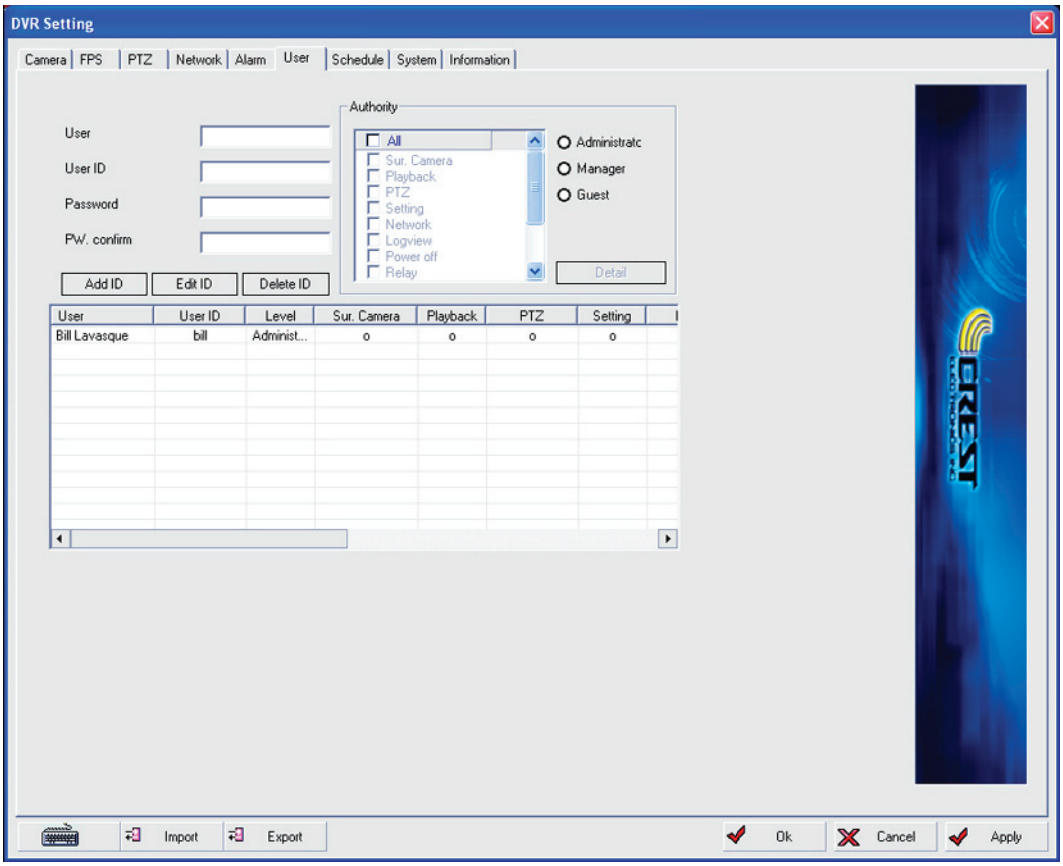
4. Relay Activate Time: This allows the user to determine the amount of time the relay will stay active.

- **Manual: The relay will be active until the administrator stops the relay manually.**

- **Event: The relay will activate when the event starts and will deactivate when the event terminates.**

- **Timer: The relay will activate on an event and continue to be active for the time set by the user. When the user selects timer from the relay activate time drop down box the min/sec boxes will activate allowing the user to enter a time in min/sec for the relay to run.**

User Setup



The system allows for an unlimited number of users . There are three levels of predefined users - Admin, Manager and Guest. The user id and password can only be 7 characters in length.

ADMIN: Admin is the highest level of user. The first user to be set as admin must have the Surveillance Camera and the settings boxes checked. The system will gray out these settings not letting them be selected. This is done so the user will not lock himself out of the system. A user with the admin can modify, add or delete any other level of user.

MANAGER: Manager is the second highest level of user. A user with the manager level can edit system functions but cannot change other users.

GUEST: Guest level user is the lowest level of user. A user with the guest level of authority is limited to monitoring live video, searching and networking functions.

CAUTION Please note that if an admin. user is not added the factory default user and password (system / manager) will still work. To disable the default user, a user with the admin. level must be added to the system.

Add User

To add users follow the steps below:

- User: Add the user's name in this field. This is used to identify the user.
- User ID: Enter an ID for the user. This is the name the user will use when logging into the system. The user id can only be 7 characters long.
- Password: Enter a password for the user. Can only be 7 characters in length.
- PW Confirm: Re-enter the user's password.
- Authority: Select the user level and make the necessary changes to the rights.
- Add user: Click the Add User button to add the user.

Edit User

To edit users, follow the steps below:

- Select the user to edit from the user grid; the entire user line will be highlighted.
- Make the necessary changes to the user from the authority list.
- Click the edit user button. The changes will be reflected to the right of the user's name in the users grid. A 0 (zero) indicates that the user has the corresponding right; X means that this right has not been assigned to this user.

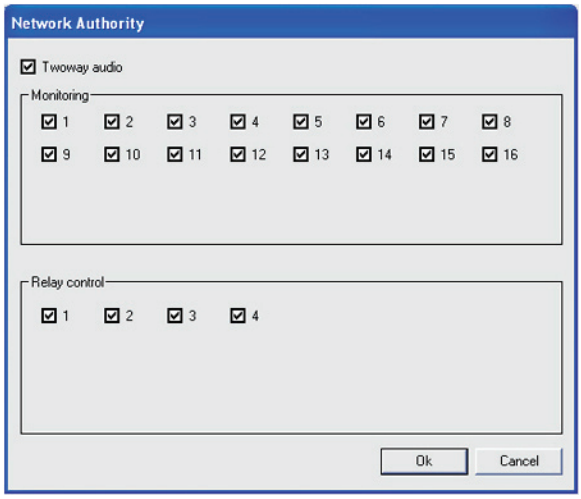
Delete User

To delete a user, follow the steps below.

- Select the users to delete from the user grid.
- Click the Delete User button.
- The user will be removed from the user grid.

CAUTION Only a user with Admin level of authority can add or delete a user.

Detail Authority

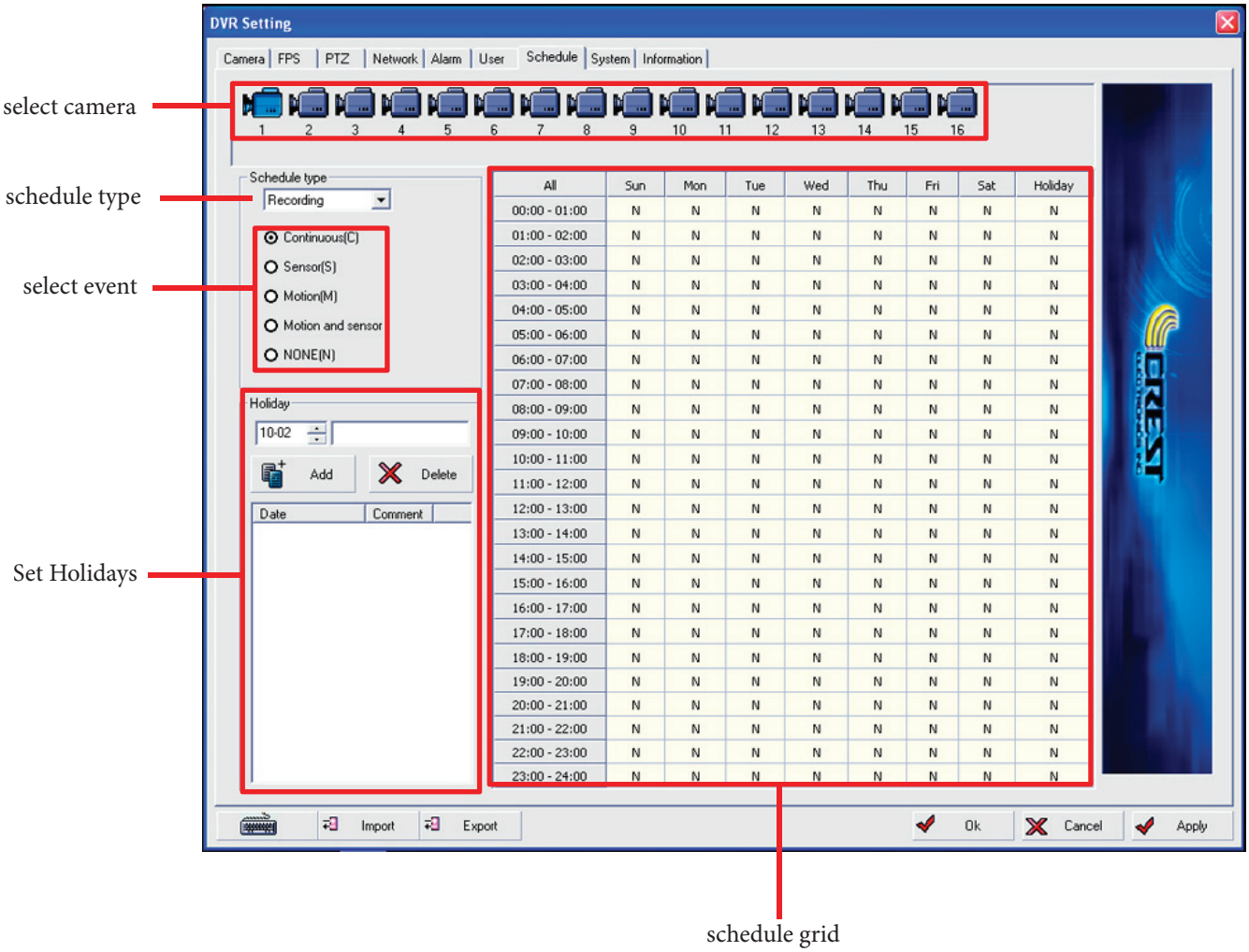


Detail authority controls the following remote features:

- Two way audio: turns on or off the user's ability to use the two way voice call.
- Monitor: Allows the system to limit the user's ability to view cameras remotely. Check mark by camera number means enabled.
- Relay control: Place a check mark by the relay number to give the user the ability to control relay remotely.

Schedule Setup

The 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 schedule window.



The schedule setup screen allows the user to set up three different types of schedules. They are 1) recording, 2) Relay and 3) Notification. Below is a detail explanation of each type of schedule.

Recording Schedule

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 - Blue**
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 - White**

Continuous Mode Recording

In continuous mode recording, the selected camera's video is saved based on the recording schedule set up in the recording schedule grid. It is possible to set by hour or day. To set a continuous recording schedule 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. To select all, click the all button in the upper left corner of the recording grid.

Day and time selected will display in blue with the C symbol indicating the time and day selected.

CAUTION Setting the schedule grid will not by itself activate recording by schedule. The recording type box on the camera setup screen must also be changed for each camera to schedule. Please refer to Camera setup earlier in this chapter.

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 sensor 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. To select the entire time and date grid, click the all button 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.

CAUTION Setting the schedule grid will not by itself activate recording by schedule. The recording type box on the camera setup screen must also be changed for each camera to schedule. Please refer to Camera setup earlier in this chapter.

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. To select all, click the all button 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.

CAUTION Setting the schedule grid will not by itself activate recording by schedule. The recording type box on the camera setup screen must also be changed for each camera to schedule. Please refer to Camera setup earlier in this chapter.

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. To select all, click the all button in the upper left corner of the recording grid.

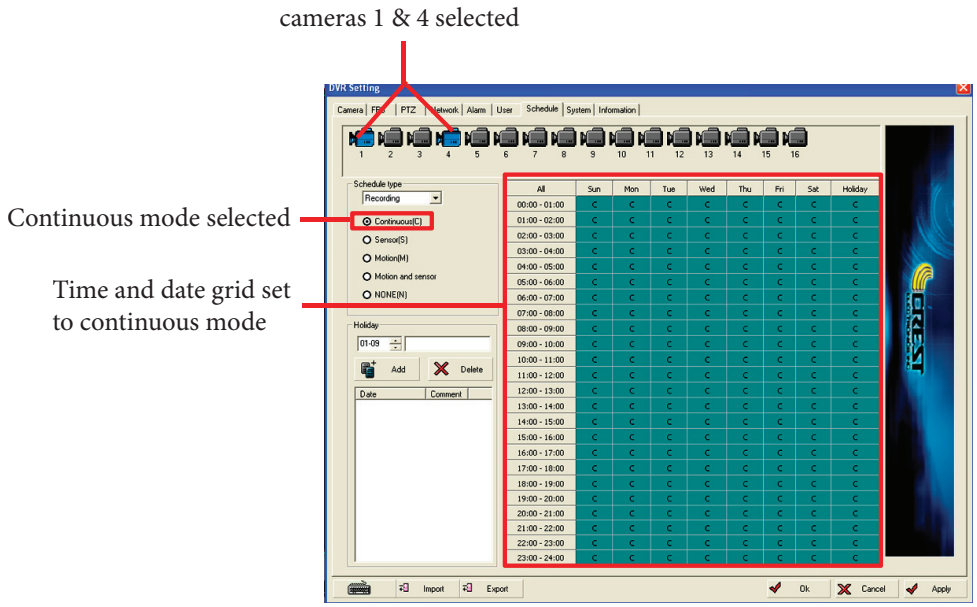
Day and time selected will display in orange with the M+S symbol indicating they have been selected.

CAUTION Setting the schedule grid will not by itself activate recording by schedule. The recording type box on the camera setup screen must also be changed for each camera to schedule. Please refer to Camera setup earlier in this chapter.

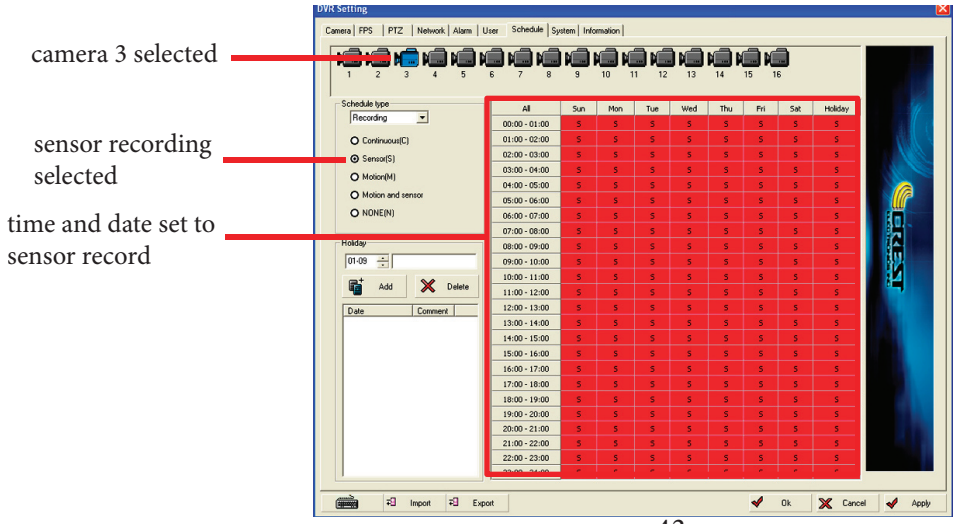
Schedule Recording Example:

The following example will detail setting up cameras 1 & 4 for Continuous recording, camera 3 for sensor recording, cameras 2,5,6,7,8 for motion recording, and camera 8 for no recording between 9:00-9:59am and motion recording the rest of the time. Please note that the recording type on the camera setup screen should be set to schedule. You will also have to set the motion grid for cameras 2,5,6,7,8 on this page.

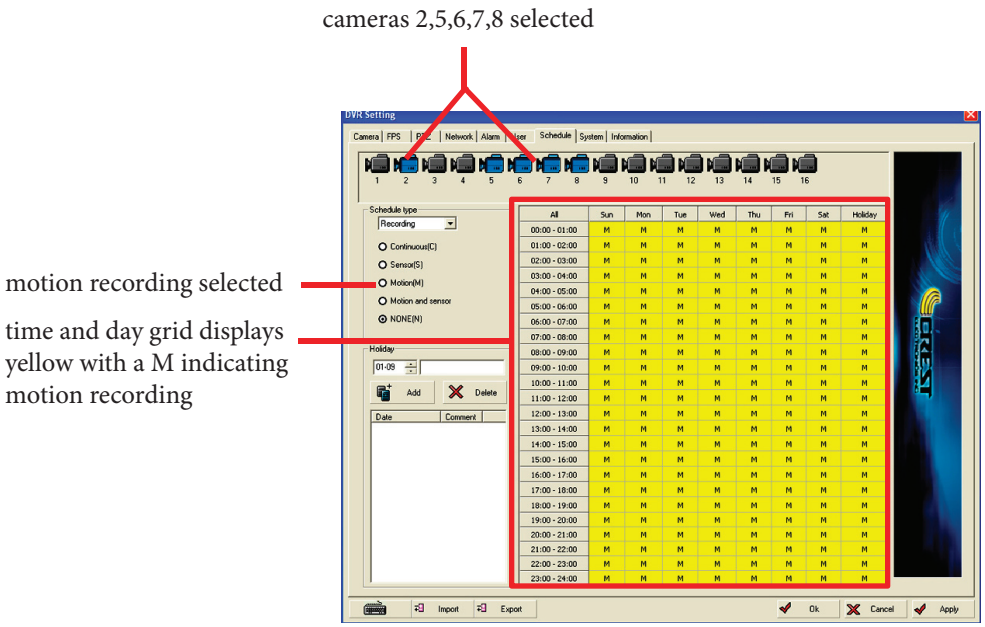
We are going to set camera one and four to record in continuous mode. 1). We need to select camera one and four. We do this by clicking on camera one to highlight it. Then holding down the control button (CTRL) on the keyboard we will click camera 4. This will select both camera one and four (they are highlighted in blue). 2). We need to set the recording mode to continuous mode. Do this by selecting the radio button continuous (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 all in the upper left corner of the day and time schedule grid. The entire grid will turn blue and every hour will have a C indicating continuous mode as the image below shows.



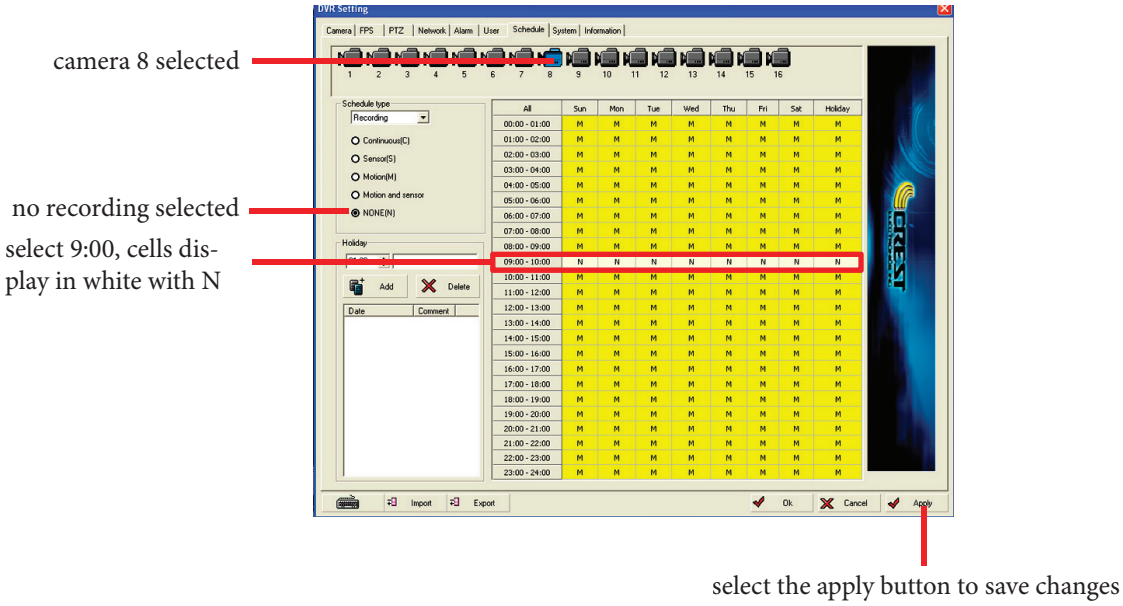
Now we need to set camera three for sensor recording. 1). Select camera 3. 2). Click sensor radio button to select sensor recording, click and drag to select the entire schedule selection grid. Grid will turn red with each hour displaying S indicating sensor recording mode. See image below.



We next need 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 motion (M). 3). Click all in 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 white with a N indicating no recording. 4). Click apply button to save the changes you made. Image below displays these changes.

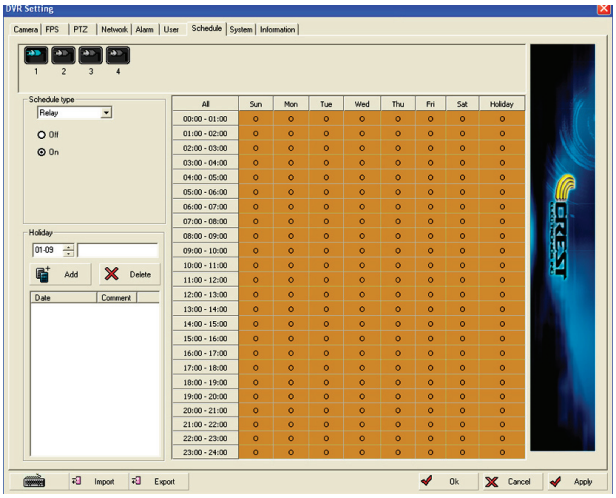


The last step is to set your motion grid and sensitivity for cameras 2,5,6,7,8. This is done in the camera setup screen which was covered earlier in this chapter.

Relay Schedule

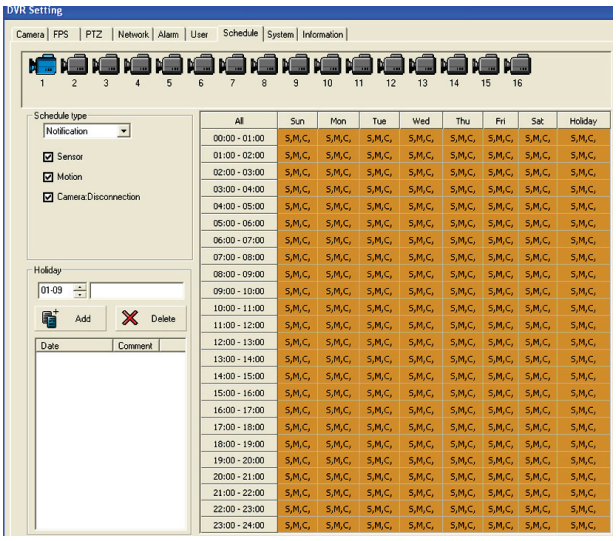
Relay schedule tells the system when to automatically activate a relay. The relay will continue to be active until the schedule turns off the relay. To turn on a relay, select the relay and click the relay radio button then select the day and time to have the relay turn on. An O indicates that the relay is turned on; X indicates that the relay will be off. Please see image below.

Please note that the Admin can override the relay schedule by using the relay buttons at the bottom of the main screen.



Event Notification Schedule Setup Window

This window allows the user to set by day, hour, and event when to notify a remote client via email 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. Please see image below

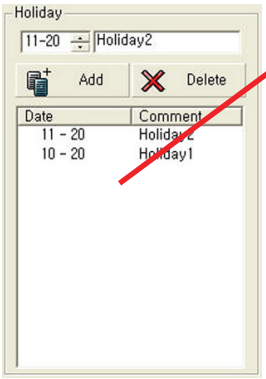


Holiday Schedule

Holiday schedule allows the user to set a specific date as a “Holiday”. The schedule will then follow the settings labeled “Holiday” on the grid table. Please see image below.

All	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Holiday
00:00 - 01:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	C
01:00 - 02:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	C
02:00 - 03:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	C
03:00 - 04:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	C
04:00 - 05:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	C
05:00 - 06:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	C
06:00 - 07:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	C
07:00 - 08:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	C
08:00 - 09:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	S
09:00 - 10:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	S
10:00 - 11:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	S
11:00 - 12:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	S
12:00 - 13:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	S
13:00 - 14:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	S
14:00 - 15:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	M
15:00 - 16:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	M
16:00 - 17:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	M
17:00 - 18:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	M
18:00 - 19:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	M
19:00 - 20:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	S,M
20:00 - 21:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	S,M
21:00 - 22:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	S,M
22:00 - 23:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	S,M
23:00 - 24:00	S,M	S,M	S,M	S,M	S,M	S,M	S,M	S,M

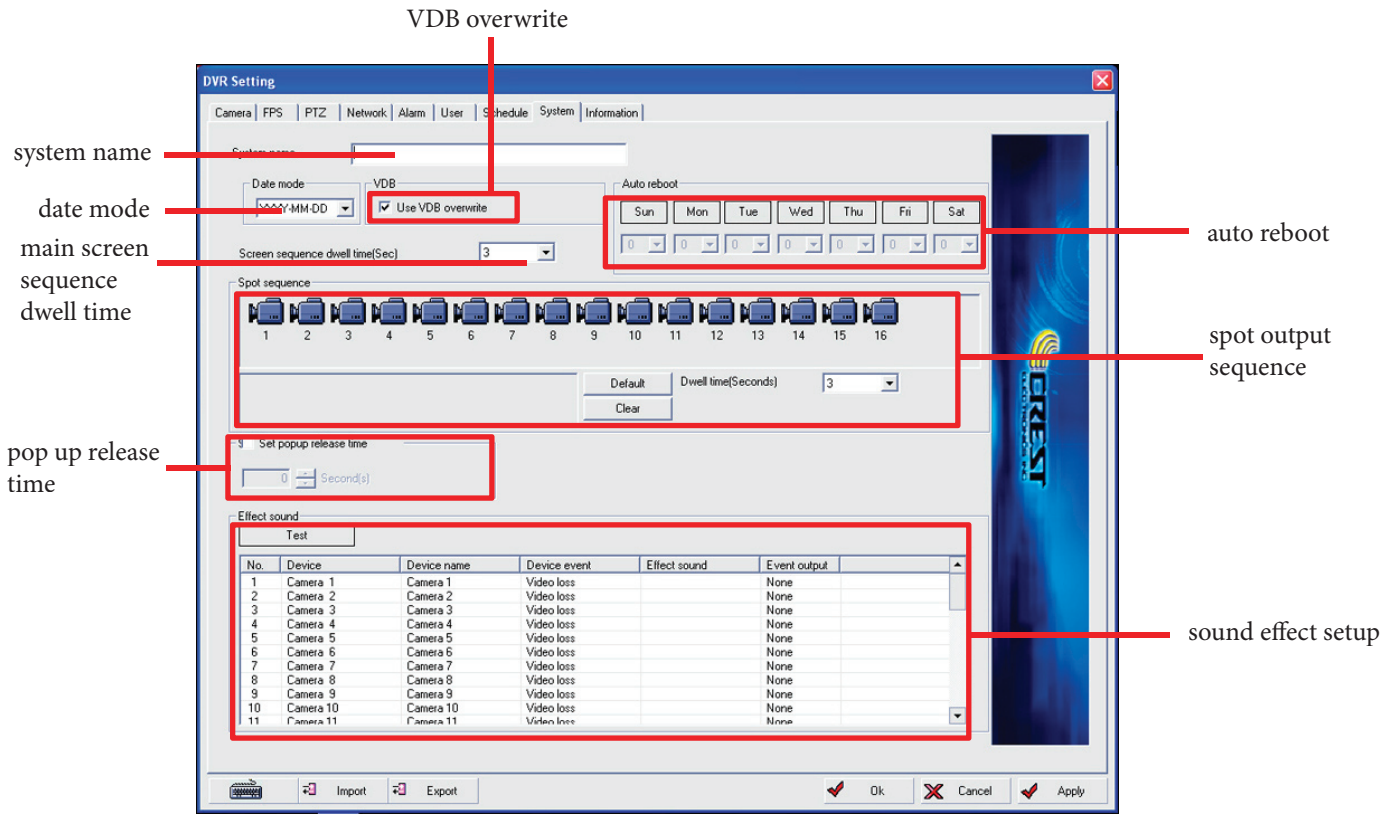
Make your settings for the holiday in the holiday column as desired



Add the date to the holiday schedule. When the date arrives the schedule will follow the settings in the holiday column. After the holiday the system will go back to the regular schedule

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.

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

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.

VDB Overwrite

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 Make VDB in chapter 3.

Main Screen Sequence Dwell Time

When using the sequencing feature on the main screen this controls the amount of time each screen is displayed before moving to the next view. The options are 3,5,10,15,20,30 seconds. If there are any cameras that are not used (turned off) they will be excluded from the rotation.

Spot Out Sequence

The user can control the order in which the cameras are sequenced through the spot out. To place a camera in the spot out sequence, click on the camera and it will be transferred to the spot sequence grid. A camera can be placed in the sequence more than once. To clear the sequence grid, click the clear button. To quickly put all cameras into the grid in natural order click the default button. Set the dwell time in seconds; the options are 3,5,10,15,20,30.

The CDVS-7300 and CDVS-7500 series DVRs display differently if no cameras are selected (grid is blank). The CDVS-7300 will display only camera 1 if there are no cameras in the grid. The CDVS-7500 will display the same as the main screen. Example: If the main screen (Live view) is displaying 16 cameras then the spot output will show the same screen. If the main screen (Live view) is changed to display 4 cameras the spot will change to display the same 4 cameras. If the user goes out of the main screen the spot still displays the cameras that were showing on the live view before going to a different mode. It will not display setup screens or search screens.

Pop-up Release Time

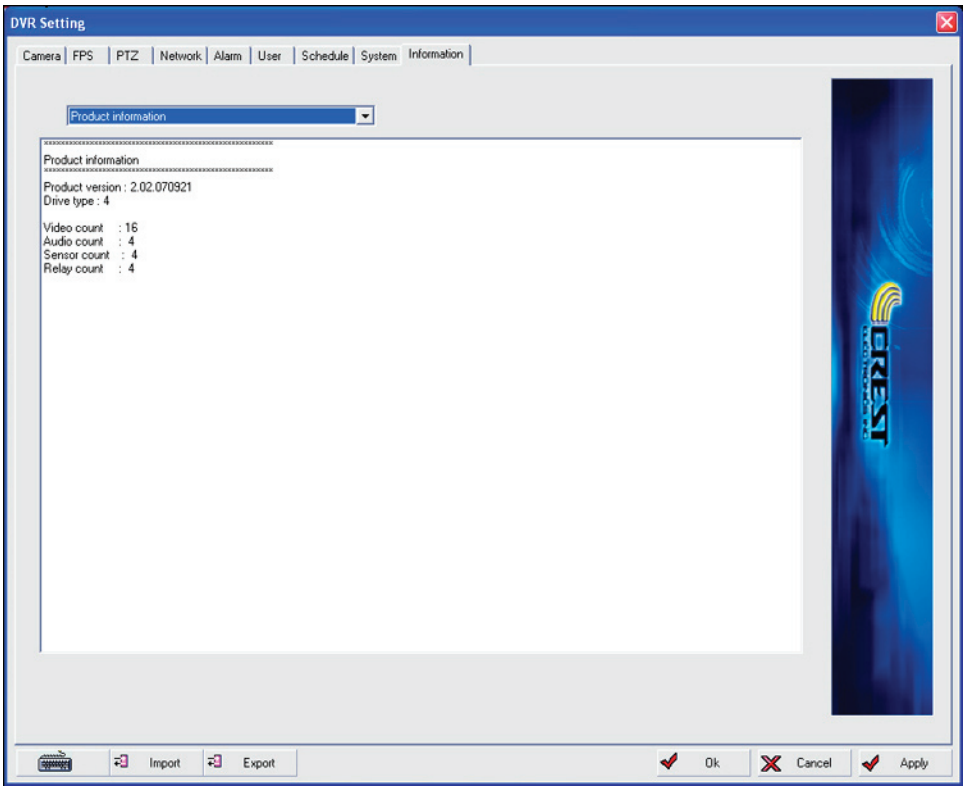
If the user has set the system to pop-up on screen a camera during an event, then this feature allows the user to release the pop-up and return the screen to the previous display. The time for holding the pop-up is from 1 to 60 seconds.

Alarm Event Sound Effect

The system can sound an alarm based on the following events - video loss, motion detection or sensor activation. To activate sound first select the event from the device colmun for the selected camera. Then select the event output, the choices are - none, effect sound or beep. If effect sound is chosen then select the desired sound from effect sound column. After choosing, the sound can be tested by clicking the test button.

Information Screen

The information screen displays the various system information. It is broken down into the following five categories - product information, Network information, VDB database information, system information, and memo.



Product Information

Contains information relating to the DVR system. It displays the board quantity, number of channels, number of audio channels, number of sensors and relays. It also contains the software version number.

Network Information

Lists the various network related information such as host name, DNS server, TCIP settings, IP address, network adaptor, MAC address, etc.

VDB Information

Display information related to the video database files (VDB).

System Information

Displays the specific DVR hardware information such as OS, computer name, RAM, CPU, DirectX version number.

Memo

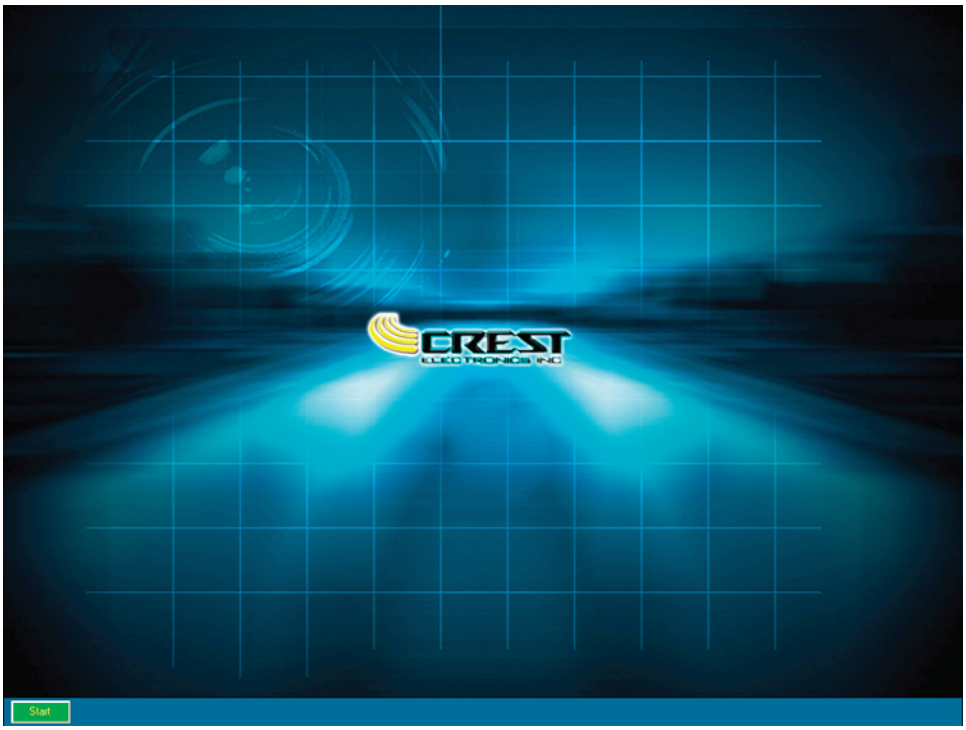
Allows the user to place notes into the system.

3

Chapter 3
System Environment Setup

System Environment Setup

The purpose of the system environment setup shell is to allow the user to interface with the OS to set various functions such as networking setup, modem setup, printer setup, time setting, etc. The main desktop screen is shown below.



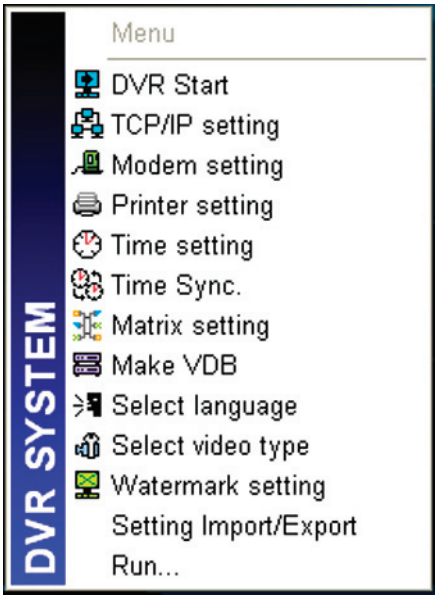
Entering the Environment Desktop

To enter the environment desktop:

- Click the main screen exit button. The system shutdown pop-up appears.
- Click program shutdown, the system will exit into the desktop screen. During the closing process the DVR will display a message “destroying drivers” and “closing log files”. After this is completed the screen above will be displayed.
- Click the start button to bring up the desktop menu.

Overview of Environment Setup Functions

Click the start button on the environment desktop to bring up the desktop pop-up menu as shown below.



DVR Start

Click this menu to restart the DVR program.

TCP/IP Setting

Use this menu to setup the network environment in the OS. Please refer to the appendix for information on setting up the DVR for network usage.

Modem Setting

Setup modem environment for using a dial up modem.

Printer Setting

Use this menu to install or edit a printer.

Time Setting

Use this menu to set the time environment in the OS. Please note that changing the date and time could cause the DVR system to erase existing files.

Time Sync.

Use this menu to connect the DVR to a time server.

Matrix Setting

Current physical camera channel number can be changed to another logical camera channel and provides setting menu for linking audio channels to cameras.

Language Setting

Menu allows user to change the language displayed in the DVR GUI.

Video Type Setting

Setting mode of camera type NTSC/PAL is supported.

Watermark Setting

Allows the user to change the design of the watermark symbol that checks for illegal or modified video.

Setting Import / Export

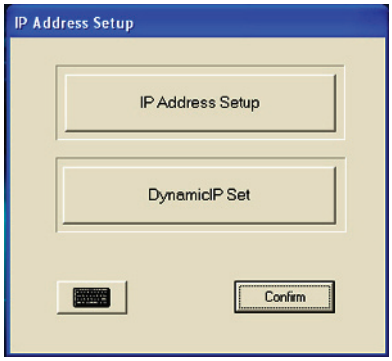
Allows the user to backup the basic environment settings to a file.

Run

Command line for use by system.

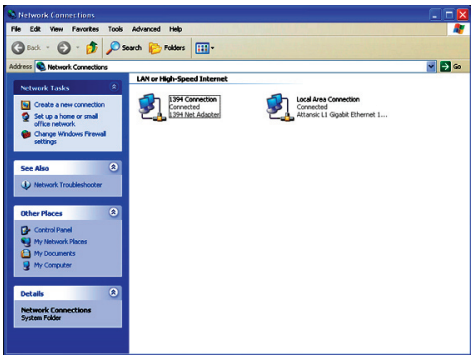
TCP/IP Settings

Click the TCP/IP settings button to bring up the TCP/IP set screen. The screen has two options TCP/IP setup or Dynamic IP setup. Use the TCP/IP setup for setting up normal IP networking. Use the dynamic to set up a DDNS network.

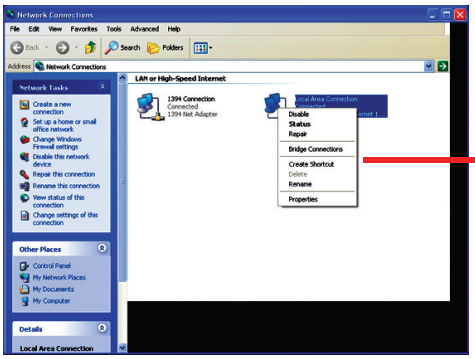


IP Address Setup

- Click the IP address setup button to get into the OS Network setup screens.

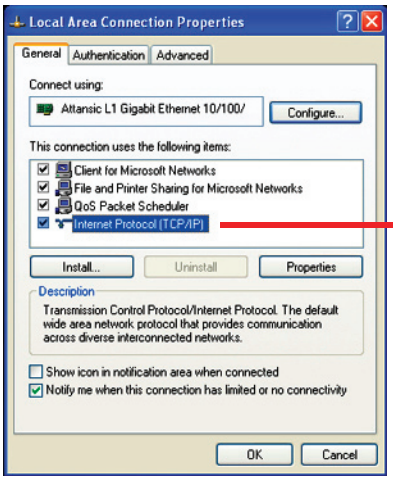


- Right click on your network adaptor to get the network adaptor drop down box.



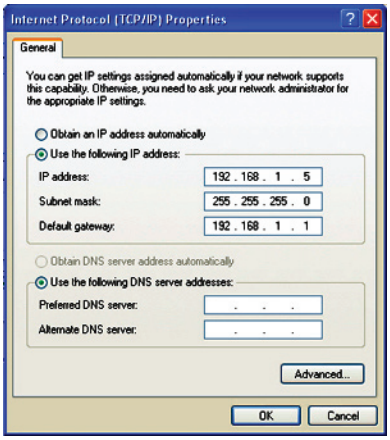
network adaptor dropdown box.

- Click the properties menu.



double click Internet Protocol (TCP/IP)

- Highlight and double click Internet Protocol (TCP/IP)

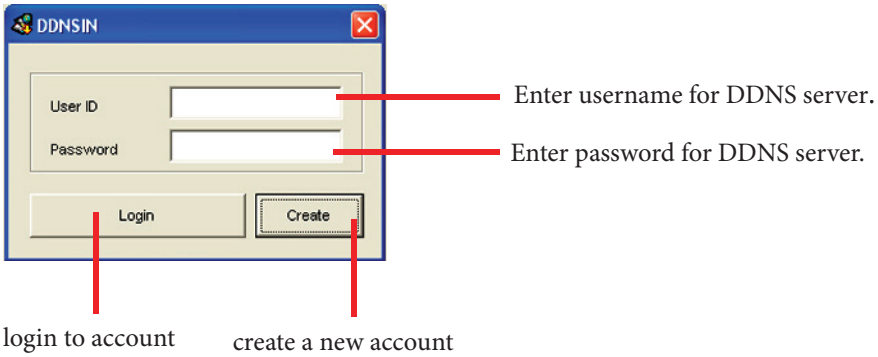


- Enter the IP address for the DVR in the IP Address line
- Enter the Subnet Mask in the subnet mask line.
- Enter the default Gateway in the default Gateway line.
- Enter the primary and alternate DNS servers address in the DNS box.

If you don't know these settings please contact your network administrator. It is highly recommended that you use a static IP address for the DVR. If Obtain IP Address Automatically is used and the DHCP server assigns the DVR a different address than the one originally assigned the DVR will not be able to connect to the remote software. For a more detailed discussion about networking please refer to the appendix.

Setting Up DDNS

To set up a DDNS on the DVR click the Dynamic IP setup button from the main TCP/IP menu.



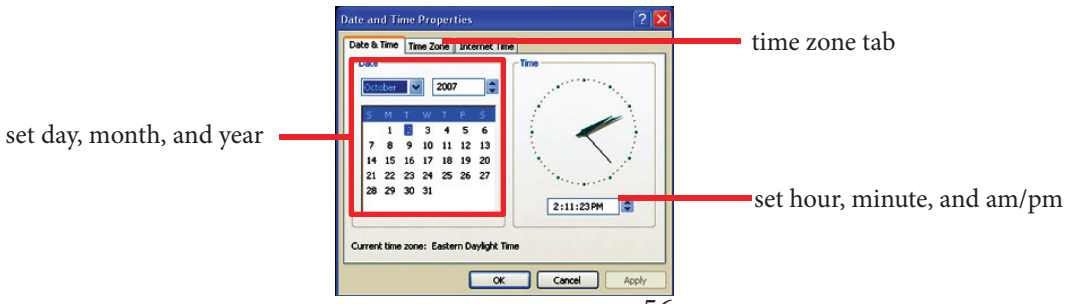
To create an account click the Create button

Enter a userID and password for the new account and click create. The system will go and check with the DDNS server to see if there is another user with this user id. If so it prompts for another user id and password. If not the DDNS server creates the account as shown below.

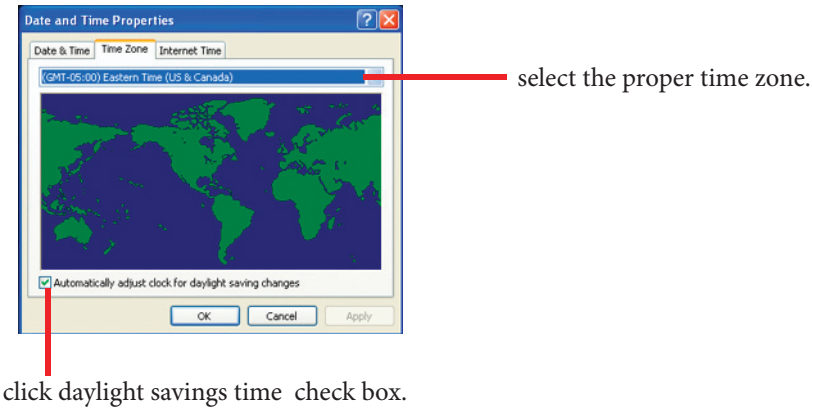
Click hide button to hide the DDNS account screen. Your new account with DDNSIN is now ready for use. Remember to write down the user id and password as you will need it when connecting remotely. Your DDNS will run automatically when the DVR is started. If for some reason it gets disconnected just login at the main DDNS setup screen.

Time Setting

Time setting function allows the user to set the date and time zone in the OS for the DVR. To use the time setting function click the time setting menu. This brings up the OS date and time properties box.

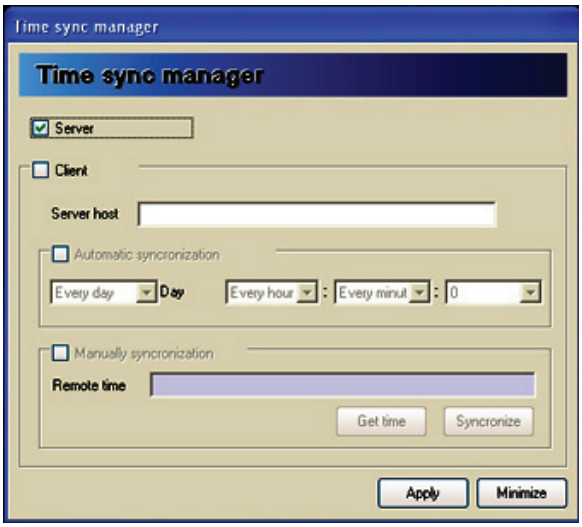


Set the day, month, year then set the hour and minute. Next click the Time Zone tab to bring up the time zone properties box. Click the dropdown box and select the proper time zone for your area. Click the automatically adjust clock for daylight savings changes box. Click the apply button then the OK button to close the time settings property box.



Time Sync.

The time sync manager allows the DVR to connect to a time server so all DVRs in a system will have the same time. If you do not have a time server then you can use one of the DVR's to be a time server. You can set the DVR that will be your time server to time sync through the Internet Time feature of the date and time properties box shown above. To set up Time Sync follow the instructions below.



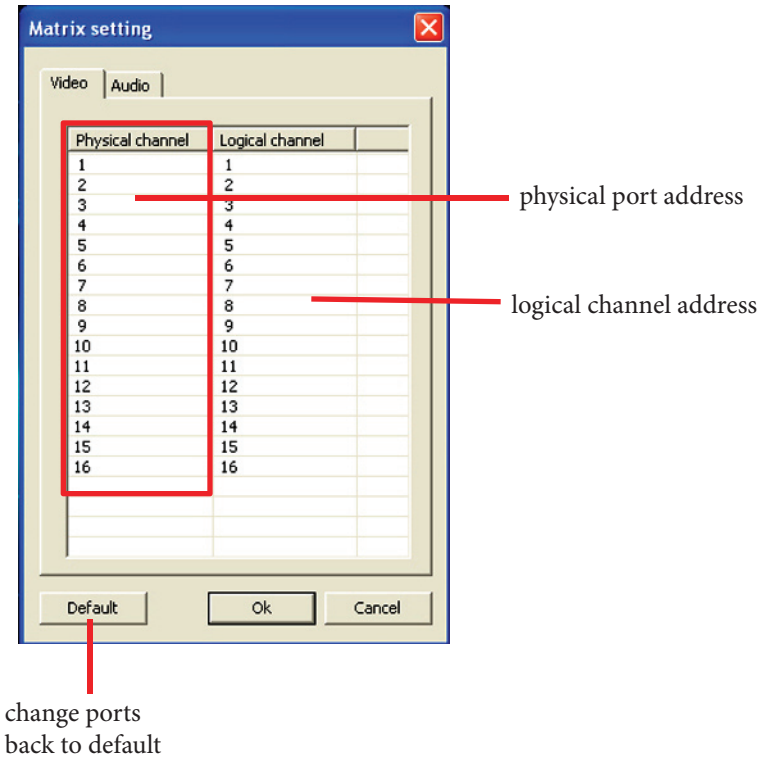
- Bring up the Time Sync Manager by clicking on the Time Sync. menu button.
- Click either Server or Client check box.
- If server, click apply, then minimize.
- If client, then enter the ip address of the time server in the server host box.
- If you want to automatically sync time, check automatic synchronization and enter day, hour, minute and second for synchronization.
- User can choose to manually sync time; to do this check manual time sync box.
- Click get time to retrieve the current time from the time server.
- To get the current time and sync the DVR's time with the server's time click the Synchronize button.

Matrix Setting

The Matrix setting allows the user to control the logical camera number with the physical port. It also allows the user to assign audio ports to camera ports.

Camera Setting

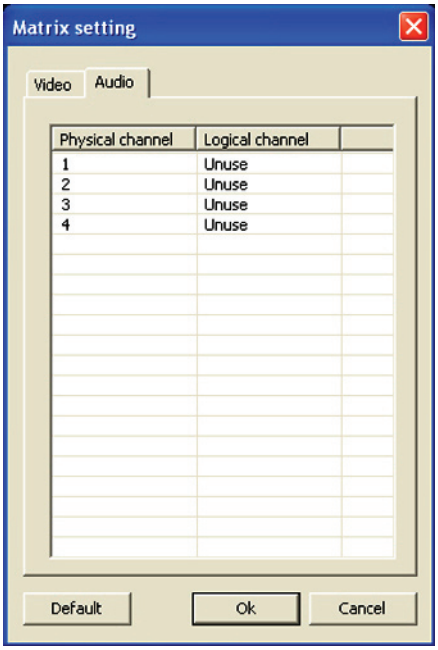
Modify the physically set camera's channel to a different logical port.
(For ex., modify the physical port 1 so that it displays as camera 5, physical camera port 5 will change to display as camera 1 automatically).



CAUTION Changing the physical port can be confusing. The system will be telling you events happened to a logical camera number such as 5 but in reality the actual physical port number the camera is connected to the box with is 1. It is strongly recomended that you mark the physical ports with the new logical address.

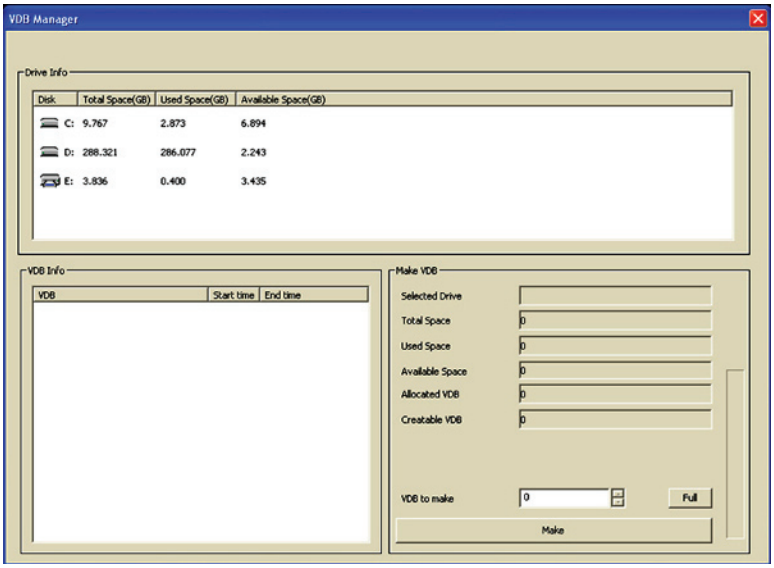
Audio Setting

Click the Audio tab to link a camera with an audio port. If the audio port is unused then leave it as unused otherwise link a camera to the used audio port. A camera can be linked to only one audio port.



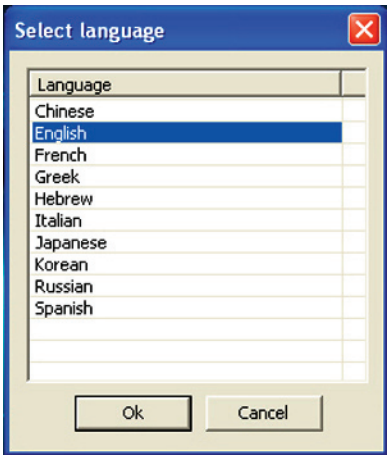
Make VDB

The VDB manager is used to create database files to hold recorded video. These database files have been created by the factory for all your hard drives. The only time you need to use this function is when adding a new hard drive to your system. Do not use this function unless asked to do so by a factory technician. Doing so could affect the recording and performance of your system.



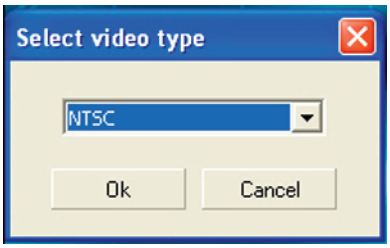
Select Language

Select the language to use.



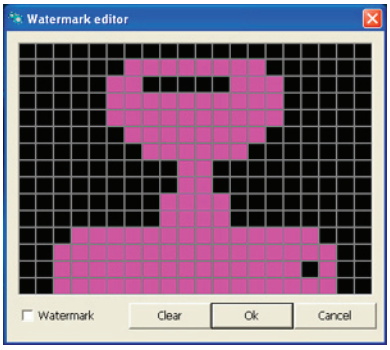
Select Video Type

Select the video format used by your cameras. Either NTSC or PAL. Choosing the wrong format will cause the DVR to malfunction.



Watermark Setting

Allows the user to edit the basic icon design of the provided watermark authentication stamp.



Setting Import / Export

Allows the user to make a backup of the environment settings. This function also allows for the importing of the saved files at a later date. This function uses the explorer which allows the user to save to an external device such as a USB stick.

Run....

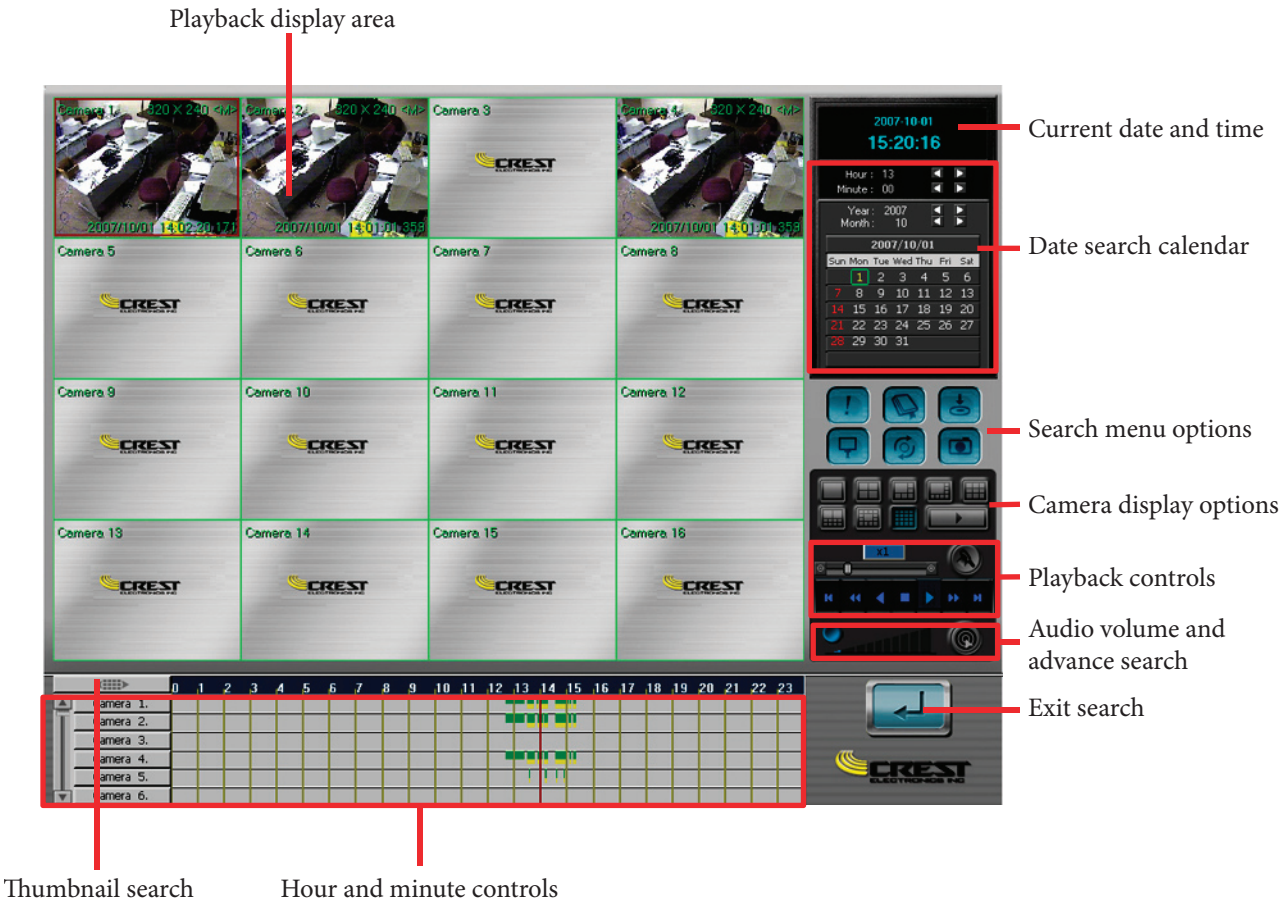
This is a short cut line command prompt. This is intended for use by factory technicians.

4

Chapter 4
Search Functions

Search Screen Functions

The image below lists the functions of the search screen.



Using the Search Screen

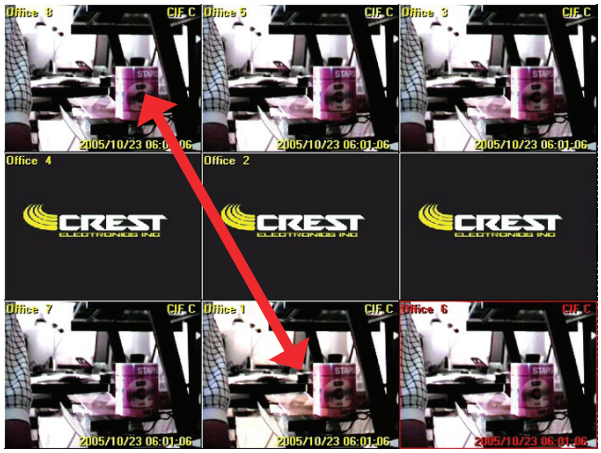
The search screen is used to review previously recorded video. When entering the *Search Screen* for the first time, the system starts playing the last hour of recorded video. The system will display the maximum number of cameras your system was designed to have. If your system was designed for sixteen 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 as well as the frame number.

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.



Search Screen Calendar

The search calendar allows the user to select the date by year, month, and day to view recorded video. If the system has recorded video for a particular day it will be highlighted in green. The calendar has a short cut bar that allows the user to choose the hour and minute to begin the playback. The image below shows the various features of the search calendar.

Current date and time.

Select the hour and minute to begin playback.

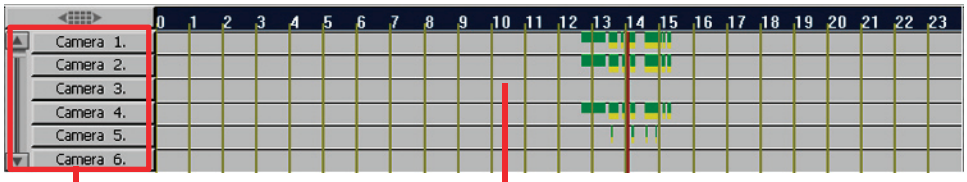
Select year and month for video search.

Select the day for video search. Recorded video will be highlighted in green.

Video Search Timetable

The timetable provides a timetable of recorded video for each camera channel. The timetable color codes the method of recording for easy reference. The color codes are:

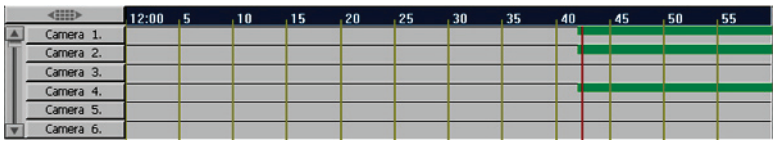
- Green - Video recorded in continuous mode.
- Blue - Video recorded with audio.
- Yellow - Video recorded in motion mode.
- Red - Video recorded in sensor mode.



Camera selection.

Timetable

By clicking on a specific hour the timetable can be expanded for that hour giving the user a larger view of recorded video for that hour.



Timetable expanded for 12:00.

CAUTION

Please note that the timetable will show video for partial minutes. Example: if there is recorded video starting at the 10:02:55 and records for 10 seconds to 10:03:05 then the timetable will show recorded video for 10:02 and 10:03 although there is only 5 seconds of video recorded in either minute.

Video Playback Control

The video playback controls allow the user to pause, play forward, play backward, play one frame at a time and control the speed of playback.

Forward play button

Pause Button

Backward play button

Move forward one frame button

Move backward one frame button

Adjust speed forward button (1/8 - 1024)

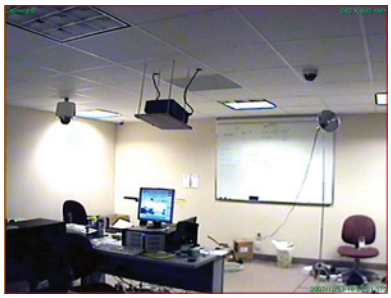
Adjust speed backward button (1/8 - 1024)

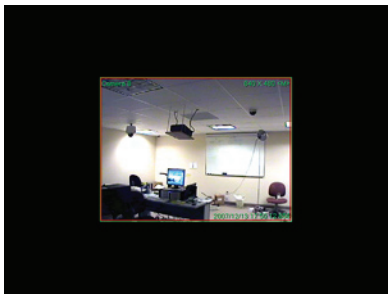
Screen Division Buttons

The search screen can be changed to one of the split screen modes. Use the next button to change to the next camera when in single camera screen.

Zoom In/Out Button

Allows the user to enlarge or reduce the original picture.



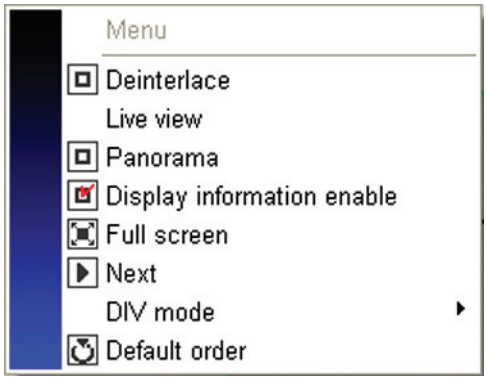


Listening To Audio

Click the audio on/off button to listen to audio. The camera associated with audio must be the selected camera to hear audio. Only one audio channel can be played back at time. Because audio and video must be synchronized, playback must be a 1x playback for audio to be heard. The audio button will turn blue when audio is on. Use the volume bars to increase or decrease the volume.

Search Screen Popup Menu

The search screen popup menu allows the user to deinterlace video, watch one channel of live video, view one channel in panorama view, turn on or off on screen display, go full screen, change the screen layout and revert the screen layout to the default view.



Deinterlace

NTSC video is a sequence of images called frames. When these single frames are played back the image is perceived as flickering. Engineers found that displaying the same frame in two parts (called fields), meaning one field is for the odd lines (1, 3, 5, 7...) and one field for the even lines (2, 4, 6, 8...) and doubling the rate (60 1/2 fps and 50 1/2 fps) avoids flicker thanks to screen remembrance. This process is called interlacing. When a CRT refresh rate is fast enough this works fine. But with the introduction of LCD monitors some monitors' display cannot interlace but must draw the entire screen each time, the video must be deinterlaced before it can be displayed. Clicking this function will deinterlace your video showing a better picture. When the playback is in deinterlace mode there will be a red check mark in the deinterlace box.

Live View

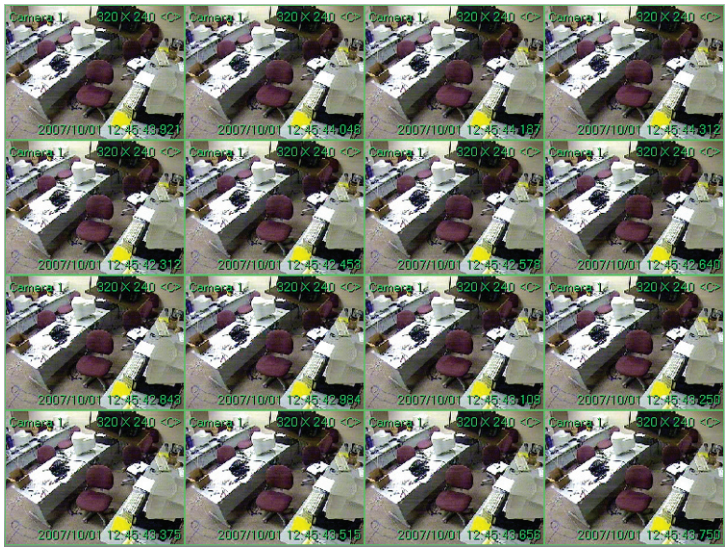
This feature allows the user to view a single channel of live video while in the playback screen. To view a channel of video select the channel to view (it will be highlighted with a red border indicating it is the selected channel). Right click the viewing screen to bring up the popup menu and click live view. The live view window will popup onscreen displaying the selected channel.

To view a different channel click on the camera menu box and select the channel. To close the Live view screen, click the close button

Panorama

Panorama view allows for the detail viewing of each frame of video for a single camera channel. This allows the user to see the motion in a frame by frame environment. To enter panorama mode, select the channel for viewing by clicking in the frame, then right click to bring up the pop up menu and click panorama. When in panorama mode there will be a red check mark beside panorama in the pop up window.

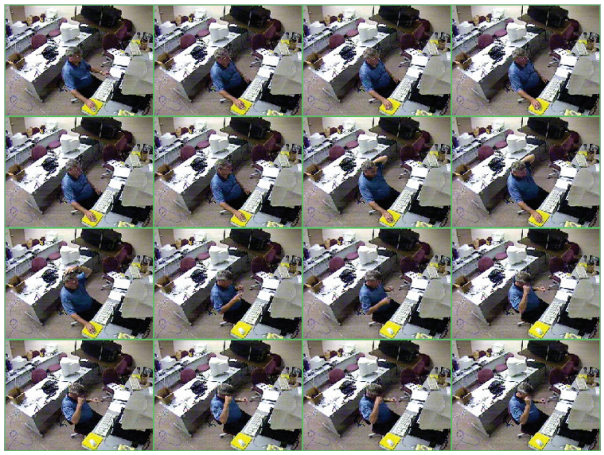
To stop viewing in panorama mode, double click an image on screen or right click to bring up the pop up menu and click panorama removing the red check mark.



Display Information Enable

This feature allows the user to control whether or not the display information is shown on screen. To display information click this feature from the pop up menu. A red check mark will appear when enabled. To turn off, click display information enable removing the red check mark.

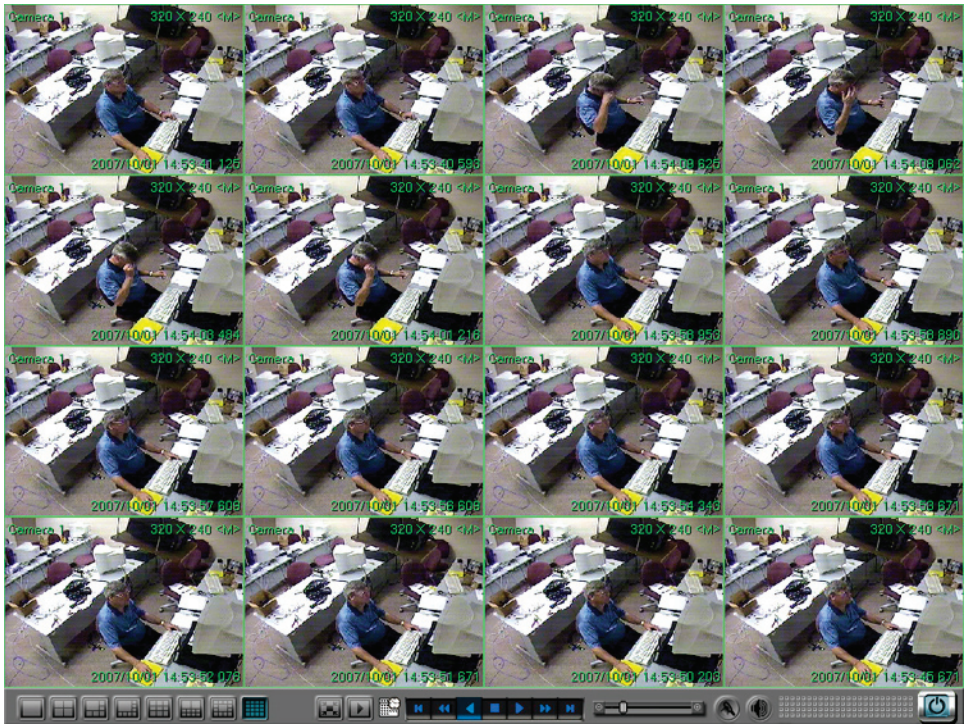
display information on



display information off

Full screen

Clicking this feature will place the screen in full screen mode. This will allow for a bigger viewing area. When the system is in full screen mode the menu changes to normal screen. Click this to revert to normal viewing screen.



full screen mode enabled

Next

When in single camera mode clicking next will move the screen to the next camera view in sequence.

Div Mode

Division mode allows the user to change the screen division.

Default Order

Clicking this button removes any modified screen back to the default screen order. If the user has moved screens by clicking and dragging using this feature will return the screen back to its original order.

Advance Search

The advance search feature allows the user to search one or more channels of video using motion detection. The image below is the setup menu for the advance search feature.

Basic Feature of Advance Search

❶ **Setting check box:**
Check this box to display motion area grid on screen. No check mark means motion area selection grid will not display on screen. It is sometimes useful to not display the motion grid area during search.

❷ **Select All:**
Use the select all button to select the entire camera area as the motion search grid. Select the camera to place the grid area, select the sensitivity, and then click select all.

❸ **Delete All:**
Use the delete all button to delete the entire motion search grid of a camera. To use, select the camera to remove the motion area grid from and click the delete all button.

❹ **Motion Detection sensitivity Control**
Use this feature to set the sensitivity (how much pixel change must occur) before motion is detected. Moving the slide bar to the left is less sensitive, to the right is more sensitive. Moving the slide bar to the left edge will allow for deleting selected areas. The selecting grid is color coded with green being least sensitive and red being the most sensitive. The sensitivity control bar must be set before using the mouse to select the grid area.

❺ **Date & Time Selection**
Use the top box to set the date and time to begin your motion search. Use the lower box to designate the date and time to stop the motion search.

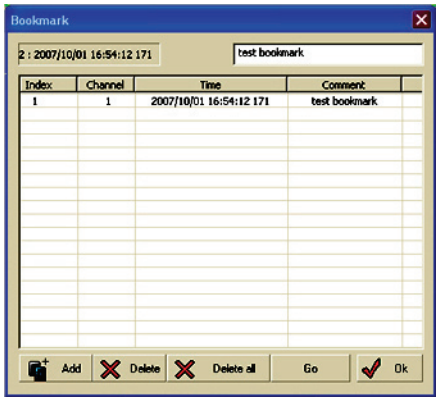
❻ **Motion Search Mode Setup**
There are three modes to use when using advance search:

- Stop on detect - System will stop search when motion is detected. Click start search button to resume search.
- Normal play on detect - System will begin to play at normal speed for the designated number of seconds before resuming the search at fast speed. Set the number of seconds to play at normal speed in the normal play on detect seconds box below the mode selection box.
- Non stop search - The system will continue to search the video without stopping. Automatic bookmark will be turned on when in this mode. To see the times video motion was detected click the bookmark function button.

❼ **Watermark**
This function allows the user to display the watermark during the search to validate that the video has not been changed or manipulated.

Using the Bookmark Feature with Advance Search

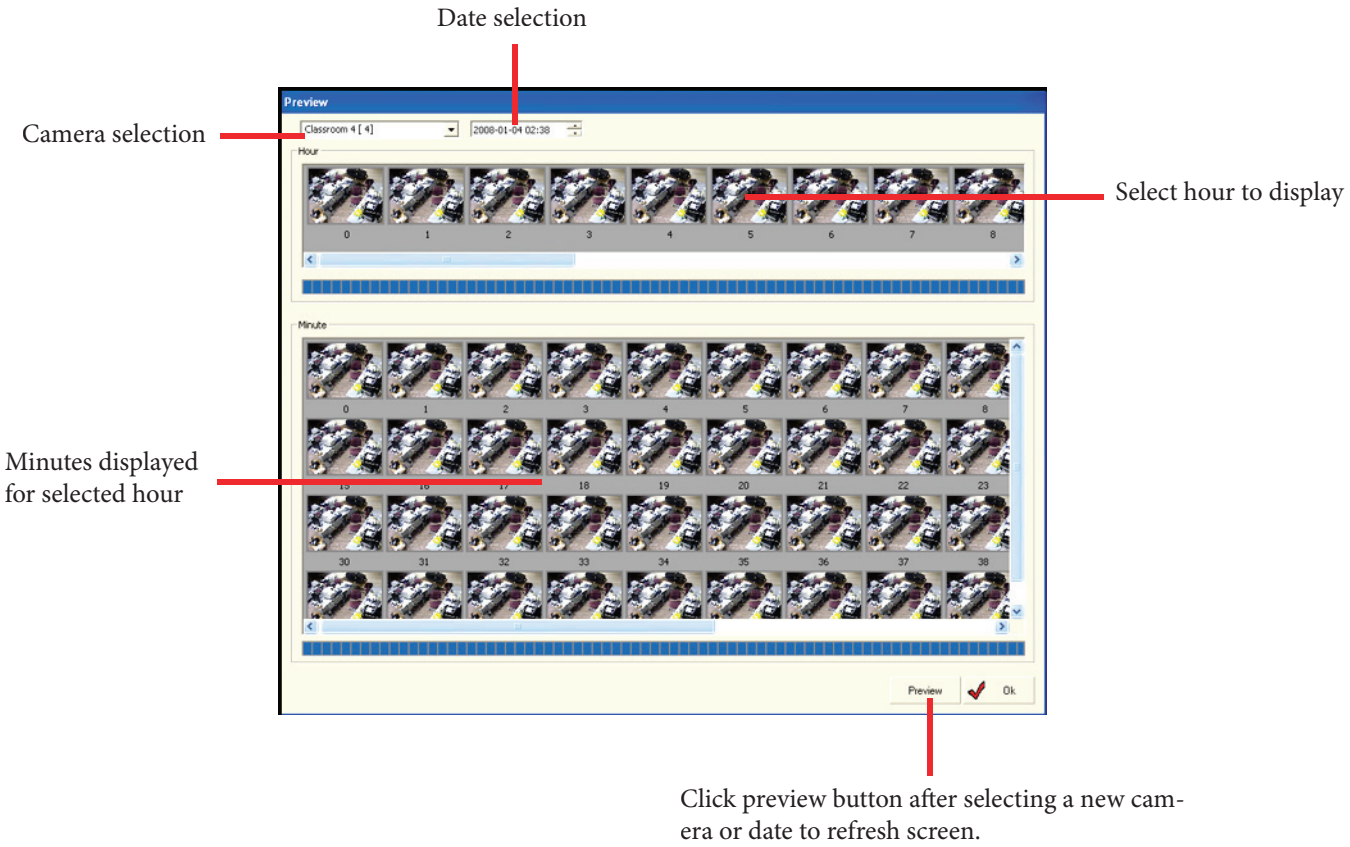
The bookmark feature can be used to mark video detected by the advance motion search. This way the video can be retrieved easily for viewing or backing up. Using the bookmark feature is different depending on the type of search mode used. If Stop on detect or Normal play on detect is used the user must manually select the bookmark feature from the search screen menu. If the user selects Nonstop detect then the bookmark feature will automatically add a bookmark at the start of every motion detected.



Bookmark will automatically be added when using advance search in the non stop on detect mode.

Thumbnail Preview

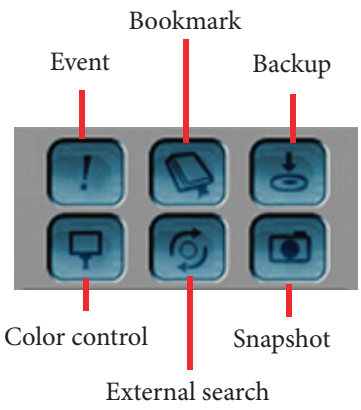
Thumbnail preview feature displays a single camera showing 24 hours in one view. It allows for the selection of an hour and displays 60 images from the beginning of recorded video of every minute for the selected hour. This provides a way to view recorded video for a selected camera quickly. To enter thumbnail preview function, select a camera and click the thumbnail preview button.



Double click an image to go back to the search screen and begin playback from selected date and time.

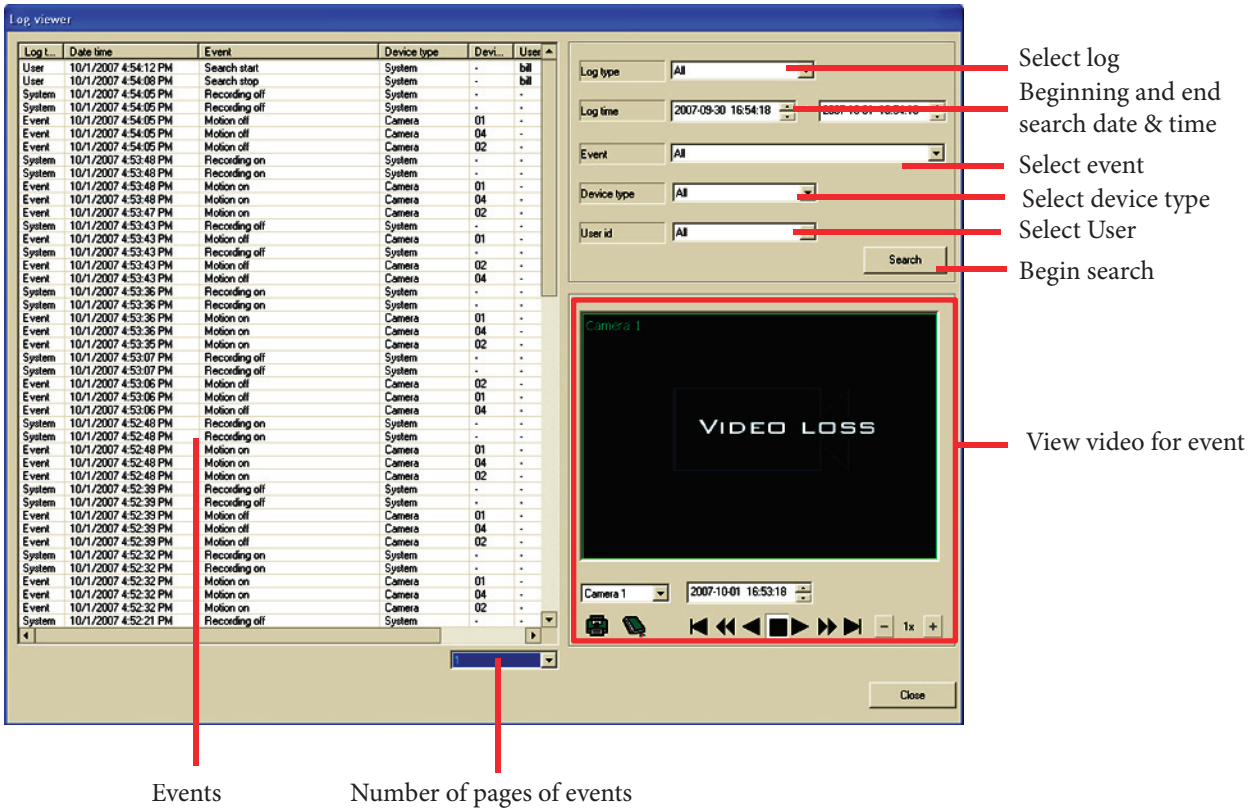
Search Screen Menus

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.



Event Search

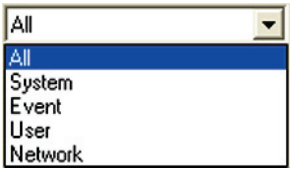
Use event search to view a database of all event information that occurred during system operation.



Select log

Use select log to narrow the event search to a specific type of log. The choices are:

- All
- System
- Event
- User
- Network



Select log dropdown box

Select Log Time

Set the beginning and end time to search the event database.

Select Event

This allows the user to narrow the search to a specific event. The list of events that are recorded to the database are:

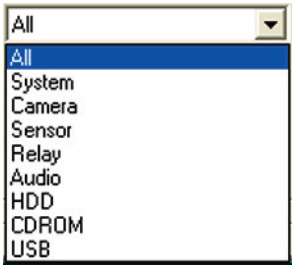
- All
- Alarm sound off
- Alarm sound on
- Audio sound off
- Audio sound on
- Automatically logoff
- Backup start
- Backup stop
- Camera setup change
- Client connect
- Client disconnect
- Email notification fail: SMTP user authentication fail
- Email notification fail: Unknown error
- Email notification fail: Connection failed
- Email notification fail: cannot connect to mail server
- Email notification fail: no user info
- Email notification success
- Emap execute
- Emergency recording off
- Emergency recording on
- Environment setup change
- Environment setup close
- Environment setup open
- FPS setup changed
- HDD full
- Login
- Logoff
- Motion off
- Motion on
- Network setup change
- Old record data delete
- Pantilt control control
- Pantilt control start
- Pantilt control stop
- Pantilt setup change
- Popup video channel
- Program terminate
- Program update
- Quick search start
- Quick search stop
- Recording data add
- Recording data overwritten
- Recording fail: HDD error
- Recording fail: checksum error
- Recording fail: read error
- Recording fail: write error
- Recording off
- Recording on
- Relay off: User
- Relay off: system
- Relay on: system
- Relay on: user
- Schedule setup change
- Search start
- Search stop
- Sensor off
- Sensor on
- Sensor/Relay setup change

- Server start
- Server stop
- Snapshot execute
- System Abnormal shutdown
- System reboot
- System setup change
- System shutdown
- System start
- System time synchronized
- Twoway audio off
- Twoway audio on
- UPS notification: power loss
- UPS notification: power recover
- UPS notification: system shutdown
- User account changed
- User factory default
- Video Blind
- Video loss
- Video on
- Web server start
- Web server stop

Device type

Allows the user to choose the exact device to view logs for. The different devices are:

- All
- System
- Camera
- Sensor
- Relay
- Audio
- HDD
- CDROM
- USB



User ID

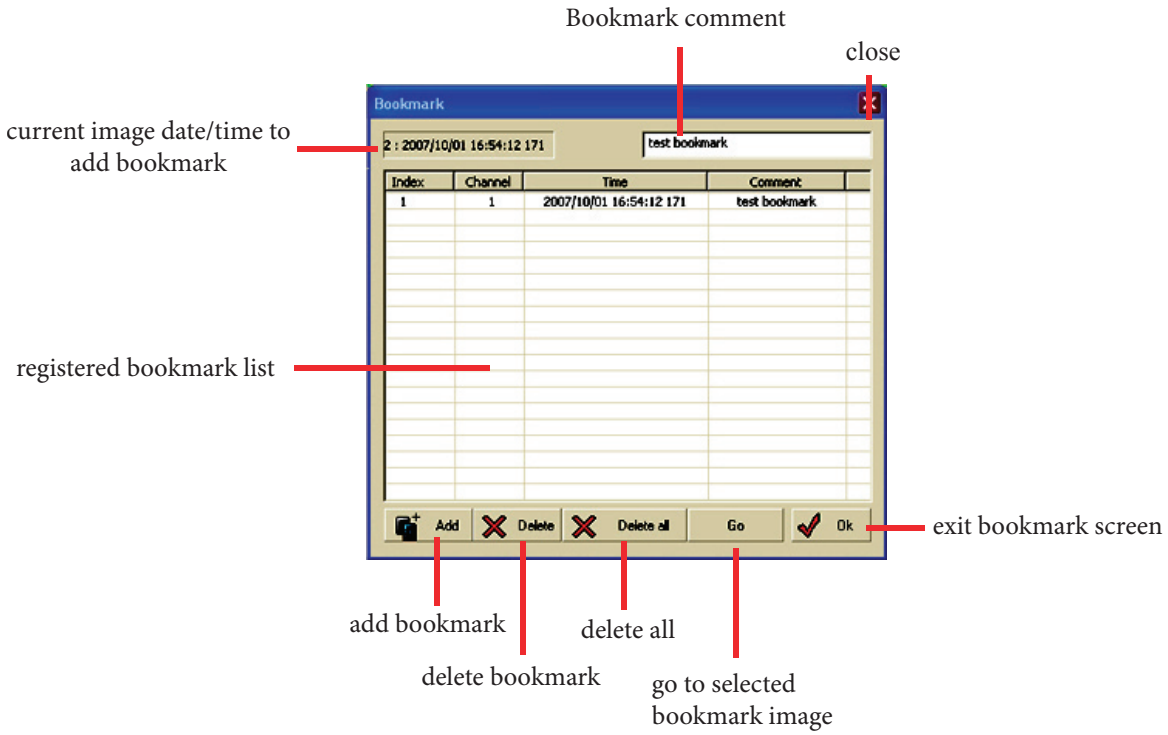
Allows the search to be narrowed by using a user ID setup in the system.

CAUTION

The log event data is stored for a maximum period of 60 days. After 60 days it will be automatically deleted.

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 comment field, then click ADD. The new bookmark is added to the list.

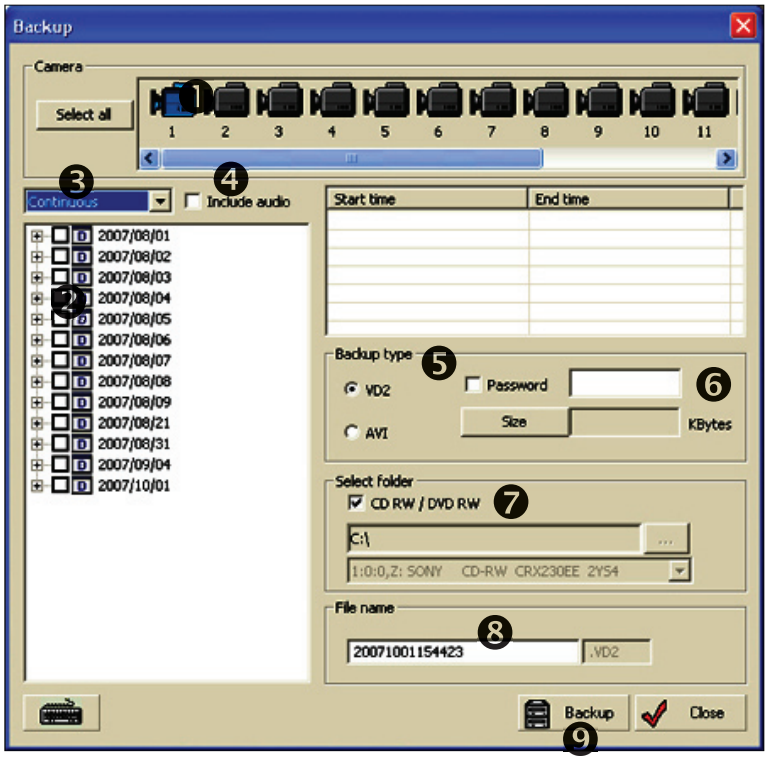
To play a bookmark, highlight the bookmark you want to review and click GO. The system begins playing back the selected date and time. Double clicking the selected bookmark will also start the system playing the selected date and time. To return to the playback screen, click the OK button or the X at the top right of the bookmark menu.

CAUTION

NOTE: Registering a bookmark only records a date, time and camera to begin playback. It 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

Backup

The backup feature allows the user to backup recorded video for archiving. Video can be backed up in one of three formats - VD2, AVI or BMP snapshot files. The VD2 and AVI file backups can be done by clicking the backup button. The snapshot backup is done by clicking the snapshot button which will be covered later in this chapter. The image below shows the main backup screen for VD2 and AVI file backup.



❶ Camera selection - Select the cameras to back up.

❷ Recorded video - Lists the recorded video for the camera or cameras selected and method recorded.

❸ Mode recorded - Use this to select mode by which the video was recorded. Options are:

All
Continuous
Sensor
Motion

❹ Include audio - Check this box to include recorded audio.

❺ Recording type - Select the type of output file for the backup. Options are:

VD2 - Same format that the original file was recorded in. Includes playback viewer.
AVI - Multimedia video format. Must use third party viewer to view video.

❻ Password - Enter a password for video backup security.

❼ Select backup drive - Select the drive and backup folder for writing the backup to.

❽ Backup name - name the backup

❾ Backup button - After all selections have been made click backup button to start backup.

Making a VD2 Backup

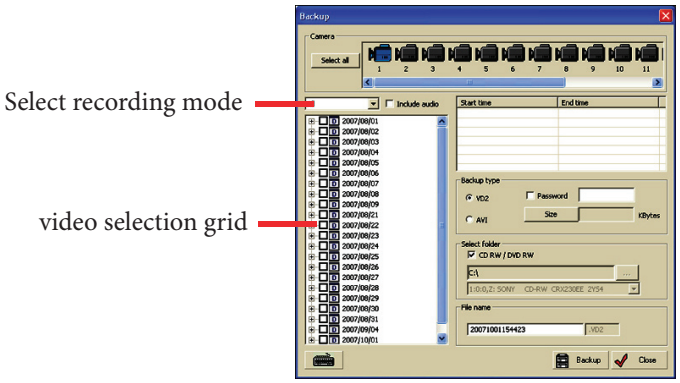
Making a VD2 file backup will keep the video files in their native file format. Because these files use a proprietary algorithm they can only be read with the simple viewer software. When making a backup the simple viewer software will be saved on the backup disk along with the video files. The instructions below show how to do a backup in the VD2 format.

- From the search menu click the backup button.

- From the backup menu choose the cameras to back up. To choose more than one camera hold down the CTL key and click the camera icon. To select all cameras click the all button. You may also click and drag to Highlight multiple cameras.

- Select the mode the video was recorded in for the video to be backed up. The choices are:
  - All
  - Continuous
  - Motion
  - Sensor

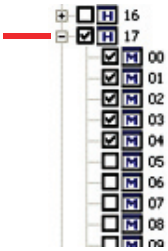
  When selecting the recording mode the video selection grid will only display video that was recorded in the selected mode. If you are not sure how the video was recorded select the all mode. This will display all recorded video regardless of the mode in which it was recorded.



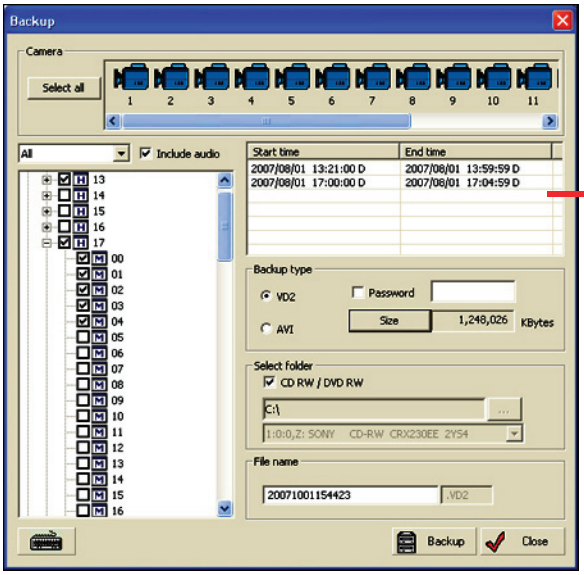
- Select the audio check box if audio is to be included in the backup.

- Select the video you want to back up. The video selection grid lists the recorded video by date. Each day can be further expanded into hours and the hours can be expanded to minutes. Click the + beside the day to expand the day into hours and click the + beside a particular hour to expand the list to minutes. If there are missing days, hours or minutes that means there is no recorded video for that time. To select video place a check mark in the day (selects all video for that day), hour (selects all video within that hour) or minute. Please note that when selecting a minute there might not be a complete minute of recorded video there may be as little as 1 second of video.

Click the + to expand the hour to minutes.



- The selected video will be displayed in the start time end time grid. Check this grid to verify that all video to be backed up is selected.



Selected video chosen for backup

- Select the VD2 type for backup by clicking the radio button beside VD2 (See image above).

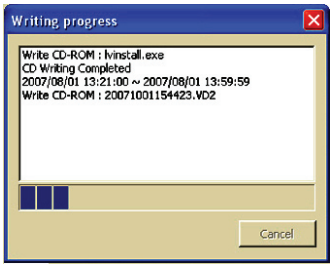
- Click the size button to display the amount of data to be backed up. This will display in Kilobytes. To convert Kilobytes to Megabytes divide by 1024. By checking the size, you can tell if the backup will fit the drive that will hold the backup. If you are using a CD-RW or DVD-RW drive the system will allow multiple disk backup. When the first disk is full it will ask for the next disk.

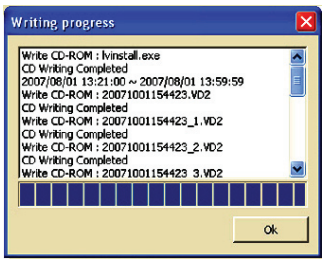
- Select the password check box and enter a password if you wish to require a password to view the video backup. Please use caution in using this feature, if the password is lost the video will not be recoverable.

- Select either CD-RW, DVD-RW or the folder location to write the video. If the backup is to be to a CD-RW drive select the check box CD-RW and the video will be written to the CD. Please use caution if writing to drive C. This drive contains the operating system which must have available drive space to function properly. If this drive is filled up with backup video the DVR will not function properly.

- Enter a name for the backup; the system will suggest a name based on the date of the backup.

- Click the Backup button to begin the backup. The backup will start after writing the video files and it will ask if you want to copy the backup player. Click yes and a copy of Simple View will be written to the disk. If multiple disks are required for backup, the system will prompt for the next disk. When using a CD-RW drive the system can write to either a CD-R or CD-RW disk.



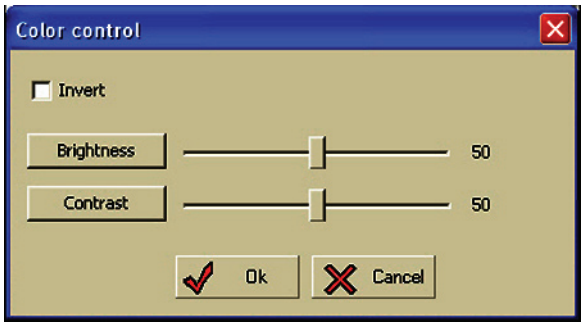


Making an AVI File Backup

Making an AVI file backup is the same as making a VD2 file backup with the following exceptions. When selecting the type of backup click AVI. The password option and size option will disappear as they are not available when making an AVI backup.

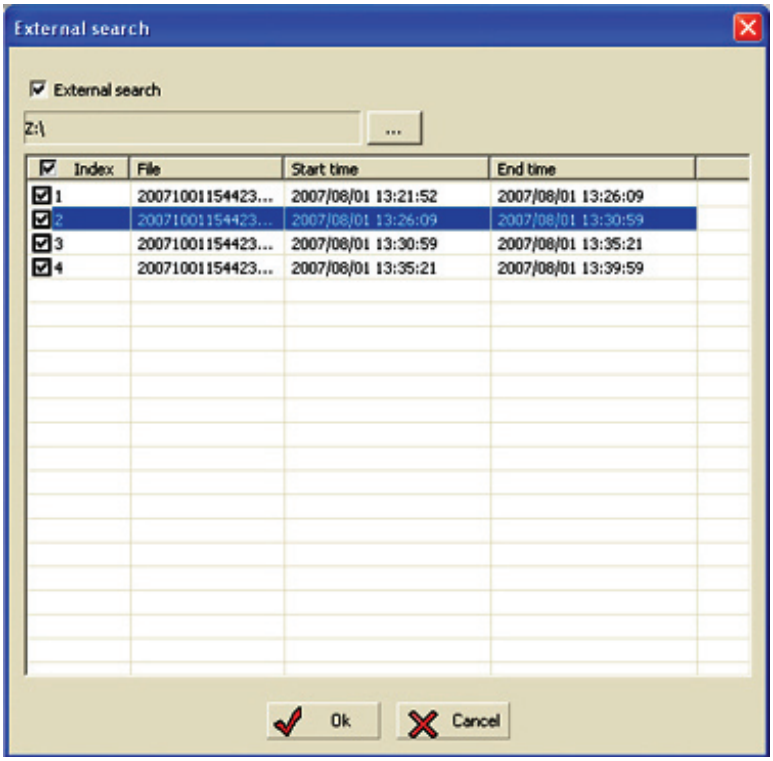
Color Control

The DVR system lets the user control the brightness, contrast or invert the search video. Use the picture controls shown below to control these features. To invert the selected channel, click the invert check box. When in invert mode there will be a check mark in the box, click it again to close invert mode. Move the slider bar left or right to control the brightness or contrast of the selected picture. To change the control back to the default level click the brightness or contrast button.



External Search

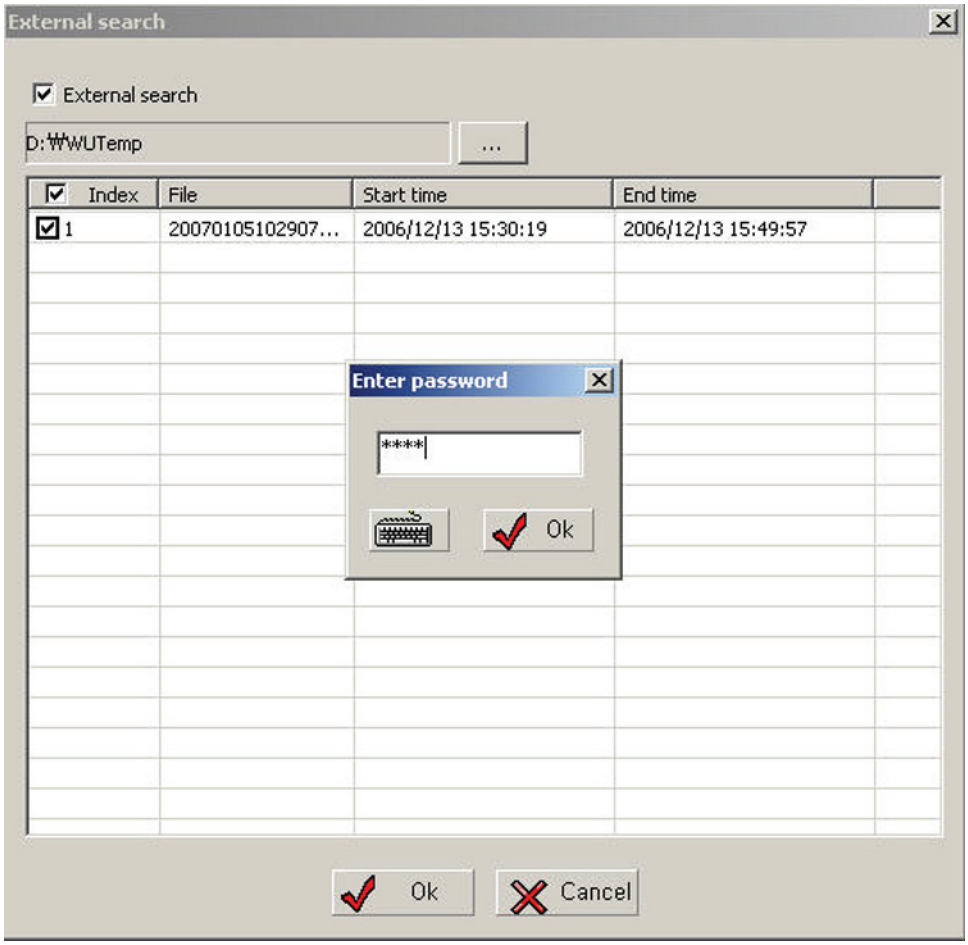
External search allows the user to playback video from an external source such as a CD. To enter this function click the external search button.



Refer to the following steps for using the external search feature

- Place your external media in the CD-RW drive.
- Click the external search check box.
- Click the eclipse button ... and select the location of your backup video.
- When the backup data appears place a check mark in the index check box field to choose all video.
- Click OK and the external video will begin playback.

If a password was used when making a VB2 file backup, when clicking the OK button the password input window will appear. Enter the password to begin playing the external video. If the incorrect password is entered, video cannot be viewed.



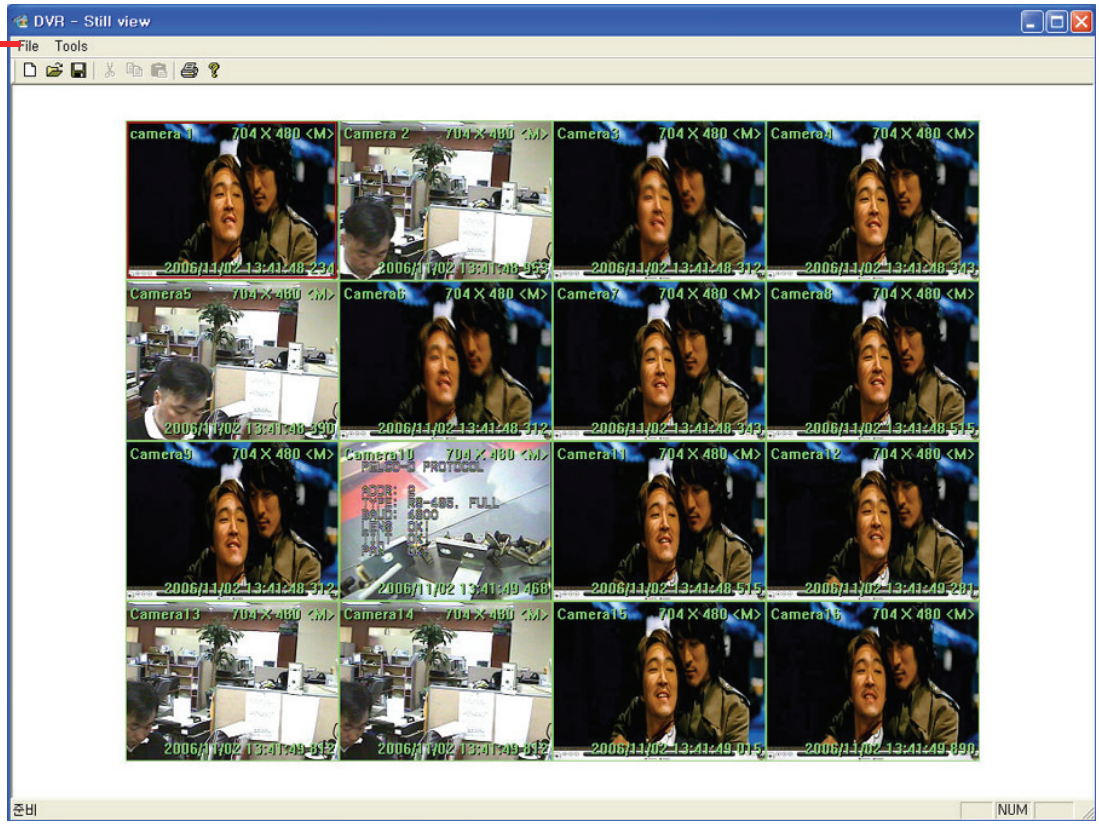
CAUTION

NOTE: If user forgets password the factory cannot recover lost passwords.

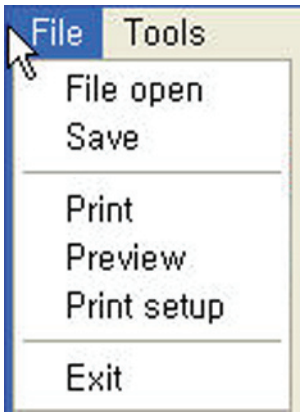
Snapshot

The snapshot feature is used to take a screen shot of the current video. This still shot can then be adjusted with the color and contrast controls. The file can then be saved or printed if there is a printer installed and connected to the DVR. To start snapshot, click the snapshot button.

File and tools menu



Features of the file menu

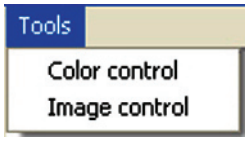


- Open File - Opens a saved file as a snapshot (JPG, BMP)
- Save - Save the current snapshot.
- Print - Print the current snapshot. Must have printer installed.
- Preview - Preview the snapshot before printing.
- Print setup - Call the printer setup feature for you printer.
- Exit - Close the snapshot screen

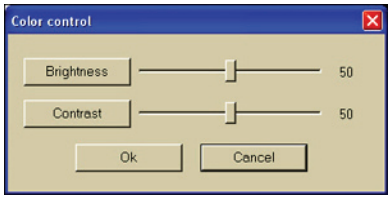
Print Preview

If snapshot is printed, the system name, user name, capture time and camera name information are printed with the snapshot. See image below for example of print preview.

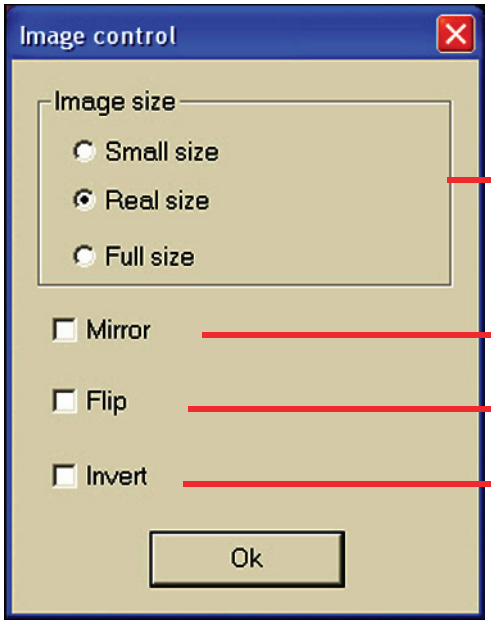
Features of the Tool menu.



- Color control - allows the user to adjust the brightness and contrast.
- Image control - allows the user to control the image size, mirror, flip or invert the image.



- Brightness - move the slider bar to control image brightness.
- Contrast - move the slider bar to control the image contrast.
- Click the brightness or contrast buttons to set to default values



Change the size of the image.

Reverse the screen horizontally (left to right)

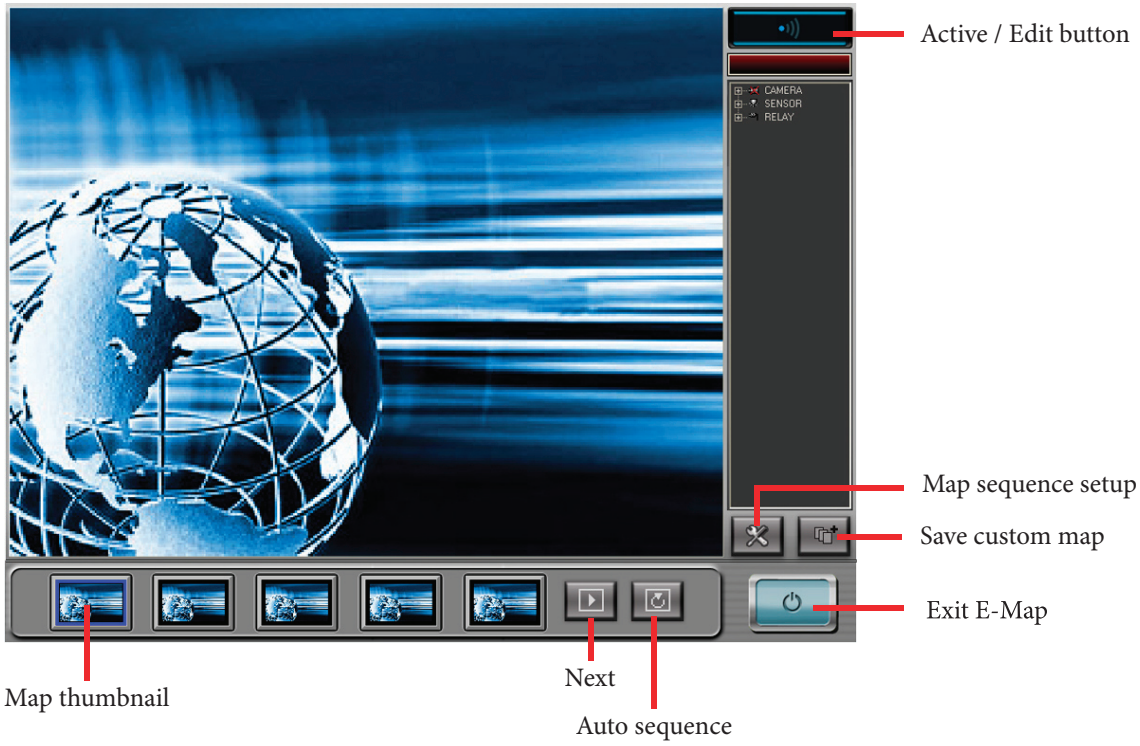
Reverse the screen vertically (top to bottom).

Reverse the screen colors (white to black)

5

Chapter 5
E-Map Function

The E-Map is a function that allows the user to see the physical location of cameras, sensors and relays on a graphical display. The system allows the user to use a supplied image or to create his own custom image. To enter E-Map, Click the E-map button on the Live screen (Main Screen).



CAUTION ***Only a user with Administrator authority can setup or modify E-Map. Users with manager can use E-Map if they have been granted the E-Map rights by the administrator. Guest users do not have the right to use E-Map.***

Overview of the E-Map screen

E-Map in active mode - Icon will flash on and off. In this mode you can use E-Map to view cameras, sensors and relays.

E-Map in edit mode - Icon will not flash but be turned off. In this mode you can setup E-Map images, add cameras, sensors, and relays to the image.

Map thumbnails - displays a thumbnail of the map for quick reference

Next button - Change the screen to the next map in sequence.

Auto sequence button - Click this and the map will automatically sequence between the maps in the order setup in map sequence screen.

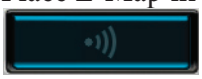
Map sequence setup button - Click to enter the setup screen for map sequence.

Add custom map button - Click to save a custom map to the system for use with E-Map.

Setting Up E-Map

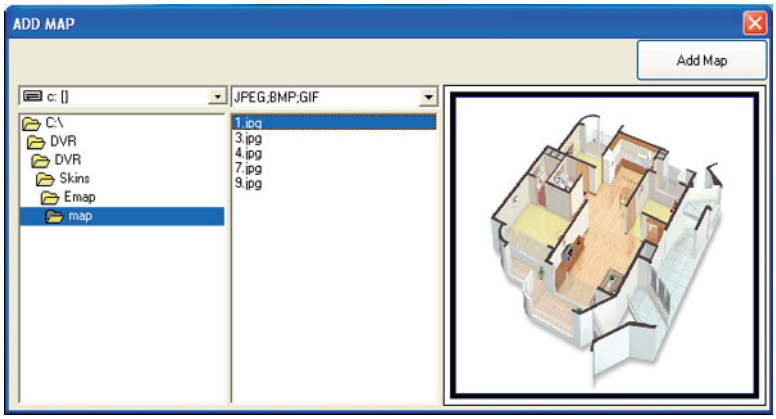
Before the user can use the E-Map function it must first be setup. To use the setup features E-Map must be in edit mode. E-Map has two modes - active mode and edit mode. When in active mode the active/edit icon will flash off and on. When in edit mode the icon will be dull and not flash. If the user tries to edit E-Map while in active mode they will receive the following message: “only available in edit mode”. To setup E-Map follow the steps below.

- Place E-Map in edit mode by clicking the active icon.



- Add Map - Add any custom maps that the user has created. The basic size of the map is 640 x 480 and can be a BMP, JPG or GIF image file. If a file size larger than 640 x 480 is used the map will be reduced to this basic size. To add a map click the add map button.

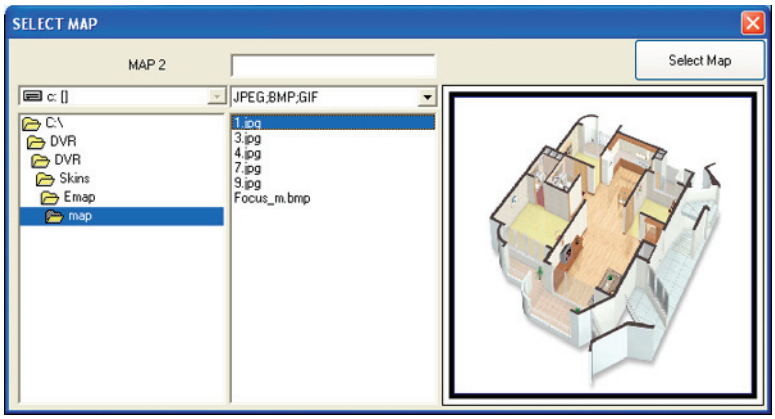
- From the add map window navigate to the drive and directory that contain the custom map and click add map button. The map will be saved in the DVR’s default directory for maps (see image below).



- Place Map - Select the maps to display the cameras, sensors and relays. E-Map allows up to five maps to be displayed. To place a map select a map thumbnail and double click it.

double click a thumbnail to bring up the select map window

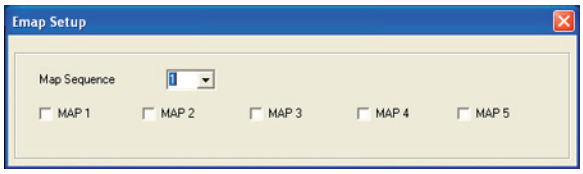
• The select map window will appear (see image below).



• Highlight an image and it will display in the sample window. After highlighting the image click the Select map button and the map will be placed in that position. Continue to add the desired number of maps (maximun of 5).

• Set map sequencing - click the map sequencing button to bring up the map sequence window.

• Select the maps to include in the auto sequence by placing a check mark in the box beside the map number. Then set the number of seconds (1 to 60) to pause before moving to the next map (see image below).

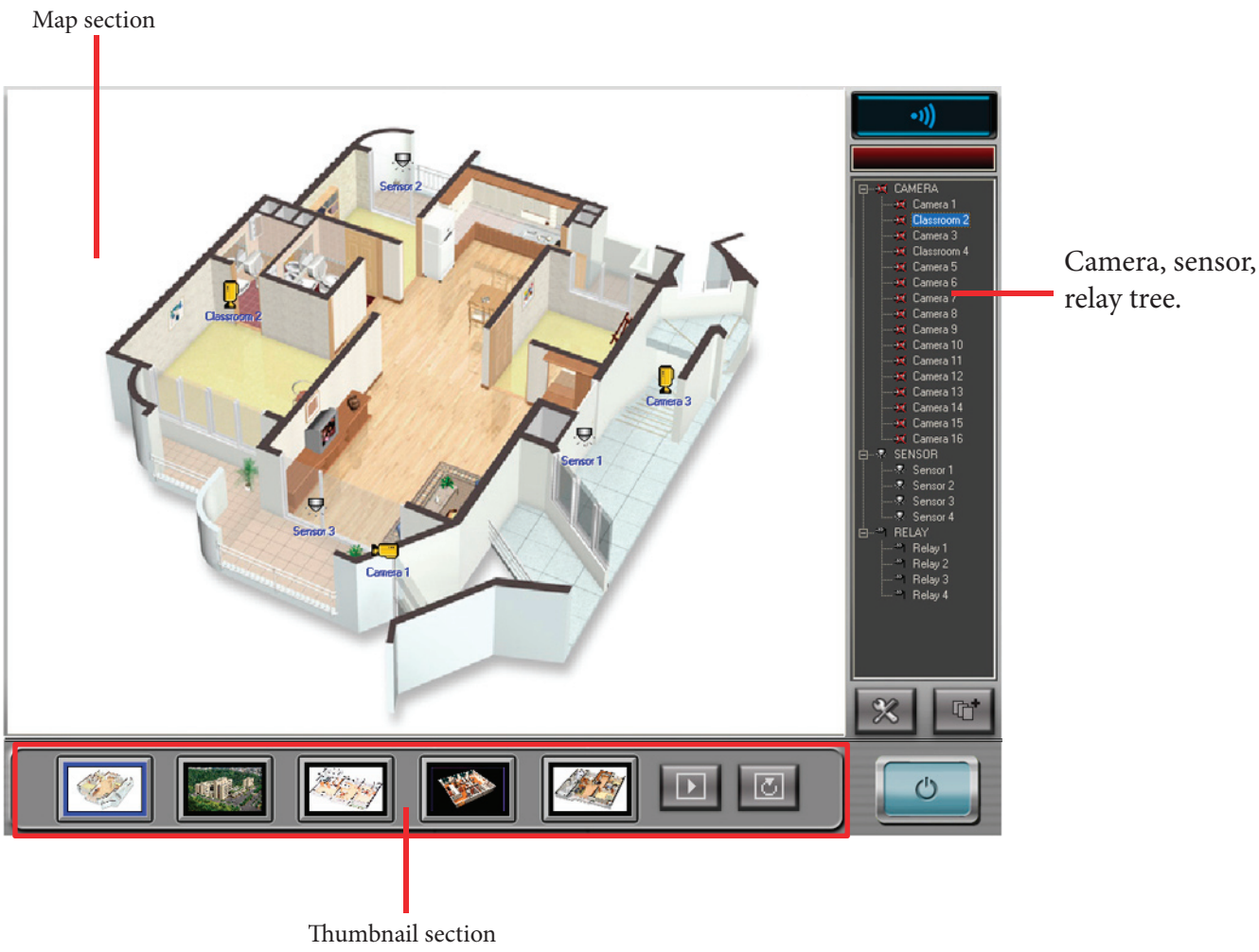


• Select and place the cameras, sensors and relays onto the maps.

- Select the map to place the camera, sensor or relay by clicking on its thumbnail. The picture will be displayed on screen.
- Select a camera, sensor or relay from the list on the right side of the screen by clicking on the name - it will then be highlighted in blue.
- Right click the selected camera, sensor or relay. The mouse will change from a hand to an arrow. Move the arrow to the desired location on the map and click the mouse. This will place the camera, sensor or relay icon on the map. If you need to move the icon simply select it again from the list by right clicking and place it again in the new location. A camera, sensor or relay can be placed only one time. If you select a camera, sensor or relay for placement a second time it will remove the icon from its original location to the new location.
- Finish placing the icons on all the maps to complete the E-Map setup.
- Click the active / edit mode button to place E-Map in active mode.

Using E-Map

After E-Map has been setup and been placed in active mode E-Map is ready for use. The E-Map screen consists of three main sections - map screen, map thumbnail, and camera, sensor and relay tree. The image below shows these sections.



- Map Screen - Display screen for the 5 maps available in E-Map.
- Camera, Sensor, Relay Tree - A tree listing of all camera, sensors and relays available in the DVR.
- Thumbnail Section - A thumbnail of the 5 different maps available in E-Map.

Next button - Changes the screen to the next map in sequence.

Auto Sequence button - Will automatically rotate between screens: turns blue when on.

The icons for the camera sensor and relay will change appearance during an event. Below are the different icons and the corresponding event.

Camera icon

Camera disconnected icon

Sensor icon

Sensor activated icon

Relay icon

Relay activated icon

PTZ camera icon

Camera Angle Adjustment mode

After placing the camera on the map click the camera to change the angle. Continue clicking until desired angle is achieved.

Viewing a camera from an E-Map camera icon

Double click a camera icon that is not in a disconnected state to bring up the live view of that camera. The user is able to view other cameras by selecting the camera drop down menu on the button of the camera picture. If the camera is a PTZ camera, click the PTZ button to control the PTZ function. To close the live view click the close button at the bottom right of the live screen.

1). Double click the camera icon.

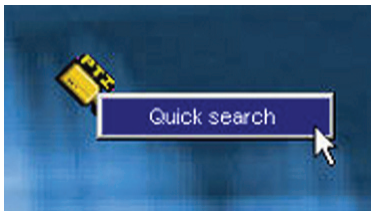
2). Click the PTZ button to display the PTZ controls.

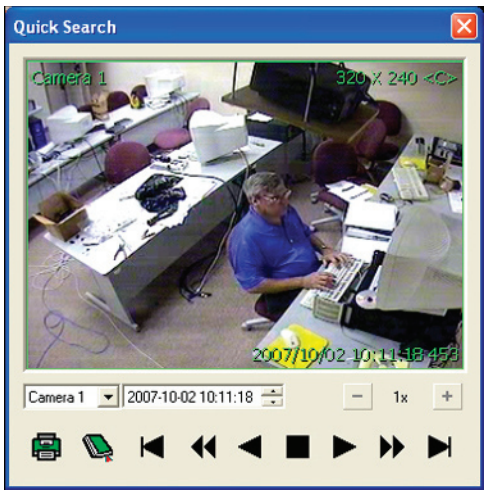
3). Use PTZ controls to move PTZ camera.

4). Use call button to call presets.

Using E-Map Quick Search Feature

Position the mouse over the desired camera icon and right click the mouse. The Quick Search button will appear. Click the quick search button to bring up the quick search window.





Use the quick search screen to view recorded video. Camera view can be changed using the camera drop down menu. For more details on quick search refer to the section Quick Search.

Moving Between Maps Using The Object Tree

By double clicking an object on the object tree you can move to the map where the chosen object is located. Click again and the selected icon will blink letting you know when it is located on the page.

Double click object in object tree and screen will jump to the map where the selected object is located.

Dual Monitor Function Support

DVR basic screen and E-MAP are displayed by dual monitor in the system that has dual monitor supporting VGA. Start DVR and E-MAP after dual monitor environment setup is completed. E-MAP main screen is displayed in the second monitor automatically. (Contact Crest sales for information on dual monitor support.)

When system is set up for dual monitor support, E-Map is displayed automatically on second monitor. When E-Map is turned off, the second screen is blank. When E-Map is turned on again, the screen will display E-map.