



USER MANUAL

ST-DVR8716BG 16-Channel Digital Video Recorder



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PACKAGE CONTENTS

This package contains:

- One ST-DVR8716BG 16-channel digital video recorder
- One infrared remote control with 2 AAA batteries
- One optical mouse
- Two hard drive cables (inside the unit)
- Eight hard drive screws
- One power supply
- One user manual
- One CD with manufacturer documentation and remote management software

PRODUCT DESCRIPTION

The ST-DVR8716BG is a cost-effective DVR designed for the security professional as a digital surveillance product. Based on an embedded LINUX operating system the ST-DVR8716BG provides a very stable platform featuring standard H.264mp video compression and G.711A audio compression to ensure high quality imaging, low error coding ratio and single frame playback. With TCP/IP protocols this DVR offers remote network communications, surveillance and management capabilities. The ST-DVR8716BG can be deployed standalone or on a network and integrated into a complete security surveillance network in residences, offices, banks, warehouses, factories, prisons or any environment requiring surveillance monitoring.

Important Notes

The DVR's embedded PTZ controller is designed to perform a wide variety of PTZ camera control functions. However, the utility of any PTZ controller is highly dependant upon the particular PTZ camera to be controlled as each camera has not only its own functions, but specific methods of how those native functions are accessed and managed. Further, a particular PTZ controller's terminology may differ from that used by a particular PTZ camera. Therefore, it will be necessary for the installer and/or user to consult BOTH the DVR manual and PTZ camera's user manual to ensure proper set-up, configuration and application.

Securitytronix DVRs are capable of various levels of video quality as set by the user. It is solely the user's responsibility to determine the required video quality level during set up. Should the user believe they will ever need the video quality to be used for evidentiary purposes, then they should consult with their legal advisor to determine the video quality level to set the DVR to.

SPECIFICATIONS

ST-DVR8716BG

Specifications (Typical)

1. Compression	H.264
2. Video Signal	NTSC
3. Video Input	16 BNC Female
4. Video Output	1 VGA, 1 BNC
5. Audio Input	1 RCA Female
6. Audio Output	1 RCA Female
7. Record	CIF/QIF
8. Recording Modes	Manual, Alarm, Motion Detect, Schedule
9. Playback Options	Single or Multiple Channels
10. Record Search	Time Search, Calendar Search, Event Search, Channel Search
11. Display FPS	CIF: 480fps (NTSC)
12. Display TVL	525 TVL @60f/s, 704x480
13. Record FPS	CIF: 480fps (NTSC)
14. Motion Detection	8x8 Detection Areas, Multiple Sensitivity Levels
15. Storage	2pcs (SATA) HDD up to 2TB or 1 SATA HDD and 1 DVD R/W
16. Backup	Network, USB, DVD
17. HDD Capability/Channel	Audio: 28.8Mbytes/hr, Video: 25-450Mbytes/hr
18. Controller	Front Panel Buttons, Remote Controller, USB, Web
19. Operating System	Linux
20. Image Display	Full Screen, 1 / 4 / 8 / 9 / 16 Split
21. Network Port	RJ45 10M/100M Adaptive Ethernet Network Port
22. PTZ Control Port	1 RS485
23. USB Port	3 USB Ports: Only 2 ports will function concurrently
24. Web	DDNS, IE & Client Software, TCP/IP LAN, PPPoE
25. Alarm	1 Channel Alarm In, 1 Channel Alarm Out
26. Operating Temperature	32°F - 131°F
27. Operating Humidity	10% - 90%
28. Dimensions	13.9" W x 12.5" D x 2.8" H
29. Weight	6.6 lbs without hard drive
20. Power	DC12V @5A

INSTALLATION



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions.



This symbol 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 electrical shock.

CAUTION: To reduce the risk of electrical shock, only remove the cover after disconnecting all power to the unit and only to install/remove the hard disk drive. There are no user serviceable parts inside the unit.

CAUTION: To prevent electric shocks and risk of fire hazards, do not use other than specified power source.

This DVR has been designed for indoor use only. Outdoor use voids warranty and poses serious electrical and fire hazard risks to the installer, user and facility.

1. UNPACKING and HANDLING

Each unit is shipped assembled and factory tested.

Ensure that all accessories are removed from the container before discarding packing material

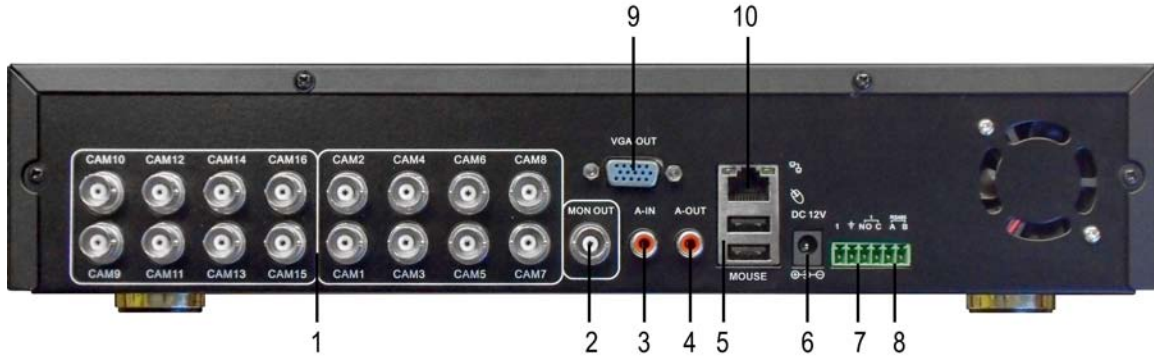
2. MECHANICAL INSPECTION

Inspect the front and rear of the equipment for shipping damage. Make sure the equipment is clean, and no connectors are broken, damaged, or loose. If equipment appears to be damaged or defective please contact your distributor or SecurityTronix at 1-610-429-1511 for assistance.

3. SPECIAL ATTENTION

- a. The installer must comply with electrical safety standards.
- b. This DVR is for indoor use only and must be installed in a safe, ventilated and dry area.
- c. Open the DVR case only to install the hard drive(s). There are no serviceable parts inside the unit.
- d. If liquids spill inside the DVR’s case immediately turn off all power to the unit, disconnect the unit from its power source and have a qualified technician check it for damage.
- e. Do not install the DVR in an environment where the temperature is above 104° F.
- f. Only use a dry cloth to clean the unit. If there is dirt that is difficult to remove wipe gently with a mild detergent. Never use strong or abrasive detergents.
- g. A minimum 12VDC 5A power supply must be used. AC power cannot be applied. Using an AC or other incorrect power supply will damage the unit.
- h. Only qualified installers are allowed to install, test and disassemble the DVR.
- i. As the DVR is a sensitive device any shock or other shaking of the unit will cause damage and void the warranty.

4. WIRING CONNECTIONS and HARD DRIVE INSTALLATION



Item	Keypad Key	Description
1	CAM1 – CAM16	Video In BNC ports for cameras 1 through 16
2	MON OUT	Video Out BNC port for connection to a monitor
3	A-IN	Audio In RCA port
4	A-OUT	Audio Out RCA port
5	USB Ports	USB port for mouse and back up drive or flash drive
6	DC12V	Port for connecting the included 12VDC power supply
7	1, Ground, NO C	Alarm output and input connections
8	RS485 AB	RS485 connections for controlling a PTZ camera
9	VGA OUT	VGA Out port for connection to a monitor
10	ETHERNET	Ethernet jack for connection to a local area network (LAN)

- a. Using a quality 75 ohm coaxial cable with a BNC connector, connect the camera(s) to the DVR's **CAM In** port(s).
- b. Using a quality 75 ohm coax cable with a BNC connector, connect the video monitor to the DVR's **MON Out** port. If the display is a VGA monitor then connect the monitor's VGA cable to the DVR's **VGA** port.
- c. If audio monitoring is required, connect the audio monitoring device to the DVR's RCA **A-OUT** port.
- d. To control a PTZ camera using the DVR's embedded PTZ controller use the DVR's RS485 A and B connections. A is positive (+), B is negative (-). Be sure the polarities are correct and consistent with the camera. You may also use the RS485 AB connections for an external PTZ controller.
- e. If the DVR is to be networked for remote monitoring and/or management connect the unit to the network using the Ethernet jack.
- f. **USB** ports – The DVR has 2 USB ports located on the back of the unit. One port is used for the optical mouse while the other should be used for backing up files to a separate drive (e.g., flash drive, CD/DVD burner, etc.). The DVR also has a front panel USB port that can be used for backup as well. Note the following: (i) only 2 of the 3 USB ports function concurrently, and (ii) if a CD/DVD burner is installed for backup only the USB port for the optical mouse will function.
- g. Hard Drive Installation – Unless ordered with and preconfigured at the factory, the DVR requires a DVR hard drive to be installed. This unit will support either two hard drives up to 2TB or a single hard drive and an optional DVD R/W drive. Secure the drive in the drive

mount using the four included screws. Connect the drive to the unit using one of the SATA hard drive cables. Then connect the hard drive to the drive's power connector. Once the drive is installed secure the case. When applying power to the DVR the unit should automatically (i) detect the drive, (ii) alert the user to confirm initialization, and (iii) begin to initialize it. Note that when the drive is initialized it will be formatted. **Formatting the drive will erase any existing data on the drive.**

Important Note Regarding Hard Drives – Not all hard drives are fully compatible with DVRs. If you have an existing hard drive you wish to use with the DVR you may install it at your own risk and determine if the DVR recognizes the drive and correctly records data to it. If you are considering the purchase of a hard drive, contact Securitytronix for recommended manufacturers and models.

- h. Connect the included power supply to the DVR's power port. Then plug the power supply to an appropriate AC outlet.

5. HARD DRIVE (HDD) INSTALLATION



Remove all cover screws



Remove the cover



Using the included HDD screws, install the hard drive through the holes in the bottom of the DVR unit



Install the HDD screws



Connect the SATA cable



Connect the power cable



Replace the cover



Reinstall the cover screws

NOTE: Upon first powering up the DVR after installing the hard drive the DVR will prompt for HDD formatting.

HDD Storage Calculator

Selecting the appropriate size hard disk drive is dependent upon a number of variables including:

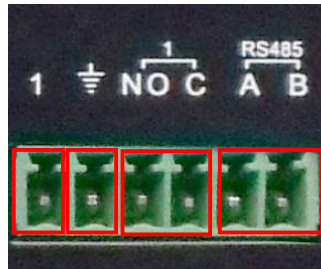
- Recording Mode: CIF, QCIF
- Recording Quality
- Number of Cameras
- Frames per Second
- Hours per Day to Record

Securitytronix provides a DVR Hard Disk Drive Storage Calculator to help determine the number of days of recording are possible based upon HDD capacity. To access the calculator go to the following link:

<http://www.securitytronix.com/support.asp>

6. ALARM CONNECTIONS

- a. The DVR provides 1 alarm input and 1 alarm output port similar to the diagram below.



1 2 3 4

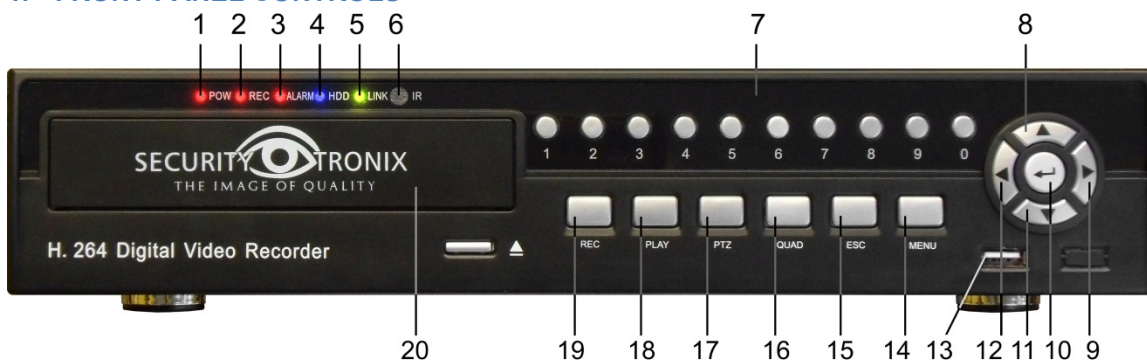
1	Alarm Input	NO or NC
2	Ground	
3	Alarm Output	Normally Open and COM
4	RS485 communications	A = +, B = -

- b. The alarm input has no restriction (i.e., normal can be either open or close).
- c. The alarm input is a grounding alarm input. The grounding of the power supply and the alarm sensor must be shared when using an external power supply.
- d. The GND alarm detector is connected to the alarm sensor's COM via a parallel connection.
- e. If the alarm is connected to two DVRs or connected with the DVR and other equipment it should be isolated by a relay.
- f. Regarding the alarm output, use an external power supply when using external alarm equipment.
- g. The alarm output cannot be connected with loads greater than 1A to prevent damage to the relay. A contact isolator is required if a loads greater than 1A are used. Alarm output relay specifications:

Type: JRC-27F		
Interface Material	Silver	
Resistance Load Rating	Switch Capacity	30VDC @2A, 125VAC @1A
	Maximum Switch Power	125VAC, 160W
	Maximum Switch Voltage	250VAC, 120VDC
	Maximum Switch Current	1A
Isolation	Contact to Contact	1000VAC for 1 minute
	Contact to Coil	1000VAC for 1 minute
	Interface and Winding	1000VAC for 1 minute
Surge Voltage		1500VAC (10x160us)
Turn-on Time	3ms Maximum	
Turn-off Time	3ms Maximum	
Longevity	Mechanical	50x106 MIN (3Hz)
	Electrical	200x103 MIN (0.5Hz)
Environmental Temperature	~-40°F - 158°F	

CONTROLS

1. FRONT PANEL CONTROLS



Item	Panel Key/Indicator	Description
1	POW	Power indicator light
2	REC	Record indicator light
3	ALARM	Alarm indicator light
4	HDD	Hard disk drive activity light
5	LINK	Indicates that the DVR is being remotely accessed
6	IR	Infrared remote receiver
7	1 – 0	Numeric keys; select channel display window
8	▲ UP	Up cursor key and pan up under PTZ Control
9	► RIGHT	Right cursor key and pan right under PTZ Control
10	↵ ENTER	Power On button; Enter function
11	▼ DOWN	Down cursor key and pan down under PTZ Control
12	◀ LEFT	Left cursor key and pan left under PTZ Control
13	USB Port	USB Port for backup drive or flash drive
14	MENU	Provides access for logging into the system and Main Menu
15	ESC	Exit a function or operation
16	QUAD	Select from 1, 4 and 16 window monitor display
17	PTZ	PTZ Control; Display the PTZ Control Window
18	PLAY	Play/Pause; Display the Record Search Window and Video Playback Toolbar
19	REC	Record mode.
20	DVD Door	Door for accessing optional RW-DVD drive

2. INFRARED REMOTE



Keypad Key	Description
POWER	Power DVR On/Off
●	Record button; Display the Record Mode window
SWITCH	Switch from 1, 4, 8, 9 and 16-window monitor display
◀◀	Slow video playback
▶▶	Fast video playback
■	Stop video playback
▶	Displays the Video Playback window and toolbar
◀	Rewind video playback
▲▼◀▶	Up, Down, Left and Right direction buttons
MENU	Provides access to the DVR's main menu
OK	OK serves as an Enter key
ZOOM + ZOOM -	Camera zoom in and out under PTZ Control
1 – 0	Numeric keys
PTZ	Displays the PTZ Control window
BACK	Exit an operation or function – same as an ESC key
DEV	If using multiple DVRs, select DVR1, DVR2 ...
FN	Assist function for PTZ Control and Color Setting
MUTE	Mute audio
SEARCH	Display the File Search window and Video Playback toolbar

3. MOUSE CONTROL

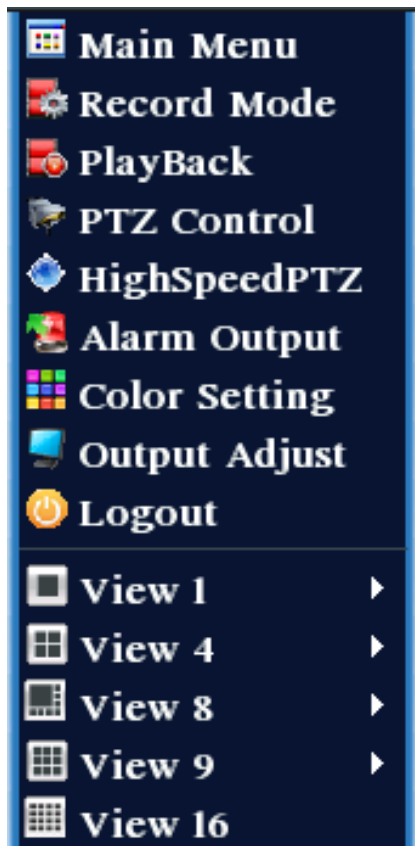
Plug the optical mouse into a USB port on the DVR's real panel. The DVR's optical mouse operates in the same manner as the typical computer mouse. The information below identifies key mouse control functions using the mouse left and right keys.

Left Mouse Key – Single Click

- Point the cursor to any menu icon and click the left key once to make a selection.
- To select a drop-down menu and select an option in that menu.
- To input data (e.g., login, camera name, etc.) This is accomplished using the soft keyboard, moving the cursor to the appropriate character and clicking the left mouse button.

Right Mouse Key – Single Click

The right mouse key is used to activate a pop-up menu. This menu is simply a short-cut menu for select DVR functions. The Short-cut Menu is similar to the one displayed below.




- Main Menu – Calls up the Main Menu
- Record Mode – Calls up the Record Mode Screen
- Play Back – Calls up the playback interface for playback control
- PTZ Control – Calls up the PTZ Control Interface
- HighSpeed PTZ – Calls up the High Speed Control Interface
- Alarm Output – Calls up the Alarm Output screen
- Color Setting – Calls up the Color Setting window to adjust display
- Output Adjust – Calls up the Output Adjust screen to set display borders on monitor
- Logout – Calls up the Logout screen to logout, shutdown or reboot the DVR
- View 1 – Calls up a short-cut menu to select a single channel display
- View 4 – Calls up a short-cut menu to select 1 of 4 quad screens
- View 8 - Calls up a short-cut menu to select 1 of 2 8-window screens
- View 9 – Calls up a short-cut menu to select a 9-window split screen
- View 16 – Displays a 16-window split screen

OPERATION

1. POWERING ON and SHUTTING DOWN

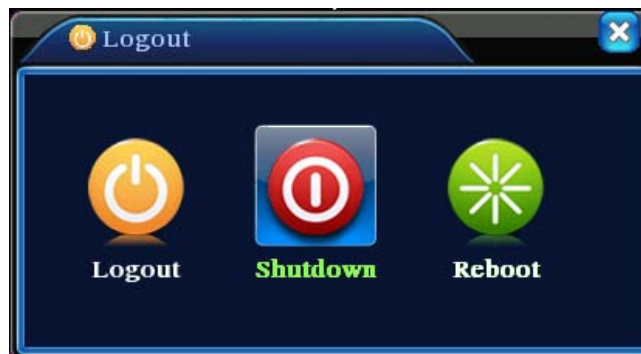
Powering On

- a. Plug the included power supply into the DVR's power port and into an appropriate AC power outlet.
- b. Once there is power to the DVR, **POWER** indicator light will be displayed on the DVR's front panel. The DVR will sound a beep after startup.
- c. Press the  button on the DVR's front panel or the **Power** button on the DVR's infrared remote controller may also be used to power up or power down the DVR.
- d. A multi-window display is the DVR's default display setting once the unit powers up. The user may configure the DVR so the Time Recording Setting is the default so the DVR will automatically begin to start the Time Recording function once it is turned on.
- e. If a hard disk drive has not been installed or has not been formatted prior to turning on the DVR a "HARD DISK DRIVE NOT DETECTED" message will be displayed.
 - If no hard drive is installed power down the DVR, install the hard drive and turn on the DVR. The system will then detect the drive and request to format if necessary.
 - If a hard drive is installed but the DVR issues the "not detected" message (i) the hard drive could be faulty and require replacement and/or (ii) the power and SATA cable connections between the hard drive and DVR motherboard came lose and need to be reseated.

Shutting Down

There are two methods for shutting down the DVR:

- a. Enter the **MAIN MENU** select **LOGOUT** then select **SHUTDOWN** or right-click the mouse and from the **Short-cut Menu** select **LOGOUT** followed by **SHUTDOWN**. Note the user must be logged in to shut down the DVR. A Logout/Shutdown screen similar to the one below is displayed.



- b. Remove power to the unit by disconnecting the power supply. This, however, should not be done repeatedly as doing so may corrupt and/or damage the hard drive. Only remove power from the unit if the DVR will not respond to a shutdown through the Main Menu as described above.

If the DVR is recording (normal recording, time recording or alarm recording) at the time the unit is turned off the DVR will automatically save the recording before shutting down. When the DVR is powered back on it will automatically revert to that recording condition prior to it being turned off.

2. ACCESSING SYSTEM MENU

There are several methods for accessing the DVR's menus:

- a. Press the **MENU** button on the DVR's front panel for the **Main Menu**.
- b. Click the **Mouse's Right Key** for the pop-up **Short-cut Menu**.
- c. Press the **↩** button on the DVR's front panel for the **Main Menu**.
- d. Press the **PLAY** button on the DVR's front panel for the **Video Playback Toolbar** and **Recording Search** window.
- e. Press **REC** on the DVR's front panel or remote control for the **Record Mode** window.
- f. Press **PTZ** on the DVR's front panel or remote control for the **PTZ Control** window.

Menus may also be accessed using the infrared remote controller's buttons.

Use **ESC** to exit any operation.

The ability to access menus and make menu selections will depend upon the user's access rights as described below.

3. USER ACCESS RIGHTS

There are 2 default access settings from the factory:

- **Admin** – Top authority with all privileges/permissions.
- **Guest** – Privileges/permissions limited to preview and video playback.

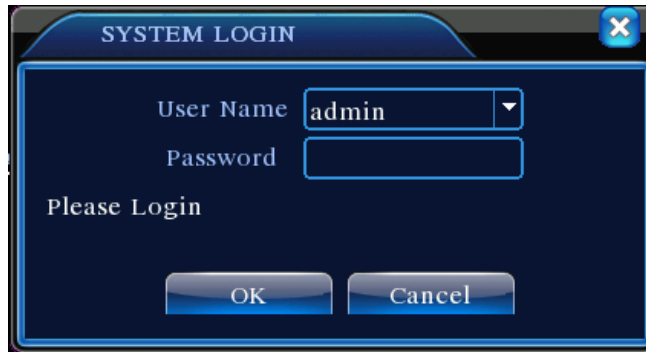
Admin and **User** privileges/permissions cannot be changed. However, their passwords can be modified.

In addition, there is a **Default** user whose privileges/permissions are initially limited to preview and video playback. However, **default** privileges/permissions and passwords can be set and modified on a user-by-user basis.

Out of the box, **Admin**, **User** and **Default** have no passwords. Passwords and privileges/permissions by going to **Main Menu**, **Advanced** and **Account**.

After setting account passwords password protection goes into effect. If a password is wrong three consecutive times an alarm will start. If the password is wrong five consecutive times the account will be locked. Locked accounts will automatically be unlocked 30 minutes or manually unlocked by rebooting the DVR.

User selection is done through the drop-down menu. Password input is accomplished using the **Mouse Left Key** and soft keyboard.



4. PREVIEW MODE

Once logged into the system the DVR enters the **Preview Mode**. The Preview Mode displays current monitoring activity in a single or multiple windows. The user may right click the mouse to switch between preview windows. The date, time, channel name and channel status are displayed. Key icons in the Preview Mode are:

Icon	Description
	Recording taking place for that channel
	Indicating motion detection if that channel has a motion detection alarm setting
	No video or video loss for that channel
	Camera lock – current user login does not have rights to view that channel

5. MAIN MENU

The Main Menu provides user access to all DVR functions and operations. This section will highlight each Main Menu function with detailed operational instructions provided in subsequent sections.




Accessing the Main Menu can be done by pressing **MENU** on the DVR's front panel or by clicking on the **Right Mouse Button** to display the pop-up **Short-cut Menu**. Note to enter the Main Menu the user must have access privileges. Upon accessing the Main Menu the following graphical user interface (GUI) will be displayed (note that due to software revisions the actual GUI may appear slightly different that what is depicted in this manual).






When moving the mouse cursor to any of the above GUI's icons, a brief description of that menu function is displayed.

Each menu option (as represented by an icon) may have multiple functions in sub-menus. It is important to remember that when making a menu or sub-menu setting, the user must **SAVE** or **CONFIRM** that setting prior to exiting the menu or sub-menu. Failure to do so will keep the new requested setting from taking effect. Further, some setting options can be selected via a "checkbox". If the checkbox is "filled" then the setting has been selected. Again, if prompted, the user must click **OK** or **CONFIRM** so the new setting takes effect.

To exit the main menu click **Cancel** or **click the right mouse button** to display a pop-up menu showing **UpWindow** (return to previous screen or menu) and **Show Desktop** (return to preview display).

Main Menu	Sub-Menu	Description
 Record	Record Config	Set the recording configuration, recording type, time session
	Playback	Playback a recorded file. Includes file search capability by record mode, channel, time, etc.
	Backup	Detect or format backup storage; backup selected files
 Alarm	Motion Detection	Configure and/or change video motion detection settings
	Video Blind	Configure and/or change video blind detection settings
	Video Loss	Configure and/or change video loss detection settings
	Alarm Input	Configure and/or change alarm input settings
	Alarm Output	Set alarm mode: configuration, manual, stop
	Disk Event	Set alarm for no disk, disk error, no disk space
 System	General	Set system time, date, time format, language, DVR ID, etc.
	Encoding	Encode mode, bit rate, quality parameters, etc. Can change encode size, stream control, frame rates, etc.
	Network	Set network parameters including network ID, video data transmission protocols, etc.
	Net Service	Network server settings.
	GUI Display	Settings for menu GUI display

	PTZ Config	Configure PTZ cameras per channel
	Tour	Set sequential screen display by single or multiple windows
 Advanced	HDD Management	Hard disk status and configuration settings
	User Account Management	Set and modify user accounts, permissions and passwords
	Online User	Sever connection between an online user and the DVR
	Output Adjust	Adjust monitor display borders
	Automatic Maintenance	Set conditions for DVR auto-reboot and auto file deletion
	Restore	Restore specific settings to the DVR's factory default
	Upgrade	Interface for upgrading DVR software
	Device Info	Display DVR audio in, alarm in, alarm out configuration.
 System Information	HDD Info	Hard disk capacity and free space. View recording times.
	Code Stream Statistics	Display code stream statistics
	Log Information	Select and display various log data
	Edition Information	DVR serial number, software version, build date, etc.
 Shutdown		User logout, DVR shutdown and DVR reboot.

6. RECORDING OPERATION

Manual Recording

- a. **Right click** the **Mouse** to display the pop-up **Short-cut Menu** and select **Record Mode** or press the **REC** button on the DVR's front panel. The **Record Mode** screen similar to the one below will be displayed on the monitor.



- b. There are three recording options under Record Mode:
 - Schedule – Recording to take place per a schedule created under **Record Config** (**Main Menu**, click the **Record** icon, then the **Record Config** icon).

- Manual – Under manual recording the DVR records regardless of any condition. Recording begins once a channel is selected under Manual and confirmation is made.
 - Stop – All recording (manual or schedule) will cease or not begin once the channel is selected and confirmation is made.
- c. Independent settings can be made for each channel. White indicates the recording option is selected for that channel; black indicates the recording function has been disabled for that channel. If **ALL** is selected then the recording function is selected for all channels.
- d. After settings are completed the user must click **OK** and exit.

Auto Recording

Automatic recording can take 3 forms:

- Regular – The default setting is 24 hours, non-stop recording after the DVR's initial boot.
- Detection – Allows automatic recording when the camera detects motion in a given area, the camera is blinded or there is video signal loss.
- Alarm – Allows the automatic recording when an external event triggers an alarm (e.g., a door opening).

The setting of automatic recording conditions per channel is done via the **Record Config** screen. Go to **Main Menu**, click the **Record** icon, then the **Record Config** icon and a screen similar to the one below will be displayed.

The screenshot shows the 'Record Config' window with the following settings:

- Channel: 1
- Redundancy:
- Length: 60 min
- PreRecord: 5 Sec
- Record Mode: Schedule, Manual, Stop
- Week: Thu
- Recording Periods:

Period	Time Range	Regular	Detect	Alarm
Period 1	00 : 00 - 24 : 00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Period 2	00 : 00 - 24 : 00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period 3	00 : 00 - 24 : 00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period 4	00 : 00 - 24 : 00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Buttons at the bottom: Advanced, OK, Cancel

- a. **CHANNEL** – From the drop-down menu select the corresponding channel or select ALL if the configuration is to be applied to all channels.
- b. **REDUNDANCY** – If the DVR has two hard disk drives Redundancy allows the writing of the video file to both drives. Click and highlight the Redundancy check box if desired.

NOTE: Using redundancy will double hard disk usage, essentially cutting recording time in half.

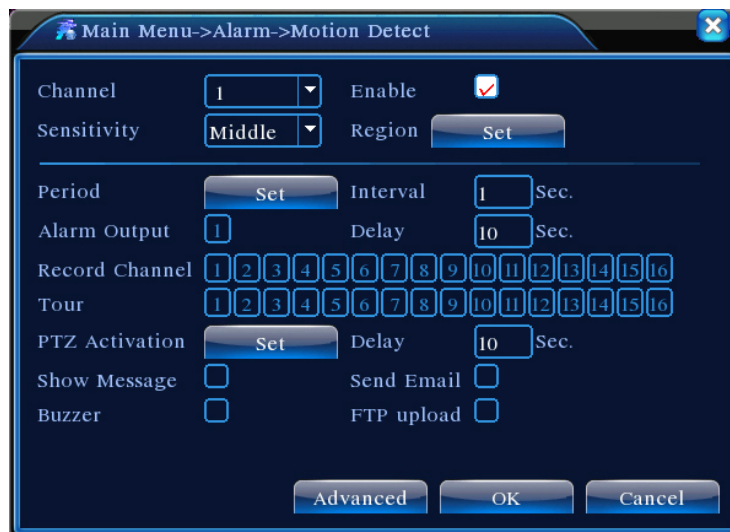
- c. **LENGTH** – Using the mouse enter the duration of each video file. 60 minutes is the default.

- d. **PRERECORD** – If desired, the DVR can record from 1 to 30 seconds before an event happens. The time length is determined by the code stream.
- e. **RECORD MODE** – Set the recording condition: scheduled, manual or stop.
- f. **WEEK and PERIODS** – Select the day and time slot the camera and DVR are to perform the recording function. Select ALL for every day of the week.
- g. **REGULAR, DETECT AND ALARM RECORDING TYPE** – Highlight the desired checkbox for the desired recording type.
 - Regular – Common, non-stop recording (unless Period set for specific time slot). Video file type is “R”
 - Detect – Recording is triggered by a motion detection, video blind or video loss event. The video file type is “M”.
 - Alarm – Recording is triggered by an external alarm. The video file type is “A”.
- h. Upon completing all desired settings click **SAVE**.

Note: If the recording configuration requires Detection (Motion Detection, Video Blind or Video Loss) and/or Alarm, additional settings must be made under the **Alarm Menu** by going to **Main Menu** and clicking the **Alarm** icon.

Auto Recording – Motion Detection Recording

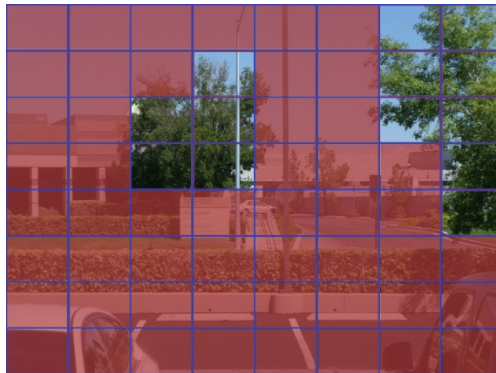
- a. To setup Motion Detection Recording go to **Main Menu**, click the **Alarm** icon, then the **Motion Detection** icon. The **Motion Detect** setup screen similar to the one below will appear.



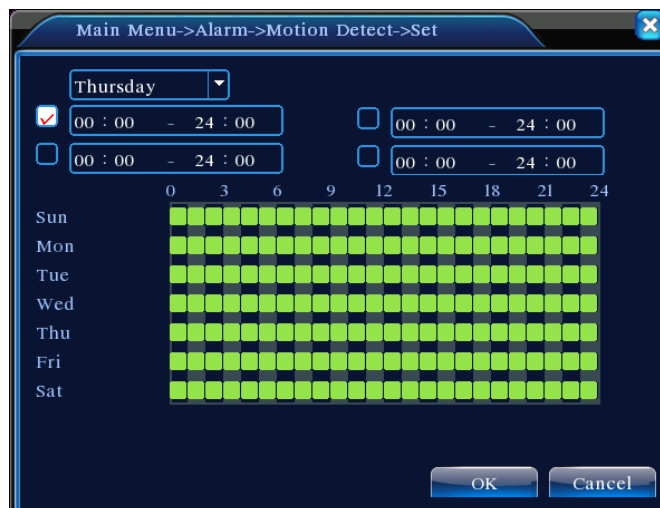
- b. **CHANNEL** – Select the camera for the motion detection area from the drop-down menu.
- c. **ENABLE** – Highlight the checkbox if motion detection is to be enabled.
- d. **SENSITIVITY** – Select from the six levels of motion sensitivity from the drop-down menu.

- e. **REGION** – The viewable area where the camera is to detect motion and the DVR is to record. By setting a region it is possible to reduce intermittent and/or low priority events that could trigger motion detection (e.g., a ceiling fan, a breeze moving curtains). To define the motion detection region:

- Click **SET**. This will present a display similar to the one below. The red blocks represent the area where motion will be detected and recorded. The non-colored boxes represent areas that will not trigger motion recording.

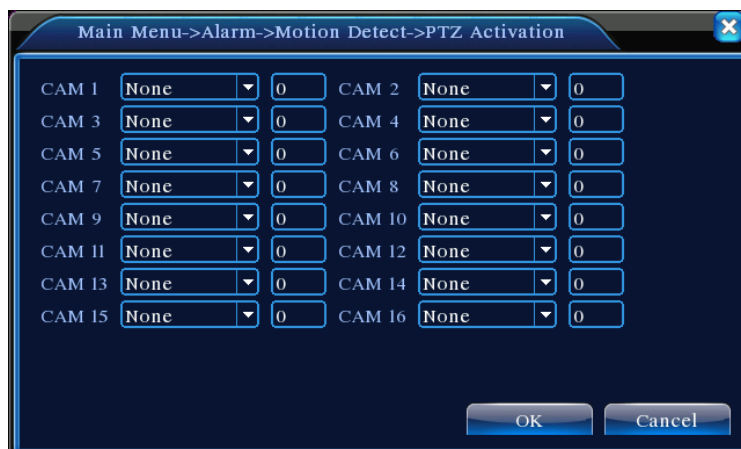


- To adjust the motion detection region position the mouse cursor on a block, click the right mouse button and drag the mouse over the area to be defined. Use the left mouse button to de-select.
 - Right click the mouse button and select **UpWindow** from the pop-up menu and return to the Motion Detection setup screen.
- f. **PERIOD** – To set the day and time period for the motion detection function to take place click **SET** and a screen similar to the one below will appear:



Select the desired day from the drop-down menu or ALL for the entire week. Four possible time slots are available for each day. Use the mouse and soft keyboard to enter the required time periods. Upon doing so the graphic will adjust to indicate the selected days and time periods. When done, click **OK**.

- g. **INTERVAL** – Set an interval period in seconds. If there are several motion detection signals occurring within the interval period only one alarm signal is turned on.
- h. **ALARM OUTPUT** – If an external signal (e.g., bell) to be activated upon a motion detection event highlight the checkbox.
- i. **DELAY** – Period during which the alarm sounds after the alarm input returns to standby status. Set a delay in the range of 10 to 300 seconds.
- j. **RECORDING CHANNEL** – Select one or multiple recording channels for the video signal when the alarm is activated.
- k. **TOUR** – Upon a motion detection or other alarm event the monitor will display a single window beginning with the channel on which the alarm took place. If desired, additional single windows per channel will sequence. The sequence interval is set by going to **Main Menu**, clicking on the **System** icon, clicking on the **Tour** icon and entering the interval period in seconds.
- l. **PTZ ACTIVATION** – In the event of a motion detection or other alarm a PTZ camera can be activated and set to automatically pan and or cruise among pre-determined spots. By clicking on **SET** a PTZ Activation screen similar to the one below appears.



For each PTZ camera select the type of PTZ function desired from the drop-down menu. When done, click **OK**. Note for PTZ activation to work, the PTZ camera has to be configured by going to **Main Menu**, clicking the **System** icon, and clicking the **PTZ Config** icon and entering the settings. Once done, the PTZ's presets, pattern or cruise settings must be created. This is done by calling up the **PTZ Control** through the **Short-cut Menu**.

- m. **DELAY** – Once the alarm stops the recording will continue for a set period of 10 to 300 seconds then stop.
- n. **SHOW MESSAGE** – If the checkbox is highlighted an Alarm Status screen will appear on the monitor when a motion detection event occurs.
- o. **BUZZER** – If the checkbox is highlighted a beep will be heard when a motion detection event occurs.
- p. **SEND EMAIL** – If the checkbox is highlighted an email will be automatically sent to a designated individual when a motion detection event occurs. Go to **Main Menu**, click the **System** icon and then click the **NetService** icon to enter the desired email setting.
- q. After all selections are made click **OK**.

Auto Recording – Video Blind

When the video image is lost, such as the camera being covered, the Video Blind function can be turned on and linked to an alarm function.

- a. Go to **Main Menu**, click on the **Alarm** icon and then the **Video Blind** icon. A Video Blind setup screen similar to the one below will appear. The Video Blind setup screen and parameters are very similar to those for motion detection.



- b. **CHANNEL** – Select the camera from the drop-down menu.
- c. **ENABLE** – Highlight the checkbox if the Video Blind function is to be enabled.
- d. **SENSITIVITY** – Select from the six levels of motion sensitivity from the drop-down menu.
- e. **PERIOD** – To set the day and time period for the video blind to take place click **SET** and a Set Screen will appear. Select the desired day from the drop-down menu or ALL for the entire week. Four possible time slots are available for each day. Use the mouse and soft keyboard to enter the required time periods. Upon doing so the graphic will adjust to indicate the selected days and time periods. When done, click **OK**.
- f. **ALARM OUTPUT** – If an external signal (e.g., bell) is to be activated upon a video blind event highlight the checkbox.
- g. **DELAY** – Period during which the alarm sounds after the alarm input returns to standby status. Set a delay in the range of 10 to 300 seconds.
- h. **RECORDING CHANNEL** – Select one or multiple recording channels for the video signal when the alarm is activated.
- i. **TOUR** – Upon a video blind or other alarm event the monitor will display a single window beginning with the channel on which the alarm took place. If desired, additional single windows per channel will sequence. The sequence interval is set by going to **Main Menu**, clicking on the **System** icon, clicking on the **Tour** icon and entering the interval period in seconds.

- j. **PTZ ACTIVATION** – In the event of a video blind or other alarm a PTZ camera can be activated and set to automatically pan and or cruise among pre-determined spots. By clicking on **SET** a PTZ Activation screen appears.

For each PTZ camera select the type of PTZ function desired from the drop-down menu. When done, click **OK**. Note for PTZ activation to work, the PTZ camera has to be configured by going to **Main Menu**, clicking the **System** icon, and clicking the **PTZ Config** icon and entering the settings. Once done, the PTZ's presets, pattern or cruise settings must be created. This is done by calling up the **PTZ Control** through the **Short-cut Menu**.

- k. **DELAY** - Once the alarm stops the recording will continue for a set period of 10 to 300 seconds then stop.
- l. **SHOW MESSAGE** – If the checkbox is highlighted an Alarm Status screen will appear on the monitor when a video blind event occurs.
- m. **BUZZER** – If the checkbox is highlighted a beep will be heard when a video blind event occurs.
- n. **SEND EMAIL** – If the checkbox is highlighted an email will be automatically sent to a designated individual when a video blind event occurs. Go to **Main Menu**, click the **System** icon and then click the **NetService** icon to enter the desired email setting.
- o. After all selections are made click **OK**.

Auto Recording – Video Loss

When there is a video loss situation it is possible to create an alarm and display a video loss message on the security monitor. The process of setting up auto recording for video loss is similar to Motion Detection and Video Blind.

- a. Go to **Main Menu**, click the **Alarm** icon and then click the **Video Loss** icon. . A Video Loss setup screen similar to the one below will appear.



- a. **CHANNEL** – Select the camera from the drop-down menu.
- b. **ENABLE** – Highlight the checkbox if the Video Loss function is to be enabled.
- c. **SENSITIVITY** – Select from the six levels of motion sensitivity from the drop-down menu.

- d. **PERIOD** – To set the day and time period for the video loss to take place click SET and a Set Screen appears. Select the desired day from the drop-down menu or ALL for the entire week. Four possible time slots are available for each day. Use the mouse and soft keyboard to enter the required time periods. Upon doing so the graphic will adjust to indicate the selected days and time periods. When done, click **OK**.
- e. **ALARM OUTPUT** – If an external signal (e.g., bell) to be activated upon a video loss event highlight the checkbox.
- f. **DELAY** – Period during which the alarm sounds after the alarm input returns to standby status. Set a delay in the range of 10 to 300 seconds.
- g. **RECORDING CHANNEL** – Select one or multiple recording channels for the video signal when the alarm is activated.
- h. **TOUR** – Upon a video loss or other alarm event the monitor will display a single window beginning with the channel on which the alarm took place. If desired, additional single windows per channel will sequence. The sequence interval is set by going to **Main Menu**, clicking on the **System** icon, clicking on the **Tour** icon and entering the interval period in seconds.
- i. **PTZ ACTIVATION** – In the event of a video loss or other alarm a PTZ camera can be activated and set to automatically pan and or cruise among pre-determined spots. By clicking on SET a PTZ Activation screen appears.

For each PTZ camera select the type of PTZ function desired from the drop-down menu. When done, click **OK**. Note for PTZ activation to work, the PTZ camera has to be configured by going to **Main Menu**, clicking the **System** icon, and clicking the **PTZ Config** icon and entering the settings. Once done, the PTZ's presets, pattern or cruise settings must be created. This is done by calling up the **PTZ Control** through the **Short-cut Menu**.

- j. **DELAY** - Once the alarm stops the recording will continue for a set period of 10 to 300 seconds then stop.
- k. **SHOW MESSAGE** – If the checkbox is highlighted an Alarm Status screen will appear on the monitor when a video loss event occurs.
- l. **BUZZER** – If the checkbox is highlighted a beep will be heard when a video loss event occurs.
- m. **SEND EMAIL** – If the checkbox is highlighted an email will be automatically sent to a designated individual when a video loss event occurs. Go to **Main Menu**, click the **System** icon and then click the **NetService** icon to enter the desired email setting.
- n. After all selections are made click **OK**.

Auto Recording – Alarm Recording

The first step to setting up alarm recording is to configure the DVR's **Alarm Output**.

- a. From **Main Menu** click the **Alarm** icon followed by the **Alarm Output** icon. Alternatively, **click the right mouse button** to display the **Short-cut Menu** and select **Alarm Output**. An Alarm Output screen similar to the one below will be displayed.



- b. Three alarm output settings are available:
 - Configuration – The alarm is on according to the configuration.
 - Manual – Click the “ALL” button and the corresponding channel will record when an alarm is sensed regardless of other settings.
 - Stop – Click to stop channel alarming regardless of the channel's state.
- c. Configure the **Alarm Input** by going to **Main Menu**, clicking on the **Alarm** icon followed by the **Alarm Input** icon. An Alarm Input setup screen similar to the one below will be displayed:



- d. **ALARM IN** – Select the alarm input from the drop-down menu.
- e. **ENABLE** – Highlight the checkbox if the Alarm Input is to be enabled.
- f. **TYPE** – From the drop-down menu select whether the alarm is Normal Open or Normal Close.
- g. **PERIOD** – To set the day and time period for the alarm to take place click **SET** and a Set screen will appear. Select the desired day from the drop-down menu or ALL for the entire week. Four possible time slots are available for each day. Use the mouse and soft keyboard to enter the required time periods. Upon doing so the graphic will adjust to indicate the selected days and time periods. When done, click **OK**.
- h. **INTERVAL** – Set an interval period in seconds. If there are several alarm events signals occurring within the interval period only one alarm signal is turned on.
- i. **ALARM OUTPUT** – If an external signal (e.g., bell) is to be activated upon an alarm event highlight the checkbox.
- j. **DELAY** – Period during which the alarm sounds after the alarm input returns to standby status. Set a delay in the range of 10 to 300 seconds.
- k. **RECORDING CHANNEL** – Select one or multiple recording channels for the video signal when the alarm is activated.
- l. **TOUR** – Upon an alarm event the monitor will display a single window beginning with the channel on which the alarm took place. If desired, additional single windows per channel will sequence. The sequence interval is set by going to **Main Menu**, clicking on the **System** icon, clicking on the **Tour** icon and entering the interval period in seconds.
- m. **PTZ ACTIVATION** – In the event of an alarm a PTZ camera can be activated and set to automatically pan and or cruise among pre-determined spots. By clicking on **SET** a PTZ Activation screen appears.

For each PTZ camera select the type of PTZ function desired from the drop-down menu. When done, click **OK**. Note for PTZ activation to work, the PTZ camera has to be configured by going to **Main Menu**, clicking the **System** icon, and clicking the **PTZ Config** icon and entering the settings. Once done, the PTZ's presets, pattern or cruise settings must be created. This is done by calling up the **PTZ Control** through the **Short-cut Menu**.
- n. **DELAY** – Once the alarm stops the recording will continue for a set period of 10 to 300 seconds then stop.
- o. **SHOW MESSAGE** – If the checkbox is highlighted an Alarm Status screen will appear on the monitor when an alarm event occurs.
- p. **BUZZER** – If the checkbox is highlighted a beep will be heard when an alarm event occurs.
- q. **SEND EMAIL** – If the checkbox is highlighted an email will be automatically sent to a designated individual when an alarm event occurs. Go to **Main Menu**, click the **System** icon and then click the **NetService** icon to enter the desired email setting.
- r. After all selections are made click **OK**.

7. PLAYBACK OPERATION

- a. Playback is accessed in one of three ways: (i) by clicking the right mouse button to display the **Short-cut Menu** and selecting **PlayBack**, (ii) by going to **Main Menu**, clicking the **Record** icon then clicking the **PlayBack** icon, or (iii) pressing the **Play/Pause** button on the **DVR's front panel**. Upon doing so a **PlayBack/File Search** screen similar to the one below will appear.



- 1 = Listed Video Files 2 = File Information 3 = File Search
 4 = File Backup 5 = Operation Hint/Status 6 = Playback Controls

NOTE: Icon #4 for file backup will not appear on screen until a search has been performed which finds at least one file.












- b. To locate a file for playback click the File Search icon (#3). Doing so will display a Search Condition screen with the following search options or criteria:



- **FILE TYPE** – Six file types are available selectable from the drop-down menu. Then using the adjacent drop-down menu select from where the file is located: on the DVR's hard disk configured for Read/Write or from a Backup Device
- **CHANNEL** – Select the appropriate channel by highlighting the channel checkbox.
- **START TIME** and **END TIME** – Using the mouse and the soft keyboard enter the requested dates and times. By clicking on the calendar icons a soft calendar will appear to make date selection easier.
- **PLAY MODE** – Using the drop-down menu select from among three options: Skip Decode, Average Decode or Full Decode.
- **SYNC MODE** – Forces all channels within one file to play in time synch with each other. Used to synch up all channels to a time so the user can view the video from the exact time on all recorded channels.

Once the search criteria are made click **SEARCH** to display the files or click **PLAY** for the system to automatically play all files that satisfy the search criteria.

- c. If individual files are to be played back click the checkbox for the desired files displayed in the Listed Files area (#1) of the Playback/File Search screen.
- d. Using the Playback Toolbar click the Play icon or other controls to manage the file.

Icon	Description	Icon	Description
	Playback and pause		Repeat playback
	Play backwards		Full screen
	Stop		
	Fast playback		Slow playback
	Next frame		Previous frame
	Next file		Previous file

- e. While in the Playback/File Search screen a click of the right mouse button will display a pop-up menu with the following options:
 - UpWindow – Return to previous menu
 - Show Desktop – Return to preview
 - Stop Playing – Cease playback
 - Full Screen – Display full channel window
 - View 1 through View 16 – Display single or quad windows
- f. While in the Playback/File Search screen it is also possible to backup a specific file or set of files for which a search has been performed. This can be initiated by clicking the **Backup** icon #4 and following the instructions outlined below in **Section 8: Backing Up Recording Files**.

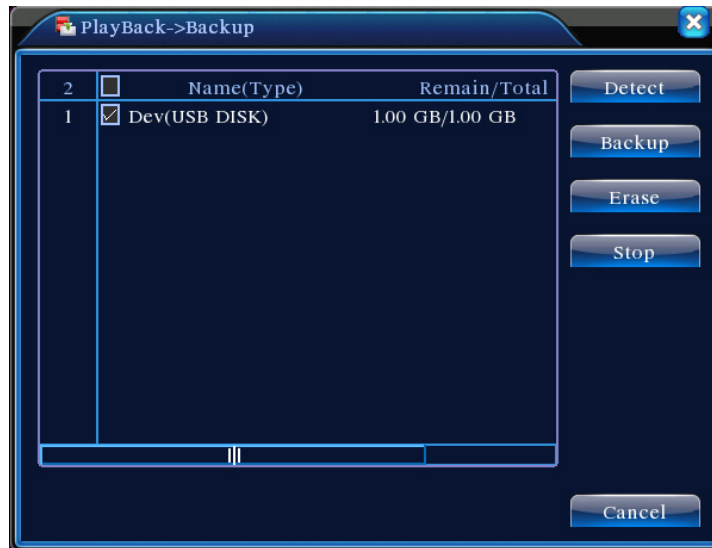
8. BACKING UP RECORDING FILES

Recording files can be backed up using USB storage devices (e.g., USB flash drive, USB CD-R/RW, USB DVD-R/RW) or a LAN for storage. Note that if a DVD burner is installed, a USB flash drive cannot be used for backup.

There are two methods for backing up files: (i) through the **PlayBack/File Search** screen or (ii) by going through **Main Menu**, clicking on the **Record** icon followed by the **Backup** icon. Both methods are described below.

File Backup – PlayBack/File Search Screen

- a. Access the PlayBack/File Search screen and search for recording files as described above in **Section 7: Playback Operation**.
- b. Select the desired files displayed in the Listed Video File Area (#1) by highlighting the appropriate checkbox.
- c. Upon doing so the Backup icon (#4) appears.
- d. Upon clicking the Backup icon a Playback/Backup screen similar to the one below will be displayed.



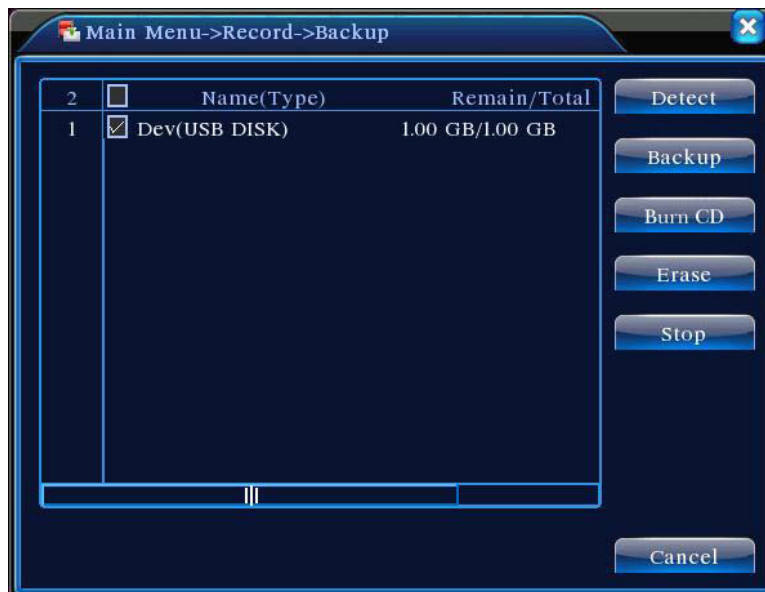
- e. Install a backup storage device such as USB flash drive. The DVR should automatically detect the device. If not, click the **DETECT** button. The detected device will appear in the list box on the top portion of the screen. Select the desired device by highlighting the device's checkbox. **ERASE** erases data from the backup drive. **STOP** aborts the backup process.
- f. Click the **BACKUP** button. Doing so will display a Backup screen similar to the one below. If files were selected in the Playback/File Search screen they will be displayed in the Backup screen's list box. If additional files need to be listed perform a file search using the search criteria (Type, Channel, Start Time and End Time) in the Backup screen then click **ADD**. Select the files to be backed up by highlighting the appropriate checkbox. Note: clicking **REMOVE** will delete all files from the Backup screen's list box.



- g. Click the **START** button. Backup will begin and the screen will display backup progress. When the backup is completed click the dialog box's **OK** button.

File Backup – Direct From Main Menu

- a. From **Main Menu** click the **Record** icon followed by the **Backup** icon. A **Record/Backup** screen similar to the one below will appear.



- b. Install a backup storage device such as USB flash drive. The DVR should automatically detect the device. If not, click the **DETECT** button. The detected device will appear in the list box on the top portion of the screen. If more than one backup device is listed, select the desired device by highlighting the device's checkbox. **ERASE** erases data from the

backup drive. **STOP** aborts the backup process. **BURN CD** formats the a CD / DVD in the optional CD / DVD-RW drive.

- c. Click the **BACKUP** button. Doing so will display a Backup screen similar to the one below. Perform a file search using the search criteria (Type, Channel, Start Time and End Time) in the Backup screen then click **ADD**. Select the files to be backed up by highlighting the appropriate checkbox. Note: clicking **REMOVE** will delete all files from the Backup screen's list box.



- d. Click the **START** button. Backup will begin and the screen will display backup progress. When the backup is completed click the dialog box's **OK** button.

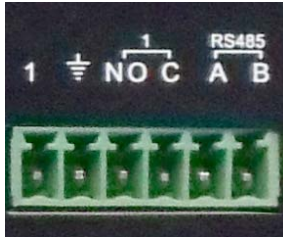
9. PTZ CONTROL

The DVR's embedded PTZ controller is designed to perform a wide variety of PTZ camera control functions. However, the utility of any PTZ controller is highly dependant upon the particular PTZ camera to be controlled as each camera has not only its own functions, but specific methods of how those native functions are accessed and managed. Further, a particular PTZ controller's terminology may differ from that used by a particular PTZ camera. Therefore, it will be necessary for the installer and/or user to consult BOTH the DVR manual and PTZ camera's user manual to ensure proper set-up, configuration and application.

PTZ Camera Connection

The PTZ camera is connected to the DVR as follows:

- a. Connect the PTZ camera's RS-485 cables to the DVR's RS-485 terminal. Note on the DVR RS-485 A is positive (+) and RS-485 B is negative (-). Be sure the camera's connection polarities match those on the DVR.



- b. Connect the PTZ camera's video cable to the DVR's video input port.
- c. Power the PTZ camera after all connections are made.

PTZ Camera Configuration

Setting up the PTZ camera for DVR control is done by the following steps:

- a. From **Main Menu**, click the **System** icon then the **PTZ Config** icon. A **PTZ Config** screen similar to the one below will appear.







PTZ Device		RS485 Device	
Channel	1		
Protocol	PELCCOD	NONE	
Address	1	1	
Baudrate	9600	9600	
Data Bits	8	8	
Stop Bits	1	1	
Parity	None	None	
Monitors	1		

- b. In the **CHANNEL** drop-down box select the DVR channel the PTZ camera is on.
- c. In the **PROTOCOL** drop-down box select the PTZ camera's protocol (e.g, PELCCOD).
- d. In the **ADDRESS** field input the PTZ camera's device ID (e.g., 1).
- e. In the **BAUD RATE** drop-down box select the PTZ camera's baud rate.
- f. In the **DATA BIT**, **STOP BIT**, and **PARITY** drop-down boxes select the parameters that match those for the PTZ camera. Defaults are respectively 9600, 8, 1, and NONE.
- g. **MONITORS** is not used in this DVR.
- h. Repeat the above steps for each PTZ camera to be connected and controlled.
- i. Once all settings are made click the **OK** button and exit.

PTZ Camera Control

To access the PTZ control functions **click the right mouse button** to display the pop-up **Short-cut Menu** and select **PTZ CONTROL** or press the **PTZ button** on the DVR's front panel. Upon doing so a **PTZ Control** interface similar to the one below will appear.



- a. **SPEED** – Using the left mouse button and soft keyboard enter a value from 1 to 8 for camera pan speed with 1 being the slowest and 8 the fastest.
- b. **ZOOM** – Click the  button to zoom in, the  button to zoom out.
- c. **FOCUS** – Click the  and  buttons to adjust the camera focus. **Note: Not all cameras support remote focus adjustment.**
- d. **IRIS** – Click the  and  buttons to adjust the camera's iris. **Note: Not all cameras support remote iris adjustment.**
- e. **DIRECTION CONTROL** – Control the camera's pan and tilt by clicking on any one of the 8 direction arrows.
- f. **PAGE SWITCH** – Clicking this button presents consecutive pages for setting up PTZ camera presets, scans, tours, etc.
- g. **SET** – Provides access to a screen for creating presets used in PTZ camera tours, patterns and border scan.
- h. **PTZ TRACE** – Clicking this button displays a full channel for the PTZ camera. Position the mouse cursor on the screen, hold down the left mouse button and drag the mouse in the direction the camera is to follow.
- i. Note that camera pan and tilt are also possible using the UP/DOWN/LEFT/RIGHT control keys on the DVR's front panel or the remote control.

Setting Presets

To set a location for the preset:

- a. Use the direction controls on the PTZ Control interface to turn the camera to the desired preset location.

- b. Click the **SET** button on the **PTZ Control** interface. A screen similar to the one below will appear.



- c. Highlight **PRESET** and enter the preset number using the left mouse button and soft keyboard.
- d. Clicking the **SET** button on the above screen will return to the **PTZ Control** interface.
- e. To remove a preset click the **DEL PRESET** button on the above screen.
- f. To call a preset, from the PTZ Control interface screen click the **PAGE SWITCH** button once to display a page for calling presets, patterns, tours, and scans. The control page displayed will be similar to the one below.



- g. Using the left mouse button and soft keyboard enter the desired preset number to be called.
- h. Click the **PRESET** button and the camera will travel to the preset point.

Tour Between Points

Multiple preset points can be connected to create “tour lines”. The PTZ camera can be programmed to cruise a set of presets along a specified line.

- a. Using the direction control buttons move the camera to a desired point.
- b. Click the **SET** button on the **PTZ Control** interface screen.
- c. Using the screen below as an example, click the **TOUR** button, and use the left mouse button and soft keyboard to enter the preset point and the tour line number (**PATROL NO.**). Then click **ADD PRESET**.
- d. To set the interval or dwell time (time the camera will remain on a preset point before moving to the next point) enter the desired value in the **INTERVAL** field.



- e. Repeat the above steps until all presets are added for each tour line (Patrol Line) under Tour.
- f. To remove a preset, enter the preset value and click the **DEL PRESET** button.
- g. To remove a tour line, enter the Patrol No. value and click the **DEL TOUR** button.
- h. To call a tour from the PTZ Control interface screen click the **PAGE SWITCH** button once to display a page for calling presets, patterns, tours, and scans. The control page displayed will be similar to the one below.



- i. Using the left mouse button and soft keyboard enter the desired tour number to be called.
- j. Click the **TOUR** button and the camera will travel along the tour line's preset points.

Pattern

A PTZ camera can be controlled to repeatedly scan tour lines.

- a. Click the **SET** button on the **PTZ Control** interface screen.
- b. Using the screen below as an example, click the **PATTERN** button and use the mouse and soft keyboard to input the pattern value.



- c. Click **BEGIN**. Doing so will return to the PTZ Control interface screen where zoom, focus, iris, direction, etc. adjustments can be made.
- d. Click **SET** on the **PTZ Control** interface screen.
- e. Click **END**.

- f. To call a pattern, from the **PTZ Control** interface screen click the **PAGE SWITCH** button once to display a page for calling presets, patterns, tours, and scans. The control page displayed will be similar to the one below.



- g. Using the left mouse button and soft keyboard enter the desired pattern number to be called.
- h. Click the **PATTERN** button and the camera will travel along the configured line.

Border Scan

A scan between preset left and right positions is possible.

- a. Using the direction buttons on the **PTZ Control** interface screen move the camera to the desired left boundary point. Click the **SET** button on the **PTZ Control** interface screen.
- b. Using the screen below as an example, click the **BORDER** button and use the mouse and soft keyboard to input the pattern value.



- c. Click the **LEFT** button. Doing so will return to the **PTZ Control** interface screen where the direction buttons will be used to position the camera at the desired right boundary point. Once done, press the **SET** button.
- d. Click the **RIGHT** button.
- e. To call a border scan, from the **PTZ Control** interface screen click the **PAGE SWITCH** button once to display a page for calling presets, patterns, tours, and scans. The control page displayed will be similar to the one below.



- f. Using the left mouse button and soft keyboard enter the desired border scan number to be called.
- g. Click the **AUTOSCAN** button and the camera will travel between the left and right boundary settings.

Auto Pan, Flip and Reset

- a. From the **PTZ Control** interface screen click the **PAGE SWITCH** button. A screen similar to the one below will be displayed.

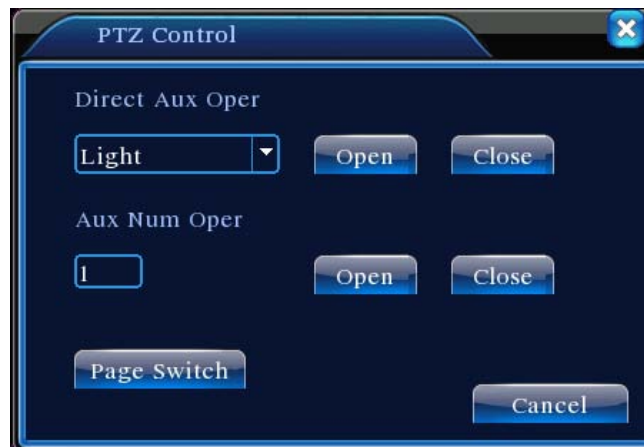


- b. For automatic horizontal camera rotation click the **AUTOPAN** button.
- c. For automatic vertical camera rotation click the **FLIP** button.
- d. To clear all PTZ data settings click the **RESET** button.

NOTE: If the FLIP and/or RESET buttons are grayed out on the PTZ Control screen those functions are not supported by the DVR.

Other PTZ Control Functions

By clicking the PTZ Control interface screen's **PAGE SWITCH** button twice an auxiliary function screen similar to the one below appears. Auxiliary equipment can be controlled through this interface. The user must consult the camera's manual to properly configure the DVR and camera for these functions.



- a. **DIRECT AUX OPER** – From the drop-down menu select the auxiliary equipment (e.g., a light) and click on **ON** or **CLOSE** to control.
- b. **AUX NUM OPER** – The operation of the corresponding auxiliary switch according to the PTZ agreement.

10. SYSTEM SETTINGS

The System Settings menu allows DVR configuration for date, time, encoding, network, network servers, DVR GUI, PTZ cameras and monitor window sequencing. The System Settings menu is accessed by going to **Main Menu** and clicking on the **System** icon. Upon doing so the **System Sub-menu** will appear.

General Settings

Go to **Main Menu**, click on the **System** icon then the **General** icon. General settings include system time and date, date format and separator, time format, language, hard drive full management options, video format, etc. The General menu screen displayed is similar to the one below.



- a. **SYSTEM TIME** – Position the mouse cursor, click the left mouse button and use the soft keyboard to enter date and time.
- b. **DST**- If Daylight Savings Time needs to be incorporated as part of the DVR's system time click the **DST** button and a DST configuration screen will appear similar to the one below.



Highlight the **ENABLE** checkbox and complete the DST **START** and **END** settings. Click **OK** when finished.

- c. **DATE FORMAT** – From the drop-down menu select the desired format: year, month, date; month, date, year; date month, year.
- d. **DATE SEPARATOR** – From the drop-down menu select the date separator. Options are . – /
- e. **TIME FORMAT** – From the drop-down menu select either the **12-HOUR** or **24-HOUR** format.
- f. **LANGUAGE** – From the drop-down menu select the desired language.
- g. **HDD FULL** – If the hard disk becomes full the DVR can either overwrite the hard disk or stop recording. Select the desired option from the drop-down menu.
- h. **DVR NO.** – Assign a DVR address for the infrared remote. Used when the remote is to control multiple DVRs.
- i. **VIDEO STANDARD** – From the drop-down menu select either **NTSC** or **PAL**. Use NTSC for operation in the U.S.A.
- j. **AUTO LOGOUT** – If desired, for security purposes the DVR can automatically logout any users after a specified period. Use the mouse cursor, left mouse button and soft keyboard to enter the time from 0 to 60 minutes .
- k. **MACHINE NAME** – The default DVR name is **LocalHost**. The machine name can be changed as desired using the mouse and soft keyboard.

Encode Settings

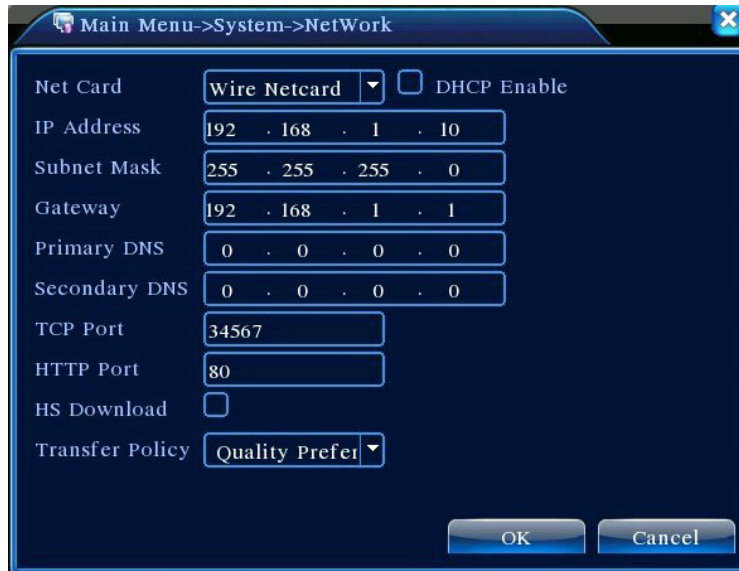
From the **Main Menu** click the **System** icon then the **Encode** icon. An Encode settings screen similar to the one below will be displayed. Note the second column of pull down menu options beginning with “Extra Stream” consists of settings for mobile phone access. If “video” is not checked below the column mobile monitoring will not be possible.



- CHANNEL** – Select the desired channel from the drop-down menu.
- COMPRESSION** – H.264 is the only compression and cannot be changed.
- RESOLUTION** – Resolution types are CIF/QIF.
- FRAME RATE** – Selectable from 1 to 30 FPS using the drop-down menu.
- BIT RATE TYPE** – Select VBR (variable bit rate) or CBR (constant bit rate) from the drop-down menu. When selecting VBR six image quality options are provided.
- QUALITY** – Six levels of video quality are available from the drop-down menu.
- BIT RATE (Kb/S)** – Not adjustable from the drop-down menu. Value changes as a result of Frame Rate changes.
- I FRAME INTERVAL** – Selectable from 2 to 12 using the drop-down menu.
- VIDEO/AUDIO** – Highlight the AUDIO checkbox if audio encoding is desired.

Network Settings

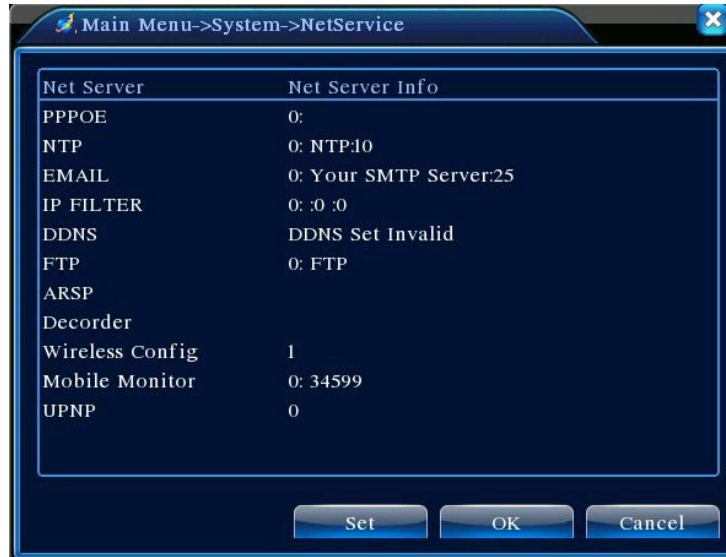
From **Main Menu** click the **System** icon then the **Network** icon. A Network settings screen similar to the one below will be displayed.



- a. **NET CARD** – Wire Netcard is the fixed option.
- b. **DHCP ENABLE** – Highlight the checkbox if the IP address is automatically obtained.
- a. **IP ADDRESS, SUBNET MASK, GATEWAY, PRIMARY DNS, SECONDARY DNS** – The addresses can be modified using the mouse and soft keyboard. Subnet Mask is a 32-bit mask used to divide an IP address into subnets and specify the available networks. Gateway is a network node serving as an entrance to another network. DNS (Domain Name System) translates domain names into IP addresses as domain names.
 - The DVR must be set to an available IP address on the Local Network. The default address is 192.168.1.10
 - The Subnet Mask address default is 255.255.255.0.
 - The Gateway default address is 192.168.1.1. The Gateway allows access to the network and often is the same address as the network router.
 - The DNS IP address is provided by the ISP. Once the address is set the DVR must be rebooted. A DNS is not often necessary. See the network administrator regarding the specifics for setting the DNS.
- c. **TCP PORT** – Default is 34567. Note 34567 is assigned for the UDP port and should not be used for setting other ports.
- d. **HTTP PORT** – Default is 80.
- e. **HS DOWNLOAD** – Internet Explorer plug-ins installed when viewing via an IE browser.
- f. **TRANSFER POLICY** – From the drop-down menu select one of three options: **SELF ADAPTION**, **IMAGE QUALITY PREFERRED**, or **FLUENCY PREFERRED**. The code stream adjusts according bandwidth/speed vs. image quality. Self Adaption is the tradeoff between Image Quality Preferred and Fluency Preferred. Fluency Preferred and Self Adaption are valid only when the assistant code stream is turned on. Otherwise Image Quality Preferred is valid.

Network Service Settings

From the **Main Menu** click the **System** icon followed by the **NetService** icon. A NetService settings screen similar to the one below will be displayed.



- Choose the network service option by highlighting it with the mouse or front panel UP/DOWN buttons. Then click the **SET** button to display a configuration screen for that particular service. Once settings are entered into the configuration screen click **OK** then **OK** on the NetService setting screen.
- PPPOE** - Point-to Point Protocol Over Ethernet. PPPoE is a specification for connecting the users by Ethernet to the Internet through a common broadband medium. PPPoE generally involves the use of a DSL modem or cable modem. If PPPoE is to be used the IP address, account name and password are required. **The system must be rebooted after saving.** After the reboot the DVR will automatically setup the PPPoE network connection and the ISP will modify automatically the Internet dynamic IP address. This new IP address is to be used for remote access to the DVR. The PPPOE configuration screen is similar to the one below. Highlight the **ENABLE** checkbox.



- NTP** – The NTP server must be installed on the PC. The NTP configuration screen is similar to the one below. Highlight the **ENABLE** checkbox.

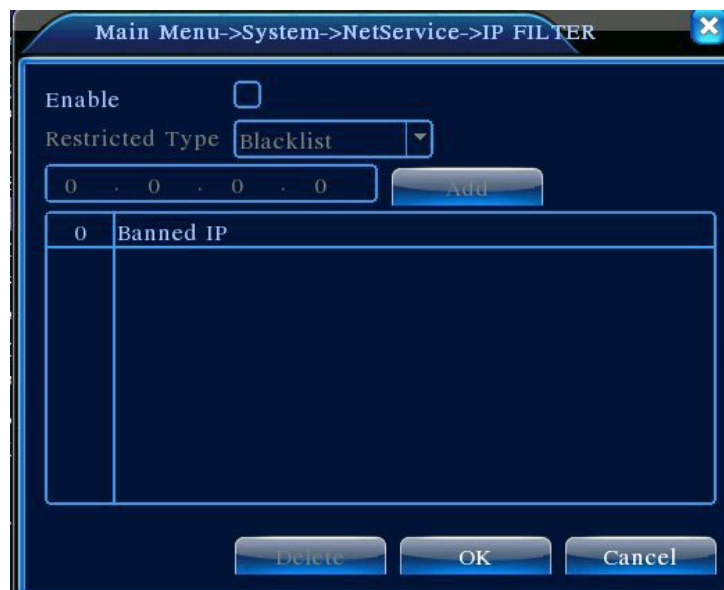


- **SERVER IP** – Use the mouse cursor, left mouse button and soft keypad to input the IP address for the installed NTP server.
 - **PORT** – Default is 123. The port can be set according to the NTP server.
 - **TIME ZONE** – For the U.S. Hawaii Time is GMT-10, Alaska Time is GMT-9, Pacific Time is GMT-8, Mountain Time is GMT-7, Central Time is GMT-6, Eastern Time is GMT-5, and Atlantic Time is GMT-4.
 - **UPDATE PERIOD** – Default is 10 minutes.
- d. **EMAIL** – An email can be sent to a designated recipient in the event an alarm event has taken place. Note the DVR must be configured to identify an alarm caused by motion detection, video loss, physical contact, etc. The Email configuration screen is similar to the one below. Highlight the **ENABLE** checkbox.

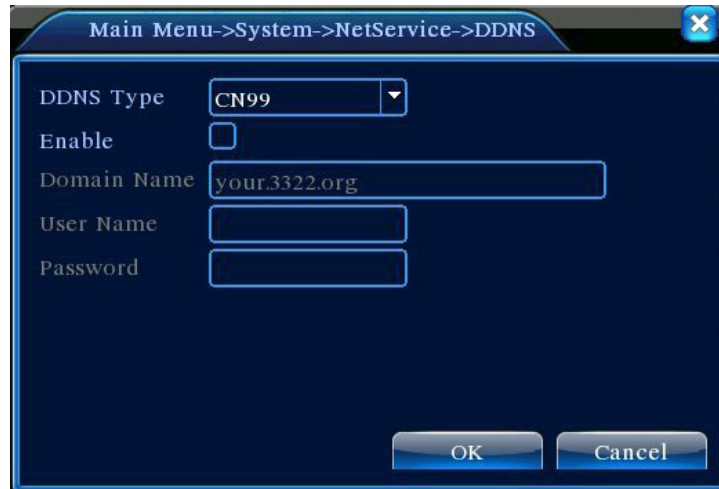


- **SMTP SERVER** – Use the mouse cursor, left mouse button and soft keyboard to enter the email server's IP address. This could be an IP address or a domain name. Note a domain name can only be correctly translated using a DNS configuration.
- **PORT** – Email server port number.

- **NEED SSL** – Highlight the checkbox if the Secure Socket Layer protocol is required.
 - **USER NAME** – Enter the email server user name.
 - **PASSWORD** – Enter the email user’s password.
 - **SENDER** – Set the email sender address.
 - **RECEIVER** – Send the email to appointed receivers when the alarm takes place. There is a maximum of three receivers.
 - **TITLE** - Create a title for the email subject line.
- e. **IP FILTER** – It is possible to create an IP address “white list” that identifies those IP addresses allowed to connect to the DVR. When creating an IP address “black list”, the listed IP addresses cannot connect to the DVR. 64-bit IP addresses are supported on both “white” and “black” lists. If an IP address is on both the “white” and “black” list the “black” list takes precedence. The IP Filter configuration screen is similar to the one below. Highlight the **ENABLE** check box.

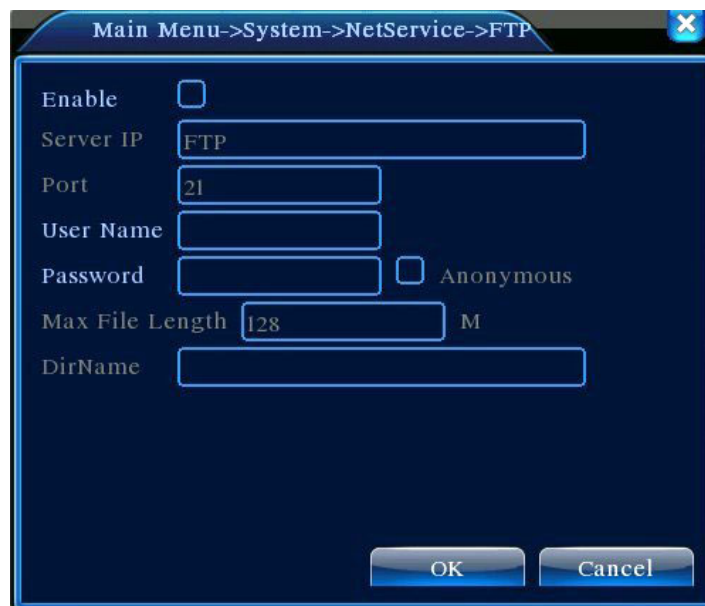


- f. **DDNS** – Dynamic Domain Name Server. DDNS permits a DDS name to be synchronized with a dynamic IP address. The DDNS configuration screen is similar to the one below. Highlight the **ENABLE** checkbox. Note: DNS must also be configured correctly under Network setup. When the DDNS is successfully configured and started the domain name can be connected in an Internet Explorer address toolbar.



- **DOMAIN NAME** – Input the domain name registered by DDNS.
- **USER NAME** – Input the account registered by DDNS.
- **PASSWORD** – Input the password registered by DDNS.

- g. **FTP** – FTP is available only when an alarm takes place. If FTP is enabled the related alarm event record and snapshot picture are uploaded to a FTP server. NOTE: if the DVR does not support the snapshot feature the FTP function will not work. Highlight the **ENABLE** checkbox.



- **SERVER IP** – Input the IP address for the FTP server.
- **PORT** – Input the Domain Port of the FTP server. The default is 21.
- **USER NAME** – Input the FTP server's user name.
- **PASSWORD** – Input the user's password.
- **MAX FILE LENGTH** – Specifies the maximum length of the upload file.
- **DIR NAME** – Specify the directory for the uploading files.

- h. **MOBILE** – The DVR can be configured to support smartphone access and management. . Note a compatible remote client must be installed on the smartphone and a router must direct the smartphone client to the mobile port. A Mobile configuration screen similar to the one below will be displayed. Highlight the **ENABLE** checkbox



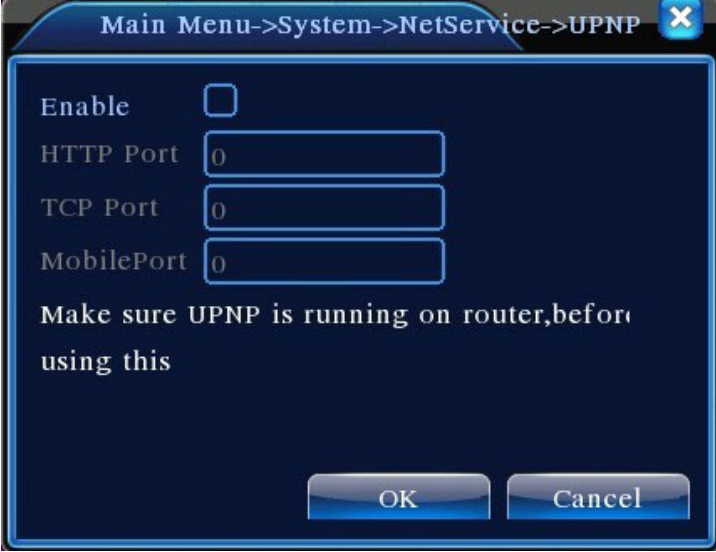
Main Menu->System->NetService->Mobil

Enable

Port 34599

OK Cancel

- **PORT** – Input the port number. Be sure to forward this port in the network router.
- i. **UPNP** (Universal Plug and Play) – The DVR support the UPNP protocol to allow the DVR to appear as a plug and play network device. UPNP must be running on the network router before implementing it on the DVR. A UPNP configuration screen similar to the one below will be displayed. Highlight the **ENABLE** checkbox.



Main Menu->System->NetService->UPNP

Enable

HTTP Port 0

TCP Port 0

MobilePort 0

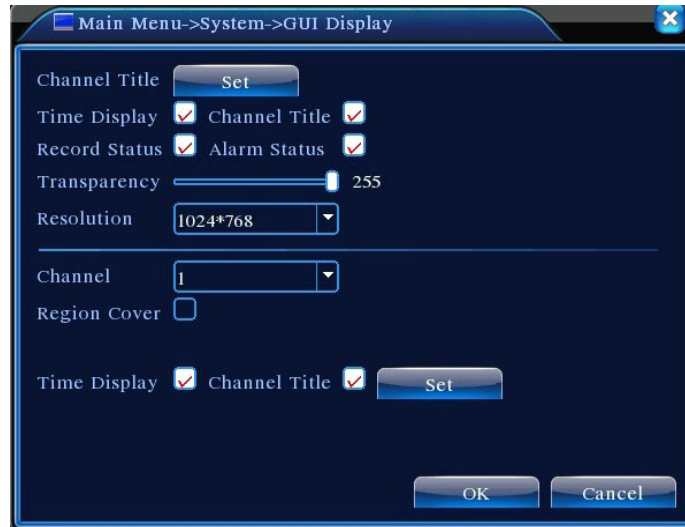
Make sure UPNP is running on router,befor using this

OK Cancel

- **HTTP** – The router will automatically distribute the HTTP port for the DVR when using Internet Explorer for viewing.
- **TCP** – The router will automatically distribute the TCP port for the DVR when monitoring using remote management software such as CMS.
- **MOBILEPORT** – The router will automatically distribute the Mobile Port for the DVR when a smartphone is accessing and monitoring.

GUI Display Settings

The DVR's GUI can be set to a number of configurations for displaying channel name, channel title, time, alarm status, recording status and other information in Preview mode, Video File mode and remote access mode. From **Main Menu** click the **System** icon then the **GUI Display** icon. A GUI Display setting screen similar to the one below will appear.



- a. **CHANNEL TITLE** – Click the **SET** button to modify the channel title. Use the mouse cursor, left mouse button and soft keyboards to change the title.
- b. **TIME DISPLAY** – Highlight the checkbox if the system time is to be displayed.
- c. **CHANNEL TITLE** – Highlight the checkbox if the channel title is to be displayed.
- d. **RECORDING STATUS** – Highlight the checkbox if the recording status is to be displayed.
- e. **ALARM STATUS** – Highlight the checkbox if the alarm status is to be displayed.
- f. **TRANSPARENCY** – Using the slider set the level of GUI transparency over the background image. Range is 128 to 255.
- g. **RESOLUTION** – Using the drop-down menu select one of five display resolutions.
- h. **CHANNEL** – Using the drop-down menu select the set code output channel number (i.e., camera/DVR channel)
- i. **REGION COVER** – If desired, a region in the camera's image can be blacked out. Highlight the Region Cover checkbox, click **SET**, then place and adjust the black out area using the mouse. When done click the right mouse button and select **UpWindow** to return to the GUI Display setting screen. Finally, highlight the corresponding channel window.
- j. **TIME DISPLAY, CHANNEL TITLE** – The time display and/or the channel title can be repositioned. Highlight the appropriate checkbox the click **SET**. Left click the mouse button and drag the time display/channel title to the desired location. When done, click the right mouse button and select **UpWindow** to return to the GUI Display setting screen.

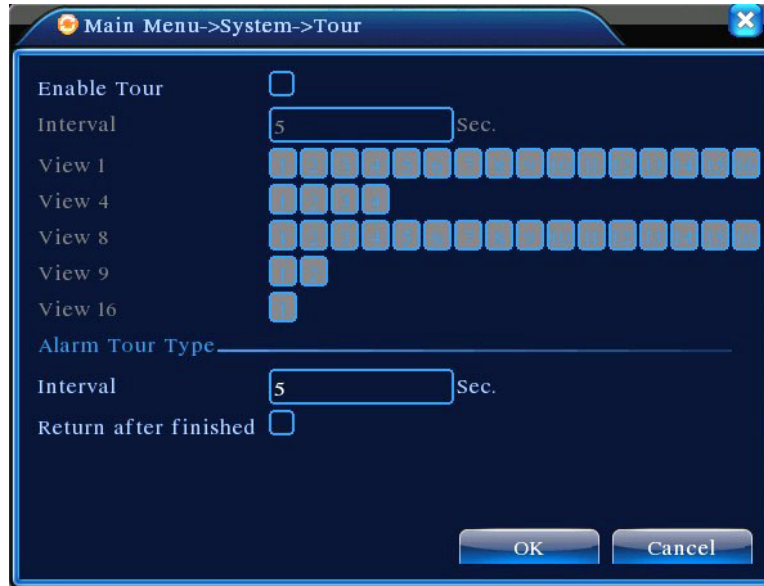
PTZ Configuration Settings

See Section 9: PTZ Control.

Tour (Screen Sequencing) Settings

Each channel window can be displayed as a single window, one of four windows, one of nine windows or one of sixteen windows. Further, by highlighting the **ENABLE TOUR** checkbox each channel window can be sequenced according to a desired time interval.

From **Main Menu** click the **System** icon followed by the **Tour** icon. A Tour settings screen similar to the one below will appear.



- a. **INTERVAL** – Using the mouse cursor, left mouse button and soft keypads enter the sequence interval timing. Range is 5 to 120 seconds.
- b. **VIEW** – View 1 refers to single window display. Highlight the channel numbers for channels to be displayed. View 4 refers to a quad display where 4 channel windows will be displayed at one time. View 8 provides two quad displays of 4 channel windows per each quad display. The user chooses which windows per quad display. View 9 allows for two quad displays of widows per display with one large window. View 16 refers to all 16 channels displayed at once.

11. ADVANCED FEATURES

HDD Management

From **Main Menu** click the **Advanced** icon followed by the **Hard Disk Management** icon. The HDD Manage settings screen similar to the one below will appear.



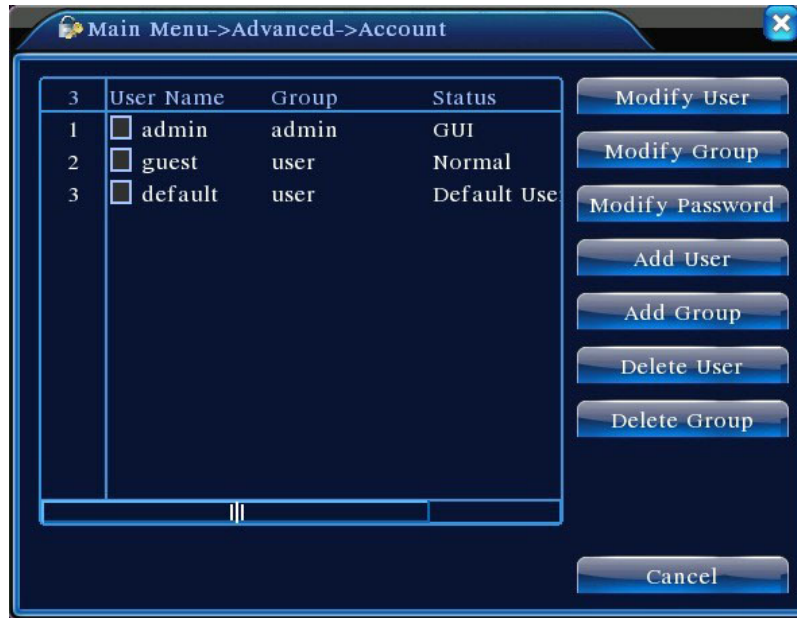
The screen displays current hard drive information including disk number, input port, type, status and drive capacity. From the screen 6 drive operations are possible. Select the hard drive and click on the desired button. NOTE the number of supported hard drives is DVR specific.

- **READ WRITE** – Data can be written to and read from the drive.
- **READ ONLY** – No data can be written to the disk.
- **REDUNDANCY** – Double backup the video files to a ReadWrite disk. Note a second hard drive is required.
- **FORMAT DISK** – Hard drives need to be formatted to operate with the DVR. If a hard drive is not formatted it will not be recognized by the DVR. Generally all hard drives newly installed in the DVR will have to be formatted. On occasions there may be a need to reformat an existing drive. **Formatting a hard drive erases all information on that drive. Be certain the drive requires formatting and backup data on the drive to another storage device if that data are needed.**
- **RECOVER** – Used to salvage damaged files on a disk with errors.
- **PARTITION** – A drive may be partition for file allocation.

User Account Management

Users can be added to and deleted from the system. Further, user privileges, permissions and passwords can be modified.

From **Main Menu** click the **Advanced** icon followed by the **User Account Management** icon. The Account settings screen similar to the one below will appear.

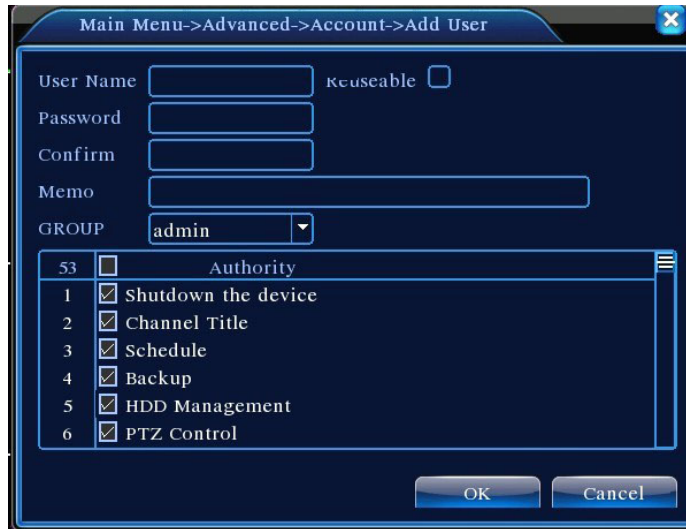


The maximum User Name length is 8 characters. A space counts as a character and is valid when placed between characters in the string. However, a space before or after the string is invalid. Acceptable characters are letters, numbers, underline, minus sign and dot.

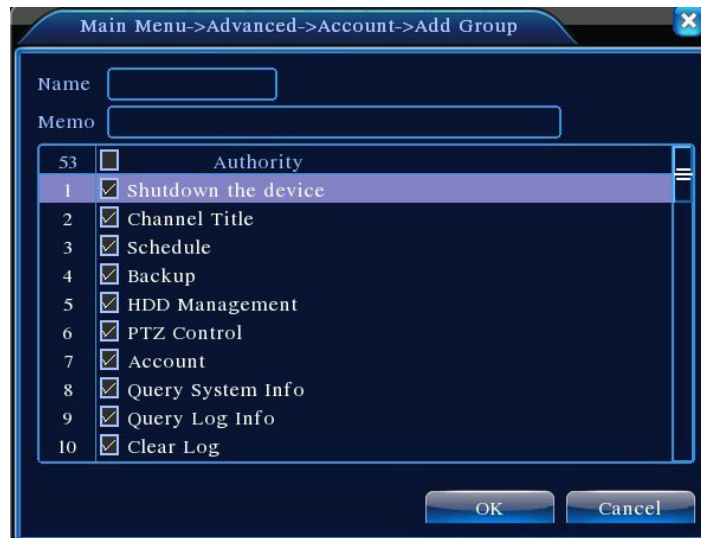
The maximum password length is 6 characters.

Users can be assembled as a group. The group name and a user name cannot be the same. Further, a user can belong only to one group.

- MODIFY USER** – Clicking this button displays the Modify User screen where group, permissions and other attributes can be changed.
- MODIFY GROUP** – Clicking this button displays the Modify Group screen where group permissions can be changed.
- MODIFY PASSWORD** – Clicking this button displays the Modify Password screen.
- ADD USER** – Clicking this button displays the Add User screen where a new user can be added with a password. Group and permission attributes are assigned through this screen.



- e. **ADD GROUP** – Clicking this button displays the Add Group screen where the group name is created and group permissions are set.

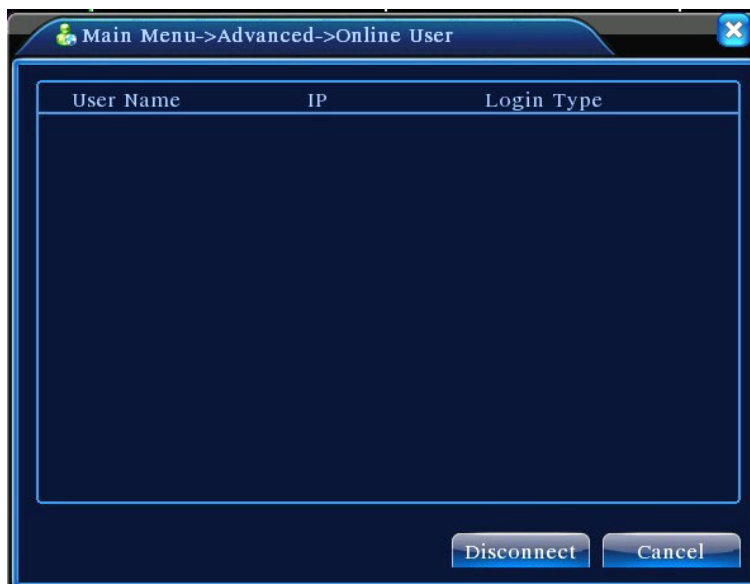


- f. **DELETE USER** – Clicking this button deletes a user once a confirmation is made.
- g. **DELETE GROUP** – Clicking this button displays a Delete Group screen for removing a particular group.



Online User

Information on those users accessing the DVR through the network is displayed. Individual users can be disconnected from the DVR and locked out until the DVR's next reboot or change the user's permissions. From **Main Menu** click the **Advanced** icon followed by the **Online User** icon. An Online User screen similar to the one below will be displayed.



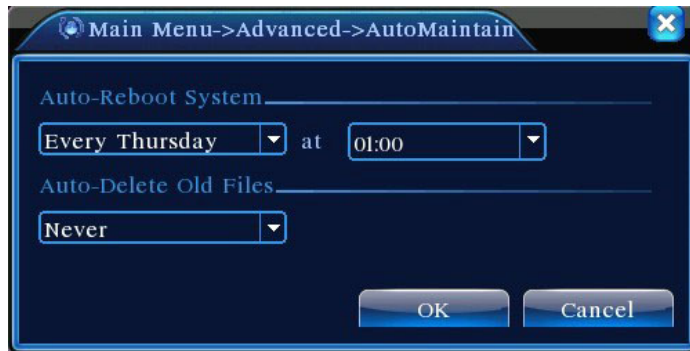
Output Adjust

The monitor's borders can be adjusted using the Output Adjust feature. From **Main Menu** click the **Advanced** icon followed by the **Output Adjust** icon, or by clicking the **right mouse button** select **Output Adjust** from the **Short-cut Menu**. The Output Adjust screen is similar to the one below.



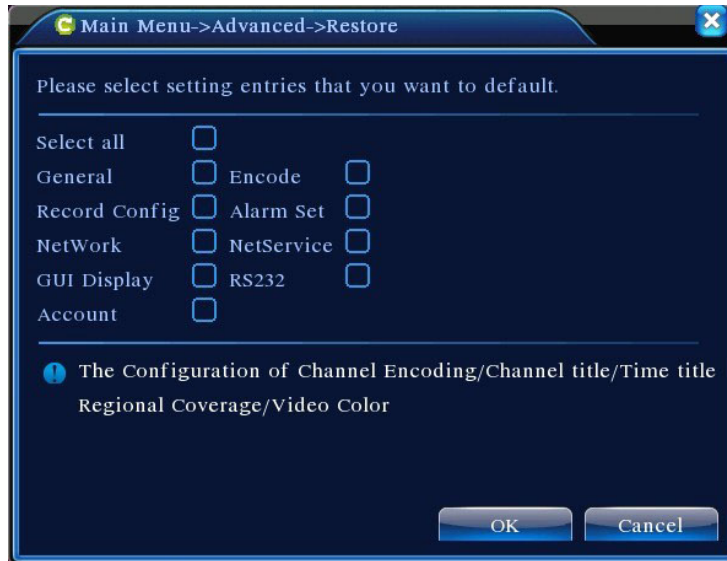
Auto Maintain

Using the drop-down menus the DVR can be configured to automatically reboot and/or automatically delete old files. From **Main Menu** click the **Advanced** icon followed by the **AutoMaintain** icon. The displayed AutoMaintain screen is similar to the one below.



Restore Defaults

To restore the DVR settings to the factory defaults from **Main Menu** click the **Advanced** icon followed by the **Restore** icon. The displayed Restore screen is similar to the one below.



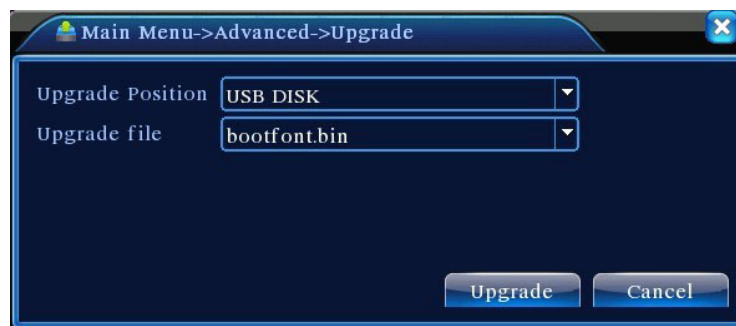
To select the desired settings for restoring to the factory defaults highlight the appropriate checkbox.

Upgrade

From time-to-time the factory will provide upgrades to the DVR's system software. Securitytronix will announce any upgrades and the upgraded software will be downloaded from a Securitytronix site to a USB device (e.g., flash drive). That USB device will then be inserted into the DVR for download to the unit.

NOTE: If a DVD burner is installed, upgrading must be done via the network.

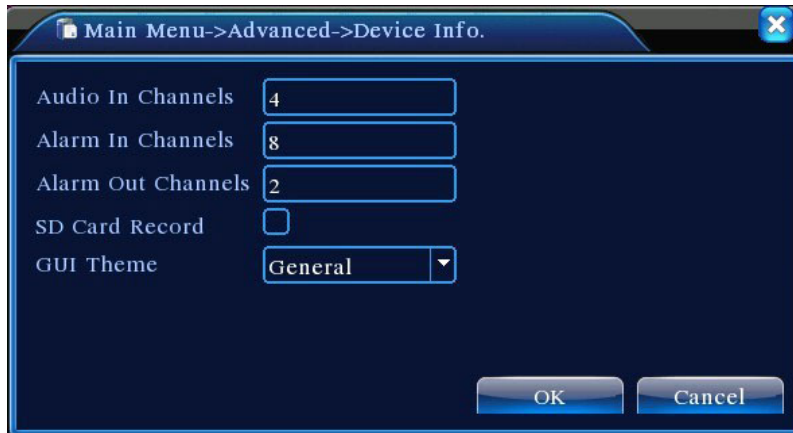
From the **Main Menu** click the **Advanced** icon followed by the **Upgrade** icon. The displayed Upgrade screen is similar to the one below.



- a. **UPGRADE POSITION** – Using the drop-down menu select the source of the upgrade file (e.g., USB port).
- b. **UPGRADE FILE** – Using the drop-down menu select the specific folder and file containing the upgraded software.
- c. Click the **UPGRADE** button to begin the process. Do not interrupt the process until the upgrade is complete – this includes power loss or powering down the DVR.

Device Information

From **Main Menu** click the **Advanced** icon followed by the **Device** info icon. A Device Info screen will be displayed indicating the number of Audio In Channels, Alarm In Channels, Alarm Out Channels and SD Card Record.



12. SYSTEM INFORMATION

Hard Disk Information

From **Main Menu** click the **System Information** icon followed by the **HDD Info** icon. The HDD Info screen displays hard drive(s) location(s) (i.e., position 1 and/or 2), hard drive type (e.g., read/write), disk capacity, remaining capacity and status. The user may also view recording times per disk.



Code Stream Statistics

To view the code stream by channel from **Main Menu** click the **System Information** icon followed by the **Code Stream Statistics** icon. The display is updated in real-time.




The screenshot shows a window titled "Main Menu->Info->BPS" with a close button in the top right. The window contains a table with 6 columns: Channel, Kb/S, MB/H, Channel, Kb/S, and MB/H. The data is as follows:

Channel	Kb/S	MB/H	Channel	Kb/S	MB/H
1	1054	441	9	1043	440
2	1054	441	10	1043	440
3	1054	442	11	1043	440
4	1043	440	12	1043	440
5	1043	440	13	1043	440
6	1043	440	14	1043	440
7	1043	440	15	1043	440
8	1043	440	16	1043	440

A "Cancel" button is located at the bottom right of the window.

Log Information

From **Main Menu** click the **System Information** icon followed by the **Log Information** icon. A Log information screen similar to the one below will appear.



The screenshot shows a window titled "Main Menu->Info->LOG" with a close button in the top right. The window contains a form with the following fields:

- Type: All (dropdown menu)
- Start Time: 2010 - 08 - 12 00 : 00 : 00
- End Time: 2010 - 08 - 13 00 : 00 : 00
- Buttons: Search, Next Page

Below the form is a table with 4 columns: Log Time, Type, and LOG. The data is as follows:

30	Log Time	Type	LOG
1	2010-08-12 10:31:49	Reboot	2000- 0-00 00:00:00
2	2010-08-12 10:31:49	Log In	User default Log
3	2010-08-12 10:31:50	RecoverTime	2010-07-31 11:44:28
4	2010-08-12 10:32:30	Log Out	User default Log
5	2010-08-12 10:32:30	Log In	User admin Logl
6	2010-08-12 10:32:38	Save Configuratio	Location
7	2010-08-12 10:32:38	Save Configuratio	Regular
8	2010-08-12 10:32:39	Shut Down	2010- 8-12 10:32:39

Buttons "Remove" and "Cancel" are located at the bottom of the window.

Log message types include system, configuration, storage, alarm event, weekday, account and playback.

- a. **TYPE** – Use the drop-down menu to select the specific message type or select ALL for all message types.
- b. **START TIME** and **END TIME** – If searching for log messages associated with a specific date and time period use the mouse cursor, left mouse button and soft keyboards to enter the desired date and time.
- c. Click the **SEARCH** button.
- d. **NEXT PAGE** – If the list of log messages exceeds a page click the **NEXT PAGE** button.
- e. **REMOVE** – To delete all log messages click the **REMOVE** button.

Edition Information

Hardware and software version numbers, build date and serial number can be viewed by going from **Main Menu**, clicking the **System Information** icon followed by the **Edition Information** icon.



13. MISCELLANEOUS FUNCTIONS and SETTINGS

Disk Event

The DVR may be configured to emit an audible speaker beep and display a message when no disk is present, a disk error occurs or the disk is full.

To configure from **Main Menu** click the **Alarm** icon followed by the **Disk Event** icon. A Disk Event settings screen similar to the one below will appear.



- EVENT TYPE** – From the drop-down menu select No Disk, Disk Error or No Disk Space.
- ENABLE** – To enable the function highlight the ENABLE checkbox.
- SHOW MESSAGE** and **BUZZER** – To notify the user of the abnormal event highlight the desired checkboxes to display a message and/or activate a buzzer.
- When done click the **SAVE** button.

Color Settings

For each channel display window it is possible to customize the color, brightness, contrast, saturation, hue and gain settings. Further, these settings can be set fixed or set for two user-defined time periods. This can be used, for example, to make an image less bright during daylight and brighter with more contrast at night.

Position the mouse cursor in the desired channel display window and **click the right mouse button** to call up the **Short-cut Menu**. From the menu select **Color Setting**. The Color Setting screen similar to the one below will appear.



- a. **PERIOD** – If settings for the desired channel display window are to be set for specific time periods highlight the checkbox and use the mouse and soft keyboards to enter the time periods.
- b. **SETTINGS SLIDER** – Using the mouse cursor and left mouse button drag the slider(s) to the desired position.
- c. **ADVANCED** – By clicking the Advanced button a pop-up menu appears with the following options: UpWindow (return), Show Desktop (return to preview mode), Cold Color, Warm Color and Default Color. By selecting Warm, Cold or Default Color the sliders will self-adjust.
- d. When done click **OK**.

REMOTE MANAGEMENT USING CLIENT SOFTWARE

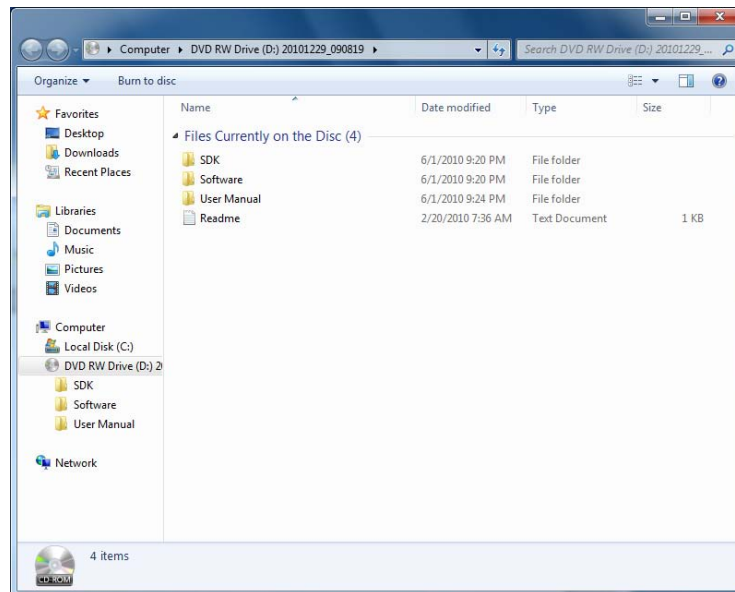
Using the included DVR client software it is possible to remotely configure and control the DVR over a LAN, WAN or via the Internet. Although the guide below will provide the user with the basic instructions for remote management, it is important to stress that success is dependent upon the proper network settings and network access privileges associated with the DVR's location. In some instances a Virtual Private Network (VPN) may be necessary to gain access to the DVR from a distant location.

Note: This DVR comes with two versions of Remote Management Client software: (a) Center Manager System (CMS) and (b) Super NetSurveillance (SNS). Functionally, both are very similar. It may be a matter of personal preference which software is selected.

1. CMS SOFTWARE INSTALLATION

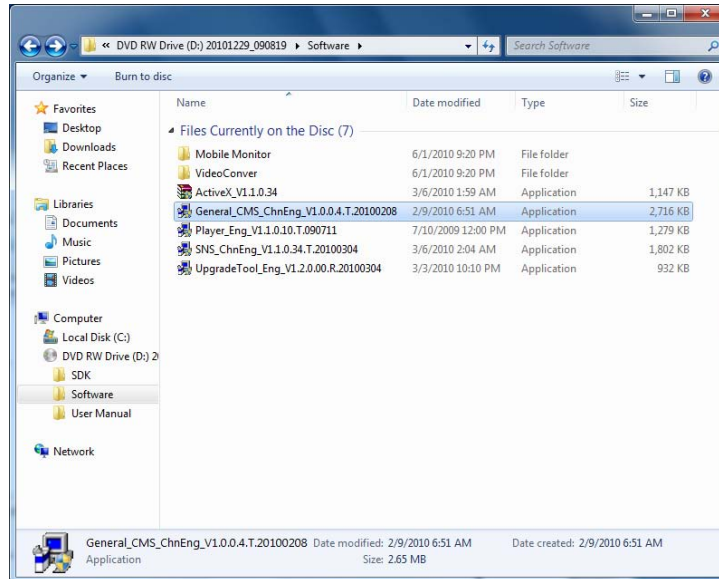
To install the software on a Microsoft Windows PC:

- a. Place the included CD in the PC's CD or DVD drive and run. A screen similar to the one below will appear.

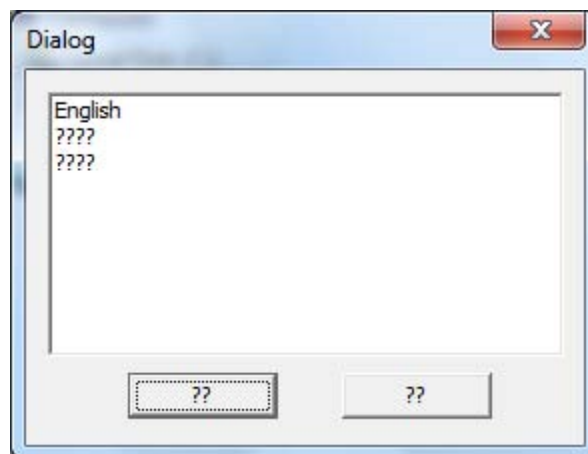


- b. Click the Software folder. A screen similar to the one below will appear. The folder contains the following software:
 - CMS remote management software
 - SNS (Super NetSurveillance) remote management software
 - Player – A video file player
 - Active X plug-in
 - Mobile Monitor – Software for remote DVR access and management using Symbian and Microsoft Windows Mobile Smartphones. This software has not been field-tested.

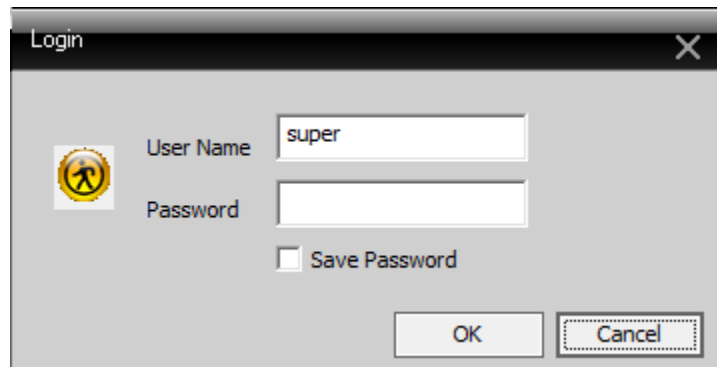
- Video Converter Tool – Video file converter. Use this application to convert .lvf files to a more standard .avi format for playback in most computers.



- Click the General_CMS_ChEng_ file. A Center Manager System setup screen and dialog box appear. Read the information in the dialog box, follow the instructions and click NEXT.
- A Choose Destination Location dialog box appears and identifies a default location for the application files. If acceptable, click NEXT or enter an alternate location and click NEXT.
- A Select Program Folder dialog box appears displaying a default Program Folder name. If acceptable, click NEXT or select an alternate name and click NEXT.
- A series of screens will appear as part of the software installation.
- Click the Center Manager System application icon to launch the application. It's advisable to place the CMS application icon on the desktop for easy access.
- Upon clicking the CMS application icon the following dialog box will appear. Highlight **ENGLISH** and **click the action box on the left**.

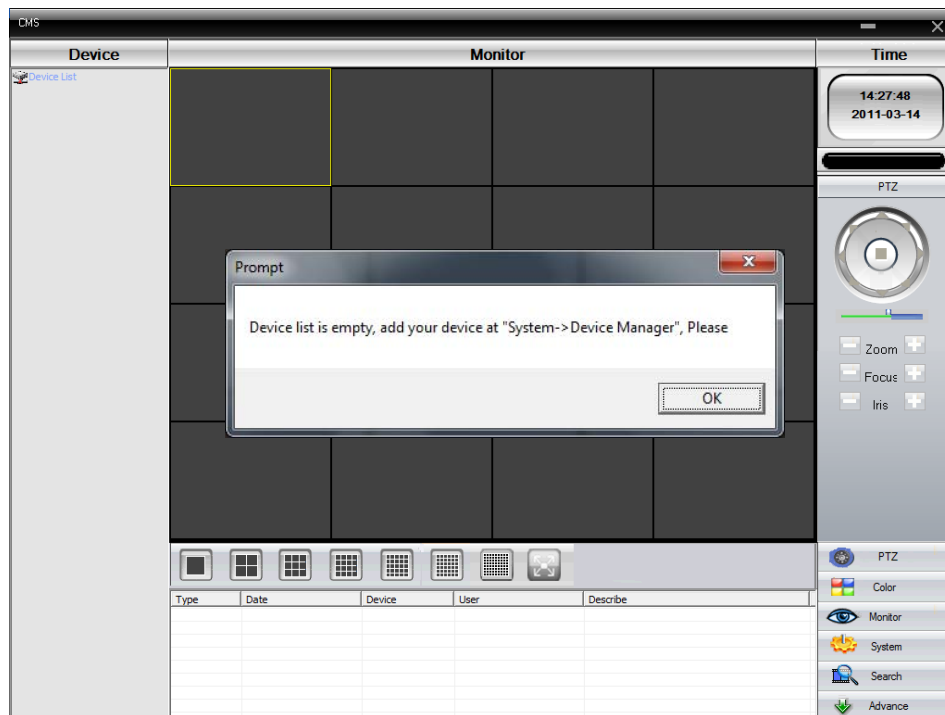


- i. Upon doing so a Login box will appear as displayed below. Note at this time there is no password to login. Simply click **OK**.

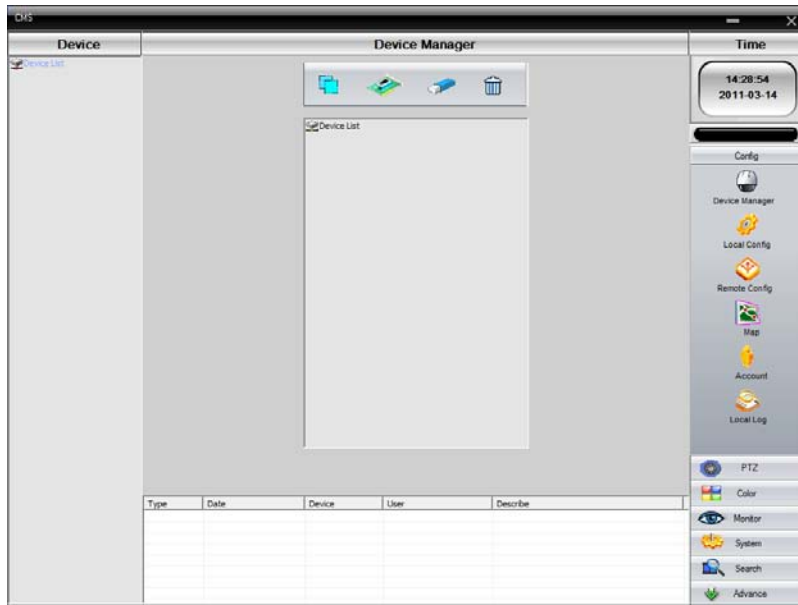


CONFIGURING and USING THE CMS CLIENT

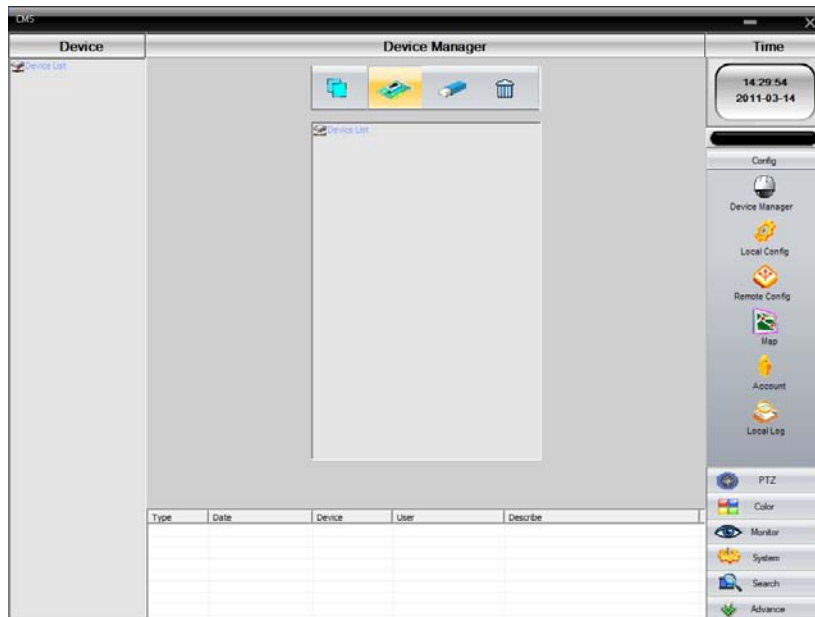
- a. After successful login the DVR Client application icon the DVR remote screen similar to the one below will appear.



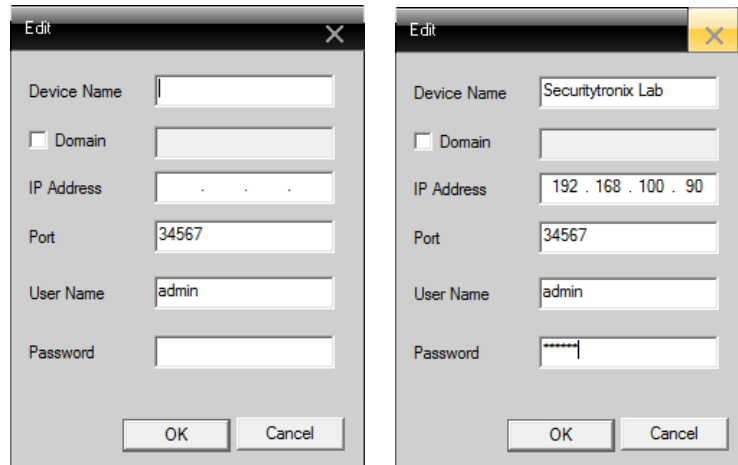
- b. Click on the **SYSTEM** bar in the lower right corner. The Device Manager screen will appear.



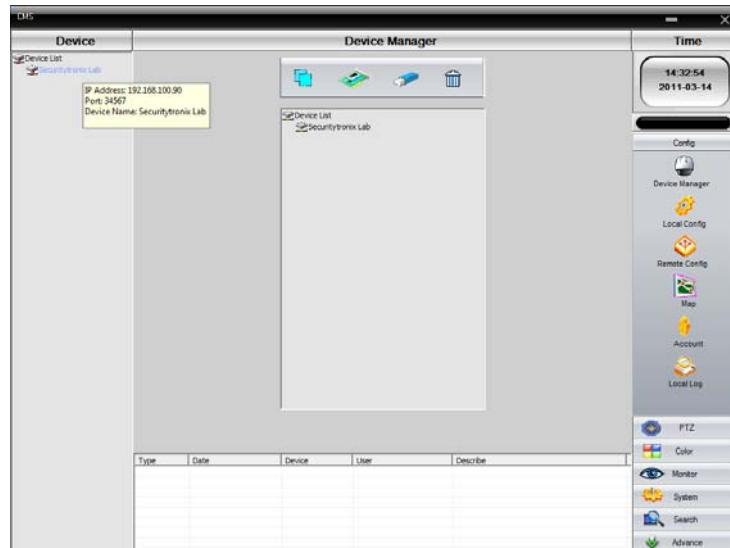
- c. Click the **DEVICE** icon (appears as a computer accessory board) found in the center top portion of the screen



- d. An Edit entry box will appear. Enter the device name, IP address, port number, user name and user password. Note: the IP address and port number should be the same as configured under the Network setup on the DVR. User name and password must already be registered in DVR under Accounts. When done click **OK**.

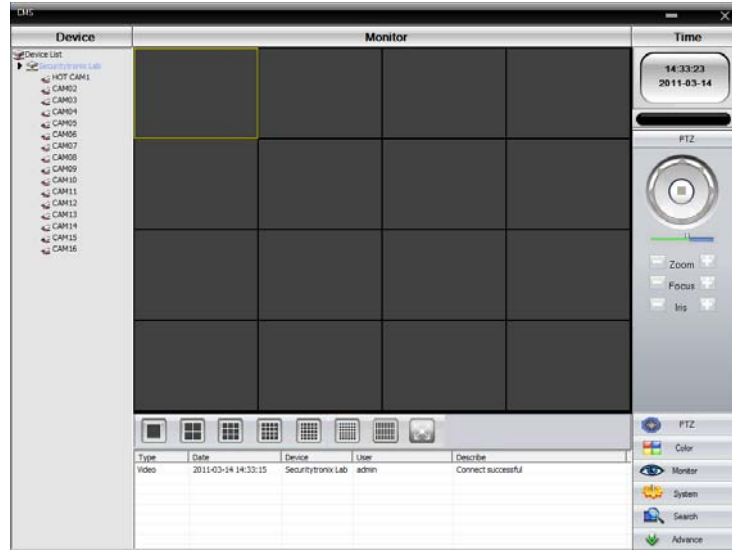


- e. Once the information is entered and the OK button is clicked, the Device Manager screen will list the new device both in the device list on the left side of the screen as well as the device list in the center of the screen.

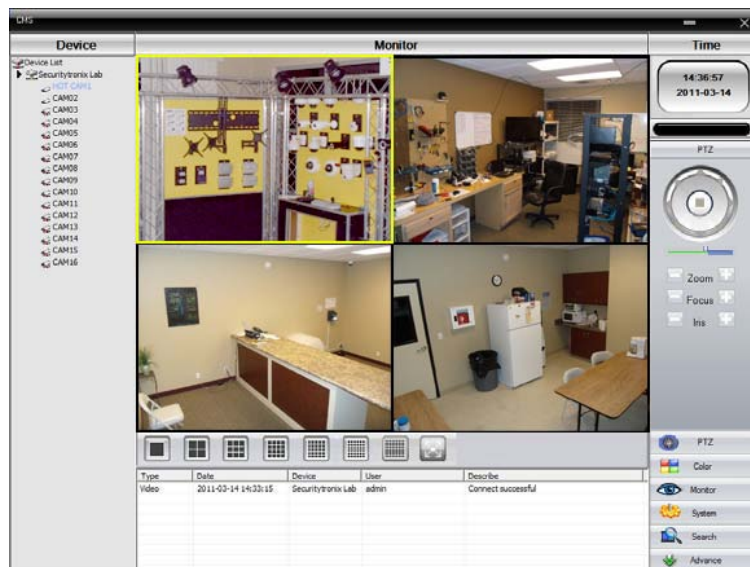


- f. To connect to the DVR position the mouse cursor the device over name under the device list on the left side of the screen. **Double click the device name.** Shortly thereafter the DVR's camera channel list will be displayed and the screen transitions to **Monitor Mode.** Connection status will be displayed in the center bottom portion of the screen.

Note: If connection to the DVR is to be made over the Internet a Virtual Private Network (VPN) connection may be necessary to direct the remote management software to the DVR. A VPN may also be required with some Wide Area Networks (WANs). Consult with the site's IT department for more information.

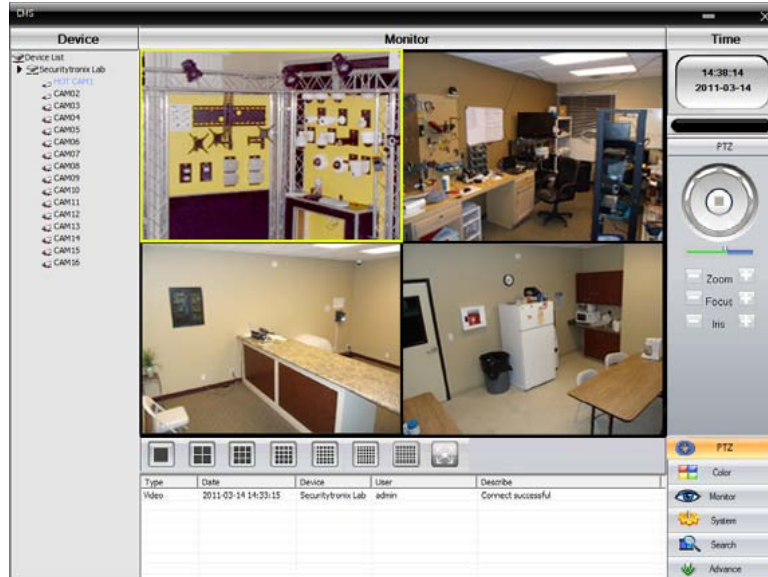


- g. To view any given channel simply double click on the desired camera under the device list on the left side of the screen. Set the number of concurrent window displays using the screen display configuration icons in the center lower portion of the screen.



- h. For **PTZ camera control** click the PTZ bar in lower right portion of the screen. Using the PTZ controls on the right side of the screen the camera can be panned, tilted and zoomed. Focus and iris adjustments are possible as well.

Note: For the PTZ control function to work the PTZ camera(s) must be configured with the DVR either through the DVR's PTZ configuration setup menu or through the CMS system configurator.



- i. To adjust the image color, contrast, or brightness in any given channel window click the **Color bar** in the lower right portion of the screen and use the sliders to make the desired adjustments.

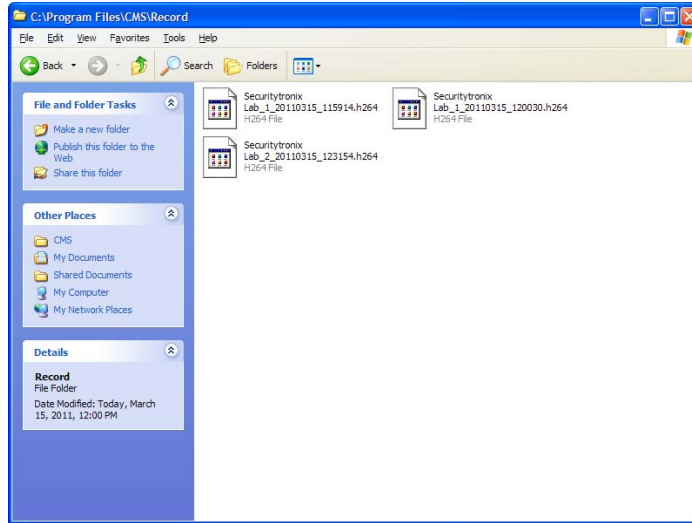


- j. To **Record** position the cursor into the camera window to be recorded. Click the right mouse button and a pop-up menu will appear with the following selections:

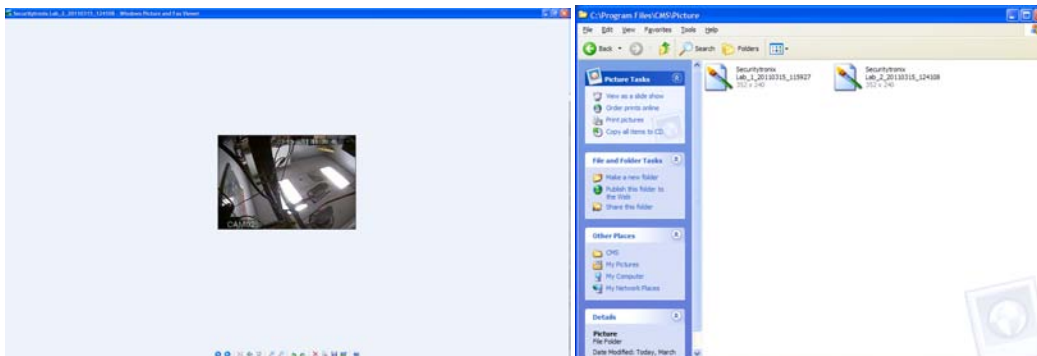
- Close Window
- Close All Windows
- Audio
- Local Record
- Snapshot
- Device Config

Select **Local Record** and the recording process will begin. To stop recording return to the pop-up menu and deselect Local Record.

Recorded files are saved on the local PC (i.e., the PC running CMS). For example, C:\Program Files\CMS\Record. The user may select the desired storage area by clicking the System bar, clicking the Local Config icon and entering the relevant information (drive, directory, sub-directory) – see *1. System Settings and Configuration* below.



- j. To take a **Snapshot** of an image position the cursor into the camera window the snapshot is to be taken. Click the right mouse button and Select **Snapshot** from pop-up menu. The snapshot will appear in a viewer (e.g., Microsoft Windows Picture and Fax Viewer) and is stored on the local PC (i.e., the PC running CMS). For example, C:\Program Files\CMS\Picture. The user may select the desired storage area by clicking the System bar, clicking the Local Config icon and entering the relevant information (drive, directory, sub-directory) – see *1. System Settings and Configuration* below.



- k. To **Search** for and **Playback** files click the **Search bar** in the lower right portion of the screen. Upon doing so a **Search screen** with **Remote Playback** and **Local Playback tabs** appear. Remote Playback refers to files residing on the DVR's hard disk while Local Playback are files that have been downloaded to the PC on which the remote management software is operating.

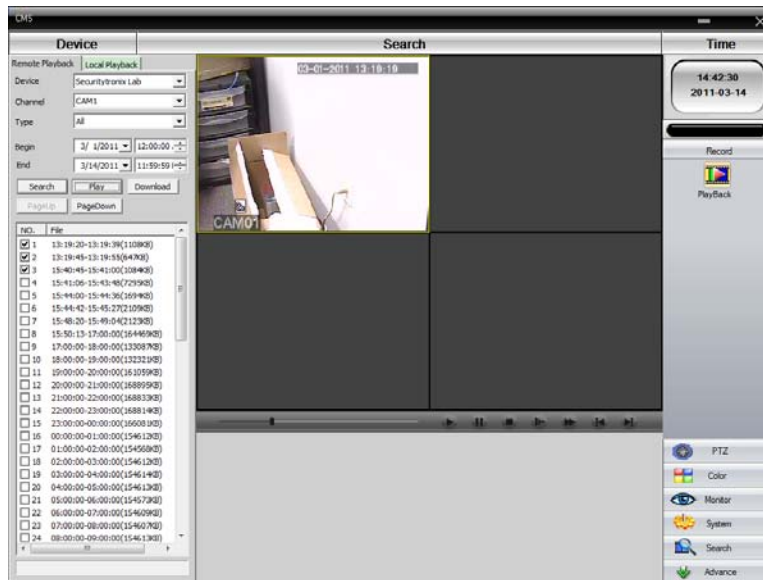
Enter search criteria using the Remote Playback/Local Playback fields and drop-down menus. When done click the **SEARCH** button. A list of files satisfying the search criteria

will appear. If the number of files exceeds a page then use the **PAGE UP** and **PAGE DOWN** buttons to navigate through the list.

Upon locating the desired files **highlight their respective checkboxes** and click the **PLAY** button. It is also possible to **download** those files to the PC by clicking the **DOWNLOAD** button.

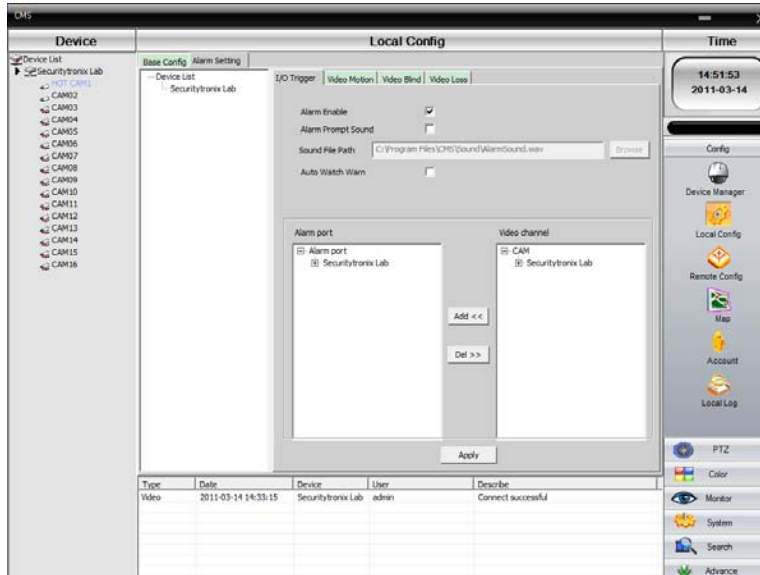
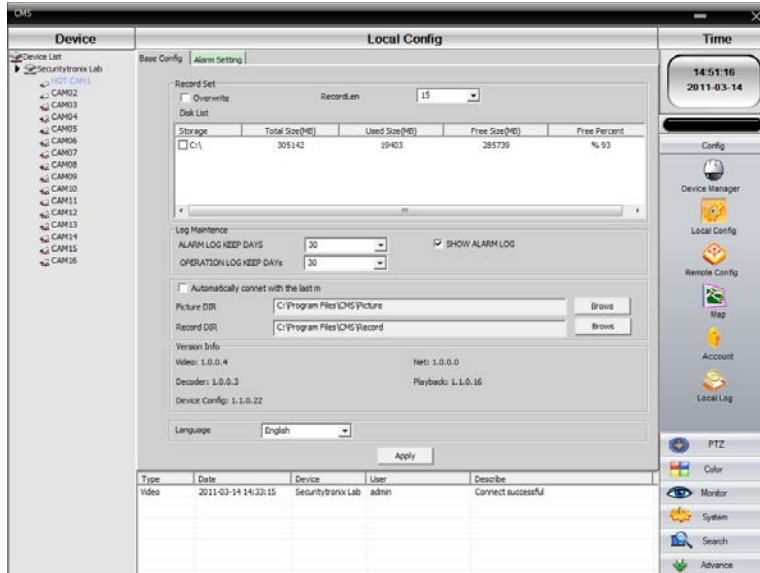
Use the **Playback Control bar** in the center of the screen to manage playback viewing. By positioning the cursor over a given button a short description of that button's function will appear.

Specific local files can be backed up by clicking the Local Playback tab, performing a file search, highlighting the file(s) and clicking the **BACKUP** button.



i. **System Settings and Configurations.** The CMS software allows for both local-based (PC) settings as well as remote setting of the DVR. To begin click the **System bar** in the lower right portion of the screen. Icons for the following will appear:

- **Device Manager** – Add, modify and remove DVRs connected to the CMS software.
- **Local Config** – The **Base Config tab** provides various settings for where recordings are stored on the local PC, whether recordings are to overwrite existing files if the local drive(s) is full, log maintenance, version info, etc.



- The **Alarm Setting** tab provides for Alarm I/O Trigger, Video Motion Detection, Video Blind and Video Loss alarm settings.

Device List

- Securitytronix Lab
 - CAM02
 - CAM03
 - CAM04
 - CAM05
 - CAM06
 - CAM07
 - CAM08
 - CAM09
 - CAM10
 - CAM11
 - CAM12
 - CAM13
 - CAM14
 - CAM15
 - CAM16

Local Config

Base Config | Alarm Setting

Device List

Securitytronix Lab

IO Trigger | Video Motion | Video Blind | Video Loss

Alarm Enable

Alarm Prompt Sound

Sound File Path C:\Program Files\CHD\Sound\AlarmSound.wav

Auto Watch Warn

Alarm port

- Alarm port
 - Securitytronix Lab

Video channel

- CAM
 - Securitytronix Lab

Add << Del >> Apply

Type	Date	Device	User	Describe
Video	2011-03-14 14:33:15	Securitytronix Lab	admin	Connect successful

Time: 14:51:53 2011-03-14

Config

Device Manager

Local Config

Remote Config

Map

Account

Local Log

PTZ

Color

Monitor

System

Search

Advance

Device List

- Securitytronix Lab
 - CAM02
 - CAM03
 - CAM04
 - CAM05
 - CAM06
 - CAM07
 - CAM08
 - CAM09
 - CAM10
 - CAM11
 - CAM12
 - CAM13
 - CAM14
 - CAM15
 - CAM16

Local Config

Base Config | Alarm Setting

Device List

Securitytronix Lab

IO Trigger | Video Motion | Video Blind | Video Loss

Alarm Enable

Alarm Prompt Sound

Sound File Path C:\Program Files\CHD\Sound\AlarmSound.wav

Auto Watch Warn

Apply

Type	Date	Device	User	Describe
Video	2011-03-14 14:33:15	Securitytronix Lab	admin	Connect successful

Time: 14:53:11 2011-03-14

Config

Device Manager

Local Config

Remote Config

Map

Account

Local Log

PTZ

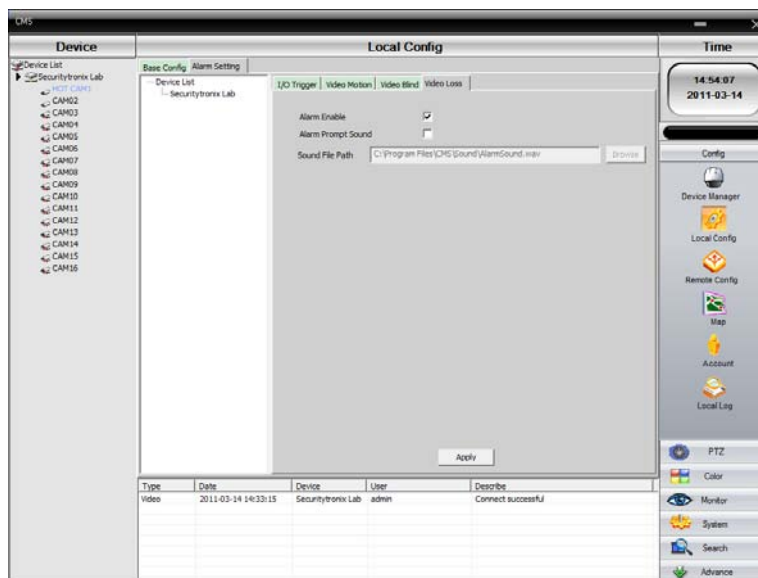
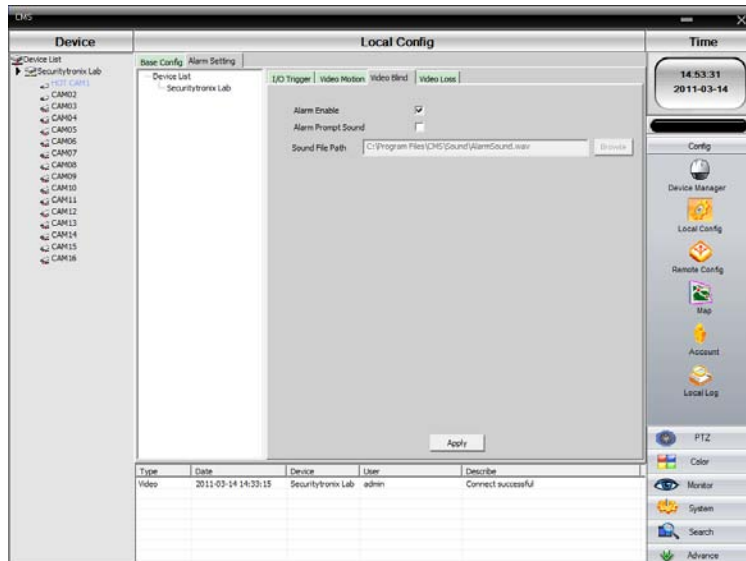
Color

Monitor

System

Search

Advance



- **Remote Config** – Allows the CMS remote configuration of the DVR's settings for
 - **Recording**;
 - **Alarms**; Video Motion, Video Blind, Video Loss and Alarm Input;
 - **System Setup**: General, Encode, Network, NetService, CAM Name and PTZ Config
 - **Advanced**: Account, AutoMaintain and Default
 - **Info**: HDD Info, Log and Version

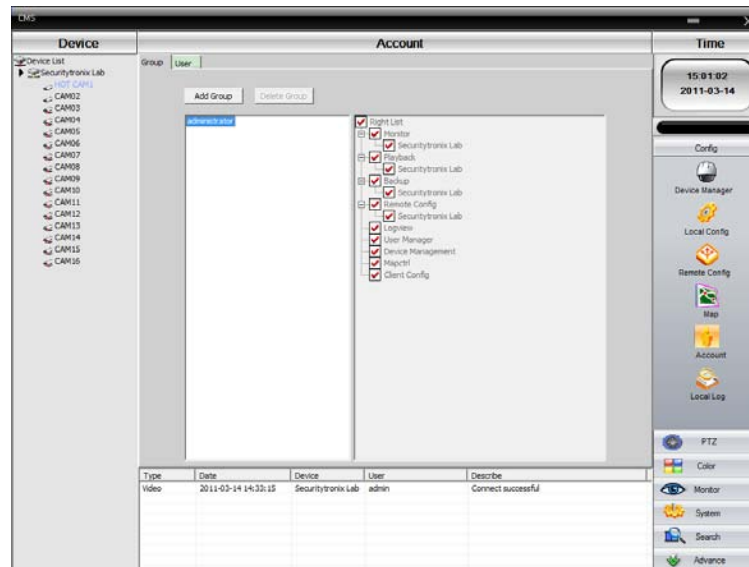
The settings process using CMS is very similar to using the DVR's menus.

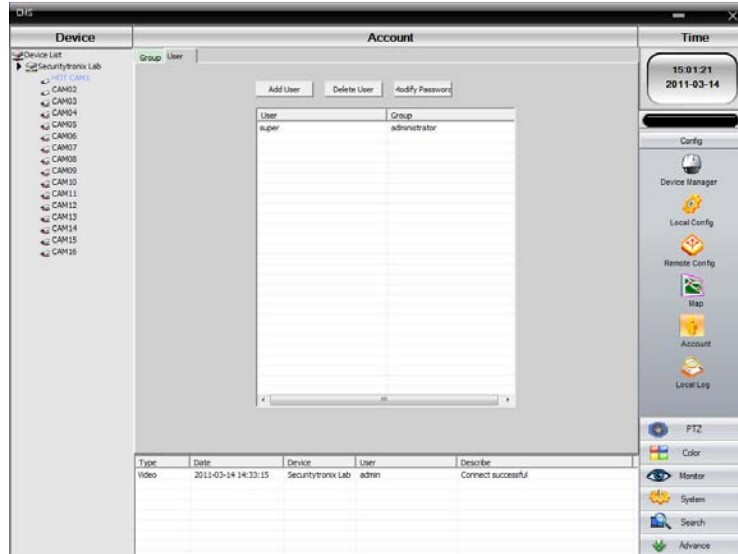
When done with each setting be sure to click **OK** or **APPLY** to save the configuration.

A sample of one of the Remote Config screens is below.

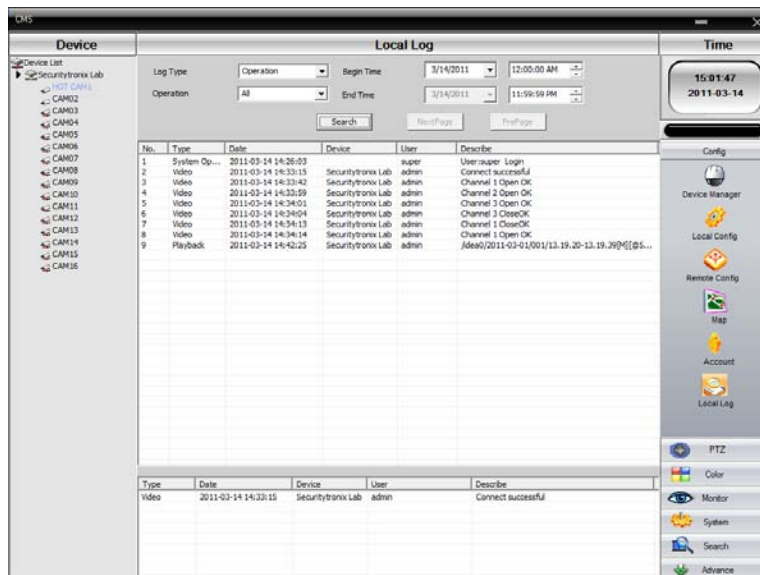


- **Account** – Users can be added and deleted. User passwords can be modified. User groups can also be added and deleted. Sample Account screens are below.





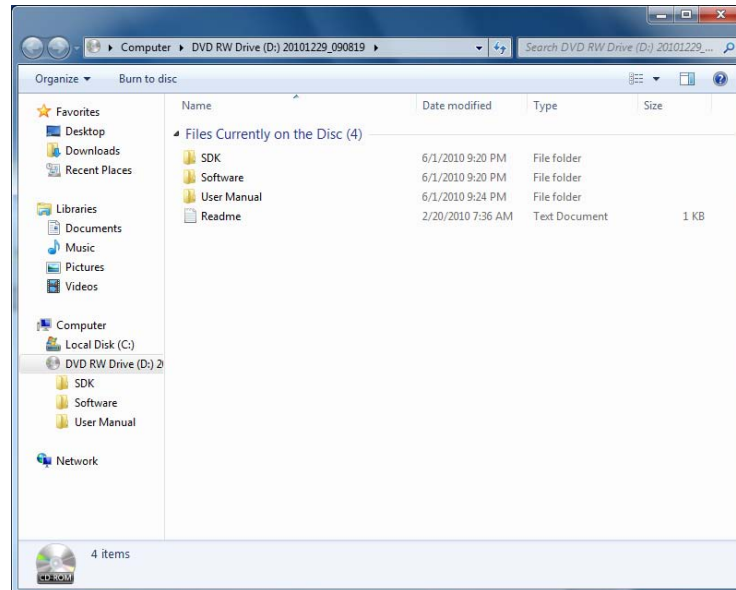
- **Local Log** – CMS allows for the search and display of log messages. Log message types include Operation and Alarm messages.
 - **Operation Messages Types** – Video, Playback, Backup, User Manager, Map, Client Config, Device Config and System Operation.
 - **Alarm Message Types** - I/O Trigger, Video Motion, Video Loss, Video Blind, Disk Error and Disk Full.



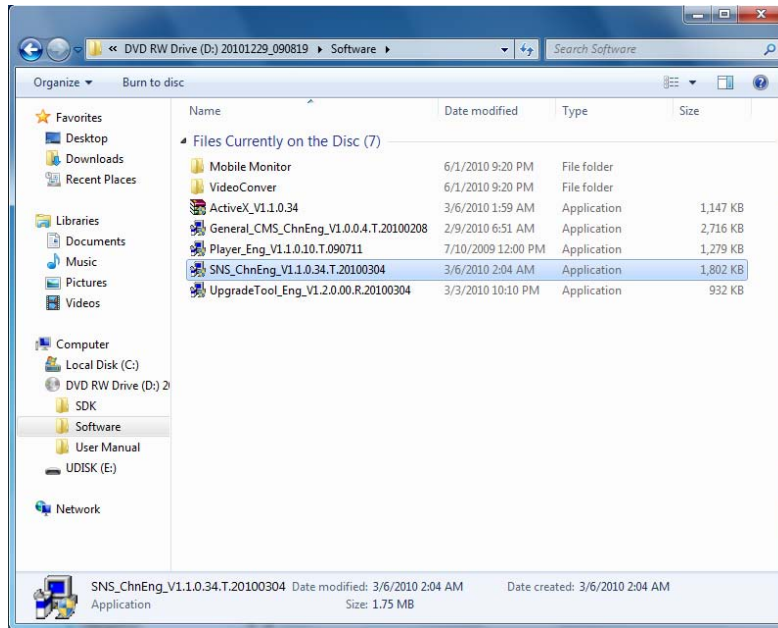
2. SNS SOFTWARE INSTALLATION

To install the software on a Microsoft Windows PC:

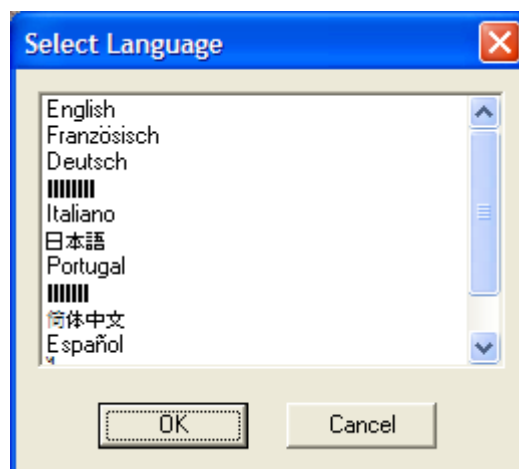
- a. Place the included CD in the PC's CD or DVD drive and run. A screen similar to the one below will appear.



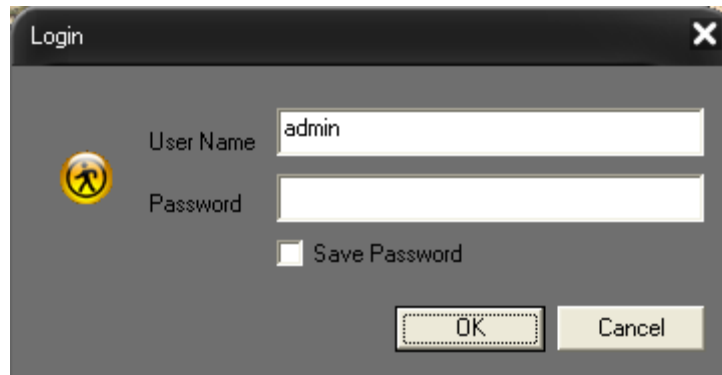
- b. Click the Software folder. A screen similar to the one below will appear. The folder contains the following software:
 - CMS remote management software
 - SNS (Super NetSurveillance) remote management software
 - Player – A video file player
 - Active X plug-in
 - Mobile Monitor – Software for remote DVR access and management using Symbian and Microsoft Windows Mobile Smartphones. This software has not been field-tested.
 - Video Converter Tool – Video file converter. Note this software has not been field-tested.



- c. Click the SNS_ChEng_file. A Super NetSurveillance setup screen and dialog box appear. Read the information in the dialog box, follow the instructions and click NEXT.
- d. A Choose Destination Location dialog box appears and identifies a default location for the application files. If acceptable, click NEXT or enter an alternate location and click NEXT.
- e. A Select Program Folder dialog box appears displaying a default Program Folder name. If acceptable, click NEXT or select an alternate name and click NEXT.
- f. A series of screens will appear as part of the software installation.
- g. Click the Super NetSurveillance application icon to launch the application. It's advisable to place the SNS application icon on the desktop for easy access.
- h. Upon clicking the SNS application icon the following dialog box will appear. Highlight **ENGLISH** and click **OK**.



- i. Upon doing so a Login box will appear as displayed below. The default password is 666666 to login. Click **OK**.



Login

User Name: admin

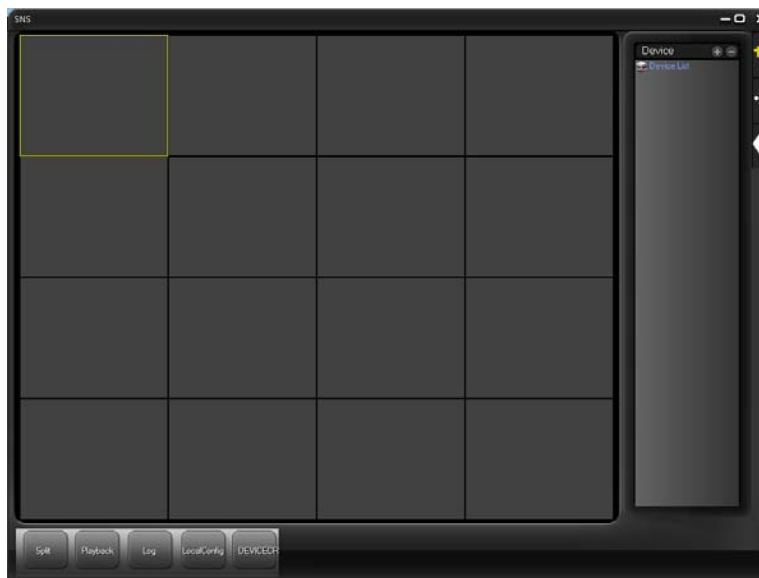
Password: [Empty]

Save Password

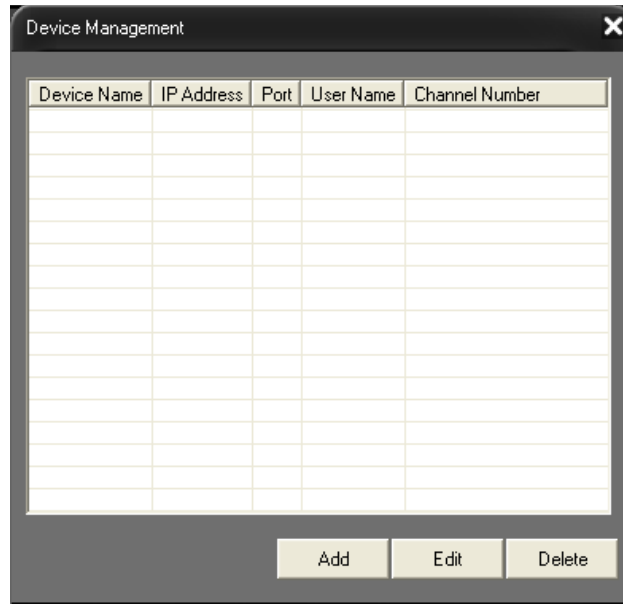
OK Cancel

CONFIGURING and USING THE SNS CLIENT

- a. After successful login the DVR Client application icon on the DVR remote screen similar to the one below will appear.

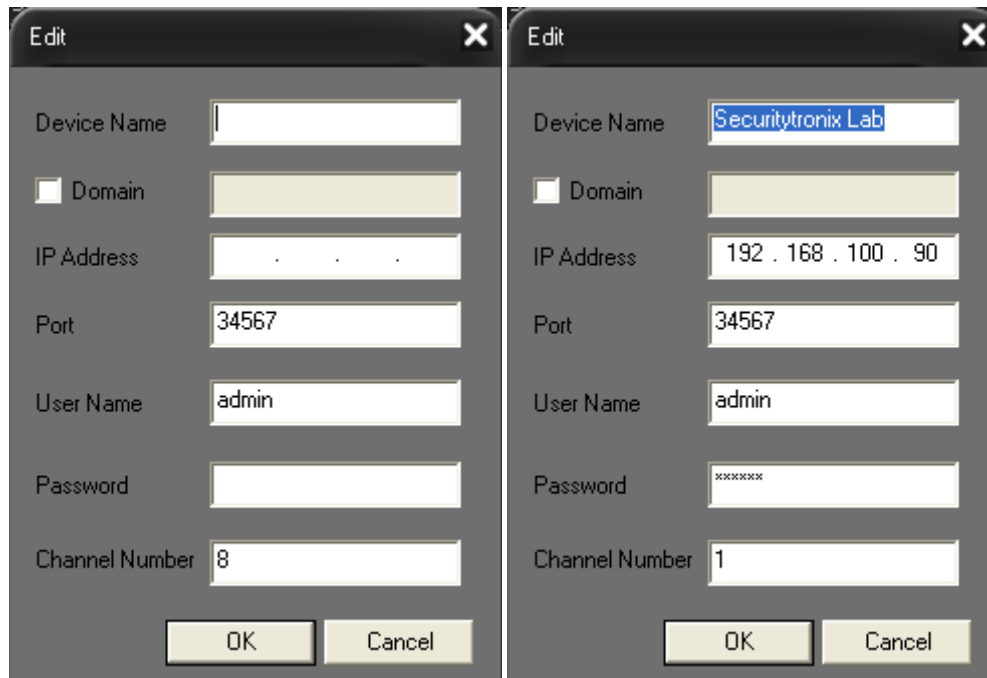


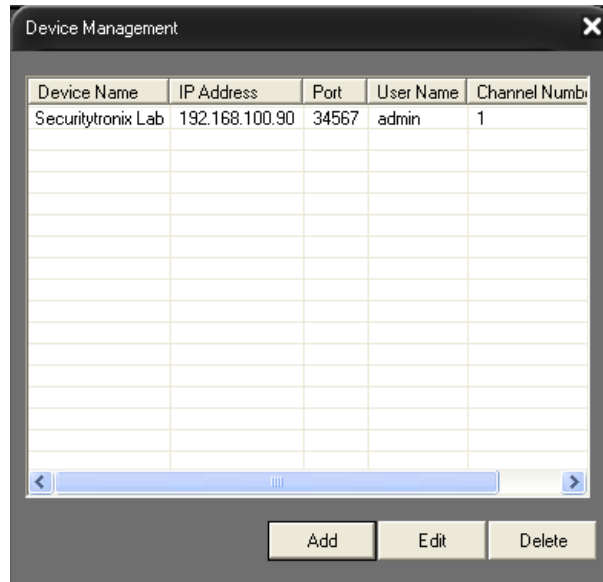
- b. A **Device Management screen** will also appear. If not, click the **+** next to **Device**. As no DVR is yet connected to the SNS client it will be necessary to add a device. Click **ADD** on the Device Management screen.



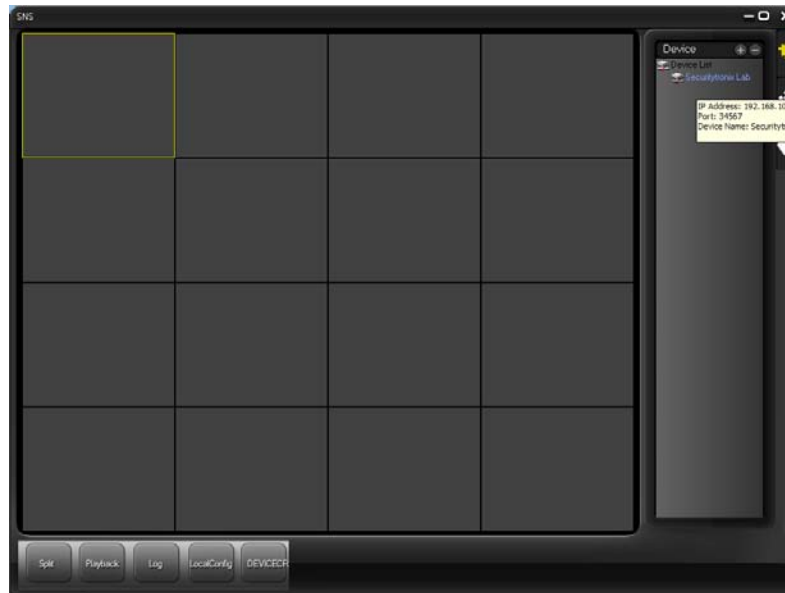
- c. An **Edit entry box** will appear. Enter the device name, IP address, port number, user name, user password and channel number. Note: the IP address and port number should be the same as configured under the Network setup on the DVR. User name and password must already be registered in DVR under Accounts. When done click **OK**.

The **Device Management screen** will then be updated with the new device information.





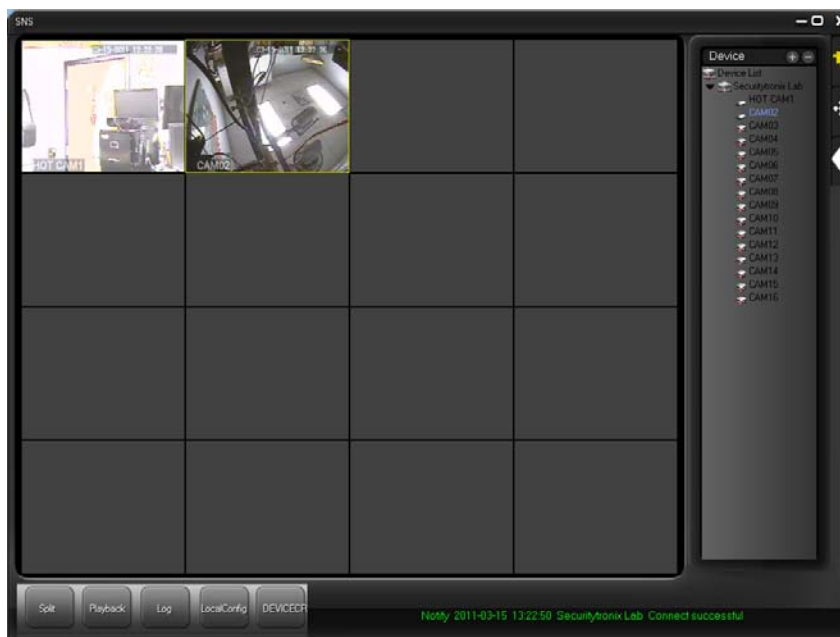
d. The SNS screen will now have the new device name under the **Device List** on the right side of the screen.



e. By double clicking on the Device Name the DVR's camera channels will be listed.



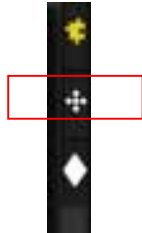
- f. Double clicking on cameras on the list will display the camera channel.



- g. To adjust the number of windows displayed at one time simply click the **SPLIT** button in the bottom left corner and select the desired number of windows to be visible.



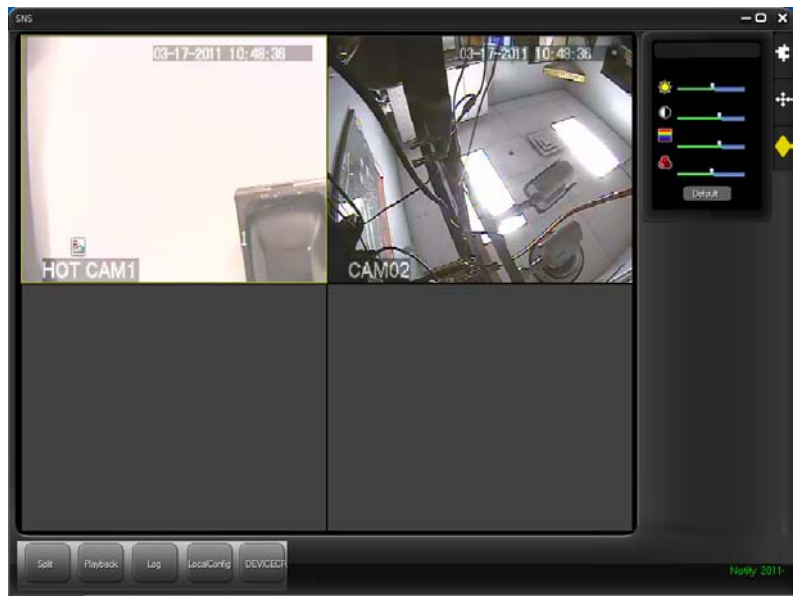
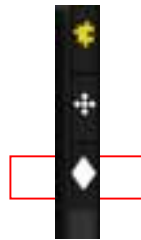
- h. For **PTZ camera control** click the **PTZ button** on the upper right side of the screen. Using the PTZ controls on the right side of the screen the camera can be panned, tilted and zoomed. Focus and iris adjustments are possible as well.



Note: For the PTZ control function to work the PTZ camera(s) must be configured with the DVR either through the DVR's PTZ configuration setup menu or through the SNS system configurator.

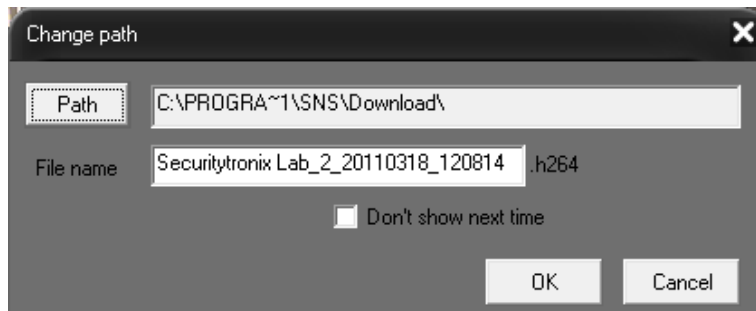


- i. To adjust the image color, contrast, or brightness in any given channel window click the **Color** button in the upper right side of the screen and use the sliders to make the desired adjustments.



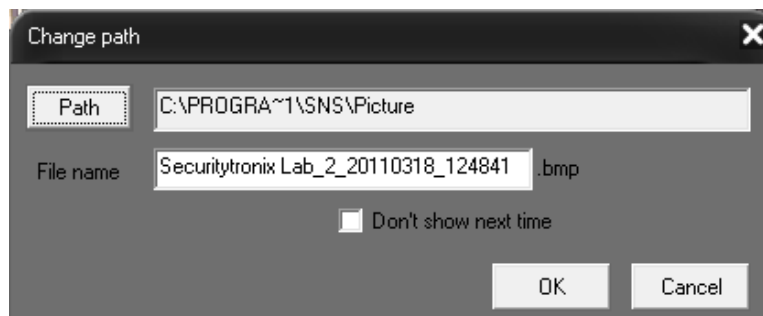
- j. To **Record** position the cursor into the camera window to be recorded. Click the right mouse button and a pop-up menu will appear with the following selections:
- Close Window
 - Close All Windows
 - Audio
 - Local Record
 - Snapshot
 - DeviceCFG

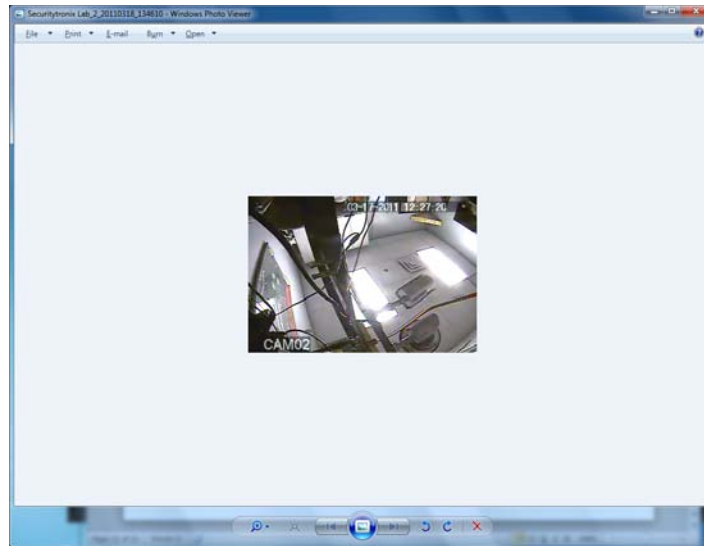
Select **Local Record** and the recording process will begin. Upon doing so a Change Path screen will appear identifying where the local recording file will be stored on the PC. Click **OK**.



To stop recording return to the pop-up menu and deselect Local Record.

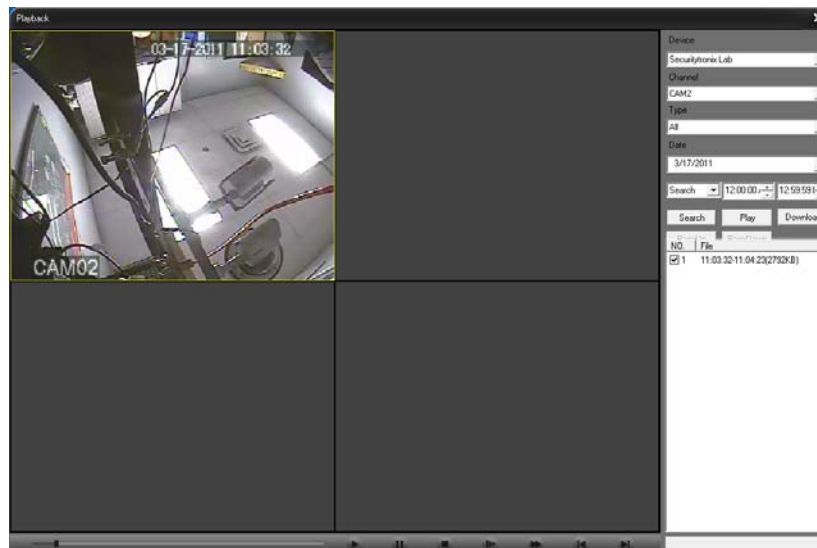
- k. To take a **Snapshot** of an image position the mouse cursor in the camera window, click the right mouse button and select Snapshot from the pop-up menu. Upon doing so a Change Path screen will appear identifying where the local image file will be stored on the PC. Click **OK**. The image will then appear in a photo viewer such as Microsoft's Windows Photo Viewer.



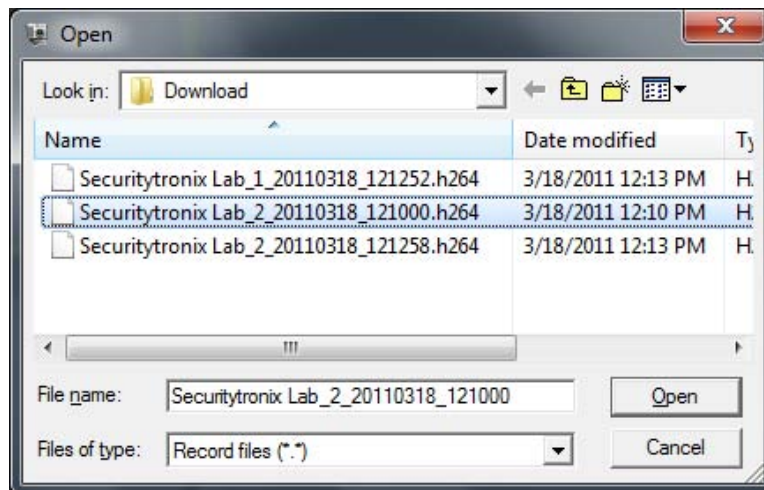
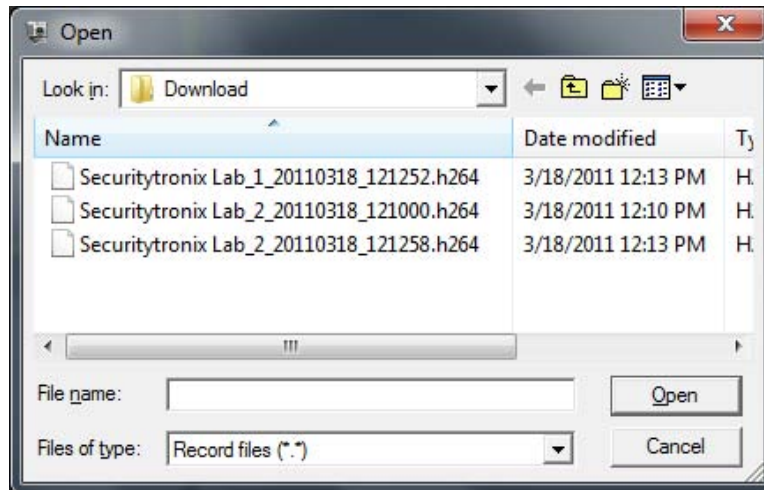


- I. To **Playback a remote file** (i.e., a recording residing on the DVR) click the **Playback button** and a **Playback screen** will appear. Use the screen's Search drop-down menus to locate the file. Files will appear in a list window. To play those files highlight the appropriate checkboxes and click the **Play button**. Use the screen's **Playback toolbar** to control the playback.

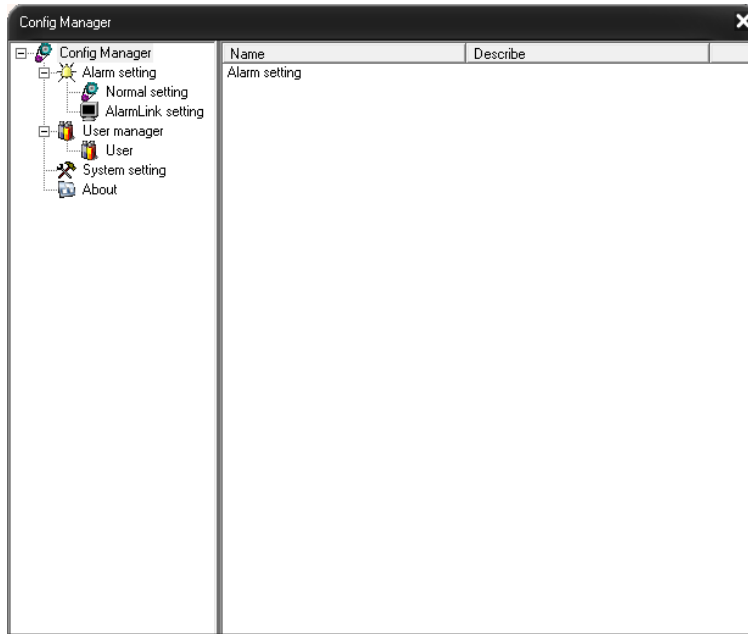
To save them to the local PC highlight the checkboxes and click the **Download button**. A dialog box will appear and provide a file name for saving the file in the SNS Download folder.



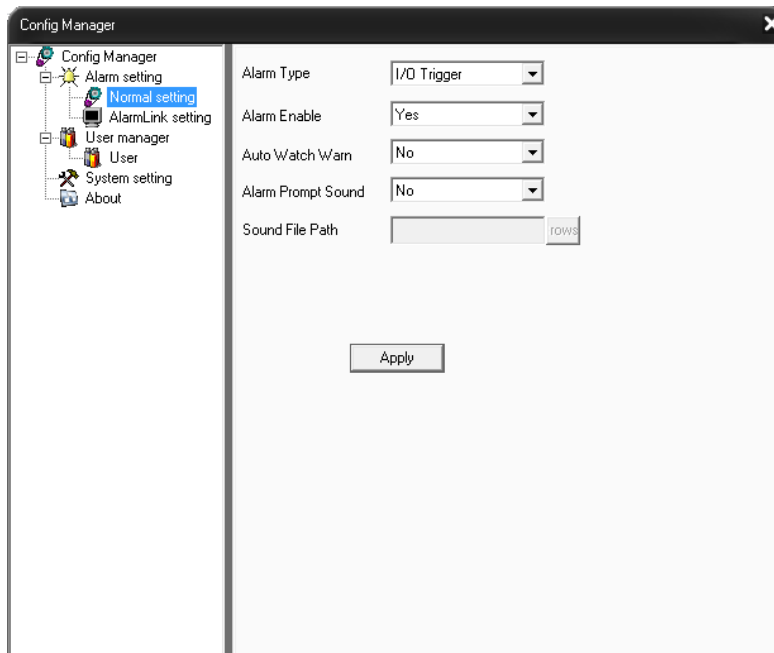
- m. To **Playback** a recording saved as a **local file** on the PC click the **Play button on the Playback toolbar**. A dialog window will appear listing files saved on the PC in the SNS Download folder. Select the desired file, click the **Open button** and the recording will play in the Playback screen.

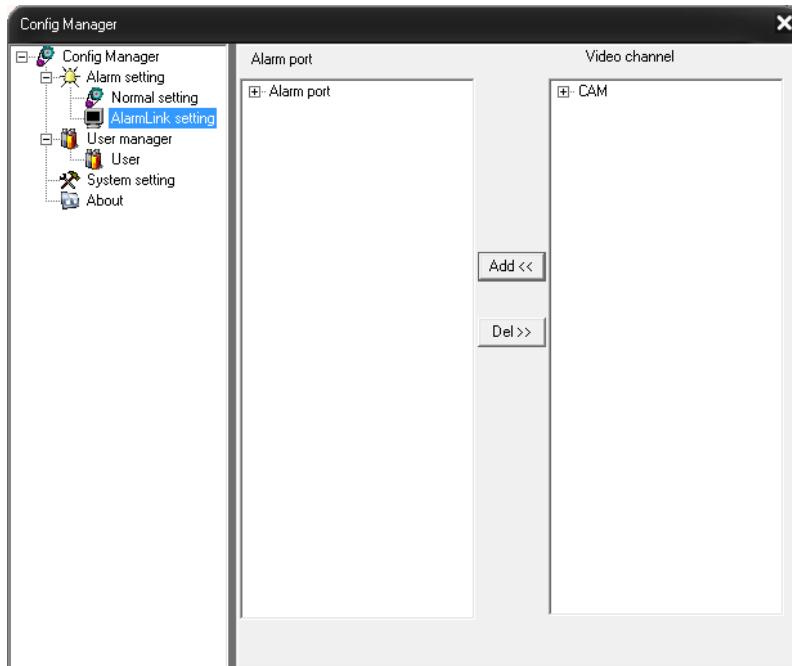


- n. To adjust **Local Settings** click the **Local Config button** and a **Config Manager screen** will appear.

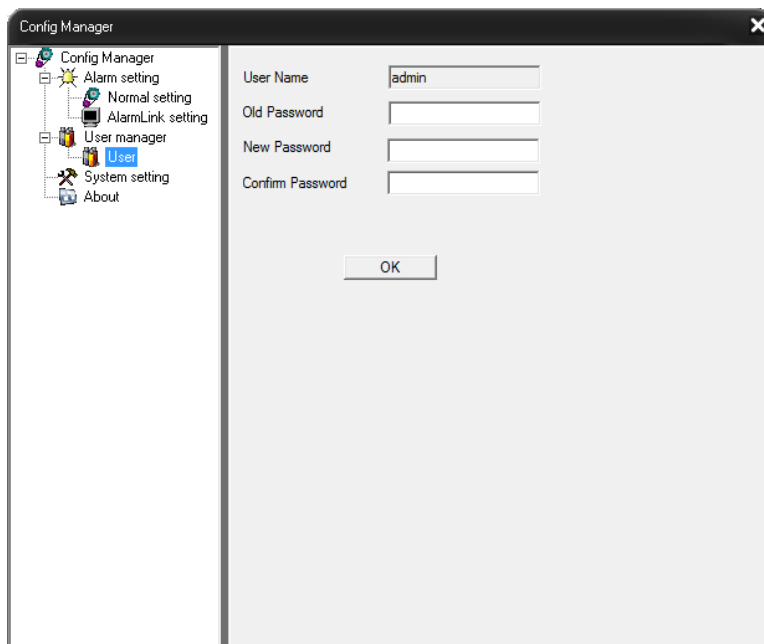


- **Alarm settings and alarm linkages can be created using the Alarm Setting screens.**

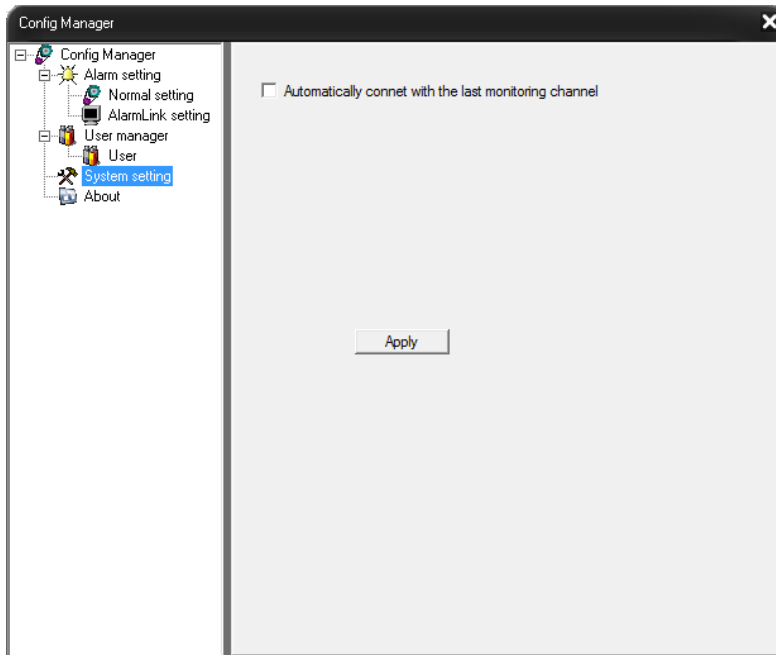




- **User passwords** can be modified via the **User Manager** screen.



- The **System Settings** screen is limited to the option of allowing auto connect to the last monitoring channel.



- The **About** screen displays SNS version information.

