WIREPATH
SURVEILLANCE

WPS-165-DVR

4 CHANNEL
DVR

INSTALLATION AND USERS MANUAL

Review manual thoroughly before installation. Retain for future reference.

TABLE OF CONTENTS

SAFETY INFORMATION

- Handle this device with care. Do not strike or shake this device as this may damage it.

- Do not expose this device to water or moisture. Moisture may damage the device and also cause electric shock. Do not operate it in wet areas. Take immediate action if the device becomes wet. Turn the power off and refer servicing to qualified service personnel.

- Do not use this device near any heat sources such as radiators, heat registers, stoves or other apparatus that produces heat.

- Protect the power cord from being stepped on or pinched particularly at the point where it connects to the device and at the receptacle.

- Do not operate this device beyond its specified temperature, humidity or power source ratings.

- Use this device in humidity below 85%.

- The performance and lifespan of the hard drive is affected when used in high temperatures. It is recommended to use this device within 68ºF ~ 86ºF.

- If mounting in a closed space, ventilation should be included. Do not block any ventilation openings.

- Handle the hard drive with care.

  - It is possible to damage the hard drive if it is moved while the motor is still spinning. Do not move this device after turning on the power. Follow the shutdown procedure (see **Section 5.6**) and wait at least 30 seconds before moving this device even if it is to simply reposition it on a shelf or in a rack.

  - If servicing or exchanging the hard drive, protect it from static electricity. Use a grounded static wrist guard and matt to properly ground yourself before servicing the hard drive.

  - Do not use an electric screw driver to remove or install a hard drive.

- Clean this device with a dry cloth. Do not use strong or abrasive detergents when cleaning the device chassis. If dirt is hard to remove, use a mild detergent and wipe gently.

- Please make a note of the system settings and save them. This will help when required to change the system configuration, or when unexpected failure or trouble occurs.

- Do not drop metallic parts through the ventilation slots. This could permanently damage the device. If something falls inside the device, turn off the power immediately and contact qualified service personnel for service.

- Distributing, copying, disassembling, reverse compiling, reverse engineering, or exporting the software provided with this product, is expressly prohibited and in violation of the law.

THIS PUBLICATION COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. AT ANY TIME CHANGES COULD BE MADE To THE INFORMATION HEREIN FOR THE IMPROVEMENT OF THIS PUBLICATION AND/OR THE CORRESPONDING PRODUCT(S).

REGULATORY COMPLIANCE

$C\epsilon$ FC **↘RoHS Compliant**

This product complies with the relevant standards for CE, FCC, and RoHS approval. The Power Adaptor/Supply has been tested for compliance with UL, CSA, and CE standards.

1. PRODUCT OVERVIEW

1.1. INTRODUCTION

Wirepath™ Surveillance DVRs are state of the art, and offer unsurpassed technology. Features such as Hexaplex operation with triple streaming via H.264 (low and high res), and MJPEG provides easy-to-use remote access via Automation Systems, PC, or Smartphone. With H.264 compression, 960H, D1 / Half D1 / CIF video resolution support and adjustable Frame Per Second record settings the installer can maximize the storage time of the built-in hard drive. Wirepath™ DVR's professional grade features make them ideal for high-end residential and commercial monitoring applications.

1.2. PACKING LIST

(1) DVR
(1) 12V / 3.0A External Power Supply
(1) IEC Power Cord
(1) IR Remote
(2) AAA Batteries
(1) USB 1.1 Mouse

1.3. FEATURES

Connections
· Up to 4 cameras or composite video sources
· VGA outputs
· 1 audio input, 1 audio output

Video / Audio
· Hexaplex operation - simultaneous record, live playback, backup, control, & simultaneous H.264 and MJPEG remote access
· Triple Stream H.264 and MJPEG
     - High Res H.264 for recording and streaming to IE Interface and Smartphones
     - Low Res H.264 for streaming for devices on bandwidth limited networks
     - MJPEG for streaming to Automation Systems
· Record capabilities
     - Full 30 FPS (frames per second) for all channels across all resolutions
· Playback capabilities
     - Full 30 FPS (frames per second) for all channels across all resolutions
· Real-time live display, 30 FPS, for each channel
· Versatile display formats: full-screen and 4 camera split window
· ADPCM audio compression

Storage
· One 500GB hard disk drive is already installed
· Video/audio backup to USB thumb drives or PC via web interface

Control / Remote Access
· IR, and IP Controllable
· Ethernet interface
     - Stream video/audio to Automation Systems, IE interface, and Smartphones
     - Integrated control via Automation Systems such as Control4
     - Remote Setup
     - Remote software upgrade
     - Remote alarm notification via email
     - FTP video/audio storage
     - DDNS support

2. FRONT AND REAR PANELS AND REMOTE CONTROL

2.1. FRONT PANEL
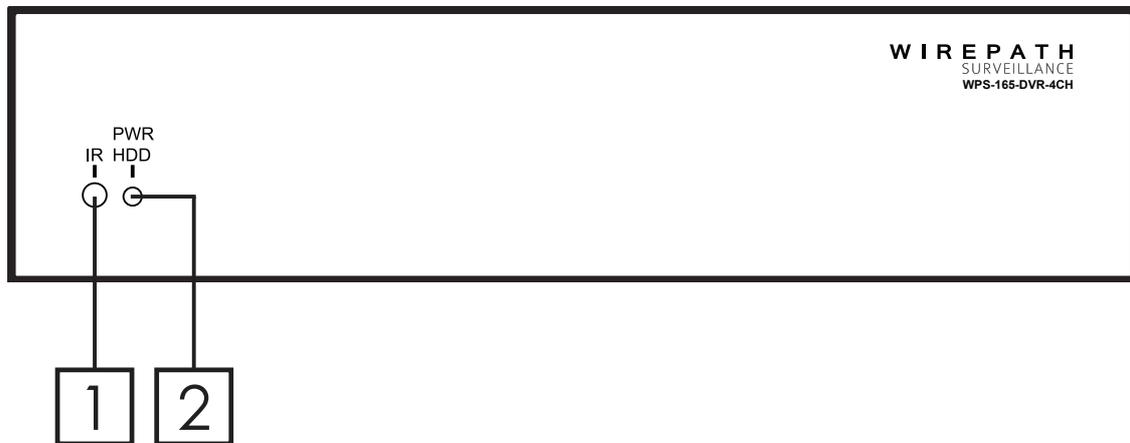
1. **Remote IR Sensor**
   Use to receive signal from IR remote controller.

2. **LEDs**
   Indicators for POWER, HDD (Hard Disk Drive) and Network access.

2.2. REAR PANEL
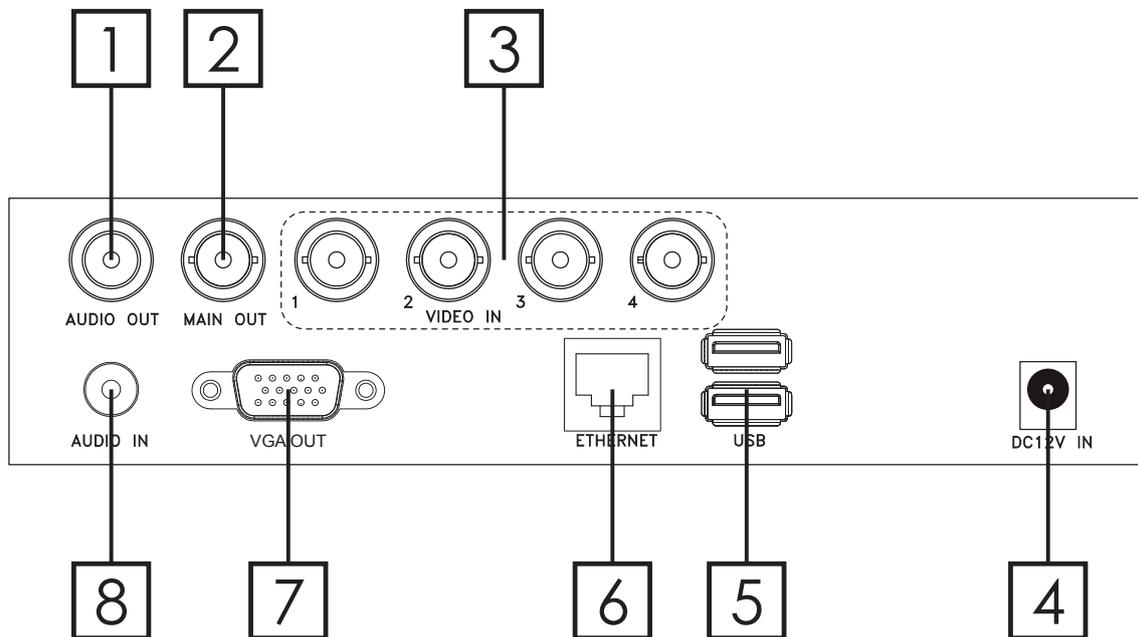
1. **Audio Output Connector**
   Supplies line-out audio signals to external devices such as amplifiers. Recorded audio will be supplied from AUDIO OUT during playback.

2. **Video Out**
   Connection to TV monitors via BNC connector for main monitor display.

3. **Video Input Connectors (1-4 on WPS-165-DVR-4CH)**
   Connect system cameras to these BNC connectors. The corresponding 75 Ω termination must be ON unless the video output terminal is connected. See item 5 below.

4. **Power Connection (DC IN)**
   Connect the supplied External Power Supply. Acceptable Range: 12V / 3.0A DC

5. **USB**
   Connect to USB 2.0 compatible storage device, such as USB 2.0 disk drive, thumb drive, etc.

6. **Ethernet Connector**
   Connect to a 10/100Base-T Ethernet network for remote access and integrated control and video streaming to Automation Systems.

7. **VGA Connector**
   Main monitor display for connection to VGA monitor for setup, control and monitoring of cameras and system.

8. **Audio Input Connector**
   RCA connectors for line-in audio signals supplied from external devices such as microphone amplifiers.

2.3. REMOTE CONTROL

The remote control functions include:

1. **Alarm Reset**
   Press to reset alarm.

2. **Number Buttons**
   Direct selection of channels, display single view of the selected channel number

3. ***/mark**
   This button has no function with this model.

4. **PTZ**
   Opens the PTZ menu to control a connected PTZ camera.
   NOTE: The menu will not appear if the selected camera is not a PTZ camera.

5. **MENU/ESC**
   Displays OSD menu or Exits the current menu.

6. **Navigation Buttons**
   Navigates the DVR right side menu, PTZ controls an OSD menus.

7. **Volume/Zoom**
   Adjusts audio level up/down. Digital zoom of currently selected Camera

8. **SEQ**
   Press to sequentially switch through connected cameras.

9. **MODE**
   Press to change DVR modes.

10. **Transport Buttons**
    Press to control DVR playback
    ◄◄   Rewinds the currently playing recorded content.
    ►►   Fast Forwards the currently playing recorded content.
    ►| Skips Forwards the currently playing recorded content.
    ▯   Opens the "Backup" window and allows copying video between select able Start/End times to an attached USB flash drive or hard drive.
    ►/ǁ   Plays or Pauses the currently selected content.
    ■   Stops the currently playing recorded content.

11. **DVR 1-4**
    DVR ID buttons. In situations with multiple DVRs, use these buttons to select the desired DVR to be controlled, from a single remote control.

12. **REC**
    Starts and stops recording of the currently displayed image.

13. **#/code**
    This button has no function with this model.

14. **MUTE/NEXT**
    MUTE - Mutes audio from the currently playing recorded content.
    NEXT - single camera mode next camera

15. **X2/GOTO**
    X2 - Press once for selected camera digital zoom. Press again for secondary zoom. Press again to exit zoom.
    GOTO -In PTZ mode goto calls preset functionality of PTZ camera.

16. **GRID**
    Press to sequentially change the video display grid for 1, 4, 7, 9, 10, 13 or 16 cameras.

17. **CALL**
    In HD mode sets format.

18. **SEARCH**
    Brings up menu system to search time or event for playback.
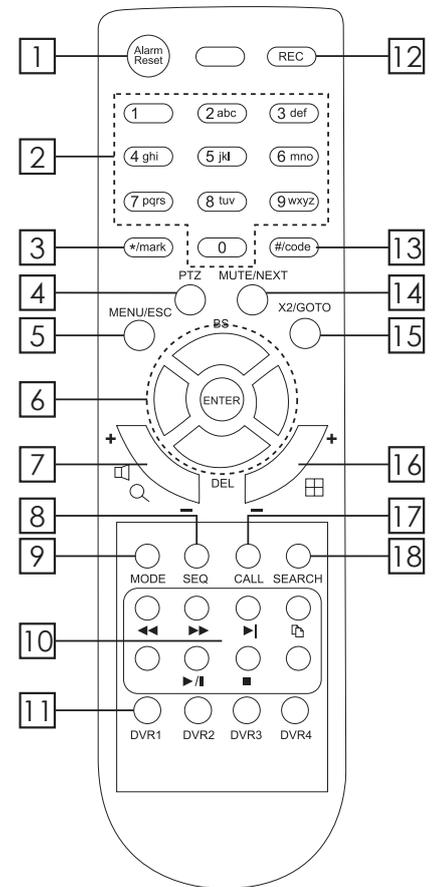
3. INSTALLATION

3.1. POSITIONING THE 165 DVR

Wirepath Surveillance DVRs are designed to deliver unsurpassed technology with superior performance. However, where you place the DVR can have a large effect on the performance that you receive, and the life of the unit. Here are some guidelines to follow when installing the DVR.

• Position it with all feet resting on a solid level surface.
• Be sure that the DVR is in a well-ventilated area that provides adequate cooling.

- Do not block the cooling vents located on the side panel. Proper ventilation is important to the performance and life span of the power supply and HDD(s).

- Do not place the DVR on carpeting or any similar material.

- Do not install the DVR near a source of heat, or in an extremely humid or wet location.

- If your installation lacks good air flow (such as solid cabinet doors or wall-mounted racks), it may be necessary to create ventilation to allow outside air into the space.

• Allow a minimum of 2" of depth behind unit to accommodate cables and connectors.

3.2. CONNECTIONS

To ensure proper performance and operation of the 165 DVR, it is recommended that all connections and setup be performed by a qualified system installer.

3.2.1.   BASIC CONNECTIONS
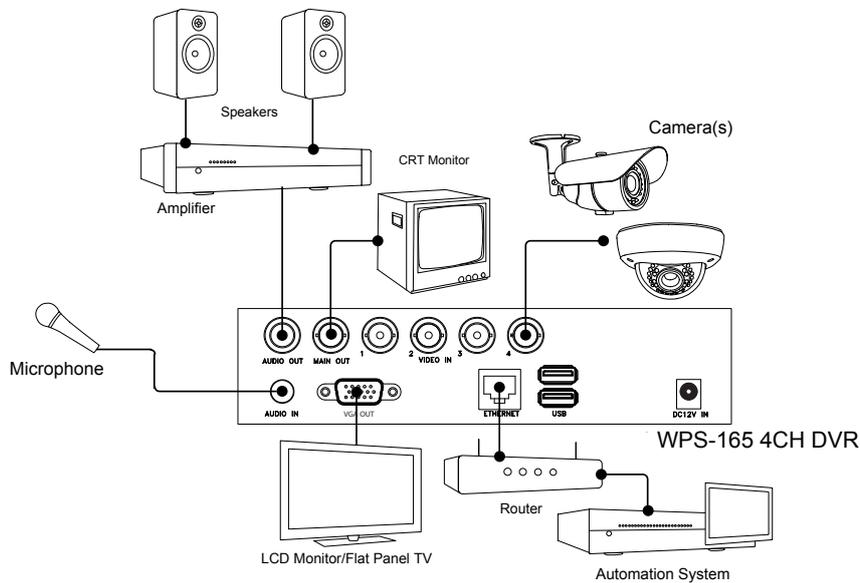
- **POWER**
  Connect the included External Power Supply to surge protection or wall outlet.

- **CAMERAS**
  Connect the video output from cameras or other composite video sources using coaxial cable to the Video In connectors.

- **MAIN MONITOR/VGA OUTPUT**
  Connect the Main Monitor BNC to a surveillance TV monitor
  Connect the Main Monitor VGA output to a VGA monitor or Flat Panel TV

3.2.2.   OPTIONAL CONNECTIONS

- **AUDIO INPUT**
  Connect the audio input connector to the audio line-out from line level microphones or other audio sources. Please make sure to associate the audio inputs with a camera in the **Camera Setup** as described in **Section 6.2** accordingly. An audio input can only be associated with one camera.

- **AUDIO OUTPUT**
  Connect the audio output connector to an amplifier and speakers.

- **ETHERNET**
  Connect the Ethernet connector to router via a standard Ethernet cable for control and streaming to an Automation System, remote access via PC or Smartphone, or event email notifications. Please make sure to setup the related configurations as described in Section **6.11** Network Setup.

• **USB 2.0**
  External storage devices such as a USB thumb drive can be connected for archiving recorded content.
  Content cannot be recorded directly to a USB Drive.

Thumb Drive
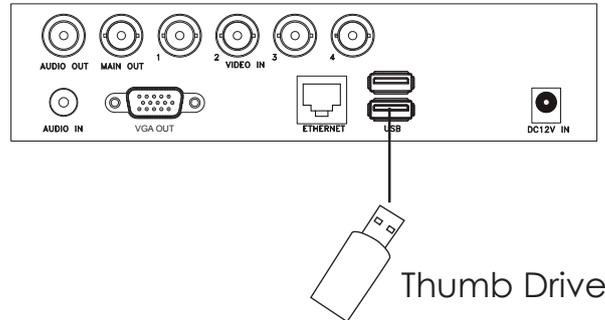
3.2.3. IP CONTROL CONNECTIONS

IP Control Connections
Wirepath™ DVRs provide integration with Automation Systems via Ethernet allowing for control and streaming of video.
Connect the Ethernet port to a home automation network.

WPS-165 4CH DVR

Router

Control System

RS-232

Network
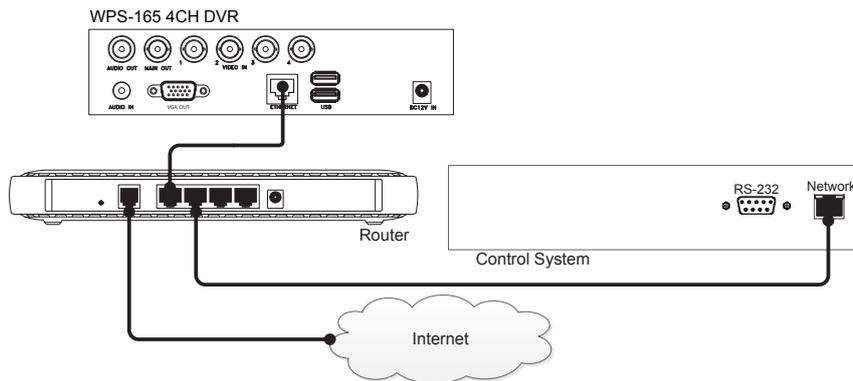
Internet

4. MAIN SCREEN AND BASIC OPERATIONS

The following sections (**Sections 4-6**) relate to the display output from the VGA or BNC connection. For Remote Access operation using Internet Explorer see **Section 9**.

The split-window screen is the main screen displayed after system startup. There are several types of split-window screens including 1 or 4 window grids (as described in **Section 4.3**). In addition to the split windows, a **System Status Bar** is displayed at the bottom of the screen. Time is displayed in the lower-left corner while system status is displayed in the lower-right corner. Scrolling screen messages are displayed when certain events occur.

The System Status Bar offers the following information:

- SEQ display – SEQ icon shown for SEQ display ON
- Backup state – Backup icon shown for backup
- Manual record – REC icon shown for ON,
- Zoom states – X2, or X4
- Mute state – Speaker icon visible when not muted; the icon will not be displayed in mute state
- Hard Drive recording percentage
- Video Loss – a message with the corresponding camera number scrolls from right to left
- Motion Detection – a message with the corresponding camera number scrolls from right to left
- Current date and time

In the top left of each camera the following information is displayed:

- Camera Title – name of the camera
- Recording icon – indicates video is being recorded
- Motion icon – indicates motion detected for this camera
- Alarm icon – indicates an alarm that has been associated with corresponding camera has been triggered

In split screen windows, the "focus" camera is indicated by a green or red box around the cameras title. **Green** indicates live video, and **red** indicates recorded video that is being played back.

4.1. TEXT INPUT

There are certain system settings that the system requires text to be entered, such as system login, camera title setup, etc. Follow the steps below using the remote control to enter text when prompted to do so by a text box:

1. Press **ENTER** to edit the highlighted option. The flashing cursor will be displayed to indicate the editing point.

2. Press ◄► to move the cursor to the left/right.

3. Press **#/code** (found on the remote control) in text editing mode to change text case. If the text entry accepts numbers only, pressing **code** will have no effect. Toggle through the options to select:

   • **123** = Number only
   • **abc** = All lower case letters
   • **ABC** = All capital letters
   • **CODE** = Used for languages that requires characters

4. Use the remote control to press a number key **(1-9, 0)** repeatedly until the character you want appears (**1** for **1** or space, **2** for **2, a/A, b/B, or c/C**, etc.).

5. Press **✳/mark** (found on the remote control) to display a list of punctuation marks and special characters. The highlighted character in the list indicates the selected character. Press ▲▼◄► to change the selection.

6. If you make a mistake, using the remote control press **BS** to remove the character to the left of the cursor, or press **DEL** to delete the character at the current cursor position.

7. Press **ENTER** to exit the highlighted option and save changes, press **ESC** to exit without making changes.

Alternatively the supplied mouse can be used to enter text. When using the mouse to enter text, click on a highlighted option window with the left mouse button. A **Keyboard Simulator** will be shown.
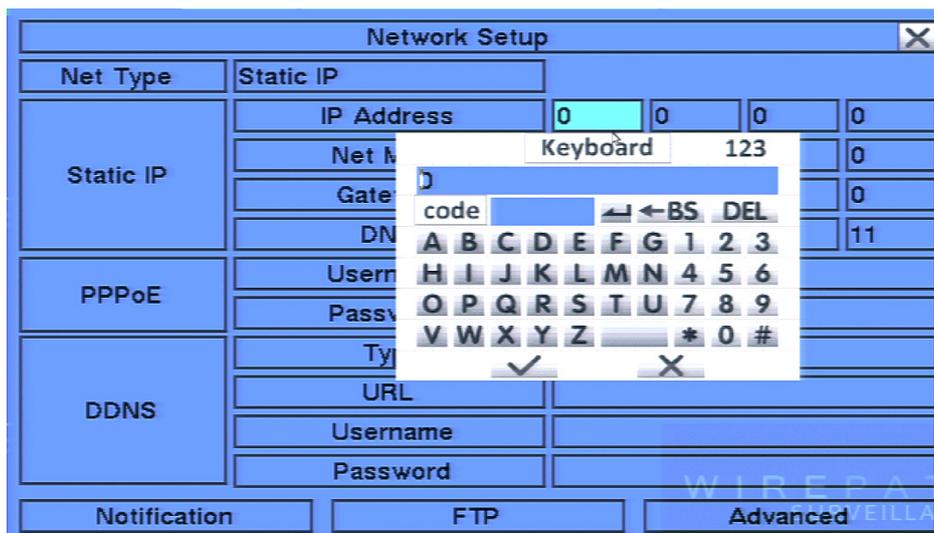
Click on "**#**" (or **"abc"**) to change text case. Click on the alpha-numeric characters to enter letters and numbers. Click on "**✳**" for special characters. Click on the check mark to accept the changes or click on the **X** to exit without changes.

4.2. LOGIN / LOGOUT

There are three password levels in the system; **Administrator** (highest), **Supervisor**, and **Operator** (lowest). If the user does not login to the system, the user will be treated as a **Guest** and can only view live video display.

The system allows up to 18 user accounts. The Administrator can set up the login name and password for each user (please refer to **Section 6.8** for Password Setup) and has access to all features. The Supervisor can operate the live video display, video playback and archive. The Operator can only operate the live video display.

To login or logout of the system, press the **MENU** button on the remote control and then use the arrow buttons to select the desired option. Once the option is highlighted, press the **ENTER** button. Alternatively use the mouse by first right-clicking the mouse to display the main **MENU** and then select the **LOGIN** icon.

Login / Logout	☒
Login Name	user
Password	****
Login	
Logout	

In **Login/Logout** menu, follow the text input method described in **Section 4.2** to enter the **Login name** and **Password**. Once the name and password are entered, press ◄► to highlight and select the **Login** option. Press **ENTER** to login the system. To logout of the system first display the **Login/Logout** menu and the press ◄► to highlight and select **Logout** option, and then press **ENTER**. Use the **ESC** button on the remote control to exit without making changes. Alternatively use the mouse to select the exit button or simply "right-click."

FACTORY PRESET ADMINISTRATOR LEVEL LOGIN INFORMATION
- Login Name: **user**
- Password: **1234**

4.3. BASIC OPERATIONS USING THE CONTROL BAR

After logging into the system, use the supplied mouse to operate the DVR. A **Control Bar** will be displayed at the bottom of the display by "dragging" the mouse to the bottom screen. It is recommended to operate the **Control Bar** using the included mouse. Where applicable, buttons on the remote control are indicated in the descriptions below. These buttons may have different functions in different menus. The specific functions are detailed in each of the following sections.

The following is a brief description for each item in the menu and its specific operations:

- **NUMERIC**
  Select any camera from the remote control by using the numeric buttons. Only buttons 1-9 are available on the 9 channel DVR; all 16 are available on the 16 channel DVR. Alternatively use the mouse to select any of these icons to switch to the full-window display of a particular camera.

- **MODE**
  Use the button on the remote control to toggle live and playback mode. Playback mode is indicated by a **red** box around the camera title of the focus camera (the camera being controlled). If in a split window display, the focus window will first switch to playback mode. A second press of the button will toggle additional windows to playback mode. Continue to press the **MODE** button to return to live mode (indicated by a **green** box around the camera title of the focus camera). Alternatively, use the mouse to select this icon.

  MODE is only available to an Administrator or Supervisor.

- **SEQ**

  Press this button on the remote control to switch to or exit from the sequence display mode. Alternatively use the mouse to select this icon. In sequence mode, each page in the sequence will be shown sequentially for the preset time, and the **SEQ** icon will be shown in the **System Status Bar** in the lower-right corner of the screen.

- **CALL**

  Press this button on the remote control to switch to or return from full screen display of the focus camera. Clicking the mouse in the focus camera window will achieve the same result.

- **SEARCH**

  Press this button on the remote control to display the search menu. Alternatively use the mouse to select this icon.

  SEARCH is only available to an Administrator or Supervisor.

- **REC**

  Press this button on the remote control to force manual recording. To stop manual recording, press it again. Alternatively use the mouse to select this icon. All cameras will be recorded and a red REC icon will be shown on the lower-right corner of the screen when manual recording is active.

- **MENU**

  Press this button on the remote control (both labeled **MENU/ESC**) to display the main **Menu**. Alternatively use the mouse to select this icon, or, "right-click" the mouse to display the Menu.

- **X2**

  Press this button on the remote control to enter the Digital Zoom mode when in full screen display. Alternatively use the mouse to select this icon.

- **VOLUME**

  Press these buttons on the remote control to control the gain (volume) of the **AUDIO OUT** jack. Alternatively use the mouse to select this icon.

- **GRID**

  Press the **Grid** buttons (next to the grid symbol) on the remote control to toggle through the available split-window displays. Only 1 and 4 split-window displays are available on the 4ch. Alternatively use the mouse to select the split window grid options.

- **PAGE**

  When in split window view, press the **Page** button on the remote control to toggle through multi-split-window displays. Alternatively use the mouse to consecutively click on this icon.

- **OSD**

  Use the mouse to select the **OSD Display** icon to enable or disable the following information from appearing in the **System Status Bar** on the main display; **Title, Time, Messages, Status and Rec%**.

- **COPY**

    Press this button on the remote control to display the **Search** menu and then copy recorded video to the storage device connected to the USB port.

- **TRANSPORT CONTROLS**

    Use the **Transport** buttons on the remote control during playback to control the video. Alternatively use the mouse to click on these icons.

- **FAST/SLOW**

    Use the mouse to select this icon to toggle the speed of the forward and backward transport buttons.

- **PLAY/PAUSE**

    Press this button on the remote control to launch the **Instant Playback** menu to playback the last 30 seconds or 1, 2, 3 or 5 minutes of video. Alternatively use the mouse to click on this icon.

- **ALARM RESET**

    Use the button on the remote control to cancel an alarm. Alternatively use the mouse to select this icon. This will reset the alarm outputs and silence the buzzer.

4.4. DIGITAL ZOOM

The DVR supports X2 and X4 Digital Zoom. Use this function in full window display mode. Press the **X2** button on the remote control to enter Digital Zoom. Alternatively use the mouse to select the icon ()found in the **Control Bar**. A yellow zoom window will be displayed in the video window as shown.
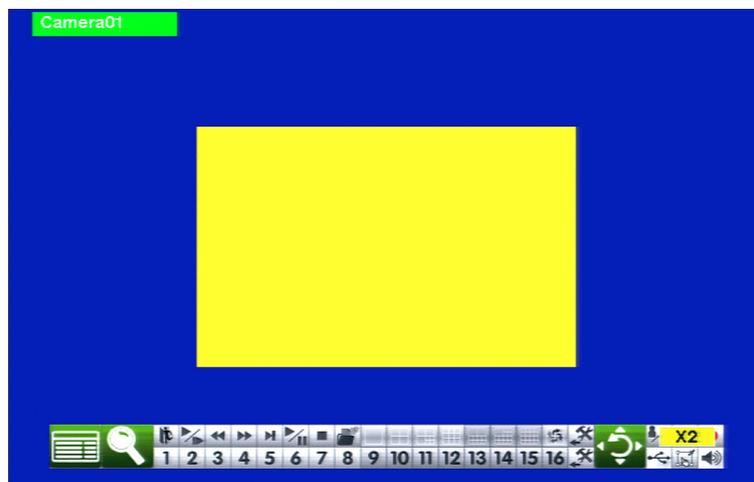
- **X2 AND ENTER**

    Use the buttons on the remote control to zoom from X1 to X2. Pressing the **X2** button again followed by **ENTER** button will zoom to X4. Pressing the **X2** button followed by **ENTER** a third time will return the zoom to normal X1 view.

- **▲ ▼ ◄ ►**

    Use these buttons on the remote control to move the zoom window.

- **ESC**

    Use the **ESC** button on the remote control to escape from **Digital Zoom** mode and return to the normal full screen display. Alternatively use the mouse to select the **exit** button or simply "right-click."

5. MAIN MENU

Select the **MENU** icon from the **Control Bar** or right click the mouse in the display window to activate the main Menu display as shown.

In the main Menu display and all subsequent displays, the items enabled are highlighted in Blue, and those disabled in Gray. Refer to **Appendix B** for an outline of the structure of Menu Displays, and to **Section 4.2** for **Login/Logout** display. The names of the icons are displayed when the mouse "hovers" over the icon.

To navigate and operate this menu:

• **▲▼◄►**
Press these buttons on the remote control to change the highlighted item. The mouse may also be used to navigate.

• **ENTER**
Press this button on the remote control to enter the detailed display of the highlighted option. Alternatively use the left mouse button to select an option.

• **ESC**
Press this button on the remote control to escape from Menu display, and return to the main video display. Alternatively use the mouse to select the EXIT icon or simply "right-click" the mouse.

5.1. STATUS DISPLAY

Once in the main Menu display, press ▲▼◄► on the remote control to select **Status,** and then press **ENTER** to display the menu below. Alternatively use the mouse to click on the **Status** icon.

The **Status** display includes:

- **ALARM RECORDING STATUS**
  Displayed is the portion of the hard drive allocated to recording alarm events and the percentage of that space that is currently full.

- **NORMAL RECORDING STATUS**
  Displayed is the portion of the hard drive allocated to regular (normal, non-event) recording and the percentage of that space that is currently full.

- **CAMERA STATUS**
  Motion and Video Loss is indicated by a white box for cameras 1-4.

- **ALARM INPUT STATUS**
  This feature has no function for this model of DVR.

- **SERIAL NUMBER**
  DVR serial number

- **VERSION NUMBER**
  Hardware and Software version numbers

Press the **ESC** button on the remote control to escape from this menu and return to the main Menu display. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." Another method to escape is to use the mouse to "right-click," and exit the sub menu.

5.2. VOLUME CONTROL

The **Volume Control** menu allows for the adjustment of the gain (volume) for the **AUDIO IN** jacks. The master audio out volume can be controlled from the **CONTROL BAR**.

Once in the main **Menu** display, press ▲▼◄► on the remote control to select Volume, and then press **ENTER** to display the menu as shown. Alternatively use the mouse to click on the **Volume** icon.

Volume Control		
Audio	Mute	Volume
Live #1	–	5
Live #2	–	
Live #3	–	
Live #4	–	

Note: This DVR supports one audio input channels. Therefore options for Audio 2 through 4 will be displayed in white text and cannot be changed.

The following is a brief description for each item in the sub menu and its specific operations:

- **▲▼◄►**
  Press these buttons on the remote control to select an option. Alternatively use the mouse to select an option.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main Menu display. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

- **MUTE**
  Mutes the selected audio input channel. Using the remote control, press **ENTER** (or **+/-**) to check/uncheck this item. The default setting is "-" noting that the channel is not muted. Alternatively use the mouse to enable or disable the mute feature.

- **VOLUME**
  Adjusts the gain (volume) of the selected audio input channel. Press **+/-** buttons on the remote control to change the value (1-10). Alternatively use the mouse to select the desired volume level.

5.3. VIDEO ADJUSTMENT

The **Video Adjustment** menu allows for the adjustment of **Brightness, Contrast, Hue, and Saturation** for each video input.

Once in the main Menu display, press ▲▼◄► on the remote control to select **Video Adjustment** and then press **ENTER** to display the menu as shown. Alternatively use the mouse to click on the **Video Adjustment** icon.
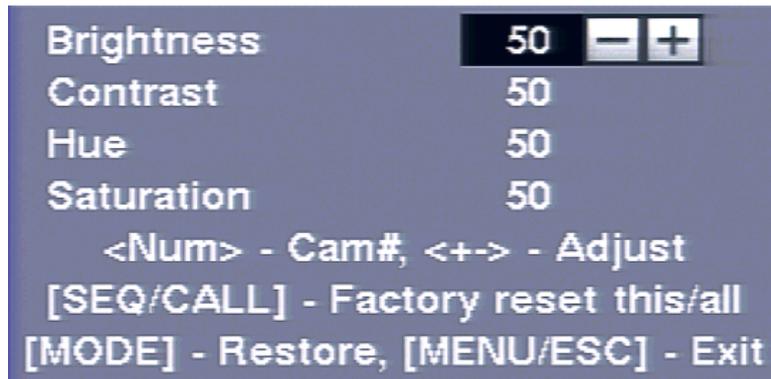
```
Brightness          50  ▬ ✚
Contrast            50
Hue                 50
Saturation          50
    <Num> - Cam#, <+-> - Adjust
  [SEQ/CALL] - Factory reset this/all
  [MODE] - Restore, [MENU/ESC] - Exit
```

The following is a brief description for each item in the sub menu and its specific operations:

- **▲▼◄►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **CAMERA SELECTION**
  Press the appropriate button for the desired adjustment.

- **NUMERIC** `1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16`
  Press these buttons on the remote control to change the camera. Alternatively use the mouse to select the desired camera.

- **+/-** `✚ ▬`
  Press these buttons on the remote control to change the settings. Alternatively use the mouse to make these changes.

- **SEQ**
  Press this button on the remote control to reset the video settings for the camera being viewed to factory default values.

- **CALL**
  Press this button on the remote control to reset the video settings for all cameras to factory default values.

- **MODE**
  Press this button on the remote control to restore the values.

- **ESC**
  Press the ESC button on the remote control to escape from this menu and return to the main Menu display. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

5.4. DISPLAY

The **VGA Display** menus allows for adjustment to the VGA output of the DVR.

Once in the **Main Menu** display, press ▲▼◄► on the remote control to select **VGA Display** and then press **ENTER** to display the menu as shown. Alternatively use the mouse to click on the **VGA Display** icon.

Display		
VGA / TV		
VGA Resolution	1280 X 720 @ 60Hz	− +
Brightness	50	
Contrast	50	
Hue	50	
Saturation	50	
Sharpness	Off	
Video Ratio(1/4-W)	Fit Window	
[MODE] - Factory Reset.		

Use the operations listed below to adjust **Resolution, Brightness, Contrast, Hue, Saturation and Video Ratio**.

To set Video Ratio, select between Fit Window and Proportion. Fit Window scales all camera channels to fill the grids. Proportion allows each camera to be displayed using its output video ratio.

Warning – Be sure the connected VGA monitor can accept the desired resolution before selecting it. If a resolution is selected that is not supported by the monitor and video is lost at the VGA monitor, continue to use the +/- buttons on the remote control to select a setting that is supported. Another option would be to temporarily connect a composite video monitor to the Video Out BNC to properly set the VGA resolution.

- **▲▼◄►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **+/-** **+ −**
  Press these buttons on the remote control to change the settings. Alternatively use the mouse to make these changes.

- **NUMERIC** 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
  Press these buttons on the remote control to change the camera. Alternatively use the mouse to select the desired camera.

- **MODE**
  Press this button on the remote control to restore **Brightness, Contrast, Hue and Saturation** values. Alternatively use the mouse to click on the Factory Reset button.
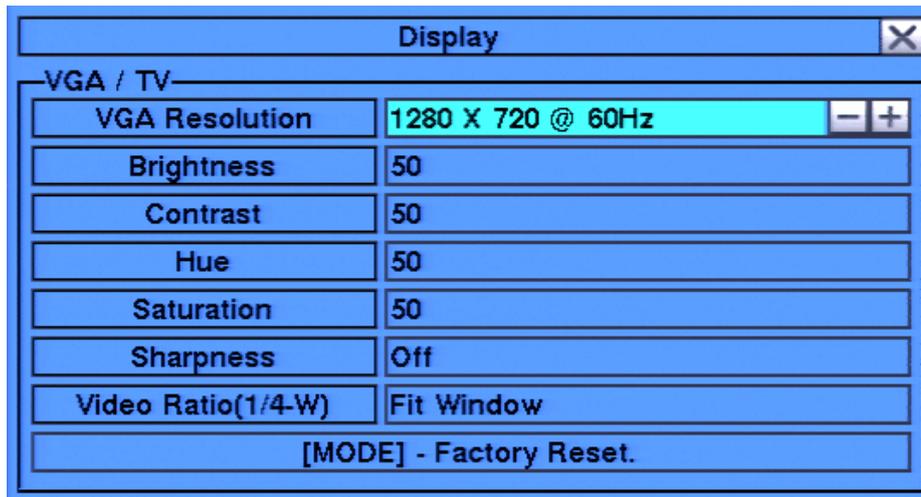
- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main Menu display. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.
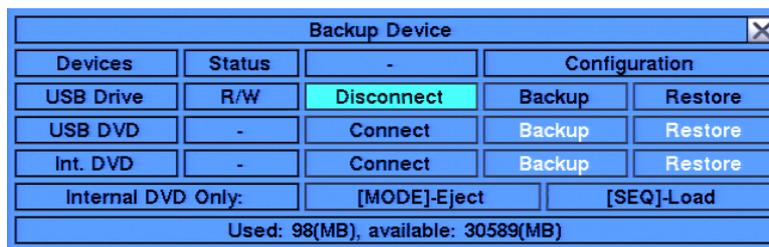
5.5. BACKUP DEVICE

The **Backup Device** menu allows for backup and recovery of the DVR's configuration to or from a USB device. This DVR supports a variety of USB 2.0 storage devices including thumb drives and DVD drives.

Once in the main Menu display, press ▲ ▼ ◄ ► on the remote control to select **Backup Device,** and then press **ENTER** to display the menu as shown. Alternatively use the mouse to click on the **Backup Device** icon.

Note: It is highly recommended to make a backup of the configuration once complete. Keep a copy of this backup in a secure location for future use. When setting up multiple DVRs with similar configurations, this feature could also be used to create a "template" file to speed the setup process.

Backup Device				
Devices	Status	-	Configuration	
USB Drive	R/W	Disconnect	Backup	Restore
USB DVD	-	Connect	Backup	Restore
Int. DVD	-	Connect	Backup	Restore
Internal DVD Only:		[MODE]-Eject	[SEQ]-Load	
Used: 98(MB), available: 30589(MB)				

To navigate and operate this menu:

- **▲ ▼ ◄ ►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main Menu display. Alternatively use the mouse to exit the sub menu by clicking on the " **X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

- **CONNECT/DISCONNECT**
  If the backup device is disconnected (as shown in screen capture above), plug the USB device into the **USB 2.0** port and then press **ENTER** on the remote control. Alternatively use the mouse to click on the **CONNECT** button. If the device is already plugged in, press **ENTER** on the remote control to connect the device. Alternatively use the mouse to click on **CONNECT**. It is recommended to select the **DISCONNECT** option before unplugging the USB device.

  Note 1: Before using a USB drive, please format it to FAT32 file system using Windows.

  Note 2: The backup device must be connected by the system software before it can be used to read/write. If it fails to connect, unplug the device and then plug the device into the USB port again.

  Note 3: Some backup devices may have compatibility problems.

- **BACKUP**
  Once a device is connected, use the ▲ ▼ ◄ ► buttons on the remote control to select **BACKUP** for the corresponding USB device and press **ENTER**. Alternatively use the mouse to select this button. Enter the directory to backup the configurations to. This button will remain white in color and unavailable until a USB device is connected.

- **RESTORE**
  Once a device is connected, use the ▲ ▼ ◄ ► buttons on the remote control to select **RESTORE** for the corresponding USB device and press **ENTER**. Alternatively use the mouse to select this button. Enter the directory to restore the configurations from. This button will remain white in color and unavailable until a USB device is connected.

5.6. SOFTWARE UPGRADE

This menu is available to Administrators only.

On occasion it may be necessary to update the DVR's software to take advantage of new features. Using the commands below, follow the instructions provided with the upgrade file.

In the Menu display, use the buttons on the remote control, and press ▲▼◄► to select the Software Upgrade icon. Alternatively use the mouse to select this icon from the main Menu.
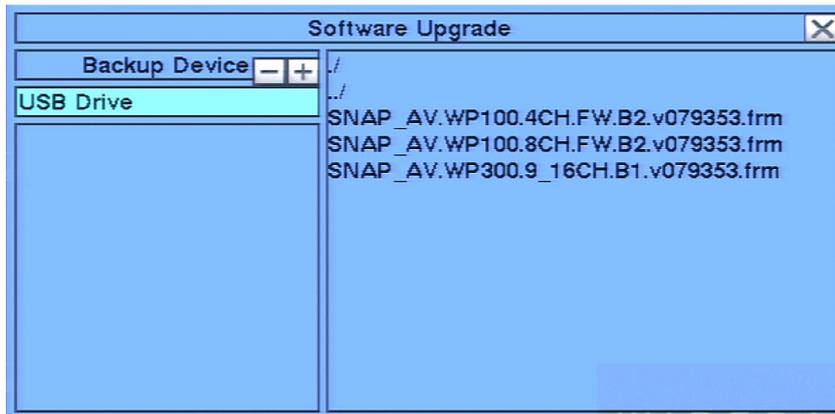
5.6.1. UPDATING SOFTWARE VIA DVR LOCAL DISPLAY

1. Insert a USB Thumb Drive with the new software into the USB connector on the front of the DVR.
2. Bring up the menu by pressing MENU/ESC on the remote or by right clicking the mouse.
3. Select the **Software Update** Icon from the Menu using the mouse or the remote control (Menu/ESC+ Up/Down/Left/Right buttons).
4. USB Thumb Drive contents will show in the right hand window.
5. Select the appropriate new software file mouse and click the mouse or use enter key on remote.

6. Use mouse to select the check mark or press enter on remote. Software upgrade is indicated on the bottom scroll line. During this process the DVR must remain powered ON or the DVR will become inoperable.

Note: *After the software is upgraded, the system will restart immediately. This process may take a few moments, after the DVR restarts login will be required.*

IE Plugin Interface Upgrade

The IE Plugin interface **MUST** be updated to ensure it can access the latest DVR software features.

1. Update the DVR software following the instructions listed above.
2. Download the ***Remove_WPS_IE_Plugin*** file from the SnapAV website. This file is also located in the software update zip file.
3. **Reboot** each computer that will be used to access or configure the updated DVR.
4. When the computer restarts, **Do Not Open IE**. Run the ***Remove_WPS_IE_Plugin*** file.
5. Open IE and access the updated Wirepath DVR. Perform Step 2, 3 and 4 for all computers that will be used to access the DVR.
6. IE may initially block installation of the DVR Plugin. If so, review the prompt and allow the Plugin to be installed.
7. If prompted, allow installation of the C++ Distributable Package and IEPlugin.cab packages.
8. When Plugin installation is complete, log in to and configure the DVR as usual.

5.7. SYSTEM SHUTDOWN

This menu is available to Administrators only.

Always properly shutdown the DVR before moving it. The hard drive can be damaged if the DVR is moved before shutdown. The DVR will reboot to whatever state it was in when it was properly shut down (ex: split window display, etc).

> ⚠ **WARNING – When powering off the DVR, the following shutdown procedure must be used. Turning the DVR off or removing power without following this procedure may cause damage to the hard disk drives.**

1. Access the menu by pressing the **MENU/ESC** button on the IR remote. Alternatively the mouse can be used by right clicking to open the menu.

2. Login to the DVR and continue with the following steps.

3. Using the ▲▼◄► buttons, navigate to **Shutdown** . Press **ENTER** to select. Alternatively the mouse can be used to select the icon. Once selected a scrolling message will appear at the bottom of screen indicating that shutdown is in process.

4. Once the message "**Shutdown completed. You may turn off the system now.**" appears, it is safe to turn the DVR off using the power switch on the back of the DVR.

5. The DVR is now shutdown and safe to move or service.

Press ENTER to shutdown the system, ESC to cancel.

6. SETUP MENU

This menu is available to Administrators only.

In the Menu display, use the buttons on the remote control, and press ▲▼◄► to select **Setup**, and then press **ENTER**.

To navigate and operate this menu:

- ▲▼◄►
  Press these buttons on the remote control to change the highlighted item. Alternatively use the mouse to navigate.

- **ENTER**
  Press this button on the remote control to enter the detailed display of the highlighted option. Alternatively use the left mouse button to select an option.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." Another method to escape is to use the mouse to "right-click," and exit the sub menu.

6.1. PRE-CAMERA SETUP

Pre-Camera Setup allows the administrator to define fundamental attributes for connected cameras.

In the **Setup** menu, press ▲ ▼ ◄ ► on the remote to change the highlighted option to **Pre-Camera**, and then press **ENTER** to display **Pre-Camera** menu.

Pre-Camera Setup			✕
Compression			Normal
Watermark			✓
Camera	Installed	Resolution	PTZ ID
1	✓	960x480 − +	N/A
2	✓	960x480	N/A
3	✓	960x480	N/A
4	✓	960x480	N/A
5	−		
6	−		
7	−		
8	−		

To navigate and operate this menu:

- **▲ ▼ ◄ ►**
  Press these buttons ▲ ▼ ◄ ► on the remote control to select an item. Alternatively use the mouse to select an item.

- **NUMERIC** `1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16`
  Press these buttons on the remote control to change the camera. Alternatively use the mouse to select the desired camera.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

The following is a brief description for each item in the sub menu and its specific operations:

- **COMPRESSION**
  This DVR uses the latest compression format (.h.264) for the most efficient use of storage space and streaming flexibility. The **Compression** setting allows the administrator to further compress streaming video to account for slow or bandwidth limited networks. Choose **Normal** for normal compression or select **High** to enable the remote stream of the Video Streaming (See **Section 9.4**). The **High** setting will reduce the resolution of the second stream to one of the four QCIF levels as set in Video Stream setting in the Network setup (See **Section 6.11**).

- **WATERMARK**
  An invisible, digitally-embedded security feature to protect against tampering of recorded content can be added to the video file. If a downloaded **h.264** clip has been altered, the PC based playback software will alert the user with a message upon playback. The default setting is enabled.

- **INSTALLED**
  Enable or disable cameras from this menu. The default setting is enabled.

- **RESOLUTION**
  Allows individual camera channels to be set for their appropriate recording resolution. Allows for 960H (960x480), D1 (720x480), Half 960H (960x240), Half D1 (720x240), 480x240, and CIF (360x240).

- **PTZ ID**
  This feature has no function for this model of DVR.

6.2. CAMERA SETUP

The **Camera Setup** menu allows the administrator to define additional attributes for each camera.
In the **Setup** menu, press ▲▼◄► on the remote to change the highlighted option to **Camera Setup**, and then press **ENTER** to display the **Camera Setup** menu.

Camera Setup		
Camera	← 1	2 →
Title	Camera01	Camera02
Video Loss	Settings..	Settings..
Motion Detection	√	√
Motion/Mask	Settings..	Settings..
Covert	–	–
Call By Event	Off	Off
Dwell Time	10 Sec.	10 Sec.
Audio	N/A	N/A
Record Quality	8	8
Event Record FPS	10	10
Pre-record FPS	10	10
Normal Record FPS	10	10

To navigate and operate this menu:

- **▲▼◄►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item. The display will scroll left/right if a camera is not shown on the screen.

- **NUMERIC** 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
  Press these buttons on the remote control to change the camera. Alternatively use the mouse to select the desired camera.

- **COPY (⎘)**
  Press the **COPY** button on the remote control to copy all the settings (excluding **Title, Video Loss, Motion Detection and Audio**) - of the focus camera to all of the cameras.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**."
  If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click" and exit the sub menu.

The following is a brief description for each item in the sub menu and its specific operations:

- **CAMERA**
  Indicates selected camera.

- **TITLE**
  Name each camera with a unique identifying name up to eight characters maximum. Follow the Text Input method described in **Section 4.1** to modify this item.

- **VIDEO LOSS SETTINGS**
  Used to set specific actions when the DVR losses the video signal for the selected camera. Refer to **Section 6.2.1** for the details.

- **MOTION DETECTION**
  Enable or disable motion detection for the selected camera. Default setting enables this feature.
  *Note : This has no effect on the **Smart Search** function.*

•MOTION SETTINGS
Used to set specific actions for when the DVR detects motion.   Please refer to **Section 6.2.2** for the details.

•COVERT
If a camera's covert function is enabled, the video of this camera can only be seen if the user has logged in an **Administrator**. The default setting is disabled.

• CALL BY EVENT
If Motion events occur for this camera, the main display will switch to the video of this camera for a specified period of time (dwell). Options are: **Off, Motion, Alarm, Both** (Motion & Alarm).

• DWELL TIME
Used in conjunction with **Call By Event**, dwell time specifies how long the main display will show the camera on the screen. The dwell time can be set from 3 to 60 seconds

• AUDIO
Select the corresponding **AUDIO IN** input for the camera. The audio for the selected **AUDIO IN** input will be recorded with the video for this camera. Selections include **N/A** or AUDIO Inputs **1**,**2, 3,** or **4**. The AUDIO INPUTS can only be assigned to one camera each. The default setting is **N/A**.
Note: The audio will only be heard when an amplifier and speakers are connected to the DVR and the volume is turned up.

• RECORD QUALITY
Select the record quality for each camera. Values range from **1-9**, with **1** the lowest quality and **9** the highest quality. The higher the quality setting, the larger the resulting file size because there are more pixels in the image.

• EVENT RECORD FPS
Set the **Frames Per Second** record rate for each camera when events such as motion or alarm inputs trigger the camera to record. Settings for Post Record time determines how long the DVR will record after the event triggers recording. Please refer to **Section 6.2.2** and **Section 6.3** for Post-record time. Press **+/-** buttons to select a value from 0 – 30.

Note: The higher the FPS setting for a camera, the more fluid the motion on playback. A slower FPS setting could result in "choppy" video during playback. As a reference, live video equals 30 FPS. In surveillance, 15 FPS is recognized as very good quality video, while 7 FPS is typically sufficient for most cases.

• PRE-RECORD FPS
Pre-Record FPS is the frames per second pre-record rate for each camera when events such as motion, video loss or alarm inputs trigger the camera to record. For this DVR, the **Pre-Record FPS** is always the same as Event Record FPS. Settings for Pre-Record time determine how much time the DVR will record before the event triggers recording. Please refer to **Section 6.2.1**, **Section 6.2.2** and **Section 6.3** for Pre-record time.

• NORMAL RECORD FPS
Unless disabled in the schedule (see **Section 6.5**), the DVR is **always** recording. If there is no event triggering the DVR to record (such as motion or alarm inputs), the DVR is still recording and the recording is referred to as **Normal Record**. Set the FPS for each camera to be recorded by pressing **+/-** buttons to select the value from a minimum of 0 to a maximum equal to the Event Record setting.

6.2.1. VIDEO LOSS SETUP

Video Loss Setup allows the administrator to define how the system responds when video signal is lost for the camera.

In the **Camera Setup** menu, highlight **Settings** in **Video Loss** and press the **ENTER** button on the remote control to display Video Loss Setup sub menu for the selected camera.

Video Loss Setup-Camera1	
Duration	10 Sec. − +
Camera To Go	1
Goto Preset	N/A
Pre-record	5 Sec.
Alarm Out	N/A
Buzzer	✓
Log	✓
Screen Message	✓
E-mail	−
FTP	−

To navigate and operate this menu:

- **▲▼◄►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **NUMERIC**
  Press these buttons on the remote control to change the camera. Alternatively use the mouse to select the desired camera.

- **COPY (⎘)**
  Press the **COPY** button on the remote control to copy the Video Loss settings of the focus camera to all of the cameras.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**."
  If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click" and exit the sub menu.

The following is a brief description for each item in the sub menu and its specific operations:

- **DURATION**
  Set the length of time the buzzer will remain triggered once video loss is detected for this camera. The **buzzer** will reset immediately once video signal is restored. Press **+/-** buttons to adjust the value from 3 seconds to 60 minutes or '**-**' for indefinite, requiring the Alarm Reset button to be pressed.

- **CAMERA TO GO**
  The **Camera To Go** setting will specify which camera is pulled up full screen during a video loss event if Call by Events options are enabled.

- **GOTO PRESET**
  This feature has no function for this model of DVR.

- **PRE-RECORD**
  Pre-Record defines how much time the DVR will record before video loss is detected. The **Pre Record FPS** set in **Section 6.2** determines the frame rate of this recording. Press **+/-** buttons on the remote control to adjust the value from 0 to 10 seconds. Alternatively use the mouse to adjust this setting.

  Note that the actual pre-record time may be shorter than the value set if the total size of the pre-record video exceeds the pre-record video buffer.

- **ALARM OUT**
  This feature has no function for this model of DVR.

- **BUZZER**
  By default, the internal buzzer is enabled to sound when video loss for the camera is detected. Highlight this setting and press **ENTER** or **+/-** to enable or disable this item. Alternatively use the mouse to left-click on this item.

- **LOG**
  By default, the DVR will log when video loss is detected to the **Event Log** (see **Section 8.2**). Highlight this setting and press **ENTER** or **+/-** to enable or disable this item. Alternatively use the mouse to left-click on this item.

- **SCREEN MESSAGE**
  By default, the DVR will display a video loss message in the **System Status Bar** when video loss is detected for this camera. Highlight this setting and press **ENTER** or **+/-** to enable or disable this item. Alternatively use the mouse to left-click on this item.

- **E-MAIL**
  This DVR can send an email message to a predefined email address in the event video loss is detected for this camera. Highlight this setting and press **ENTER** or **+/-** to enable or disable this item. Alternatively use the mouse to left-click on this item. The default setting is disabled. See **Section 6.11.1** for more information on e-mail.

- **FTP**
  This DVR can send the recorded video loss event for this camera to a **FTP server**. Highlight this setting and press **ENTER** or **+/-** to enable or disable this item. Alternatively use the mouse to left-click on this item. The default setting is disabled.

6.2.2. MOTION SETUP

Motion Setup allows the administrator to define how the system responds when motion is detected for the camera.

In the **Camera Setup** menu, highlight **Motion Setup** and press the **ENTER** button on the remote control to display the Motion Setup sub menu for the selected camera.

Motion Setup-Camera1	✕
Duration	10 Sec. − +
Camera To Go	1
Goto Preset	N/A
Pre-record	5 Sec.
Post-record	10 Sec.
Alarm Out	N/A
Detection	Settings..
Buzzer	−
Log	✓
Screen Message	✓
E-mail	−
FTP	−
Privacy Mask	Settings..

To navigate and operate this menu:

- **▲ ▼ ◄ ►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **NUMERIC** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
  Press these buttons on the remote control to change the camera. Alternatively use the mouse to select the desired camera.

- **COPY (⎘)**
  Press the **COPY** button on the remote control to copy the Video Loss settings of the focus camera to all of the cameras.

- **ESC**
  Press the **ESC** button on the remote control to escape and return to the main menu. Alternatively you can use the mouse by right clicking or selecting the "**X**" in the current dialog window. If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click" and exit the sub menu.

Functions in the Sub-menu:

- **DURATION**
  Set the length of time the buzzer will remain triggered once video loss is detected for this camera. The **Buzzer** will reset immediately once video signal is restored. Press **+/-** buttons to adjust the value from 3 seconds to 60 minutes or '**-**' for indefinite requiring an Alarm Reset.

- **CAMERA TO GO**
  The **Camera To Go** setting will specify which camera is pulled up full screen during a motion event if Call by Event options are enabled.

- **GOTO PRESET**
  This feature has no function for this model of DVR.

- **PRE-RECORD**
  Pre-Record defines how much time the DVR will record before video loss is detected. The **Pre Record FPS** set in **Section 6.2** determines the frame rate of this recording. Press **+/-** buttons on the remote control to adjust the value from 0 to 10 seconds. Alternatively use the mouse to adjust this setting.

  Note that the actual pre-record time may be shorter than the value set if the total size of the pre-record video exceeds the pre-record video buffer.

- **POST-RECORD**
  Define how much time the DVR will record after motion is detected. The **Post Record FPS** set in **Section 6.2** determines the frame rate of this recording. Press **+/-** buttons on the remote control to adjust the value from 0 to 60 minutes. Alternatively use the mouse to adjust this setting.

- **ALARM OUT**
  This feature has no function for this model of DVR.

- **DETECTION**
  See **6.2.2.1 Detection Settings** for detail on the available settings.

- **BUZZER**
  By default, the internal buzzer is enabled to sound when video loss for the camera is detected. Highlight this setting and press **ENTER** or **+/-** to enable or disable this item. Alternatively use the mouse to left-click on this item.

- **LOG**
  By default, the DVR will log when video loss is detected to the **Event Log** (see **Section 8.2**). Highlight this setting and press **ENTER** or **+/-** to enable or disable this item. Alternatively you can use the mouse by left clicking in the box next to Buzzer in the current dialog window.

- **SCREEN MESSAGE**
  By default, the DVR will display a video loss message in the **System Status Bar** when video loss is detected for this camera. Highlight this setting and press **ENTER** or **+/-** to enable or disable this item. Alternatively use the mouse to left-click on this item.

- **E-MAIL**
  This DVR can send an email message to a predefined email address in the event video loss is detected for this camera. Highlight this setting and press **ENTER** or **+/-** to enable or disable this item. Alternatively use the mouse to left-click on this item. The default setting is disabled. See **Section 6.11.1** for more information on e-mail.

- **FTP**
  This DVR can send the recorded video loss event for this camera to a **FTP server**. Highlight this setting and press **ENTER** or **+/-** to enable or disable this item. Alternatively use the mouse to left-click on this item. The default setting is disabled.

6.2.2.1.   DETECTION SETTINGS

The **Detection Setting** sub menu is used to customize motion detection settings including the motion detection area(s) and sensitivity. In the **Motion Setup** menu, highlight **Settings** in **Detection** and press the **ENTER** button on the remote control to display the Motion Detection Settings sub menu for the selected camera. Once in the Motion Detection setting sub menu, a video window is displayed with the area divided into grids.

- Grids **gray** in color indicate the area which **WILL** be used for motion detection.
- **Transparent** grids indicate the area that will **NOT** be used for motion detection.
- **Yellow** grids indicate the currently selected area referred to as the **Mask** area.

*Note: The defined detection area and sensitivity are also used for the **Smart Search** feature (**Section 8.3**). Smart Search will only use information stored "inside" of the detection area. There will not be any motion information stored by the DVR that is "outside" of the detection area. Even if motion detection is disabled for a given camera, it is recommended to enable the entire area if the **Smart Search** feature may be used.*

The following is a brief description for each item in the sub menu and its specific operations:

- **NUMERIC** `1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16`
  Press these buttons on the remote control to change the camera. Alternatively use the mouse to select the desired camera.

- **▲ ▼ ◄ ►**
  Press these buttons on the remote control to move the **Mask** window (grids **yellow** in color). Alternatively use the mouse to select and move the **Mask** window (grids **yellow** in color) by "left clicking" and dragging the mouse over the desired area.

- **+/-**
  Press these buttons on the remote control to resize the **Mask** window (grids **yellow** in color). Alternatively use the mouse to select and move the **Mask** window (grids **yellow** in color) by "left clicking" and dragging the mouse over the desired area.

- **ENTER**
  Press this button on the remote control to **Set/Reset** the area of the Mask window (grids **yellow** in color). Additional areas may be selected and added to the detection area. Alternatively use the mouse to select the **Set/Reset** icon and adjust the Mask window (grids **yellow** in color).

- **MODE**
  Press this button on the remote control to **Set/Reset** the whole video area. Alternatively use the mouse to select this icon.

- **SEQ / CALL**
  Press these buttons on the remote control to decrease (SEQ) or increase (CALL) the Sensitivity of the motion detection area of this camera from 1 - 10 (1 is least sensitive and 10 is most sensitive). Alternatively use the mouse to select this icon and adjust the sensitivity. We recommend that the default setting (3) be used to start and adjusted as needed.

- **Volume +/- (+)**
  Press these buttons on the remote control to increase or decrease the number of grids required to detect motion before the DVR will trigger motion detection recording and any associated events Alternatively use the mouse to select this icon and adjust the number of grids.

- **SEARCH**
  Press this button on the remote control to test the motion detection of this camera. Grids in **green** indicate that area that will detect motion. When motion is detected, these grids will change in color to **red**. Press this button again to exit testing. Alternatively use the mouse to select this icon to enter and exit testing mode.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

6.3. SEQ DISPLAY SETUP

The SEQ Display Setup allows the administrator to define the displayed pages when in SEQ Display mode.

Display Type Options:

WPS-DVR-165-4CH

• 1-Window

• 4-Window

In the **Setup Menu** display, press ▲ ▼ ◄ ► on the remote to change the highlighted option to **SEQ Display**, and then press **ENTER** to display **SEQ Display Setup** as shown.

Main / SEQ Display Setup				
Display Type		Total Pages − +	**Dwell Time**	**Page**
Main Monitor	1W	4	5 Sec.	Settings..
	4W	1	5 Sec.	Settings..
	7W	1	5 Sec.	Settings..
	9W	1	5 Sec.	Settings..
	10W	1	5 Sec.	Settings..
	13W	1	5 Sec.	Settings..
	16W	1	5 Sec.	Settings..
Call Monitor	1W	4	5 Sec.	Settings..
Main Display Type			Default	
CVBS			Main Monitor	

To navigate and operate this menu:

• ▲ ▼ ◄ ►
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

• **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

The following is a brief description for each item in the sub menu and its specific operations:

• **TOTAL PAGES**
  Set **Total Pages** included in this SEQ Display Type. Press **+/-** buttons on the remote control to select the desired number from the available list. Alternatively use the mouse to select the appropriate number.

• **DWELL TIME**
  Set the **Dwell Time** (how long this page will be displayed before transitioning to the next page) from 3 to 60 seconds. Press **+/-** buttons on the remote control to change this value. Alternatively use the mouse to select the appropriate time.

• **SETTINGS**
  Enter the **Settings** window to set the camera in each window for each page of this SEQ Display Type. Press **ENTER** on the remote control to display settings page as shown.

Alternatively left-click on the Settings button to enter this window.
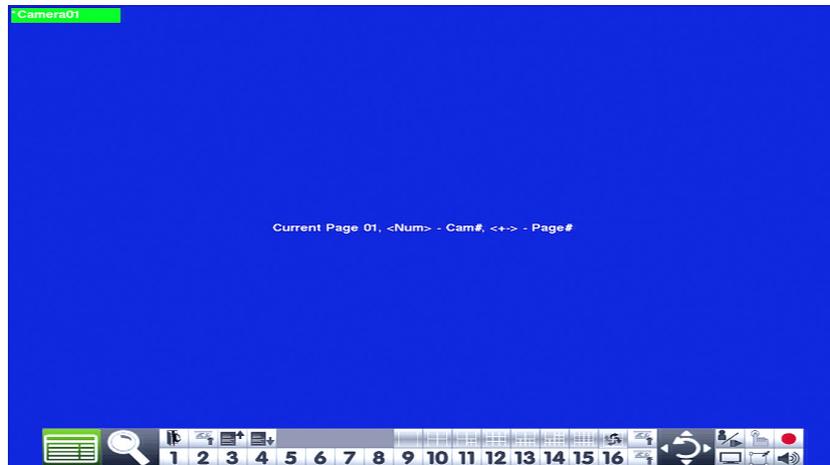
- **MAIN DISPLAY TYPE**
  Determines the camera channel configuration of the Main Display. In 'Default' the channel configuration follows a normal standard (i.e. 1w - Page1 = Camera 1, Page2 = Camera 2, etc. 4w - Page1 = 1/2/3/4, Page2 = Camera 5/6/7/8, etc. 7w - Page1 = Camera 1/2/3/4/5/6/7, etc.) In 'SEQ' the channel configuration follows the layout of the Sequence menu, where a camera can be placed on any channel number.

- **MAIN DISPLAY CALLED BY EVENT**
  Allows the Main Monitor output to show a single camera full screen view when that channel is triggered by motion or alarm.

The following is a brief description of the operations in the sub menu:

- **▲ ▼ ◄ ►**
  Press these buttons on the remote control to change the focus camera. Alternatively use the mouse to select the focus camera.

- **Numeric**
  Press these buttons on the remote control to change the camera for this view. Alternatively use the mouse to select the desired camera.

- **+/-**
  Press these buttons on the remote control to change the current page for this SEQ Display. Alternatively use the mouse to change the current page.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to select this icon or "right-click," and exit the sub menu.
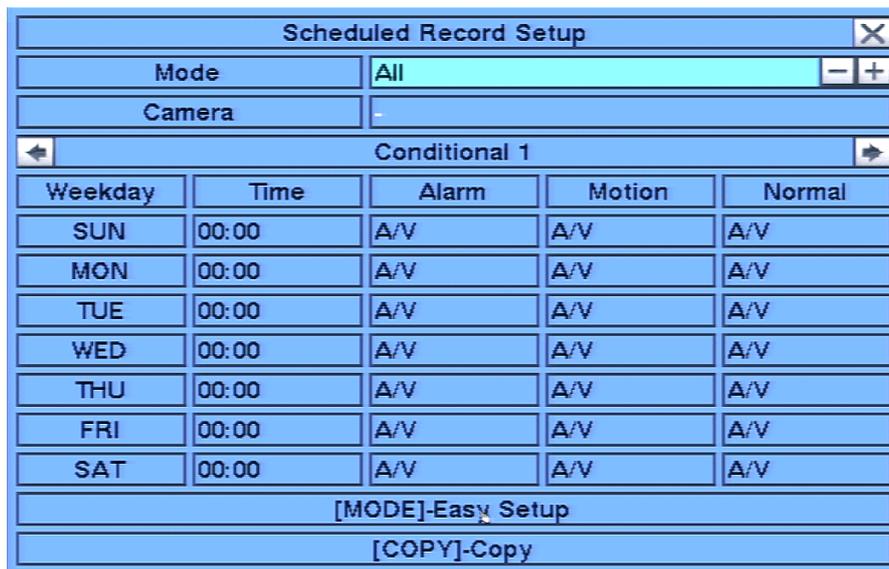
6.4. SCHEDULED RECORD SETUP

The schedule section affects the when and how the DVR records video and audio. However this does not affect outgoing email notifications or alarm outputs. These will occur 24/7 regardless of schedule

The **Scheduled Record Setup** allows the administrator to define when and how video and audio will be recorded. This feature may be useful to increase hard drive storage space by defining what types of events are recorded on specific days of the week. For example, if **Normal Recording** (recall that the DVR is capable of always recording "normal" video even without event triggers such as motion or alarm) is not necessary, this feature can be disabled on a daily basis. To further define when and how the DVR records, up to 16 time segments (**Conditional 1 – Conditional 16**) are available for each day of the week.

In the **Setup Menu** display, press ▲▼◄► on the remote to change the highlighted option to **Scheduled Record**, and then press **ENTER** to display S**cheduled Record Setup**.

Scheduled Record Setup				✕
Mode	All			− +
Camera	-			
←		Conditional 1		→
Weekday	Time	Alarm	Motion	Normal
SUN	00:00	A/V	A/V	A/V
MON	00:00	A/V	A/V	A/V
TUE	00:00	A/V	A/V	A/V
WED	00:00	A/V	A/V	A/V
THU	00:00	A/V	A/V	A/V
FRI	00:00	A/V	A/V	A/V
SAT	00:00	A/V	A/V	A/V
[MODE]-Easy Setup				
[COPY]-Copy				

To navigate and operate this menu:

- **▲▼◄►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **COPY ( )**
  Press the **COPY** button on the remote control to copy the settings of the focus day to other days of the week.

- **MODE**
  Press this button on the remote control to enter **Easy Setup** for Schedule Record as described in the following paragraphs. Alternatively use the mouse to select **Easy Setup**.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

The following is a brief description for each item in the sub menu and its specific operations:

- **START**

  Set the start time of this time segment (conditional) in increments of 30 minutes in military time format. The end time of this conditional is implicitly set as the start time of next conditional. Press the **+/-** buttons on the remote control to select the desired start time. Alternatively use the remote control to set the desired start time.

  Example: If the following start times are set:
    - Conditional 1 = MON at 9:00
    - Conditional 2 = MON at 18:00
    - Conditional 3 - Conditional 16 = MON as N/A (Not Available)
    - --- then ---
    - Conditional 1 = MON 9:00-18:00
    - Conditional 2 = MON 0:00-9:00 **and** 18:00-24:00

- **ALARM**

  Define if Alarm events are recorded. Options include **V** for Video only, **AV** for Audio and Video, **NO** for No Recording, and **OFF** for recording but no event notification. Press **+/-** buttons on the remote control to change the value. Alternatively use the mouse to adjust these options.

- **MOTION**

  Define if Motion events are recorded. Options include **V** for Video only, **AV** for Audio and Video, **NO** for No Recording, and **OFF** for recording but no event notification. Press **+/-** buttons on the remote control to change the value. Alternatively use the mouse to adjust these options.
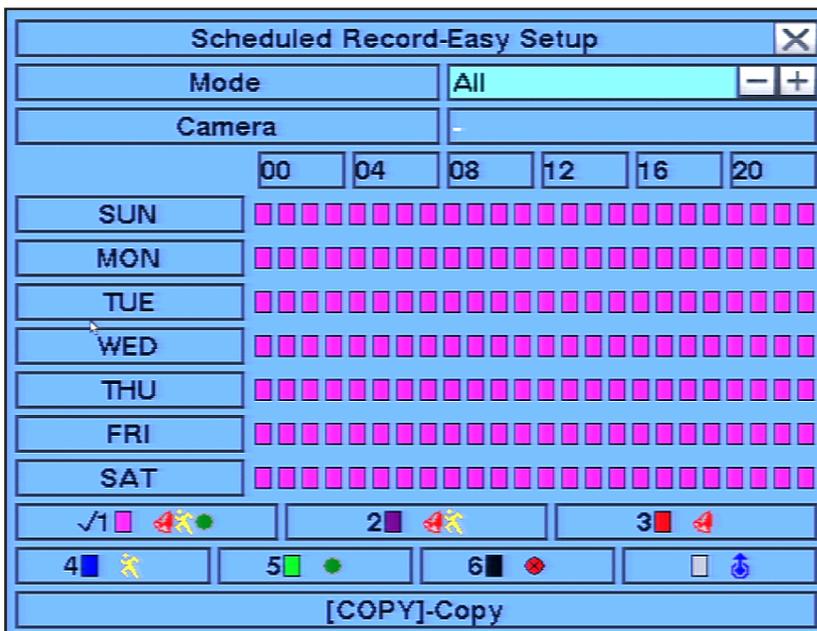
- **NORMAL**

  Define if normal video and audio (non-event based video and audio) is recorded. Options include **V** for Video only, **AV** for Audio and Video, **NO** for No Recording, and **OFF** for recording but no event notification. Press **+/-** buttons on the remote control to change the value. Alternatively use the mouse to adjust these options.

  Note: If both Alarm and Motion are set to OFF then all video and audio recordings will be considered "normal recording" unless there is Video Loss for a particular camera.

6.4.1. SCHEDULED RECORD – EASY SETUP

Within the **Scheduled Record** menu, **Easy Setup** allows the administrator to use a more visual method to setup the scheduled record of the system.

Press the **Mode** button on the remote control to select **Easy Setup** from the **Scheduled Record** menu. Alternatively use the mouse to select this sub menu.

Recording options include:

- **Pink:** Alarm, Motion and Normal Video and Audio Recording (Default setting)
- **Purple:** Alarm and Motion Video and Audio Recording only
- **Red:** Alarm Video and Audio Recording only
- **Blue:** Motion Video and Audio Recording only
- **Green:** Normal Video and Audio Recording only
- **Black:** No recording at all

To navigate and operate this menu:

• ▲▼◄►
Press these buttons on the remote control to change the focus recording type. Alternatively use the mouse to select the focus recording type.

• **Numeric 1-6**
Press these buttons on the remote control to select one of the **Recording Modes** listed above. Or press the **ENTER** button on the remote control when the focus is on the appropriate Recording Mode to activate it. Alternatively use the mouse to select the appropriate Recording Mode.

• **+/-**
Press these buttons to set the focus interval in increments of one hour (one grid for each hour) to the active Recording Mode.   Or press the **ENTER** button on the remote control set the focus interval to the active Recording Mode. Alternatively use the mouse to left-click and then drag the mouse to select the appropriate grids.

• **ESC**
Press the **ESC** button on the remote control to escape from this menu and return to the Scheduled Record Setup display menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." **Once Easy Setup is complete, the time segments for each conditional in Scheduled Record will be updated accordingly**.

6.5. HDD SETUP

The **HDD Setup** allows the administrator to format/clear the hard drive, set Alarm Record partition size and

Normal Record partition size, and define the behavior for Alarm Record and Normal Record partition if the hard drive becomes full.

The following is a brief description for each item in the sub menu and its specific operations:

In the Setup Menu display, press ▲ ▼ ◄ ► on the remote to change the highlighted option to HDD, and then press ENTER to display **HDD Setup** as shown.

HDD Setup		✕
Record Type	Alarm Record	Normal Record
Size (GB)	487	0
Auto Overwrite	✓	✓
HDD Full Action	–	–
Duration	10 Sec.	10 Sec.
Alarm Out	N/A	N/A
Buzzer	✓	✓
Log	✓	✓
E-mail	–	–
[MODE] - HDD Format / Clear		
[SEQ] - Advanced HDD Setup		

To navigate and operate this menu:

- **▲ ▼ ◄ ►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **MODE**
  Press this button on the remote control to **Format/Clear** the HDDs as described in **Section 6.6.1**. Alternatively use the mouse to select this option.

- **SEQ**
  Press this button on the remote control to enter **Advanced HDD Setup** as described in **Section 6.7**. Alternatively use the mouse to select this option.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X.**"
  If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

The following is a brief description for each item in the sub menu and its specific operations:

- **Size (GB)**
  The total hard drive storage capacity in GB (gigabytes).

  NOTE: If the total Alarm Record partition size is zero (0) and the total Normal Record Partition is 100, then Alarm video and audio will NOT be recorded in the Normal Record partition, and only Normal Record video and audio will be saved.
  However, if the total Normal Record partition size is zero(0) and the Alarm Record partition is 100, then Normal video and audio WILL be recorded in addition to Alarm video and audio, in the Alarm Record partition.

- **Auto Overwrite**
  By default, the DVR will automatically overwrite recorded video and audio hard drive reaches its capacity.

  WARNING - If Auto Overwrite is disabled and the hard drive capacity reaches its maximum, the system will NOT overwrite recorded video and audio. <u>Therefore the DVR will NOT record Alarm or Normal video or audio until the user presses the Alarm Reset button</u>.

  Press **ENTER** or **+/-** on the remote control to disable this setting. Alternatively use the mouse to make this change.

- **HDD Full Action**
  If Auto Overwrite is disabled, the DVR can sound the buzzer, log the event and email an alert when the hard drives reaches its maximum capacity. Press **ENTER** or **+/-** on the remote control to disable this setting. Alternatively use the remote control to make this change.

- **Duration**
  If **HDD Full Action** is enabled, set the duration that the buzzer will remain triggered when the corresponding partition is full. Press **+/-** buttons on the remote to adjust the time from 3 seconds or 60 minutes or '**-**' indefinitely until the **Alarm Reset** button is pressed.

- **Alarm Out**
  This feature has no function for this model of DVR.

- **Buzzer**
  By default, the internal buzzer is enabled to sound when the corresponding hard drive partition is full. Highlight this setting and press **ENTER** or **+/-** on the remote control to enable or disable this item. Alternatively use the mouse to left-click on this item.

- **Log**
  By default, the DVR will log when the corresponding hard drive partition is full to the event **Log** (see **Section 8.2**). Highlight this setting and press **ENTER** or **+/-** on the remote control to enable or disable this item. Alternatively use the mouse to left-click on this item.

- **E-mail**
  Send an email message to a predefined email address when corresponding hard drive partition is full. Highlight this setting and press **ENTER** or **+/-** on the remote control to enable or disable this item. Alternatively use the mouse to left-click on this item. The default setting is disabled. See **Section 6.11.1** for more information on e-mail.

6.5.1. HDD FORMAT/CLEAR

The **HDD Format/Clear** menu allows the administrator to format and/or clear the hard drive. The administrator can also set the size for the Alarm Record partition and the Normal Record partition.

In **HDD Setup** display, press **MODE** to display **HDD Format/Clear** screen as shown.

HDD Format / Clear	✕
Size (GB)	484
Normal Record (%)	0
Alarm Record (%)	100
NAS	Setup
[MODE]-Format	[SEQ]-Clear
[CALL]-Physical Format	

To navigate and operate this menu:

- **MODE**
  Press the **Mode** button on the remote control to **Format** the hard drive (similar to a Quick Format option found on a PC). A confirmation dialog box will be displayed on the screen. Using the remote, press **ENTER** to confirm or **ESC** to cancel. Alternatively
  use the mouse to make these selections.

- **SEQ**
  Press the **SEQ** button on the remote to **Clear** (delete all files) the hard drive. A confirmation dialog box will be displayed on the screen. Using the remote, press **ENTER** to confirm or **ESC** to cancel. Alternatively use the mouse to make these selections.

- **CALL**
  Press the **Call** button on the remote control to **Physically Format** the hard drive (similar to a "full" Format option found on a PC). A confirmation dialog box will be displayed on the screen. Using the remote, press **ENTER** to confirm or **ESC** to cancel. Alternatively use the mouse to make these selections.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**."
  If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click" and exit the sub menu.

The following is a brief description for each item in this menu and its specific operations:

- **SIZE (GB)**
  The total hard drive storage capacity in GBs (gigabytes) for the Alarm Record partition and Normal Record partition respectively.

- **ALARM RECORD (%)**
  Set the Alarm Record Size (in percentage) for the hard drive. Please follow the Text Input method described in **Section 4.1** to change the percentage.

  Note: If the total Alarm Record partition size is zero, alarm video and audio will be recorded in Normal Record partition.

- **NORMAL RECORD (%)**
  Set the Normal Record Size (in percentage) for the hard drive. Please follow the Text Input method described in **Section 4.1** to change the percentage.

  NOTE: If the total Normal Record partition size is zero, normal video and audio will be recorded in Alarm Record partition.

6.5.2. ADVANCED HDD SETUP

The **HDD Failure Action** in Advanced HDD Setup allows the administrator to define how the system responds to hard drive failure. The HDD Failure Action will be triggered if there's no available formatted hard drive detected.

In **HDD Setup** display, press **SEQ** on the remote control to display **Advanced HDD Setup** menu.

Advanced HDD Setup	✕
HDD Failure Action	─ ＋
Duration	10 Sec.
Alarm Out	N/A
Buzzer	√
Log	√
E-mail	─
Privacy	
Limited Period	─
Retention Period (hour)	0

To navigate and operate this menu:

- **▲▼◄►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **ESC**
  Press the ESC button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click" and exit the sub menu.

The following is a brief description for each item in this menu and its specific operations:

- **DURATION**
  Set the duration that the buzzer will remain triggered after the hard drive failure is detected. Press **+/-** buttons on the remote to adjust the time from 3 seconds or 60 minutes or '**-**' indefinitely until the **Alarm Reset** button is pressed.

- **ALARM OUT**
  This feature has no function for this model of DVR.

- **BUZZER**
  By default the internal buzzer is enabled to sound after the hard drive failure is detected. Highlight this setting and press **ENTER** or **+/-** on the remote control to enable or disable this item. Alternatively use the mouse to left-click on this item.

- **LOG**
  By default the DVR will log when the hard drive failure is detected to the **Event Log** (see **Section 8.2**). Highlight this setting and press **ENTER** or **+/-** on the remote control to enable or disable this item. Alternatively use the mouse to left-click on this item.

- **E-MAIL**
  Send an email message to a predefined email address when the hard drive failure is detected. Highlight this setting and press **ENTER** or **+/-** on the remote control to enable or disable this item. Alternatively use the mouse to left-click on this item. The default setting is disabled. See **Section 6.11.1** for more information on e-mail.

- **LIMITED PERIOD**
  This option will limit the time period in hours for how long recorded video and audio remains on the hard drive. By default this feature is disabled. Highlight this setting and press **ENTER** or **+/-** on the remote control to enable or disable this item. Alternatively use the mouse to left-click on this item.

- **RETENTION PERIOD (HOUR)**
  If the **Limited Period** option is enabled, set the **Retention Period** of how long the hard drive will store the recorded video and audio. Please follow the Text Input method described in **Section 4.1** to modify this setting. If set to 0, it will be treated as No Limited Period.

6.6. PASSWORD SETUP

The Password Setup allows the administrator to add new users, delete existing users, and/or modify the user login names, password, and levels of access. And allows automation system access

In the Setup Menu display, press ▲ ▼ ◄ ► on the remote to change the highlighted option to Password, and then press ENTER to display Password Setup as shown.

Password Setup				✕
Local Guest Level		Operator		— 🔀
Remote Guest Level		-		
Auto Logout		-		
No.	Login Name	Password	Level	
⬆ *1	user	****	Admin	Adv.
2			Operator	Adv.
3			Operator	Adv.
4			Operator	Adv.
5			Operator	Adv.
⬇ 6			Operator	Adv.
[MODE] - Set default login				

The DVR allows up to **18** user accounts. There are three default user levels in the system:
• **Operator-**   The lowest level, an Operator can only view live video and audio
• **Supervisor-**   In addition to live video viewing, a Supervisor can review playback video and audio and has permission to archive files
• **Administrator-** The highest level is Administrator and has access to all options.
• **" – "-**   No remote access allowed
• **UserName-**   In addition to the three default levels, an administrator can also set Customized levels of access for each user as described in the following paragraphs.

The factory preset Administrator level login name is user, the password is 1234. We recommend changing this to block unwarranted access to the DVR.

To navigate and operate this menu:
• **▲ ▼ ◄ ►**
Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

• **MODE**
Press the **Mode** button on the remote control to select a user as the **default** at login. An asterisk (*) will be shown preceding the number for the default login user. This user's login name and password will be the default credentials populated in the **Login/Logout** dialog box so the user doesn't have to enter text to login the system. This feature is enabled by default. Press the **Mode** button to deselect the user as the default login user. Alternatively use the mouse to select and deselect default log in users.

WARNING – This feature could allow unwarranted access to the DVR. Caution is strongly advised when enabling this feature. Setting a default login means that the user login name and password will automatically populate the Login/Logout box. This could leave the system vulnerable to unauthorized use. It is recommended to deselect a default login so users are required to provide credentials to access the DVR.

- **ESC**
Press the ESC button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "X." If the contents in this menu have been modified, a Save dialog box will be displayed requesting the user to save the changes. Press ENTER on the remote control to exit and save, ESC to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

The following is a brief description for each item in this menu and its specific operations:

WARNING – The following 2 features could allow unwarranted access to the DVR. Caution is strongly advised when enabling these features.

- **Local Guest Level**
Allows or restricts access to the DVR by Guests accessing the DVR through Local interfaces (DVR GUI via mouse, IR remote control or home automation Ethernet control) without a dedicated Login. The option selected determines the level of access a Guest will have.

    "-" (Default) - No Guest Access Allowed (Does not prevent access by User with login credentials)

    Operator - Provides access to view and control all cameras. No access to Search or settings is provided.

    Supervisor - Provides access to view and control all cameras, Search, Archive and modify basic settings.

    Administrator - Provides full access to the DVR allowing for viewing of all cameras and modification to all settings. Use this setting with caution.

    UserName - Provides customized access to the features defined in the Advanced Settings for a particular user. See Adv: below for more information.

Note: A minimum of operator permission level is needed for a third party automation system to control the DVR

- **Remote Guest Level**
Allows or restricts access to the DVR by Guests accessing the DVR from the Internet Explorer plugin interface without a dedicated Login. The option selected determines the level of access a Remote Guest will have.

    "-" (Default) - No Guest Access Allowed (Does not prevent access by User with login credentials - recommended.)

    Operator - Provides access to view and control all cameras. No access to Search or settings is provided.

    Supervisor- Provides access to view and control all cameras, Search, Archive and modify basic settings.

    Administrator - Provides full access to the DVR allowing for viewing of all cameras and modification to all settings. Use this setting with caution.

    UserName - Provides access to the features as defined in the Advanced Settings for a particular user. See Adv: below for more information.

NOTE: It is recommended that Remote Guest Level be set to the default "-" to prevent unwarranted access to the DVR from outside sources.

- **Auto Logout**
If there is no user operation in the time selected from 1 minute to 24 hours, the user will automatically be logged out. Select "-" to disable this feature (default setting). Press +/- buttons on the remote control to change this setting. Alternatively use the mouse to set this value.

- **Login Name**
Enter a unique Name for each user. Follow the Text Input method described in **Section 4.1** to enter this information.

• **Password**
Enter a unique Password (numbers only) for each user. Follow the Text Input method described in **Section 4.1** to enter this information.

• **Level**
Select the appropriate access level (Administrator, Supervisor, Operator, or Customized) for each user. Press +/- buttons on the remote control to change this level. Alternatively use the mouse to set the level.

"-" (Default) No Guest Access Allowed

Administrator Provides full access to the DVR allowing for viewing of all cameras and modification to all settings. Use this setting with caution.

Supervisor Provides access to view all control all cameras, Search, and modification of basic settings.

Operator Provides access to view all control all cameras, No access to Search or settings is provided.

Customized Provides access to the features defined in the Advanced Settings for the user. See Adv: below for more information.
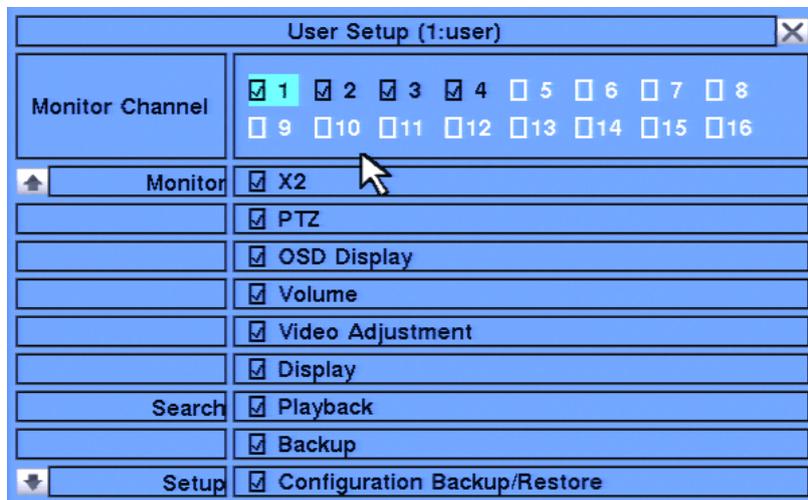
• **Adv** .
For Customized access per user, press ENTER on the remote control to display
t   he Advanced User Setup as shown in **Section 6.8.1** below.

6.6.1.   ADVANCED USER SETUP

The **Advanced User Setup** allows the administrator to setup each user's detailed access rights to the system**.**

To navigate and operate this menu:

• **▲▼◄►**
Press these buttons on the remote control to move the focus box. If the selected item is not shown on the screen, the screen will scroll up or down by pressing the corresponding button. Press the **ENTER** button to enable or disable a feature.

• **ESC**
Press the **ESC** button on the remote control to escape from this screen and return to **Password Setup** display. Alternatively right-click the mouse. **User Setup** contents will be updated accordingly.

The following is a brief description for each item in this menu and its specific operations:

Press **ENTER** or **+/-** on the remote control to check or uncheck each item. Alternatively use the mouse to enable or disable each item.

- **Monitor Channel 1-4**
  Select Channels (cameras) the user can monitor.
- **X2**
  Allows the user to zoom live and playback video.
- **PTZ**
  Allows the user to access PTZ features if supported by the camera.
- **VOLUME**
  Allows the user to change volume.

- **VIDEO ADJUSTMENT**
  Allows the user to adjust the video
- **DISPLAY**
  Allow the user to change VGA settings.
- **PLAYBACK**
  Allows the user to view playback video and audio.
- **BACKUP**
  Allows the user to backup video and audio.
- **CONFIGURATION BACKUP/RESTORE**
  Allows the user to backup or restore the DVR configuration.
- **SETUP CAMERA**
  Allows the user access to Camera Setup.
- **SETUP ALARM**
  Allows the user access to Alarm Setup.
- **SETUP SEQ DISPLAY**
  Allows the user access to Sequence Display setup.
- **SETUP SCHEDULED RECORD**
  Allows the user access to Scheduled Record setup.
- **SETUP HDD**
  Allows the user access to Hard Drive setup.
- **SETUP PASSWORD**
  Allows the user access to Password Setup.
- **SETUP SYSTEM**
  Allows the user access to System Setup.
- **SETUP RS-232/422/485**
  Allows the user access to RS-485 setup.
- **SETUP NETWORK**
  Allows the user access to Network Setup.
- **SETUP FACTORY DEFAULTS**
  Allows the user to restore factory defaults to all setup related configurations.
- **SOFTWARE UPGRADE**
  Allows the user upgrade the DVR software.
- **SHUTDOWN**
  Allows the user to Shutdown the DVR.

6.7. SYSTEM SETUP

The **System Setup** allows the administrator to set the system time, time zone, time synchronization, language, etc.

In the **Setup Menu** display, press ▲ ▼ ◄ ► on the remote to change the highlighted option to System, and then press **ENTER** to display **System Setup** as shown.

System Setup			✕
Time Zone			
Eastern Time (US & Canada) [GMT-05:00]			
Daylight Saving Time		✓	
DST:Mar 2nd Sun 2:00-Nov 1st Sun 2:00			
System Time		─ ✛	
Synchronization	NTP Server		
NTP Server	time.windows.com		
Date	2014	Nov	19
Time	14	34	11
Display Format	MM/DD/YY HH:MM		
Language	English		
Protection Key	1000	1001	1002	1003

To navigate and operate this menu:

- **▲ ▼ ◄ ►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click" and exit the sub menu.

The following is a brief description for each item in this menu and its specific operations:

- **TIME ZONE**
  Press the **+/-** buttons on the remote control to select the appropriate time zone. Alternatively use the mouse to select the time zone. The default setting is Eastern Standard Time.

- **DAYLIGHT SAVING TIME**
  Press **ENTER** or **+/-** on the remote control to enable or disable this item. Alternatively use the mouse to enable or disable this feature.

- **SYSTEM TIME**
  - **Synchronization**
    Press **ENTER** or **+/-** buttons on the remote control to enable or disable time synchronized with a **TSP Server**. Alternatively use the mouse to enable or disable this feature.   The default setting is enabled.

  - **TSP Server**
    If Time Synchronization is enabled, select a **TSP** (Time Synchronization Protocol) **Server**. The DVR will synchronize with the specified TSP server at the system preset interval. Please follow the Text Input method described in **Section 4.1** to modify this setting. Alternatively use the mouse and the pop-up keyboard to enter the TSP server.

  - **Date**
    System **Date**. Press **+/-** buttons on the remote control to modify the date. Alternatively use the mouse to set the date.

  - **Time**
    System **Time**. Press **+/-** buttons on the remote control to modify the time. Alternatively use the mouse to set the date.

- Display Format
Select the format used to display the system time in the **System Status Bar**. Press **+/-** buttons on the remote control to change the format. Alternatively use the mouse to select the format.

• **LANGUAGE**
Press **+/-** buttons on the remote control to change the language. Alternatively use the mouse to select the appropriate language.

NOTE: If the selected language is changed, the user will be asked to reboot the system for the newly selected language to take effect.

• **PROTECTION KEY**
The **Protection Key** is used for secure remote access of the system by various software. Follow the Text Input method described in **Section 4.1** to modify these items. Alternatively use the mouse and the pop-up keyboard to enter the Protection Key.

*NOTE: The **Protection Key** will be used by some software for authentication when a remote computer wants to connect with the system through the Ethernet interface, either LAN or internet. The same protection key must be entered to install the remote software if it is to be used to access the DVR.*
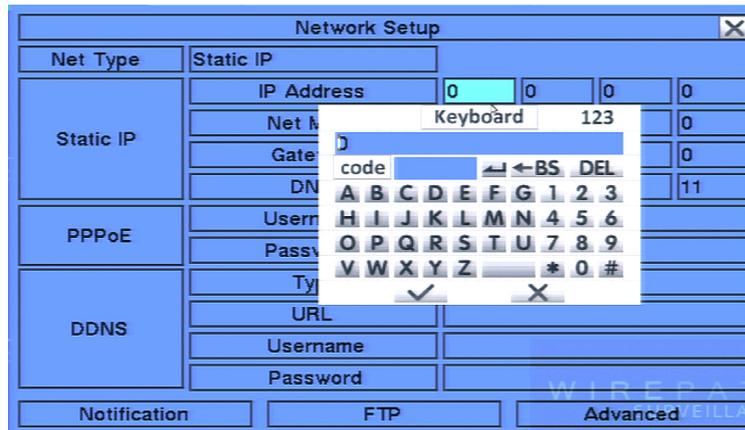
6.8. NETWORK SETUP

The **Network Setup** allows the administrator to setup all Ethernet network related parameters. Consultation with the network administrator may be required to set these parameters correctly.

In the **Setup Menu** display, press ▲ ▼ ◄ ► on the remote to change the highlighted option to **Network**, and then press **ENTER** to display **Network Setup** as shown.

To navigate and operate this menu:

- **▲ ▼ ◄ ►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "X." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit with out saving. Another method to escape is to use the mouse to "right-click" and exit the sub menu.

The following is a brief description for each item in the sub menu and its specific operations.

Please follow the Text Input method described in **Section 4.1** to modify these items. Alternatively use the mouse and the pop-up keyboard to enter these settings. Consultation with the network administrator may be required for these settings.

- **Net Type**
  Press +/- buttons on the remote control to change the **Net Type**. Alternatively use the mouse to change this setting. Options include: **Static IP**, **PPPoE**, or **DHCP. DHCP** can only be used for intranet (LAN) access, while Static IP and PPPoE can be used for both internet & intranet access. The default setting is DHCP.

- **IP Address**
  Enter an Ethernet IP Address for the DVR. This address should be static and not conflict with any other IP address on the LAN.

- **Net Mask**
  Enter the Net Mask for the IP address.

- **Gateway**
  Enter the **Gateway** IP address for the system.

- **DNS**
  If using **DNS**, enter the Domain Name Server address for the system. (Same address as Default Gateway)

- **Username**
  If PPPoE is used, enter the **Username** for the system.

- **Password**
  If PPPoE is used, enter the **Password** for the system.

- **DDNS Type**
  Starting with Version 7.75.53 a new selection will appear for WirepathDNS. It is strongly recommended that this option is used to simplify configuration.

  Using the WirepathDNS is easy. Select WirepathDNS from the list and enter the client name or other unique string in the URL. When exiting the Network menu, confirm the changes. A DDNS service is setup automatically. See **DVR Local Display Menu Setup** in **Appendix E – WirepathDNS Setup** for details on using Wirepath DNS.

- **URL**
  Enter the DDNS URL if DDNS is used. – Enter Client Name or System Name to identify the DVR.

- **DDNS Username**
  Enter the DDNS **Username** if DDNS is used. – Not used unless an existing DDNS other than WirepathDNS service is configured.

- **DDNS Password**
  Enter the DDNS Password if DDNS is used. – Not used unless an existing DDNS other than Wirepath DNS service is configured.

- **E-mail**
  Press **ENTER** on the remote to display the **E-mail Setup** menu. Alternatively use the mouse to enter this menu. Refer to **Section 6.11.1** for details.

- **FTP**
  Press **ENTER** on the remote to display the **FTP Setup** menu. Alternatively use the mouse to enter this menu. Refer to **Section 6.11.2** for details.

- **ADV.**
  Press **ENTER** on the remote to display the **Advanced Network Setup** menu. Alternatively use the mouse to enter this menu. Refer to **Section 6.11.3** for details.

6.8.1.   E-MAIL SETUP

The **E-mail Setup** allows the administrator to set e-mail related parameters. When an event occurs and E-mail is enabled for the corresponding action, an e-mail will be sent based on the parameters set in this menu.

In **Network Setup**, press **ENTER** to display **E-mail Setup** as shown when the highlighted option is **E-mail**.

Notification Setup	✕
E-mail	
SMTP Server	
SMTP Port	587
Authentication	✓
Username	
Password	
Mail From	
Mail To #1	
Mail To #2	
Mail To #3	
Mail To #4	
Mail To #5	
Attachment	Original picture
Push Alarm	—

To navigate and operate this menu:

- ▲ ▼ ◄ ►
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **ESC**

    Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the   changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

The following is a brief description for each item in the sub menu and its specific operations:

   Follow the Text Input method described in **Section 4.1** to modify these items. Alternatively use the mouse and the pop-up keyboard to enter these settings. Consultation with the network administrator or the email provider may be required for these settings.

- **SMTP SERVER**

    Enter the **SMTP** mail server name.

- **SMTP PORT**

    Enter the **SMTP Port** for e-mail transmission. The default value is **25**. The DVR uses TLS for email authentication. Be sure to check with your email host for their specific TLS port number. The DVR uses TLS for email authentication. Be sure to check with your email host for their specific TLS port number.

- **AUTHENTICATION**

    Press **ENTER** or **+/-** on the remote control to enable or disable this item depending on whether the SMTP mail server requires authentication. Alternatively use the mouse to enable or disable this setting.

- **USERNAME**

    Enter the **Username** to the email service.

- **PASSWORD**

    Enter the **Password** to the email service.

- **MAIL FROM**

    Enter the e-mail address of the associated email account

    NOTE: This setting is specific and must match email client settings used to access an email account or the email feature will not be operable. Do not enter generic text in this field.

- **MAIL TO #1-5**

    The DVR can send e-mails originated from triggered events to up to five different email addresses. Enter the appropriate e-mail addresses in these fields.

- **ATTACHMENT**

    Press **+/-** buttons on the remote to attach a picture from the corresponding camera to e-mail being sent. Optional picture sizes for the attachment can be set to **Original** to match the recorded resolution or **QCIF** (Quarter CIF is 176 x 144 pixels) to reduce the size of the attachment. Select **N/A** to disable attachments.

    NOTE: If the DVR's resolution is set to Half D1, picture attachments in the e-mail will appear "squished" since the DVR reduces the horizontal lines by half (therefore reducing storage space and bandwidth requirements). This only effects e-mails and not live or recorded .h.264 playback video. FTP Setup

6.8.2. FTP SETUP

FTP Setup allows the administrator to set FTP related parameters. When an event occurs and FTP is enabled for the action, the recorded video and audio for that event will be sent to the FTP server based on the parameters set in this menu.

In Network Setup, press **ENTER** to display **FTP Setup** as shown when the highlighted option is **FTP**.

FTP Setup	✕
FTP Server (URL or URL:Path)	
FTP Port	
Username	
Password	
Prefix Of Filename	

To navigate and operate this menu:

- **▲ ▼ ◄ ►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

The following is a brief description for each item in this menu and its specific operations:

Please follow the Text Input method described in **Section 4.1** to modify these items. Alternatively use the mouse and the pop-up keyboard to enter these settings. Consultation with the network administrator or the FTP server provider may be required for these settings.

- **FTP SERVER**
  Enter the **FTP Server** web/IP address.

- **FTP PORT**
  Enter the **FTP Port** number. The default value is **21**.

- **USERNAME**
  Enter the **Username** for the FTP server.

- **PASSWORD**
  Enter the **Password** for the FTP server.

- **PREFIX OF FILENAME**
  Enter the **Prefix of the Filenames** for files sent to the FTP server. If this box is left empty, the filenames will start with "cam" If a prefix such as "Prefix" is entered, the filenames will start with "Prefix-cam." For another example, if the prefix is "DVR01", then the filenames will begin with "DVR01-cam."

6.8.3.   ADVANCED NETWORK SETUP

The **Advanced Network Setup** allows the administrator to set advanced network parameters use for connection from remote devices such as PCs and Smart phones. Consultation with the network administrator may be required for these settings.

In Network Setup, press **ENTER** to display **Advanced Network Setup** as shown when the highlighted option is **Adv**.

Advanced Network Setup	
Control Port	67
Data Port	68
HTTP Port	80
UPNP Port Forwarding	N/A
WAP Picture Quality	Normal
Video Stream Resolution	QCIF
Video Stream Quality	Super fine
MAC Address 00:50:56:65:5E:A7	

To navigate and operate this menu:

- ▲▼◄►
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

The following is a brief description for each item in this menu and its specific operations:

Please follow the Text Input method described in **Section 4.1** to modify these items. Alternatively use the mouse and the pop-up keyboard to enter these settings. See the Router Setup document located in the support tab on the product page for more information on **Router Setup** and how it relates to these settings.

- **CONTROL PORT**
  Enter the **Control Port** for remote access. The default value is **67**.

- **DATA PORT**
  Enter the **Data Port** for remote access. The default value is **68**.

- **HTTP PORT**
  Enter the **HTTP (web page) port** for remote access. The default value is **80**.

- **UPNP PORT FORWARDING**
  If used in conjunction with a UPNP capable router, port forwarding for the DVR within the router will be done automatically.

- **WAP PICTURE QUALITY**
  WAP (Wireless Application Protocol) is a simple standard for remote devices (such as Smartphones) to access the DVR. Press **+/-** buttons on the remote control to change the value the WAP picture quality if WAP access will be required by remote devices.

• **VIDEO STREAM**

Press the **+/-** buttons on the remote to change the video quality sent to remote devices such as PCs and Smartphones. Alternatively use the mouse to change this setting. If **Record** is selected, the DVR will stream video at the same resolution as the Record setting (See **Section 6.1**). Video Streaming allows for remote devices to receive lower resolution at higher speeds to the device
(see **Section 9.4**). This is especially helpful for remote devices on slower network. Reducing resolution sent to these devices will speed up the delivery of the video. To enable Video Streaming, select one of the four levels of **QCIF** (**Fair** is the lowest quality while **Superfine** is the highest quality). If Video Streaming is used, the total system recording rate will be reduced.

*NOTE: To use Video Streaming in Internet Explorer, the user must select the **Extra** Video Stream option in the **Modify Menu** of the **Device List** (See **Section 9.2.8.1**).*

- **QCIF Fair –** Lowest QCIF Resolution

- **QCIF Normal –** Medium QCIF Resolution

- **QCIF Fine –** High QCIF Resolution

- **QCIF Super fine –** Best QCIF Resolution

• **VIDEO STREAM QUALITY**

Sets the level of data compression when the Video Stream Resolution is set to anything other than Record.

6.9. FACTORY DEFAULT

To reset all the DVR settings to factory default values, press ▲ ▼ ◄ ► on the remote control to change the highlighted option to Factory Default and then press **ENTER**. Alternatively use the mouse to select **Factory Default**. Once selected, a confirmation dialog will be shown, press **ENTER** again to make the changes. Or select **ESC**, or right-click the mouse to exit without resetting the DVR.

WARNING: All settings will be lost and replaced with factory default settings.
Settings cannot be recovered after a Factory Default.
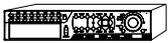
7. SEARCH/PLAYBACK/ARCHIVE 🔍

This menu is available to Administrators and Supervisors only.

There are four ways to search the recorded video and audio for playback:
- Search by time
- Search by event
- Smart Search
- Search archived files

Use the **Search** button on the remote control to activate the **Search Menu**. Alternatively use the mouse to select the **Search Icon** from the **Control Bar**.
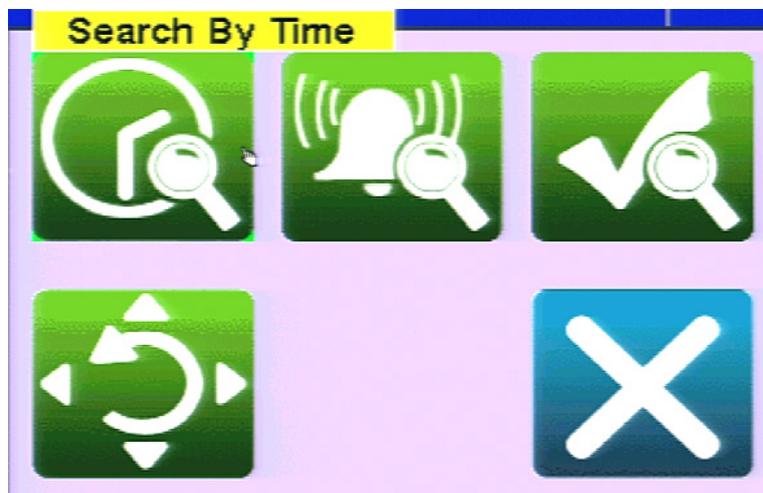
To navigate and operate this menu:

- **▲ ▼ ◄ ►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **ENTER**
  Press the **ENTER** button on the remote control to enter the corresponding **Search** menu. Alternatively use the mouse to select the corresponding **Search** menu icon.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the video display. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." Another method to escape is to use the mouse to "right-click," and exit the menu.

7.1. SEARCH BY TIME

The **Search By Time** feature allows the user to search for recorded video and audio based on time.

Search By Time	✕
Year	2014 ─ +
Month	11
Date	19
Hour	14
Minute	48
Video/Audio	☑ Alarm
	☑ Motion
	☑ Video Loss
	☑ Normal
[PLAY]-Start	
[COPY]-Backup	
Recorded from : 2014/10/12 03:03	

Tip: When the screen is opened the oldest record time is displayed at the bottom labeled as Recorded From

To navigate and operate this menu:

- ▲▼◄►
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **Play (►/II)**
  Press the **PLAY** button on the remote control to begin playback of the recorded video and audio using the defined search time and video type. Alternatively use the mouse to select the **PLAY** button. If there is not a camera currently in playback mode then all of the cameras in the current split window will begin playback. See **Section 8.5** for more details.

- **Copy (⎙)**
  Select the **COPY** button from the remote control to backup **(copy)** the selected type of recorded video (beginning from the **Search Time**) to the connected backup device. The **Backup** menu (described in the **Archive** portion of **Section 8.6**) will be displayed. Alternatively use the mouse to select the **COPY** button.
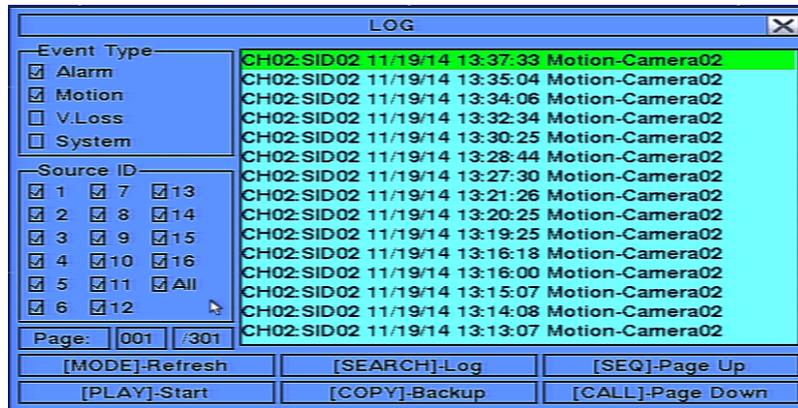
The following is a brief description for each item in the sub menu and its specific operations:

- **SEARCH TIME**
  Select the **Year, Month, Date, Hour, Minute** for the recorded video and audio. Playback (or backup) will begin from the time entered in this menu. Use the **+/-** buttons on the remote control to modify each item. Alternatively use the mouse to enter the **Search Time**.

- **VIDEO/AUDIO**
  Select the types of recorded video to search: **Alarm, Motion, Video Loss, Normal**. Press **ENTER** or **+/-** buttons on the remote control to check or uncheck the corresponding video type. Alternatively use the mouse to check the appropriate video type(s).

7.2. SEARCH BY EVENT / LOG DISPLAY

The **Search By Event** feature allows the user to search for recorded video and audio based on the type of event recorded by the DVR.

```
                          LOG                          ☒
 ┌─Event Type──┐  CH02:SID02 11/19/14 13:37:33 Motion-Camera02
 ☑ Alarm          CH02:SID02 11/19/14 13:35:04 Motion-Camera02
 ☑ Motion         CH02:SID02 11/19/14 13:34:06 Motion-Camera02
 ☐ V.Loss         CH02:SID02 11/19/14 13:32:34 Motion-Camera02
 ☐ System         CH02:SID02 11/19/14 13:30:25 Motion-Camera02
 ┌─Source ID──┐   CH02:SID02 11/19/14 13:28:44 Motion-Camera02
 ☑ 1  ☑ 7  ☑13    CH02:SID02 11/19/14 13:27:30 Motion-Camera02
 ☑ 2  ☑ 8  ☑14    CH02:SID02 11/19/14 13:21:26 Motion-Camera02
 ☑ 3  ☑ 9  ☑15    CH02:SID02 11/19/14 13:20:25 Motion-Camera02
 ☑ 4  ☑10  ☑16    CH02:SID02 11/19/14 13:19:25 Motion-Camera02
 ☑ 5  ☑11  ☑All   CH02:SID02 11/19/14 13:16:18 Motion-Camera02
 ☑ 6  ☑12      ▷  CH02:SID02 11/19/14 13:16:00 Motion-Camera02
 ┌──────────────┐ CH02:SID02 11/19/14 13:15:07 Motion-Camera02
 Page: 001 /301   CH02:SID02 11/19/14 13:14:08 Motion-Camera02
                  CH02:SID02 11/19/14 13:13:07 Motion-Camera02
 [MODE]-Refresh    [SEARCH]-Log      [SEQ]-Page Up
 [PLAY]-Start      [COPY]-Backup     [CALL]-Page Down
```

The DVR will store up to 6000 of the most recent event logs. There are four different types of event logs: **Alarm, Motion, Video Loss**, and **System**.

Tip: You can jump to a log page quickly by selecting the page box with the mouse and typing in the desired page number. This is useful when you need to see the last page of recordings.

To navigate and operate this menu:

- ▲ ▼ ◄ ►
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **ENTER**
  Press the **ENTER** button on the remote control to select the highlighted log. Alternatively use the mouse to select the corresponding **Search** menu icon.

- **MODE**
  Press the **Mode** button to refresh the log display. If there are new event logs since the screen was displayed, the log list will be updated accordingly. Alternatively use the mouse to select the **Refresh** option.

- **SEARCH**
  Press the **Search** button to **Log** (export) the event log to a backup device. Alternatively use the mouse to select the **Log** option.

- **SEQ**
  Use the **SEQ** button on the remote control to scroll the Event Log **Page Up**. Alternatively use the mouse to select the **Page Up** option.

- **CALL**
  Use the **CALL** button on the remote control to scroll the Event Log **Page Down**. Alternatively use the mouse to select the **Page Down** option.

- **Numeric**
  Press the numeric buttons on the remote control followed by the **ENTER** button to select the display page of the event logs. Alternatively use the mouse to click the **Page Number** box.

- **Play (►/II)**
  Press the **PLAY** button on the remote control to begin playback of the recorded video and audio using the defined search time and video type. Alternatively use the mouse to select the **PLAY** button. If there is not a camera currently in playback mode then all of the cameras in the current split window will begin playback. See **Section 8.5** for more details.

- **Copy ( )**
  Select the **COPY** button from the remote control to backup **(copy)** the selected type of recorded video (beginning from the **Search Time**) to the connected backup device. The **Backup** menu (described in the **Archive** portion of **Section 8.6**) will be displayed. Alternatively use the mouse to select the **COPY** button.

The following is a brief description for each item in the sub menu and its specific operations:

- **EVENT TYPE**
  Press **ENTER** or **+/-** buttons on the remote control to check or uncheck the event type for the log list. Event type options include; **Alarm, Motion, Video Loss**, and **System**. The event type **System** includes all system-related events that do not trigger recording such as power on/off and Login/Logout. Alternatively use the mouse to enable or disable the appropriate event types.

- **SOURCE ID**
  Press **ENTER** or **+/-** buttons on the remote control to check or uncheck the **Source ID** to be searched. Check or uncheck **ALL** for faster operation. Alternatively use the mouse to check or uncheck the **Source ID(s)**. This feature helps to filter the events shown in the log list. For the Alarm event type, the DVR will search based on the Alarm Input number. **For Motion and Video Loss event types, the DVR will search based on the camera number.**

- **LOG LIST**
  The **Log List** is the list of events according to the search parameters entered (Event Type and Source ID selected). Once the list is displayed, the user may:
  1. Press the **ENTER** button on the remote control to select or deselect an event in the log list. Multiple events can be selected in this manner. Alternatively use the mouse to select or deselect events.

  2. Press **Play** (►/ll, ►►) button on the remote control to playback all the selected events. Alternatively use the mouse to select the **Play** button.

  3. Press **Copy** ( ) button on the remote control to backup (copy) all of the selected recorded video and audio events to the connected backup device. Alternatively use the mouse to select the **Copy** button. The **Backup** menu (described in the Archive portion of **Section 8.6**) will be displayed.

Log File	✕
Backup Device	
Directory	
[COPY]-Copy	
[MENU/ESC]-Exit	
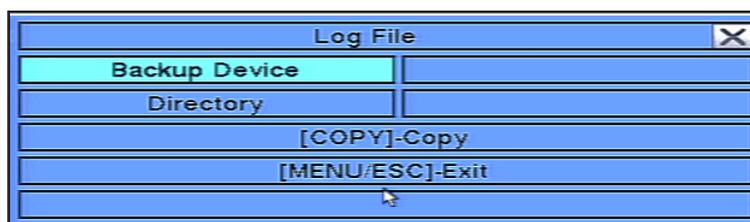
Press the **+/-** buttons on the remote control to select the backup device and enter the directory name to store the backup. Press the **Copy** button on the remote control to copy the recorded video and audio to the selected backup device. Alternatively use the mouse to select the device and then the **Copy** button.

7.3. SMART SEARCH

The **Smart Search** feature allows the user to search for motion in a specific area of a video (camera) window. This is helpful to narrow down the search results if only a portion of the video window contains the event in question. For example, if a scene in an office includes a safe and the manager wants to review who accessed the safe, the area of the video window that contains the safe could be defined as the only portion of the recorded videos searched for motion.

Note: the area of a video searched using ***Smart Search*** *must be part of the defined area for* ***Motion Detection*** *(see* ***Section 6.2.2****).*
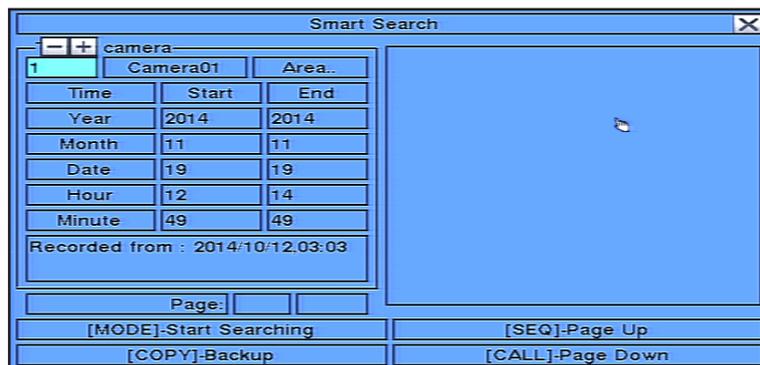
To navigate and operate this menu:

- **MODE**
  Press the **Mode** button on the remote control to begin searching the recorded video and audio based on the selected search **Time, Camera, and Motion Area**. Alternatively use the mouse to set the parameters and begin the search. The search results will be displayed on the right half of the dialog box.

  Note: To prevent the ***Smart Search*** *feature from overloading the system, a maximum of up to 500 matched files or 200 GB of hard drive storage for each record partition will be searched based on the start time entered.*

- **SEQ**
  Use the **SEQ** button on the remote control to scroll the results **Page Up**. Alternatively use the mouse to select the **Page Up** option.

- **CALL**
  Use the **CALL** button on the remote control to scroll the results **Page Down**. Alternatively use the mouse to select the **Page Down** option.

- **Numeric**
  Press the numeric buttons on the remote control followed by the **ENTER** button to select the display page of the results. Alternatively use the mouse to click the Page Number box.

- **Copy ( )**
  Select the **COPY** button from the remote control to backup **(copy)** the selected type of recorded video (beginning from the **Search Time**) to the connected backup device. The **Backup** menu (described in the **Archive** portion of **Section 8.6**) will be displayed. Alternatively use the mouse to select the **COPY** button.

The following is a brief description for each item in this menu and its specific operations:

- **CAMERA ID**
  Press **+/-** buttons on the remote control to change the camera ID to be searched for matching files. Alternatively use the mouse to enter the **Camera ID** number.

- **Start/End Time**
  Press **+/-** buttons on the remote control to modify the beginning and end of the search time for the recorded video and audio. Enter the appropriate **Year, Month, Date, Hour,** and **Minute**. Alternatively use the mouse to enter these parameters.

- **MATCHED FILE LIST**
  The results of the **Smart Search** will be displayed in the right side of the dialog box. The files are shown from oldest to newest and a page number is shown on the lower-left corner of the dialog box. The user may:

  1. Press the **ENTER** button on the remote control to select or deselect a matching event file in the results list. Multiple events can be selected in this manner. Alternatively use the mouse to select or deselect each event.

  2. Press **Play** (►/II, ►►) button on the remote control to playback all the selected events. Alternatively use the mouse to select the Play button.

  3. Press **Copy** (⎙) button on the remote control to backup (copy) all of the selected recorded video and audio events to the connected backup device. Alternatively use the mouse to select the **Copy** button. The **Backup** menu (described in the Archive portion of **Section 8.6**) will be displayed.

- **Area**
  Area defined as the motion area for the video to be searched for matching files. Use the buttons on the remote control to highlight **Area** and press **ENTER** to display **Motion Area Setting** screen as shown below.
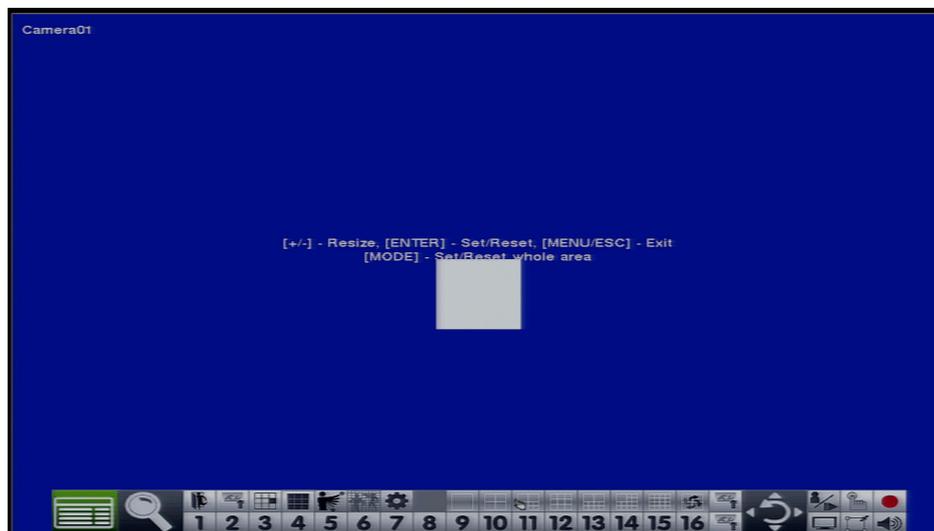
In the **Motion Area Setting** screen use the **white** mask window to define the **Smart Search** area in the same manner as setting up **Motion Detection** (see **Section 6.2.2**).

*Note: The area of a video searched using **Smart Search** must be part of the defined area for **Motion Detection** (see **Section 6.2.2**). Only files with motion covering all of the defined motion area will be displayed as matching results. Therefore, based on the search algorithm, there will be more matching files for smaller defined motion areas.*

The following is a brief description for each item in this menu and its specific operations:

- **▲ ▼ ◄ ►**
  Press these buttons on the remote control to move the **Mask** window (grids **white** in color). Alternatively use the mouse to select and move the **Mask** window (grids **white** in color) by "left clicking" and dragging the mouse over the desired area.

- **+/-**
  Press these buttons on the remote control to resize the **Mask** window (grids **white** in color). Alternatively use the mouse to select and move the **Mask** window (grids **white** in color) by "left clicking" and dragging the mouse over the desired area.

- **ENTER**
  Press this button on the remote control to **Set/Reset** the area of the **Mask** window (grids **white** in color). Alternatively use the mouse to select the **Mask** icon and adjust the Mask window (grids **white** in color). Once the mask area is set, the mask window will change to yellow.

- **MODE**

  Press this button on the remote control to **Set/Reset** the whole video area. Alternatively use the mouse to select this icon.

- **ESC**

  Press the ESC button on the remote control to escape from this menu and return to the Smart Search menu. Alternatively use the mouse to exit the sub menu by clicking on the "X." Another method to escape is to use the mouse to "right-click," and exit the sub menu.

7.4. SEARCH ARCHIVED FILES

The **Search Archived Files** feature allows the user to search files on a storage devices such as a USB thumb drive.
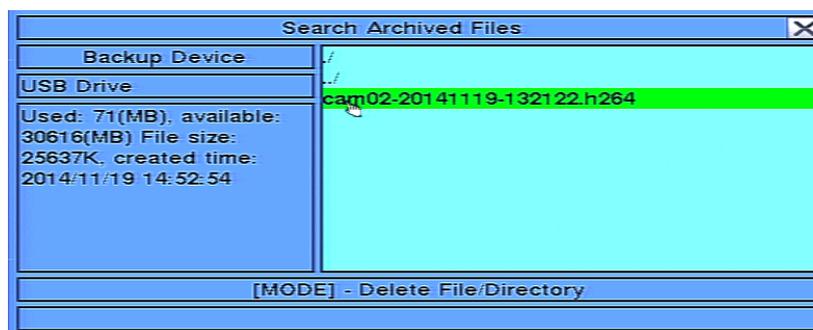
The following is a brief description for each item in the sub menu and its specific operations:

- **BACKUP DEVICE**

  Press **ENTER** on the remote control to connect to the backup device and display the files on the device. Alternatively use the mouse to connect to the backup device and display the files.

- **ARCHIVED FILE LIST**

  Select the appropriate file from the file list and then press **ENTER** to begin playback. Pressing the **Play** button (▶/II) on the remote control, or double-clicking the left mouse button
  will also begin playback. Refer to **Section 8.5 Playback For Archived Files** for the detailed operations. To delete a file, press the **MODE** button on the remote control. Alternatively use the mouse to select files, begin playback or delete files.

  NOTE : File name format for camNN-YYYYMMDD-hhmmss.h.264 is as follows:

  - **NN** = camera number(01-08)
  - **YYYY** = year
  - **MM** = month
  - **DD** = day
  - **hh** = hour
  - **mm** = minute
  - **ss** = second
  - **.h.264** = file type

7.5. PLAYBACK SEARCH RESULTS

Once playing back video, use the following controls to operate and archive the video and audio:
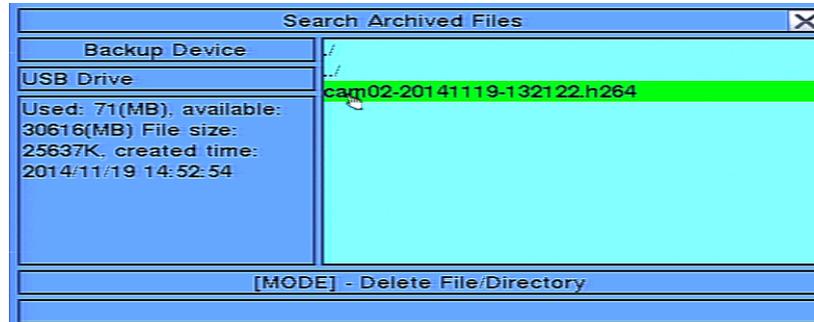
To navigate and operate this menu:

- **MODE**

  Use the button on the remote control to toggle live and playback mode. Playback mode is indicated by a **red** box around the camera title of the focus camera (the camera being controlled). If in a split window display, the focus window will first switch to playback mode. A second press of the **MODE** button will toggle additional windows to playback mode. Continue to press the **MODE** button to return to live mode (indicated by a **green** box around the camera title of the focus camera).

  Alternatively use the mouse to select this icon. Refer to **Section 4.3 Basic Operations** for instructions on how

  to change the camera(s) in the playback window(s). After the cameras are set, use the following buttons to control the playback:

- **PLAY/PAUSE (▶/II)**

  Press this button on the remote control to play or pause the recorded video and audio at 1X speed. If the playback is paused, press this button again to resume playback. Alternatively use the mouse to select this icon. Audio can only be played at forward speed 1X and when the associated cameras is played back in a full window view.

- **STOP (■)**

  Press this button on the remote control to stop playback of the recorded video and audio and **return to Live video**.

- **FAST FORWARD (▶▶/▶ ON REMOTE CONTROL)**

  Press this button for fast forward playback. Each time this button is pressed, the forward playback speed will increase in speed from 2X, 4X, 8X, up to 64X, and then back to 2X.

- **SLOW FORWARD BUTTON (SEQ ON REMOTE CONTROL)**

  Press this button on the remote control for slow forward playback. Each time this button is pressed, playback speed will increase in speed from 2X, 4X, 8X, up to 16C, and then back to 2X. Alternatively use the mouse to select the icon sequence using the Fast/Slow button to toggle the playback speed.

- **FAST REVERSE (◀◀/◀ ON REMOTE CONTROL)**

  Press this button for fast reverse playback. Each time this button is pressed, the reverse playback speed will increase in speed from 2X, 4X, 8X, up to 64X, and then back to 2X.

- **SLOW BACKWARD BUTTON (MODE ON REMOTE CONTROL)**

  Press this button on the remote control for slow backward playback. Each time this button is pressed, playback speed will increase in speed from 2X, 4X, 8X, up to 16C, and then back to 2X. Alternatively use the mouse to select the icon sequence using the Fast/Slow button to toggle the playback speed.

- **SINGLE STEP (▶I/ ▼ ON REMOTE CONTROL)** Press this button to play the recorded video frame by frame.

7.6. ARCHIVE (BACKUP) SEARCH RESULTS

Once playing back video from the **Search** option, use the following controls to archive (backup) the video and audio:

Backup		
Backup Device	USB Drive	− +
Backup Speed	8	
Directory	00001	
Cameras	☑ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16	
End Time	Year	2014
	Month	11
	Date	19
	Hour	15
	Minute	48
[COPY]-Apply	[STOP]-Stop	[ESC]-Cancel
Used: 71(MB), available: 30616(MB)		

The following is a brief description for the operations in the Backup menu:

- **▲ ▼ ◄ ►**
  Press these buttons on the remote control to select an item. Alternatively use the mouse to select an item.

- **COPY (⎘)**
  Press this button on the remote control to start the backup (copy) procedure. A **Copy** icon will be displayed the lower-right corner of the **Status Bar** indicating that the selected video and audio is being copied to the storage device. Alternatively use the mouse to select the **Copy** function.

- **STOP (■)**
  Press this button on the remote control to stop copying and return to the previous display. The **Copy** icon will disappear from the **Status Bar**. Alternatively use the mouse to select the stop function.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the Smart Search menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." Another method to escape is to use the mouse to "right-click," and exit the sub menu.

- **BACKUP DEVICE**
  Press the **+/-** buttons on the remote control to select the connected backup device. Alternatively use the mouse to select the backup device.

  *NOTE: Follow the steps described in **Section 5.5 Backup Device** to connect the backup device before copying.*

- **BACKUP SPEED**
  Press the **+/-** buttons on the remote control to select a speed from 1-9 with 1 the lowest speed and 9 the highest speed. Alternatively use the mouse to select the backup speed.

- **DIRECTORY**
  Enter the directory to store the backup files. Please follow the Text Input method described in **Section 4.1** to enter the backup directory. Alternatively use the mouse and the pop-up keyboard to enter the directory.

- **CAMERAS**
  Press the **ENTER** or **+/-** buttons on the remote control to select or deselect each of the cameras to be archived.

- **END TIME**
  Press the **+/-** buttons on the remote control to modify the Year, Month, Date, Hour, and Minute for the recorded video and audio for the backup without playback of Search by Time. The files will be backed-up from the start time to the end time when the user press the **COPY** button to start copying.

Note : For each camera and each backup, a batch file will be generated as well as the backup .h.264 files. A directory titled "/SelfPlayer" will also be generated if it's not already existing on the backup storage device (thumb drive, local PC, etc).
The user can use the batch file to self-playback the corresponding backup files on a PC. If the PC has not been installed with the required player components, those components will be installed by running the batch file

In Windows, please run /SelfPlayer/SelfPlayerInstall.exe found on the storage device manually to install the

required player components on the PC (if the PC was NOT used to backup the files)

To copy self-playback files, please copy the batch file and the backup files to the destination directory. Also copy the entire "/SelfPlayer" directory to the root directory of the destination PC.

8. REMOTE ACCESS

The following section discusses DVR remote viewing and control options from PCs and Smart phones.

8.1. PC REMOTE ACCESS

After completing the initial setup, the DVR can be remotely accessed from a PC using a 32bit Internet Explorer web browser. Refer to **Section 6.11** and the appendices (or the **Quick Installation Guide** included in the box) for initial network setup instructions.

To log onto the DVR, launch Internet Explorer and enter the IP address of the DVR in the Location/Address field of the web browser. The DVR's address will look similar to this:

http://AAA.AAA.AAA.AAA:BB/ie.htm
- AAA.AAA.AAA.AAA should be replaced with the IP address of the DVR
- If set to a port number other than the default 80, BB should be the HTTP port entered into the DVR and it must match port forwarding set up in the router
- /ie.htm is the extension for the DVR and must be included at the end of the DVR

Alternatively use the DDNS domain name address if this feature has been enabled and properly setup.

Note: Up to 6 users can log into this DVR simultaneously.

8.2. PC REMOTE DISPLAY AND OPERATIONS
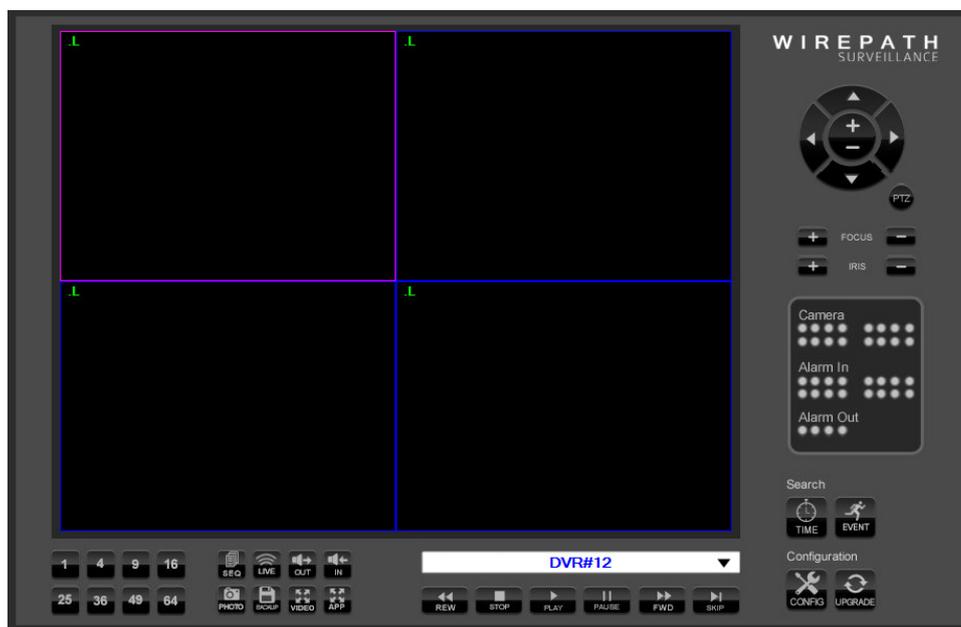
Video images can be displayed in several types of split-window screens including 1/4/9-Window options for a single DVR and 16/25/36/49/64 options if connected to multiple DVRs.
- The focus window is the window surrounded by a **purple** frame border.
- The ".**L**" following the camera title denotes Live video display (text is **green**).
- The ".**P**" following the camera title denotes Playback (text is **red**).
- A **white** box will appear around the camera title when motion is detected.
- The **white** text in the top right of each camera window denotes date and time.

*Note: The frame rate is limited by the bandwidth of the network and the pre-record FPS of the camera (**Section 9.3.5**). The picture quality depends on the recording resolution set in the DVR (**Section 9.3.4**) and quality of the camera.   See **Section 9.4** for Video Streaming options.*

8.2.1. SPLIT-WINDOW OPTION MENU

Right click on any split-window to display the **Split-Window Option Menu**.
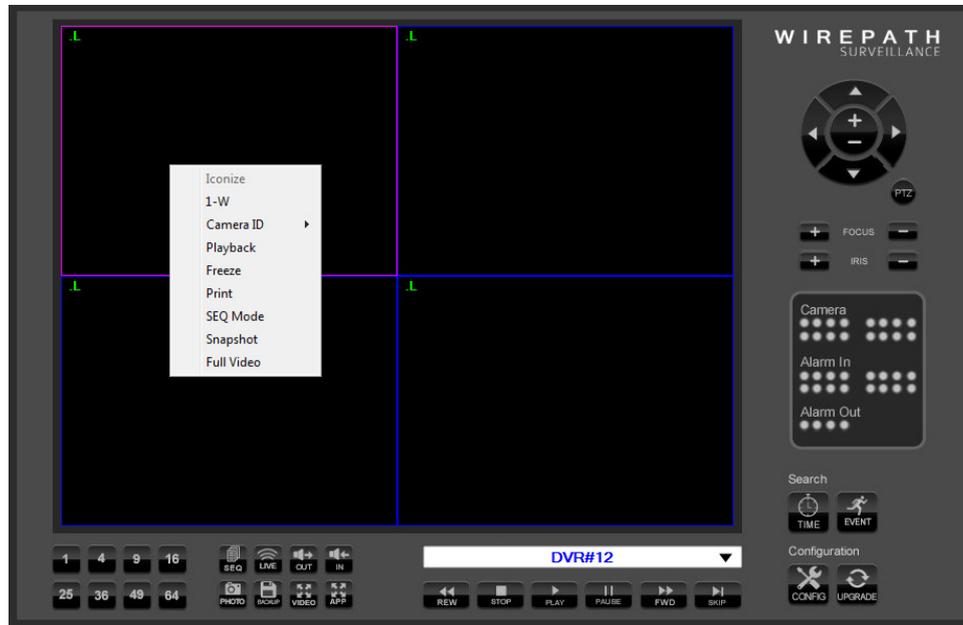
The following is a brief description for each item in this menu and its specific operations:

- **1-W**
  When in a split-window view, expand the focus window camera to fill the entire video window. When in a single-window view, uncheck this item to return to the previous split-window view.

- **CAMERA ID**
  Change or rearrange the current view by selecting a different camera to appear in each window. If multiple DVRs are connected, cameras from other DVRs can be displayed simultaneously.

- **PLAYBACK**
  Begin **Playback** for the current camera window

- **FREEZE**
  Freeze the Video

- **PRINT**
  Print a picture of the current video window

- **SEQ MODE**
  Enable **Sequence** mode

- **SNAPSHOT**
  Take a **Snapshot** of the video and save it to the local PC

- **FULL VIDEO**
  Expand the current split-window for single window view to fill the entire display and hide all controls

8.2.2. CONTROL PANEL

1. **SEQ. MODE**
   Enables the **Sequence Mode** defined in the setup. This feature will automatically cycle through the cameras on the display. When SEQ mode enabled recorded playback is unavailable, turn SEQ mode off before playing recorded video.
   NOTE: SEQ button functionality cannot be enabled for camera grid views 9 through 64 on the IE Browser GUI.

2. **LIVE**
   When in **Playback mode**, use this icon to exit playback and return to Live Video.

3. **AUDIO OUT**
   When viewing a camera in the single window view, select the **Audio Out** icon to listen to the associated audio.

4. **AUDIO IN**
   Use the microphone in the PC to send audio to the DVR. An amplifier and speaker must be attached to the Audio Out connection of the DVR to use this function.

5. **NAME OF SELECTED DVR**
   The name of the connected DVR is displayed in this box. Change the connected DVR or connect to multiple DVRs simultaneously to mix and match camera views.

6. **FULL SCREEN**
   Expand the user interface to fill the entire display.

7. **FULL VIDEO**
   Expand the video window to fill the entire display.

8. **ARCHIVE MENU**
   Select this icon to save and backup files.

9. **SNAPSHOT**
   Select this icon to take a **Snapshot** of the screen being viewed. A pop-up window will allow this snapshot to be saved to the local PC.

3. **FREEZE**
   Freezes live and recorded playback video. Select this icon again to resume **Live** and **Playback** modes.

8. **AUDIO BROADCAST**

   Similar to the **Audio In** function, use this feature to broadcast audio to multiple DVRs simultaneously. Expand the user interface to fill the entire display.

8.2.3. SPLIT-WINDOW PANEL

Use these icons to select the number of cameras viewed on the display.

- **4 AND 9 SPLIT WINDOW ICONS**
  Left-click and hold the mouse over the **4** or **9** split-window icon to toggle to additional pages of cameras.

8.2.4. PLAYBACK PANEL

This panel includes **Fast Forward, Fast Reverse, Step Forward, Play, Pause, Stop** and **Copy**.
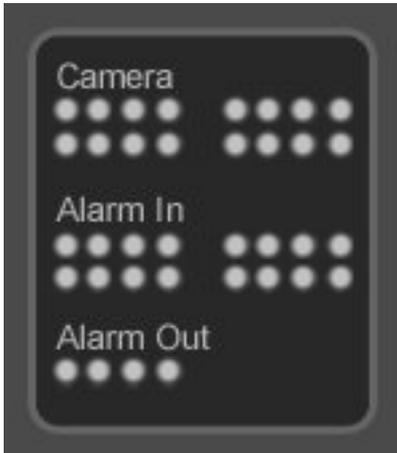Fast Forward and Fast Reverse will playback video at **2X, 4X, 8X, 16X**, and **32X** speeds.

- **FORWARD AND REVERSE ICONS**
  Left-click and hold the mouse over the forward or reverse icons to display a pop-up menu to change the speed. Options include **X2, X4, X8, X16, X32** and **X64**.

8.2.5. STATUS PANEL

- **CAMERA STATUS**
  Motion indicators for cameras 1-16 (this DVR supports the first 8)
  - **GREEN** indicates normal status
  - **RED** indicates motion

  Click on any of these icons to select the corresponding camera to be displayed in the focus window

- **ALARM IN STATUS**
  Status indicators for Alarm Inputs 1-16 (this DVR supports the first 4)
  - **GREEN** indicates normal status
  - **RED** indicates alarm detection

- **ALARM OUT**
  Status indicators for Alarm Outputs 1-8 (this DVR supports the first 2)
  - **GREEN** indicates normal state
  - **RED** indicates triggered state) for the selected DVR.

  As an Administrator, click on any of these icons to control the corresponding Alarm Output.

8.2.6.   SEARCH PANEL AND COPY FEATURE

8.2.6.1.   SEARCH BY TIME

To playback video starting at a specific time, select the desired time (**Year, Month, Date, Hour, Minute** and **Second**) and recorded event type (**Alarm, Motion, Video Loss**, and **Normal**) for playback. Click on the **Play** button to begin the playback of all recorded video beginning at that time. Audio will only be played back if in a single window view of a camera that has an associated audio input. Use the **Playback Panel** icons to control the video. To exit playback, select the **LIVE** icon at the bottom of the screen.
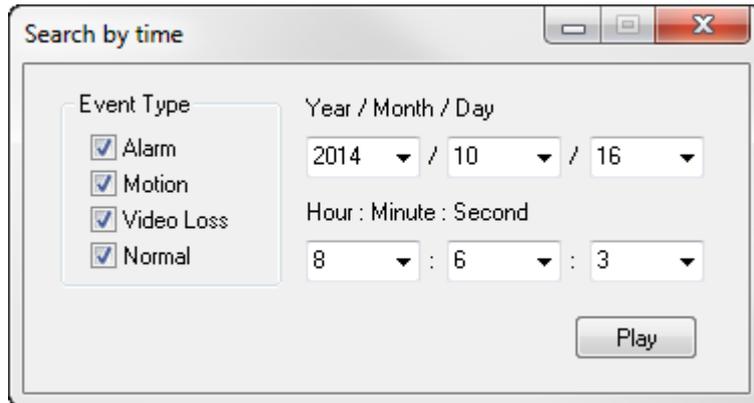
8.2.6.2.   SEARCH BY EVENT

Use the Search by Event feature to search all recorded event types stored on the DVR's hard drive. Click on the Search by Event icon to display the **Search by Event** dialog box and the event log. Select the Device (DVR) to search. Select the Event Type (**Alarm, Motion, Video Loss** or **System**) and Source ID (camera) to search the event logs. Click on **Refresh** to update the event log and use the Up and Down buttons to scroll to additional events. Click on the desired events to highlight and select them for Playback or to Archive the files to the local PC. Use the **Playback Panel** icons to control the video. To exit playback, select the **LIVE** icon at the bottom of the screen.
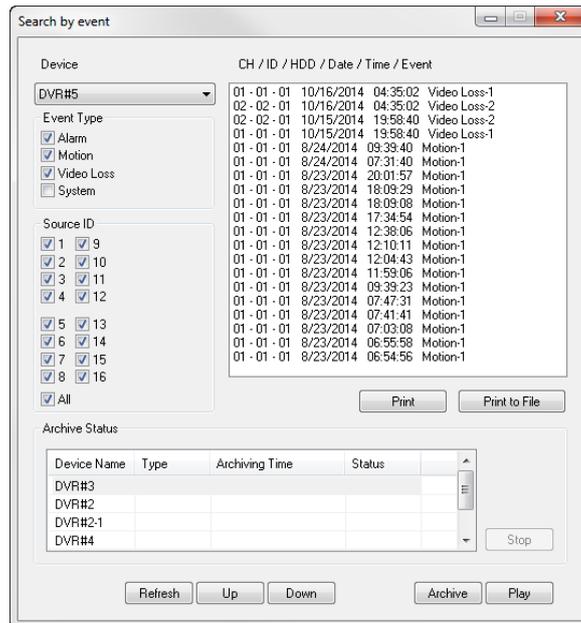
The following is a brief description for each item in this menu and its specific operations:

- **DEVICE**
  Select the appropriate DVR to search

- **EVENT TYPE**
  Select the event type(s) to search. System events include Login/Logout, e-mail errors, hard drive failures, etc.

- **SOURCE ID**
  Select the camera ID number(s) to search

- **PRINT**
  Print the event log to a printer

- **PRINT TO FILE**
  Export the event log to a ".txt" file

- **REFRESH**
  Refresh the event log after making changes to the search parameters

- **UP**
  Scroll the event log results up

- **DOWN**
  Scroll the event log results down

- **ARCHIVE**
  Archive the selected event(s) to the local PC

- **PLAY**
  Play the selected event(s)

8.2.6.3.   COPY FUNCTION

Use the **Copy** function to record live video from the DVR onto the local PC. The performance of this feature is based on bandwidth capacity of the network and the number and size of the files being copied.
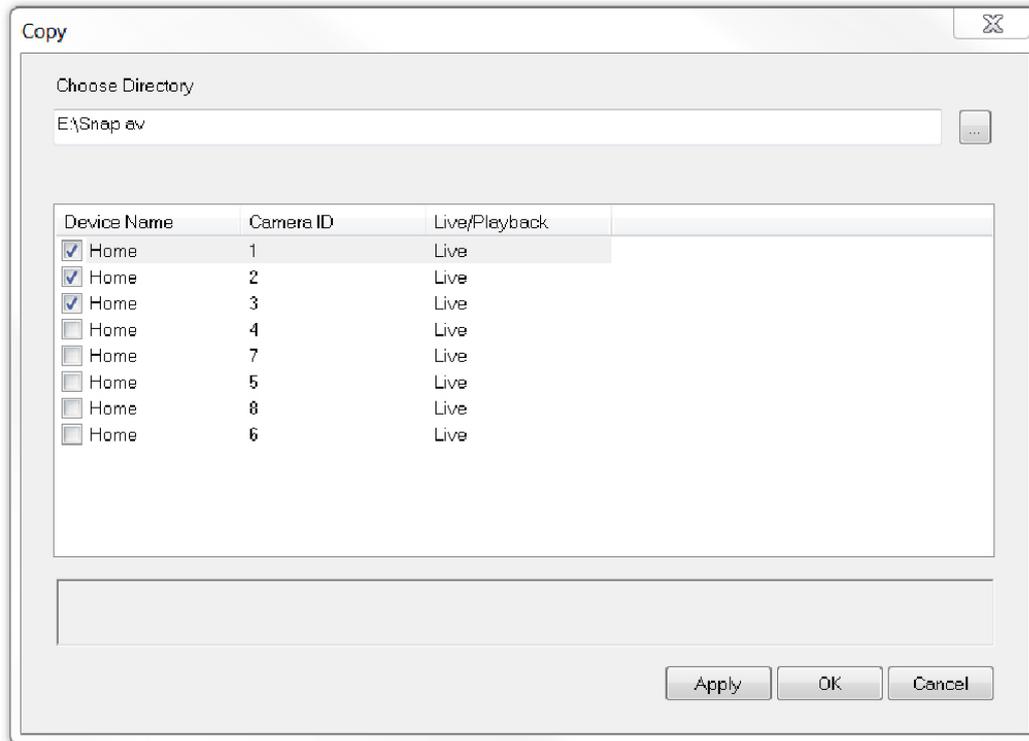
Camera options will populate the **Copy** menu based on what is being viewed in the split window view. Therefore if only one camera is being viewed, only that camera will be displayed in the **Copy** menu as an option to record.

To enable the **Copy** feature, first choose a directory to store the video. Next, depending on the split-window view, check each camera to be recorded to the local PC and select **Apply**. Live video for the selected camera(s) will begin to copy to the chosen directory on the local PC.

To stop the **Copy** feature, uncheck the appropriate cameras and select the **Apply** button.

8.2.7. PTZ CONTROL PANEL

If the camera in the focus window is a Pan/Tilt/Zoom camera, use the buttons on the user interface to operate basic PTZ features.

For more control, display the **PTZ Control Panel** by clicking on the **PTZ Panel** icon. Move the panel by clicking and dragging the panel to the desired location.

To hide the menu, click on the **PTZ Panel** icon again.

8.2.8.   DEVICE CONFIG

The Internet Explorer user interface has the ability to connect to multiple DVRs. DVRs must first be added to the **Device List**.

The following is a brief description for each item in this menu and its specific operations:

- **ADD**
  Add DVRs to the Device List

- **MODIFY**
  Modify the settings of DVRs in the Device List. See **Section 9.2.8.1.**

- **REMOVE**
  Remove DVRs from the Device List

- **PROPERTIES**
  Adjust the Properties of DVRs in the Device List. See **Section 9.3**.

- **REBOOT**
  Reboot a DVR in the Device List.

8.2.8.1.   MODIFY

DVRs in the Device List may be modified using this menu.
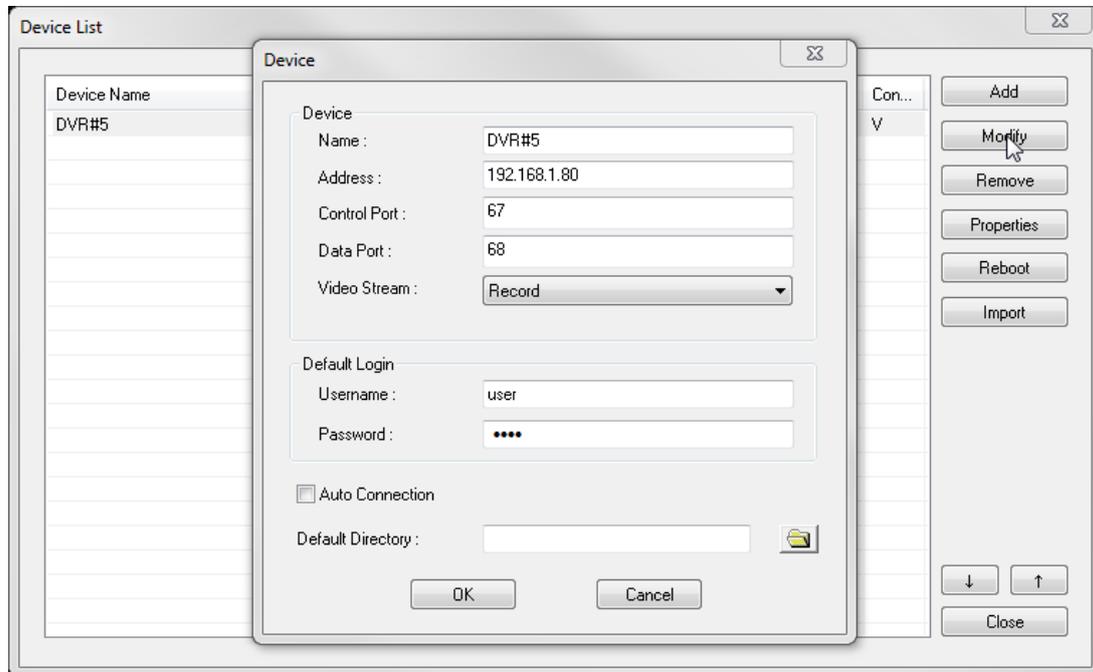
The following is a brief description for each item in this menu and its specific operations:

*   **NAME**
    Enter a meaningful name for the DVR

*   **ADDRESS**
    Enter the IP address or URL domain name for the DVR.

*   **CONTROL PORT**
    Set the control port for the (DVR) device. The default value is **67** and is auto-populated in menu.

*   **DATA PORT**
    Set the data port for the (DVR) device. The default value is **68** and is auto-populated in menu.

*   **VIDEO STREAM**
    Set the Video Stream to **Record** to view live video at the same rate as the recording (main) stream. Or set the Video Stream to **Extra** (for "extra" network stream) for Video Streaming. Video Streaming is helpful when viewing a remote DVR over a slow network connection. This allows the DVR to continue to record as the set rate but reduces the resolution to speed the video delivery to remote devices.
    *NOTE: When Video Streaming is not configured, this Video Stream setting will ALWAYS revert to Record mode. See **Section 9.4** for details.*

*   **USER NAME**
    Enter the login user name for the DVR. The login name must match a name already set in the DVR.

*   **PASSWORD**
    Enter the corresponding password for the login user name. The password must match the password for the chosen login name already set in the DVR.

*   **AUTO CONNECTION**
    If this option is enabled, the Internet Explorer user interface will automatically connect to the corresponding DVR to display status messages on the PC screen even if the particular DVR is not being viewed.

8.2.9. SOFTWARE UPGRADE

On occasion it may be necessary to update the DVR's software to take advantage of new features

· Use the **Software Upgrade** icon to open the Software Upgrade dialog box. The current software version of the connected DVR(s) will be displayed in the **Upgrade Status** field.
· To upgrade a DVR, select the DVR and corresponding upgrade file and then click the **Start** button to begin the software upgrade process. The Upgrade status will be updated according to progress.
· The upgrade process may take several minutes and will require the DVR to reboot to complete the process
· The software upgrade can be done over the internet or from a local network connection. The update may take more than 10 minutes if done over the internet depending on the network speed.

8.3. PC CONFIGURATION OF DEVICE PROPERTIES

Once initially setup, most options of the DVR can be configured remotely. The following sections highlight the options found in the menus. They have been purposely designed to be similar to the setup menus when using the OSD menu from the VGA or BNC output of the DVR. Once changes have been made they must be uploaded to the DVR.

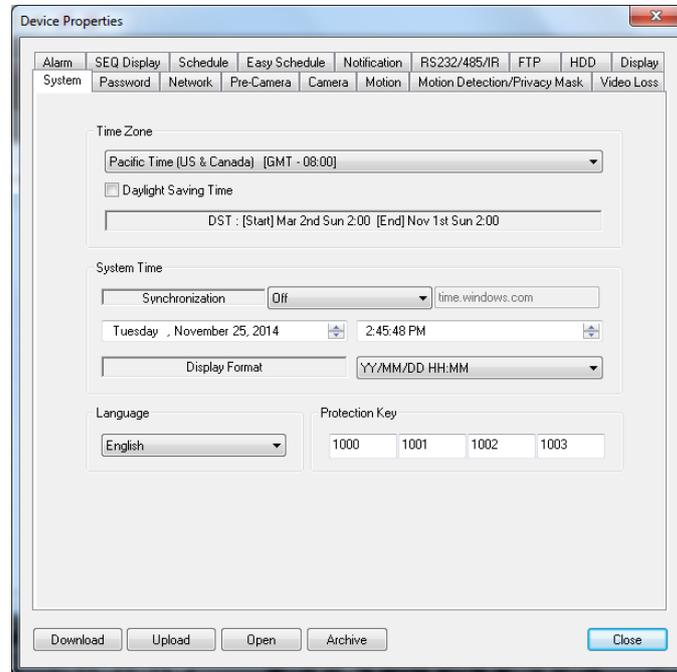• To save the settings, click on the **Upload** button.
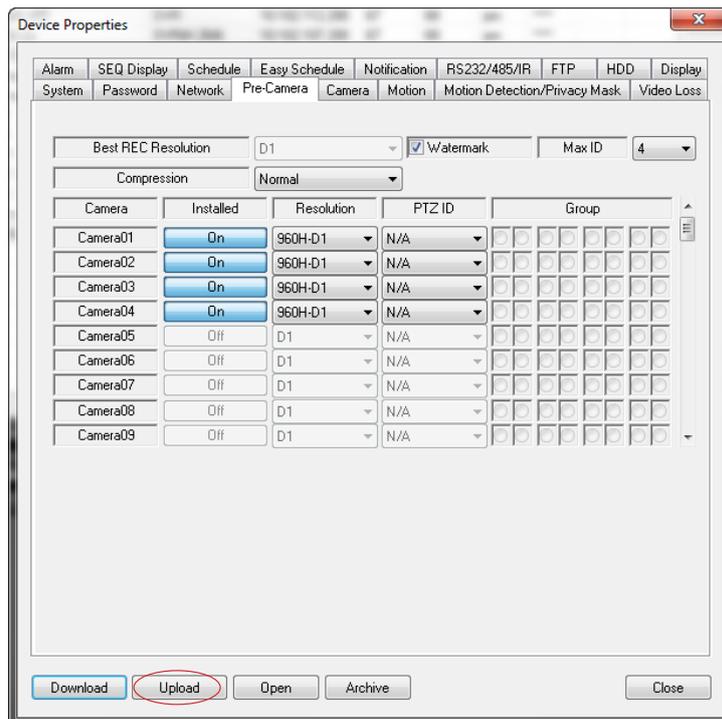
• Select **Yes** to confirm the changes when asked to continue
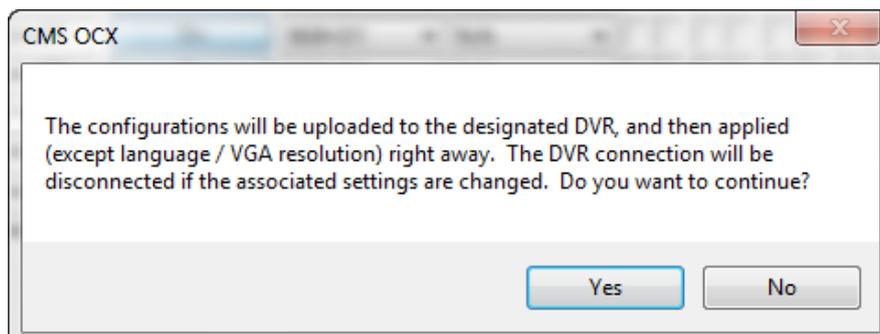
8.3.1. SYSTEM

The **System Setup** allows the administrator to set the system time, time zone, time synchronization, language, etc.


The following is a brief description for each item in this menu and its specific operations:

* **TIME ZONE**
  Select the appropriate time zone. The default setting is **Eastern Standard Time**.

* **DAYLIGHT SAVING TIME**
  Enable or disable **DST** by checking this box.

* **SYSTEM TIME**
  - Synchronization
  Enable or disable time synchronization with a **TSP Server**. The default setting is disabled.
  - TSP Server
  If Time Synchronization is enabled, select a Time Synchronization Protocol (TSP) server. The DVR will synchronize with the specified TSP server.
  - Date
  System date
  - Time
  System time
  - Display Format
  Select the format used to display the system time in the camera windows

* **LANGUAGE**
  System language

  NOTE: If the selected language is changed, reboot the system for the newly selected language to take effect.

* **PROTECTION KEY**
  The **Protection Key** is used for secure remote access of the system.

  NOTE: The Protection Key will be used by some software for authentication when a remote computer wants to connect with the system through the Ethernet interface, either LAN or internet. The same protection key must be entered to install the remote software if it is to be used to access the DVR.

8.3.2. PASSWORD

The **Password Setup** allows the administrator to add new users, delete existing users, and/or modify the user names, password, and levels of access
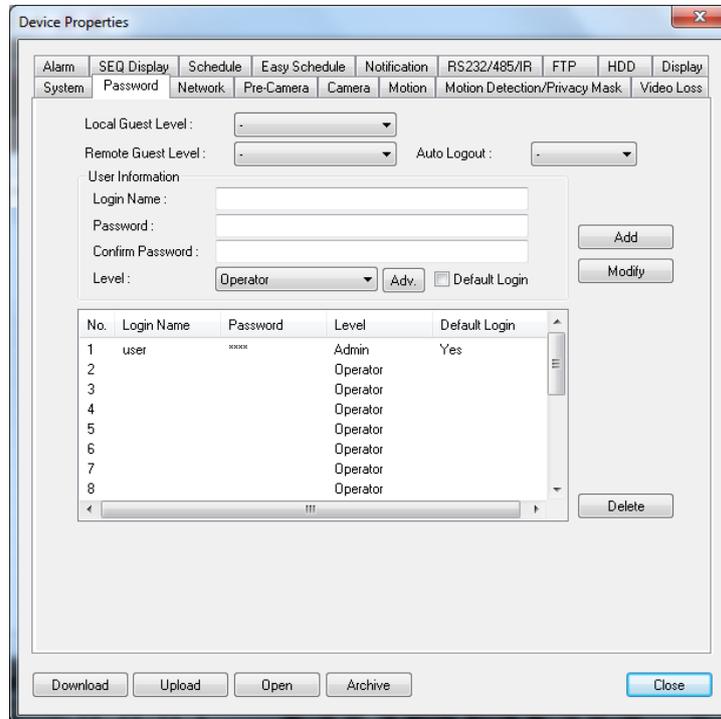
The DVR allows up to 18 user accounts. There are three default user levels in the system:

- **OPERATOR**
  The lowest level, an Operator can only view live video and audio.

- **SUPERVISOR**
  In addition to live video viewing, a Supervisor can review playback video and audio and has permission to archive files.

- **ADMINISTRATOR**
  The highest level is Administrator and has access to all options.

- **USERNAME**
  In addition to the three default levels, an administrator can also set Customized levels of access for each user as described in the following paragraphs.

The following is a brief description for each item in this menu and its specific operations:

WARNING – The following 2 features could allow unwarranted access to the DVR. Caution is strongly advised when enabling these features.

Important Note: The following 2 features were added in software v7.77.53 and were listed as Guest Level in previous versions. When the DVR is updated, the setting previously set in Guest Level will show as Remote Guest Level. Verify that it is set to the desired level.

• Local Guest Level

Allows or restricts access to the DVR by Guests accessing the DVR through Local interfaces (DVR GUI via mouse, IR remote control or home automation Ethernet control) without a dedicated Login. The option selected determines the level of access a Guest will have.

"-" (Default) - No Guest Access Allowed (Does not prevent access by User with login credentials - recommended.)

Operator - Provides access to view and control all cameras. No access to Search or settings is provided.

Supervisor- Provides access to view and control all cameras, Search, Archive and modify basic settings.

Administrator - Provides full access to the DVR allowing for viewing of all cameras and modification to all settings. Use this setting with caution.

UserName - Provides access to the features as defined in the Advanced Settings for a particular user.

Note: If an RS-232 or IP control system is being used, the Default setting does not allow the system to control the DVR, and prevents Guest access to DVR features. This setting must be enabled to a minimum of Operator to allow control from third party automation systems.

• Remote Guest Level

Allows or restricts access to the DVR by Guests accessing the DVR from the Internet Explorer plugin interface without a dedicated Login. The option selected determines the level of access a Remote Guest will have.

"-" (Default) - No Guest Access Allowed (Does not prevent access by User with login credentials - recommended.)

Operator - Provides access to view and control all cameras. No access to Search or settings is provided.

Supervisor- Provides access to view and control all cameras, Search, Archive and modify basic settings.

Administrator - Provides full access to the DVR allowing for viewing of all cameras and modification to all settings. Use this setting with caution.

UserName - Provides access to the features as defined in the Advanced Settings for a particular user. See Adv: below for more information. Note: It is recommended that Remote Guest Level be set to the default "-" to prevent unwarranted access to the DVR from outside sources.

• AUTO LOGOUT

If there is no user operation in the time selected from 1 minute to 24 hours, the user will automatically be logged out.

• LOGIN NAME

Enter a unique name for each user.

• PASSWORD AND CONFIRM PASSWORD

Enter a unique password (numbers only) for each user.

• LEVEL

Select the appropriate access level (Administrator, Supervisor, Operator, or Customized) for each user.

• DEFAULT LOGIN

Check the **Default Login** box so the corresponding user's login name and password will be the default credentials populated in the **Login/Logout** dialog box so the user doesn't have to enter text to login the system. Default Login will be noted with a "**V**" in the Default Login column.

- **ADV.**
  For Customized access per user setup the Advanced User Setup. Within the menu, options are categorized into groups (Monitor, Search, Setup and Others):

  - **Monitor Channel 1-8**
    Select Channels (cameras) the user has permission to view.

  - **X2**
    Allow the user to Zoom live and playback video.

  - **PTZ**
    Allow the user to access PTZ features if supported by the camera.

  - **GPS/POS/OSD Display**
    This feature has no function for this model of DVR.

  - **Volume**
    Allow the user to change volume.

  - **Video Adjustment**
    Allow the user to adjust the video

  - **VGA Display**
    Allow the user to change VGA settings.

  - **Playback**
    Allow the user to view playback video and audio.

  - **Backup**
    Allow the user to backup video and audio.

  - **Configuration Backup/Restore**
    Allow the user to backup or restore the DVR configuration.

  - **Setup Camera**
    Allow the user access to Camera Setup.

  - **Setup Alarm**
    Allow the user access to Alarm Setup.

  - **Setup SEQ Display**
    Allow the user access to Sequence Display setup.

  - **Setup Scheduled Record**
    Allow the user access to Scheduled Record setup.

  - **Setup HDD**
    Allow the user access to hard drive setup.

  - **Setup Password**
    Allow the user access to Password Setup.

  - **Setup System**
    Allow the user access to System Setup.

  - **Setup RS-232/485/IR**
    Allow the user access to RS-232, RS-485 and IR setups.

  - **Setup Network**
    Allow the user access to Network Setup.

  - **Setup Factory Defaults**
    Allow the user to restore factory defaults to all setup related configurations.

  - **Software Upgrade**
    Allow the user to upgrade the DVR software.

  - **Shutdown**
    Allow the user to shutdown the DVR.

8.3.3. NETWORK

The **Network Setup** allows the administrator to setup all Ethernet network related parameters. Consultation with the network administrator may be required to set these parameters correctly.

The following is a brief description for each item in this menu and its specific operations:

NET TYPE
- **Net Type**
  Select the type of network connection of the DVR to the network (DHCP, Static IP or PPPoE). **DHCP** is enabled by default but a **Static IP** is recommended.

STATIC IP
- **IP Address**
  Enter an Ethernet IP address for the DVR. This address should be static and not conflict with any other IP address on the LAN.

- **Net Mask**
  Enter the Net Mask for the IP address.

- **Gateway**
  Enter the Gateway IP address for the system.

- **DNS**
  If using DNS, enter the Domain Name Server address for the system. (Same address as Default Gateway)

PPPoE/STATIC IP
- **Username**
  If PPPoE is used, enter the username for the system.

- **Password**
  If PPPoE is used, enter the password for the system.

- **DDNS Type**
  Starting with Version 7.75.53 a new selection will appear for WirepathDNS. It is strongly recommended that this option is used to simplify configuration.

Using the WirepathDNS is easy. Select WirepathDNS from the list and enter the client name or other unique string in the URL.

When exiting the Network menu, confirm the changes. A DDNS service is setup automatically. See IE Interface Setup in Appendix E – WirepathDNS Setup for details on using WirepathDNS.

- **URL**
  Enter the DDNS URL if DDNS is used. – Enter Client Name or System Name to identify the DVR.

- **DDNS Username**
  Enter the DDNS username if DDNS is used. – Not used unless an existing DDNS other than WirepathDNS service is configured.

- **DDNS Password**
  Enter the DDNS password if DDNS is used. – Not used unless an existing DDNS other than WirepathDNS service is configured.

ADVANCED NETWORK SETTINGS
- **Control Port**
  Default Port is 67

- **HTTP Port**
  Default Port is 80

- **Data Port**
  Default Port is 68.

- **UPNP Port Forwarding**
  When enabled in conjunction with a supported UPNP router, port forwarding of the DVR in the router settings will be done automatically

- **WAP Picture Quality**
  WAP (Wireless Application Protocol) is a simple standard for remote devices (such as Smartphones) to access the DVR. See **Section 6.11.3** for more information on WAP.

- **Video Stream Resolution**
  Allows selection of Video Stream Resolution. If **Record** is selected, the DVR will stream video at the same resolution as the Record setting (See **Section 6.1**). Lower resolutions will allow an increased speed of video delivery to remote devices

- **Video Stream**
  Video Stream allows the user to choose the compression rate of the video being delivered to a remote device (see **Section 9.4**). This is especially helpful for remote devices on slower networks. Increasing compression of video sent to these devices will speed up the delivery of the video. To enable Video Stream, select one of the four levels of compression. (**Fair** is the lowest quality while **Superfine** is the highest quality.) If the compressed stream is used, the frame rate supplied to each stream will be reduced.
  *NOTE: To use the compressed stream in Internet Explorer, the user must select **Extra Video Stream** option in the **Modify** menu of the **Device List** of the remote PC (See **Section 9.5**).*

  - QCIF Fair – Lowest QCIF Resolution -

  - QCIF Normal – Medium QCIF Resolution

  - QCIF Fine – High QCIF Resolution

  - QCIF Super Fine – Best QCIF Resolution

8.3.4. PRE CAMERA

Pre-Camera setup allows the administrator to define fundamental attributes for connected cameras.
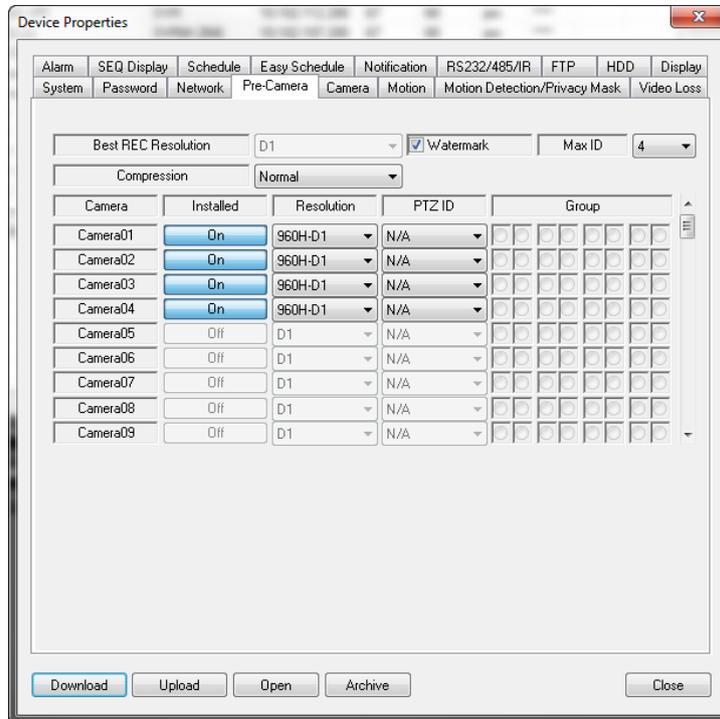
The following is a brief description for each item in this menu and its specific operations:

- **RESOLUTION**
  Allows individual camera channels to be set for their appropriate recording resolution. Allows for 960H (960x480), D1 (720x480), Half 960H (960x240), Half D1 (720x240), 480x240, and CIF (360x240).

  Note: While higher resolution offers more detail, it does require more hard drive storage space and higher network bandwidth capacity for streaming.

- **WATERMARK**
  An invisible, digitally embedded security feature to protect against tampering of recorded content. If a downloaded h.264 clip has been altered, the PC-based playback software will alert the user with a message upon playback. The default setting is enabled.

- **MAX ID**
  Select the maximum number of cameras connected to the DVR.

- **COMPRESSION**
  This DVR uses the latest compression format (.h.264) for the most efficient use of storage space and streaming flexibility. The Compression setting allows the administrator to further compress streaming video to account for slow or bandwidth-limited networks. Choose **Normal** for normal compression or select **High** to enable the second stream of the Video Streaming (See **Section 9.5**). The High setting will reduce the resolution of the second stream to one of the four QCIF levels as set in the Video Stream setting in the Network tab (**Section 9.3.3**).

- **INSTALLED**
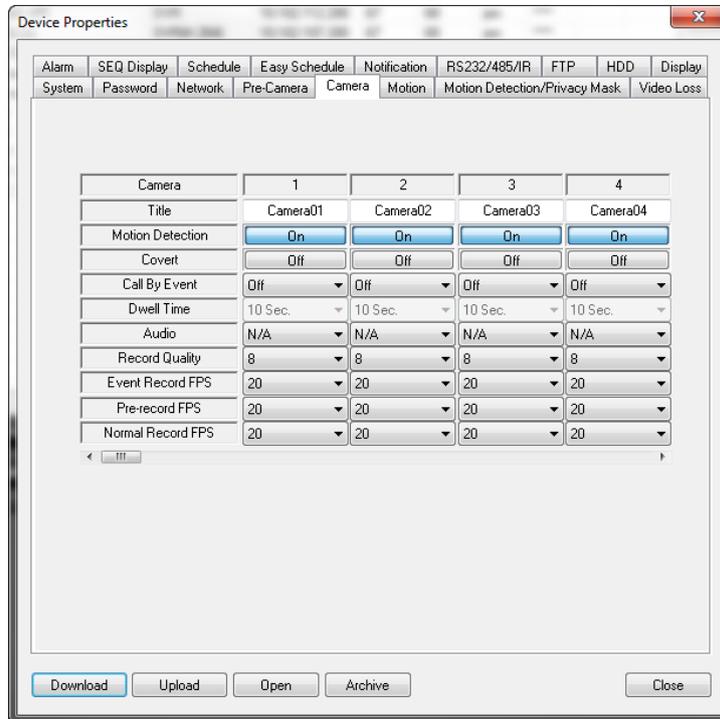 Enable or disable cameras in the system. The default setting is enabled.

- **PTZ ID**
  This feature has no function for this model of DVR.

8.3.5. CAMERA

The **Camera** setup allows the administrator to define additional attributes for each camera

The following is a brief description for each item in this menu and its specific operations:

- **TITLE**
  Name each camera with a unique identifying name up to eight characters maximum.

- **MOTION DETECTION**
  Enable or disable motion detection for the selected camera. Default setting enables this feature.
  Note: This has no effect on Smart Search functions.

- **COVERT**
  If a camera's covert function is enabled, the video of this camera can only be seen if the user has logged in as an Administrator. The default setting is disabled.

- **CALL BY EVENT**
  If the following events occur for this camera, the main display (VGA or BNC) will switch to the video of this camera for a specified period of time (dwell). Options are: **Off, Motion, Alarm, Both** (Motion & Alarm).

- **DWELL TIME**
  Used in conjunction with Call By Event, **Dwell Time** specifies how long the main display will show the camera on the screen. The **Dwell Time** can be set from 3 to 60 seconds

- **AUDIO**
  Select the corresponding AUDIO IN input for the camera. The audio for the selected AUDIO IN input will be recorded along with the video for this camera. Selections include **N/A** or AUDIO Input **1**. The AUDIO INPUT can only be assigned to one camera each. The default setting is "N/A".
  Note: The audio will only be heard when in full window view of the corresponding camera and the Audio Out button is enabled.

- **RECORD QUALITY**
  Select the **Record Quality** for each camera. Values range from **1-9**, with **1** the lowest quality and **9** the highest quality.

- **EVENT RECORD FPS**

   Set the Frames Per Second **Record** rate for each camera when events such as motion or alarm inputs trigger the camera to record. Settings for Post Record time determines how long the DVR will record after the event triggers recording. Please refer to **Section 9.3.6** and **Section 9.3.9** for Post-record time. Select a value from **0 (off) - 30**.

   Recommendation: The higher the FPS setting for a camera, the more fluid the motion on playback. A slower FPS setting could result in "choppy" video during playback, As a reference, live video equals 30 FPS. In surveillance, 15 FPS is recognized as very good quality video while 7 FPS is typically sufficient for most cases.

- **PRE-RECORD FPS**

   The Frames Per Second **Pre-Record** rate for each camera when events such as motion, video loss or alarm inputs trigger the camera to record. Settings for Pre-Record determine how much time the DVR will record before the event triggers recording. Please refer to **Section 9.3.6**, **Section 9.3.8**, and **Section 9.3.9** for Pre-record time.

- **NORMAL RECORD FPS**

   Unless disabled in the schedule (see **Section 9.3.11**), or this setting is set to **0** the DVR is always recording. If there is no event triggering the DVR to record (such as motion or alarm inputs), the recording is referred to as Normal Record. Set the FPS for each camera to be recorded at from a minimum of **0** (off) to a maximum equal to the Event Record setting.

8.3.6.   MOTION

Motion Setup allows the administrator to define how the system responds when motion is detected for the camera. Use the OSD from the VGA or BNC main monitor outputs to define the motion detection area (See **Section 6.2.2**).
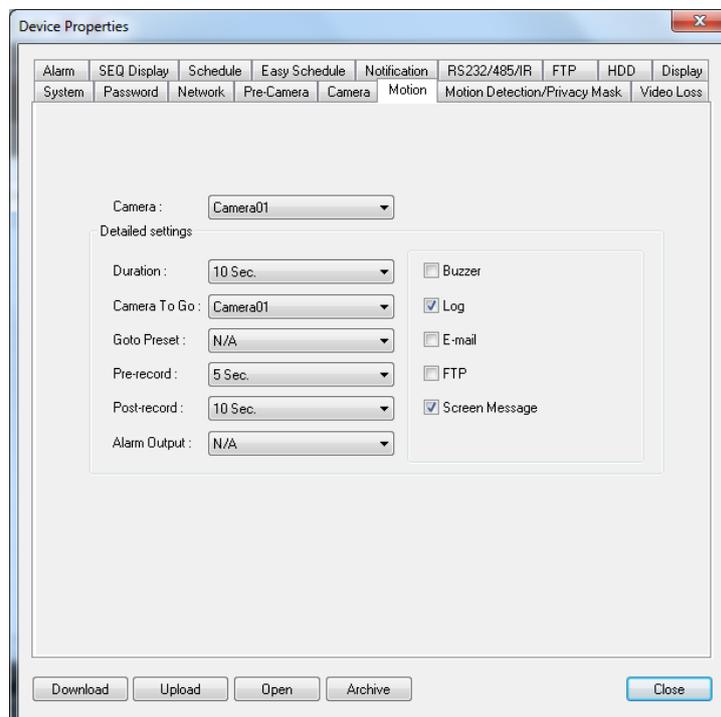
The following is a brief description for each item in this menu and its specific operations:

- **CAMERA**
  Select the camera to define motion triggered events.

- **DURATION**
  Set the length of time the buzzer will remain triggered once motion is detected for this camera. The buzzer and will reset immediately once motion is no longer detected.

- **CAMERA TO GO**
  The Camera to Go setting will specify which camera is pulled up during a video loss event if Call by Event options are enabled.

- **GOTO PRESET**
  This feature works in conjunction with the Camera to go setting above and defines the preset position the **Camera to Go** PTZ camera will go to when motion is detected for this camera. For more details about preset positions for PTZ cameras, please refer to **Section 7**.

- **PRE-RECORD**
  Define how much time the DVR will record before motion is detected. The Pre Record FPS set in **Section 9.3.5** determines the frame rate of this recording.

  Note: Actual pre-record time may be shorter than the value set if the total size of the pre-record video exceeds the pre-record video buffer.

- **POST-RECORD**
  Define how much time the DVR will record after motion is detected. The Post Record FPS set in **Section 9.3.6** determines the frame rate of this recording.

- **ALARM OUT**
  This feature has no function for this model of DVR.

- **BUZZER**
  By default the internal buzzer is disabled to sound when motion for this camera is detected.

- **LOG**
  By default, the DVR will log to the Event Log when motion is detected.

- **E-MAIL**
  Send an email message to predefined email address in the event motion detected for this camera.
  See **Section 9.3.13** for more information on e-mail.

- **FTP**
  This DVR can send the recorded motion detection event for this camera to an FTP server.

- **SCREEN MESSAGE**
  By default, the DVR will display a motion detection message in the System Status Bar (visible from the VGA or BNC main monitor output only) when motion is detected for this camera.

8.3.7. MOTION DETECTION / PRIVACY MASK

Note: Update the DVR to the latest version available on the SnapAV Website to use this feature.
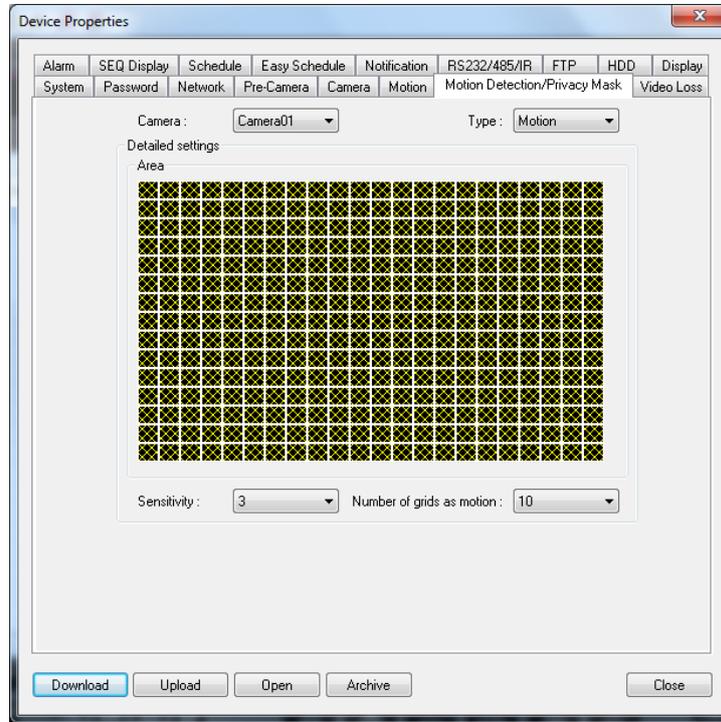
8.3.7.1. MOTION DETECTION

Motion detection allows administrator level users to define how the system responds when motion is detected for the camera.

1. Select the Motion Detection / Privacy Mask tab.
2. Select the desired camera from the Camera drop-down list.
3. Select Motion from the Type drop-down list.
4. When opened, the area will show Yellow patterns over the camera image (Yellow indicates the areas the DVR will detect for motion). Click and Hold the left mouse button and drag over the area(s) where motion detection is not desired.

Tip: Select the entire visible area of the camera to remove motion detection from the camera. After doing so, select the area in which motion detection is desired.

5. Adjust Sensitivity and Number of grids (number of boxes in the picture that must see motion before triggering) to achieve the desired results. Adjust Sensitivity and Number of grids for all lighting conditions during setup for the best results.
6. Select Upload to save the settings.
7. Repeat for all cameras connected to the DVR.

Tips for motion detection setup:
DVRs recognize the change in light to detect motion (this is different than the typical PIR security motion detector that uses multiple beams of infrared light). It is critical to understand possible changes in the scene to reduce false motion detection. Generally it is easier to control the lighting and the scene in indoor environments for accurate motion detection.

However, in exterior locations environmental factors such as shadows due to changes in weather or the position of the sun, leaves blowing in the wind and even animals can falsely trigger motion detection. For highly sensitive environments it may be better to use a 3rd party PIR motion detector connected to the alarm inputs on the DVR. We recommend the use of higher quality cameras (that do not induce noise into the picture in low light conditions that could false trigger the DVR.

8.3.7.2.   PRIVACY MASK

Privacy Mask allows administrator level users to define areas of the camera to not be shown in the camera image. There areas will be hidden with black boxes/grids

1. Select the Motion Detection / Privacy Mask tab.
2. Select the desired camera from the Camera drop-down list.
3. Select Privacy Mask from the Type drop-down list.
4. When opened, the area will show the camera image. Click and Hold the left mouse button and drag over the area where privacy is desired. (Yellow indicates the selected Privacy area)
5. Select Upload to save the settings.
6. Repeat for all cameras connected to the DVR.

8.3.8.   VIDEO LOSS

Video Loss Setup allows the administrator to define how the system responds when video signal is lost for the camera.
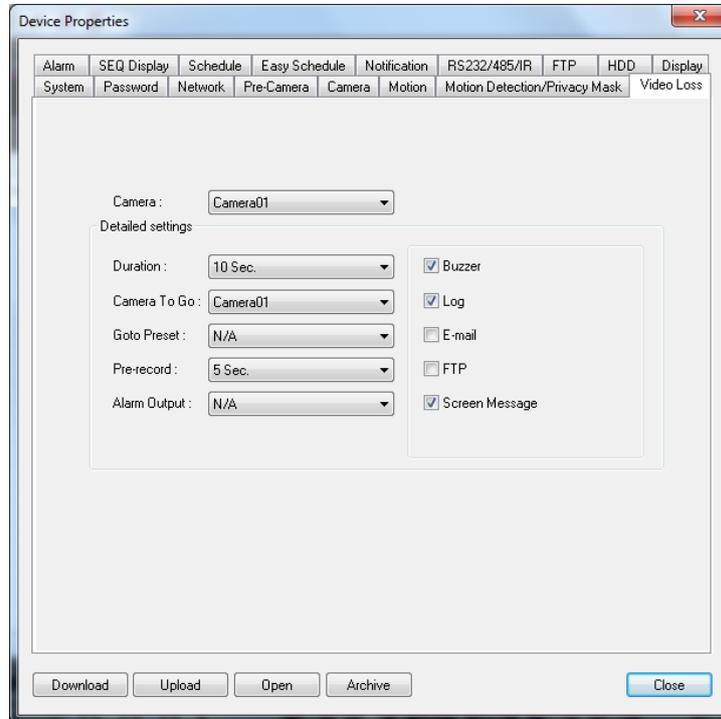
The following is a brief description for each item in this menu and its specific operations:

- **CAMERA**
  Select the camera to define video loss triggered events.

- **DURATION**
  Set the length of time the buzzer will remain triggered once video loss is detected for this camera. The Buzzer will reset immediately once video signal is restored.

- **CAMERA TO GO**
  The Camera to Go setting will specify which camera is pulled up during a video loss event if Call by Event options are enabled.

- **GOTO PRESET**
  This feature has no function for this model of DVR.

- **PRE-RECORD**
  Define how much time the DVR will record before video loss is detected. The Pre Record FPS set in **Section 9.3.5** determines the frame rate of this recording.
  Note: Actual pre-record time may be shorter than the value set if the total size of the pre-record video exceeds the pre-record video buffer.

- **ALARM OUT**
  This feature has no function for this model of DVR.

- **BUZZER**
  By default, the internal buzzer is enabled to sound when video loss for the camera is detected.

- **LOG**
  By default, the DVR will log when video loss is detected to the Event Log.

- **E-MAIL**
  This DVR can send an email message to a predefined email address in the event video loss is detected for this camera. The default setting is disabled. See **Section 9.3.13** for more information on e-mail.

- **FTP**
  This DVR can send the recorded video loss event for this camera to a FTP server. The default setting is disabled.
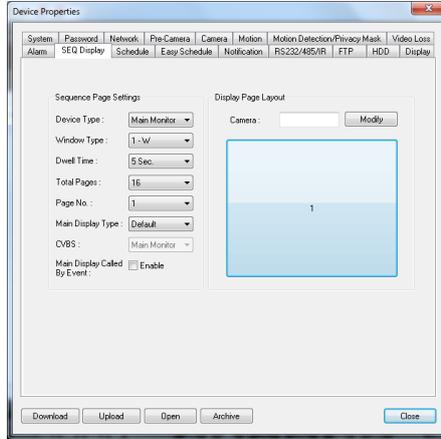
- **SCREEN MESSAGE**
  By default, the DVR will display a video loss message in the System Status Bar (visible from the VGA or BNC main monitor output only) when video loss is detected for this camera.

8.3.9. SEQ DISPLAY

The SEQ Display Setup allows the administrator to define the displayed pages when in SEQ Display mode.

The following is a brief description for each item in this menu and its specific operations:

- **DEVICE TYPE**
  This DVR only supports Main Monitor

- **WINDOW TYPE**

  Select the desired amount of windows to display based on the following options.

  WPS-165-DVR-4CH
 - 1-Window
  - 4-Window
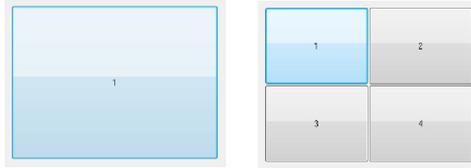
- **DWELL TIME**
  Set the dwell time (how long this page will be displayed before transitioning to the next page) from 3 to 60 seconds.
- **TOTAL PAGES**
  Set total pages for this SEQ Display Type.
- **PAGE NO**
  Select the page to be modified.
- **MAIN DISPLAY TYPE**
  Determines the camera channel configuration of the Main Display. In 'Default' the channel configuration follows a normal standard (i.e. 1w - Page1 = Camera 1, Page2 = Camera 2, etc; 4w - Page1 = Camera 1/2/3/4, Page2 = Camera 5/6/7/8, etc; 7w - Page1 = 1/2/3/4/5/6/7, etc). In 'SEQ' the channel configuration follows the layout of the Sequence menu, where a camera can be placed on any channel number.
- **CVBS**
  This feature has no function with this model of DVR.
- **CAMERA**
  Highlight the grid within the displayed page and select the camera number to appear in this grid.

8.3.10. SCHEDULE

The **Scheduled Record Setup** allows the administrator to define when and how video (and audio) will be recorded. This feature may be useful to increase hard drive storage space by defining what types of events are recorded on specific days of the week. For example if **Normal Recording** (recall that the DVR is capable of always recording video even without event triggers such as motion or alarm) is not necessary, this feature can be disabled on a daily basis. To further define when and how the DVR records, up to 16 time segments (**Conditional 1 – Conditional 16**) are available for each day of the week.
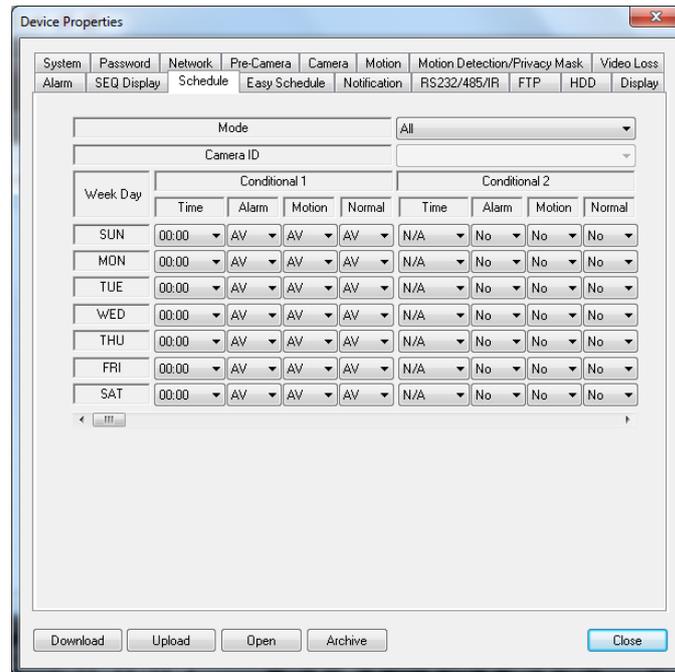
The following is a brief description for each item in this menu and its specific operations:

- **MODE**
  Allows choice of scheduling for all cameras simultaneously, or scheduling by individual camera number.

- **CAMERA ID**
  Determine which camera's schedule is being configured when using the Individual mode.

- **TIME**
  Set the start time of this time segment (conditional) in increments of 30 minutes in military time format. The end time of this conditional is implicitly set as the start time of next conditional.

  Example: If the following start times are set:
  - Conditional 1 = MON at 9:00
  - Conditional 2 = MON at 18:00
  - Conditional 3 - Conditional 16 = MON as N/A (Not Available)
  --- then ---
  - Conditional 1 = MON 9:00-18:00
  - Conditional 2 = MON 0:00-9:00 **and** 18:00-24:00

- **ALARM**
  Define if Alarm events are recorded. Options include **V** for Video only, **AV** for Audio and Video, **NO** for No Recording (provides event notifications without event recording), and **OFF** to turn all event notifications and recordings off.

- **MOTION**
  Define if Motion events are recorded. Options include **V** for Video only, **AV** for Audio and Video, **NO** for No Recording (provides event notifications without event recording), and **OFF** to turn all event notifications and recordings off.

- **NORMAL**
  Define if normal video and audio (non-event based video and audio) is recorded. Options include **V** for Video only, **AV** for Audio and Video, **NO** for No Recording, and **OFF** for recording but no event notification.

  NOTE: If both Alarm and Motion are set to OFF, then all video and audio recordings will be considered "normal recording" unless there is Video Loss for a particular camera.

- **BUZZER**
  By default, the internal buzzer is enabled to sound when video loss for the camera is detected.

8.3.11. EASY SCHEDULE

The **Easy Schedule Record Setup** allows the administrator to visually define when and how video (and audio) will be recorded. The simple seven day by 24 hour grid, allows push-button scheduling by assigning various record modes by day/hour/mode.

Simply select a record mode and then assign that mode to the grid by day and hour. (The grid is setup as seven days by twenty four hours per day in one hour blocks.)
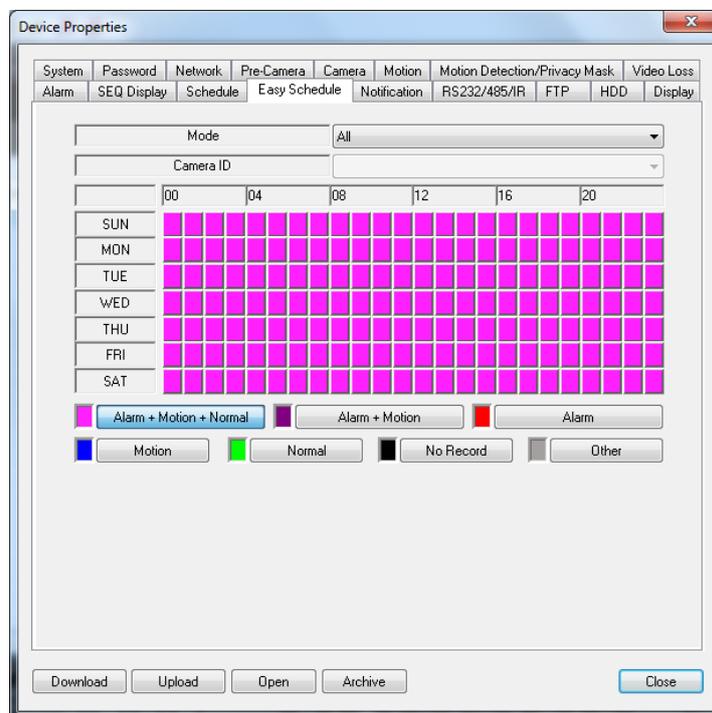
- **MODE**
  Select the cameras to be scheduled from the drop-down menu. OPTIONS: **All, Individual**.
- **CAMERA ID**
  If 'Individual Mode' was selected, select the camera to be scheduled from the drop-down menu.. OPTIONS: **1-4**.

Select a record mode or combination of record modes for the selected camera(s). Select a record mode and then click in the grid for the days/hours that mode is to be applied. To change record modes, select a different mode and click the days/hours on the grid.

- **ALARM+MOTION+NORMAL**
  Select to record 24/7 plus logging and notifications of alarm and motion events.
- **ALARM+MOTION**
  Select to disable 24/7 recording while maintaining logging and notifications for alarm and motion events.
- **ALARM**
  Select to disable 24/7 recording and motion event logging and notifications while maintaining logging and notifications for alarm events only.
- **MOTION**
  Select to disable 24/7 recording and alarm event logging and notifications while maintaining logging and notifications for motion events only.

- **NORMAL**
  Select to record 24/7 video and audio.

- **NO RECORD**
  Select to not record any video or audio and disable all logging and notifications.

- **OTHER**
  Indicates that a timeframe other than whole hours has been selected in the normal Schedule menu. This other schedule allows times to be selected in 1/2 hour increments

8.3.12. E-MAIL (NOTIFICATION)

When an event occurs and e-mail is enabled as a corresponding action, an e-mail will be sent based on the parameters set in this menu. Consultation with the e-mail service provider may be required to set these parameters correctly.

Note: DVR currently only supports TLS encryption for email.

The following is a brief description for each item in this menu and its specific operations:

- **SMTP SERVER (SERVER URL)**
  Enter the SMTP mail server name.

- **SMTP PORT**
  Enter the SMTP port for e-mail transmission. The default value is 25.

- **AUTHENTICATION**
  Check/uncheck this item depending on whether the SMTP mail server requires authentication.

- **USERNAME**
  Enter the **username** to the e-mail service.

- **PASSWORD**
  Enter the **password** to the e-mail service.

- **MAIL FROM**
  Enter the e-mail address of the associated e-mail account.

  Note: This setting is specific and must match e-mail client settings used to access an e-mail account or the

  e-mail feature will not be operable. Do not enter generic text in this field.

- **MAIL TO #1-5**
  The DVR can send e-mails originated from triggered events to up to five different e-mail addresses.
  Enter the appropriate e-mail addresses in these fields.

- **ATTACHMENT**
  This feature offers the ability to attach a picture from the corresponding camera to the e-mail being
  sent. Optional picture sizes for the attachment can be set to **Original** to match the recorded resolution
  or set to **QCIF** (Quarter CIF is 176 x 144 pixels) to reduce the size of the attachment. Select **N/A** to disable
  attachments.

  NOTE: If the DVR's resolution is set to Half D1, picture attachments in the e-mail will appear "squished"
  since the DVR reduces the horizontal lines of resolution by half (therefore reducing storage space and
  bandwidth requirements). This only effects e-mails and not noticeable in .h.264 live or recorded
  playback video.

- **PUSH ALARM**
  This feature has no function for this model of DVR

8.3.13. FTP

FTP Setup allows the administrator to set FTP-related parameters. When an event occurs and FTP is enabled for the action, the recorded video and audio for that event will be sent to the FTP server based on the parameters set in this menu.

The following is a brief description for each item in this menu and its specific operations:

- **SERVER URL**
  Enter the FTP server web/IP address.

- **FTP PORT**
  Enter the FTP port number. The default value is 21.

- **USERNAME**
  Enter the username for the FTP server.

- **PASSWORD**
  Enter the password for the FTP server.

- **PREFIX OF FILENAME**
  Enter the prefix of the filenames for files sent to the FTP server. If this box is left empty, the filenames will start with "cam" If a prefix such as "Prefix" is entered, the filenames will be "Prefix-cam" For another example, if the prefix is "DVR01", then the filenames will begin with "DVR01-cam."

8.3.14. HDD

Alarm-triggered video and audio is typically more important than non-even normal video and audio recording in surveillance applications. The DVR is designed to allow the hard drive to be partitioned into an alarm partition and a normal partition. Partitions can only be set from the VGA or BNC main display (See **Section 6.7**). Alarm video and audio will be recorded in alarm partition and normal video and audio will be recorded in the normal partition.

HDD Setup in Internet Explorer allows the administrator to define the behavior for Alarm Record and Normal Record partitions if the hard drive becomes full.
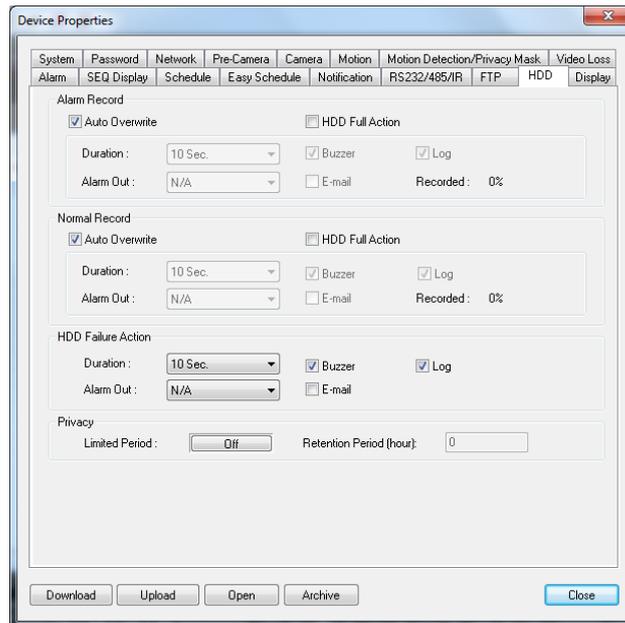
The following is a brief description for each item in this menu and its specific operations:

ALARM RECORD/NORMAL RECORD/HDD FAILURE ACTION
- **HDD FULL ACTION**
  Based on the hard drive status, the DVR can sound the buzzer, log the event and email an alert when the hard drives reaches its maximum capacity.
- **DURATION**
  Set the duration that the buzzer will remain triggered when the corresponding partition is full. Set the time from 3 seconds to 60 minutes or '-' indefinitely until the Alarm Reset button on the remote control is pressed.
- **ALARM OUT**
  This feature has no function for this model of DVR.
- **BUZZER**
  By default, the internal buzzer is enabled to sound when the corresponding hard drive partition is full.
- **LOG**
  By default, the DVR will log when the corresponding hard drive partition is full to the event Log
- **E-MAIL**
  Send an e-mail message to a predefined email address when the corresponding hard drive partition is full.

- **RECORDED %**
  Shows the amount of HDD space that has been overwritten since the beginning of the last overwrite cycle.

PRIVACY

- **LIMITED PERIOD**
  Turns Privacy option On or Off

- **RETENTION PERIOD**
  Determines how long the DVR will hold on to previously recorded footage. Example - If this option is set to 30 hours, the DVR will keep a running window containing 30 hours of footage. Anything prior to the 30 hours will be deleted.

8.3.15. DISPLAY

The Display settings adjust the video output options as viewed through the VGA connections.
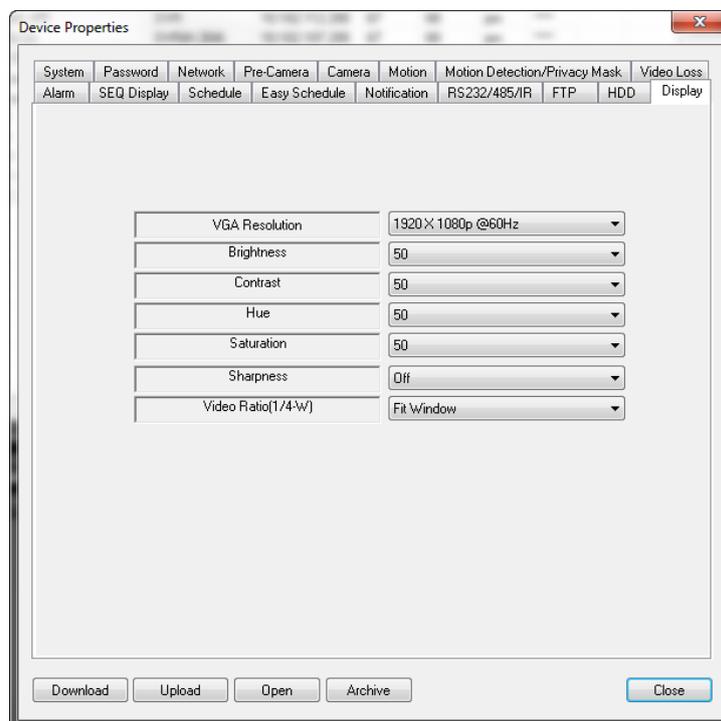
- **VGA RESOLUTION**
  Select the desired screen resolution from the drop-down. It is recommended to match the native resolution of the video display being used. Please refer to the video display documentation for specific information.
  OPTIONS: **1024 x 768, 1280 x 1040, 1920 x 1080.**

- **BRIGHTNESS**
  Select the desired brightness setting from the drop-down. This setting will determine the black level in the video output. OPTIONS: **0-100**

- **CONTRAST**
  Select the desired contrast setting from the drop-down. This setting will determine the white level in the video output. OPTIONS: **0-100**

- **HUE**
  Select the desired hue setting from the drop-down. This setting will determine the red, green and blue color level in the video output. OPTIONS: **0-100**

- **SATURATION**
  Select the desired saturation setting from the drop-down. This setting will determine the overall color intensity in the video output. OPTIONS: **0-100**

- **SHARPNESS**
  Select the desired sharpness setting from the drop-down. This setting will define the edge detail in the video output. OPTIONS: **On, Off**

8.4. VIDEO STREAM (DUAL STREAM)

This DVR offers two simultaneous video (and audio) streams to allow the DVR to record at a higher resolution while streaming the video to remote devices at a lower resolution.

Internet Explorer allows the user to choose which stream is being viewed, **Record** or **Extra**. Use the **Modify** menu of **Device Config** to change the video stream being displayed in Internet Explorer. The setting should be based on the bandwidth capability of the network.

To access this menu, select **Device Config** icon from Internet Explorer.

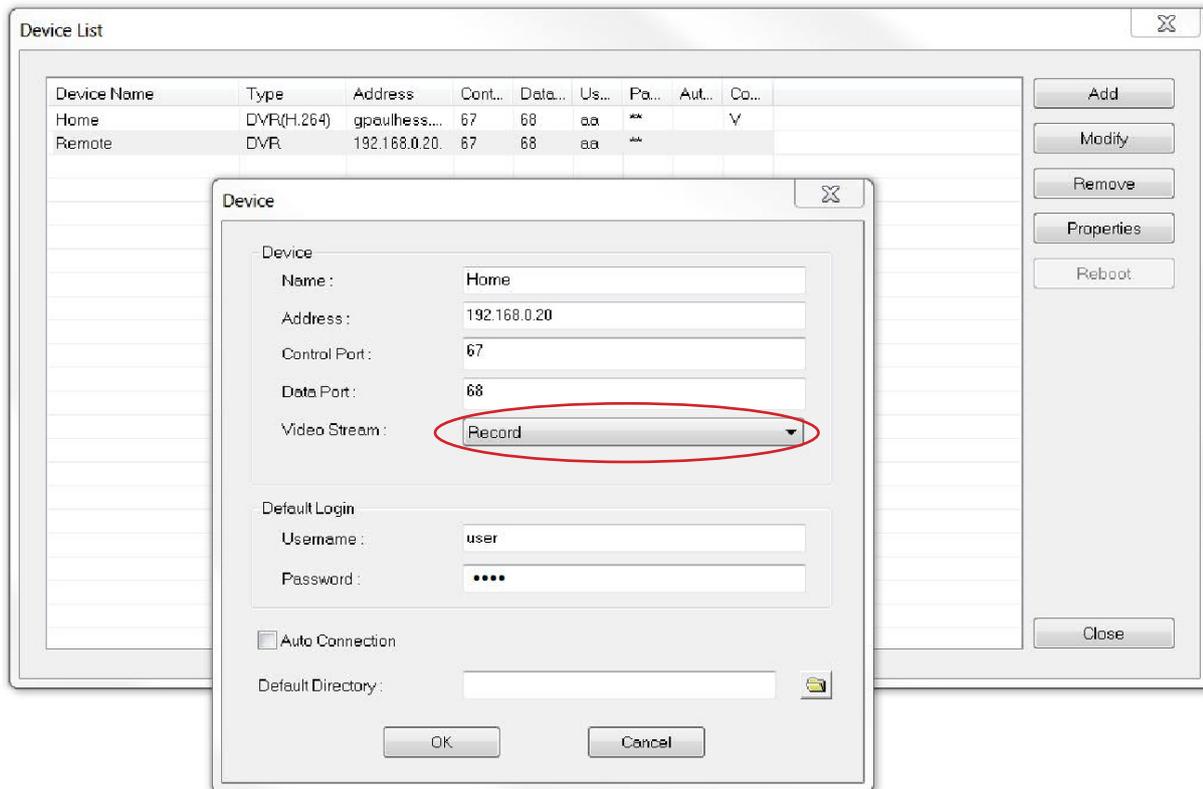1. Select the DVR to control and click on **Modify**.
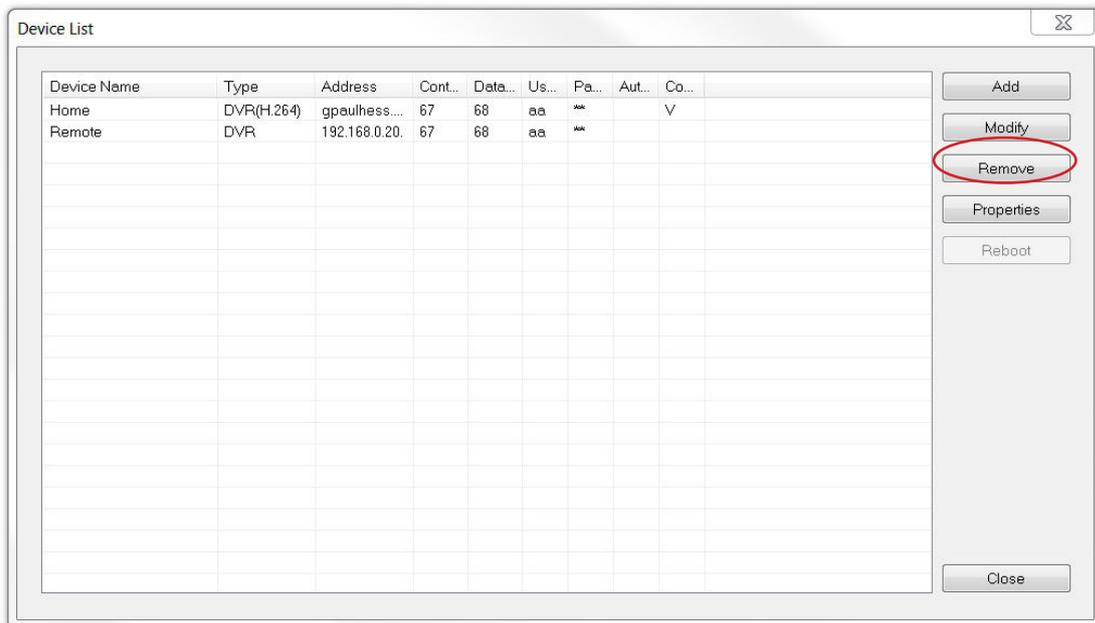
2. Adjust the **Video Stream** accordingly.

- **RECORD**
  If **Record** is selected, the PC will match the Best REC Resolution setting found in **Pre-Camera** tab.
  The **Record** setting (with Compression set to Normal, see **Section 9.3.4**) delivers the best video performance but requires the network to offer the necessary bandwidth capacity. See **Section 9.3.4** for more information on the Record setting.

- **EXTRA**
  If **Extra** is selected, the PC will use the extra network stream (Video Stream) to reduce bandwidth consumption and speed video delivery to the remote PC. In the **Network** tab select one of the four QCIF options listed in Video Stream. See **9.3.3** for more information on the Video Stream setting.

RECOMMENDED SETTINGS:

	Recommended Settings for typical networks		
	Fiber /Cable	**DSL / 3G**	**Smartphone**
Record Setting	D1	D1	CIF
Compression	Normal	Normal	Normal
Record Quality	9	5	1
Video Stream	Record	QCIF Superfine	QCIF Fair
Notes	For the best quality video recording to the DVR and streaming to remote devices on a high speed network	For high quality video recording to the DVR and smooth motion steaming to medium speed networks	For the most efficient use of hard drive space and steaming to devices on a slow network

8.5. REMOTE VIEWING WITH A SMARTPHONE

1. INSTALL THE APPLICATION

    1. Install the application

    1.1. On iPhone®, iPad®, or iPod touch®

    A. Access the App Store℠ using iTunes® or your Apple® Device and search for WPS-DVR (WPS-DVR-HD for iPad®).

    B. Install and run WPS-DVR or WPS-DVR-HD on your Apple Device.

    1.2. On Android Device

    A. Access the Android Market using your Android Device and search for WPS-DVR.

    B. Install and run WPS-DVR on your Android Device.
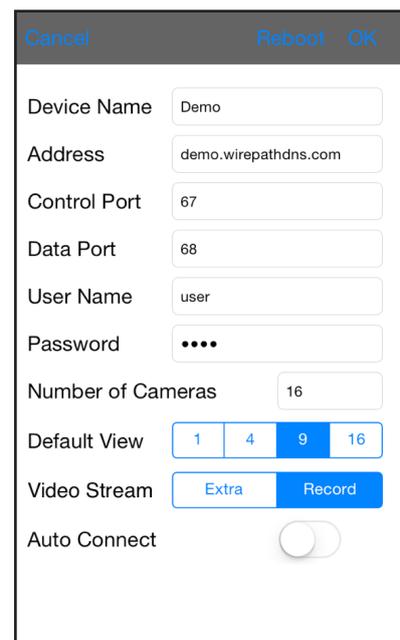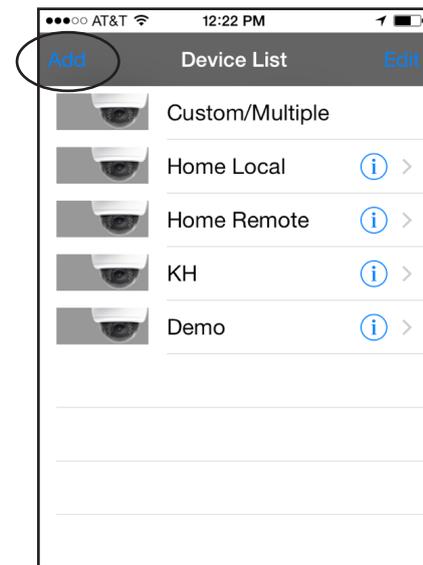
WPS-DVR

2. ADD THE DVR IN THE DEVICE LIST

    1. Select the **Add** button to add the DVR to the **Device List**.

    2. Enter a name for the DVR in **Device Name.**

    3. Enter the DVR's IP address or DDNS name in **Address**.

        • If connecting on a local network, enter the IP address (Ex: 192.168.0.101).

        • If using DDNS, enter the registered domain name (such as smithdvr.dyndns.com). *Note: Do not precede the address with "http://" or add a port number to the end of the address.*

    4. Enter the **Control Port** and **Data Port** numbers that match the settings of the DVR and the router that the DVR is connected to. By default, these numbers are **67** and **68** respectively.

    5. Enter the **User Name** and **Password** for the DVR. By default, these settings are **user** and **1234** respectively.

    6. Select **Extra** to connect to the DVR's Extra network stream or select **Record** to view the Main stream. When Extra is selected, the resolution of the live stream being viewed will be determined by the **Video Stream** setting in the **Network Menu**. When Record is selected, the resolution of the stream will match that of the **Best REC Resolution** set in the **Pre-Camera Menu**. The Record setting offers the most resolution but requires a high-speed network connection. The Extra setting will improve the speed of the video but at a lower resolution.

    7. If enabled, **Auto Connect** will establish a connection with the DVR as soon as the application is opened.

    8. Select the **OK** button once settings are complete.

Recommendation: Enter two devices per DVR to the Device List. One could be named "Local" and the second "Remote." When the user is connected to the same local network as the DVR and selects "Local," the user will experience faster network speed. When connected to a remote network, the user should select "Remote" to still have access to the DVR.

8.5.1. REMOTE DISPLAY AND OPERATION

After launching **WPS-DVR or WPS-DVR-HD**, select the DVR in the **Device list** to connect. The application will open to a 4 window split screen by default. Use the **CH** button or double-tap a quadrant in the split screen to view a single camera full screen. Once in full-screen view, a "swipe" feature enables the ability to sequentially scroll through all of the cameras. This feature is also available in landscape mode.

• **DISPLAY OPERATION**

Back	**BACK** - Exits the Main Display and returns to the Device List
Home - Remote	**DVR SELECTION** - Select and connect to other DVRs in the Device List
CH	**CH** - Displays a virtual numeric keypad for 16 cameras. Select any camera to switch to the full-window display for that camera.
	GRID - Select 1, 4, 9 or 16 split-window view of the DVR. The 4 split-window view offers views in groups of four.
	AUDIO - Enable/mute the audio output from the DVR. This option is only available when in full window view of the camera that has audio associated with it in the DVR setup.
	SNAPSHOT - Snapshot of the screen is sent to the Photo Library of the iPhone.
	PTZ FUNCTION - Select the full window view of a camera that offers PTZ function. This option is only available if the DVR is setup to enable PTZ for the associated camera.

• **PTZ OPERATION**

zoom− zoom+	**ZOOM IN, ZOOM OUT**
pre-set auto pan seq	**GOTO** preset position, Start **Auto Pan**, Start **SEQ**
focus− focus+ iris− iris+	**Focus** Adjust, **Iris** Open/Close
PAN/TILT	Touch the corresponding portion of the camera window to Pan or Tilt the camera Up, Down, Left or Right

Note: Arrows are shown for example purpose only and will not appear on the screen.

• **SEARCH OPERATION**

	Search By Time - Select month-day-year-hour-minute of the video to be viewed and press to begin playback.
	Search By Event – A chronological list of events will be displayed beginning with the most recent event first. Use the **FWD** and **RWD** icons to scroll to more pages of this list. This search can be further refined by **ALARM, MOTION, VIDEO LOSS** and **SYSTEM LOG** events shown by these four icons. Events of these types can be hidden from view by toggling the associated icon and selecting the **REFRESH** button.
	Alarm In/Out – This page displays the status of each alarm input for the connected DVR. Green indicates normal conditions and Red indicates an alarm condition. This page also offers control of the Alarm Output(s) of the connected DVR.
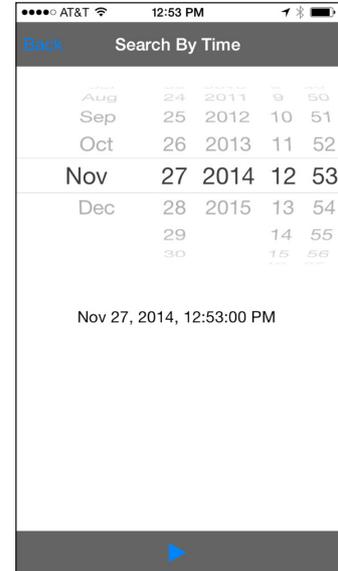
• **PLAYBACK OPERATION**

	Fast Reverse
	Fast Forward
	Single Step
	Play / Pause
	Stop
	Playback function menus are split across two pages. Press these buttons to scroll to the next function menu.

9. WARRANTY

3-Year Limited Warranty

This DVR has a 3-Year Limited Warranty. The warranty includes parts and labor repairs on all components found to be defective in material or workmanship under normal conditions of use. This warranty shall not apply to products which have been abused, modified, disassembled or improperly installed. Products to be repaired under this warranty must be returned to Wirepath™ Surveillance or a designated service center with prior notification and an assigned return authorization number (RA).

For technical support: 1.866.838.5052

10. APPENDIX A – SPECIFICATIONS

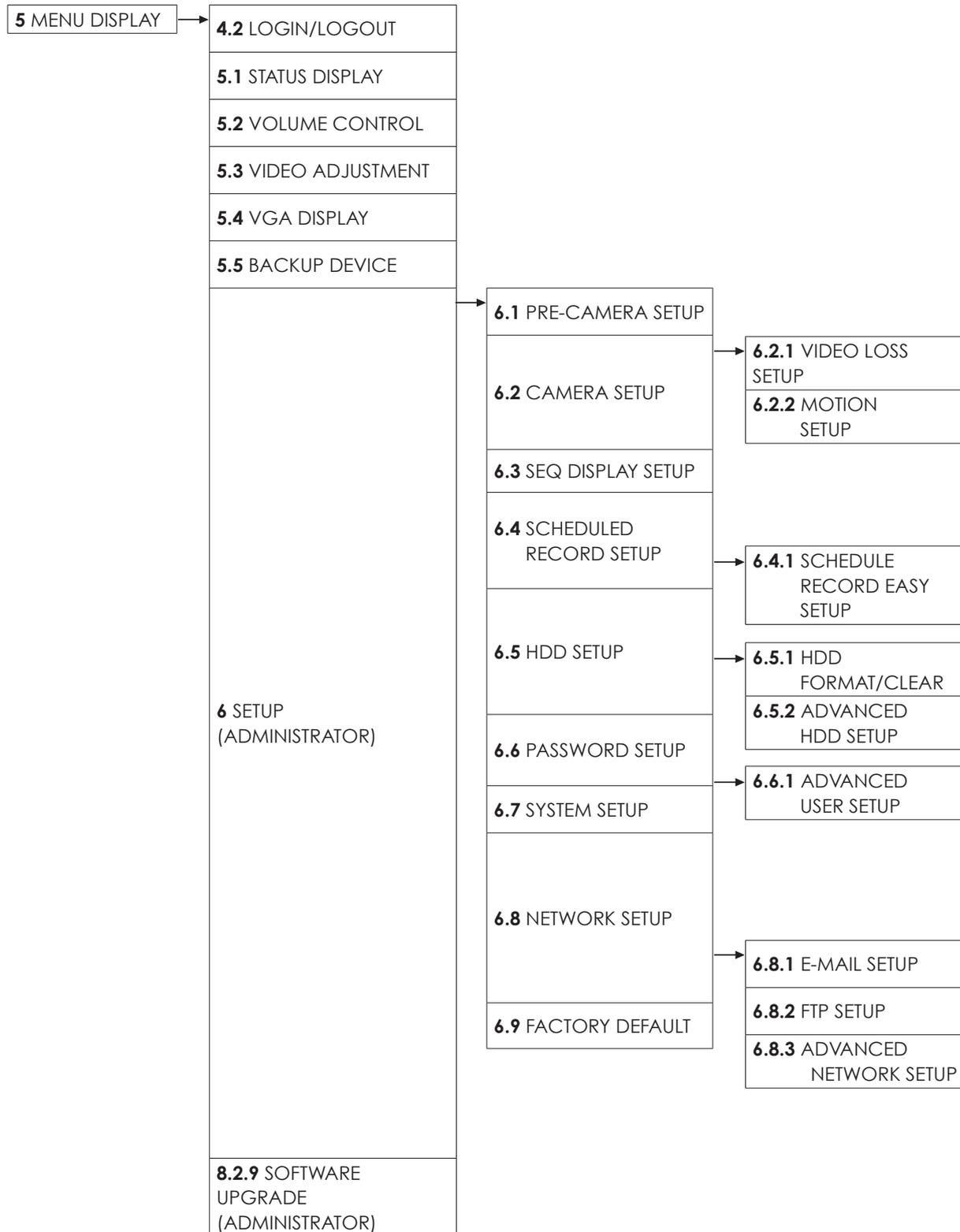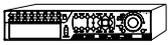| SECTION	FUNCTION	WPS-165-DVR-4CH
System	Multi-Operation	Hexaplex - Simultaneous Live View, Record, Playback, Control, Remote Access, Backup
	Dual Stream	Yes, RSTP
Video	Input	4CH, BNC
	Video Loop Outputs	No
	Main Monitor	VGA/BNC
	HDMI	No
	Call Monitor	No
Audio	Input / Output	1 in, 1 out
Record	Compression	H.264 Main Profile ADPCM Audio
	Supported Resolutions	960H/Full-D1/Half-D1/CIF
	Max Record Resolution	960H all channels
	Frame rate (FPS) & Resolution	120@960H 120 @ 720x480 120 @ 720 x 240 120 @ 360 x 240
	Mode	Continuous/Manual/Schedule/ Motion
	Motion Detection	Yes, with configurable detection area & sensitivity
Display	Resolution	VGA: up to 1920 x 1080 BNC: 720 x 480
	Sequential Switch	User adjustable
	Split Windows	1/4
	Search	Time/Event (Motion, Video loss), Smart search/PC
Storage	Hard Drive	(1) 500GB SATA (WD AV-GP)
	Hard Drive Extension	No
	Internal Hard Drive Bays	1
	ESATA Connection	0
	USB Ports	2 (1 for mouse)
	Internal DVD+RW drive	No
Alarm	Contact Inputs/Relay Outputs	N/A
	Event Log	Motion, Video Loss, System (HDD failure, HDD full, No record, login/logout, Power on/off

Specifications are subject to change without notice

SECTION	FUNCTION	WPS-165-DVR-4CH
Network	Ethernet	1 RJ-45 10/100Mbps
	Web	N-Streaming, one Internet Explorer window for unlimited number of DVRs, Configurable ports
	OS	Window 8, 7, Vista, XP and 2003
	E-mail	Yes
	FTP	Yes
	Push Alarm Notification	No
	Two-way Audio	Yes
Control	IR	IR sensor on front
	RS-485/RS-232	N/A
	Front Keypad	No
Weights & Measures	Dimensions (W) x (D) x (H)	185(W) x 195(D) x 44(H)mm
	Rack Mount	No
	Weight	1.2KG (without HDD)
Power	Source	12VDC 3.0A
	Consumption	30W Max.
Accessories		USB Mouse, Power Supply, Remote Control, Batteries,

11. APPENDIX B – MENU STRUCTURE

Numbers preceding the Menu name are the section numbers for the OSD menu (VGA and BNC output) within this manual.

5 MENU DISPLAY →	**4.2** LOGIN/LOGOUT
	5.1 STATUS DISPLAY
	5.2 VOLUME CONTROL
	5.3 VIDEO ADJUSTMENT
	5.4 VGA DISPLAY
	5.5 BACKUP DEVICE

6 SETUP (ADMINISTRATOR)
- **6.1** PRE-CAMERA SETUP
- **6.2** CAMERA SETUP
  - **6.2.1** VIDEO LOSS SETUP
  - **6.2.2** MOTION SETUP
- **6.3** SEQ DISPLAY SETUP
- **6.4** SCHEDULED RECORD SETUP
  - **6.4.1** SCHEDULE RECORD EASY SETUP
- **6.5** HDD SETUP
  - **6.5.1** HDD FORMAT/CLEAR
  - **6.5.2** ADVANCED HDD SETUP
- **6.6** PASSWORD SETUP
  - **6.6.1** ADVANCED USER SETUP
- **6.7** SYSTEM SETUP
- **6.8** NETWORK SETUP
  - **6.8.1** E-MAIL SETUP
  - **6.8.2** FTP SETUP
  - **6.8.3** ADVANCED NETWORK SETUP
- **6.9** FACTORY DEFAULT

8.2.9 SOFTWARE UPGRADE (ADMINISTRATOR)
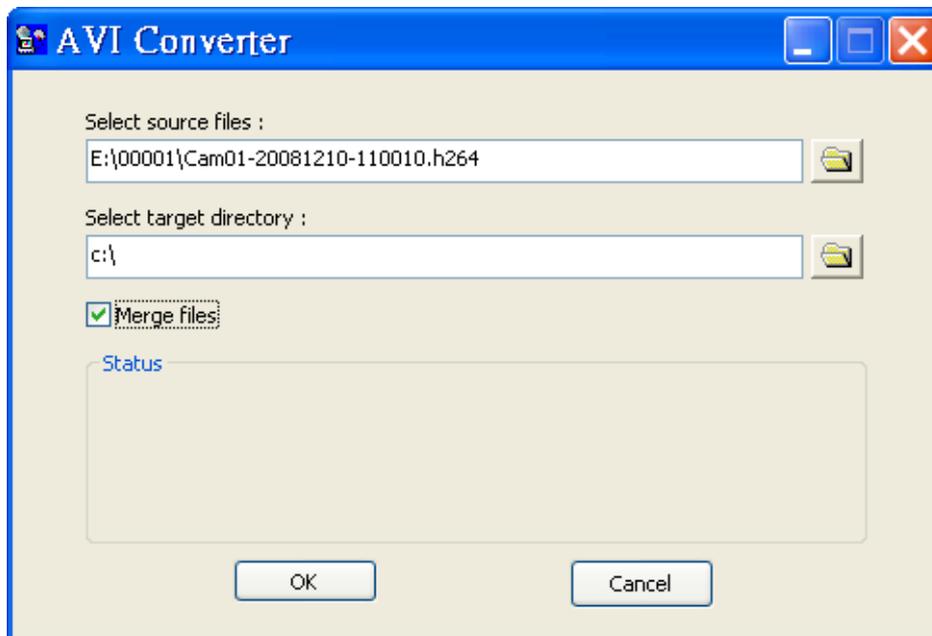
12. APPENDIX C – HARD DRIVE RECORDING TABLE

Please visit the appropriate product page on www.SnapAV.com to calculate recording times for replaced hard drives with different capacities.

13. APPENDIX D – H.264 TO AVI CONVERSION UTILITY

Included on the bundled disc is a MS-Windows utility program used to convert native .h.264 files from the DVR to .avi file format to be played back on PCs using Windows Media Player.

1. Insert the CD in the CD-ROM or DVD-ROM drive in the PC and copy the **AVI_Converter.exe** file to the desktop. Double click the **AVI Converter** icon to open the utility.

2. Select the source files (**.h.264** files archived from the DVR) to be converted. Select the target directory to save the converted files. Check **Merge files** to "chain" multiple backup files to be converted into one **.avi** file. Click on **OK** to complete the conversion. The converted **.avi** files can be played by **Windows Media Player** or other playback software that supports the **.avi** file format.