

Pro series

Professional Digital Video Recorders



USER'S MANUAL

This manual covers model:

■ **PRO 16/8**

NEC
CCTV Products

Consistent™
Commitment
To
Value

Before installing and using this unit, please read this manual carefully and be sure to keep it handy for later reference.

About this Manual

This manual is designed to assist customers in using their new PRO 16/8 RAID Digital Video Recorder. Information in this document has been carefully checked for accuracy; however, no guarantee is given as to the correctness of the contents. The information contained in this document is subject to change without notice.

Edition

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Regulations

- ◆ **CE**
- ◆ **C-Tick**

Warning

It is essential that only the supplied power cord be used.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Maintenance

Follow these steps and you will increase the working lifetime of your PRO 16/8 RAID DVR. You will also reduce the chance of damage to your Digital Video Recorder and personal injury to yourself.

1. Make sure the Digital Video Recorder is turned off before unplugging it.
2. When possible, use a high-quality electrical surge power board or outlet to protect your Digital Video Recorder. It is also a good idea to unplug your Digital Video Recorder when it is not in use.
3. Do not use the Digital Video Recorder in a dusty or dirty work area. Dust can cause contamination of the unit, which can result in malfunction or damage.
4. Clean your Digital Video Recorder exterior casing occasionally with a soft cloth. If you use a cleanser, make sure that it is only mild detergent. Never use solvents like thinner or benzene, or abrasive cleansers because these may damage the cabinet. Make sure that the Digital Video Recorder's power is off when you clean it.
5. Remember to clean your display at regular intervals. Spray window cleanser onto a soft cloth and then wipe the display. Do not spray the cleanser directly onto the display.

Safety Instructions

Digital Video Recorder

1. Follow all warnings and instructions marked on the Digital Video Recorder.
2. Do not operate your Digital Video Recorder near a source of heat or in direct sunlight.
3. Do not use the Digital Video Recorder in a potentially flammable work area.
4. Do not use your Digital Video Recorder on an unstable working surface. This will prevent your Digital Video Recorder from falling or being knocked over and damaged.
5. Do not store objects on the top of your Digital Video Recorder. Do not exert pressure on the Digital Video Recorder.
6. Do not use the Digital Video Recorder near water or other liquids, or in rainy/moist situations. If liquid enters into your Digital Video Recorder, turn it off and return it to your dealer for inspection.
7. Do not place the Digital Video Recorder on an unstable cart, stand, or table: The Digital Video Recorder may fall, causing serious damage to the Digital Video Recorder.
8. Never push objects of any kind into the slots of the Digital Video Recorder cabinet as this may cause serious damage. The risk of dangerous high voltage contact with internal parts could result in electrical shock or fire.
9. Unplug the DVR from the power outlet before any major cleaning. Do not spray liquid cleaners or aerosol cleaners directly onto the DVR. Use a damp cloth for cleaning.
10. Do not attempt to service the Digital Video Recorder yourself. Unplug this product from mains power and refer all servicing to an authorized dealer.
11. An authorized dealer with manufacturer-approved components must perform replacement of any component. Unauthorized substitutions may cause a safety hazards and void the warranty.

Power

1. This electronic device must be connected to an approved regulated power outlet, voltage as indicated on the power input must be observed before connection.
2. This Digital Video Recorder is shipped with its own AC adapter. Do not use the Digital Video Recorder with a different adapter.

3. Do not allow anything to rest on the power cord. Do not place the Digital Video Recorder where people will walk on the cord.
4. When you disconnect cords, remember to pull them by the plugs and not by the cords themselves. This will prevent damage to the cords, plugs, ports, and jacks.
5. If an extension cord is used with this Digital Video Recorder, make sure that the total ampere ratings of the products plugged into the extension cord do not exceed the extension cord's ampere rating. Also, make sure that the total current of all products plugged into the wall outlet does not exceed 15 amperes.

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Operation Flow :

Before initial DVR operation, you have to connect all necessary peripherals and accessories to the DVR system. (please refer to Chapter 1 for the DVR system introduction)

A. INSTALL HARD DISK

1 . Pull out HDD Mobile Rack from PRO 16/8 RAID DVR System front panel



2. Install the Hard Disk (SATA HDD) to the Mobile Rack and locked it by screws of 6#32 L4mm



3. After complete step 2, then put HDD back to PRO 16/8 RAID DVR System



4. Power on PRO 16/8 RAID DVR System

Press power button at the front panel to power on the DVR system.

Note:

The remain HDD capacity on DVR main screen appears " 0 GB " due to the DVR Raid Storage has not yet been made Raid Configuration.

B. RAID CONFIGURATION

The Disk Array Configuration Utility allows you to create disk arrays by combining disks, deleting disks or breaking disk arrays back into their member disks. You can also specify an available drive as a hot spare. If an array becomes degraded, the hot spare will automatically be substituted for the faulted drive.

Invoking the BIOS tool

Power up or reboot your system. Before the boot phase, wait until you see a screen similar to Figure A.



```
Quake Storage Controller : Escalade 7010
BIOS: BE7X 1.00.00.026 Firmware: FE7X 1.05.00.014

Array Unit 0 - 64K RAID 10 1.0 GB
Port 0 - QUANTUM FIREBALL LMX0 512 M
Port 1 - QUANTUM FIREBALL LMX0 512 M
Port 2 - Raster 9019440 512 M
Port 3 - QUANTUM FIREBALL LMX0 512 M

Following drives will not be exported to OS:
Port 5 - QUANTUM FIREBALL EX3.2A 3.2 GB Hot Spare
Port 7 - IC35L020AVR057-0 512 M Hot Spare

*** Press <Alt-3> to access Quake Configuration Screen ***
```

Figure A. BIOS Tool

Press **Alt-3** immediately to bring up the **Disk Array Configuration** display.

Exiting the BIOS tool

To save your configuration modifications hit the **F8** key. After you have hit the **F8** key to commit your changes, a list of affected drives will be displayed and you will be asked to confirm your configuration.

The booting process will resume. To exit the Disk Array Configuration Utility without saving your changes hit **Esc**.

Disk Array Configuration



Caution: Configuring a disk array writes format-type data onto its member disks and overwrites all the files on those disks. Be sure to back up data that requires retention.

- All supported RAID levels (0,1,5,10) can be created based on the number of drives that the ATA RAID Controller supports.
- Multiple arrays of supported RAID levels can be implemented on a single controller based on the number of drives that the ATA RAID Controller supports.

The **Disk Array Configuration** main display shows the current disk drive configuration.

- **Available Drives** reports independent drives (JBOD) not associated with an array and hot spares.
- **Disk Arrays** lists any existing arrays along with their member disks.

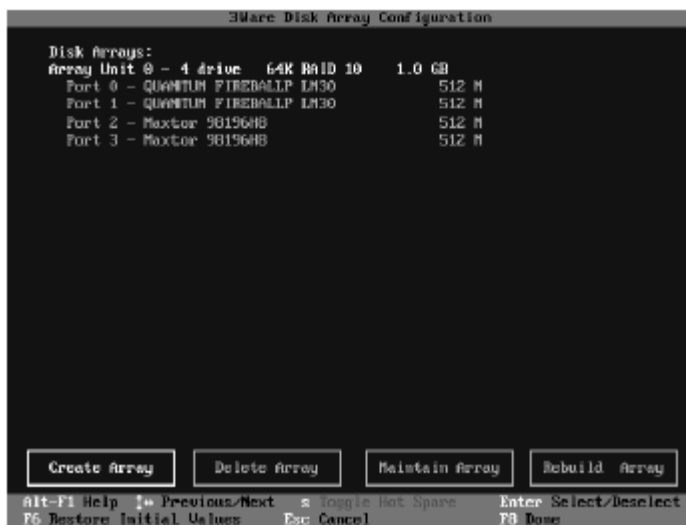


Figure B. Disk Array Configuration Main Display, RAID 1 Example

Throughout the utility (see Figure B) use the **Up and Down** arrow keys to navigate, **Enter** to select the disks or buttons and **F1** for context sensitive help. **Toggle Hot Spare** verbiage is black when the cursor is over a drive that can be specified as a hot spare and gray when hot spare cannot be specified. If you've made mistakes and want to start over, pressing **F6** will return your starting values. Pressing **Escape** will exit the configuration utility as well as abandon your changes. Pressing **F8** will save your changes and exit the utility.

Creating a disk array

To create an array, first select the drives to be included by navigating the cursor over each drive and pressing **Enter** (see Figure C). An asterisk in the left most column indicates the drive is selected. You may include from two to eight drives in the array by selecting drives from the **Available Drives** section. To include drives that are part of an existing disk array you must first delete the array.



Note: Accelerate keys. Anywhere in the BIOS configuration screen, if a user hits the corresponding accelerate keys, it immediately highlights the appropriate button:

Alt-C for "Create Array"

Alt-D for "Delete Array"

Alt-M for "Maintain Array"

Alt-R for "Rebuild Array"



Figure C. Selecting Drives for a Mirrored Array



Hint: The capacity of each drive is limited to the capacity of the smallest drive in the array. The total array capacity is defined as follows:

RAID 0: (the number of drives) X (the capacity of the smallest drive)

RAID 1: the capacity of the smallest drive

RAID 5: (the number of drives - 1) X (capacity of the smallest drive)

RAID 10: (the number of drives / 2) X (capacity of smallest drive)

Navigate to the **Create Array** button after selecting all the drives for the array. Hit **Enter** to bring up the **Create Disk Array** display (see Figure D and Figure E for examples). Check that the proper drives are listed.

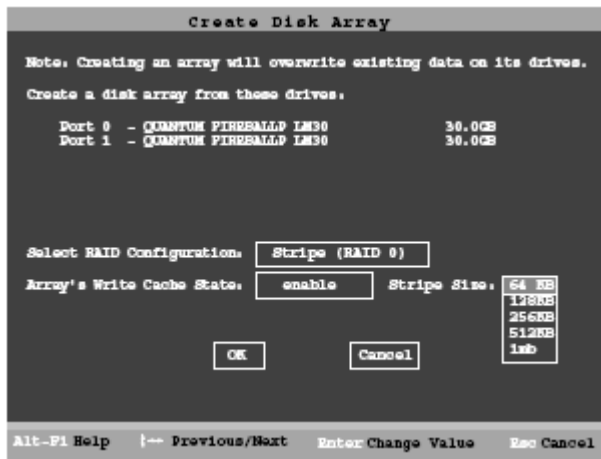


Figure D. Create Disk Array Display, RAID 0 Example

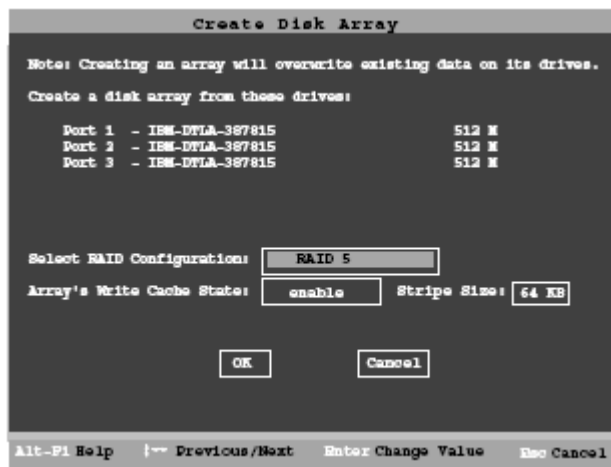


Figure E. Create Disk Array Display, RAID 5 Example

Select RAID configuration

The PRO 16/8 RAID DVR gives you a choice of four RAID configurations. Select one.

- Stripe (RAID 0): maximizes performance and capacity through a process called striping. High performance arrays write portions of a single file across multiple drives. There is no fault tolerance.
- Mirror (RAID 1): duplicates or “mirrors” the data on both drives. No data will be lost if one of the drives fails.
- RAID 10 (0+1): combines mirroring and striping, providing both fault tolerance and high performance. **RAID 10 arrays require a minimum of four drives.** Configurations consist of 4, 6 or 8 drives.
- RAID 5: combines parity data and striping, providing fault tolerance, high capacity and high storage efficiency. The parity data is distributed across all drives, rather than being concentrated on a single disk. **RAID 5 arrays require a minimum of three drives.** Configurations consist of at least 3 drives and up to 8 drives.



Figure F. BIOS Initialization Screen for RAID 5

Select striping size

For a RAID 0 or RAID 10 configuration select the striping size. Sizes of 64K, 128K, 256K, 512K or 1M are selected using the **Stripe Size** box shown in Figure D. RAID 5 only allows a 64K stripe size. RAID 1 does not allow the user to select the striping size.

Select write cache properties

The PRO 16/8 RAID DVR gives you a choice of disabling the write cache for your disk arrays. Write cache is used to store data locally on the drive before it is written to the disk, allowing the system to continue with its next task. Enabling the write cache results in the most efficient access times for your system. There may be instances when you always want the system to wait for the drive to write all the data to disk before going on to its next task. For this case, you must disable the write cache. To disable the write cache, select **disable** from the array's **Write Cache State** selection. The default for **Write Cache State** is **enable**.

Confirm array configuration

Select the **OK** button to confirm creating the array or **Cancel** to reject it. The array is not actually created and no data will be overwritten until you have finished making all your changes and select the **F8** key. The current limitation is 2TB for any physical or logical unit. If you attempt to create an array over 2TB the BIOS will display the following message:

"The amount of disk space available exceeds the maximum allowable capacity. The array capacity will be limited to 2 TB."

For RAID 5 Arrays

Because of the Read-Modify-Write operations, zeros are first written to all drives in the array before the array is functional. The screen shown in Figure F appears after selecting **OK** to confirm array creation. If desired, the write-zeros operation can be aborted by rebooting the system. Once booted to the operating system,

the array goes into initialization mode after a delay of up to ten minutes. The advantage of doing this is that the RAID 5 can be used immediately, although it will not be fault tolerant until the initialization is complete. The disadvantage of doing this is that it will take longer for the array to be fully redundant, as it takes longer to initialize an array than it takes to write zeros to the array.



Caution: When running in initializing mode the array is not redundant. You cannot remove any drive.

For RAID 1 or 10 Arrays

RAID 1 and 10 arrays are not profiled when created, or initialized after booting into the OS. When the firmware receives the first verify request, given that the array was never initialized, the initialization will then begin. Any subsequent verify operations will then perform the verification of the array (check data consistency). An AEN will inform the user that the first verify is actually an initialization.

Specifying a Hot Spare

The PRO 16/8 RAID DVR gives you the option to specify a hot spare from one of your **Available Drives**. If a hot spare is specified and the array degrades, an event notification will be generated. The hot spare will dynamically replace the failed drive in an array without user intervention. Select a hot spare by navigating to an **Available Drive**. The **Toggle Hot Spare** verbiage at the bottom of the screen will be black if the drive can be used as a hot spare. Enter **s** to select the hot spare or to disable the hot spare if it is already enabled.



Note: Hot spare drives need to have the same or larger storage capacity than the RAID 1, RAID 5 or RAID 10 drives.

Chapter 1

DIGITAL VIDEO RECORDER INTRODUCTION

Your new PRO 16/8 RAID Digital Video Recorder is featuring the high technology of infrastructure with integration of surveillance system and RAID (A Redundant Array of Independent Disks) function, provide high performance of advanced DVR architectures as well as admirable internal storage capacity .

Your PRO 16/8 RAID Digital Video Recorder has built-in software compression technology for streaming video. An Image Sensor camera can deliver clear, crisp images at 30 fps (NTSC--*National Television Standards Committee*--US Television Standard) (25fps for PAL--*Phase Alternating Line*--European Television Standard) — *real continuous motion requires 24 fps (frames per second)*. And at a resolution of 320x240 (for NTSC) and 720x568 (for PAL) in True Color allows for comfortable uncluttered viewing.

The most powerful advantage is its built-in RAID feature (RAID 0, 1, 5, 0+1) with redundant function to pretend data loss from HDD failure. In addition, PRO 16/8 RAID's amazing massive storage capacity with support 15 hot-swappable HDDs to offer more than 6 months of recording duration. The high-end redundant power supplies and fans protect the system from power failure and overheating. The hot-swappable HDD, power supplies, air blowers and fans keep the system clutter-free and allow administrators to install and remove the components quickly and easily. With the high-tech superior architectures, PRO 16/8 RAID not only lowers the total cost of the surveillance management, but also secure the data to get rid of the headache of data lost problem.

Unpacking the PRO 16/8 RAID DVR

The PRO 16/8 RAID DVR comes securely packaged in a sturdy cardboard shipping carton. Upon receiving your DVR, open the carton and carefully remove the contents. If anything is missing or damaged, please contact your dealer immediately. The shipping carton should contain the following it:

- The PRO 16/8 RAID Digital Video Recorder
- A Mouse
- A Keyboard
- A Power Cord x 1
- The User's Guide

Do not throw the packaging materials away. You may need them later to transport or ship the computer for repairs.

Opening the PRO 16/8 RAID DVR

At the front of the Digital Video Recorder, you will find the door covers the hard disk drive cage and connectors respectively.

Optional Devices

To further enhance the utility of your Digital Video Recorder, there are several optional products available:

- Removable HDD Tray
- An Alarm Module (only available from the Digital Video Recorder Manufacturer)
- Exchangeable IDE Hard Disk Drive

Identifying External Components

Please refer to the text and diagrams below to identify all external components and accessories of the PRO 16/8 RAID Digital Video Recorder.

Front View



Figure 1-1: Front View of the PRO 16/8 RAID DVR

1. Front Doors

The system is completely enclosed. Opening the doors, by unscrewing the thumb screws, will reveal 10 hard disk drive bays.

Front Inside View

Please refer to **Figure 1-2** and the descriptions that follow to identify the components on the front side of the digital video recorder.

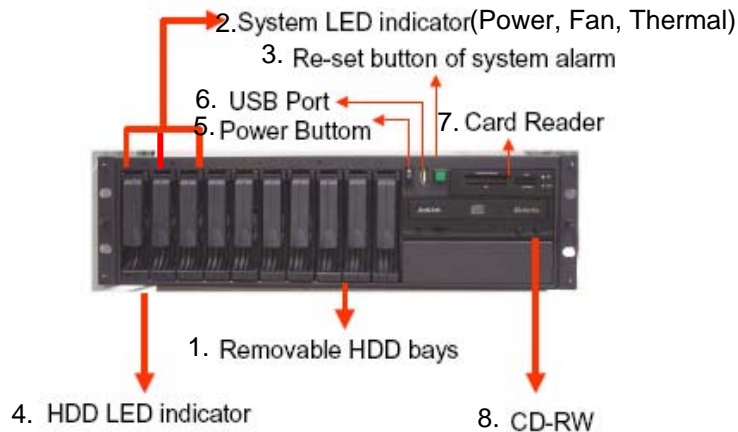


Figure 1-2: Front Inside View of the PRO 16/8 RAID DVR

1. Removable HDD Tray

The fifteen metal HDD trays enable a secure fit for the HDD and the air ventilation holes in front ensure that air flows to the HDD thereby cooling off the system.

2. System LED Indicators

-Power LED: The Green LED light indicates that system power on

-Fan and Thermal:

The Green LED light indicates that the system fan and thermal are in normal status.

The Red LED light indicates that the system fan and thermal are failed,

Note !

When the Red LED is keeping blinking, please call help from your distributor

3. Reset Button of system alarm

Once the system fan is failed and system temperature is over high, the system buzzer will be alarmed, Press this button to re-set the system alarm

4. HDD LED indicators

Left Green LED indicates HDD Power on

Right LED : The origin LED light indicates the HDD is being access

The red LED light indicates the HDD Fail

5. Power button

Press the button to turn on or off the Digital Video Recorder

6. USB port

This is used to connect USB storage devices for the use of data export

7. Card Reader

To connect the storage devices including Compact Flash, Smart Media, Memory Stick, Secure Digital, Multi Media, IBM Micro Drive and PCMCIA-ATA card for back-up purpose

8. CD-RW

For back-up purpose

Rear View

Please refer to **Figure 1-3** and the descriptions that follow to identify the components on the rear side of the Digital Video Recorder.

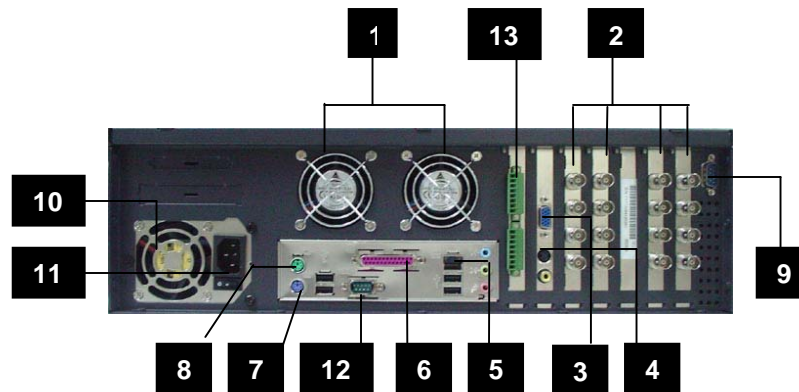


Figure 1-3: Rear View of Digital Video Recorder

1. **System Ventilation Fan**
This fan generates ventilation for the entire system
2. **BNC Camera Input**
Use these four BNC camera inputs cards to connect 16 NTSC or PAL compatible cameras.
3. **VGA Display Port**
This port is used to connect an external monitor (CRT) or TFT.
4. **S-Video Port**
This port is used to connect an external CCTV Monitor or TV
5. **Ethernet LAN Port**
Use an RJ-45 LAN cable to connect to a LAN or Internet.
6. **Printer Port**
This port is used to connect a printer to the DVR
7. **PS/2 Keyboard Port**
This port connects a PS/2 compatible keyboard.
8. **PS/2 Mouse Port**
This port connects a PS/2 compatible mouse.
9. **COM 1 Port**
This port used for modem or speed dome
10. **Power Supply and FAN**
Support auto Voltage Switch of 110/220V
11. **Power Cord Socket**
This socket is used to connect the power cord to the wall power outlet
12. **COM 2 Port**
This port used for modem or speed dome
13. **DI/DO**
4in, 4out relay for multiple Dry contact closure alarm input and multiple relay output for external device connections

Caution

The DVR ports should be only used to connect dealer specified cables. Never use non-dealer specified ports.

Preparing the Digital Video Recorder for Operation

To prepare your Digital Video Recorder for operation, you should first connect all peripheral devices. Make sure the digital video recorder is turned off before you do this.

Make sure the floppy drive does not contain a diskette; if it does, press the eject button to eject an inserted disk.

Chapter 2

GETTING STARTED

This chapter explains what you need to do after turning on your Digital Video Recorder. Experienced Digital Video Recorder users may skip this chapter if necessary while using the rest of the manual merely as a reference.

Powering Up the Digital Video Recorder for the First Time

To connect the Digital Video Recorder to the Power outlet, please refer to **Figure 2-1** and the following instructions:

1. Attach the cameras to the BNC outputs at the back of the DVR.
2. Connect a TFT LCD Monitor or CRT Monitor to the VGA Input
3. Connect a RJ-45 LAN cable to the Ethernet LAN Card
4. Connect a printer to the Printer Port
5. Connect a keyboard & Mouse to their respective PS/2 Ports
6. Power cords differ from region to region. Use the correct power cord based on your region.
7. Check the Voltage Switch so that it matches your region's requirements.
8. Connect one end of the power cord to the electrical outlet and the other to the Digital Video Recorder.

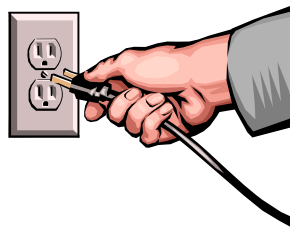


Figure 2-1: Connecting the Power Cord

9. Power up the DVR by pressing the Power switch at the rear of the DVR

Caution

The DVR takes 1 minute to boot up. During this process don't remove, shake or restart the DVR.

Note

The best kind of AC power source to connect your Digital Video Recorder to is a UPS (Uninterruptible Power Supply). If a UPS is not available, use a power strip with a built-in surge protector. Do not use inferior extension cords as this may result in damage to your Digital Video Recorder.

Once the boot process is complete, the Digital Video Recorder will display the cameras attached (See Figure 2-3). You will automatically be able to see all cameras connected. If a "No Signal" screen is displayed this means that the respective camera is not operating correctly, please check all connections, power supplies and the camera for the Video output fault.

CAUTION

Never turn off or reset your Digital Video Recorder while the hard disk or floppy disk is in use and the FDD "or" HDD status icon is lit; doing so can result in loss or destruction of your data. Always wait at least 5 seconds after turning off your Digital Video Recorder before turning it back on; turning the power on and off in rapid succession can damage the Digital Video Recorder's electrical circuitry.

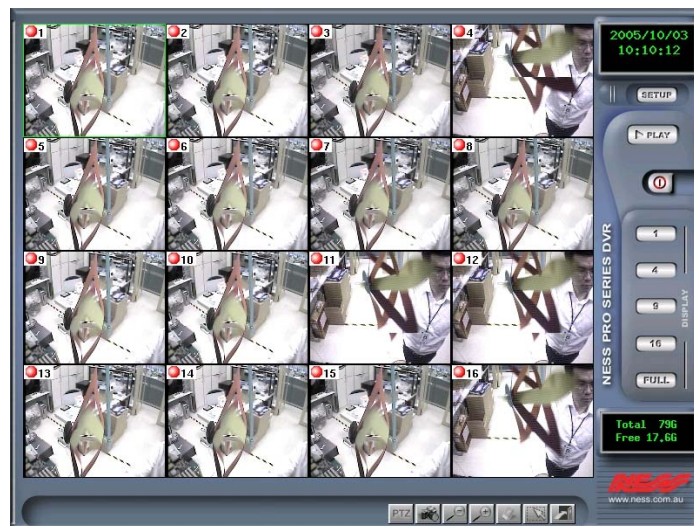


Figure 2-2: The first viewable screen (Main Screen)

The first viewable screen shows the cameras connected and also gives users' a first glance at the GUI (Graphical User Interface). The viewable screen takes up 75% of the screen while the controls are to the right of the viewable cameras.

Understanding the PRO 16/8 RAID DVR Main Screen

When starting the Digital Video Recorder for the first time, please ensure that you understand all of the DVR's icons before moving on. Here is an explanation of all of the icons on the main screen.

Right Hand Toolbar

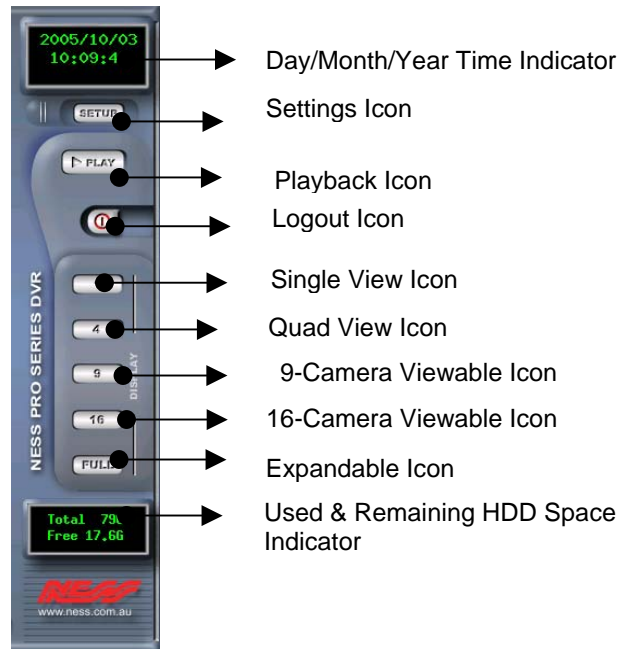


Figure 2-3: Right-side Toolbar

- 1. Day/Month/Year Time Indicator**
This displays the date/Month/Year and Time in digital format.
- 2. Settings Icon**
Clicking this icon will place users in the Settings Menu.
- 3. Playback Icon**
Clicking this icon will place you in the Playback Menu.
- 4. Log-on Icon**
Clicking this icon will display a Log-on screen.
- 5. Single View Icon**
Clicking this icon will place you in Single view mode.
- 6. Quad View Icon**
Clicking this icon will display four camera images.
- 7. 9 – Camera Viewable Icon**
Clicking this icon will display nine camera images.
- 8. 16 – Camera Viewable Icon**
Clicking this icon will display sixteen camera images.
- 9. Expandable Icon**
Clicking this icon will expand the viewable camera image.
- 10. Used & Remaining HDD Space Indicator**
This displays how much HDD space has been utilized and how much space is remaining on the available HDD.

Bottom Toolbar

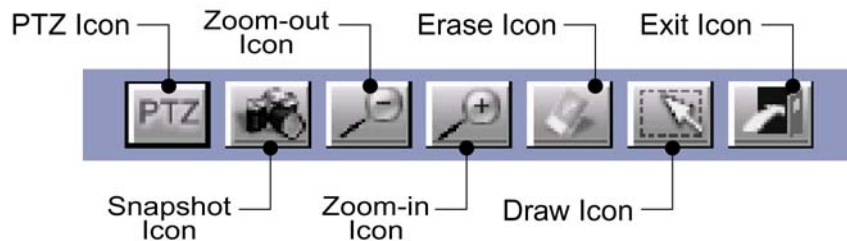


Figure 2-4: Bottom Toolbar

1. **Exit Icon**
Clicking this icon exits to the Main Screen (without camera view).
2. **Drawing Icon**
Clicking this icon will allow users to draw a specified motion detection frame in the viewing camera area.
3. **Erase Icon**
Clicking this icon will remove the specified motion detection frame.
4. **Zoom-in Icon**
Clicking this icon will zoom-in on the selected camera.
5. **Zoom-out Icon**
Clicking this icon will zoom-out on the selected camera
6. **Snapshot Icon**
Clicking this icon will take a single picture of the camera and save it into the database for printing.
7. **PTZ Icon**
Clicking this icon will allow users to view more icons that will help in controlling the PTZ camera more effectively.

Logging on to and shutting down the PRO 16/8 RAID DVR

When starting the Digital Video Recorder for the first time, the system will have “Admin” rights. Administration rights are available to the “Supervisor”. At this stage the “accounts” database is empty so users will have to enter the Logon using administrative rights. Creating users to access the DVR will be explained later under “Creating Users”. However, in order to enter the configuration panel and all other configuration settings you must perform the following:

Logging On


1. **Step 1:** Click the Logon Icon. ----- 
2. **Step 2:** Under Username type in or select “admin” (default), under Password type in “admin” (default).



Figure 2-5: Entering the default Username & Password (admin/admin)

3. **Step 3:** Click “Login”.



Figure2-6: Logging into the system

Once administration users logon they will see the screen below

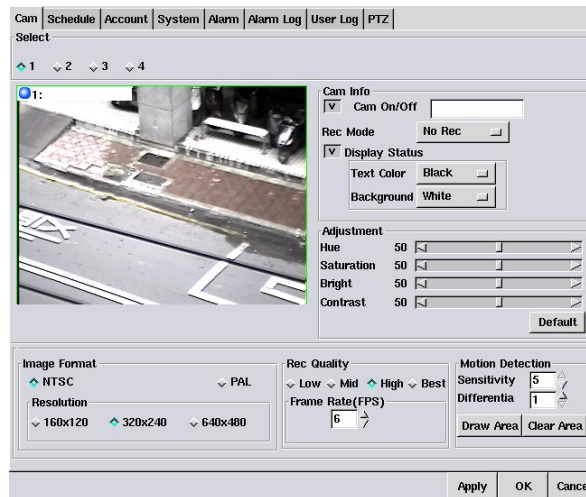


Figure 2-7: The Main Settings and Programming screen

Shutting down the system

The PRO SERIES DVR is quite a versatile and easy to use Digital Recorder. It is easy to Logon, Logoff and Shutdown. In order to shutdown the DVR follow these few steps:

1. **Step 1:** Click the Logon Icon. -----
2. **Step 2:** Click the "Shutdown" icon



Figure 2-8: Shutting down the system

After shutting down the system, the product version number of the system will be shown on the top of right of the screen, for example, v3.1.2

Chapter 3

QUICK GUIDE TO ICONS ON THE MAIN SCREEN

This chapter explains the quick access icons on the main screen. Some of these icon functions will be explained in depth later on in the manual. The Main Screen is the central hub of your PRO 16/8 RAID Digital Video Recorder. If you point your mouse over any of the icons a sub note will appear explaining what that icon does. Once you have started the Digital Video Recorder icons to the right of the main viewable area will give you access to different parts of the digital video recorder. The following brief description explains how to enter those different screens.

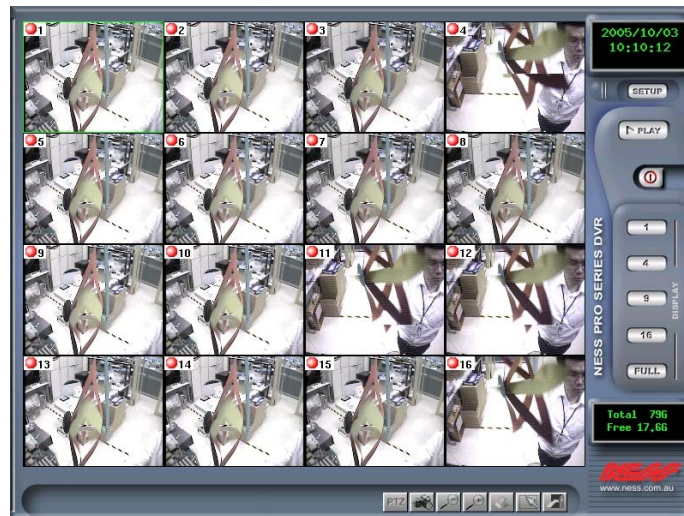


Figure 3-1: The Main GUI Screen

Settings Panel

1. **Step 1:** Click the settings icon on the right-side toolbar.....
2. **Step 2:** View all configuration windows [*Cams, Schedule, Account, System, Alarm, Alarm Log, User Log, DIO, PTZ*].



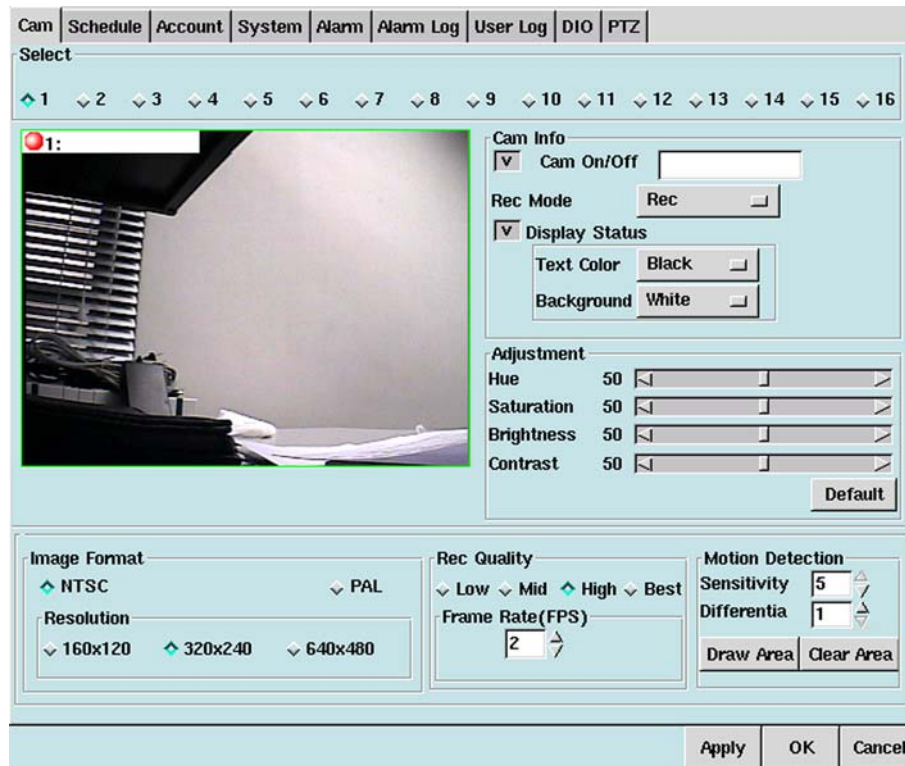



Figure 3-2: The Settings Main Screen “ example shown “

Clicking on separate “**windows**” will display different settings for the PRO 16/8 RAID DVR. The first window is the Camera screen (as shown above). See the chapter on “**Configuring your** ” much later in this manual.

Playback Panel

1. **Step 1:** Click the playback icon on the right-side toolbar..... 
2. **Step 2:** View the database of videos under the Playback Screen. Click on a selected file and play the recorded data. (The red circle indicates the playback window & video images).

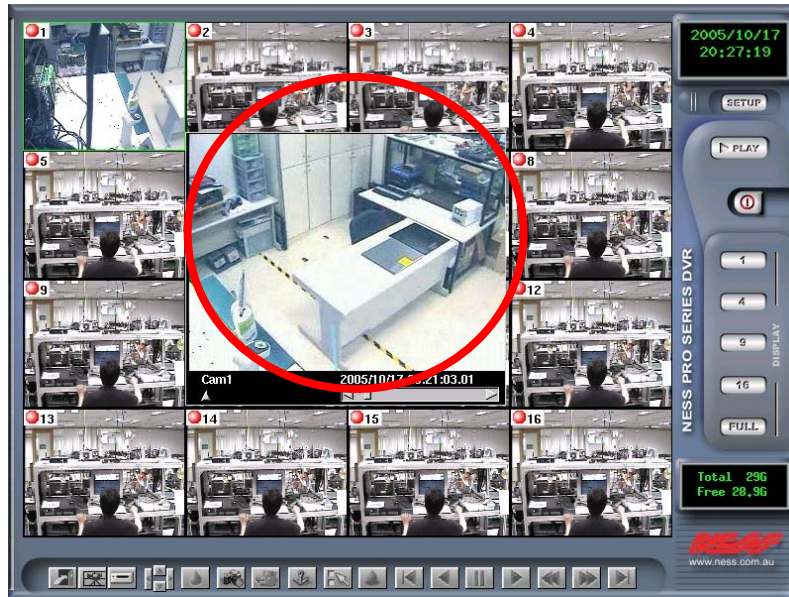


Figure 3-3: The Playback Screen

Clicking on separate “*files*” within the playback folder will display prerecorded data from its hard drive. The first window is the database log. See the chapter on “*Viewing Playback images on your PRO 16/8 RAID DVR*” much later in this manual.

Single View Camera Screen

1. **Step 1:** Click the single view camera icon on the right-side toolbar...
2. **Step 2:** Select a camera from the main screen and click the Single View Camera mode. The image will expand to single view mode (As shown below)

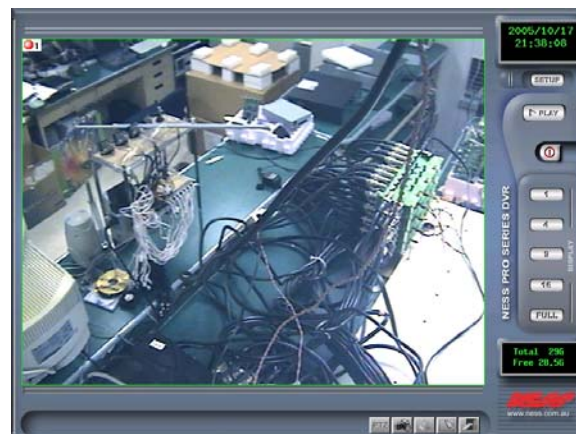


Figure 3-4: The Single Camera View Screen

Another way to view Single-mode Camera view is by clicking on a single camera within the Main Screen. Double-clicking that image several times will expand it to Single-mode camera view.

Quad Camera View Screen

1. **Step 1:** Click the quad view camera icon on the right-side toolbar...
2. **Step 2:** The screen will display four cameras in one screen. If the system has 16 cameras, this view can be configured to display four camera viewpoints at 6-second intervals.



Figure 3-5: The Quad Camera View Screen

Depending how your system is configured, the DVR can be configured to display four separate cameras at 6-second intervals. This can be configured in the main Settings Panel. This will be covered later in this manual.

9 – Camera View Screen

1. **Step 1:** Click the 9 - Camera view icon on the right-side toolbar.....
2. **Step 2:** The screen will display nine cameras in one screen. If the system has 16 cameras, this view can be configured to display nine different camera viewpoints at 6-second intervals.

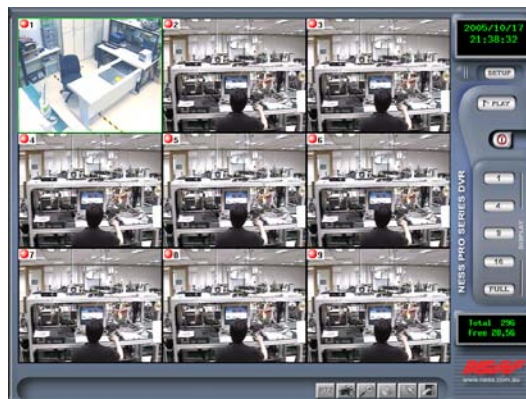


Figure 3-6: The Nine-Camera View Screen

Depending how your system is configured, the DVR can be configured to display nine separate cameras at 6-second intervals. This can be configured in the main Settings Panel. This will be covered later in this manual.

16 – Camera View Screen (only for PRO 16/2 DVR + CD-RW(4U))

1. **Step 1:** Click the 16 - Camera view icon on the right-side toolbar.....
2. **Step 2:** The screen will display sixteen cameras in one screen.

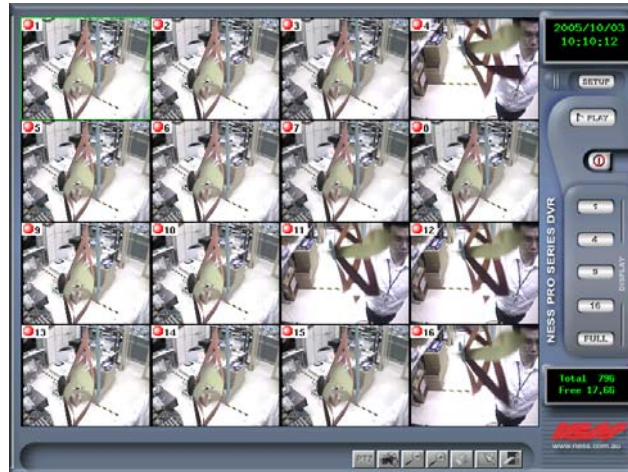
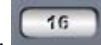



Figure 3-7: The Sixteen-Camera View Screen

Full Screen Mode

3. **Step 1:** Click the Full Screen view icon on the right-side toolbar.... 
4. **Step 2:** The screen will display all or the selected cameras connected to the DVR in Full Screen Mode. If the system has 16 cameras, sixteen cameras will occupy the entire screen.

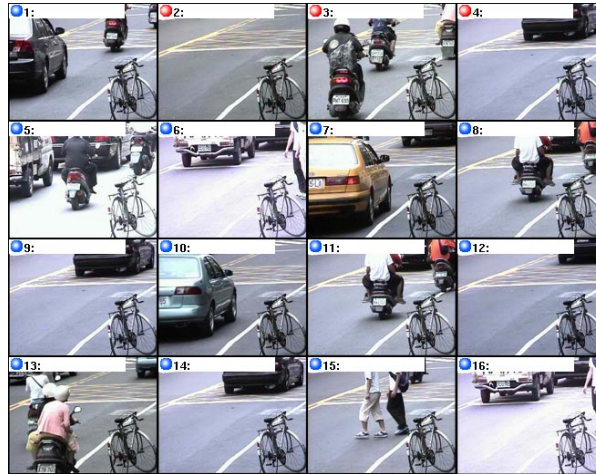


Figure 3-8: The Full-Screen Camera View Screen

Depending how your system is configured, the PRO 16/8 RAID DVR can be configured to display one to sixteen cameras in Full Screen Mode. This can be configured in the main Settings Panel. This will be covered later in this manual.

Chapter 4

CONFIGURING THE CAMERAS

This chapter explains how to setup and configure the cameras connected to your PRO 16/8 RAID digital video recorder. Once you have connected all the cameras to your DVR, you need to enter "Setup" to configure each individual camera. Here users can set the camera information shown on-screen, set the background colours, adjust the lighting of each camera, set the image format and resolution, change the image quality, frame rate, and adjust the motion detection zones.

Camera Settings

To change each camera settings for the DVR follow these instructions:



1. Click the "Setup" icon on the Main Screen.....
2. Click the "diamond" icon for the camera you want to configure.....
3. The small window under the camera selection will then display the selected camera in Real-Time mode.



Figure 4-1: Main Camera Settings Window

Naming Cameras

- Under “**Cam Info**” click into the camera-naming field, type in name. Tick Cam On/Off to display or disable the characters. (Max 8 characters)

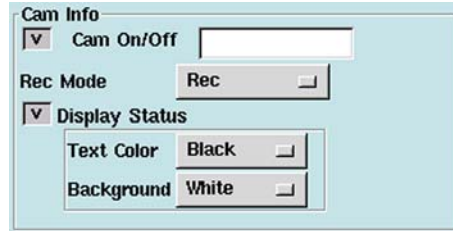


Figure 4-2: Camera Naming Field

Setting Recording Mode

- Under “**REC Mode**” select one of three options:
 - No Recording** (Motion Detection Recording Only)
 - Recording** (Continuous Fulltime Recording)
 - Scheduled** (Time/Date Scheduled Recording Only)

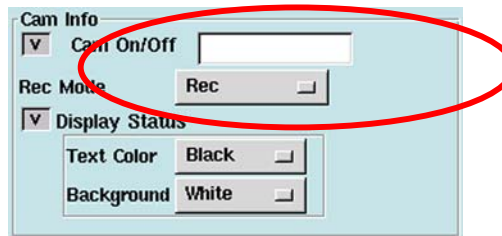


Figure 4-3: Recording Selection Field

Adding Colour for Text & Text Background

4. Tick the “**Display Status**” checkbox to change the Text Colour and Background Colour.
 - For Text Colour users can choose to have text in **Black**, **Red**, **Green**, **Blue**, **White**
 - For Background Colour users can choose to have **Black**, **Red**, **Green**, **Blue**, **White**

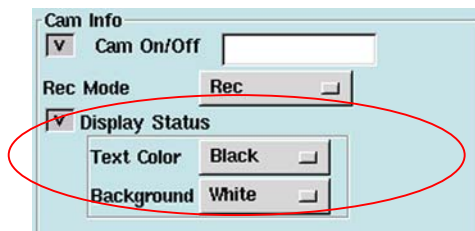


Figure 4-4: Camera Text & Background Colour Icons

Adjusting Picture Quality

- Under “**Adjustment**” users can use the slide bar to set various settings for
 - i. “**Hue**” - Is the attribute of colours that permits them to be classed as red, yellow, green, blue.
 - ii. “**Saturation**” – Is the degree of difference from the achromatic light-source of colour intensity.
 - iii. “**Brightness**” – Is the attribute of light-source by which emitted light is ordered continuously from light to dark.
 - iv. “**Contrast**” – Is to compare or appraise in respect to differences

While changes are made the camera image is automatically updated. To return to previous settings click on “**Default**”

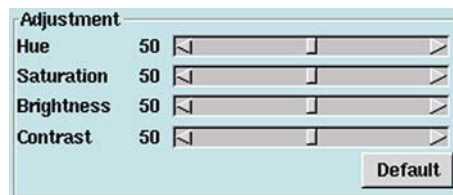


Figure 4-5: Camera Colour Contrasting

Setting Image Format

- Under “**Image Format**” selections:
 - i. “**NTSC**”: Three settings - (**160x120**, **320x240**, or **640x480**).
 - ii. “**PAL**”: Three Settings - (**176x144**, **352x288**, or **704x576**)



Figure 4-6: Image Format Selection Field

Setting Recording Quality

Under “Recording Quality”, there are four choices: **Low**, **Medium**, **High** and **Best**. **Low produces highly compressed low image quality and Best offers high image quality.**

Here you can select the quality and frame rate of each camera.



Figure 4-7: Recording Quality and Frame Rate (FPS) Frame Per Second.

Setting Motion Detection

- Under “**Motion Detection**” users can select:
 - i. **Sensitivity** – To set the sensitivity relative to the motion detection zone (from 1 to 5). The higher the value, the more sensitive the detection will be.
 - ii. **Differentia** - A **Pulse Count** factor that distinguishes differences among images within a given time.

Up to six different Motion Detection Zones can be created in one camera view.

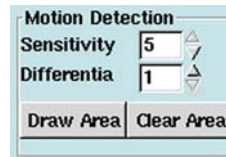








Figure 4-8: Motion Detection Area (Zone)

- Click on “**Draw Area**”,  to draw a motion detection frame in the camera scene, just click-hold and draw a frame-sized window over the desired area for motion detection. Repeat this and draw up to six individual zones into the camera scene to create effective detection zones. Avoid nuisance false alarm objects such as, busy roadways, flickering TV, VGA monitors, shrubs, trees, and any object that is movable by drafts and wind or mechanical movement.
- Click on “**Stop**” . After you have finished drawing to hide all zones. To show all zones click on “**Draw Area**” .
- To cancel current motion detection settings click “**Clear Area**”  to erase all the frames one by one.
- When all settings are complete click on “**Apply**”  and then “**OK**”  to save all settings. (The screen will return to main screen)

Note

Clicking the "Apply" button may make sure all the settings and the modifications; Clicking the "OK" button may complete all the settings and modifications, and then return to the main system screen.

Chapter 5

SCHEDULE RECORDING

This chapter explains how to set schedule recording times for each camera connected to your PRO 16/8 RAID digital video recorder. Each camera can be configured to record at different times. There are four choices: Once, Daily, Weekly, and Monthly. Recording under different modes will affect the overall capacity of your Digital Video Recorder. Schedule your recordings according to your requirements.

Schedule Settings

Once the PRO 16/8 RAID DVR is in record mode, various scheduling times must be set for each camera according to the option chosen. Follow these instructions to configure scheduling:

1. Click on the “**Setup**” icon on the Main Screen.....



2. Click on the “**Schedule**” Tab

Figure 5-1: Schedule Tab Window

3. Under REC Mode (Recording Mode), there are four choices:

- i. **Once** – Provides a recording option for a period of time (Month/Day/Year, Hr./Min)

Cam Schedule Account System Alarm Alarm Log User Log DIO PTZ

Rec Mode: Once

Rec Option:

month / day / year hr. : min.

From: 12 / 19 / 2002 -- 14 : 47

To: 12 / 19 / 2002 -- 14 : 59

Rec List:

Cam	Rec Mode	From	To
Cam 1	Once	12/19/2002 14:47	12/19/2002 14:59
Cam 6	Once	12/19/2002 14:47	12/19/2002 14:59
Cam 11	Once	12/19/2002 14:47	12/19/2002 14:59
Cam 12	Once	12/19/2002 14:47	12/19/2002 14:59

Action: Add, Del, Modify, Del All

Apply OK Cancel

Figure 5-2: Record Mode Selection Bar (Once)

- ii. **Daily** – Provides a recording option for Hours and Minutes.

Cam Schedule Account System Alarm Alarm Log User Log DIO PTZ

Rec Mode: Daily

Rec Option:

month / day / year hr. : min.

From: 12 / 19 / 2002 -- 14 : 48

To: 12 / 19 / 2002 -- 14 : 59

Rec List:

Cam	Rec Mode	From	To
Cam 1	Once	12/19/2002 14:47	12/19/2002 14:59
Cam 6	Once	12/19/2002 14:47	12/19/2002 14:59
Cam 12	Daily	14:48	14:59

Action: Add, Del, Modify, Del All

Apply OK Cancel

Figure 5-3: Record Mode Selection Bar (Daily)

- iii. **Weekly** – Provides a recording option set date (Sun. through Sat.) and time for recording every week.







Cam	Schedule	Account	System	Alarm	Alarm Log	User Log	DIO	PTZ																				
<div> <div> Rec Mode Weekly </div> <div> Rec Option <div> Sun Mon Tue Wed Thr Fri Sat </div> <div> month / day / year hr. : min. From 12 / 23 / 2002 -- 14 : 49 To 12 / 23 / 2002 -- 23 : 59 </div> </div> </div>																												
<div> <div> Rec List <table border="1"> <thead> <tr> <th>Cam</th> <th>Rec Mode</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>Cam 1</td> <td>Once</td> <td>12/19/2002 14:47</td> <td>12/19/2002 14:59</td> </tr> <tr> <td>Cam 6</td> <td>Once</td> <td>12/19/2002 14:47</td> <td>12/19/2002 14:59</td> </tr> <tr> <td>Cam 12</td> <td>Daily</td> <td>14:48</td> <td>14:59</td> </tr> <tr> <td>Cam 16</td> <td>Weekly</td> <td>Monday 14:49</td> <td>Monday 23:59</td> </tr> </tbody> </table> </div> <div> Action Add Del Modify Del All </div> </div>									Cam	Rec Mode	From	To	Cam 1	Once	12/19/2002 14:47	12/19/2002 14:59	Cam 6	Once	12/19/2002 14:47	12/19/2002 14:59	Cam 12	Daily	14:48	14:59	Cam 16	Weekly	Monday 14:49	Monday 23:59
Cam	Rec Mode	From	To																									
Cam 1	Once	12/19/2002 14:47	12/19/2002 14:59																									
Cam 6	Once	12/19/2002 14:47	12/19/2002 14:59																									
Cam 12	Daily	14:48	14:59																									
Cam 16	Weekly	Monday 14:49	Monday 23:59																									
<div> Apply OK Cancel </div>																												

Figure 5-4: Weekly Schedule Settings

- iv. **Monthly** – Provides a recording option that allows users to set date and time for recording every month

Cam	Schedule	Account	System	Alarm	Alarm Log	User Log	DIO	PTZ																								
<div> <div> Rec Mode Monthly </div> <div> Rec Option <div> Select the day 26 of the month </div> <div> month / day / year hr. : min. From 12 / 26 / 2002 -- 14 : 49 To 12 / 26 / 2002 -- 16 : 49 </div> </div> </div>																																
<div> <div> Rec List <table border="1"> <thead> <tr> <th>Cam</th> <th>Rec Mode</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>Cam 1</td> <td>Once</td> <td>12/19/2002 14:47</td> <td>12/19/2002 14:59</td> </tr> <tr> <td>Cam 6</td> <td>Once</td> <td>12/19/2002 14:47</td> <td>12/19/2002 14:59</td> </tr> <tr> <td>Cam 12</td> <td>Daily</td> <td>14:48</td> <td>14:59</td> </tr> <tr> <td>Cam 16</td> <td>Weekly</td> <td>Monday 14:49</td> <td>Monday 23:59</td> </tr> <tr> <td>Cam 10</td> <td>Monthly</td> <td>26 14:49</td> <td>26 16:49</td> </tr> </tbody> </table> </div> <div> Action Add Del Modify Del All </div> </div>									Cam	Rec Mode	From	To	Cam 1	Once	12/19/2002 14:47	12/19/2002 14:59	Cam 6	Once	12/19/2002 14:47	12/19/2002 14:59	Cam 12	Daily	14:48	14:59	Cam 16	Weekly	Monday 14:49	Monday 23:59	Cam 10	Monthly	26 14:49	26 16:49
Cam	Rec Mode	From	To																													
Cam 1	Once	12/19/2002 14:47	12/19/2002 14:59																													
Cam 6	Once	12/19/2002 14:47	12/19/2002 14:59																													
Cam 12	Daily	14:48	14:59																													
Cam 16	Weekly	Monday 14:49	Monday 23:59																													
Cam 10	Monthly	26 14:49	26 16:49																													
<div> Apply OK Cancel </div>																																

Figure 5-5: Monthly Schedule Settings

4. After you have selected the record mode and option, choose the camera to be assigned in any combination.
5. Click on the “**Add**”  button. The relative information will be shown in the schedule recording list
6. If you wish to delete a particular entry. Select the entry and the **Delete** button. 
7. If you wish to modify a particular entry. Select the entry and the **Modify** button. 
8. If you wish to delete all entries, click the “**Del All**” button. 
9. Click “**Apply**” , and “**OK**”  to confirm your changes. The screen will return to viewer mode.

“Once” Only Scheduling

Scheduling the Digital Video Recorder to record using the “Once” option gives users the choice to set the Day, Month, and Year, and then select a particular time for that date. The benefit is to create individual times for different cameras giving users the freedom to choose activate cameras at different times. This can be for PTZ, Dome cameras, and normal cameras.

1. Select the “**Once**” option

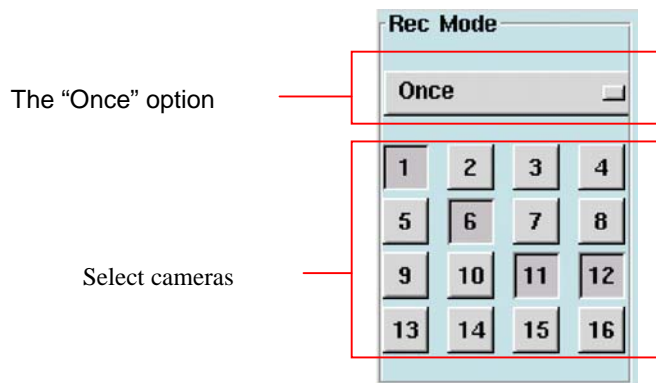


Figure 5-6: Selecting Record Mode

2. Select the number of the camera you wish to configure.
3. Select the recording duration.

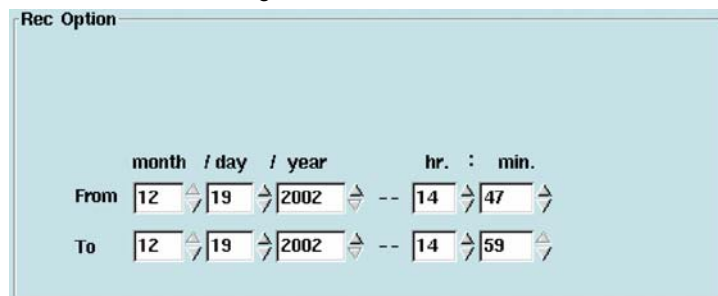


Figure 5-7: Duration Selection

4. Click “Add” 

Daily Scheduling

Choosing the “Daily” scheduling mode to set a particular period for recording each day.

1. Select the “Daily” option

The “Daily” option

Select cameras

The 'Rec Mode' window has a title bar 'Rec Mode'. Below it is a button labeled 'Daily' with a small square icon to its right. Below the button is a 4x4 grid of buttons numbered 1 through 16. The 'Daily' button and the entire grid are enclosed in a red rectangular box.

Figure 5-8: Selecting Record Mode

2. Select the camera you wish to configure.
3. Select the recording duration

Note

If the Month, Day, and Year options are grayed out, only Hour and Minute can be selected from the options for "Daily" Recording.

The 'Rec Option' window has a title bar 'Rec Option'. It contains two rows of date and time selection controls. The first row is labeled 'From' and the second row is labeled 'To'. Each row has four date selection controls (month, day, year) and two time selection controls (hr., min.). The date controls are labeled 'month / day / year' and the time controls are labeled 'hr. : min.'. The 'From' row shows '12 / 19 / 2002' and '14 : 48'. The 'To' row shows '12 / 19 / 2002' and '14 : 59'. The date controls are grayed out.

Figure 5-9: Duration Selection

4. Click “Add”

Weekly Scheduling

Choosing the **“Weekly”** scheduling mode, the user can set the desired day for recording every week, and then select a particular time for that date.

1. Select the **“Weekly”** option

The “Weekly” option

Select
cameras

Rec Mode

Weekly

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Figure 5-10: Selecting Record Mode

2. Select the camera you wish to configure.
3. Select the day of the week for recording
4. Select the recording duration.

Rec Option

Sun Mon Tue Wed Thr Fri Sat

month / day / year hr. : min.

From 12 / 23 / 2002 -- 14 : 49

To 12 / 23 / 2002 -- 23 : 59

Figure 5-11: Duration Selection

5. Click **“Add”** 

Monthly Scheduling

Choosing the “Monthly” scheduling mode, the user can set the desired date for recording every month, and then select a particular time for that date.

1. Select the “Monthly” option

The “Monthly” option

Select cameras

Rec Mode

Monthly

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Figure 5-12: Selecting Record Mode

2. Select the camera you wish to configure.
3. Select the recording duration.

Rec Option

Select the day 26 of the month

month / day / year hr. : min.

From 12 / 26 / 2002 -- 14 : 49

To 12 / 26 / 2002 -- 16 : 49

Figure 5-13: Duration Selection

4. Click “Add”

Modifying Scheduled times

To modify the schedule, you should click on the selected item from the Rec lists to change the record mode and record option, then click on the “Modify” button.

.

Deleting Schedule Settings

Deleting recorded data will permanently delete information from the hard disk drive thus to free-up disk space.

1. Select the recorded scheduled period with care.

Rec List			
Cam	Rec Mode	From	To
Cam 1	Once	12/19/2002 14:47	12/19/2002 14:59
Cam 6	Once	12/19/2002 14:47	12/19/2002 14:59
Cam 12	Daily	14:48	14:59
Cam 16	Weekly	Monday 14:49	Monday 23:59
Cam 10	Monthly	26 14:49	26 16:49

Figure 5-14: Delete Schedule Settings

2. Click the **delete** button .

To Delete All

3. Click the “**Del all**” icon .

Chapter 6

ACCOUNT SETTINGS

The Account Settings area allows the administrator of the PRO 16/8 RAID DVR to add users to the system. There are two types of users, one with Supervisory (or Administrative) powers, and the other is Normal. A Normal user does not have supervisory powers and is limited to certain user ability of the PRO 16/8 RAID DVR system. The administrator of the PRO 16/8 RAID DVR system can give users local & remote access and can allow users only to access certain cameras. Follow these few steps to create and configure user access to the PRO 16/8 RAID DVR system.

1. Click on the “Setup” icon on the Main Screen.....

SETUP

2. Click on the “Account” Tab

Account

☒ Enable

Name Password ReType

Authority

Supervisor

Normal

Access

☒ Local

☐ Remote Password can be set from remote ☐ Allow config from remote

☐ Allow Playback ☐ Allow Control PTZ

Accessible Cams

Name	Type	Enable	Accessible Cams
admin	Supervisor	Enable	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
opall	Normal	Enable	1, 2, 6, 7, 10, 11, 12

Del

Apply OK Cancel

Figure 6-1: Account Tab Window

3. Enter the name of the user followed by a specified password.
4. Enter the password once again in the "ReType" field to reconfirm.

Enter the name of the user followed by a
Specified password

Click

Account

Name Password ReType

☒ Enable

Authority

Supervisor

Normal

Access

☒ Local ☒ Remote ☒ Password can be set from remote ☒ Allow config from remot

☒ Allow Playback ☒ Allow Control PTZ

Accessible Cams

☒ 1 ☒ 2 ☐ 3 ☐ 4 ☐ 5 ☒ 6 ☒ 7 ☐ 8

☐ 9 ☒ 10 ☒ 11 ☒ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16

Name	Type	Enable	Accessible Cams
admin	Supervisor	Enable	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
opall	Normal	Enable	1, 2, 6, 7, 10, 11, 12

Del

Apply OK Cancel

Figure 6-2: Name, Password & Confirmation Field

5. Click the checkbox next to "Enable" to select the user's type and authority.
6. Select "Supervisor" to give a user total control over the DVR or "Normal" to limit the user's access.

Authority

- Supervisor
 - Normal
 - Access
 - ☒ Local
 - ☒ Remote ☐ Password can be set from remote ☐ Allow config from remote
 - ☒ Allow Playback ☒ Allow Control PTZ
 - Accessible Cams

<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input checked="" type="checkbox"/> 6	<input checked="" type="checkbox"/> 7	<input type="checkbox"/> 8
<input type="checkbox"/> 9	<input checked="" type="checkbox"/> 10	<input checked="" type="checkbox"/> 11	<input checked="" type="checkbox"/> 12	<input type="checkbox"/> 13	<input type="checkbox"/> 14	<input type="checkbox"/> 15	<input type="checkbox"/> 16

Figure 6-3: Authority Selection Field

- The "Access Permissions" must be selected following the creation of each "Normal" user.
- Click the checkbox next to "Local" to give the user local access to the DVR host. (Local access means users are able to access the DVR directly.)
- Click the checkbox next to "Remote" to give the user remote access. (Remote access means users are able to access the DVR over the local LAN or Internet.) Select which cameras you would like the user to access by clicking the checkbox next to the camera number.
- Select "Password can be set from remote" to enable users to change their username and password through a browser over the LAN or Internet.
- Select "Allow config from remote" to enable users to change their system configuration through a browser over the LAN or Internet.
- Click "Allow Playback" to enable users to playback the recording files.
- Click "Allow Control PTZ" to enable users to control PTZ cameras.
- Select a checkbox to mark a given camera as available to the user being created or modified. This function is primarily utilized to restrict a given user's ability to monitor specific areas.
- Then click the "Add" button. The DVR will add the user to the list with the selected authority.

Access

- ☒ Local
- ☒ Remote ☐ Password can be set from remote ☐ Allow config from remote
- ☒ Allow Playback ☒ Allow Control PTZ

Accessible Cams

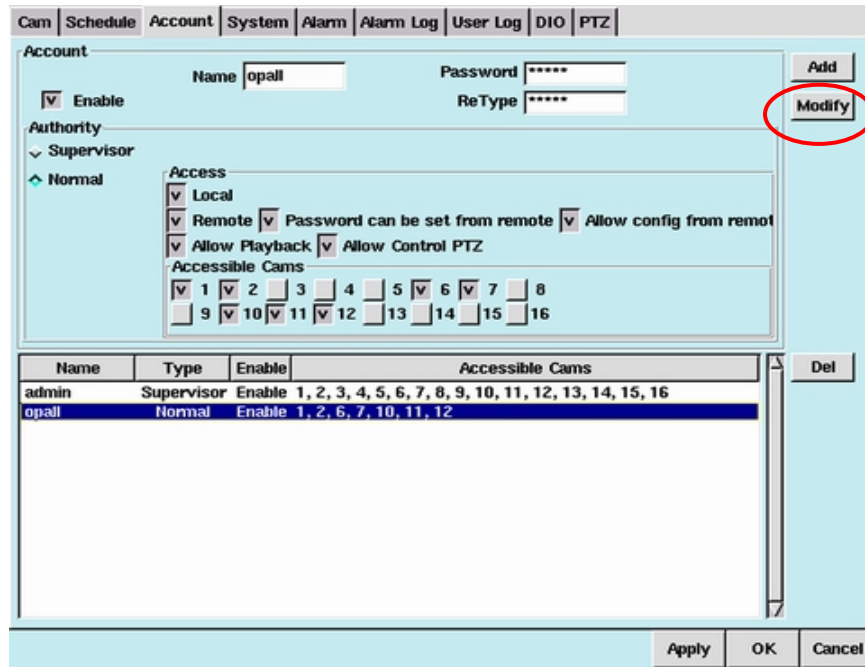
<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input checked="" type="checkbox"/> 6	<input checked="" type="checkbox"/> 7	<input type="checkbox"/> 8
<input type="checkbox"/> 9	<input checked="" type="checkbox"/> 10	<input checked="" type="checkbox"/> 11	<input checked="" type="checkbox"/> 12	<input type="checkbox"/> 13	<input type="checkbox"/> 14	<input type="checkbox"/> 15	<input type="checkbox"/> 16

Figure 6-4 Local, Remote and Accessible camera Selection

To Modify User Settings

- Select the user.
- Make the changes in the Main Account Panel




3. Click "**Modify**" button
4. Click "**Apply**" , then "**OK**"  to confirm changes



Name	Type	Enable	Accessible Cams
admin	Supervisor	Enable	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
opall	Normal	Enable	1, 2, 6, 7, 10, 11, 12

Figure 6-5: Modifying User Settings

To Delete Users

1. Select the user
2. Click "**delete**" 
3. Click "**Apply**" , then "**OK**"  to confirm the changes

Chapter 7

SYSTEM SETTINGS

The System Settings Panel is for naming and setting basic configurations for the DVR. These very important settings will ensure that the DVR system may be correctly viewed both locally and remotely. Incorrect system configuration may result in abnormal operation and could make tech support more complex and time consuming. Follow these steps to set up your DVR.

1. Click the “**Setup**” icon on the Main Screen.....
2. Click the “**System**” Tab



Cam | Schedule | Account | **System** | Alarm | Alarm Log | User Log | DIO | PTZ

Host & Lan

Host Name: DVR IP: 192.168.3.164

TEL No.: Net Mask: 255.255.255.0

System Clock: 1 6 2004 16 35 41

Printer Setup | Backup Config | Restore Config

Internet

LAN: Default Router: TEL No.: Account: Dial

DNS Server: Password: disconnect

Others

☒ Recycle Rec ☒ Auto Login admin ☐ Cam Auto Switch

☐ Minimize Video Size number P frames after I frame 29

☒ Enable telnetd 64 Kbit(Limit out bandwidth) NewHD format ext3

For Virtual Server, port 80,9090,9192 must be opened and may need be remapped.

port80 80 port9090 9090 port9192 9192

Apply OK Cancel

Figure: 7-1: System Menu

3. Type in a name for the DVR host (up to 32 letters) for the purpose of machine identification when sending an email alarm.
4. Enter an **IP address**, **Subnet Mask**, and depress the LAN “diamond” to activate the “**Default Router**”. Type in the **Default Router** (Gateway) that your Administrator assigned you.

Note

When the system is run in a local LAN, ask your Administrator for an IP address, Subnet Mask and preset Gateway address. The DVR does not support DHCP so you must have a fixed IP address.

5. Click “**Apply**” , and “**OK**” .

Modem Dialup

DVR users can choose modem dial-up for connecting to a telephone line. Windows users can also dialup (using PPP) to DVR for remote monitoring.

To set up modem dial-up:

1. Check the "Dialup" in the Internet field and enter the "TEL No." (The phone no. of ISP), "Account" and Password" (your account and password from ISP).
2. Click the "Dial" button to test the dial-up procedure. If it is successful, the "Disconnect" field will revert to the IP assigned by ISP. This will be finished when the connection is idle for 30 seconds, the connection will then be disconnected by the system automatically and the "IP" field will revert to "Disconnect".
3. If the DVR will use a dialup modem for e-mail delivery, the Network connection would disconnected by the system automatically (idle for 30 seconds) when sending out the alert e-mail.

The screenshot shows the 'System' configuration tab of a DVR interface. The 'Host & Lan' section includes fields for Host Name (DVR), IP (192.168.3.164), TEL No., and Net Mask (255.255.255.0). Below this are buttons for Printer Setup, Backup Config, and Restore Config. The 'Internet' section is highlighted with a red box and contains options for LAN and Dialup. The Dialup option is selected, showing fields for TEL No., Account, Password, and buttons for Dial and disconnect. The 'Others' section includes checkboxes for Recycle Rec, Auto Login (admin), and Cam Auto Switch, along with video settings like Minimize Video Size and Enable telnetd. At the bottom are buttons for Apply, OK, and Cancel.

Figure 7-2: Modem Dial-up settings

Printer Setup

Please refer to Chapter 14

Backup Config.

In this section: you are able to perform a back up copy of the system configuration files, this greatly aids in the reprogramming of the DVR in the event of failure occurring or if the system requires to be set back to Factory Default due to unknown Admin password entry. The configuration files may also be recopied to allow quick setup of multi-DVR systems and supports a variety of user-selectable back-up devices, CD-RW or Memory Card.

1. Click on “Backup Config”... **Backup Config**
2. The list of back-up device selection to Export will be displayed.



Figure 7-3: Back up devices selection

3. Select the desired back-up device
4. Click “OK” **OK**

Restoring settings from the Back-up device

The DVR system can restore the system configuration settings from the back-up device. The system supports different (user-selectable) back-up devices.

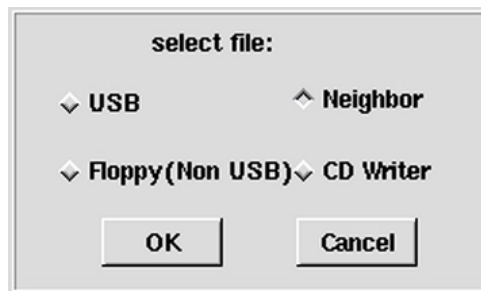


Figure 7-4: Restore devices selection

1. Click on “Restore Config”. **Restore Config**
2. The list of back-up device selection to Export will be displayed.
3. Select the device required.

4. then click “OK” 

Setting the System Clock

The **System Clock** is automatically adjusted according to the system BIOS. If the system crashes or becomes faulty then it would be necessary to change the system clock. After the changes are made click “**Apply**”, then “**OK**”



Figure 7-5: System Clock Settings

Other Settings

Recycle Recording

This field gives users three options. The first one “**Recycle Rec**” applies to freeing up space or deleting some space during the recording process. When the hard disk drive is full an alarm will be triggered indicating that the system disk is full. However, if the system has “**Recycle Rec**” enabled the system will continue to record over old video data, thus replacing previously recorded data.

1. Click the “**System**” Tab
2. Under “**Others**” click the checkbox next to “**Recycle Rec**”

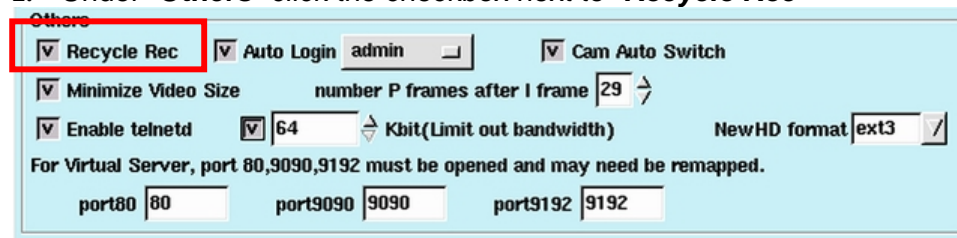


Figure 7-6: Recycle Rec

3. Click “**Apply**”, then “**OK**” to activate the changes.



Auto Login

A second option is to give the administrator and other users “**Auto Login**” status when the system is started. Users with this status do not have to enter a username and password every time they log in.

1. Click the “**System**” Tab.
2. Under “**Others**” click the checkbox next to “**Auto Login**”.

3. Select the user account you want to give “Auto Login” status to.

Figure 7-7: Auto Login Field

4. Click “Apply” , then “OK” .

Cam Auto Switch

The third option under “Others” makes it possible to view different cameras automatically. When the DVR is in Single View Mode, Quad View Mode, 9 Camera or 16 Camera Mode, it will automatically show different cameras at six-second intervals.

1. Click the “System” Tab
2. Under “Others” click the checkbox next to “Cam Auto Switch”.
3. Click “Apply”, then “OK” to activate the operation.

Figure 7-8: Cam Auto Switch Settings

Minimize Video Size

Minimizing the video size allows the DVR System to save more hard disk space, but the system performance will likely be somewhat degraded due to additional processing requirements associated with the video compression algorithms.

1. Click the “System” settings tab
2. Under the “Others” item click “Minimize Video Size”

3. Click **"Apply"**, then **"OK"** to activate the setting.

Figure 7-9: Minimize Video Size Settings

Number P Frames after I Frame

The **"Number P Frames after I Frame"** setting refers to the manner in which MPEG-4 compression will be implemented by the DVR system. An "I" frame is the initial full frame of video information for any given scene, while a "P" frame consists only of the incremental changes necessary to form the next frame, rather than an entire new frame. The greater the number of P frames after each I frame, the more space will be saved on the hard disk, but the more computation will be needed to uncompress the video for playback. To use this setting:

1. Click the **"system"** settings tab
2. Under the **"Others"** item, adjust the **"Number P Frames after I Frame"** setting (29 is the default setting)
3. Click **"Apply"**, then **"OK"** to apply the change

Figure 7-10: Number P Frames after I Frame Settings

Use of the **"Number P Frames after I Frame"** function will influence

1. The quality of the video
2. Space used on the hard disk
3. The speed of data transmission

When the P frame function is set to a value higher than the default setting, for every clip of video, less I Frames are sent, so the quality of the image will be normal, but transmission occurs more quickly and disk space is saved; on the contrary, when the P Frame function is set to a value lower than the default setting, more I frames are sent, and the quality of the image will be high, using more disk space and transmitting more slowly, so users should set this function according to their specific requirements. Possible P Frame setting values range from 0-60.

Enable telnet

The “Enable telnet” setting refers to start or stop the telnet domain. The default setting allow user to login DVR system from remote site using telnet utility (for maintenance). For security consideration, user can disable this function as following:

- 1.click the “**System**” tab.
- 2.under the “**Others**” item, uncheck the “**Enable telnet**”
- 3.Click “**Apply**”, then “**OK**” to apply the change.

Others

☒ Recycle Rec ☒ Auto Login admin ☒ Cam Auto Switch

☒ Minimize Video Size number P frames after I frame 29

☒ Enable telnetd ☒ 64 Kbit(Limit out bandwidth) NewHD format ext3

For Virtual Server, port 80,9090,9192 must be opened and may need be remapped.

port80 80 port9090 9090 port9192 9192

Figure 7-11: Enable telnet Settings

Limit out bandwidth

Users can restrict the total network outbound bandwidth as following:

- 1.click the “**System**” tab.
- 2.under the “**Others**” item, adjust the outbound bandwidth (64K Bit is the default setting).
- 3.Click “**Apply**”, then “**OK**” to apply the change.

Others

☒ Recycle Rec ☒ Auto Login admin ☒ Cam Auto Switch

☒ Minimize Video Size number P frames after I frame 29

☒ Enable telnetd ☒ 64 Kbit(Limit out bandwidth) NewHD format ext3

For Virtual Server, port 80,9090,9192 must be opened and may need be remapped.

port80 80 port9090 9090 port9192 9192

Figure 7-12: Limit out bandwidth Settings

New HD format

Support file system for video recording onto a Hard Drive. The PRO 16/8 RAID DVR system provides selection of FAT or **ext3** HD formatting.

The default setting **ext3** is highly efficient and more stable than FAT and not recommended to be changed and left as default ext3.

FAT formatting is generally used in Windows based video systems and for the purpose of system integration is available in this section of the configuration..

1.click the “**System**” tab

2.under the “**Others**” item, select the suitable file system for your new HD.

3.Click “**Apply**”, then “**OK**” to apply the change.

Figure 7-13: New HD format Settings

Virtual Server IP Setting

If the DVR is only provided with one legal IP, and besides the DVR host, there are also some other applications (such as internal on-line computers of a company, the network server, the ftp server, the e-mail server...) that should be used through Internet connections, or there are several DVR hosts providing service outwards, then a Virtual Server should be an ideal solution. Virtual Server allows multiple applications to share one legal IP, by assigning various application requirements respectively to the internal virtual IP of the company. Basically, functions and setups of a Virtual Server are different depending on the machine types. So, please refer to the User's Guide for the Virtual Server you purchased. As for the DVR host, you're only required to enter a legal external IP address in the Virtual Server IP Field on the screen. For access the DVR requires three TCP ports on a Virtual Server to be opened the default ports are 80, 9090 and 9192.

Example:

Network Environment (*consult your IT Manager before starting*)

Static IP 211.23.141.2

Network of the company 192.168.1*

Interior Netmask of the company 255.255.255.0

Default Router IP of the company 192.168.1.1

DNS Server 192.168.1.2

DVR Host Setting Mode (Virtual IP: 192.168.1.3):

IP: 192.168.1.3

Netmask: 255.255.255

DNS Server: 192.168.1.2

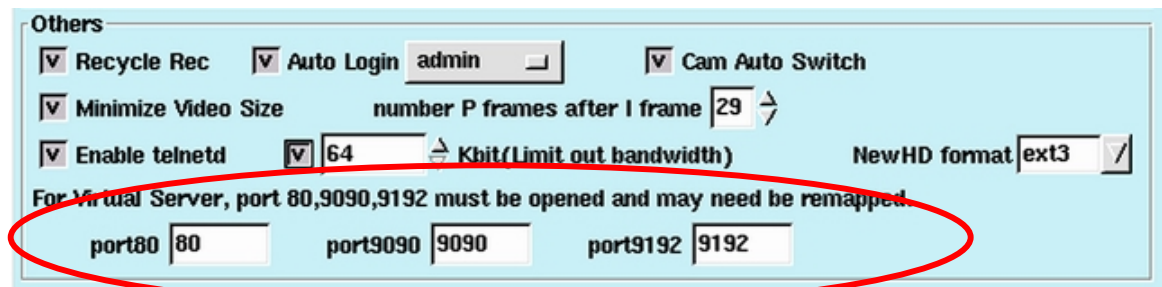
Default Router: 192.168.1.1

Virtual Server IP: 211.23.141.2

With the above settings complete, connect through a browser to

<http://211.23.141.2/> , this will connect to the Host with the virtual IP address

<http://192.168.1.3/>.



Others

☒ Recycle Rec ☒ Auto Login admin ☒ Cam Auto Switch

☒ Minimize Video Size number P frames after I frame 29

☒ Enable telnetd ☒ 64 Kbit/Limit out bandwidth NewHD format ext3

For Virtual Server, port 80,9090,9192 must be opened and may need be remapped.

port80 80 port9090 9090 port9192 9192

Figure 7-14: Virtual Server Port Settings

Chapter 8

ALARM SETTINGS

The Alarm Settings area allows the administrator of the PRO 16/8 RAID DVR to set alarms for a number of functions. The most important is setting alarms for motion detection on different cameras. This is a complex task so in order to understand this area please read over this part carefully. There are also alarms for disk failure, and disk capacity. Users have options to relay alarms to a number of devices. Take a look at the detailed description below to understand alarm settings.

Setting Motion Detection on each camera can be configured under the first screen (Cam). However, users may not be aware when motion detection is triggered. Therefore, under “**Alarms**”, periods of time can be setup so as to trigger an alarm when motion is sensed.

There are four areas of configuration:

General, Camera, Enable-Trigger Period, and Alarm Triggering Device.

1. Click the **Alarm** Tab
2. The first Field “**General**” refers to setting the interval time for alarm triggering, and at what frame rate.



The screenshot shows the 'Alarm' tab selected in a menu bar with options: Cam, Schedule, Account, System, Alarm, Alarm Log, User Log, DIO, PTZ. Below the menu, the 'General' section contains two input fields: 'Duration' set to '30' with a unit dropdown set to 'Sec', and 'AdjustFrameRateTo' set to '3' with a unit dropdown set to 'FPS'. A checkbox is visible between the two fields.

Figure 8-1: Alarm Tab

3. The second field gives users the option to select the “**Camera**.” or other alarm settings.



The screenshot shows the 'Camera' settings section with three rows of dropdown menus. The first row is labeled 'Cam:' and contains 16 dropdowns numbered 1 to 16. The second row is labeled 'Din:' and contains 16 dropdowns numbered 1 to 16. The third row is labeled 'Other:' and contains three dropdowns: 'Disk Full', 'Disk Failure', and 'No Signal'.

Figure 8-2: Camera Settings

4. The third field is to select a “**Trigger Period**”
5. Click the checkbox next to “**Enable**”, under “**Trigger Period**” select “**Enable**” again and enter the period of time required.

Cam Schedule Account System **Alarm** Alarm Log User Log DIO PTZ

General

Duration Sec ☒ AdjustFrameRateTo FPS

Cam:

Din:

Other:

☐ Enable Trigger Period ☐ Enable From hr. min. To hr. min.

Record Sound Message Voice FAX EMail Dout

Press "Add" Button

Add Modify

Actions	Notes

Del Up Down

Apply OK Cancel

Figure 8-3: Trigger Period Field

2. Then select one of the **Triggering Devices** from the “**tab**” windows below.

☐ Enable Trigger Period ☐ Enable From hr. min. To hr. min.

Record Sound Message Voice FAX EMail Dout

Press "Add" Button

Add Modify

Actions	Notes

Del Up Down

Figure 8-5: Tab Window Selection

Alarm Record Triggering

Alarm Record Triggering provides event triggered video evidence and normally reacts with accelerated frame rate recording; therefore it is important the correct FPS is set to achieve the desired frame rate for capture. The following shows how to use Record Alarm:

1. Click the **Alarm** Tab
2. From “**General**” select the “**Duration**” for motion detection triggering and click the checkbox next to “**Motion Rec.**” (See Figure 8-5) to select the frame speed for motion detection.

Cam Schedule Account System **Alarm** Alarm Log User Log DIO PTZ

General

Duration 30 Sec ☒ AdjustFrameRateTo 3 FPS

Figure 8-5: General Field

3. Select the **Camera** to configure.

Cam: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Din: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Other: Disk Full Disk Failure No Signal

Figure 8-6: Camera Settings

4. Select the first “Enable” field for 24-hour recording reaction or select the Trigger Period “Enable” field for record duration only and set the record duration period for reaction.

☒ Enable

Trigger Period

☒ Enable From 9 hr. 0 min. To 18 hr. 0 min.

Figure 8-7: Trigger Period

5. Click “**Add**”
6. Click “**Apply**” , then “**OK**” to activate.

Alarm Sound triggering

Alarms can be assigned to Sounds, follow the instructions below to set Alarm Sounds.

1. Click the **Alarm** Tab first.
2. Select the “**Camera**”
3. Tick off the entire “**Enable**” field first, then select “**Enable**” under “**Trigger Period**”
4. Click the “**Sound**” Tab.

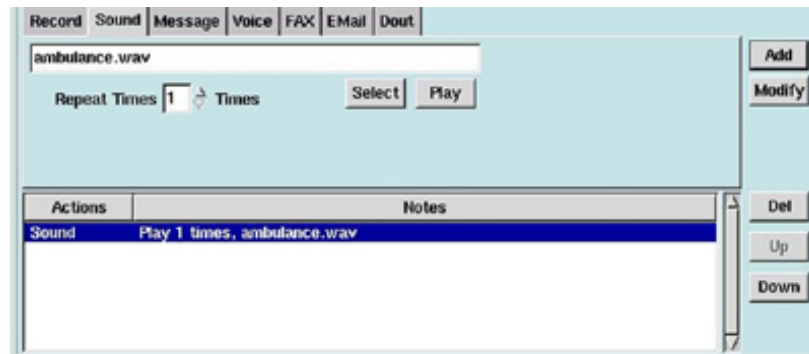


Figure 8-8: Sound Tab

5. Click on the “ Select” button to choose an alarm sound from the sound list window.

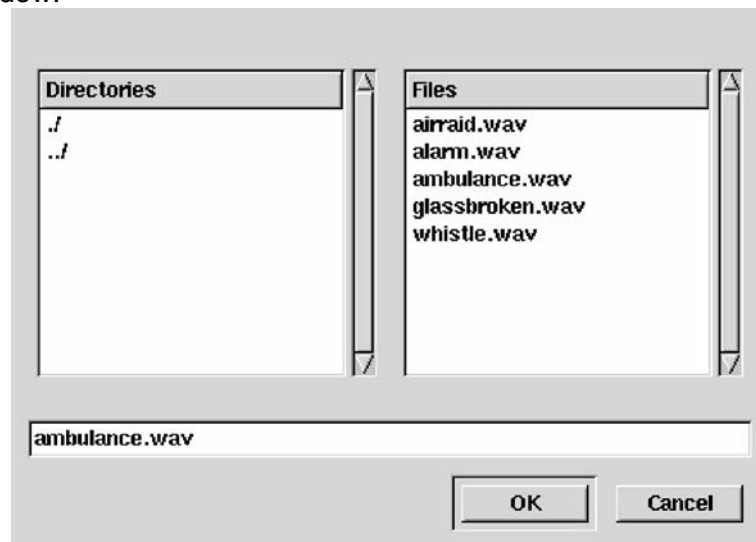


Figure 8-9: Sound Selection Window

6. Choose a .wav file from the above window and click “**OK**”
7. Select how many times you would like to repeat the alarm sound (up to 10 times)

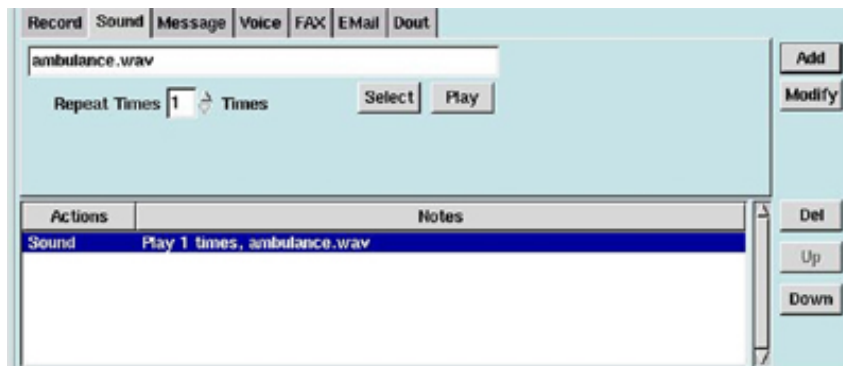


Figure 8-10: Select Repeated playback of sound

8. Then click “**Add**” ,
9. Click “**Apply**” , and “**OK**”

Alarm Message triggering

Alarm Pop –Up Screen Messages when enabled will show a message on GUI at the time of detecting alarm and details of the alarm. Follow the instructions below to set Alarm Message.

1. Click the **Alarm** Tab
2. Select the “**Camera**” (see Figure 8-6).
3. Select a “**Trigger Period**” (see Figure 8-7).
4. Click the “**Message**” Tab

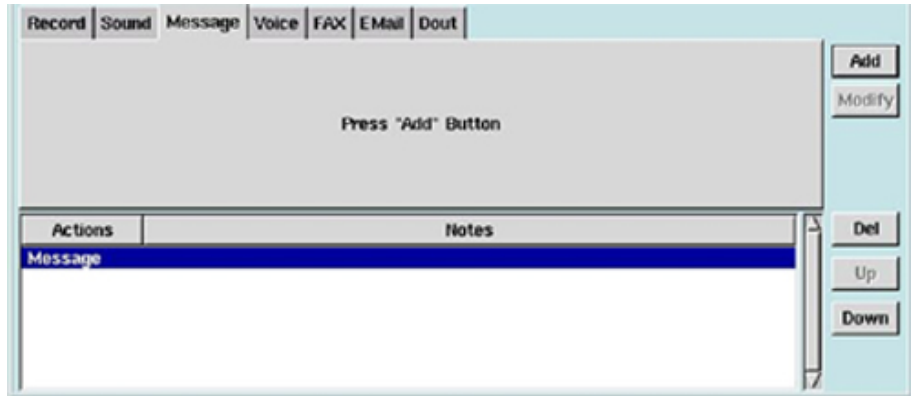


Figure 8-11: Message Tab

5. Then click "**Add**" , the window below will show "**Message**"
6. Click "**Apply**" , and "**OK**"

For example: once this function is enabled and **Motion Detection** is enabled on that particular camera, a pop-up screen will appear (as below) to warn users that the DVR has detected motion.



Figure 8-12: Message pop-up warning

7. The users may click the "OK" button.
8. To Delete this function, click the "**Del**" button.
9. Users will be prompted to confirm. Click "**OK**"



Figure 8-13: Message Confirming Window

Alarm Email triggering

Alarm Email triggering provides a text notice and video file by email at the time of detecting alarm. Follow the instructions below.

1. Click the **Alarm** Tab
2. Select the “**Camera**” (see Figure 8-6)
3. Select a “**Trigger Period**” (see Figure 8-7)
4. Click the “**Email**” Tab

The screenshot shows a software interface for configuring alarm email triggers. At the top, there is a horizontal menu with tabs: Record, Sound, Message, Voice, FAX, Email (which is selected), and Dout. Below the tabs, the 'Email' configuration area includes:

- A 'Mail To' field containing 'anextek.com'.
- A 'CC' field which is currently empty.
- A 'Send' field set to '10' seconds, with a dropdown arrow and the text 'secs video'.
- An unchecked checkbox labeled 'Attach playback program'.
- On the right side of this section are 'Add' and 'Modify' buttons.

Below the configuration fields is a table with two columns: 'Actions' and 'Notes'.

Actions	Notes
Email	Receipt: anextek.com, Send 10 secs clip

To the right of the table are 'Del', 'Up', and 'Down' buttons.

Figure 8-14: Email Tab

5. Setup the email address to “**Mail to**” and “**cc**”, set up “**Send x secs video**” for the seconds of video to be attached and sent.
In addition, enable the icon in front of the “**Attach playback program**” to send the video playback decoder program.
6. Then click “**Add**” , “**Apply**” , and “**OK**” .

IMPORTANT: please ensure all Internet and Email servers are functional and enabled before setting up Alarm Emails.

Alarm Voice Triggering

Optional external 56K modem required COM Port 1




Alarm Voice provides a preprogrammed voice message upon alarm trigger to a mobile or landline phone through the modem connection.

Follow the instructions below to set Alarm Voice.

1. Click the **Alarm** Tab to select the “**Camera**”
2. Select a “**Trigger Period**” (see Figure 8-7)
3. Click the “**Voice**” Tab any type in the “**Telephone Number**”
4. “**Delay**” seconds means how many seconds you’d like to delay before the Alarm Voice is sent, and 1 to 10 seconds may be sent (see picture below).
5. “Repeat Times” is used to set the times you’d like to trigger the alarm, and 1 to 10 times can be set (see picture below)

Actions	Notes
Voice	PhoneNo: 26967500, Delay 2 secs, Repeat 1 times

Figure 8-15: Voice Tab

6. Then click “**Add**” , the window below will show “**Voice**” with the selections made.
7. Click “**Apply**” , and “**OK**” .

Alarm Fax Triggering ----- Modem required.

Alarm Fax will fax a warning message and pictures on alarm trigger. Follow these instructions to set Alarm Fax:

1. Click the **Alarm** Tab
2. Select the “**Camera**” (see Figure 8-6)
3. Select a “**Trigger Period**” (see Figure 8-7)
4. Click the “**Fax**” Tab

Record	Sound	Message	Voice	FAX	EMail	Dout
FAX No. <input type="text" value="26961234"/> Send <input type="button" value="2"/>						
<div style="float: right;"> <input type="button" value="Add"/> <input type="button" value="Modify"/> </div>						
Actions		Notes				
FAX		FAX No: 26961234 , Fax 2 pictures				
<div style="float: right;"> <input type="button" value="Del"/> <input type="button" value="Up"/> <input type="button" value="Down"/> </div>						

Figure 8-16: Fax Tab

5. Type in the “**Fax Number**”
6. Choose from the “**Send**” drop-down list how many pictures you would like to fax, 1 to 30 pictures may be chosen
7. Then click “**Add**” , the window below will show “**Fax**” with the selections made.
8. Click “**Apply**” , and “**OK**” .

Alarm Relay Output Triggering

Alarm Relay Output, activate the relay output port at the time of detecting the alarm. Follow these instructions to set the Output Port.

1. Click the **Alarm** Tab
2. Select the “**Camera**” (see Figure 8-6)
3. Select a “**Trigger Period**” (see Figure 8-7)
4. Click the “**Output Port**” Tab

Description: (Enable/Disable)				(Delay Trigger)				(Active Duration)			
1	10	10	5	10	10	9	10	10	13	10	10
2	10	10	6	10	10	10	10	10	14	10	10
3	10	10	7	10	10	11	10	10	15	10	10
4	10	10	8	10	10	12	10	10	16	10	10

Buttons: Add, Modify, Del, Up, Down

Actions: Dout, Notes

Figure 8-17: Output Port Tab

5. Select an Output Port; each output port number has a relative camera number.
6. Tick off “**Enable/Disable**” the icon with a tick is “**Enable**”

1	16	10
2	2	6
3	10	260
4	67	10

Labels: Tick off to "Enable/Disable", The Delay Trigger, The Active Duration

Figure 8-18: Output Port Field

7. Select the “**Delay Trigger**”, with the unit of seconds, the delay time may be set from 0 to 999 seconds.
8. Under the “**Active Duration**” there are 0 to 999 seconds to choose. The setting of 0 second means permanent triggering.
9. Then click “**Add**” , the window below will show “**Output Port**” with the selections made.
10. Click “**Apply**” , and “**OK**” .

Note!

An external standard 56K modem is required to transmit alarm pager trigger, Alarm voice trigger or fax trigger functions.

Chapter 9

ALARM LOG & SCREEN NOTIFICATION

When an alarm associated to a camera occurs, the surrounding border to the camera video display will flash Red on the Main GUI.

The Alarm Log provides the administrator of the PRO 16/8 RAID DVR to monitor all alarms that were triggered. This database tells the administrator which cameras set-off the alarm, at what time the alarm was triggered and provides a description of what happened. The log is simple and allows the administrator only two options: (a) to delete a single log, (b) to delete all log files. Follow the next few steps to achieve this:

Deleting a Log

1. Click the “**Alarm Log**” Tab



Figure 9-1: Alarm Log

2. Select the file you wish to delete



Figure 9-2: Selection File




3. Click “**delete**”  button.
4. A confirmation pop-up screen will appear asking to reconfirm (see Figure 9-3 below)



Figure 9-3: Confirmation Window

5. Click “**Confirm**” to continue or “**Cancel**” to restart
6. Click “**Apply**” , then “**OK**”  to complete the task

Deleting all Logs

1. Click the “**Alarm Log**” Tab



Figure 9-4: Alarm Log


2. Click “**Del all**” 
3. A confirmation pop-up screen will appear asking to reconfirm (see Figure 9-5 below)



Figure 9-5: Confirmation Window

4. Click “**Confirm**” to continue or “**Cancel**” to restart
5. Click “**Apply**”, then “**OK**” to complete the task.

Chapter 10

USER LOG

The User Log provides the administrator of the DVR to monitor all users that have accessed the DVR. This database tells the administrator who accesses the system, from where they accessed the system (local or remote), when they logged on, how long users were logged on, and (if the connection was remote) what was the IP address. This is only a log and the information cannot be cleared or changed. Information in this log can only be deleted or the entire log file can be deleted. Follow these few steps to delete files.

Deleting a Log

1. Click the “**User Log**” Tab



Figure 10-1: User Log

2. Select the file you wish to delete

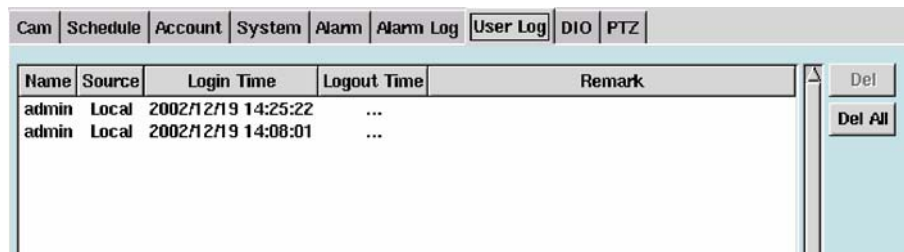




Figure 10-2: Selection File

3. Click “**Del**”
4. A confirmation pop-up screen will appear asking to reconfirm (see Figure 10-3 below)



Figure 10-3: Confirmation Window

5. Click “**Confirm**” to continue or “**Cancel**” to restart
6. Click “**Apply**” , then “**OK**”  to complete the task

Deleting all Logs

1. Click the “**User Log**” Tab



Figure 10-4: User Log


2. Click “**Del all**” 
3. A confirmation pop-up screen will appear asking to reconfirm (see Figure 10-5 below)



Figure 10-5: Confirmation Window

4. Click “**Confirm**” to continue or “**Cancel**” to restart
5. Click “**Apply**”, then “**OK**” to complete the task.

Chapter 11

CONFIGURING GENERAL PURPOSE INPUTS - OUTPUTS

The GPIO provides connections to multiple Alarm Inputs and Dry contact closure Outputs. (All models come standard fitted with a 4-in-out alarm I/O). Optional I/O ports can be added to max 16-in-out module making system integration easy and fuss free.

The screenshot shows a software window titled 'GPIO'. At the top is a menu bar with the following items: Cam, Schedule, Account, System, Alarm, Alarm Log, User Log, DIO, and PTZ. The 'DIO' menu item is currently selected. Below the menu bar is a large light blue area containing the configuration options.

Dins

0 : NO	1	0	→	delay	0	→	5	0	→	delay	0	→	9	0	→	delay	0	→	13	0	→	delay	0	→
1 : NC	2	0	→	delay	0	→	6	0	→	delay	0	→	10	0	→	delay	0	→	14	0	→	delay	0	→
	3	0	→	delay	0	→	7	0	→	delay	0	→	11	0	→	delay	0	→	15	0	→	delay	0	→
	4	0	→	delay	0	→	8	0	→	delay	0	→	12	0	→	delay	0	→	16	0	→	delay	0	→

Manual Dout Control

Dout

At the bottom right of the window are three buttons: Apply, OK, and Cancel.

Figure 11-1: GPIO Window

Input Settings

Every camera has a corresponding GPIO connection to an alarm input.

Depending on their attributes, the inputs can be set to Normal Open (NO) or Normal Closed (NC) according to integration requirements. Individual delay timer periods can be set, so that the interval time of the DVR alarm inputs can be started when the sensors are triggered.

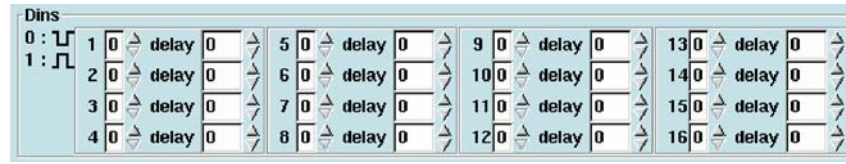


Figure 11-2: DI Field

Output Settings

The DVR is able to provide 16-relay outputs for external sensor connections and can be set to active ON or active OFF. Application requirements.
The GPIO ports are optional products.

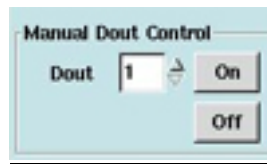


Figure 11-3: DO Field

Chapter 12

PAN TILT ZOOM

Pan Tilt Zoom (PTZ) provides the administrator of the PRO 16/8 RAID DVR to configure and monitor all PTZ cameras that are connected to the DVR. The PRO 16/8 RAID DVR can be configured with many PTZ cameras. Currently, the system doesn't have pre-configured PTZ camera support. Please consult your dealer for more information on how best to configure your system with leading PTZ camera providers. This chapter shows users how to configure a PTZ camera that is compatible with the PRO 16/8 RAID DVR. Let's take a look at the PTZ "window" in more detail.

Click the **PTZ** Tab







Figure 12-1: PTZ Tab

On the left side of the window you will see a live view from your PTZ camera. This allows you to configure and see a "live" feed so you can adjust the system to your requirements.

1. Select the "**PTZ**" camera to configure.



Figure 12-2: Camera Selection

Using the Dome controls to the bottom left of the “PTZ” window users can configure their PTZ cameras to move left , right , up , and down . This can be done using the control keys as illustrated below.

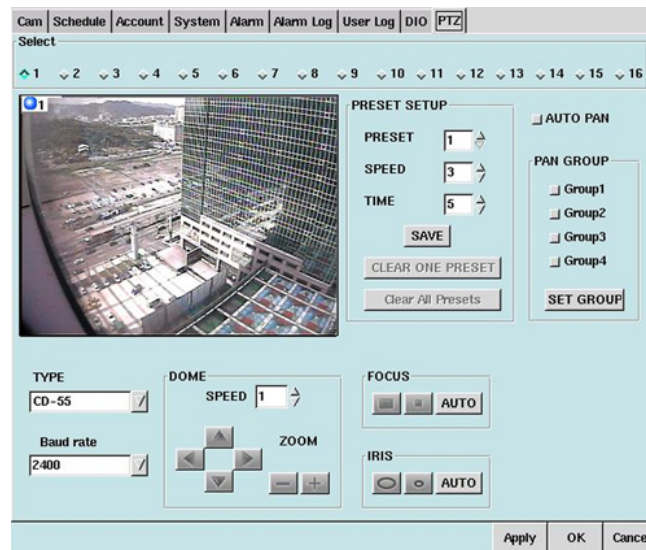






Figure 12-3: Dome Settings & Dome Controls

To maneuver the PTZ camera at different speeds click the drop-down list next to “**Speed**”. Users can set the speed range from 1 – 8. If you are not familiar with this system or using a PTZ camera please consult your dealer for advice.



Focus

When connecting a PTZ camera to your PRO 16/8 RAID digital video recorder you have the option to focus in on the picture. Use  to focus-in,  to focus-out, and **AUTO** to have the camera be automatically adjusted.

Zoom

When connecting a PTZ camera to your PRO 16/8 RAID digital video recorder you have the option to zoom in and out on the picture. Use  to zoom-in, or use  to zoom-out.

Iris

When connecting a PTZ camera to your PRO 16/8 RAID digital video recorder you have the option to open the Iris and close the Iris on the camera. Use  to make the iris close, or use  to make the iris open.

Preset Setup

The PRO 16/8 RAID digital video recorder gives you 128 preset functions. For each preset function users can adjust the speed and time of the camera.

1. Click the “**Preset**” to set the serial number (from 0 to 128: 0 means NULL, that is NO MOTION).
2. Set the Speed of the PTZ camera (range from 0 to 7), and then adjust the Dome direction.



Figure 12-4: Dome Speed controller

3. Using the icons to **Focus-in**, **Focus-out**, or **Auto focus** the lens.



Figure 12-5: Focus Controller

4. **Zoom-in & Zoom-out** to adjust the picture.



Figure 12-6: Zoom controls

5. Set the **Iris** controls accordingly or use “**Auto**” adjust.



Figure 12-7: Iris Controls

6. Click the “**Speed**” (range from 1 degree per second to 255 degrees per second) and “**Time**” (range from 0 to 255 seconds) from their respective drop-down lists to do **adjustments**, to preset speed and time for the PTZ camera at that preset point..

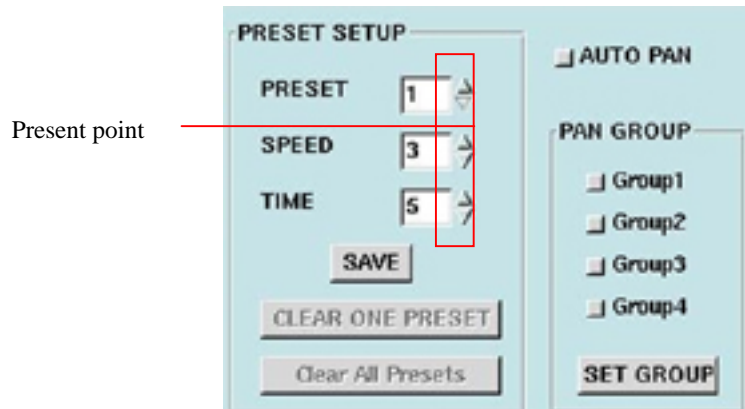


Figure 12-8 Preset functions

7. Once complete click “**Save**”  to complete.
8. To view any of the preset point camera pictures at a later time, just appoint a number in “**Preset**” field

Grouping Preset

The PRO 16/8 RAID Digital Video Recorder gives users the option to set up to 128 presets. Of the 128 presets, preset 1 to 4 make up Group one, preset 5 to 8 make up Group Two, preset 9 to 12 make up Group Three and preset 13 to 16 make up Group Four. The rest presets are only used to view pictures on particular directions conveniently.

The main purpose of Group preset is to use all presets to layout the Group to be controlled before starting automatic presets in Auto Pan Mode.

When the Group of presets are complete, follow the instructions to circumnavigate the PTZ cameras according to the presets in the groups:

1. Create all the presets in the groups.
2. Choose the number of your desired group (Group 1, Group 2, Group 3 and Group 4) under the Pan Group.
3. Click “Set Group” **SET GROUP** button.
4. Click “Auto Pan” then the PTZ cameras will begin to circumnavigate according to the presets in the group.

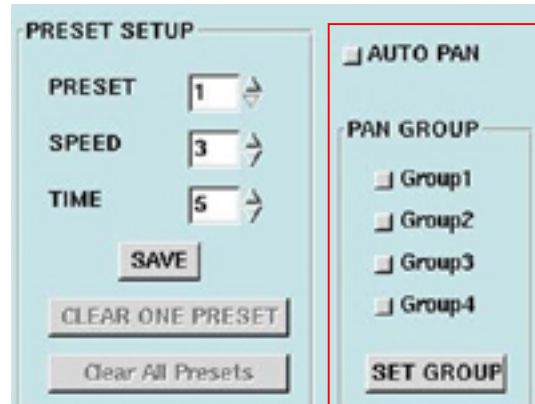


Figure 12-9: Pan Group

Example:

Setting Group 1 => Choose Group 1, and click “**Set Group**” button.

Function: To operate presets 1 to 4 automatically in the mode of “Auto Pan”

Setting Group 1 and Group 2 => Choose Group 1 and Group 2, and click “**Set Group**” button.

Function: To operate presets 1 to 8 in the mode of “Auto Pan”

Setting Group 1, Group 2 and Group 3 => Choose Group 1, Group 2, and Group 3, then click “**Set Group**” button.

Function: To operate presets 1 to 12 in the mode of “Auto Pan”

Setting Group 2, Group 3 and Group 4=> Choose Group 2, Group 3, and Group 4, then click “**Set Group**” button.

Function: To operate presets 5 to 16 in the mode of “Auto Pan”

Deleting a Preset

Follow these instructions to delete a preset.

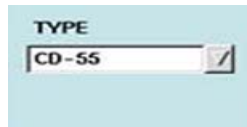
Click **Clear Preset** **CLEAR PRESET** to delete all presets.

Note: Different Speed Dome models have different functionality; please refer to the user guide of the Speed Dome you wish to connect.

Speed Dome type

PRO 16/8 RAID DVR supports the below brand, please choose from the following icon:


CD-55 (Min King)
CD-55H (Min King)
CD-56 (Min King)
CD65 (Min King)
Lilin
DynaColor
Hsintek
MD Nicecam
Megasys
Neon
Neno T
Pelco D
Star



Chapter 13

PLAYBACK

Playback allows a user to view recorded history video data, as the system is recording, in live view mode and remotely. Other features within “**Playback**” are: **Blur, Snapshot, Export, Tag, File, Alarm, Fast Forward, Slow Motion, Reverse Play & Rewind**. All these features are covered later in this chapter. Lets first take a look at how we can review playback.

To view **Playback** click the “**playback**” icon..... 

A pop-up database will appear giving you the choice of selecting a file, selecting the date, searching, or by checking the list. At the bottom of the screen you will notice a set of icons. These icons will help later when using the playback image.

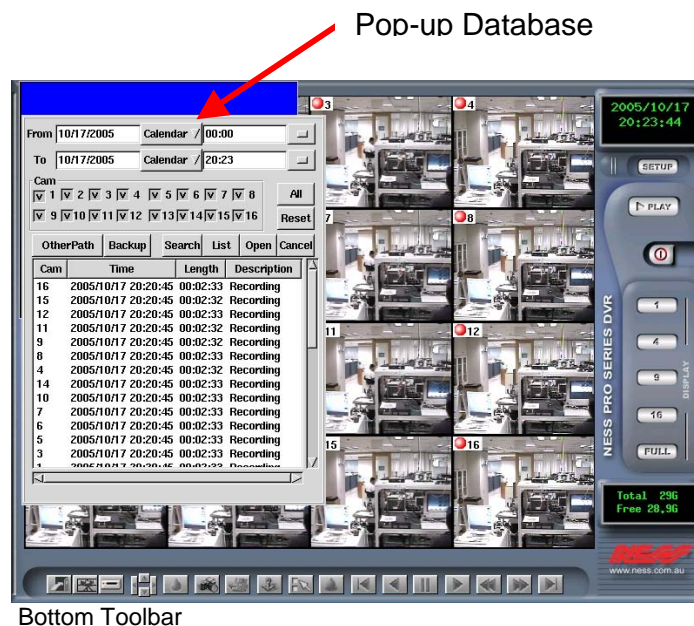


Figure 13-1: Playback Screen

Understanding the Recorded database

The Pop-up database is the first start to viewing playback images. There are many aspects to the database. Lets take a closer look.

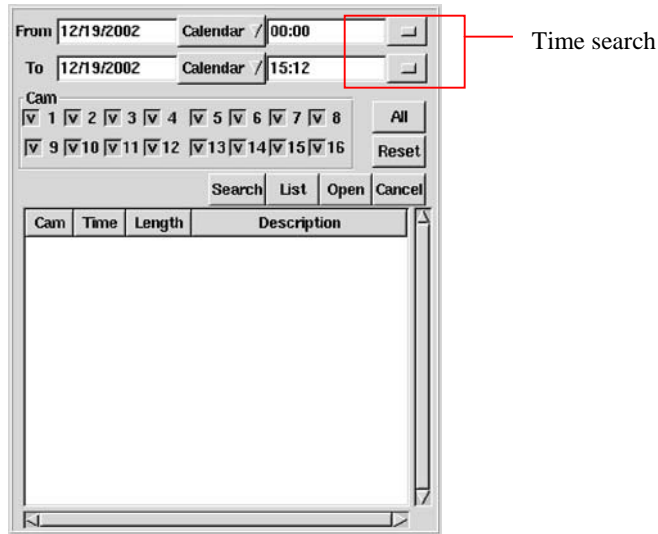


Figure 13-2: Pop-up Database Screen

1. **Calendar Search:** Clicking the **calendar button** allows users to select the date by which they want to search.
2. **Time Search:** Clicking the **Time Search** button allows users to select a specific time they would like to view.
3. **Camera Search:** Select the camera you want to view playback images.
4. **Search Button:** Click the search button to search for a file.
5. **List Button:** Click this button to display a list of the recorded database.
6. **Open:** Click here to view a file.
7. **Cancel Button:** Cancel any action.
8. **Reset Button:** Click this button to reset any functions.

Understanding the Bottom Toolbar

The Bottom Toolbar appears only when you click the playback icon. Before a recorded file is clicked, the bottom toolbar will be disabled. Once a recorded file is selected the icons are enabled and can be used. Lets view what each icon means.



Figure 13-3: Bottom Toolbar



Click this icon to exit playback.



Click the directional icons to move the playback images up, down, left, or right.



Click this icon to remove blur, sharpen or define the image.



Click this icon to take a snapshot, save it or export a recorded image.



Click this icon to save an image.



Click this icon to tag a certain section of the recorded file. Once tagged you can go back to the relevant place when reviewing again.



Click this quick reference icon to search by date, time, or camera.



Click this icon to view all recorded material that was triggered by an alarm.



Click this icon to review the previous image.



Click this icon to rewind play



Click this icon to pause play



Click this icon to play the file



Click this icon to slow forward the clip: press once to go forward in speed of 1/2, press twice in speed of 1/4, press three times in speed of 1/6



Click this icon to fast forward the clip, and the optional speeds are 1x, 2x, 4x, 6x, 8x, and 10x. Press once to play at the speed of 2x, press twice at speed of 4x....



Click this icon to jump to the next section of the clip. If the current file has been played just in half, then you can press this icon once to jump to the end of this section; press it the second time to jump to the beginning of the next clip (on the same camera); if the current clip has reached the end, press this icon to jump directly to the beginning of the next clip (on the same camera)

Viewing Playback by Camera

To view a recorded file from a particular camera follow the next few steps

1. To view **Playback** click the “**playback**” icon...



Pop-up Database

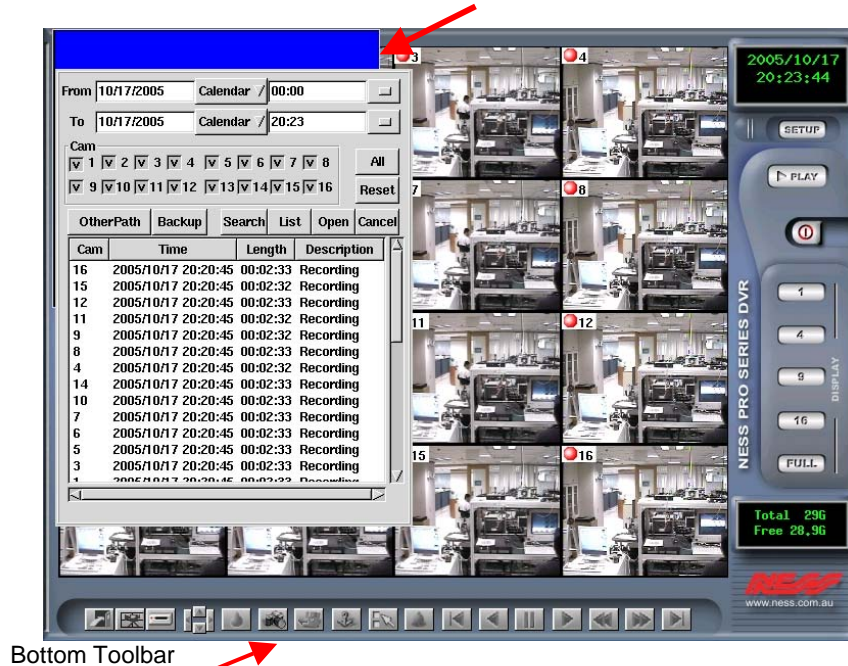


Figure 13-4: Playback Screen

2. Select a date and time from the calendar



Figure 13-5: Calendar & Camera Selection

3. Select a camera
4. Click Search **Search**, List **List**, to show all the clips.
5. Then the recorded database will be listed on the screen (if the camera is defined with a name, the name will appear in the field of “**Description**”

Cam	Time	Length	Description
1	12/26/02 13:49:18	00:52:04	
1	12/19/02 14:19:04	04:50:35	
1	12/19/02 13:19:00	00:59:19	

Figure 13-6: Camera Database

- Choose the recorded clip to play

Cam	Time	Length	Description
1	12/26/02 13:49:18	00:52:04	
1	12/19/02 14:19:04	04:50:35	
1	12/19/02 13:19:00	00:59:19	

Figure 13-7: Camera Selection

- Double-click the selection or click “**Open**”. The selected file will appear in front of the Main Screen

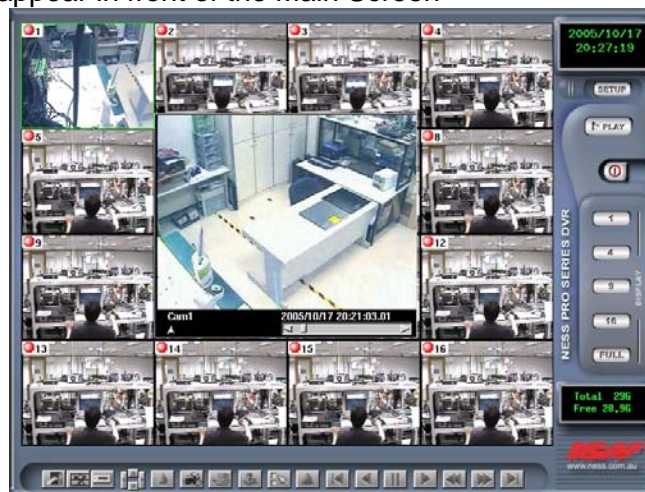




Figure 13-8 Recorded playback data

8. Click “**play**”  from the Bottom Toolbar

9. Double-click the image to enlarge 

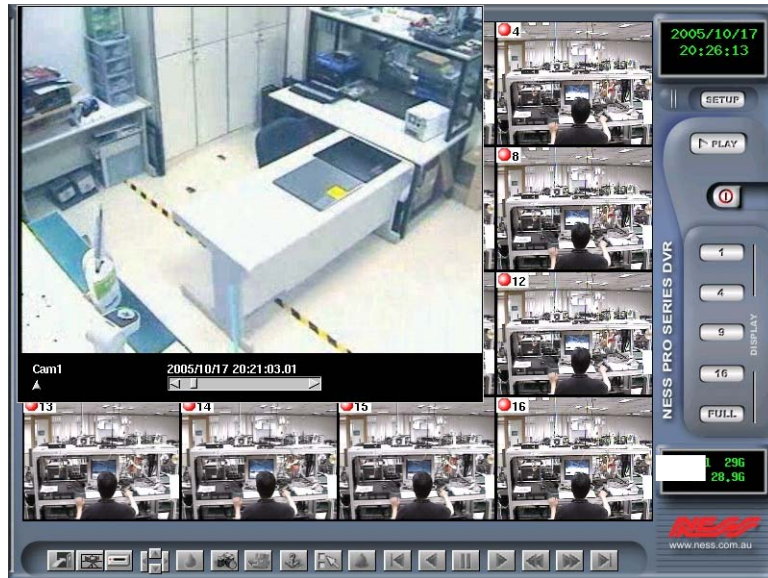



Figure 13-9: Enlarged Image

10. Double-click the image again to enlarge 

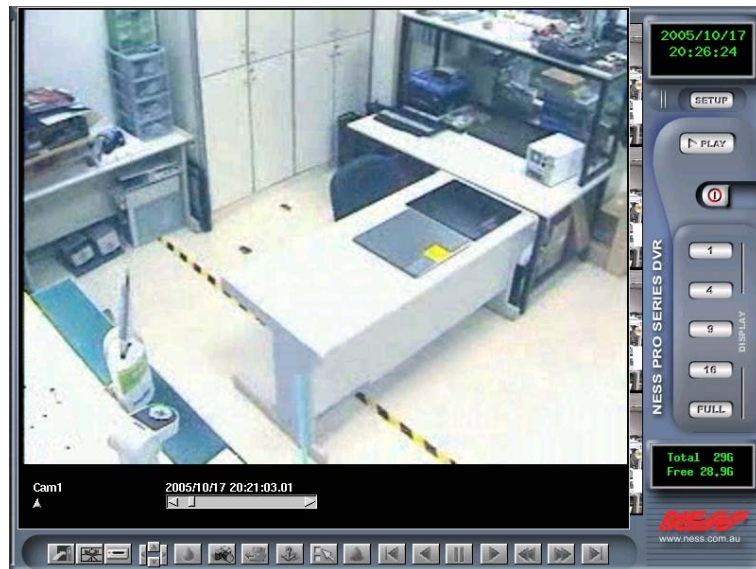



Figure 13-10: Full-size Playback image

11. To reduce the size or go back to the original size, just click the right mouse button. 

Playback from the other devices

To view the recorded data from other devices:

Click the icon of "**Other Path**", the "**select record files**" appears:



Figure 13-10-1 Playback from other devices

USB: Playback from a connected media device with saved data. USB HDD or USB handy drive, Memory Stick (Please note that the USB device should be connected to DVR before powering on)


Neighbor: Playback recorded data stored on a server hard drive through a Network connection, LAN, WAN, Direct connect.

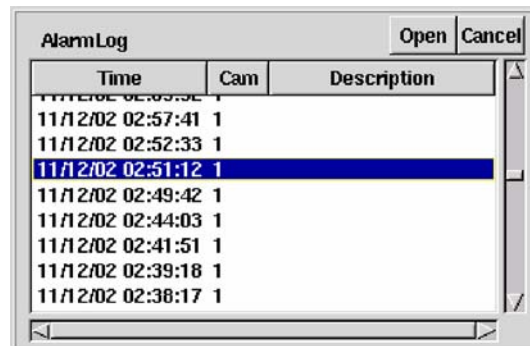
Floppy (FDD): Playback recorded data from a floppy drive.

CDROM: Playback recorded data from the external USB CD-RW.

Alarm Recorded Playback


To view alarm triggered playback images

- Click the alarm icon 
- A database of alarm triggered playback files will appear (Alarm Log)



Time	Cam	Description
11/12/02 02:57:41	1	
11/12/02 02:52:33	1	
11/12/02 02:51:12	1	
11/12/02 02:49:42	1	
11/12/02 02:44:03	1	
11/12/02 02:41:51	1	
11/12/02 02:39:18	1	
11/12/02 02:38:17	1	

Figure 13-11: Alarm Log

- Please select the file you want from the alarm video log. Double-click it. Or click “**Open**”. The selected clip will appear on the Main screen.
- Click play  to view the clip.

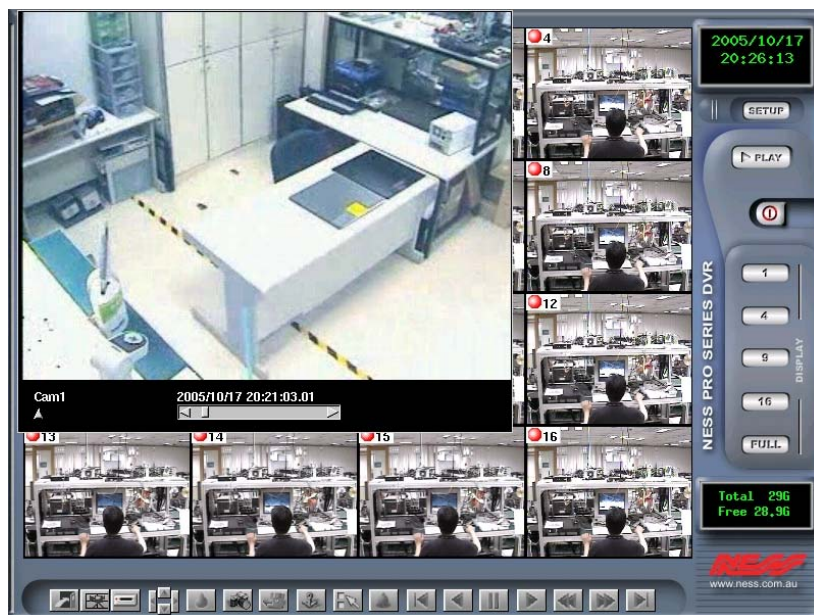

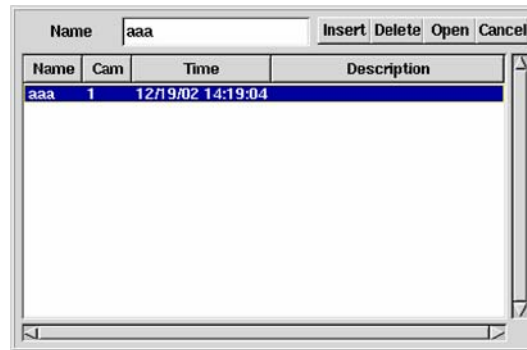


Figure 13-12: Alarm Triggered File

Tagging recorded data

After opening a file, an important section of the video can be tagged for later reference and archiving. While watching the video frames, the tagged section can be operated like this.

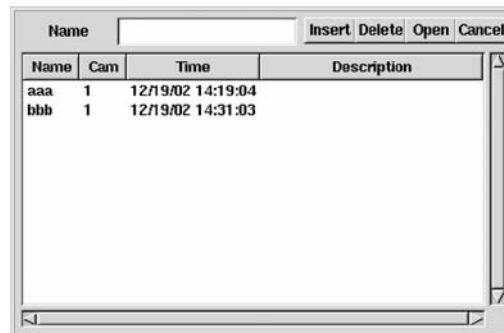
1. Click the “Tag” . Button to enter the window



Name	Cam	Time	Description
aaa	1	12/19/02 14:19:04	

Figure 13-13: Tag field

2. Type in the Tag name first.
3. Click “ Insert” button, the information about the camera, Tag time, Description (the camera name) will be added to the system automatically and then be listed.



Name	Cam	Time	Description
aaa	1	12/19/02 14:19:04	
bbb	1	12/19/02 14:31:03	

Figure 13-14: Tagged frame

4. The particular clip is then saved and can be searched and viewed for later reference by means of tag. And the camera number and the time is in sync with the tag
5. Then a mark will appear at the left bottom of the tagged screen (see the image).



Figure 13-15: Tagged Clip

Exporting a Clip

While viewing playback data, if you wish to export a section of one clip to save in addition, do as follows:

1. Click on this icon . The following image will appear:



Figure 13-16: Export image

2. The image highlights the hours, minutes, and seconds. Use the drop-down list to select the time frame you would like to export. Click **Next** to continue
3. The DVR then asks you to choose the media and the place you'd like to export the clip to and the name of the clip. Once complete, click "OK" to confirm.



Figure 13-17: Export Clip

Smoothing an Image

The smoothness and sharpness of an image can be adjusted in the DVR. When an image is unclear it is important to clarify the image more clearly.



Figure 13-18: Sharpen Image

- Open the recorded image
- Click on this icon  to blur the image.
- Click on this icon  to sharpen the image

** The blur icon and the Sharpen icon is at the same position, only one of them will appear at the same time. When Blur icon appears, you can use it to blur the image; while Sharpen icon appears, you can use it to sharpen the image.*

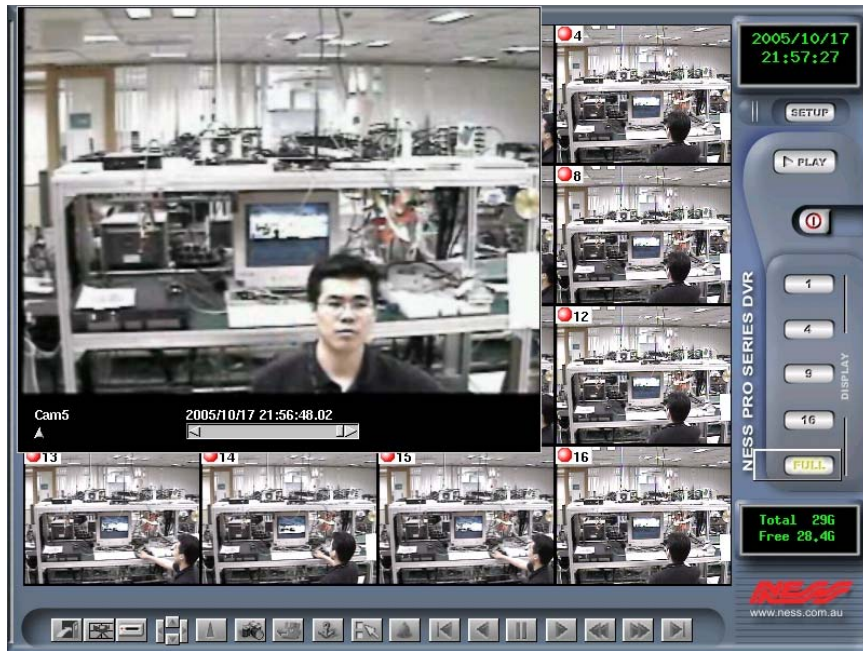


Figure 13-19: Blur Image

Moving playback frames

While viewing several playback screens, the entire screen or background screen may be unclear. The directional icons can be used to move each playback video to different parts of the screen. Click on the separate directions to position your video in the right place.



See the images below that demonstrate this function.



Figure 13-20: Viewing more than one playback clip



Figure 13-21: More than one playback image

Chapter 14

PRINTING

One of the unique features of the PRO 16/8 RAID is its ability to print still images. Printing images from your digital video recorder can clarify certain factors you cannot see from an image on your monitor. The PRO 16/8 RAID DVR accepts many forms of printers. Please consult your dealer to see what printers are compatible with the PRO 16/8 RAID DVR.

Configuring your Printer

Follow these few easy steps to setup print function.

1. Click the “**Setup**” icon on the Main Screen.....
2. Click the “**System**” Tab



Figure: 14-1: System Tab

3. Click the **Printer Setup** icon
4. The next screen will give a list of printers that the DVR accepts.



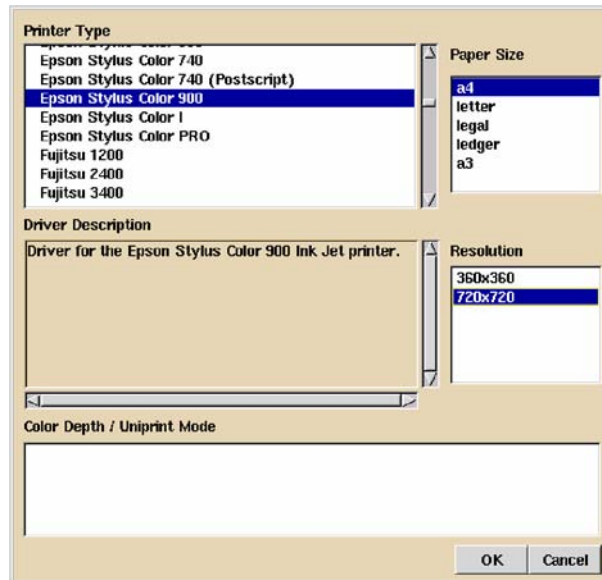


Figure 14-2: Printer Configuration

5. Select your **Printer Type**, choose the **Paper Size**, to set the size of paper, and “**Resolution**” to set the resolution, and then “**Colour depth/Unprint Mode**” to set the colours (for colour printers).
6. Click **OK** .
7. A pop-up screen will appear prompting you to print a test page



Figure 14-3: Printer Test Page

8. Click **Confirm** to continue. View your printed material.

Printing an image

1. Click the **Playback** icon..... 

A pop-up database will appear giving you the choice of selecting a file, selecting the date, searching, or by checking the list. At the bottom of the screen you will notice a set of icons. These icons will help later when using the playback image.

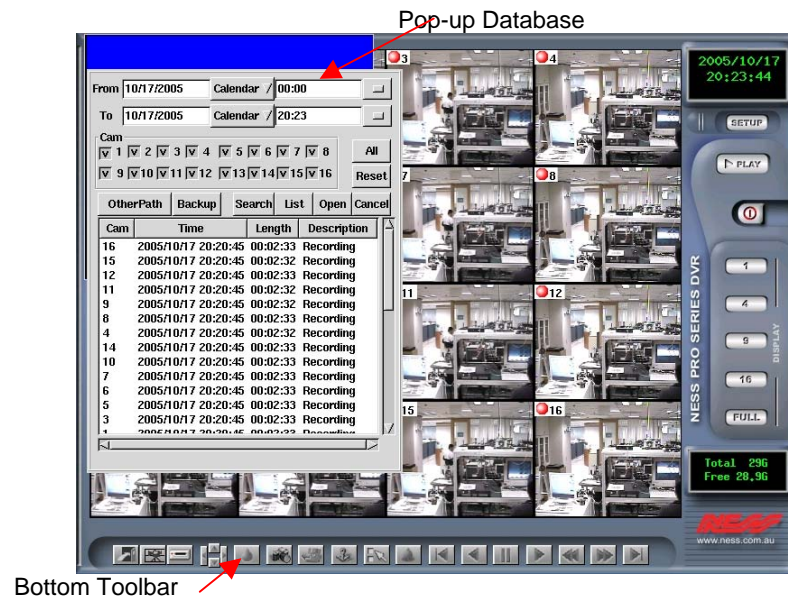


Figure 14-4: The Playback Screen

2. Select a date and time from the calendar

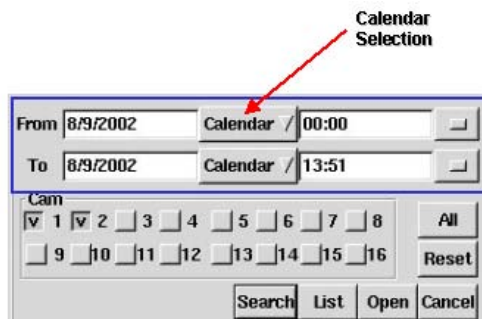
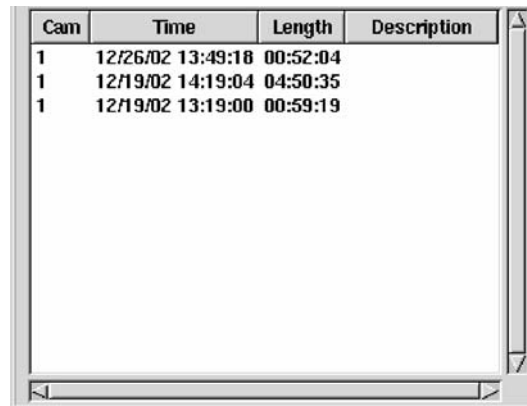


Figure 14-5: Calendar & Camera Selection

3. Select a camera
4. Click **Search** , **List** , or **Open** 

5. The database for that camera will open

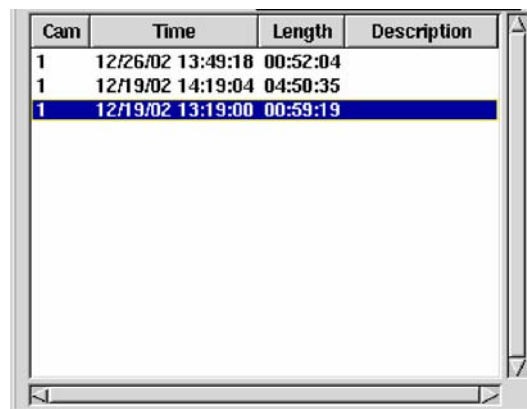


A screenshot of a database window with a table containing three columns: Cam, Time, and Length. The table has three rows of data. The window has a standard Windows-style border with a scroll bar on the right.

Cam	Time	Length	Description
1	12/26/02 13:49:18	00:52:04	
1	12/19/02 14:19:04	04:50:35	
1	12/19/02 13:19:00	00:59:19	

Figure 14-6: Camera Database

6. Select the date and time to view the clip.



A screenshot of the same database window as in Figure 14-6, but with the third row selected. The selection is highlighted with a blue background. The window has a standard Windows-style border with a scroll bar on the right.

Cam	Time	Length	Description
1	12/26/02 13:49:18	00:52:04	
1	12/19/02 14:19:04	04:50:35	
1	12/19/02 13:19:00	00:59:19	

Figure 14-7: Camera Selection

7. Double-click the selection or click “Open” The selected clip will appear in front of the Main Screen

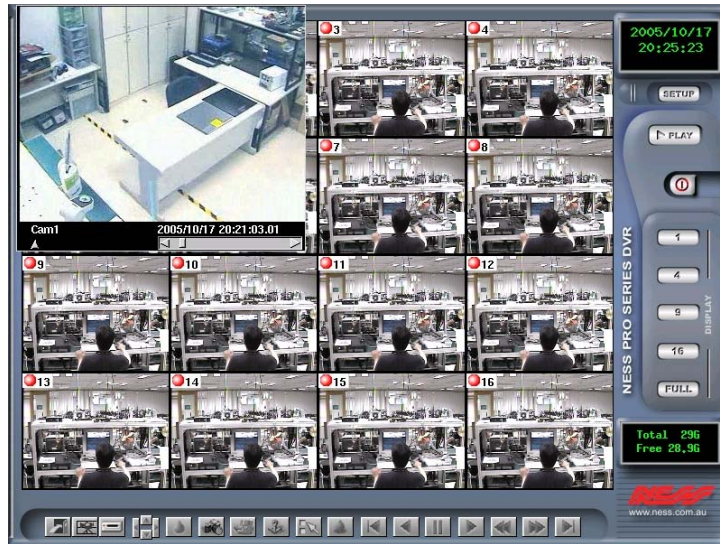


Figure 14-8: Recorded playback data


8. Click "**play**" from the Bottom Toolbar
9. Click the "**Snapshot**" icon, and a new window will appear to show the image that has been taken.

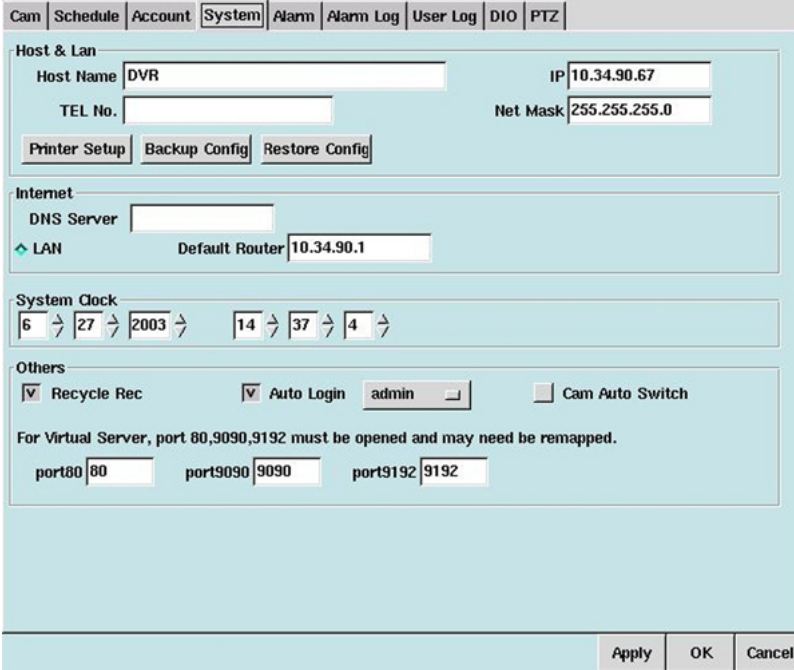
(Before taking a snapshot, press the "**pause**" button to freeze the picture)
10. Click the "**Export**" from the Bottom Toolbar to print the image.
11. If the print is successful, a new window will appear to give you a notice. Click "**Confirm**" to view the printed data.

Chapter 15

REMOTE SURVEILLANCE

The PRO SERIES DVR offers up-to-date IT technology standards and places itself in a unique bracket of excellence. The PRO SERIES DVR provides users with the capability to view live, and recorded data remotely. Currently many systems can support network capability but not many can support the same functions like the PRO SERIES DVR. All functions available on the local system can be operated from a browser remotely. Once you have setup the local LAN and Internet functionality from the System Window you are able to easily and conveniently view material from your digital video recorder remotely. Let's take a closer look at what happens when you want to view data remotely.

1. Click on the **Configuration** icon  from the Main Screen
2. Click the **System** Tab



Cam | Schedule | Account | **System** | Alarm | Alarm Log | User Log | DIO | PTZ

Host & Lan

Host Name: DVR IP: 10.34.90.67

TEL No.: Net Mask: 255.255.255.0

Printer Setup | Backup Config | Restore Config

Internet

DNS Server: Default Router: 10.34.90.1

System Clock

6 27 2003 14 37 4

Others


☒ Recycle Rec ☒ Auto Login admin ☐ Cam Auto Switch

For Virtual Server, port 80,9090,9192 must be opened and may need be remapped.

port80: 80 port9090: 9090 port9192: 9192

Apply OK Cancel

Figure 15-1: System Tab Screen for LAN identification

3. Identify your IP address 
4. Open your browser

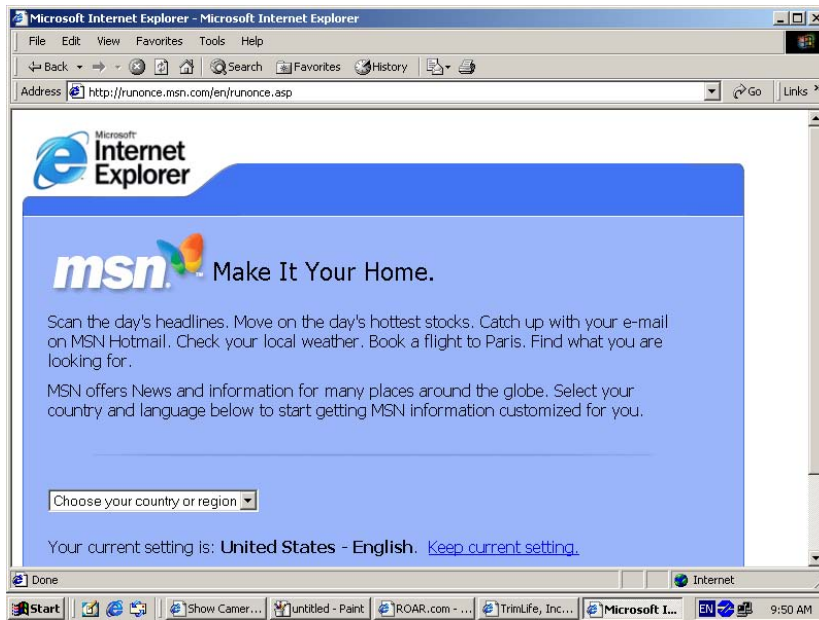


Figure 15-2: Browser IE.

5. In the address field enter the IP address
6. Hit **Enter**. The remote window will appear.

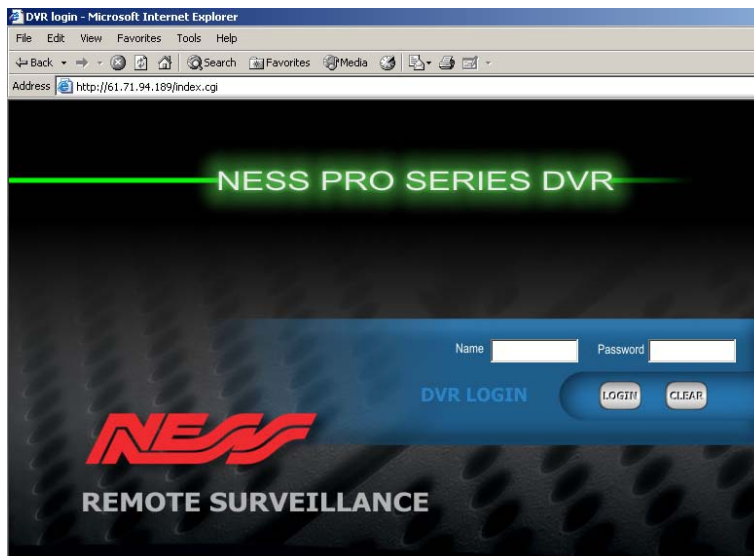
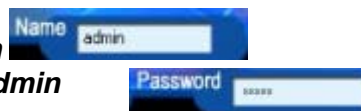


Figure 15-3: Browser Window

7. Under **Name** enter **admin**
8. Under **Password** enter **admin**
(The default password)



9. Click **Login**



10. The next screen is the main **Remote Browser Screen**

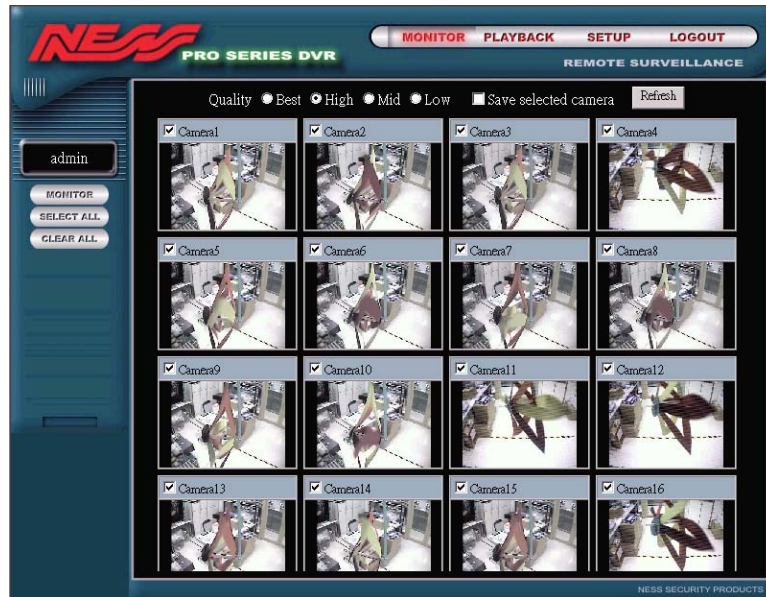


Figure 15-4: The Main Remote Surveillance Screen

The Main Remote Surveillance Screen has four parts to it. They are **Monitor**, **Playback**, **Setup**, and **Logout**.

- **Monitor** – Click this area to preview still images and monitoring live images and video.
- **Playback** – Click this area to view playback-recorded data.
- **Setup** – This part has 8 kinds of remote setting functions: **Camera**, **Schedule**, **Account**, **System**, **Alarm**, **Alarm Log**, **User Log** and **GPIO**
- **Logout** – Click this area to close all operations and return to the DVR remote login screen.

Lets go over each section one-by-one in more detail.

Monitoring

1. Click **Monitor**

Once you have clicked on **Monitor** a new screen will appear previewing all cameras connected to your PRO SERIES digital video recorder. These are static images taken from each camera.

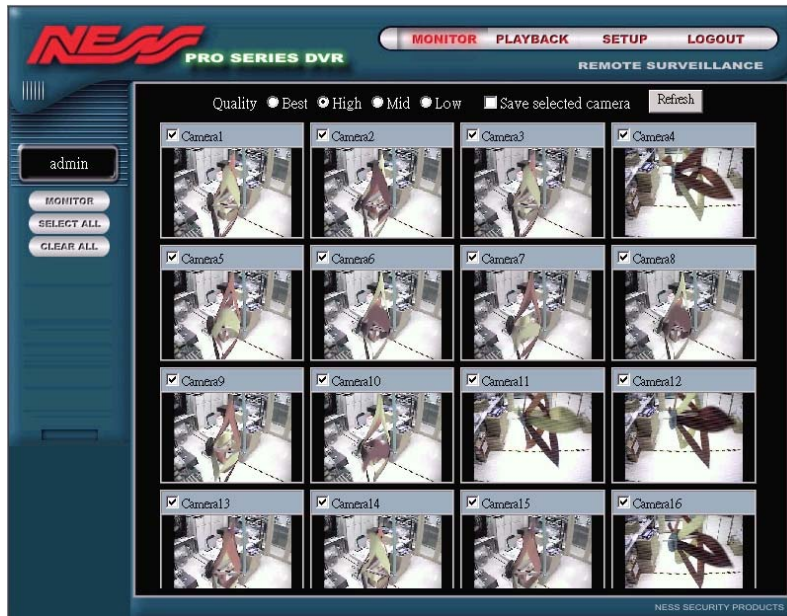


Figure 15-5: Remote Monitor Screen- Remote Monitoring

Each camera view has a checkbox, with the cameras name or identification (depending on how you configured the local machine)

2. Click the **“Clean All”** link to view disable all camera connections
3. Click the checkbox next to a particular camera to view a live feed
4. Click **Monitor** to view that particular camera.
5. Click as many checkboxes as you wish (or as many cameras that are connected to your machine)
6. Click **Select All** to view all cameras remotely

Single Remote View

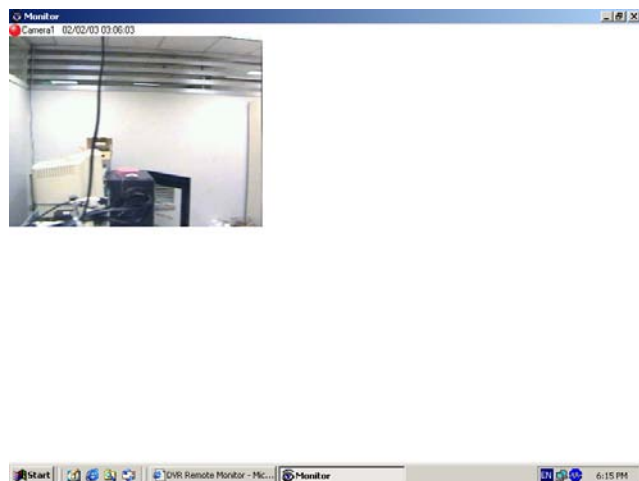


Figure 15-6: Single Remote View

Quad Remote View

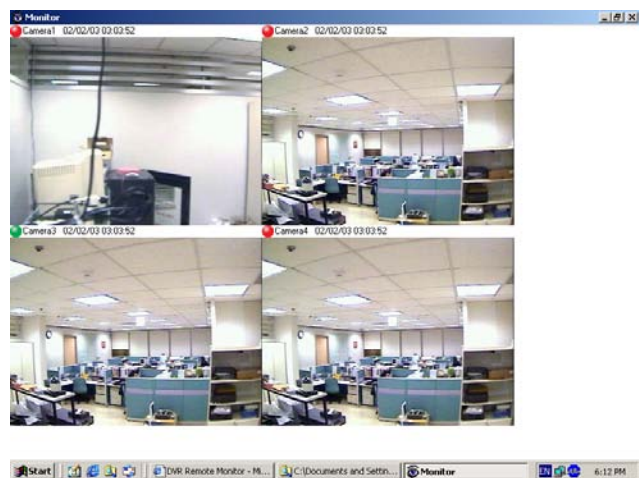


Figure 15-7: Quad Remote View

6-Camera Remote View

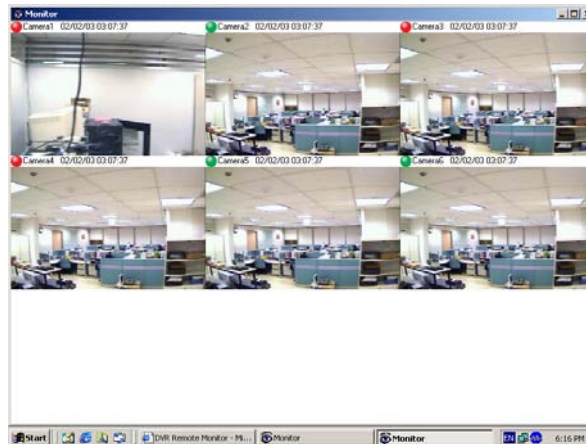


Figure 15-8: 6-Camera Remote View

12-Camera Remote View

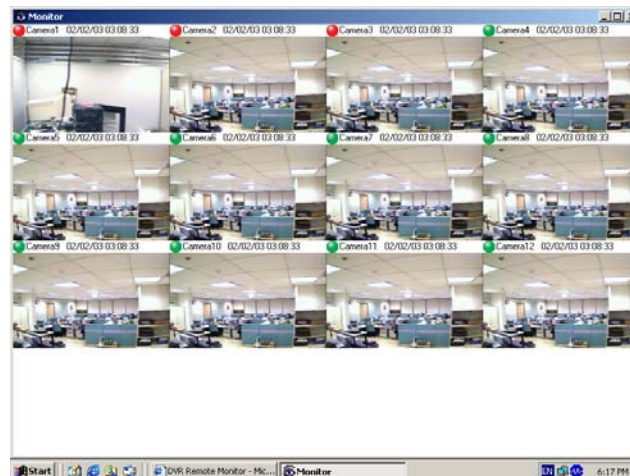


Figure 15-9: 12-Camera Remote View

Depending on the speed of your LAN or Internet connection, the viewing quality will change. Faster connections means better viewing capability.

Configuring Setup Remotely

The functions for setup remotely are exactly the same as they are locally. Lets take a closer look.

1. On the Main Remote Screen click **Setup**

Setup Link



Figure 15-10: Main Remote Screen for Setup

2. The first screen is the **Camera** setup browser window



Figure 15-11: The Remote Camera Configuration Screen

All remote functionality is similarly setup as the local machine. The only difference is the way the interface looks. On the left side of the main viewing area are the links to all the setup functions. Clicking on each of them will link you to the respective functions. Select a camera and various other parameters from the drop-down list.

3. Click the **Schedule** link to view the Remote Schedule Settings



Figure 15-12: Remote Schedule Screen

The remote schedule screen is divided into various parts for easy configuration. Select the **recording mode**, and **cameras** to start the configuration.

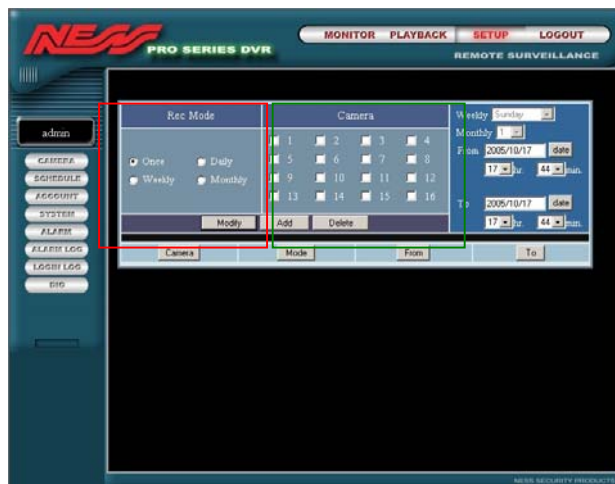


Figure 15-13: Remote Scheduling

4. Select the “**date**” icon. A pop-up calendar will appear.

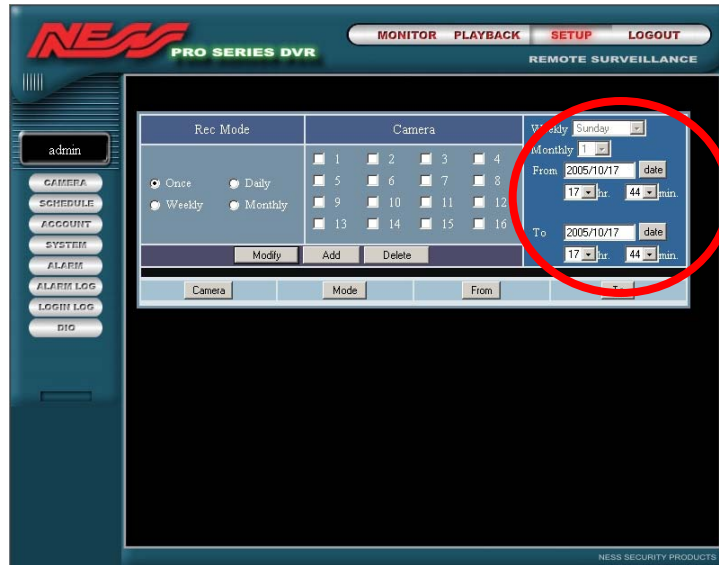


Figure 15-14: Remote Calendar scheduling

5. Click **"Add"** to activate the settings. Once you have completed all schedule settings you can view a log of all changes.

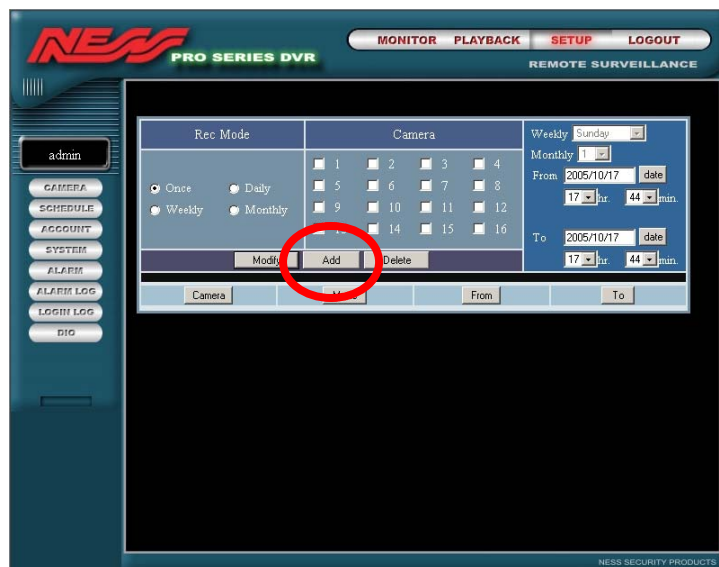


Figure 15-15: Remote Schedule Log

Modifying Scheduled Settings

1. Click the data you wish to modify

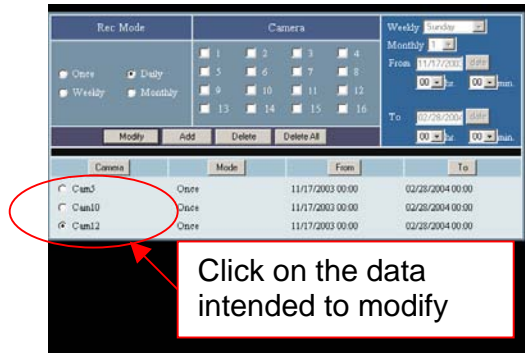


Figure 15-16: Remote Modify Window

2. Click the **Modify** icon

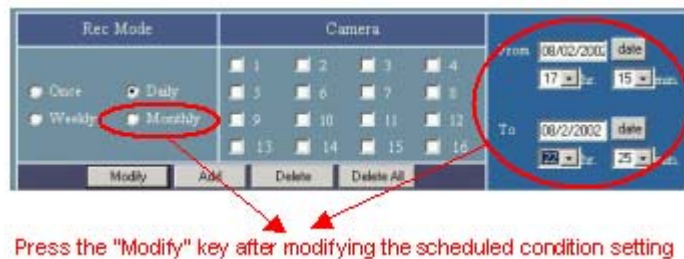


Figure 15-17: Remote Modify Parameters

3. View the modifications

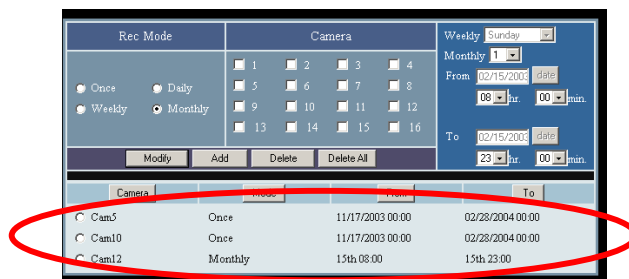


Figure 15-18: Modifying a Schedule remotely

Remote Account Settings

Configuring remote account settings provide administrators the chance to configure user settings from a remote site. This enables the administrator to make changes to the PRO SERIES DVR without the need to visit the DVR.

1. Click the Account Settings link on the browser. The administrator will see the main remote account screen

Name	Authority	Enable	Accessible Camera
admin	Supervisor	Enable	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Figure 15-19: Remote Account Settings Screen

2. Click **Add** to add a user. The screen below shows how a new user has been added with his/her respective rights

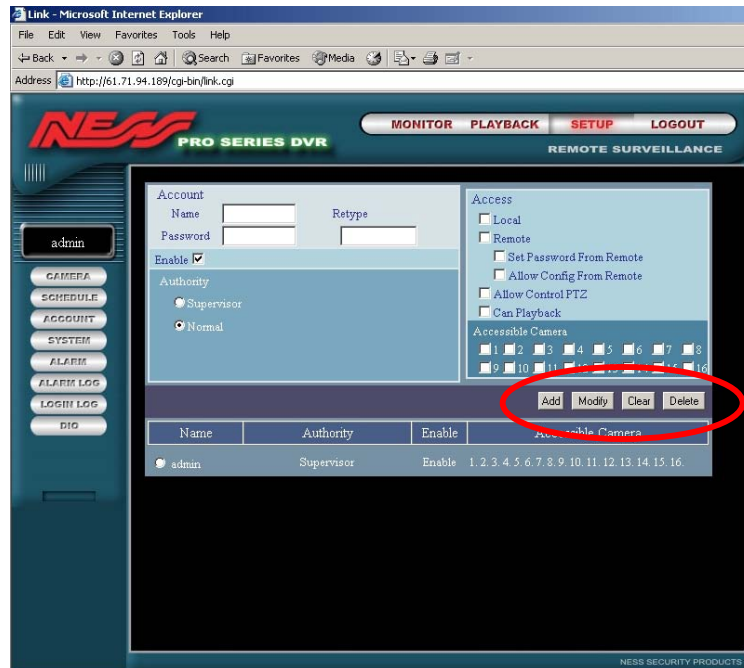


Figure 15-20: Adding users remotely

The same ease-of-use can be done with other functions.

Remote System Setup

1. Click on the System Settings link in the browser window

Host & LAN Version 3-5-6

Host Name: DVR IP: 61.71.94.189
Phone No.: NetMask: 255.255.255.248

Internet

☒ LAN: GatewayIP: 61.71.94.190
☐ Dialup: TEL No.: ConnectionIP: Disconnect Dial
Account: Password:

DNS ServerIP: Caution: Ports 80,9090,9192 of virtual server must be opened
Port80: 80 Port9090: 9090 Port9192: 9192

Others

System Clock: 10/17/2005 17:46:41 Change: 2005/10/17 date: 17 hr: 46 min
(32-102400)Kbit limit out bandwidth NewHD format: ext3
☐ Enable telnetd ☐ Minimize video size number P frames after I frames: 29
☒ Recycle Rec ☒ Auto Login: admin ☐ Camera Auto Switch
HD Total 116.73 G Free 0.63 G (0%)
OK Cancel

Figure 15-21: Remote System Settings

Here some of the functions are different from the main screen. As administrator you do not have to change the IP address functions on this screen. If these changes are made you will lose the connection. One of the changes made to the main local setup screen is the fact that here you are able to backup data to an external device. If you are using backup storage and you intend to backup data on your digital video recorder please consult your dealer on how to use this function.

Remote Alarm Setup

Remote alarm functions give users the opportunity to change alarm functions from a remote site.

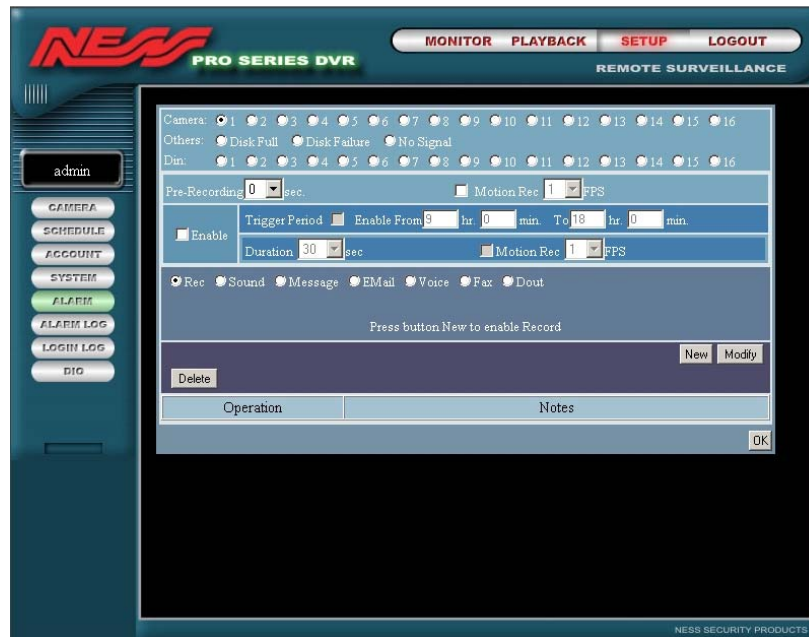


Figure 15-22: Remote Alarm Settings

Once you have made the selective choices available under **Remote Alarm** settings, click **OK** to make the changes effective

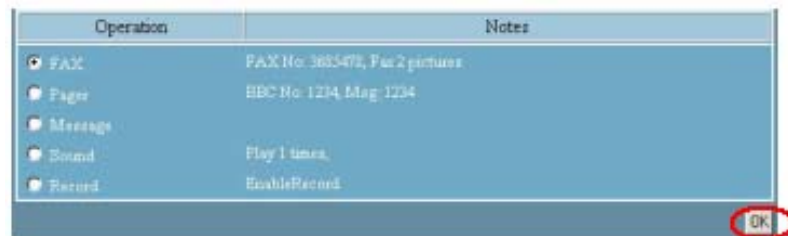


Figure 15-23: Remote Alarm verification

Remote Alarm Log Viewing

The current settings provide the administrator to view and delete all alarm logs. Click on the **Alarm Log** link. You will see the screen below.



Figure 15-24: Remote Alarm Log

If you would like to delete all logs, click in the checkbox next to **Select All**. To delete individual logs click next to the checkbox of the file you want to delete and click the **Delete** icon.

Remote User Log

The administrator can view all users that have logged onto the system. This means the administrator can have real-time evaluation of users accessing the machine. Click the **Login Log** link to view the user log remotely

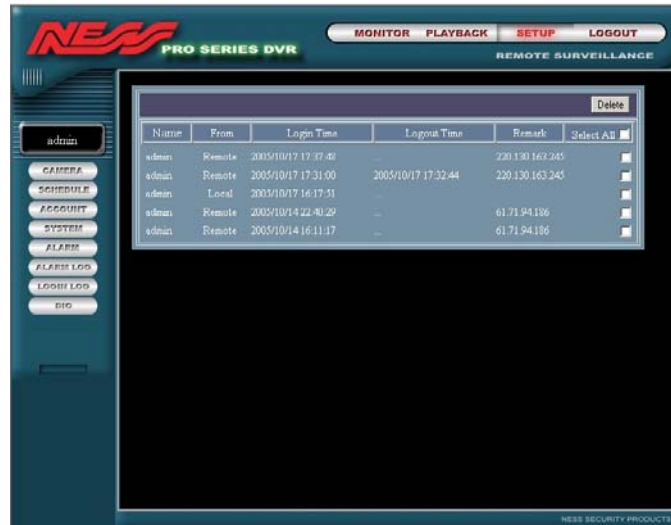


Figure 15-25: Remote User Log

If you would like to delete all logs, click in the checkbox next to **Select All**. To delete individual logs click next to the checkbox of the file you want to delete and click the **Delete** icon.

The next step is to view all playback material remotely.

Remote Playback

Go back to the Main Screen

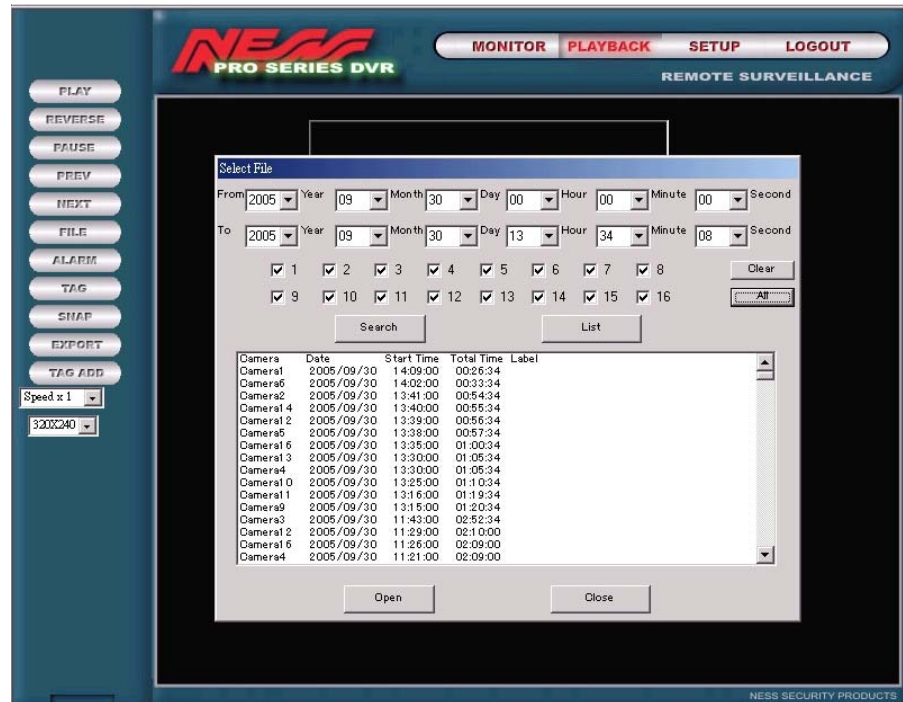


Figure 15-26: The Remote Playback Link

Understanding the Playback Side Toolbar

The playback sidebar gives users many choices. These choices give users the freedom to manipulate the image to their benefit. Lets take a closer look.

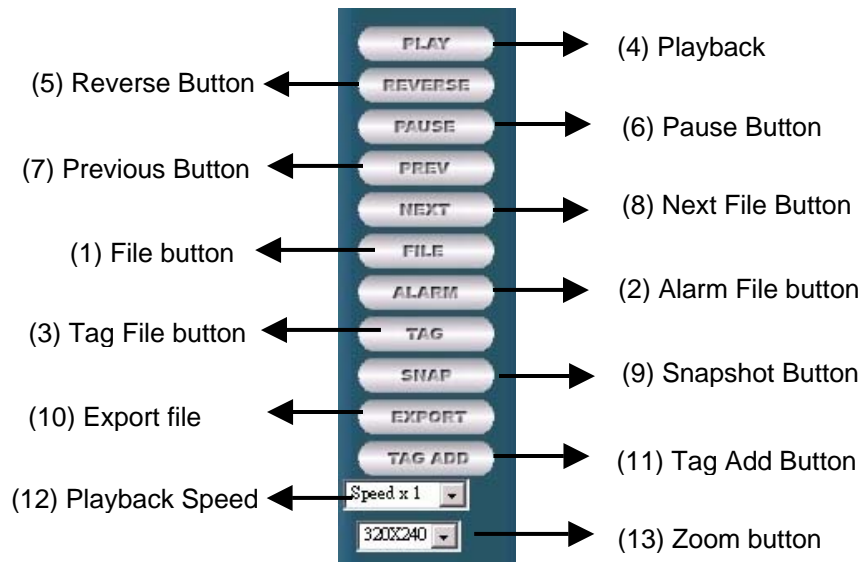


Figure 15-27: Playback Side Toolbar

1. **File Button:** Click this button to find the file you want to view
2. **Alarm File Button:** Click this button to find a file by alarm
3. **Tag File Button:** Click this button to find a file by its tag
4. **Play Button:** Click this button to play the file
5. **Reverse Button:** Click this button to rewind the played image
6. **Pause Button:** Click this button to stop playing the playback
7. **Previous Button:** Click this button to go to the previous frame
8. **Next Button:** Click this button to go to the next frame
9. **Snapshot Button:** Click this button to take a snapshot and print it out
10. **Export Button:** Click this button to export and save an image to disk
11. **Tag Button:** Click this button to find a tagged image or file
12. **Speed Drop Down List:** Click this list to change the viewing speed
13. **Zoom Out Button:** Click this button to zoom in and out of the image

The very next screen puts you in playback mode. On the left side you will see a playback link. This link will allow you to view all playback images.

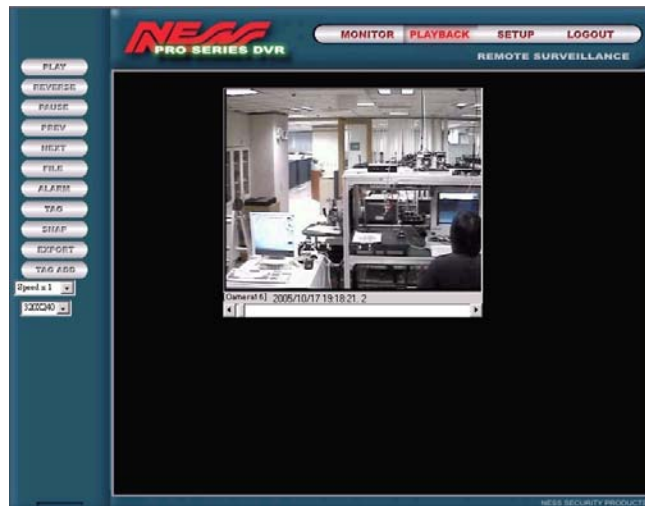


Figure 15-27: The Remote Playback screen

In this remote playback-viewing window, there are three choices to access the playback files. The choices are **File** (from a particular file), **Alarm File**, and **Tag File**.

The figure below shows the operation function keys of each video screen. You may fast-forward at 2,4,6,8 or 10 times speed. Slow-forwarding at 1/2,1/4,1/6,1/8 or 1/10 times speed.

There is a horizontal scroll bar on the top of the playing window, which facilitates the user to fast search films. You may press and hold the left mouse button on it and drag it from left to right. Once you have found your searched video image, click the “**Play**” button at the right side to start.



Figure 15-28: Remote Playback Window

Playback by File

In order to view files or playback recorded data from the PRO SERIES DVR remotely. Once you have clicked the File icon, a new pop-up window will appear.

1. Select the camera, and the time you wish to preview.
2. Click the search button to list all recorded data for that particular time frame.

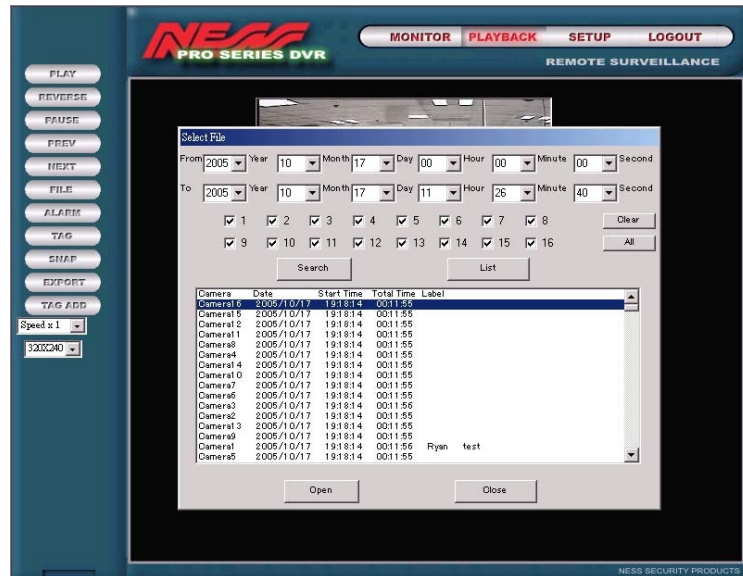


Figure 15-29: Playback by File

Move the mouse to the file you want to play, and double-click the file to play it.

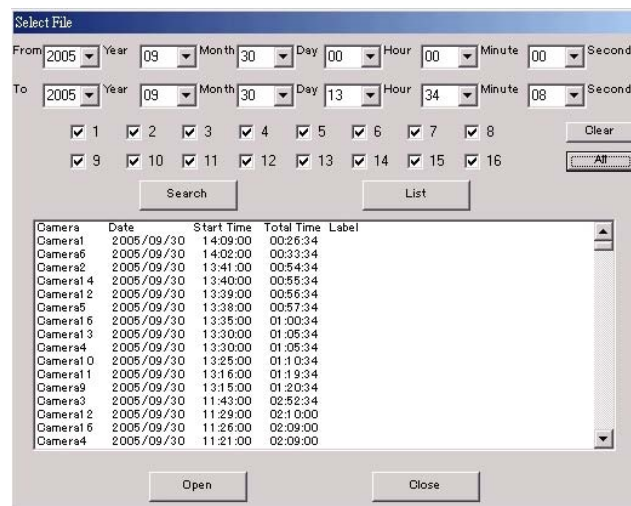


Figure 15-30: File Selection

Once you have clicked the file a frame will appear showing the selected image.

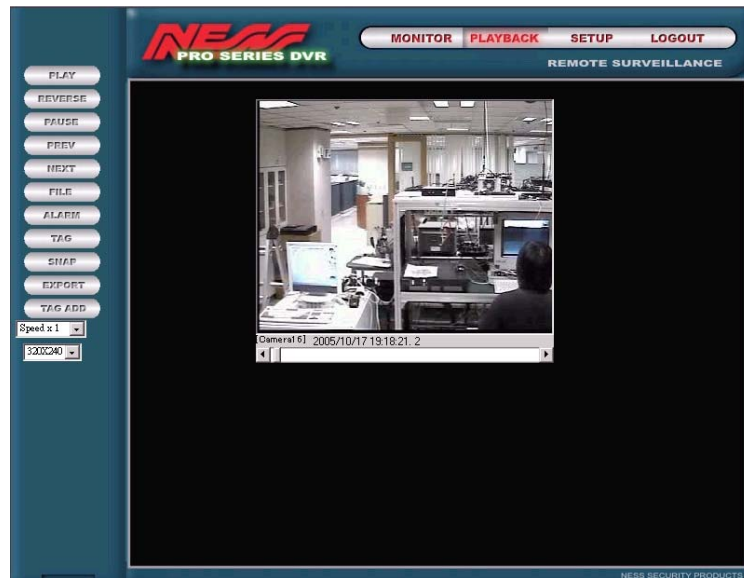


Figure 15-31: Remote Playback image

When you want to see the image enlarged, just click the “Zoom In” button and then the image will be enlarged. See image below.

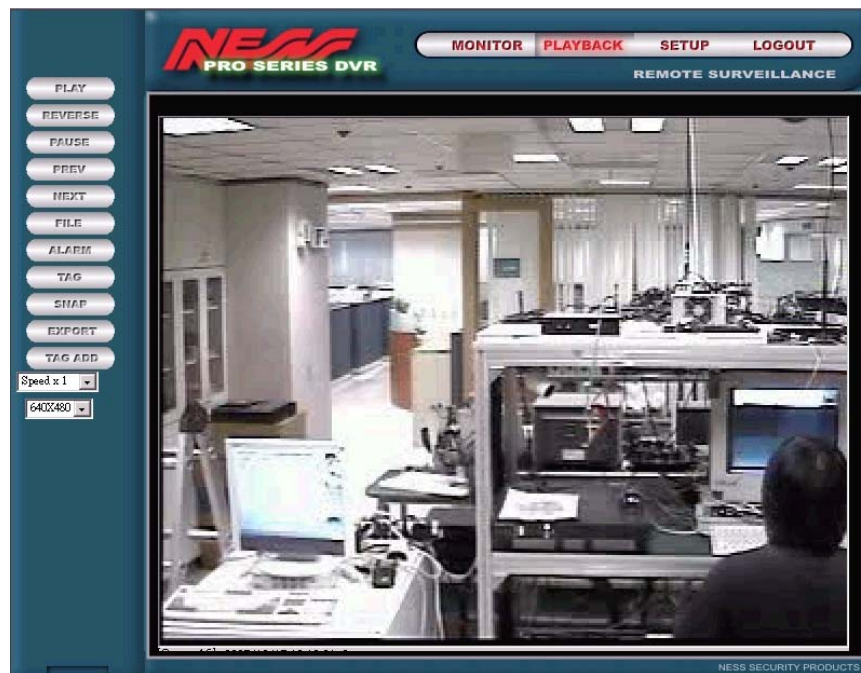


Figure 15-32: Remote Playback Enlarged Image

Taking a Snapshot

The PRO SERIES DVR gives users the opportunity to take pictures of recorded data. While viewing the playback image, there might be a time when you would like to take snapshots of video and print it out. In order to do this:

1. Click the Snapshot button
2. From the pop-up window, select the resolution size of your print. The system provides three resolutions, 320x240, 480x320 and 640x480.

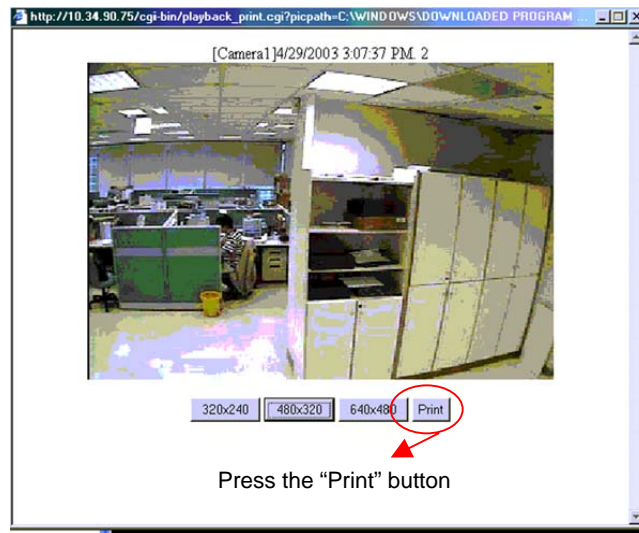


Figure 15-33: Snapshot Resolution

3. Choose the resolution and click Print. You will be prompted to select a printer.

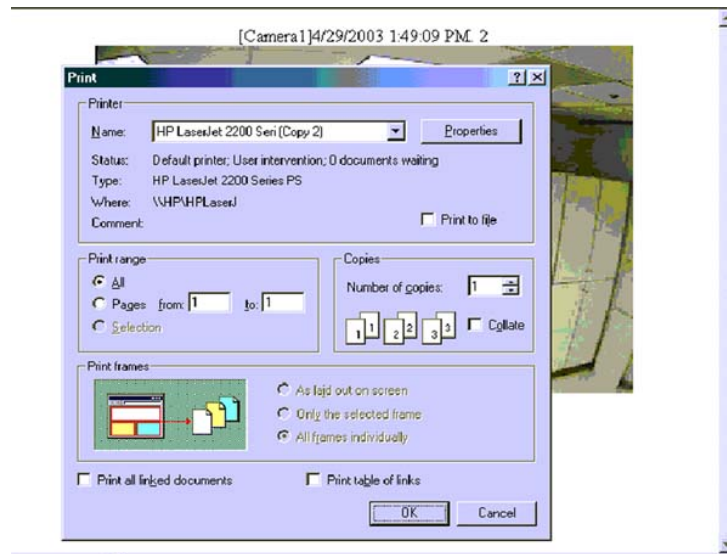


Figure 15-34: Printer Selection

4. Select your printer and click **OK**

Exporting an Image

Exporting an image allows users to access images from the hard disk and save it onto your local hard drive.

1. Click the **Export** button
2. Select an exporting duration



Figure 15-35: Export Duration

3. Click "**Save this file to disk**" and click **OK**

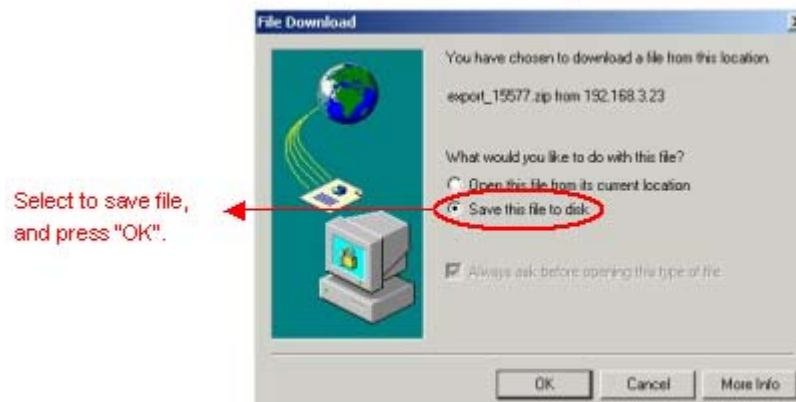


Figure 15-36: Save to disk

4. Choose the location and click save.

Select the path you want to save, and press "Save" after entering the file name.



Figure 15-37: Saving to Location

Inserting a Tag

Inserting a tag allows users the choice to watermark an image or recorded video so that they can reference it in the future. To create a tag:

1. Click the Tag button on the playback side toolbar
2. The Tag pop-up window will appear asking for a tag name



Figure 15-38: Tag Name Field

3. Insert a Tag name
4. Click on the Playback Side Toolbar and click Tag File

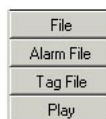


Figure 15-39: Tag File List

5. Select the file you wish to view.
6. Click Open (to view the image) or delete to discard the file

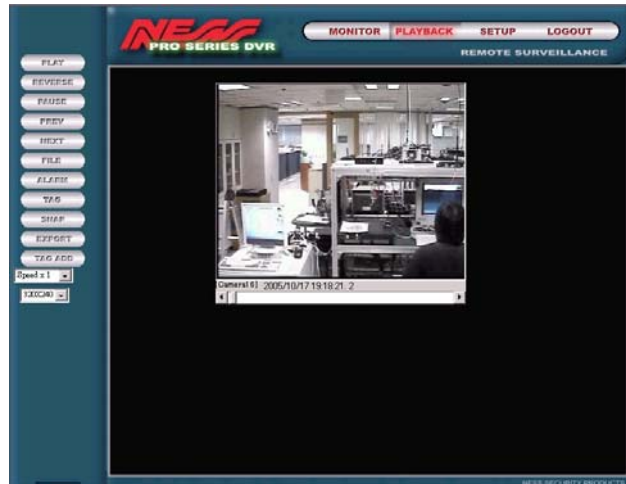


Figure 15-40: The Tagged playback file

Remote GPIO Settings

The operation on remote GPIO is the same with local settings on DVR host. Once you have added all the GPIO modes, click “OK” in the right corner to save the changes to the DVR Host and make them effective.



Figure 15-41: Remote GPIO Screen

After completing all the settings or after using this function, click “Main” to use other remote functions. Or you can click “Log-out” to leave remote monitoring system.

Appendix A

PRO 16/8 RAID SOFTWARE PROBE FUNCTION

In order to use “Backup to NAS”, “NTP”, and “Multi-Playback” functions of your DVR, you must purchase and install one KEYPROBE from your vendor this is optional.




Connect the optional KEYPROBE with the print port. (The printer port remains operational and can be connected to a printer)

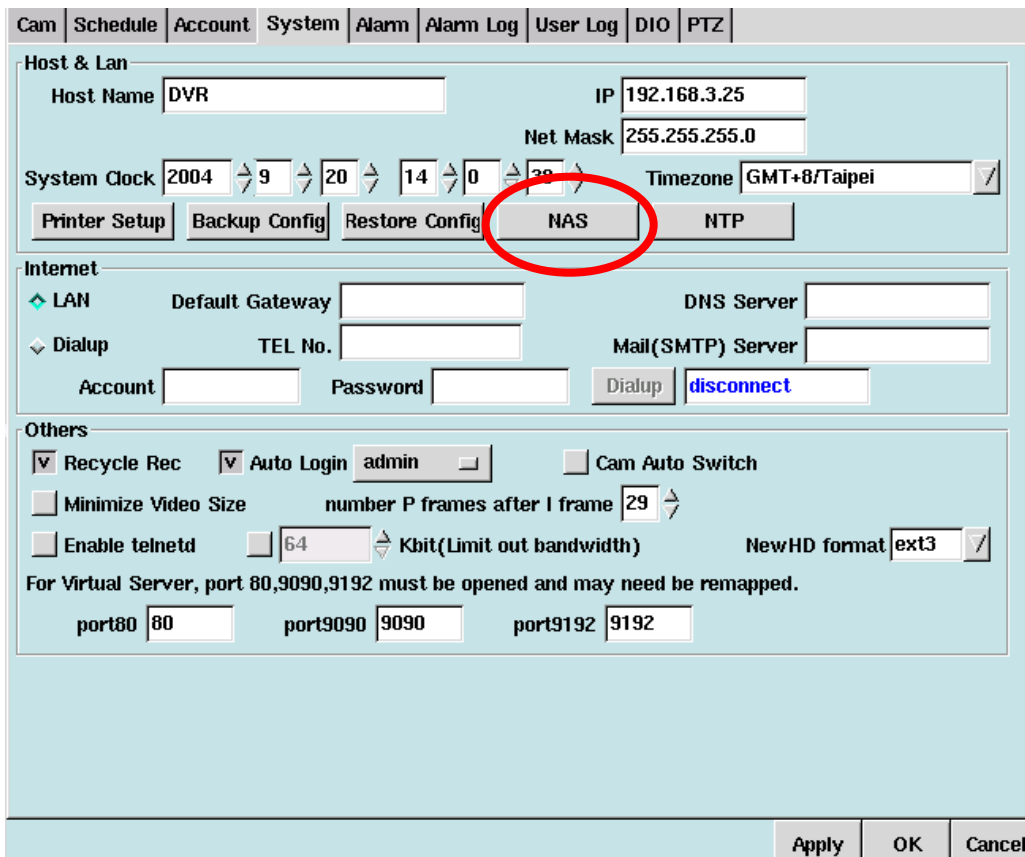


Backup to NAS (Network Attached System)

Because the image data of the DVR are larger than common file data, the demand on storage space will be higher. NAS can support IP network protocols; therefore users can backup their DVR data to NAS through Internet/LAN at anytime.

Steps:

1. Click the “**Setup**” icon  on the main screen.
2. Click the “**System**” tab.
3. Click the **NAS** button to popup the NAS Setup windows.



Cam | Schedule | Account | **System** | Alarm | Alarm Log | User Log | DIO | PTZ

Host & Lan

Host Name: IP:
Net Mask:

System Clock: 2004 / 9 / 20 / 14 / 0 / 28 / Timezone: GMT+8/Taipei

Printer Setup | Backup Config | Restore Config | **NAS** | NTP

Internet

LAN: Default Gateway: DNS Server:
Dialup: TEL No.: Mail(SMTP) Server:
Account: Password: Dialup:

Others

☒ Recycle Rec ☒ Auto Login ☐ Cam Auto Switch
☐ Minimize Video Size number P frames after I frame
☐ Enable telnetd Kbit(Limit out bandwidth) NewHD format

For Virtual Server, port 80,9090,9192 must be opened and may need be remapped.
port80 port9090 port9192

Apply OK Cancel

NasSetup

☒ Enable

Path: //BACKUP/nas1

User: dvr

Password: *****

☒ OverWrite

UpperBound: 400 MB

LowerBound: 200 MB

BackupPeriod: 1 hour 5 min

Volume: 10 GB

OK Status Cancel


4. **Enable:** Click the “enable” checkbox to enable the NAS feature.
5. **Path:** Fill in the backup pathname including the IP/Host name of NAS and the DVR backup folder name on NAS (example: in the above picture, Backup stands for the host name of NAS and nas1 is the name of DVR backup folder.)
Note: One NAS can connect multiple DVR hosts, in order not to conflict the back-up data; their folders’ names should be different.
6. **User:** Fill in the login user account on NAS.
7. **Password:** Fill in the password for the corresponding user.
8. **Overwrite:** If you want to recycle your backup NAS storage when storage is full, click the “Overwrite” checkbox to enable it. Once overwrite is enabled, NAS will initiate deleting files. The deletion will be based on the free space lesser or equal to the **Lower band**. This procedure will be continued until the free space is more or equal to the **Upper band**.
9. **Backup Period:** DVR will not continuously archive data to NAS; the “ Backup Period” is the time interval to make ensure NAS synchronized with the DVR and backup new data to NAS. (In default, the system will auto backup data every 1 minute.)
10. **Volume:** “**Volume**” is the total available space for your DVR backup. (NAS can backup the data of various DVR hosts, and here we refer to the available space of your DVR can have).

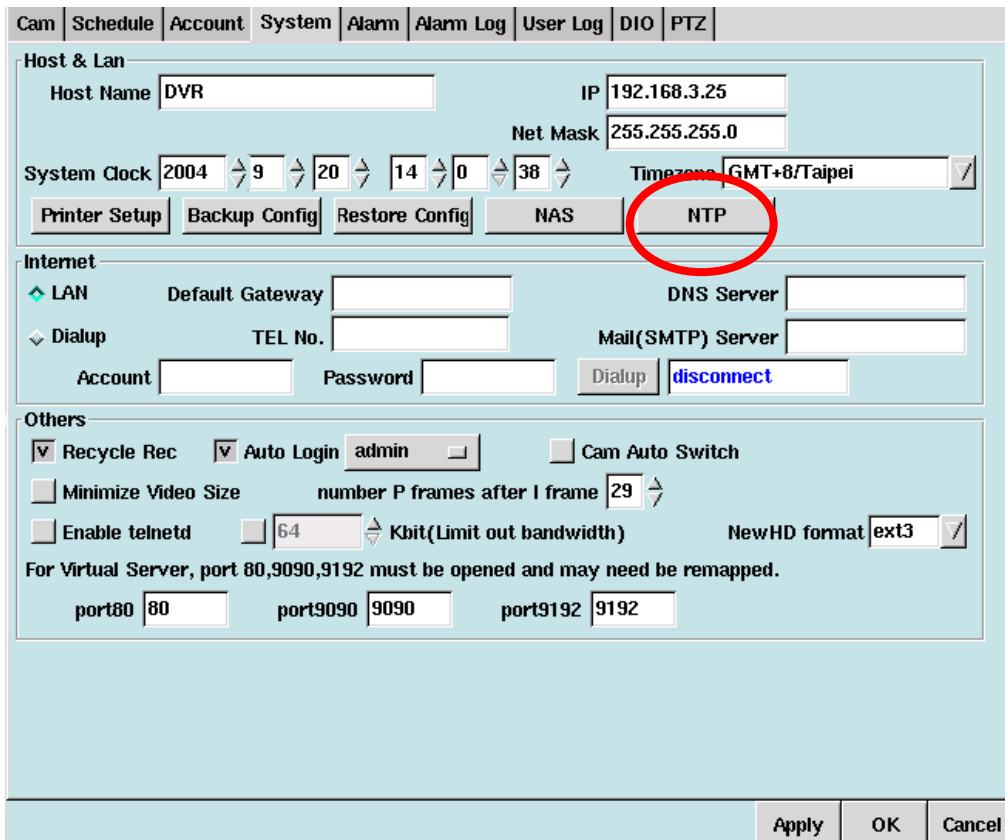
Example: Volume is set to 10Gb, Upper band 400MB, Lower band 200MB
Once the free space on NAS is less than 200MB, the system will delete the oldest files, until the free space more than 400MB.)

NTP (Network Time Protocol)

The Network Time Protocol (NTP) is used to synchronize the clock of a DVR to another reference time source.

Steps:

1. Click the “**Setup**” icon  on the main screen.
2. Click the “**System**” tab.
3. Click the “**NTP**” button to popup the NTP setup windows.



The screenshot shows the 'System' configuration tab in a DVR interface. At the top, there is a navigation bar with tabs: Cam, Schedule, Account, System (selected), Alarm, Alarm Log, User Log, DIO, and PTZ. Below the navigation bar, the 'Host & Lan' section contains fields for Host Name (DVR), IP (192.168.3.25), and Net Mask (255.255.255.0). The 'System Clock' section shows the date and time (2004/9/20 14:03:38) and the Timezone (GMT+8/Taipei). Below these fields are buttons for Printer Setup, Backup Config, Restore Config, NAS, and NTP. The NTP button is circled in red. The 'Internet' section has options for LAN (Default Gateway, DNS Server) and Dialup (TEL No., Mail(SMTP) Server, Account, Password, Dialup, disconnect). The 'Others' section includes checkboxes for Recycle Rec, Auto Login (admin), and Cam Auto Switch, as well as fields for Minimize Video Size, number P frames after I frame (29), Enable telnetd (64 Kbit), and NewHD format (ext3). At the bottom, there is a note about virtual server ports and fields for port80 (80), port9090 (9090), and port9192 (9192). The bottom right corner has buttons for Apply, OK, and Cancel.

NTP Setup

NTP Server



☐ Enable

Active	NTP Server
1	128.250.36.3
1	203.60.1.2
1	200.19.119.69
1	142.3.100.2
1	216.244.192.3
1	watch.stdtime.gov.tw
1	tock.stdtime.gov.tw

4. **NTP Server:** Fill in the "NTP Server" and click the "Add" button to put the NTP server into the list. DVR can have their own time server added for keeping a DVR synchronized. (Several NTP servers have been added by default)
5. **Active:** Activate the selected NTP server.
6. **Deactivate:** the selected NTP server.
7. **Delete:** Delete the selected NTP server in the list.
8. **Enable:** Clicking the "Enable" checkbox, enables time interval updates to the DVR every hour, day, week or month as nominated.
(Note: The DVR will only connect to the top/first highlighted NTP server within the list, and if the connection fails, the DVR will connect to the next one and so on.)
9. **Time Adjust:** manually adjusts the clock on NAS.
10. **Log:** status logging and monitors every time correction

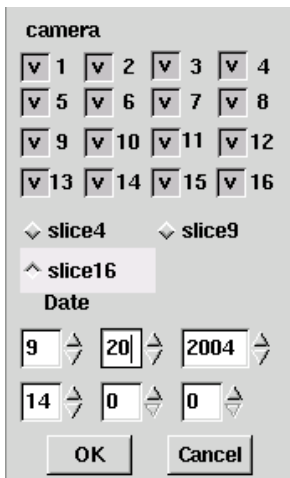
Multi-Playback

Let's take a look at how we can use the multi-playback function.


1. Click the "playback"  button on the main screen, and then click  (multi-playback), you'll see the Multi-Playback windows as below.








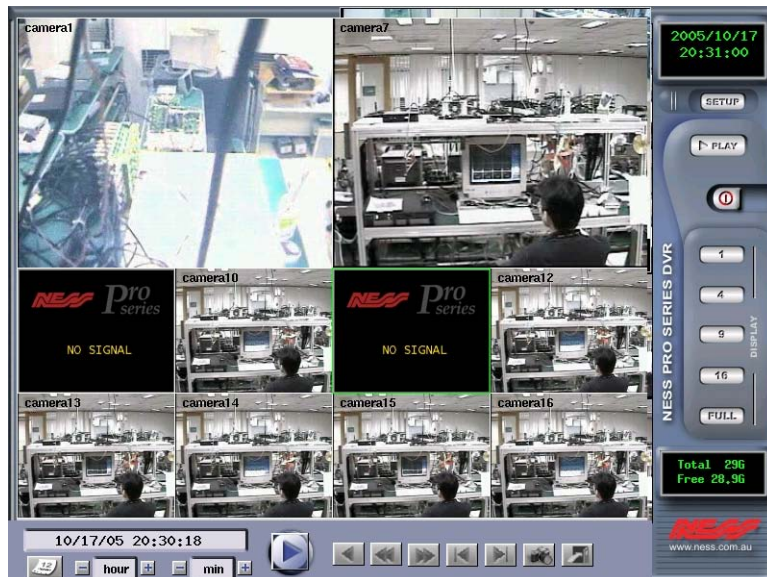
2. Click  to select the playback clips according to cameras and date/time.



3. Click the slice4, slice9, or slice16 to select 4-camera, 9-camera, or 16-camera synchronous multi-playback respectively.

4. Click "OK" and then click the  icon to playback.

5. You can use “Hour  hour ” and “Minute  min ” to change the start playback time.
(Example: Click the hour , the playback time will be changed from 14:00 to 15:00.)
6. You can click any camera view to zoom the image.



Appendix B

TROUBLESHOOTING

Your Digital Video Recorder has passed through a series of rigorous quality assurance tests to guarantee reliable performance. However, your new Digital Video Recorder is a sophisticated piece of equipment and as such may malfunction if used incorrectly or if one of its components fails. Included are important tips and information you will need to help locate and solve some of the problem you may encounter.

An Approach to Troubleshooting

In general, troubleshooting involves an organized systematic approach to problem solving. Try to isolate the problem and identify the defective device (hardware) or improper setting (software). When you have a problem, you should do a thorough visual inspection of the Digital Video Recorder. If none of the indicators are lit and you cannot hear the HDD spinning, then the Digital Video Recorder is probably not receiving power. Make sure the power cord is plugged in, and securely connected. If you are using a power strip or surge protector, ensure that these devices are turned on.

Improperly connected cables cause often problem. If you are using peripherals such as a mouse or keyboard, make sure they are properly connected to their respective ports. Ensure that none of the connectors' pins are bent or broken. Check all cables connected to the Digital Video Recorder. If any are cut, frayed, or damaged in any way, replace them right away.

Never use a damaged cable. A damaged cable is not only a fire hazard; it may also cause a short circuit, resulting in irreparable damage to the Digital Video Recorder.

Isolating the Problem

The problem that you will encounter can be divided into two basic categories: hardware problem and software problem. Hardware problem can be further divided into electrical and mechanical problem. You will know you have a hardware problem if the screen is dark, the computer cannot read the disk drives, or you get an error message during the Power-On Self Test (POST).

Software errors can occur at several levels. In addition, each application software package has its own set of error messages. It is important to determine whether the software error message you are getting is from the operating system. Once you know this, you can refer to your dealer for a solution to the problem.

Checking Cables and Connections

Start by performing a careful visual inspection of the exterior of the Digital Video Recorder. If no lights are displayed, make sure that your Digital Video Recorder and its peripherals are getting power and communicating with each other properly.

To check the power cables, and connections:

- Check the power outlet or power strip with an item that you know is functioning properly. A lamp or radio is a convenient item for checking the power. You may also need to check the fuses and breakers in your electric box.
 - If the outlet is controlled by a wall switch, make sure that the switch is on.
 - If the outlet is controlled by a dimmer switch, use a different outlet.
 - If your Digital Video Recorder is plugged into a power strip with an On/Off switch, make sure the switch is on.
1. With the Digital Video Recorder's power switched off, check all cable connections. If the Digital Video Recorder is connected to any peripheral devices, look for loose or disconnected cables. If the Digital Video Recorder is too close to a wall, a cable connection may be loose or the cables may be crimped.
 2. When you are certain that you have power available and all connections are good, turn the Digital Video Recorder on again. If the Digital Video Recorder still does not start, you may have a hardware problem.

Note!

Do not substitute the Digital Video Recorder's cable with another cable from a different type of device even if the cables look exactly the same. The wiring inside the cables may be different

The Power-On Self Test

The Power-On Self Test (POST) runs every time you turn on or reset the Digital Video Recorder. The POST checks memory, the main system board, the display, the mouse, the disk drives, and other installed options.

A few seconds after you turn on your Digital Video Recorder, a copyright message appears on your display screen. A memory test message appears next; as the test continues, memory size increases until all installed memory is tested.

Two classifications of malfunctions can be detected during the POST:

- Error messages that indicate a failure with the hardware, the software, or the *Basic Input/Output System* (BIOS). These *critical malfunctions* prevent the Digital Video Recorder from operating at all or could cause incorrect and apparent results. An example of a critical error is CPU malfunction.
- Messages that furnish important information on the power-on and boot processes (such as memory status). These *non-critical malfunctions* are those that cause incorrect results that may not be readily apparent. An example of a non-critical error would be a memory chip failure.

In general, if the POS detects a system board failure (a critical error), the Digital Video Recorder halts and sends out a series of beeps. If failure is detected in an area other than the system board (such as the display, keyboard or mouse) an error message is displayed on the screen and testing is stopped. It is important to remember that the POST does not test all areas of the Digital Video Recorder, only those that allow it to be operational enough to run diagnostic programs.

If your system does not successfully complete the POST, but displays a blank screen, emits a series of beeps, or displays an error code, consult your dealer.

General Hardware Problem

A few common hardware problem and suggested solutions are presented in the table below:

Problem	Solution
You turn on the Digital Video Recorder and nothing happens.	Check the power LED indicator. If it is on (GREEN) then power is being supplied to the Digital Video Recorder. If the LED is not on, make sure that the power cord is securely connected to a live power source. If the Digital Video Recorder still does not come on, remove the power supply from its compartment, reinsert it, and try again. If there is still no power, contact your dealer.
The display screen is dark	Check the Brightness and Contrast toolbar in single view. If the controls are turned too far down, the screen will be dark. If after trying this, the screen is still blank, try rebooting the Digital Video Recorder by pressing the power on button. If this does not solve the problem, turn the Digital Video Recorder off, wait five seconds, and then turn it back on. If the problem persists after trying all of these suggestions, turn off the digital video recorder and consult your dealer or a qualified service technician.

Problem	Solution
The Digital Video Recorder keeps making a beeping noise at regular intervals.	When the Digital Video Recorder is low on hard disk drive capacity, it emits an audible warning signal. Turn off the Digital Video Recorder, and replace the hard drive.
You hear irregular beeps during operation of the Digital Video Recorder and the system halts.	The problem is beyond the scope of this manual. Contact technical support.

Problem	Solution
The mouse does not work.	Check the connection and if the problem continues, replace the mouse.
The system cannot access the Hard Disk Drive	Check that a hard drive is properly inserted in the drive. Make sure that the correct hard disk drive is used.
Your screen freezes up and it does not respond to any external input.	Consult a technician or contact your dealer

Problem	Solution
You cannot save data to a floppy diskette.	Ensure that the disk has been formatted. The diskette is write-protected. Eject the diskette, slide the write-protect tab to the closed position, and try again.

	<p>The diskette is full. Try using another diskette or free up some space on the diskette.</p> <p>The floppy disk drive is not operating. Contact your dealer for support.</p>
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Contacting Your Dealer

If you still have a problem after reading the preceding sections, the next step is to contact your dealer. Your dealer can determine if the problem is something that requires the Digital Video Recorder to be taken to the dealer. Before you call your dealer; however, prepare the following information:

- How is your Digital Video Recorder configured? Your dealer needs to know what peripheral devices you are using.
- What messages, if any, are on the screen?
- What have you done already to try to solve the problem? If you have overlooked a step, your dealer may be able to solve the problem over the phone.

Appendix C

CONFIGURING ACTIVEX

ActiveX is a type of Vscript. Basing on the communication between ActiveX and The main application, the naming space provided for the programmer can be managed successfully.

ActiveX Settings

The relative settings about the security of ActiveX can be configured in the way below:

- Click the “**Tool**” Icon under MS Internet Explore to select “**Internet**” choices.
- Click “**Security**” Tab

Method 1: Lower the Security Level of Internet

Lowering the level is only required during setup, do not leave in this lowest setting.

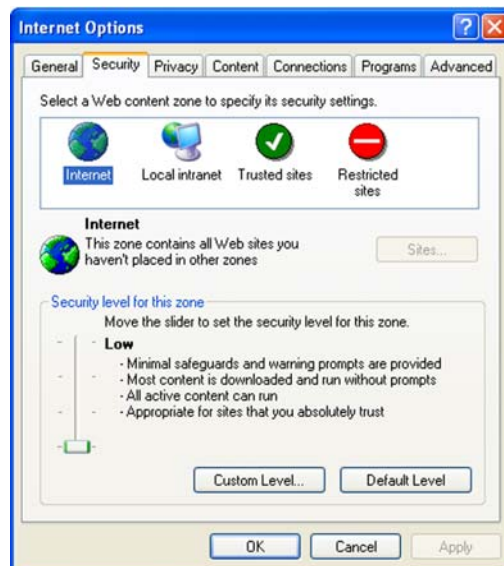


Figure b-1: Security Tab

Method 2: Set to be Trusted Sites

Only trusted sites authority of the configured website.

(1). Click to choose the” **Trusted Sites**”

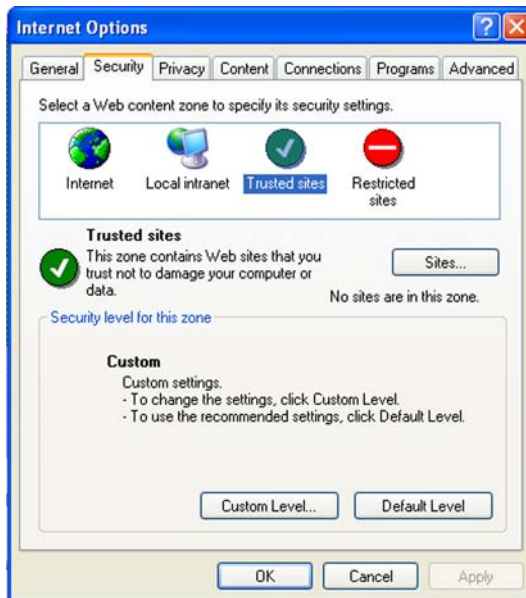


Figure b-2: Creditable Website Tab

(2). Click “ **Sites**” Icon.

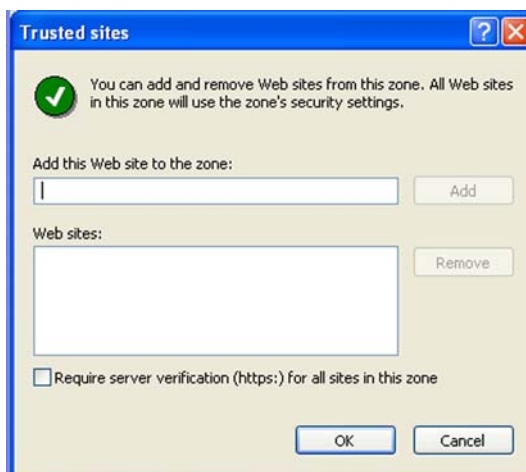


Figure b-2: Creditable Website Tab

(3). Add this website to this field.

(4). Cancel the selection of “**Require server verification (https) for all sites in this zone**”

(5) Click “ **Add** “, then “ **OK** “ to complete the setting.

Appendix D

Warranty

One year warranty from the date of purchase against defects in materials or workmanship, when the PRO 16/8 RAID DVR is installed and, operated in accordance with the instructions provided in this user's manual and is in normal use.



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