INSTRUCTION MANUAL

DV3 SERIES

MPEG-4 DIGITAL VIDEO RECORDER

NVDV3-4000

NVDV3-8000

NVDV3-16000

NUVICO®

Connecting Videos Anywhere™

CONTENT VERIFICATION

Before installing the DVR, please make sure that the following items are included in the box:

1. Digital Video Recorder
2. Remote Controller
3. DVR Client Software CD
4. Power Cable
5. Two AAA Batteries
6. RS232 to Eight RCA Audio Input Cables
7. 16-ch Loop Out Cable (Only applicable to 16-ch unit)
8. This Instruction Manual

If any of these materials are missing, please contact the vendor or NUVICO customer help desk immediately.

DISCLAIMER

- While every effort has been made to ensure that the information contained in this guide is accurate and complete, no liability can be accepted for any errors or omissions.
- NUVICO reserves the right to change the specifications of the hardware and software described herein at any time without prior notice.
- No part of this guide may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form, by any means, without prior written permission of NUVICO.
- NUVICO makes no warranties for damages resulting from corrupted or lost data due to a mistaken operation or malfunction of the Digital Video Recorder, the software, the hard drives, personal computers, peripheral devices, or unapproved/unsupported devices.

Trademark Acknowledgements

- NUVICO, DVRPlayer and DVR Mini Player are trademarks of NUVICO, Inc.
- DiamondMax Plus 9, DiamondMax 16, MaxLine II and MaxLine Plus II are a trademark of Maxtor Corporation.
- Barracuda series HDDs are a trademark of Seagate Corporation.
- Microsoft, Windows98, Windows ME, Windows NT, Windows XP, Internet Explorer are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Other names and products not mentioned above may be registered trademarks or trademarks of their respective companies.

FCC NOTICE

Digital Video Recorder, Model NVDV3-4000N, NVDV3-8000N, & NVDV3-16000N.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions;

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experience radio/TV technician for help.

The hard disk provided with the digital video recorder must be used with this equipment in order to comply with Class B limits in subpart B of Part 15 on FCC rules.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment.

NUVICO, Inc.
53 Smith Street, Englewood, NJ 07631
Tel: (201) 541-1605

Canadian Radio Interference Regulations
THIS CLASS B DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE CAUSING EQUIPMENT REGULATIONS.

Read this First

Test Sessions

Before you try to record important subjects, we highly recommend that you make several test recording and playback sessions to ensure that the Digital Video Recorder is operating and being operated correctly. Please note that NUVICO, its subsidiaries and affiliates, and its distributors are not liable for any consequential damages arising from any malfunction of a Digital Video Recorder or its accessory, including the hard disk drive, which results in the failure of an image to be recorded or to be recorded in a format that is machine sensible.

The Privacy act of 1974 (5 U.S.C. § 552a)
Please note that NUVICO Digital Video Recorders are intended for recording of surveillance use and should never be used in a manner that invades other people's privacy or contravenes international or domestic privacy act and its regulations. Please be advised that in certain cases the recording of individuals, private properties, or commercial properties by means of camera or other devices may contravene legal rights of such individuals even if the images were recorded for personal use.

Warranty Limitations

This Digital Video Recorder's warranty is only effective in the country of sale. If a problem arises while the DVR is in use abroad, please convey it back to the country of sale before proceeding with a warranty claim to NUVICO customer help desk.

SAFETY PRECAUTIONS

- Before using the Digital Video Recorder, please ensure that you read and understand the safety precautions described below. Always ensure that the Digital Video Recorder is operated correctly.
- The safety precautions noted on the following pages are intended to instruct you in the safe and correct operation of the DVR and its accessories to prevent injuries or damage to the self, other persons and equipment.
- In this Instruction Manual, the term “DVR”, “equipment” and “device” refers primarily to the Digital Video Recorder and its accessories such as power supply and its remote controller.

WARNING

- Do not cover the ventilation opening or slots on the outer casing. To prevent the DVR from overheating, provide at least two inches of air space around the vent and the slots.
- Do not drop metallic parts through slots. This could permanently damage the Digital Video Recorder. Immediately turn the DVR’s power off or unplug the power cord from the power outlet. Contact a qualified service personnel authorized by the equipment distributor or a NUVICO customer help desk.
- Do not attempt to disassemble or alter any part of the equipment that is not expressly described in this guide. Disassembly or alteration may result in high voltage electrical shock. Internal inspections, alterations and repairs should be conducted by qualified service personnel authorized by the equipment distributor or NUVICO customer help desk.
- Stop operating the equipment immediately if it emits smoke or noxious fumes. Failure to do so may result in fire or electrical shock. Immediately turn the DVR’s power off, remove the power cable from the power outlet. Confirm that smoke and fume emissions have ceased. Please consult the DVR distributor or the closest Nuvico customer help desk.
- Stop operating the equipment if a heavy object is dropped or the casing is damaged. Do not strike or shake. Failure to do so may result in fire or electrical shock. Immediately turn the DVR’s power off or unplug the power cord from the power outlet. Please consult the DVR distributor or the closest Nuvico customer help desk.
- Do not allow the equipment come into contact with, or become immersed in, water or other liquids. Do not allow liquids to enter the interior. The DVR has not been waterproofed. If the exterior comes into contact with liquids or salt air, wipe it dry with a soft, absorbent cloth. In the event that the water or other foreign substances enter the interior, immediately turn the DVR’s Power off or unplug the power cord from the power outlet. Continued use of the equipment may result in fire or electrical shock. Please consult the DVR distributor or the closest Nuvico customer help desk.

- Do not use substances containing alcohol, benzene, thinners or other flammable substances to clean or maintain the equipment. The use of these substances may

lead to fire. Use a dry cloth on a regular periodic basis and wipe away the dust and dirt that collects on the device. In dusty, humid or greasy environments, the dust that collects around the ventilation or the slots on the outer casing over long periods of time may become saturated with humidity and short-circuit, leading to fire.

- Do not cut, damage, alter or place heavy items on the power cord. Any of these actions may cause an electrical short circuit, which may lead to fire or electrical shock.
- Do not handle the device or power cord if the hands are wet. Handling it with wet hands may lead to electrical shock. When unplugging the cord, ensure that you hold the solid portion of the plug. Pulling on the flexible portion of the cord may damage or expose the wire and insulation, creating the potential for fires or electrical shocks.
- Use only the recommended power accessories. Use of power sources not expressly recommended for this equipment may lead to overheating, distortion of the equipment, fire, electrical shock or other hazards.
- Do not place the battery near a heat source or expose it to direct flame or heat. Neither should you immerse them in water. Such exposure may damage the battery and lead to the leakage of corrosive liquids, fire, electrical shock, explosion or serious injury.
- Do not attempt to disassemble, alter or apply heat to the battery. There is serious risk of injury due to an explosion. Immediately flush with water any area of the body, or clothing that comes into contact with the inner contents of the battery. If the eyes or mouth contact these substances, immediately flush with water and seek medical assistance from a medical professional.
- Avoid dropping or subjecting the battery to severe impacts that could damage the casings. It could lead to leakage and injury.
- Do not short-circuit the battery terminals with metallic objects, such as key holders. It could lead to overheating, burns and other injuries.
- The supplied power supply and power cord are designed for exclusive use with the Digital Video Recorder. Do not use it with other products or battery. There is a risk of fire and other hazards.

CAUTION

- Avoid using, placing or storing the equipment in places subject to strong sunlight or high temperatures, such as the greenhouse or trunk of a car. Exposure to intense sunlight and heat may cause the battery to leak, overheat or explode, resulting in fire, burns or other injuries. High temperatures may also cause deformation of the casing. Ensure that there is good ventilation when using the equipment.
- Do not store the equipment in humid or dusty areas. Storage in such areas could lead to fire, electrical shock or other damage.
- Do not operate the DVR beyond its specified temperature, humidity or power source ratings. Do not use the DVR in an extreme environment such as in high temperature or high humidity. Use the device at temperatures within 41°F - 104°F and humidity below 90 %. The normal operating power source for this device is 110V-220V AC 50/60Hz.

PREVENTING MALFUNCTION

- Avoid Strong Magnetic Fields. Never place the DVR in close proximity to electric motors or other equipment generating strong electromagnetic fields. Exposures to strong magnetic fields may cause malfunctions or corrupt image data.
- Avoid Condensation Related Problems. Moving the equipment rapidly between hot and cold temperatures may cause condensation (water droplets) to form on its external and internal surfaces. You can avoid this by placing the equipment in an airtight, resealable plastic bag and letting it adjust to temperature changes slowly before removing it from the bag.
- If Condensation forms inside the Digital Video Recorder. Stop using the equipment immediately if you detect condensation. Continued use may damage the equipment. Remove the power cord from the power outlet and wait until the moisture evaporates completely before resuming use.

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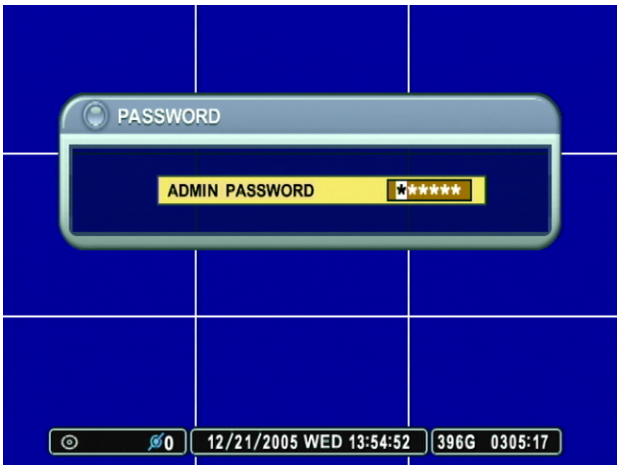
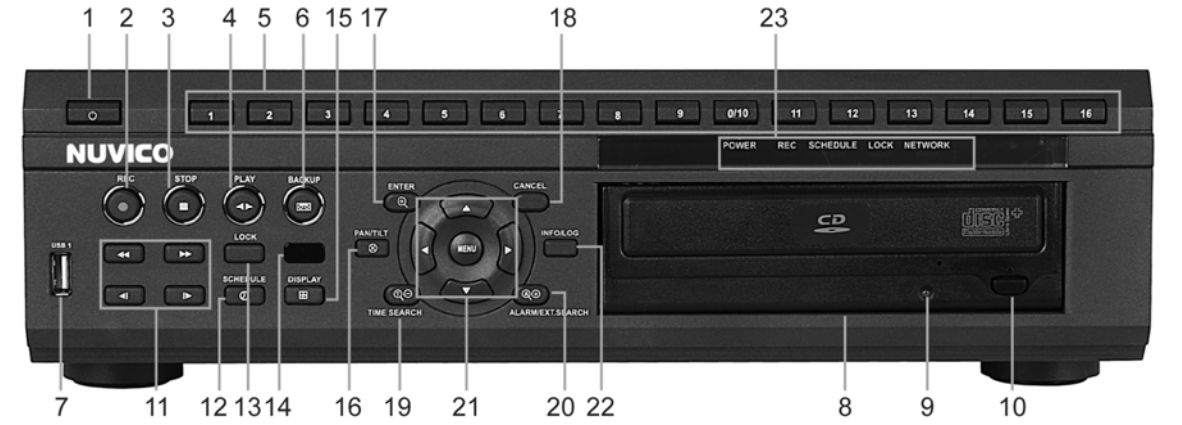


The Factory Default password for the unit is “000000”

The Default password to run the CMS software is “0”

DIGITAL VIDEO RECORDER LAYOUT

1. FRONT PANEL LAYOUT



1. POWER BUTTON
This button turns the unit on or off.

2. RECORD
This button starts recording.

3. STOP
This button stops recording.

4. PLAY
This button is used to start the playback of recorded data.

5. NUMERIC BUTTONS (1~16, 10/0)
These buttons have a number of functions to enter data and to make selections. They are used to enter numerical data when prompted for the password, to make channel/camera selection, to choose the day in schedule option, and to enter alphabets to label each channel.

6. BACKUP
This button allows backing up onto a blank CD, blank DVD, or external hard drive and memory stick.

7. USB 2.0 PORT
The USB port is to connect external backup devices such as CD-RW, DVD-RW, external hard disk drive and flash memory stick.

8. CD-ROM or DVD-ROM TRAY
The tray to insert the blank media for backup or recorded media for playback.

9. READ / WRITE STATUS INDICATOR
This LED lights up whenever the media inserted is accessed or written to.

10. EJECT / CLOSE
This button opens and closes the CD-ROM or DVD-ROM tray.

11. PLAYBACK CONTROL BUTTONS
This button is used to adjust playback speed, advance field by field, forward and to rewind the images.

12. SCHEDULE
This button turns the scheduled recording mode on or off. When the schedule recording is on, schedule LED will be lit.

13. LOCK
This button locks all buttons on the Digital Video Recorder along with the remote controller. The LOCK LED light is turned on when this feature is activated. To unlock, press the lock button again and enter the password when prompted.

14. IR RECEIVER
Do not block the receiver as the remote controller needs the line of sight to the receiver.

15. DISPLAY BUTTON
This button is used to switch between multiple display modes.

16. P/T/Z/FOCUS
This button accesses P/T/Z/Focus control menu.

17. ENTER
This button saves configuration.

18. CANCEL / OSD OFF
This button cancels any selection changes in submenus. In the regular display screen, this button is used to hide the On-Screen-Display information such as time, date and channel icons. This button also removes any of the alert icons on the screen (AL, VL and PL).

19. TIME SEARCH / -BUTTON
This button accesses the time search menu. Use the directional buttons to select the date and the time. Also, this button is used to select options from various menus.

20. ALARM / EXTERNAL SEARCH / +BUTTON
This button allows searching for data from the external devices connected through the USB ports. Also, this button is used to select options from various menus.

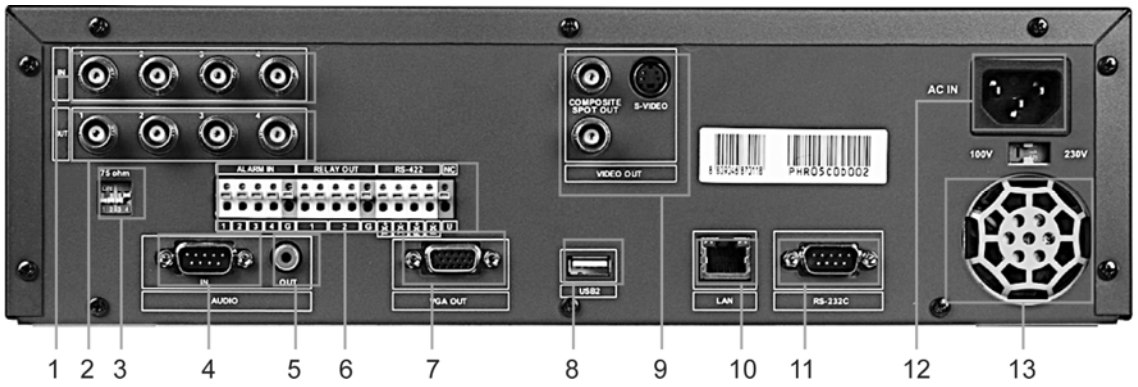
21. DIRECTIONAL BUTTONS / MENU BUTTON
The directional buttons are used in various ways:
Navigate through menus
Adjust screen position on the monitor
Move the zoom box in zoom mode
Control PTZ cameras

22. INFO/LOG
This button displays detailed system events in chronological order.

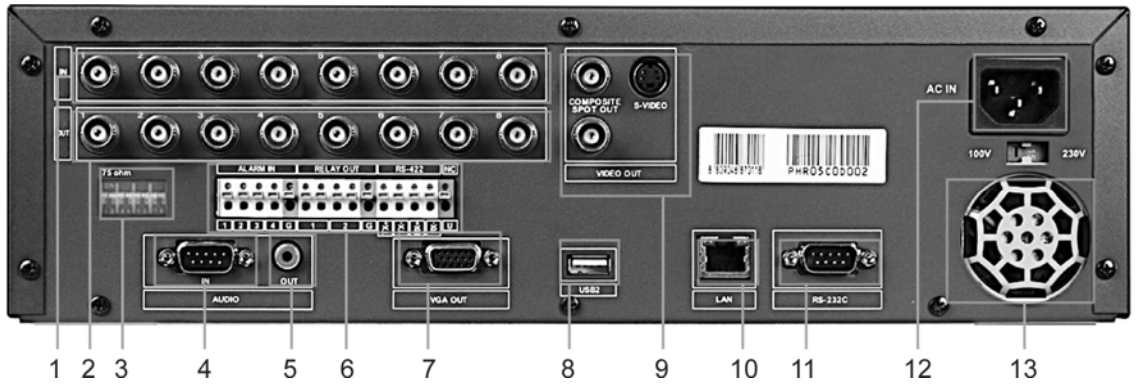
23. STATUS INDICATOR
Four LEDs display the status of the Digital Video Recorder. From the left Power (red), Recording (red), Scheduled Recording (green), Button Lock (green), and Network (green).

2. REAR PANEL LAYOUT

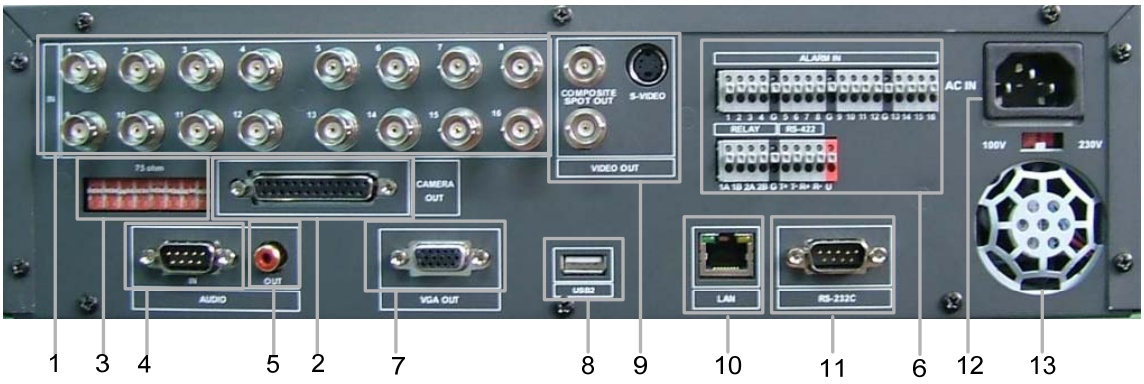
NVDV3-4000N



NVDV3-8000N



NVDV3-16000N



1. CAMERA INPUTS
BNC connectors for composite video inputs.

2. LOOP OUTPUTS
BNC connectors for composite video outputs.

3. 75 OHM TERMINATION SWITCH
Video signal termination for loop-outs.

4. AUDIO INPUT
DB9 to multiple RCA connectors.

5. AUDIO OUTPUT
RCA jack connectors.

6. ALARM SIGNAL INPUTS / OUTPUT / RS422 & RS485
4 inputs (NVDV3-4000N), 8 inputs (NVDV3-8000N), 16 inputs (NVDV3-16000N) / 2 output s RS / input for PTZ cameras or keyboard controllers.

7. VGA MONITOR OUTPUT
VGA connector for PC monitor output.

8. USB 2.0 PORT

9. OUTPUT
COMPOSITE VIDEO OUTPUT
BNC connector for the main video output to a monitor
S-VIDEO OUT
SPOT MONITOR OUTPUT
BNC connector for the spot video output to a monitor

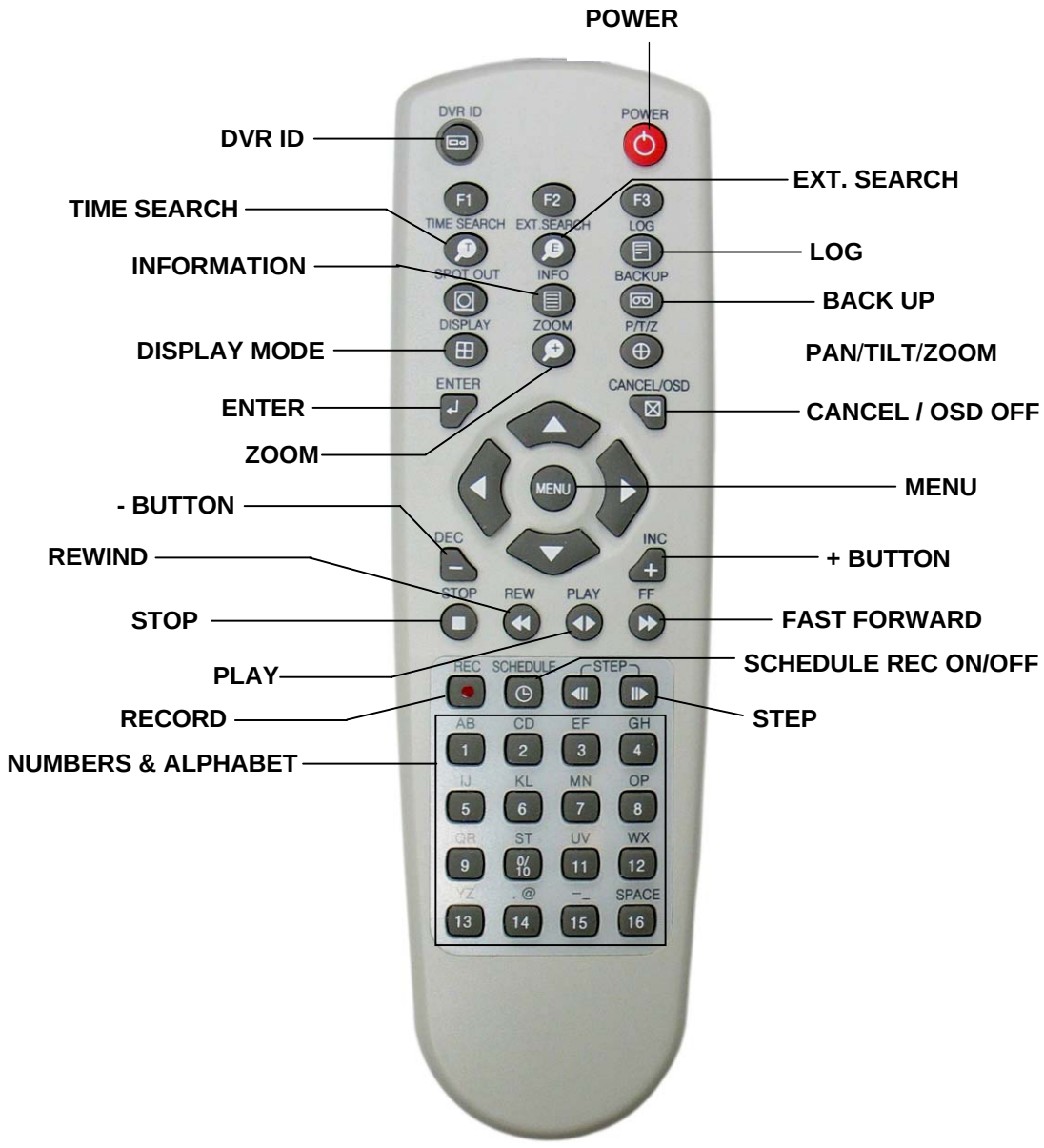
10. RJ45 ETHERNET PORT
10/100Base-T RJ45 Ethernet Port for network connection

11. MODEM / RS-232C
9-Pin port connector to connect an external modem.

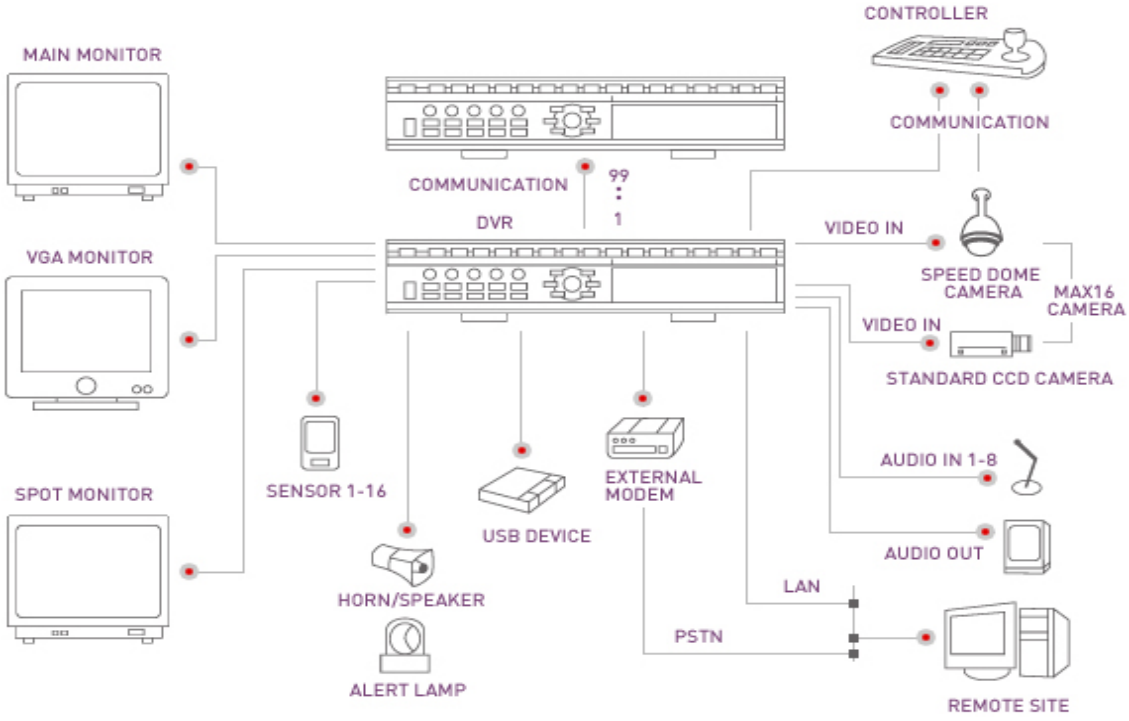
12. AC POWER SOCKET

13. POWER FAN

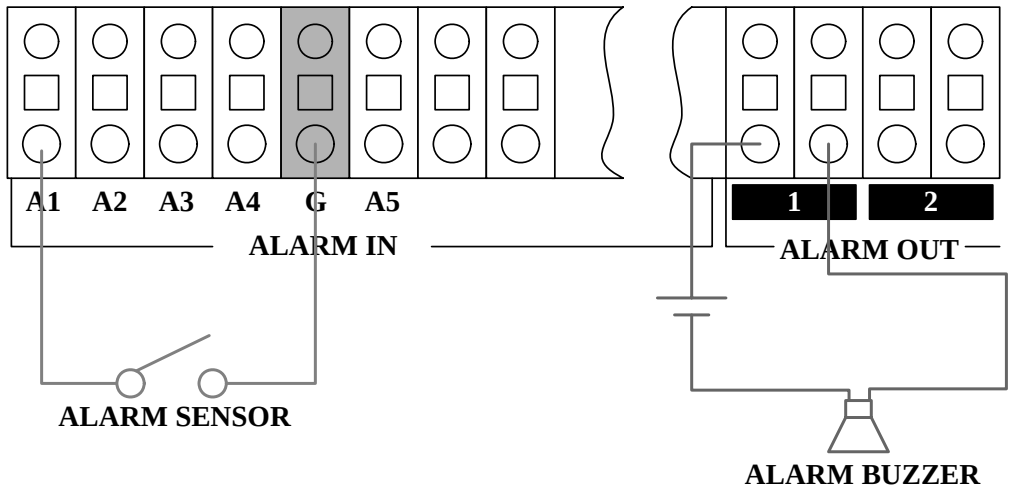
3. IR REMOTE CONTROLLER



4. INSTALLATION AND CONNECTION



5. ALARM CONNECTION



I. BASIC SETTINGS

Time & Date Setting

When the DVR is powered on for the very first time, the time and date are set as default to January 1, 2005 Saturday 01:00:00. Before any other operation of the Digital Video Recorder, it is important to setup the time and the date.

Screen Position Adjustment

The screen position is adjustable during live view or playback. Use the directional buttons to adjust the screen position to best fit the monitor.

Default Position

Up position

Bottom right corner position

II. BASIC OPERATION

This section will cover basic features of the DVR such as simple recording and playback. Also, it will cover the main screen explaining many alert, operational, channel, DVR status, the time and hard drive space counter. Moreover, it will also address several live view modes the DVR has to offer, which include several multiple channel view modes, automatic sequence modes and the channel swapping feature as well as the zoom feature. Finally, this section will also include the information screen where all the basic information about the DVR is displayed as well as the log screen where all the activities of the DVR are compiled.

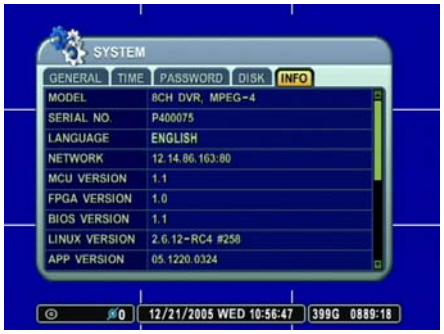
1. MAIN SCREEN

2. INFORMATION & LOG LIST

2.1 INFORMATION

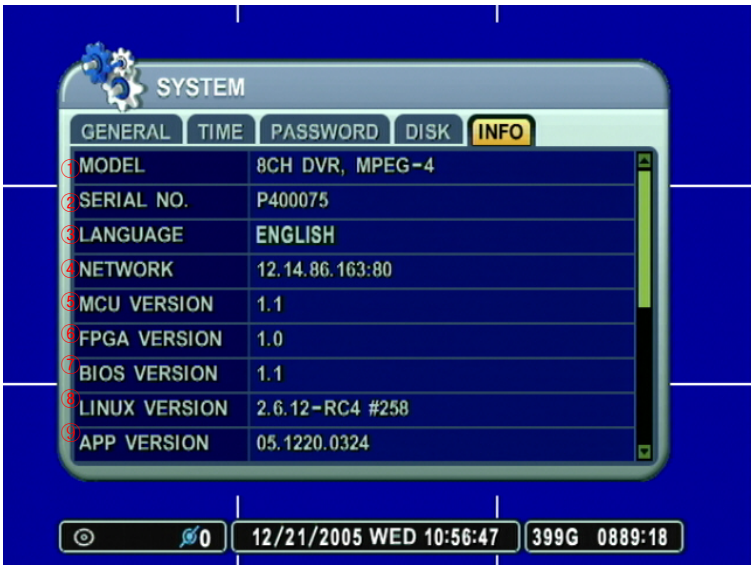
The information screen displays the basic information about the DVR.

Press MENU to access the main setup window, and then select SYSTEM to access system setup. When the MENU button is pressed, a prompt for the administrator's password will appear.



Select the INFO tab, where the DVR setup summary is displayed along with the description of the peripherals.

Information Screen 1 of 2



1. MODEL
Displays the number of channels and the compression engine the DVR utilizes.

2. SERIAL NO.
Displays the serial number of the unit, also known as the Host Name.

3. LANGUAGE
Displays the current user interface language.

4. NETWORK
Displays the current IP address and the port of the DVR.

5. MCU VERSION
Displays the Micro Controller Unit version.

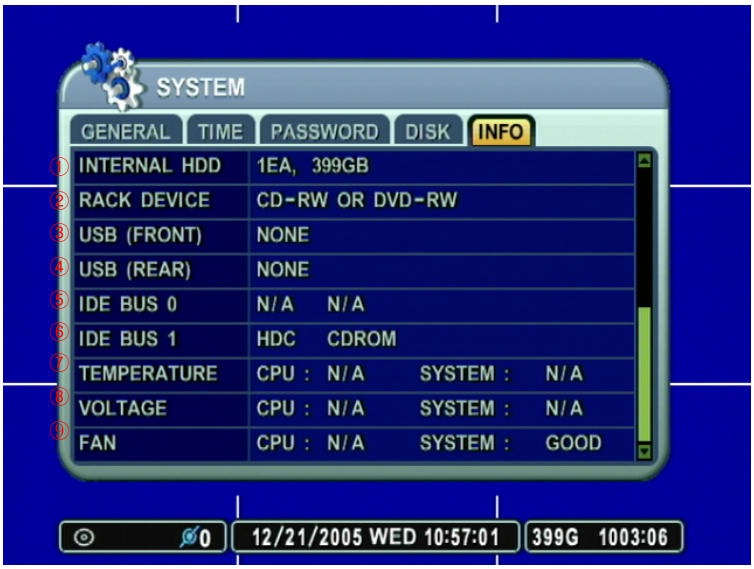
6. FPGA VERSION
Displays the component's programming version.

7. BIOS VERSION
Displays the Bios version of the DVR.

8. LINUX VERSION
Displays version of the DVR.

9. APP VERSION
Displays the application version of the DVR.

Information Screen 2 of 2



1. INTERNAL HDD
Displays the number of internal hard disk drives and their sizes.

2. RACK DEVICE
Displays the removable device installed in the removable bay.

3. USB (FRONT)
Displays information about the USB device attached at the front USB slot of the DVR.

4. USB (REAR)
Displays the status and information about the USB compliant device attached at the rear USB slot of the DVR.

5. IDE BUS 0
Displays the status of the devices that are connected to Primary HDD Cable.

6. IDE BUS 1
Displays the status of the devices that are connected to Secondary HDD Cable.

7. TEMPERATURE
This information has not been implemented on the NVDV3 Series.

8. VOLTAGE
This information has not been implemented on the NVDV3 Series.

9. FAN
Monitors and displays the status of the fans regulating the airflow of the Digital Video Recorder.

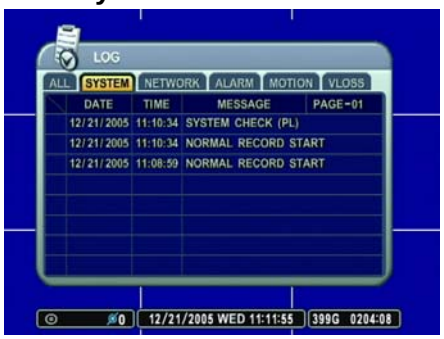
2.2 LOG

The log chart keeps record of all the events and alerts, 8 logs per page. The DVR keeps log from the initial power on of the DVR. The record of items are compiled and listed in five categories.

2.2.1 All

All events related to the operation and alerts of the DVR are listed and sorted under ALL, in chronological order, starting with the most recent.

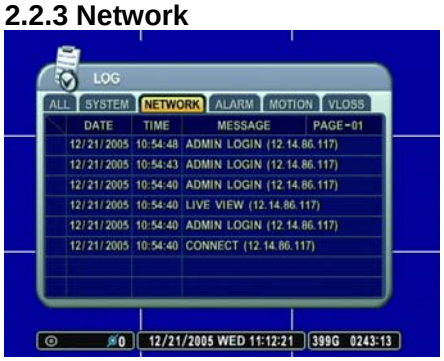
2.2.2 System



Any event related to the operation of the system is listed and sorted under SYSTEM in the same chronological order. SYSTEM logs consist of, but not limited to the following logs:

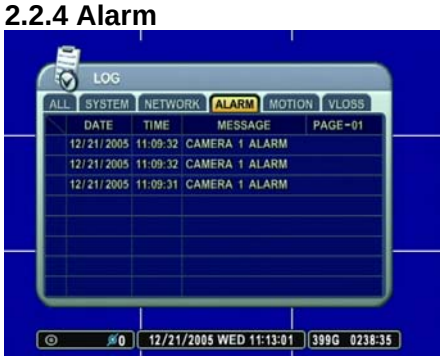
- SYSTEM STARTUP
- SYSTEM STOP
- RECORDING
- LOGIN
- UPGRADE
- SYSTEM POWER FAIL
- WARNING
- ERROR
- SYSTEM CHECK
- HDD FAIL
- PLAYBACK

2.2.3 Network



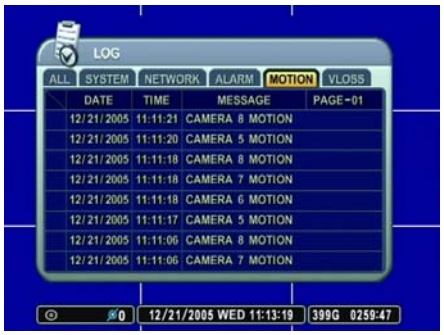
Any network activity is listed and sorted under NETWORK in the same chronological order.

2.2.4 Alarm



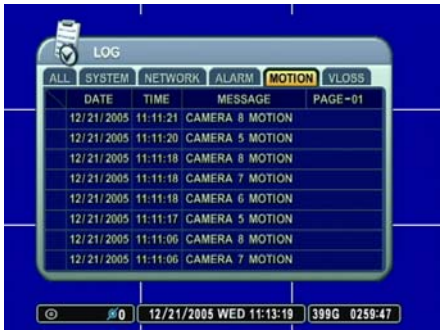
Any alarm activity is listed and sorted under ALARM in the same chronological order.

2.2.5 Motion



Any motion activity is listed and sorted under MOTION in the same chronological order.

2.2.6 Video Loss



Any video signal losses or interruptions are listed and sorted under VIDEO LOSS in the same chronological order.

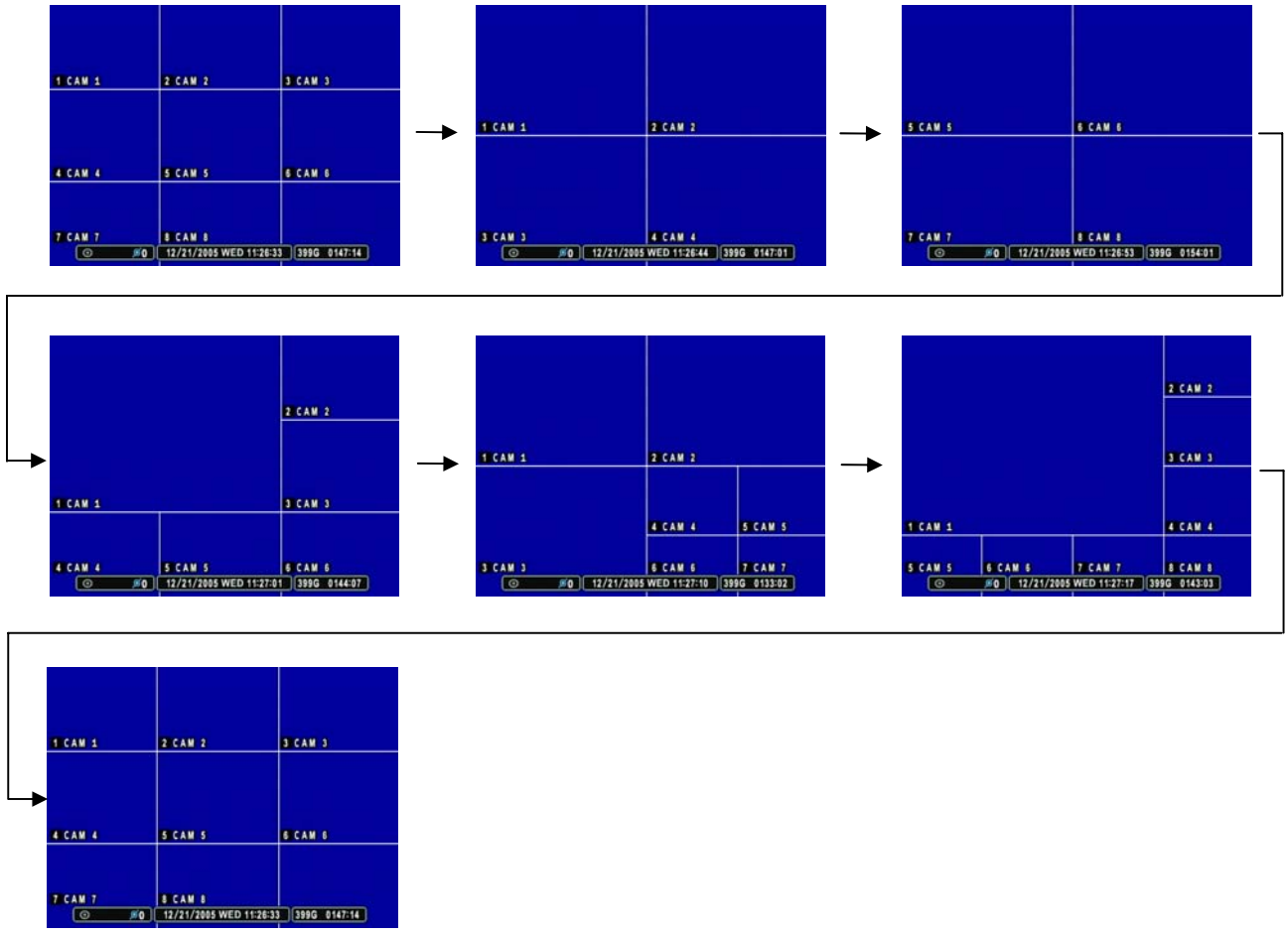
3. LIVE VIEW

The live view displays each channel at 30 frames per second, for the total of 120 frames per second for NVDV3-4000N, 240 frames per second for NVDV3-8000N, and 480 frames per second for NVDV3-16000N.

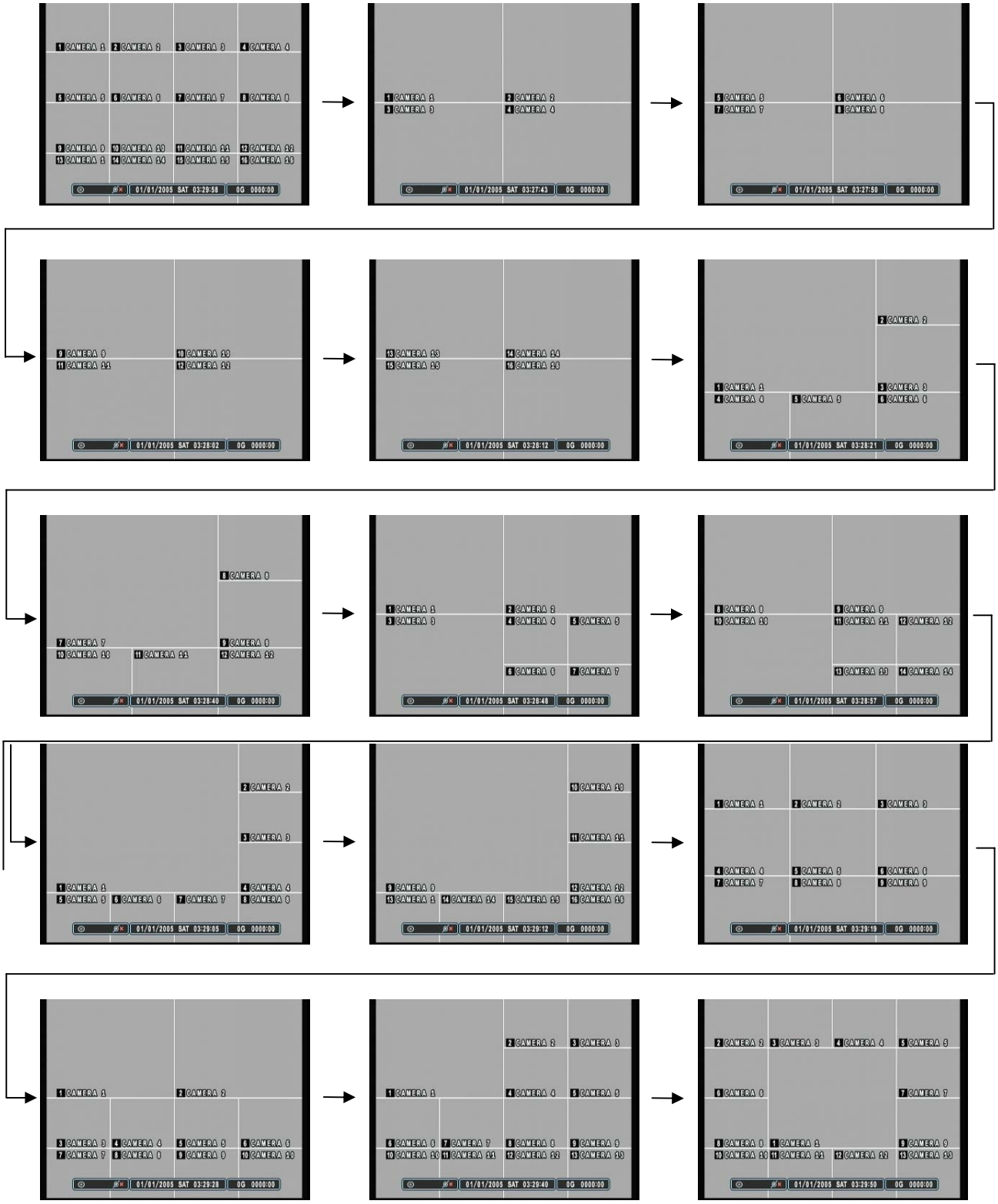
3.1 LIVE VIEW SWITCH SEQUENCE

The NVDV3 series have numerous display modes, from single, quad, 6, 7, 8, 9, & 16 channel display modes. The single channel display mode can be accessed directly by pressing the appropriate channel number. The rest of the display modes can be accessed sequentially by pressing the display button. The following illustrations display the order of live view mode sequences. **However, please be aware that on the NVDV3-4000N model, only quad screen display is available.**

Live View Sequence of NVDV3-8000N



Live View Sequence of NVDV3-16000N

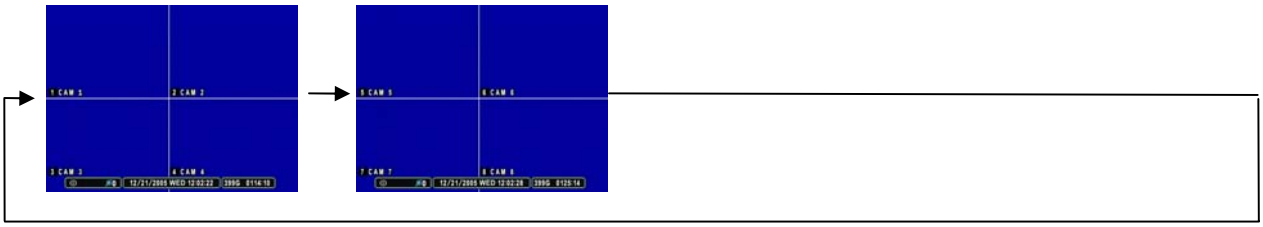


3.2 AUTOMATIC SEQUENCE

There are two different sequence modes that can be selected and activated. Please refer to page 52 for selecting and activating the different display sequence modes. Press the display button to activate the sequence mode. Pressing the display mode will change the display mode to the single channel display initially, and continue to sequence through all the channels in full screen mode if single channel sequencing is selected. If quad screen display sequencing mode is selected, then the sequence will move onto the next set of quad screen display mode automatically. The following illustrations demonstrate sample display sequences.

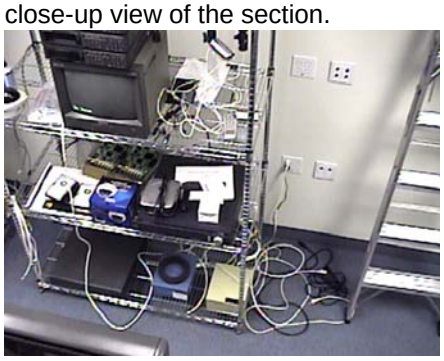
Single Channel view mode automatic sequence

Quad view mode automatic sequence



3.3 ZOOM

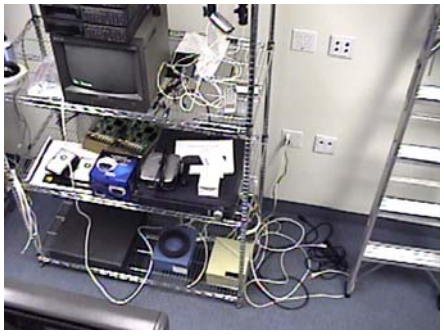
During live view mode or during the playback, it is possible to zoom into a section of the screen to get a close-up view of the section.



Press the channel number to go into the full screen mode.

Use the + button from the remote control and press the + button repeatedly to zoom into the screen.

You can also press the directional button to move into the desired position.



Keep pressing the – button until screen comes back to the original ratio screen.

3.4 SPOT-OUT

In addition to the main monitor, attaching a spot monitor enables user to monitor specific channels independently from the main monitor. You can also sequence the cameras if the sequence mode setting has been configured from the Menu.

When viewing from spot monitor, from the Remote Control, press SPOT OUT button while pressing the specific channel will display full screen.

When viewing from the spot monitor, from the Remote Control, press SPOT OUT button while pressing the DISPLAY button will display the cameras in quad mode.

4. BASIC RECORDING

The DVR comes with a certain preset settings from the factory. Therefore, once the DVR is installed, immediate recording is possible after pressing the record button. The NVDV3 Series differentiate normal recording, alarm recording and schedule recording. Normal recording settings are used when the record button is pressed.

The factory default normal record setting is as follow:

	RESOLUTION	USE	QUALITY	RATE	AUDIO	MOTION
ALL CHANNELS	360 x 240	ON	HIGH	4 F/S	OFF	OFF

Please note that the default recording resolution is 360 x 240. The recording rate will change automatically and will change accordingly if the recording resolution is changed to 720 x 240 or 720 x 480.

Press the RECORD button to start recording. The ● REC icon will appear on the upper left corner.

5. PLAYBACK

5.1 PLAY / STILL / STOP

When the PLAY button is pressed, the DVR starts to play back any recorded data from the latest data, whether in live or recording mode. When the DVR reaches the end of the recorded data, it will repeat the playback from the earliest recorded data.

During the playback, the DVR may be played back in reverse, paused, speed search up to 16 times the normal speed, or move picture by picture using the jog shuttle. Please refer to the following illustrations for a detailed description.

Press the PLAY button and the play icon will be displayed. The DVR will start the playback from the earliest data when playing back for the first time.

Press the FAST REVERSE button once more and it will change its playback direction to reverse. **Please note that on the NVDV3 Series DVR, 1 X (Normal) reverse playback option is not available.**

Press the LEFT OR RIGHT STEP button to pause the playback. **Please note that on the NVDV3 Series DVR, playback cannot be paused under multiscreen.**

Press the STOP button once to return to the previous screen. If the DVR is not recording, it will return to the live screen.

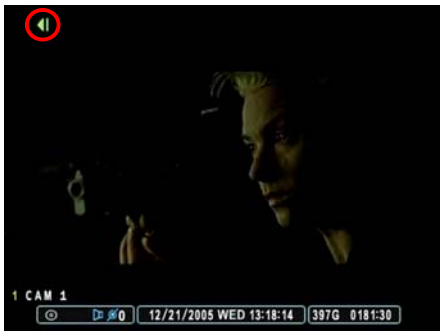
If the DVR is recording, then the DVR will return to the live screen, but it will display the ● REC icon on the upper left corner.

5.2 ADVANCED PLAYBACK

During playback, the playback control button is used to view the recorded data picture by picture or to fast forward or to fast rewind to the desired location.

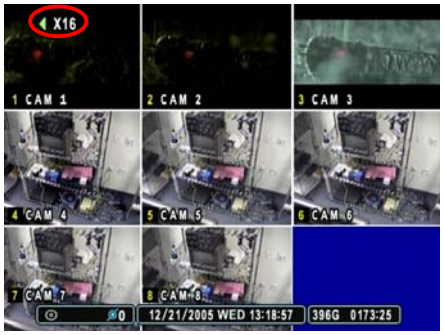
During the playback mode, pause the playback by pressing the RIGHT STEP button. Keep pressing the RIGHT STEP button to enter the picture-by-picture mode and to advance and view recorded data one frame at a time.

.



Press the LEFT STEP button to play in reverse and view recorded data one frame at a time.

During the playback or still mode, press the FAST FORWARD button to fast forward to the desired location. Starting with normal playback speed (1X speed), each increment represent twice the previous speed, with the maximum playback speed of 16X.



Press the FAST REVERSE button to rewind to the desired location. The same speed increment and icon concept is applied as it is for the fast reverse.

5.3 AUDIO PLAYBACK

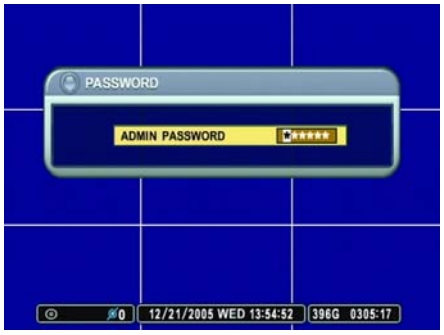
The NVDV3-4000N offers 4 channel audio and NVDV3-8000N & NVDV3-16000N offer 8 channel audio. The audio data is always recorded in real time unlike the video data that can be recorded at various recording speeds. The audio, if recorded, is played back automatically when in single channel view mode.

If the audio is present during playback, the audio icon will change its color from gray to blue in the status bar at the bottom left corner of the screen.

III. ADVANCED OPERATION

This section will cover advanced features of the DVR. This instruction manual will assume that the section on basic operation has been read and understood. The advanced operation will require occasional references to some of the features explained in the Advanced Settings section on page 49. This section will address the lock function, backup function, the motion and alarm recording and its combinations, Pan/Tilt/Zoom camera control and time search.

1. LOCK



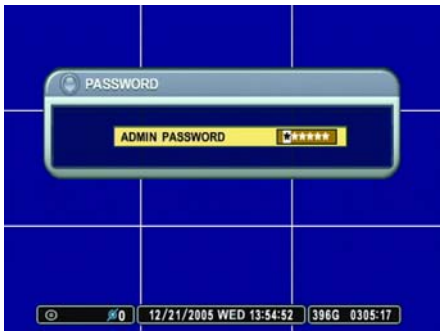
The buttons on the DVR can be locked by pressing the LOCK button. Once locked, the lock LED will be lit and all buttons except the lock button will be disabled. Pressing the buttons on the DVR or the remote controller will have no effect. To unlock the buttons, press the lock button once more, and then enter the administrator's password to clear the lock status.

2. BACKUP

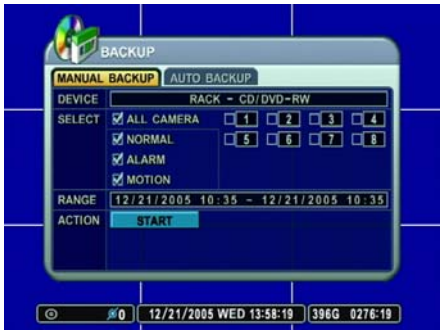
The NVDV3 Series offer variety methods of backup, from the built-in CD-RW, to any USB 2.0 compliant media, such as DVD-RW, external hard disk drive and USB flash memory stick.

2.1 INTERNAL CD-RW

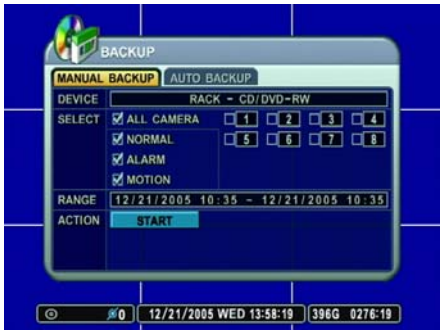
For convenience, the NVDV3 Series DVR has a built-in CD-RW where the backup can be made easily. Moreover, any backup CD can be read from the CD-RW for reviewing the backup data.



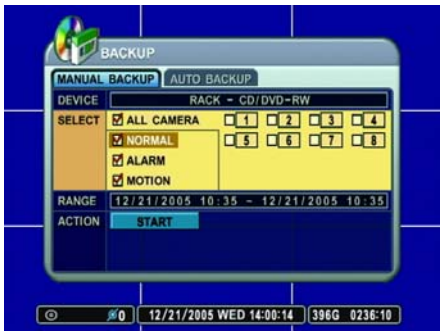
Insert a blank CD into the CD-RW, and then press the BACKUP button. Enter the administrator's password when the password prompt appears.



Select the MANUAL BACKUP tab.

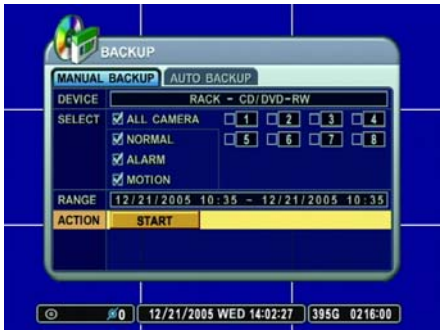


Highlight the DEVICE section by pressing the down directional button, select and verify that RACK – CD-RW OR DVD-RW has been selected. The DVR supports Recordable CD & CD-RW. When using CD-RW, please make sure to format the CD-RW from the System Menu. Use – or + button to move between the selection.

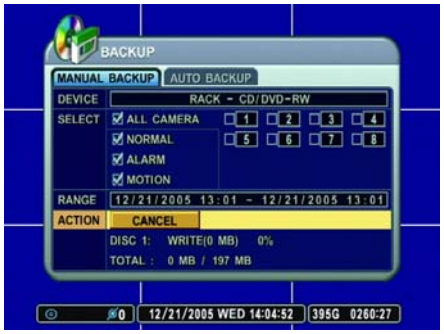


Select the recorded data type to be included on the backup CD. The illustration to the left has selected ALL CAMERA, NORMAL, ALARM and MOTION data. For CD-R & CD-RW Backup, you cannot select individual channel. Individual Channel Backup is only supported in USB Flash Memory Stick and External HDD.
Use – or + button to check or uncheck the options.

Enter the time and date range of the desired backup. It is also possible to input Start Time and End Time from the Time Search Screen by using - & + buttons.



Highlight START button, then press the ENTER button to start the backup process. Please note that the internal CD-RW icon's color is gray.

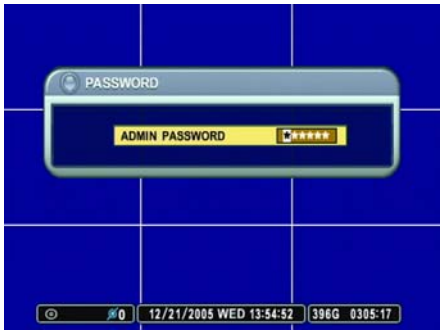


The progress of the backup will be displayed at the bottom of the window in percentages of the entire backup process. Please note that the internal CD-RW icon's color will change to blue to signify that backup is in progress. The OSD will disappear after one minute. However, pressing the Backup button again will show the Backup status.
While the DVR is in backup session, please do NOT perform playback.

2.2 EXTERNAL HARD DISK DRIVE

The external hard disk drive offer two different backup methods: MANUAL AND AUTOMATIC. The manual backup procedure is the same as using the internal CD-RW for backup. This section will cover the automatic procedure only.

Connect the USB 2.0 compliant external hard disk drive to the DVR and a USB insignia will appear at the bottom left corner of the screen in the status bar. The illustration to the left shows the icon appearing when the device is connected to the front of the DVR. **Please remember to format the external HDD from the DISK, which is in SYSTEM inside the DVR's Main MENU screen.**



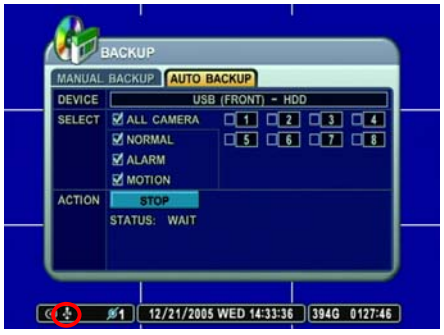
Press the BACKUP button, and enter the administrator's password when the password prompt appears.

Select the AUTO BACKUP tab.

Highlight the DEVICE by pressing the down directional button, then select and verify that USB (FRONT) – HDD has been selected.

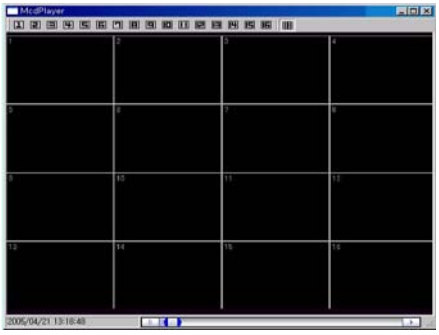
Select the backup data type to be automatically backed up onto the external hard disk drive. The illustration to the left has selected NORMAL, ALARM and MOTION data.

Highlight the START button, then press ENTER button to begin automatic backup. Please note that the USB insignia's color is gray.



The status of the automatic backup to the external hard disk drive will be displayed at the bottom of the window. Please note that the USB insignia's color has been changed to blue to signify that the backup is in progress. The DVR will start backing up the latest data onto the external hard drive in real-time as the DVR continues to write the data onto its internal hard disk drive.

2.3 MINI PLAYER

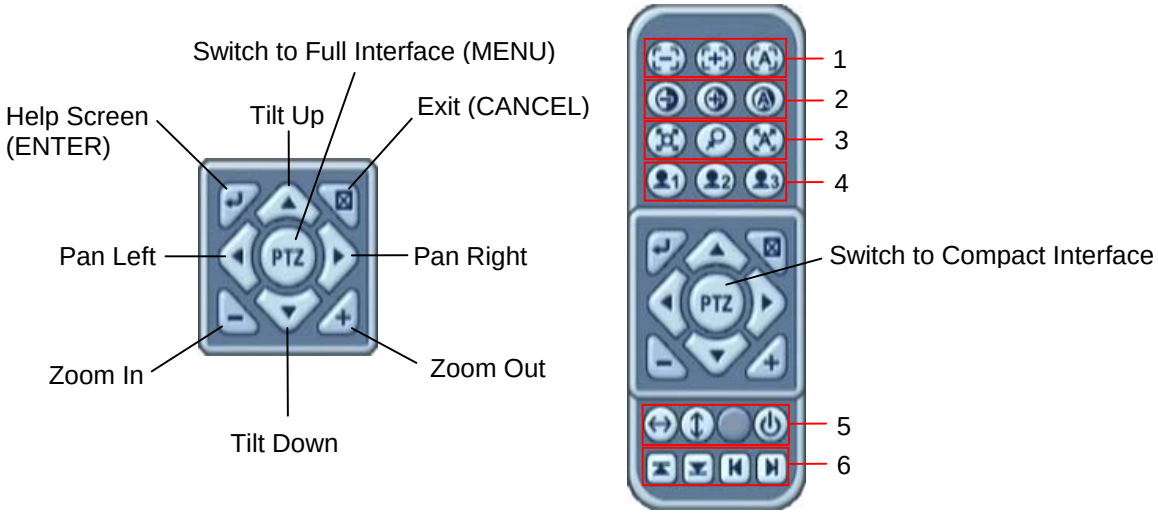


Upon Backup, Mini Player gets copied into the CD or USB Flash Memory Stick automatically. There is no need to install separate software to view the clips. For advanced playback options, please use the CMS Software.

3. PAN / TILT / ZOOM CONTROL

The DVR comes with an extensive list of PTZ cameras. Please read the PTZ manufacturer's instruction manual and understand its settings fully prior to proceeding to any attempts to connect and control the PTZ camera through the DVR. Please refer to the PTZ Channel and PTZ Model Select under DISPLAY setup on page 50.

When the P/T/Z/FOCUS button is pressed, the display automatically changes to the single channel view mode. Press the appropriate channel number to control the PTZ camera. Some PTZ control functions can ***only*** be accessed using the remote controller, so please have the remote controller handy when using the PTZ control interface.



The layout of the PTZ interface conforms to the layout of the front of the DVR or the remote controller. Menu button is the guide anchor position for all other buttons. When in PTZ interface mode, all buttons are used for the PTZ related operation.

3.1 Focus Control

Button	Function
	Focus Out; F1 on remote controller
	Focus In; F2 on remote controller
	Auto Focus; F3 on remote controller

3.2 Iris Control

Button	Function
	Iris Open; TIME SEARCH on remote controller
	Iris Close; EXT. SEARCH on remote controller
	Auto Iris; LOG on remote controller

3.3 Preset & Tour

Button	Function
	Set preset position; SPOT OUT on remote controller A. Move the PTZ into desired location. B. Press the Preset button. C. User 1 will illuminate. D. Set the # for the Preset location. E. Press Enter button to save and exit.
	Go to preset position; INFO on remote controller A. Press Go To button. B. Enter the desired Preset # and press Enter.
	Start Auto-Tour; BACKUP on remote controller A. Press Auto Tour button. B. Press the + button and enter the range of Preset and Press Enter. Ex) Auto-Tour button, + button, 5 button, & Enter button will start the Auto-Tour of 1 ~ 5 Presets of the PTZ camera.

3.4 Custom Functions

Button	Function
	PTZ custom function 1; DISPLAY on remote controller
	PTZ custom function 2; ZOOM on remote controller
	PTZ custom function 3; P/T/Z on remote controller

3.5 Auto Pan / Auto Tilt / Power

Button	Function
	Auto Pan; STOP on remote controller
	Auto Tilt; REW on remote controller
	Power on / off; FF on remote controller

3.6 Boundaries

Button	Function
	Set up tilt limit; REC on remote controller
	Set down tilt limit; SCHEDULE on remote controller
	Set left pan limit; LEFT step button on remote controller
	Set right pan limit; RIGHT step button on remote controller

4. ADVANCED RECORDING

Advanced recording is comprised of alarm, motion and schedule recording. Unlike the continuous recording which records 24 hours a day and seven days a week based on the same settings, these three recording options provides the user the flexibility of customizing the record settings, thus increasing the amount of recording time for the hard disk drive. Moreover, using these features would shorten search time when the needs arise, as the recorded date can be directly accessed from the system logs.

4.1 ALARM RECORDING

Please verify the alarm record settings prior to starting alarm recording. The settings can be adjusted from the ALARM setup. Please refer to page 61 for detailed instructions. Please note that alarm recording is *independent* of any recording modes.

Press the RECORD button and the record icon will appear as shown on the left. The DVR will be in standby mode until an alarm is triggered.

Alarm record icon will appear on the channel alarm was triggered. The channel number will turn yellow as it starts to record. The illustration on the left shows channel 3 in alarm recording mode. The duration of the recording will be based on the RECORD TIME setting under ALARM SETUP.

If the alarm buzzer is set to ON and if the alarm inputs are selected, then the alarm buzzer will sound for the duration of the RECORD TIME.

4.2 MOTION RECORDING

Please verify that the motion option has been enabled under RECORD SETUP menu. Also, verify that the settings for motion grids, motion sensitivity level and record time have been configured under the MOTION SETUP menu. The motion grids are all activated by default, thus, unless it has been deactivated, the motion grid setting may be ignored.

Press the record button and the record icon will appear as shown on the left. The DVR will be on record standby mode until motion is triggered. The DVR does not record as log as there is no motion.

Motion recording icon will appear on the channel motion was detected. The channel number will turn yellow as it starts to record. The illustration to the left shows channel 1 and 2 in motion recording mode. The duration of the recording will be based on the RECORD TIME setting under MOTION setup.

4.3 SCHEDULE RECORDING

Schedule recording processes the recording schedule configured from the SCHEDULE menu. Please note that if there are no schedules configured, then the DVR will not record. Please refer to page 65 for setting up schedule recording.

Press the SCHEDULE button to start recording based on the preconfigured schedule. If there is nothing to be run at the time when SCHEDULE button is pressed, the DVR will not record until the designated time.

At the scheduled time, the DVR will execute the schedule recording. Instead of the normal ● REC icon, the DVR will display ● SCHEDULE icon.

4.4 COMBINATION RECORDING

If a need arises to record a combination of motion, alarm and scheduled recording, then the DVR can be configured so that all three features are used in conjunction with one another.

4.4.1 Continuous recording and alarm recording

For instances where a location needs to be recorded 24 hours a day seven days a week at a minimal recording speed, but the requirement is to record at higher recording speed in case of an alarm triggers. Both normal recording and alarm recording can be used together to satisfy the needs.

Normal recording settings has been configured to 1 picture per second. Please verify that USE for the camera necessary has been set to ON.

ALARM recording has been configured to record at 15 pictures per second. Please verify that the USE for the camera necessary has been set to ON.

The combination of both settings will meet the requirement of recording 24 hours a day and seven days a week at one picture per second for all channels until an alarm trigger occurs. When an alarm triggers, then the DVR will record 15 pictures per second for the duration of RECORD TIME, then resume the normal recording of 1 picture per second.

4.4.2 Motion recording and alarm recording

For instances where a location needs to be recorded whenever motion detection occurs and also needs to be recorded in case of an alarm triggers. Both motion and alarm recording can be used to satisfy the requirement.

Motion recording has been activated under RECORD menu. The recording rate for motion is at 15 pictures per second.

ALARM recording has been configured to record at 15 pictures per second. Please verify that the USE for the camera necessary has been set to ON.

The combination of both settings will allow the DVR to record *only* when there is a motion detection or alarm trigger. At both instances, the DVR will record at 15 pictures per second for all channels.

4.4.3 Schedule and alarm recording

For instances where a location needs to be recorded at a predetermined schedule, but also needs to record in case of alarm triggers. Both schedule and alarm recording can be used in conjunction to meet the requirement.

Any of the MODES within the schedule can be configured to be run during the scheduled recording time period. The illustration to the left has modified MODE1 to record at 15 pictures per second. Please verify that the USE for the camera necessary has been set to ON.

ALARM recording has been configured to record at 15 pictures per second. Please verify that the USE for the camera necessary has been set to ON.

The combination of both settings will allow the DVR to record continuously during the scheduled time period, but will record whenever in case of an alarm trigger. At both instances, the DVR will record at 15 pictures per second for all channels.

4.4.4 Schedule motion recording and alarm recording

For instances where a location needs to be recorded using only motion recording at a predetermined schedule, but also needs to record in case of alarm triggers. Both schedule motion recording and alarm recording can be used in conjunction to meet the requirement.

Any of the MODES within the schedule can be configured to be run during the scheduled recording time period. The illustration to the left has modified MODE1 to record at 15 pictures per second. Please verify that the USE for the camera necessary has been set to ON, and that MOTION has been set to ON.

ALARM recording has been configured to record at 15 pictures per second. Please verify that the USE for the camera necessary has been set to ON.

The combination of both settings will allow the DVR to record whenever there is a motion detection during the scheduled time period, but will record any time in case of an alarm trigger. At both instances, the DVR will record at 15 pictures per second for all channels.

4.4.5 Summary of combination

The following is the summary of possible combinations of recording modes.

RECORD MODE	MENU	RECORD CAMERA USE	ALARM CAMERA USE	SCHEDULE CAMERA USE	MOTION
Normal	RECORD	ON	OFF	OFF	OFF
Motion	RECORD	ON	OFF	OFF	ON
Alarm	ALARM	OFF	ON	OFF	OFF
Schedule	SCHEDULE	OFF	OFF	ON	OFF
Schedule Motion	SCHEDULE	OFF	OFF	ON	ON
Normal and Alarm	RECORD & ALARM	ON	ON	OFF	OFF
Motion and Alarm	RECORD & ALARM	ON	ON	OFF	ON
Schedule and Alarm	ALARM & SCHEDULE	OFF	ON	ON	OFF
Schedule Motion and Alarm	ALARM & SCHEDULE	OFF	ON	ON	ON

5. ADVANCED SEARCH

Besides pressing the play button to review the recorded data, the DVR offers a variety of search functions that enables you to quickly and efficiently locate and review a specific period from the database.

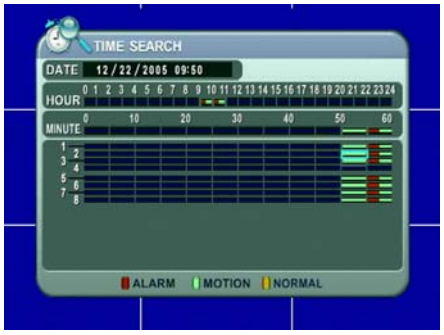
5.1 TIME SEARCH

Press the TIME SEARCH button to access the time search calendar.

Use the directional buttons to navigate to the desired date, and then press enter to access selected date.

Use the directional buttons to navigate to the desired hour and minute slot. To review all 8 channels, select a slot from the MINUTE bar.

The DVR will start the playback mode, displaying all 8 channels. Any channel number or the DISPLAY button may be pressed to change the display mode.

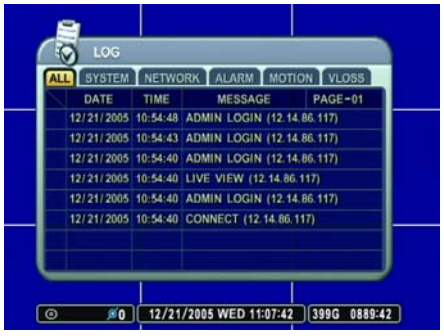


To select a specific camera to review, select a slot from the numbered bars. The illustration to the left has selected channel 2 at 9:55 in the morning on December 22, 2005.

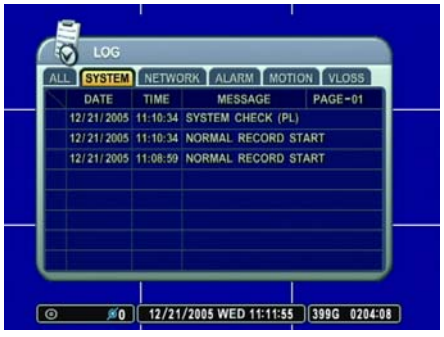
Channel 2 will be displayed in full screen mode starting playback of the data exactly at 9:25 in the morning on May 26, 2005. Any channel number or the DISPLAY button may be pressed to change the display mode.

5.2 LOG SEARCH

The logs can be used to search and review directly to a point in time of the recorded data. Alarm, motion, video loss and system related logs can be searched and played back directly from the time of the incident.

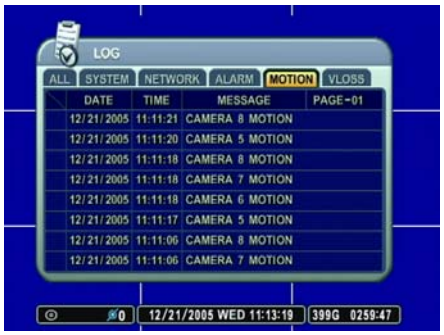


Press the LOG button to access the log submenu. Use the directional buttons to navigate to the desired log. UP and DOWN buttons are used to navigate through the list of the logs, and LEFT and RIGHT buttons to navigate through different pages.

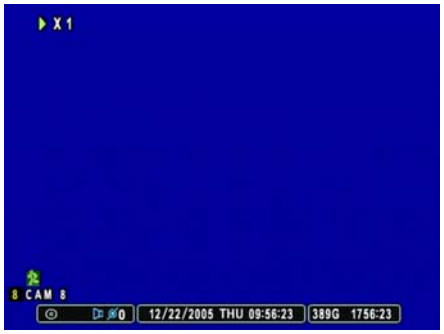


System related logs and video loss logs will be played back in multi channel view mode.

The playback view may be changed to any configuration after the playback has started.



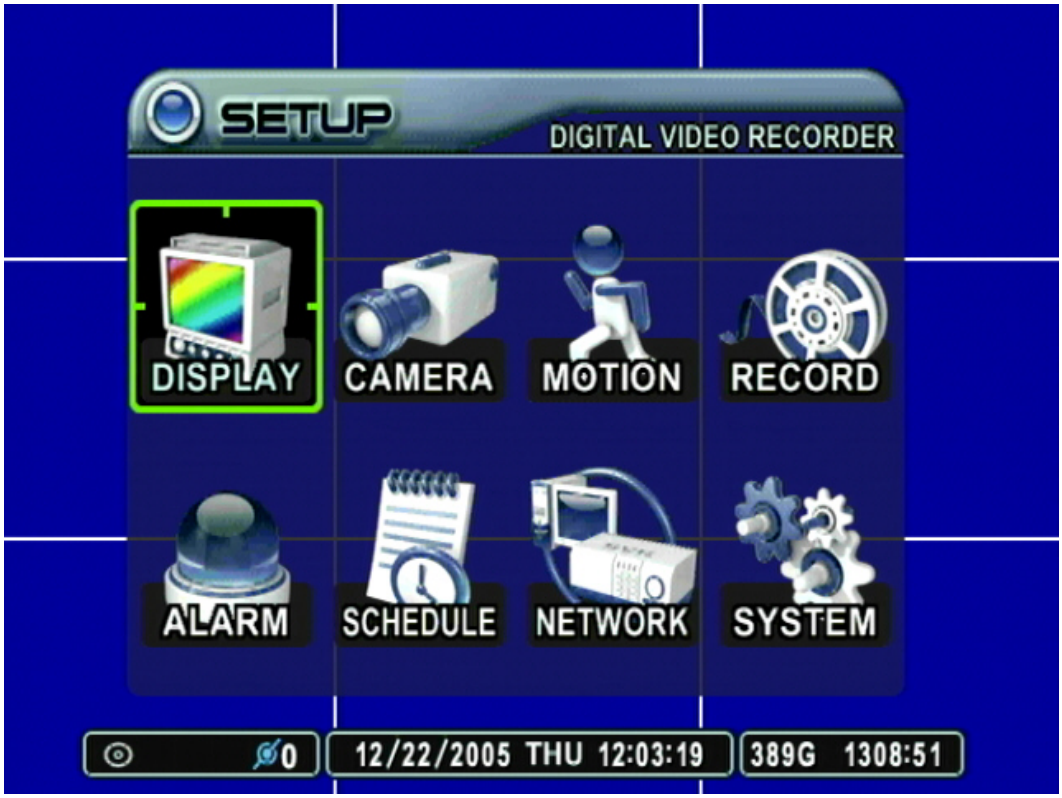
Alarm and motion related logs will start the playback in single channel view mode. The illustration to the left has selected a log from the MOTION tab.



Alarm or motion related playback will display according icons during the playback. The illustration to the left is playing back channel 8, and is displaying the motion icon, showing that channel 8 was recorded based on the motion trigger.

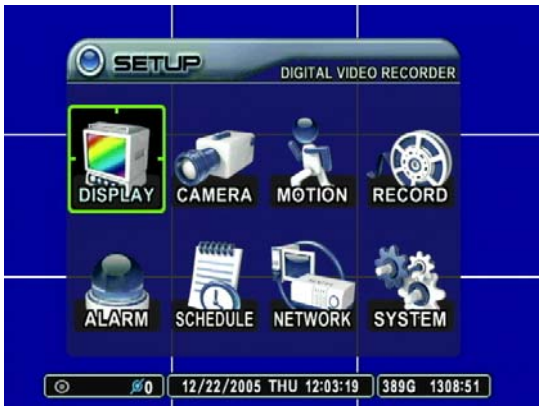
IV. ADVANCED SETTINGS

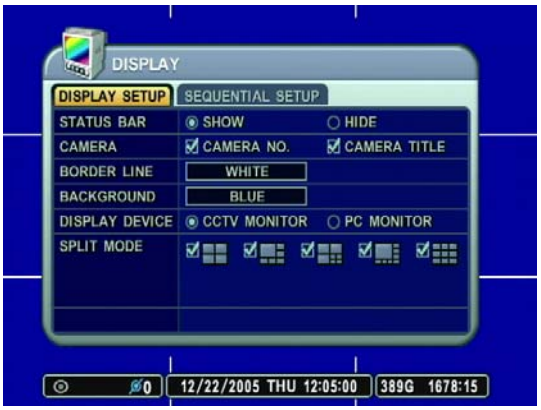
Press the menu button to access the main menu for the advanced settings of the DVR.
The menu will display the following categories:



Directional buttons are used to navigate through all the main categories and their submenus. ENTER button is used to access and save the settings and exit out of the submenus. The – and + buttons are used to select available options. CANCEL button is used to revert back to previous settings and exiting the submenus without saving any changes.

1. DISPLAY

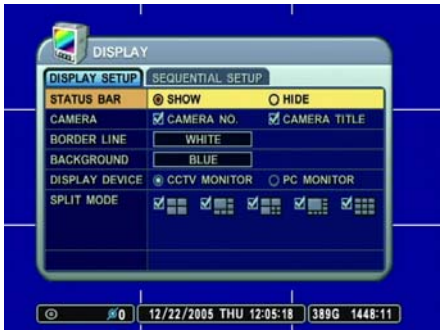




DISPLAY menu allows the user to customize a variety of options related to the main display of the DVR. It allows the display of the STATUS BAR, the channel number and the camera title, selection of border line and background colors, output device, and the sequential display of display modes.

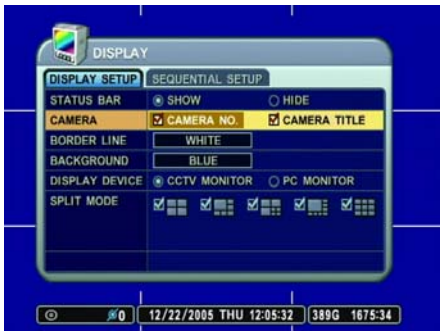
1.1 DISPLAY SETUP

1.1.1 Status Bar



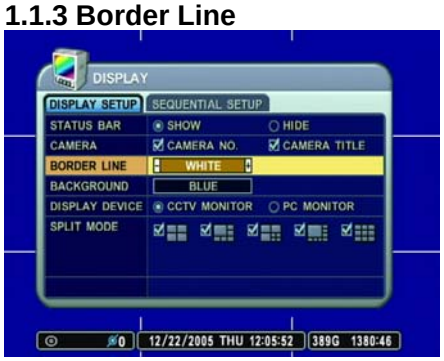
Select the display of the status bar containing various USB, client connection, date & time, remaining hard disk drive size and remaining recording time. If set to HIDE, then the bar at the bottom of the screen will be hidden from the main display. The default is SHOW.

1.1.2 Camera



Select the display of channel numbers and the title of each camera. The default is ON for both settings.

1.1.3 Border Line

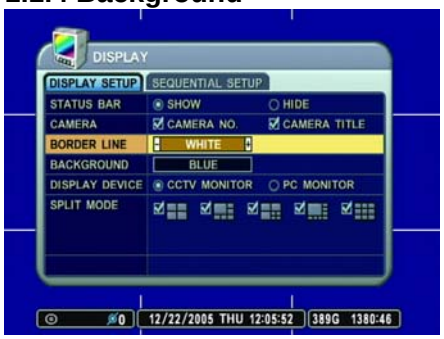


Select the border line color from the following available colors:

- Black
- Dark Gray
- Gray
- White

The default border line color is White.

1.1.4 Background

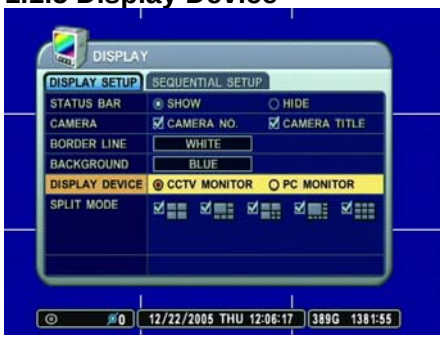


Select the background color from the following available colors:

- Black
- Dark Gray
- Gray
- Blue
- White

The default background color is Blue. On the Playback mode, the background is fixed at Blue.

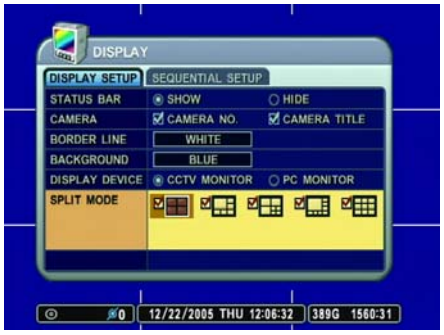
1.1.5 Display Device



Select the main video output.

- CCTV Monitor: composite video signal output using BNC connectors and VGA output.
- PC Monitor: VGA output only.

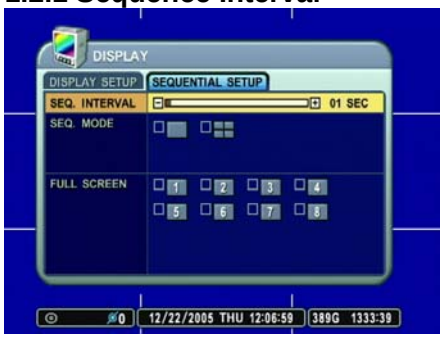
1.1.6 Split Mode



Select to display different types of split screen modes.

1.2 SEQUENCTIAL SETUP

1.2.1 Sequence Interval



Select the sequence delay time. Available delay time is from one second to 30 seconds per display. The default is five seconds.

1.2.2 Sequence Mode

Select what display modes to include in sequenced display. Single and Quad view modes can be included in the sequential display mode.

Selected view modes will be displayed in sequence, from the smallest number of windows to the largest number of windows.

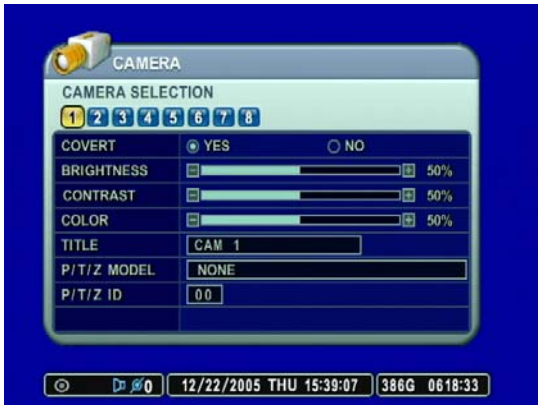
All modes are set to OFF by default.

1.2.3 Full Screen

Select which channel to include when in full screen sequential display mode.

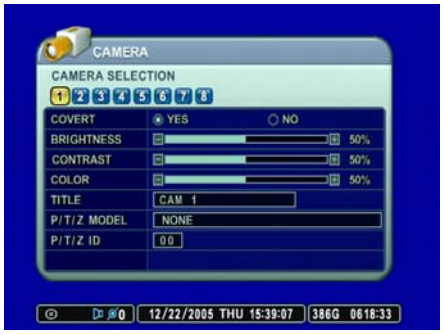
All channels are set to OFF by default.

2. CAMERA



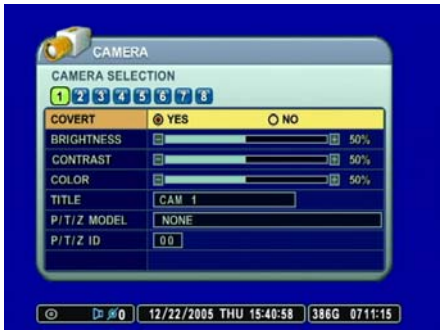
CAMERA menu allows the user to customize the display parameters of each channel, such as the covert mode, brightness, contrast, color, channel title and the PTZ camera associated.

2.1.1 Camera Selection



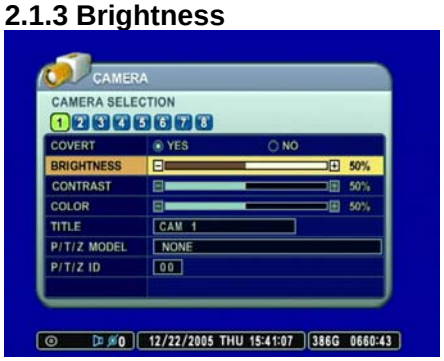
Select the camera that needs to be modified or adjusted.

2.1.2 Covert



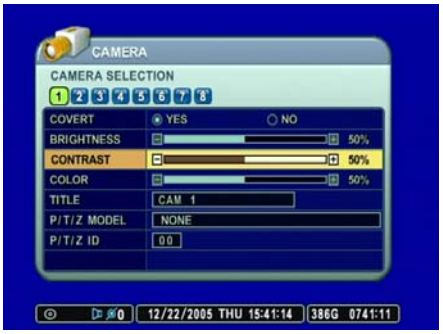
Select between covert mode (YES) and normal mode (NO). If covert mode is activated, the activated camera's display will be hidden on both the monitor and the client software. However, the video is still being recorded.

2.1.3 Brightness



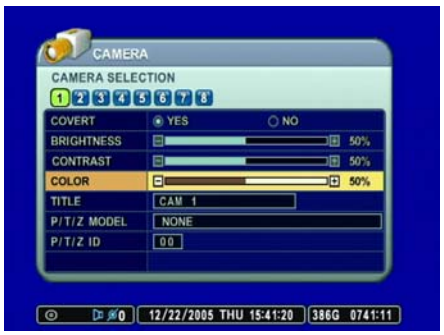
Adjust the brightness using – or + button. The default value is 50%.

2.1.4 Contrast



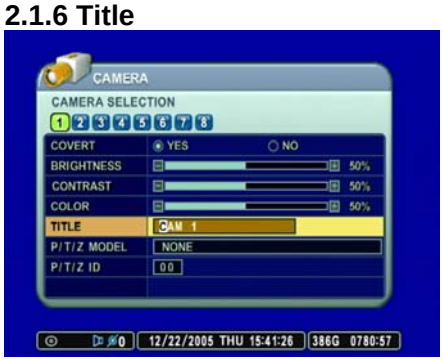
Adjust the contrast using – or + button. The default value is 50%.

2.1.5 Color



Adjust the color using – or + button. The default value is 50%.

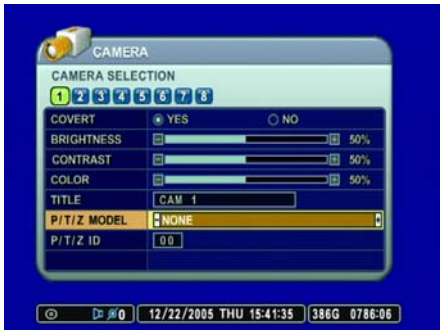
2.1.6 Title



Customize the channel title with up to a combination of 12 alphanumeric digits. As entering the alphanumeric values on cellular phones or keypad driven input systems, press the appropriate numeric buttons on the remote controller or on the DVR to enter the desired letters and numbers. Refer to the following illustration for the sequence of values.

1	A	B	9	Q	R
2	C	D	10	S	T
3	E	F	11	U	V
4	G	H	12	W	X
5	I	J	13	Y	Z
6	K	L	14	.	@
7	M	N	15	-	_
8	O	P	16	SPACE	

2.1.7 P/T/Z Model

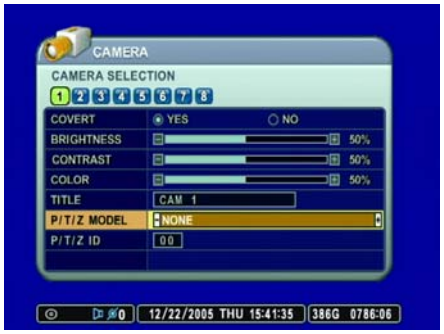


Select the PTZ camera to be controlled from the DVR.

List of compatible PTZ cameras, in the order of appearance

	Manufacturer	Model Name
1	C&B Tech	CNB-PTZ102 : 9600bps
2	Merit Lilin Ent	PIH-7000/7600: 9600bps
3	VCL	Orbiter Microsphere : 9600bps
4	SAMSUNG	SCC641: 9600bps
5	NEC	NC-21D: 9600bps
6	SUNKWANG	SK2107: 9600bps
7	Reserved	
8	D-MAX	PTZ Protocol: 9600bps
9	LG	LPT-A100L P/T/Z: 9600bps
10	HONEYWELL	GC-655N: 9600bps
11	WonWoo	PT-101: 9600bps
12	PELCO	D-PROTOCAL: 2400 bps
13	PELCO	D-PROTOCAL: 4800 bps
14	PELCO	D-PROTOCAL: 9600 bps
15	CNB	AN200 : : 9600bps
16	CANON	VC-C4: 9600bps
17	PELCO	P-PROTOCOL :2400bps
18	PELCO	P-PROTOCOL :4800bps
19	PELCO	P-PROTOCOL :9600bps
20	PELCO	Expanded:2400bps
21	PELCO	Expanded:4800bps
22	PELCO	Expanded :9600bps
23	Panasonic	WV-CS/W85x, WV-CS86x: 9600bps
24	HONEYWELL	HSDN-251N/P: 9600bps
25	GE/ Kalatel	Cyber Dome Series: 9600bps
26	Dong-yang Elec	Smart Dome
27	Bosch/Phillips	TC8560/TC700 Series
28	Sysmania	ORX1000 : 2400bps
29	AD	Delta Dome : 4800 bps
30	HUNT	HTZ-2300:9600bps
31	HAZEM	Resreved
32	NUVICO	NUVICO:9600 bps
33	LG	Dome Protocol:9600 bps
34	ELMO	PTC-200C/400C:9600 bps
35	NICECAM	MP-1xxx: 9600 bps

2.1.8 P/T/Z ID



Select the P/T/Z Camera ID to be controlled from the DVR.

3. MOTION

MOTION menu allows customization of motion related options. It includes post motion recording time settings, motion sensitivity level per camera, and motion grid selection.

3.1 RECORD TIME

RECORD TIME determines the amount of the time the DVR records after the initial motion detection. The user may choose from 10 to 240 seconds in 10 second intervals. If additional motion is detected during the post record duration, then the counter is reset, and will record for an additional set time of the RECORD TIME.

The default value is 20 seconds.

3.2 CAMERA SELECTION

Select the camera that needs to be modified or adjusted.

3.2.1 Motion Level

Use – or + button to adjust the motion sensitivity level. The necessary sensitivity can be immediately determined by looking into the grids and observing the green tracking of the movement. Sensitivity level 1 is the lowest setting and level 20 is the highest setting. The default sensitivity level is 10.

3.2.2 Motion Grid

Activate or deactivate each grid by pressing the appropriate numeric button. All the grids are active by default, and are highlighted in blue tint. If deactivated, then the tint will be removed. Small grids can be controlled on CMS software. Please refer to DVR SETUP section that will be discussed later in the manual.

Press the – or + button after highlighting the PENCIL icon to activate all grids at the same time.

Press – or + button after highlighting the ERASER icon to deactivate all grids at the same time.

4. RECORD

RECORD menu allows customization of continuous record settings. The usage of camera, record quality as well as record rate, audio record and motion record options are available.

4.1 USE

Select the usage of the camera. If the camera is set to ON, then that specific camera will be used to record. If set to OFF, then that specific camera will not be used to record. The default value is ON.

4.2 QUALITY

Select from five available record qualities, Low, Middle, High, Super and Ultra. The default value is HIGH.

4.3 RATE

Adjust the record rate for each camera. The maximum record rate is 120 pictures per second for CIF resolution. Secondly, if the global record resolution is set to 720 x 240, then the total record rate is 60 pictures per second. Finally, if the global record resolution is set to 720 x 480, then the total record rate is 30 pictures per second.

4.4 AUDIO

Select audio record ON or OFF for each camera. The default value is OFF.

4.5 MOTION

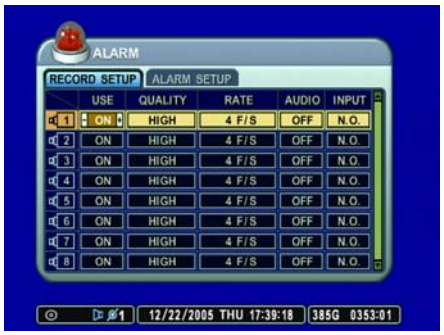
Select motion record ON or OFF for each camera. The default value is OFF.

5. ALARM

ALARM menu allows customization of alarm related options. It includes alarm record settings, post alarm recording time setting, alarm response record option, alarm buzzer, and alarm output related options.

5.1 RECORD SETUP

5.1.1 Use

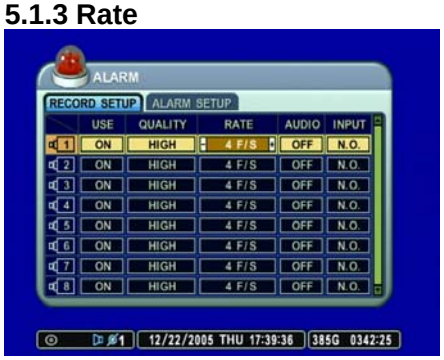


Select the usage of the camera. If the camera is set to ON, then that specific camera will be used to record. If set to OFF, then that specific camera will not be used to record. The default value is ON.

5.1.2 Quality

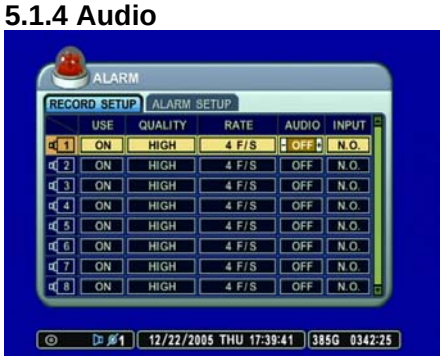
Select from five available record qualities, Low, Middle, High, Super and Ultra. The default value is HIGH.

5.1.3 Rate



Adjust the record rate for each camera. The maximum record rate is 120 pictures per second for CIF resolution. Secondly, if the global record resolution is set to 720 x 240, then the total record rate is 60 pictures per second. Finally, if the global record resolution is set to 720 x 480, then the total record rate is 30 pictures per second.

5.1.4 Audio



Select audio record ON or OFF for each camera. The default value is OFF.

5.1.5 Input

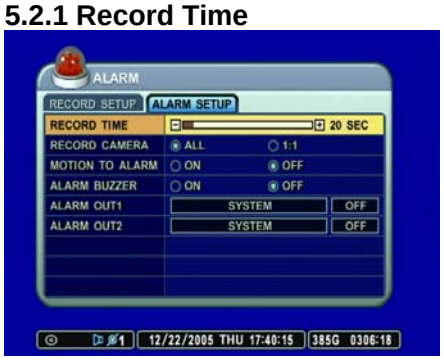
Select the alarm input circuit type. Choose from the two options:

- N.O: Normally Open Circuit
- N.C: Normally Closed Circuit

The default circuit is N.O.

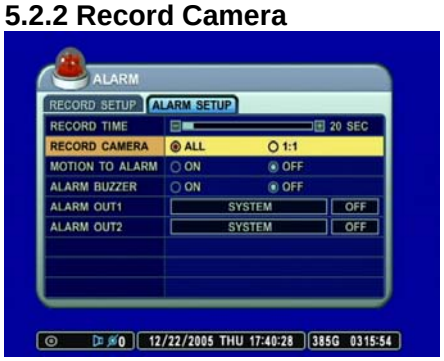
5.2 ALARM SETUP

5.2.1 Record Time



RECORD TIME determines the amount of the time that the DVR records after the initial alarm trigger. The user may choose from 20 to 240 seconds in 10 second intervals. If additional alarm is triggered during the post record duration, then the counter is reset, and will record for an additional set time of the RECORD TIME.

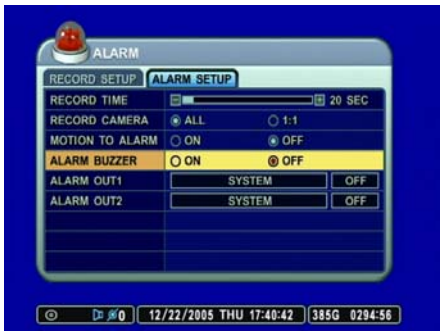
5.2.2 Record Camera



Record camera provides the option of two distinct recording modes when an alarm trigger occurs:

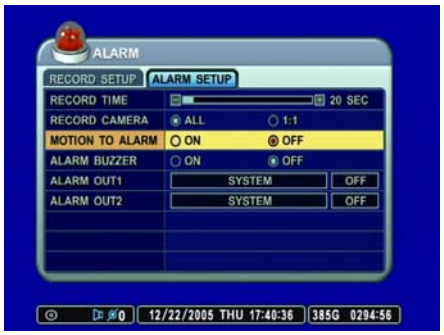
- ALL: Any alarm trigger will force all channels to record.
- 1:1: The channel from which an alarm trigger occurred will record.

5.2.3 Alarm Buzzer



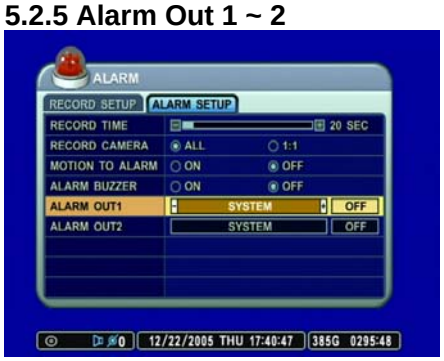
The DVR emits a high pitched, continuous buzzer when the alarm is triggered and starts to record. The buzzer will sound for the duration of the RECORD TIME. The default setting is off.

5.2.4 Motion to Alarm



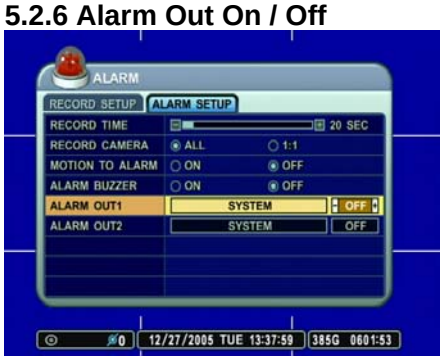
The DVR will treat a motion trigger as an Alarm Trigger.

5.2.5 Alarm Out 1 ~ 2



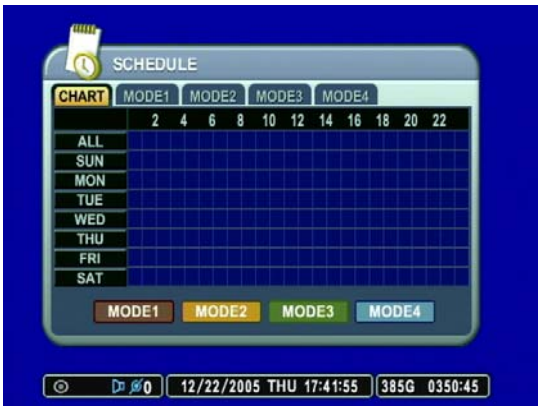
Configure relays 1 & 2 to trigger in conjunction with any of the 16 alarm inputs. If SYSTEM is selected, the relays will be triggered in case of system abnormalities, such as HDD FAIL, FAN LOCK and so on.

5.2.6 Alarm Out On / Off



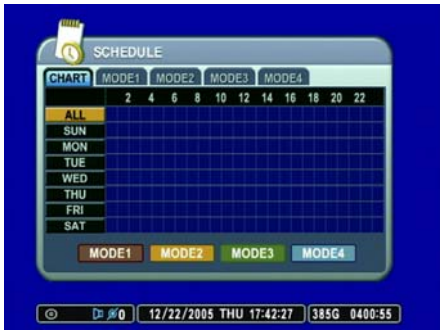
Enable or disable the alarm relays. The default value is OFF.

6. SCHEDULE



Schedule setup configures a variety of timed recording settings to provide a fully automated recording option. Four additional recording groups are available in addition to NORMAL and ALARM recording. ***Remember to activate the schedule by pressing the Schedule button on the front panel after all the values have been entered. If no schedule is entered, the unit will prompt the user to set the schedule function.***

6.1 CHART



The CHART displays the recording schedules configured on the DVR. It breaks down the days of the week in eight different categories: ALL, SUN, MON, TUE, WED, THU, FRI and SAT.

Sunday through Saturday is the daily schedule of the schedule whereas ALL is for everyday of the week.

6.2 MODE 1 ~ 4

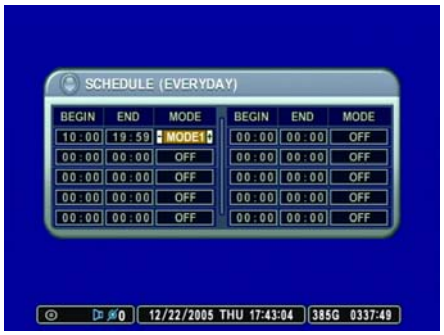
Schedule recording allows up to four different recording settings to be configured and be used in combination. The options are the same as RECORD menu.

In order to facilitate the concept of the SCHEDULE recording, the following example is provided as references to schedule recording in real-life situations.

6.3 EXAMPLE

A store owner needs to record from 10am through 8pm every day of the week using continuous recording. Additionally, the owner needs to record during his non-business hours using motion detection to conserve the space on his hard disk drive. The owner wants to record at 30 pictures per second during his business hours and 10 pictures per second during his non-business hours.

Select ALL from the chart, then press the ENTER button to access ALL time entry menu.



Enter the time for the regular business hours, 10am through 8pm, and then select MODE 1.

Please note that the END time is entered as 19:59. The time must be entered in 24 hour format and must end one minute before the actual end time as the DVR will record for one full minute starting at 19:59.

Enter the first part of the non-business hours, 8pm through 11:59pm, and then select MODE 2.

The DVR does not recognize beyond the actual 24 hour (00:00 ~ 23:59) cycle. Hence the overnight schedule must be divided into two parts.

Enter the second part of the non-business hours, midnight through 9:59am, and then select the same mode. Press the ENTER button to save and exit to the CHART screen.

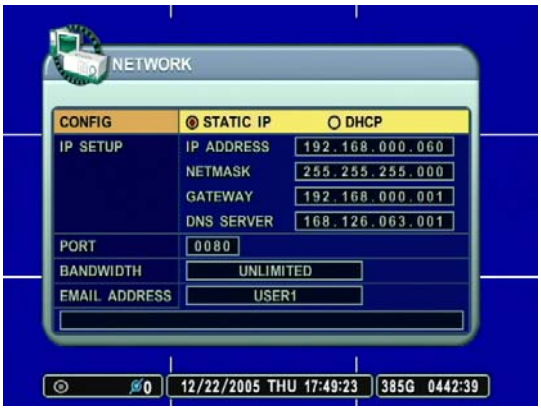
Please note that pressing numerical button 16 deletes the entries from BEGIN, END and MODE section.

The CHART will display the schedule for all days of the week, MODE 1 recording from 10am through 8pm and MODE 2 recording from 8pm through 10am.

Select MODE 1 and adjust the settings accordingly.

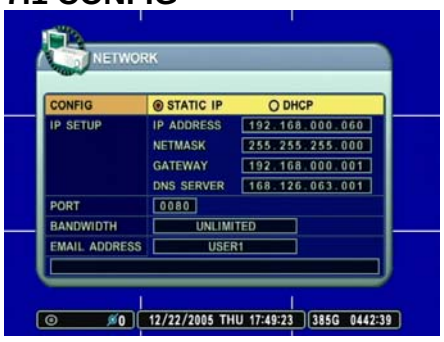
Select MODE 2 and adjust the settings accordingly. Press ENTER button to save and exit to main menu.

7. NETWORK



The DVR utilizes widely available broadband internet connections such as T1, Cable, and DSL to allow remote access, monitoring and control of the DVR in a relatively reliable manner.

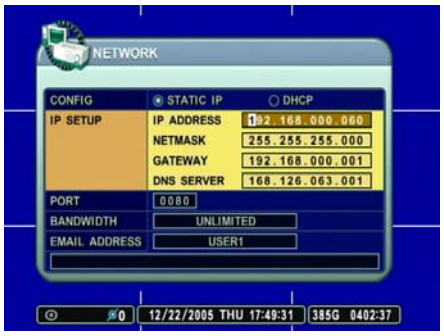
7.1 CONFIG



Select from the two types of available IP address types:

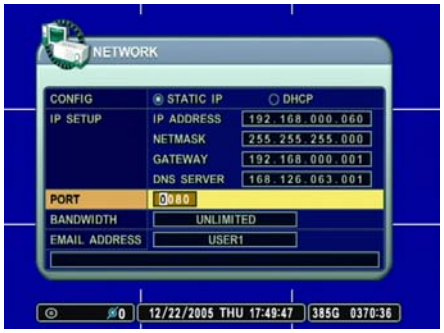
- STATIC IP: an IP address that remains constant for the duration of the contract of the internet service.
- DHCP: Dynamic Host Configuration Protocol, a service where the IP address is issued automatically, but changes frequently.

7.2 IP SETUP



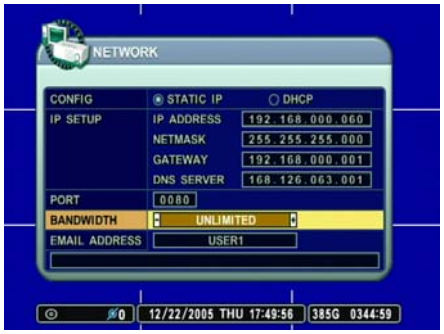
If STATIC IP is selected, this is where the IP address, Gateway and Netmask information is entered, as provided by the Internet Service Provider or in-house network administrator.

7.3 PORT



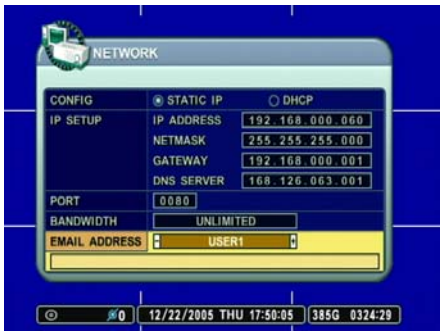
Enter the connection port for the client program, the Central Management Software (CMS). The default value is 7000.

7.4 BANDWIDTH



Select the amount of network bandwidth that the DVR can utilize.

7.5 E-MAIL ADDRESS

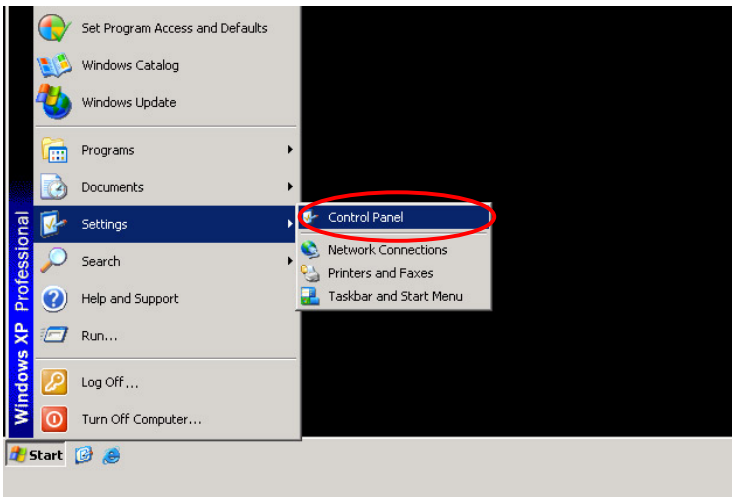


Enter up to five different user's e-mail address. The DVR will send notifications related to the following system abnormalities:

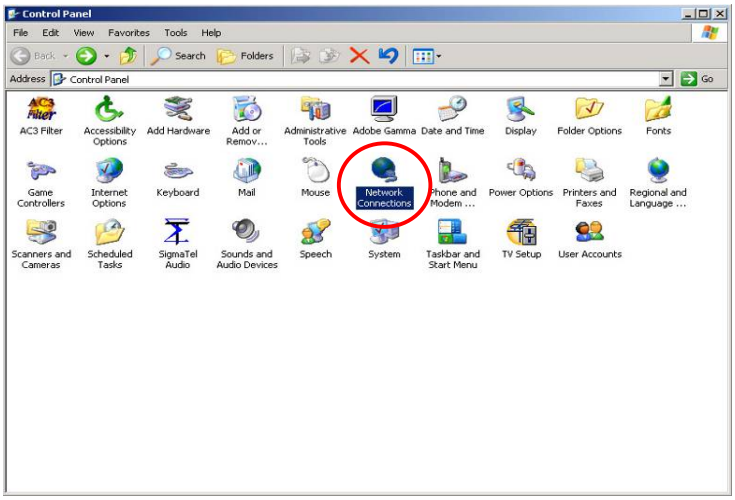
- Alarm
- Video Loss
- Power Loss
- HDD Failure

7.6 CONFIGURING THE DVR WITH A CROSSOVER CABLE

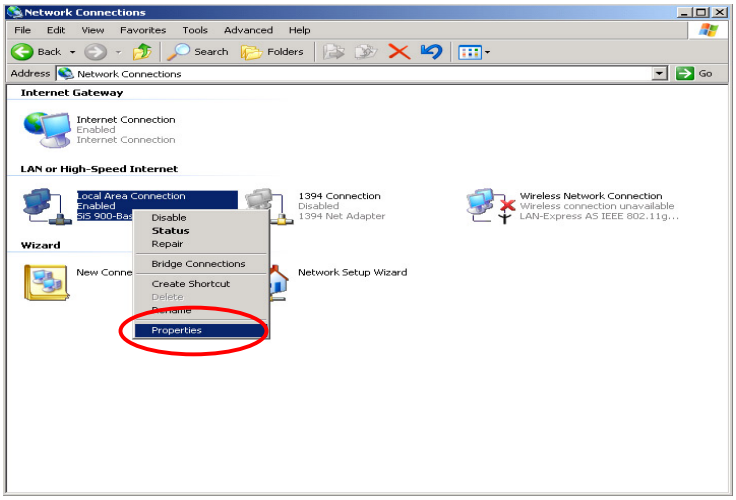
Assuming that the DVR maintains the factory default Network settings (192.168.0.60), this section will explain how to configure the computer to connect directly to the DVR. The following illustration was based on a computer system running Windows XP Professional.



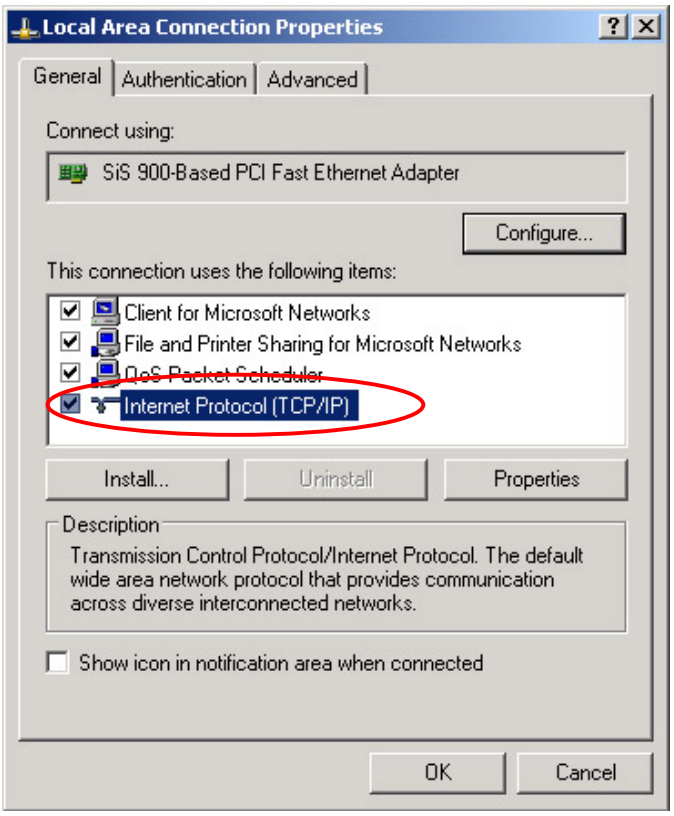
On the PC, click on Start, Settings, then Control Panel to open the Control Panel.



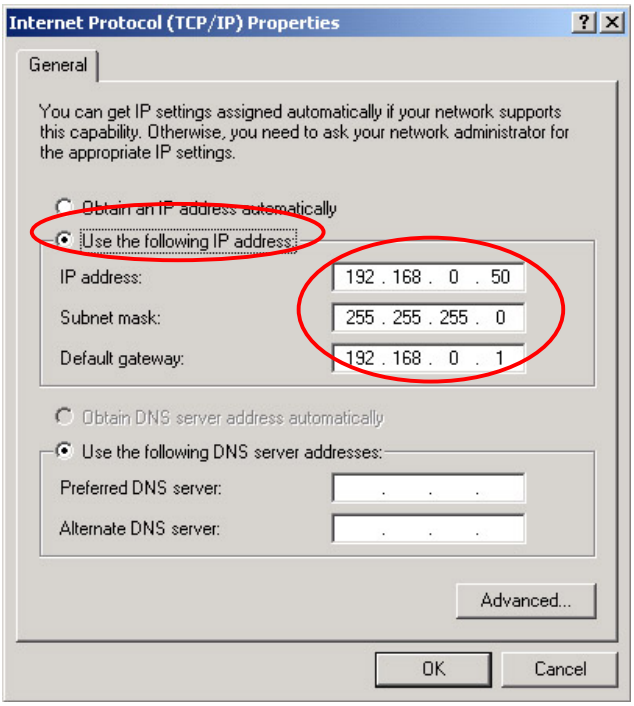
Double-Click on Network Connections to open the network settings window.



Right-Click on the Local Area Connection icon to drop a pull-down menu, then click on Properties to enter the Local Area Connection Properties.



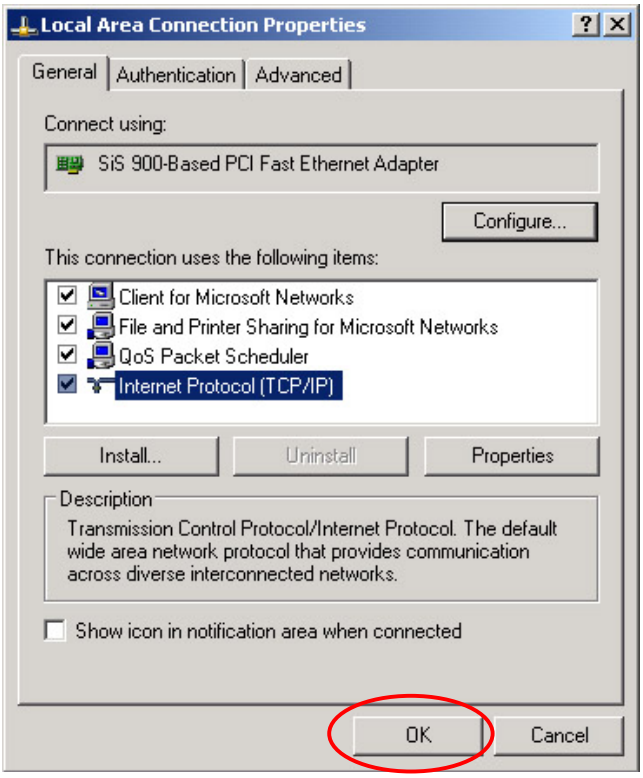
Double-Click on the Internet Protocol (TCP/IP) to edit the IP address information.



Select Use the following IP address, and then enter a matching network address and a host address for the computer. In this illustration, the IP address entered is 192.168.0.50.

Please note that any host address may be used as long as it does not conflict with the router's host address (1) and the DVR's host address (60).

Click OK button to save settings.



Click OK on the Properties window to apply the saved settings.

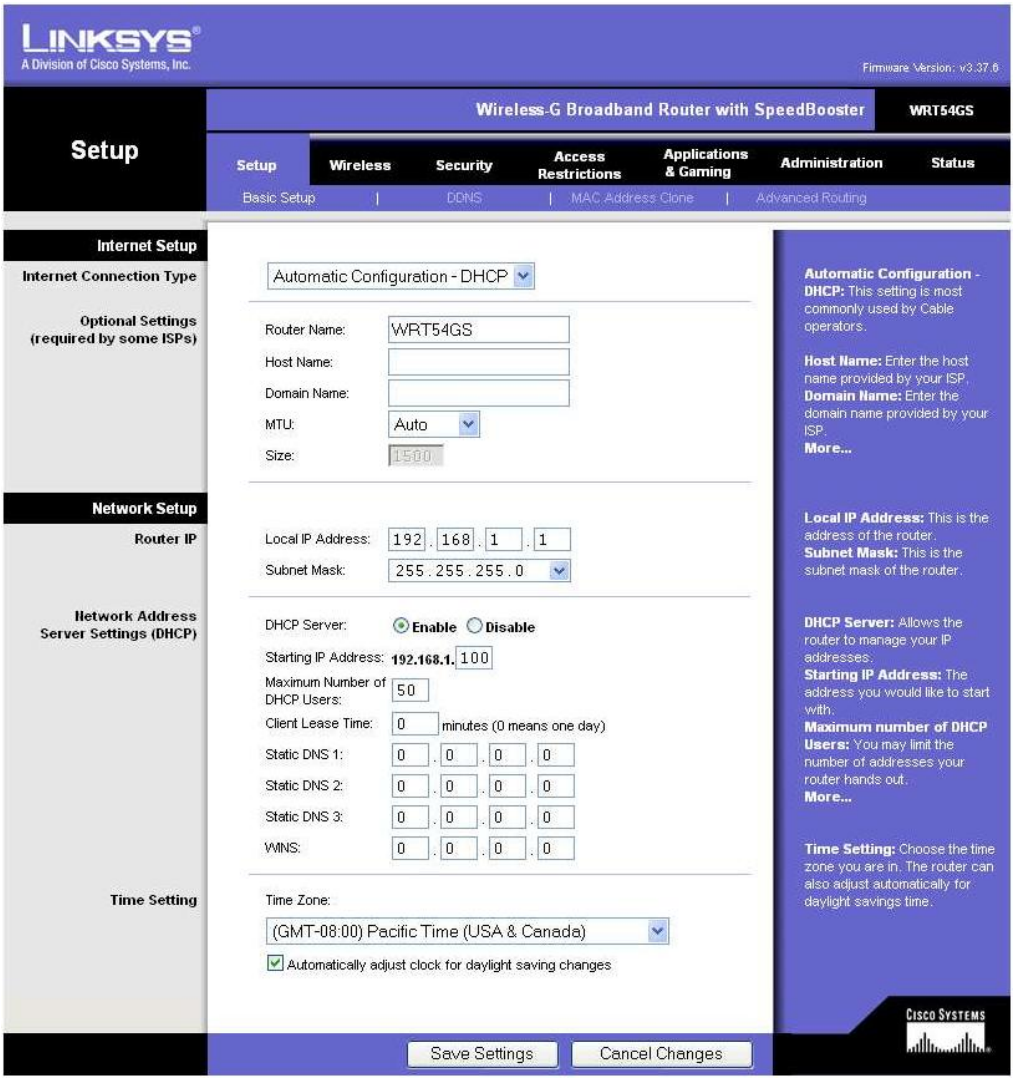
7.7 CONFIGURING THE DVR WITH A ROUTER INTO A LAN

The majority of any network will often consist of a single IP address which shares the internet access through a router. This IP address may be any external (public) static IP address or any dynamic IP address issued by the Internet Service Provider.

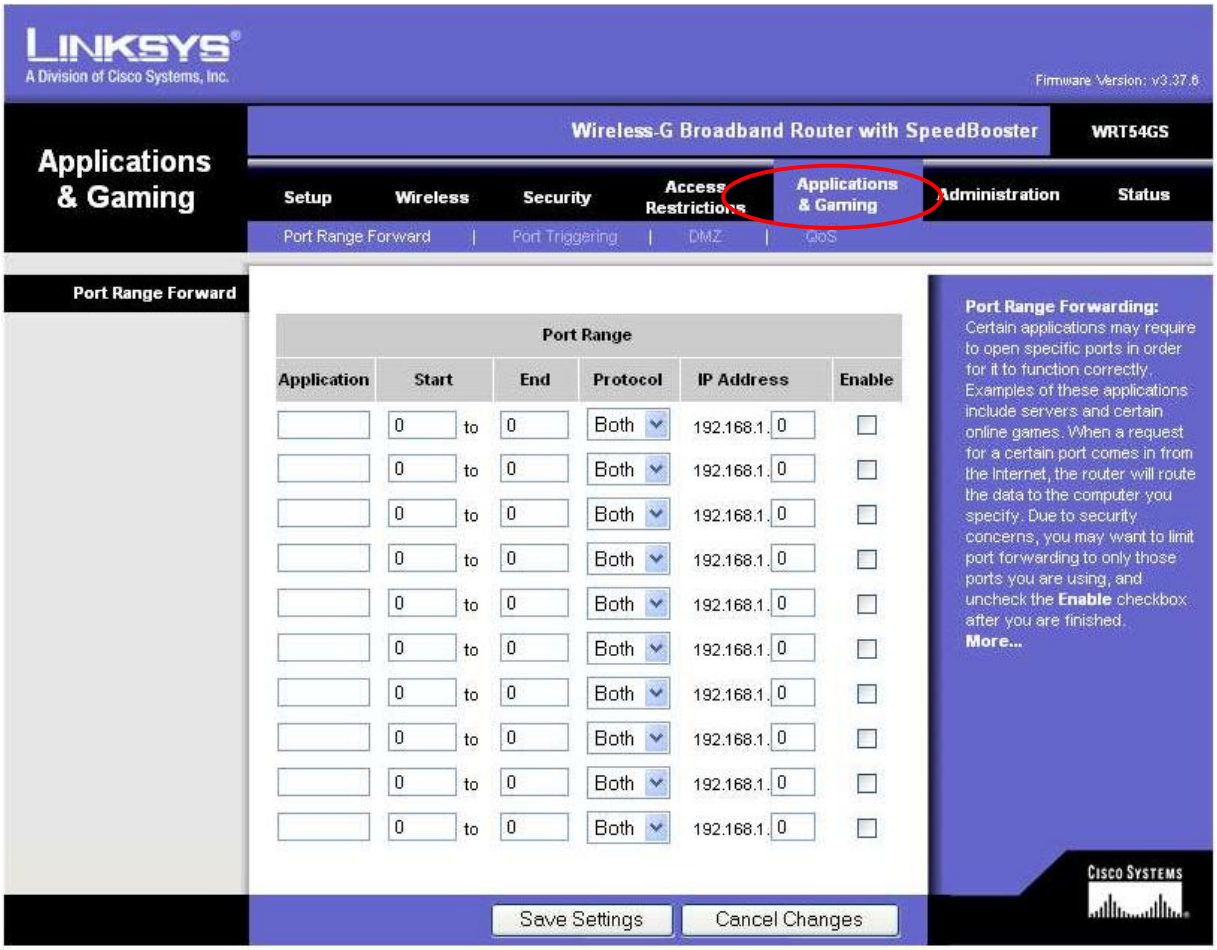
The purpose of a router is to enable multiple computers and any other devices that require internet connection to access the internet simultaneously. Most routers by default enable (open) commonly used ports so that mainstream applications such as Hypertext Transfer Protocol (HTTP, Port 80), File Transfer Protocol (FTP, Port 21), Telnet (Port 23) and Post Office Protocol 3 (POP3, Port 110) are used.

Over the next pages**, Linksys WRT54G** was used to illustrate a sample of the network connection process.

Open Internet Explorer then type in http://192.168.1.1 to access the router. Enter the User Name and Password to access the router. You will then be taken to the main menu. The factory user name is admin and password is admin.

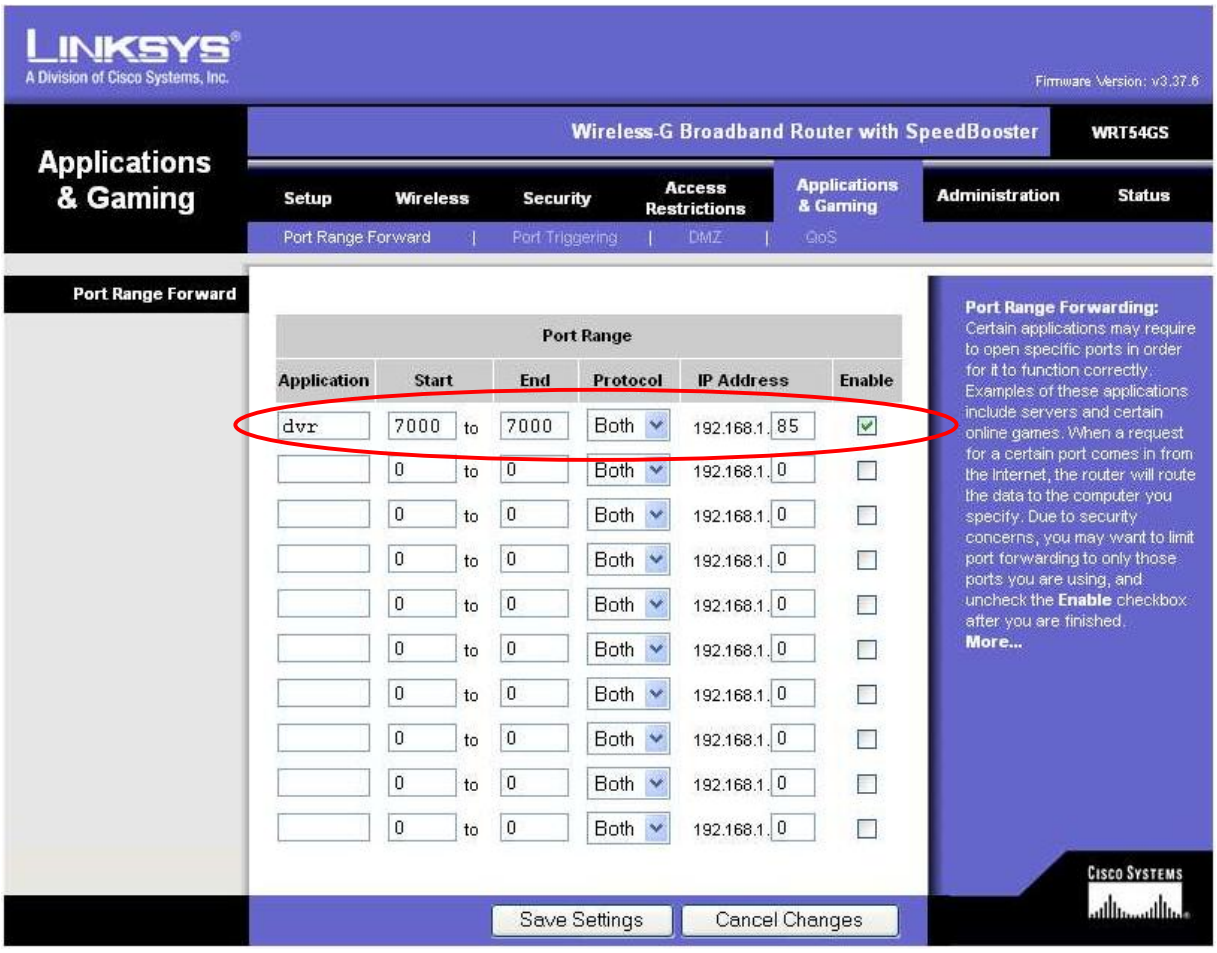


Click on Application & Gaming tab to access port forwarding configuration page.



Enter the designated port: 7000 for the DVR. Point each port to the DVR. Illustration shows that the DVR's IP address being 192.168.1.85.

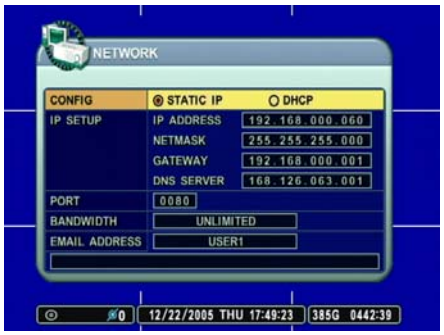
In the following examples, DVR7000 was used. Make sure you enable the port forwarding.



Port 7000 is added as shown.

7.8 Configuring the DVR to communicate with Linksys Router

Go to Network in Main Menu.



Set the CONFIG as STATIC IP.

Make sure to change the information to:

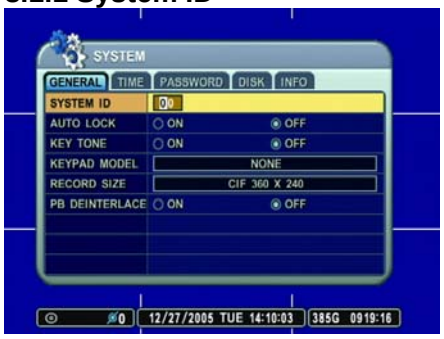
IP ADDRESS: 192.168.1.85
NETMASK: 255.255.255.0
GATEWAY: 192.168.1.1
PORT : 7000

8. SYSTEM

System Setup allows modification of various system features such as System ID, Automatic Key Lock, Key Tone, HDD rewrite policy, overall system record resolution, Time and date related settings, Password for different levels of users, formatting various hard disk drives and the system information.

8.1 GENERAL

8.1.1 System ID



Select the DVR's SYSTEM ID. Up to 99 DVRs can be controlled using one remote controller. To select the DVR to be controlled with the remote controller, press and hold the DVR ID button. While holding the DVR ID button, press the appropriate DVR ID number. For example, enter 05 for DVR ID 05, enter 43 for DVR ID 43, and such. The default value is 0.

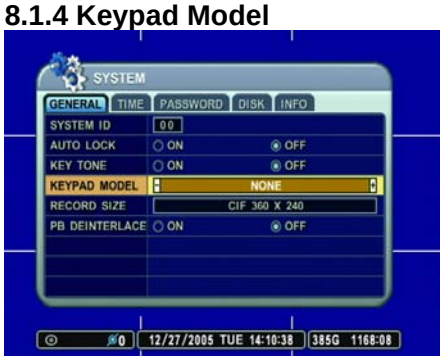
8.1.2 Auto Key Lock

The DVR locks all the buttons after three minutes of inactivity. The buttons can be unlocked with the user password. The default is OFF.

8.1.3 Key Tone

The DVR emits a beep every time a button is pressed. The default is ON.

8.1.4 Keypad Model



Select the type of keypad to be used for the DVR.

8.1.5 Record Size

Select the global record resolution. Values are 360 x 240, 720 x 480 and 720 x 480. The default is 360 x 240.

8.2 TIME

8.2.1 Time Sync

If the DVR is connected to the network, and if there are more than one DVR connected, then a DVR can be configured as the master DVR from which all other DVRs synchronize their time and date. The default is OFF.

- ON: The DVR is set to Slave DVR and synchronizes with the master DVR.
- OFF: The DVR is set to Master DVR and does not synchronize with any DVRs.

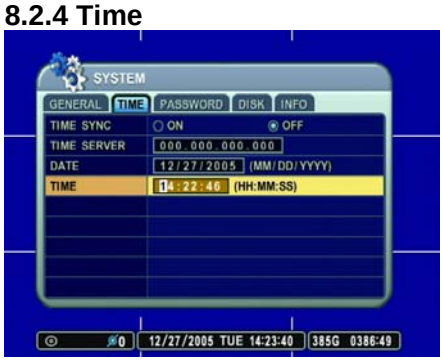
8.2.2 Time Server

Enter the IP address of the Master DVR. This is applicable only to Slave DVRs.

8.2.3 Date

Enter the current date in MM/DD/YYYY format.
Prior to adjust date and time, please stop the recording first, if the DVR is recording.

8.2.4 Time



Enter the time in 24 hour format.

8.3 PASSWORD

8.3.1 Selection

Select the user to change the password.

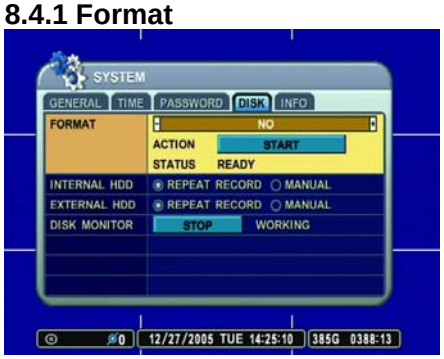
8.3.2 New & Confirm

Enter the new password.

Confirm the password.

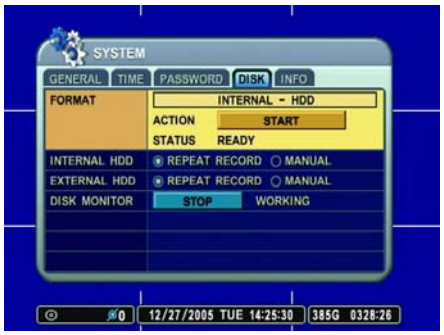
8.4 DEVICE

8.4.1 Format

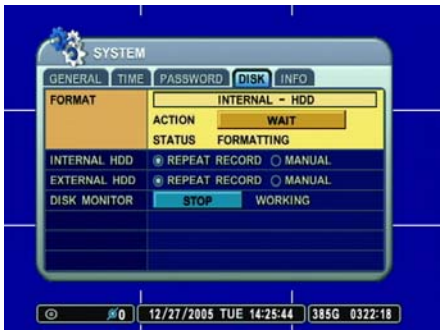


- Select the device to format.
- INTERNAL: Internal hard disk drive.
- RACK: If a removable HDD is attached.
- USB (FRONT): If a USB HDD is attached to the front.
- USB (REAR): If a USB HDD is attached to the rear of the DVR.

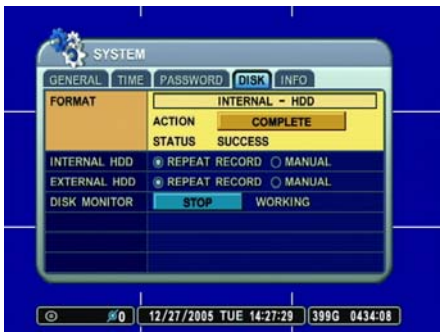
8.4.2 Start



After selecting which device to format, highlight START and then press ENTER to begin formatting.



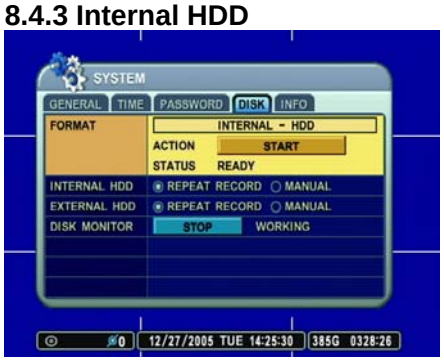
Formatting will begin, and the progress will be displayed at the bottom of the window. Please note that it takes 10~30 seconds to format a hard disk drive.



When formatting is finished, it will display COMPLETE, and also SUCCESS at the bottom of the window.

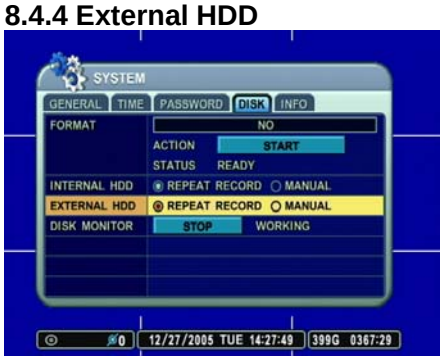
Please note that CD-RW and DVD-RW disks must be formatted before backup.

8.4.3 Internal HDD



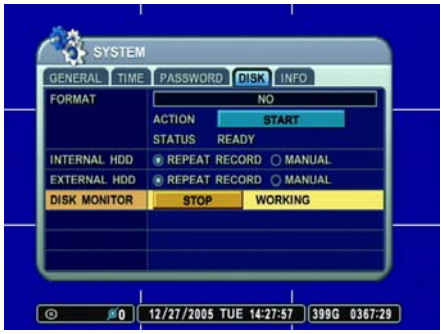
Select the record policy of the internal hard disk drive. By default, the hard disk drive will overwrite from the beginning when it becomes full.

8.4.4 External HDD



Select the record policy of the external hard disk drive. By default, the hard disk drive will overwrite from the beginning when it becomes full.

8.4.5 Disk Monitor



By factory default, the DVR is consistently monitoring the HDD for any malfunction and failures. You can manually turn this function off. **This feature is not supported in NVDV3 Series DVR.**

8.5 INFO

Please refer to page 20 for the information screen.

V. CENTRAL MANAGEMENT SOFTWARE

The Central Management Software (CMS) is a dedicated client program that connects and manages up to 300 DVRs in real time. Each DVR connected will report the status of the DVR in real time.

1. SYSTEM REQUIREMENT

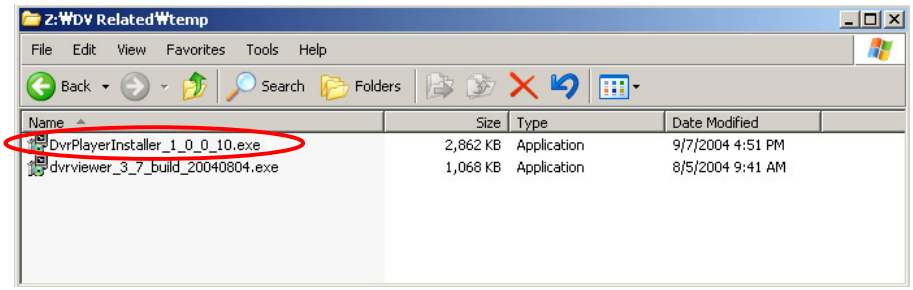
The CMS utilizes much resource from the computer as it draws data from multiple DVRs. The PC must sufficiently and efficiently manage the incoming data stream and real-time alerts from each DVR connected. Therefore, the PC must be equipped with a higher minimum requirement for its components and operating system.

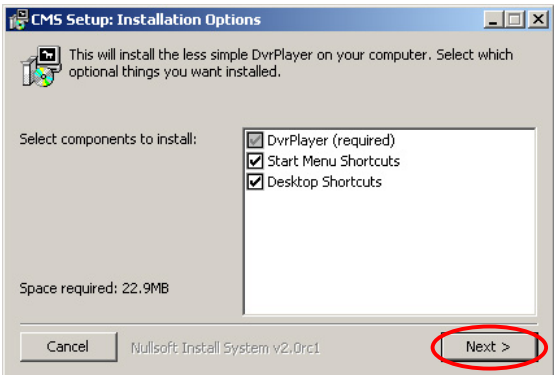
The following chart displays the minimum and the recommended system specification to operate the CMS properly.

	Minimum	Recommended
OS	Windows 98SE	Windows XP
CPU	Pentium IV 1.30 GHz	Pentium IV 2.8 GHz
RAM	128MB	512MB RAM
Video Card	16MB	64MB
Free Space	30MB	2 GB
Resolution	1024x768x16	1024x768x32
DirectX	DirectX 6.0	DirectX 9.0
Video Overlay	None	Overlay YUY2 Surface
Network	Ethernet 10/100B-TX	Ethernet 10/100B-TX
Port Forwarding	Port 80 TCP	Port 80 TCP

2. INSTALLING DVRPLAYER

Insert the program CD into the CD-ROM or DVD-ROM drive of the computer and locate the DvrPlayerInstaller_X_X_X_XX.exe. The Xs represent the version number of the program. Double-click on the file, which opens the setup dialog.

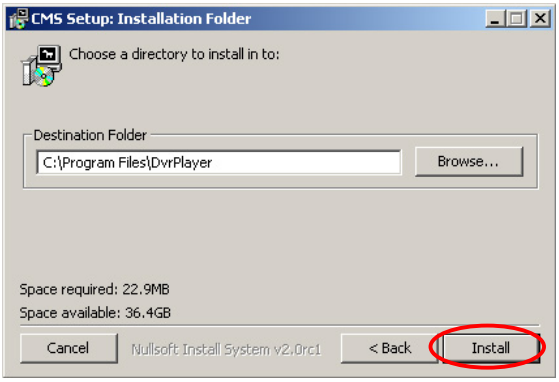




The setup dialog displays the installation options: the DvrPlayer, Start Menu Shortcuts and Desktop Shortcuts.

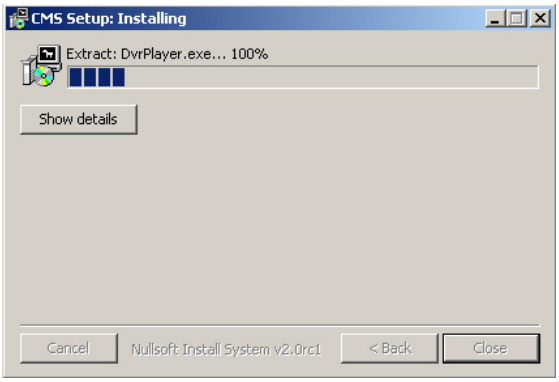
The Start Menu Shortcuts and Desktop Shortcuts may be unchecked if desired.

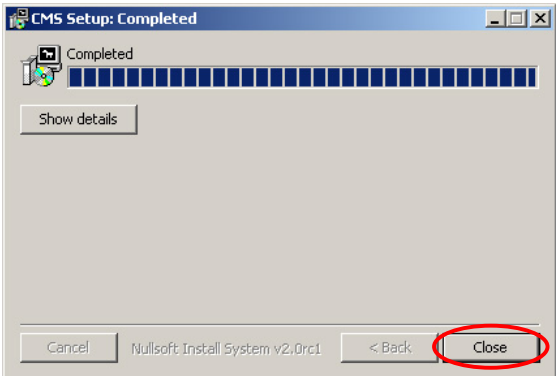
Click on **Next** to continue.



Select the folder in which the program will be installed. By default, it is installed in "C:\Program Files\DvrPlayer."

Click on **Install** and the installation will begin.





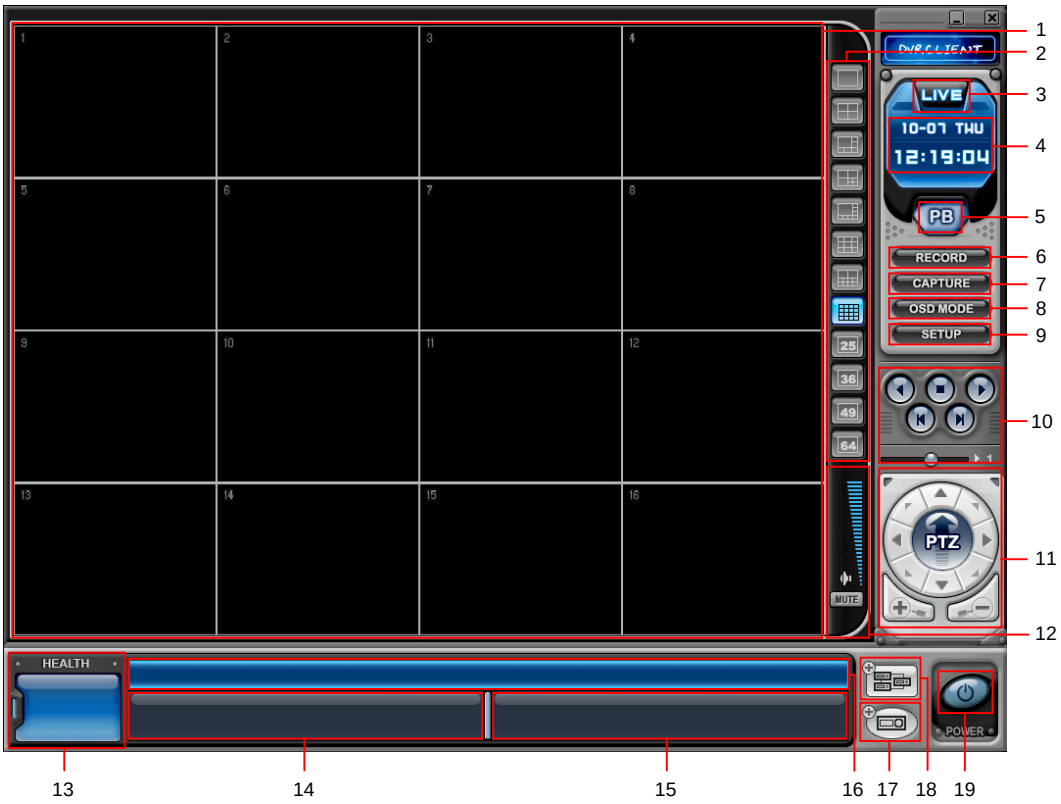
Click on **Close** to finish the installation.

3. EXECUTING DVRPLAYER

Once you start the DVRPLAYER, it will prompt you to enter a password.
The default password is “0”.

4. DVRPLAYER

Locate the DvrPlayer icon from the desktop and double-click on it, or locate the DvrPlayer icon in **Start** – **Programs** – **DvrPlayer**.



1. MAIN CAMERA DISPLAY WINDOW

Live or playback video is displayed up to 64 cameras in the main window. When the actual video is displayed, it will display the channel number and title as well as the field rate.

2. CAMERA DISPLAY SELECTION

From the top: single, 4 channel, 6 channel, 7 channel, 8 channel, 9 channel, 10 channel, 16 channel, 25 channel, 36 channel, 49 channel and 64 channel view modes. All display modes are accessible no matter how many DVRs are connected or how many cameras are being displayed.

3. MODE DISPLAY

Displays whether the program is in live or playback mode.

4. TIME AND DATE

Displays the current time and date in live mode of the file being played back in playback mode.

5. MODE SELECTOR

Toggles between live and playback mode.

6. RECORD

Starts and stops the remote recording. By default, the files are saved in

"C:\Program Files\DvrPlayer\Download). When the remote recording is in progress, the record button will change its color to cyan.

7. CAPTURE

Takes a snapshot of the live or playback video. These images can be saved in JPEG, PNG, BMP or PCX format.

8. OSD MODE

Toggles On Screen Display on or off.

9. SETUP

9.1 GENERAL 1

The general settings for the CMS. Options for the OSD, overlay and the folder can be accessed by pressing this button.

1. OSD Setup
Select the On Screen Display options for the cameras: Time, Set name (DVR name), Camera Number, Camera name and the frame rate.

2. Overlay
Select the use of video overlay on or off. The video overlay utilizes Microsoft DirectX and video card hardware acceleration for the optimal video transmission speed.

3. Download
Select the directory for remote recording and to store downloaded files.

4, Version
Displays the version of the CMS Software.

9.2 GENERAL 2

1. POS
Setting to limit the POS item search.

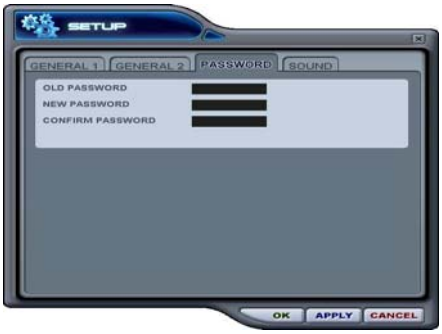
2. Log
Setting to limit the Display of Logs.

3. Check Watermark
Setting to check for watermark.

4. Auto Full Screen for Alarm Event
Setting to perform a full screen pop-up for alarm event.

9.3 PASSWORD

The setting to change the password for initial log-in of the software.



Enter the Old Password. By the factory default, it is "0"

Enter the new password.

Confirm the password.

9.4 SOUND

Audio alert setting for the CMS. You can toggle to enable the sound or to disable the sound from the software.

- Connect: CMS will emit a sound when a DVR connects.
- Disconect: CMS will emit a sound when a DVR disconnects.
- Alarm: CMS will emit a sound when an alarm is triggered from the DVR.
- Motion: CMS will emit a sound when the DVR detects a motion.
- Video Loss: CMS will emit a sound when there is a Video Loss.

10. PLAYBACK CONTROL BUTTONS

The playback control buttons only function when reviewing downloaded files.

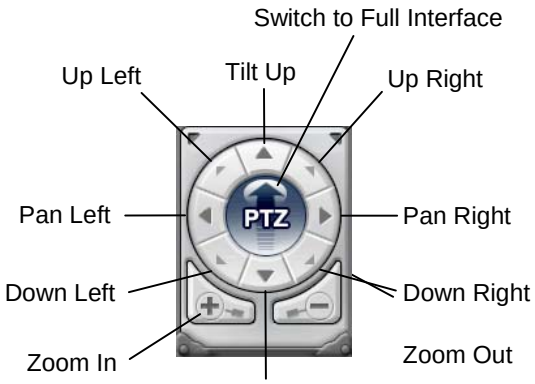
From top left in clockwise direction: reverse playback, stop, forward playback, forward field-by-field and reverse field-by-field.

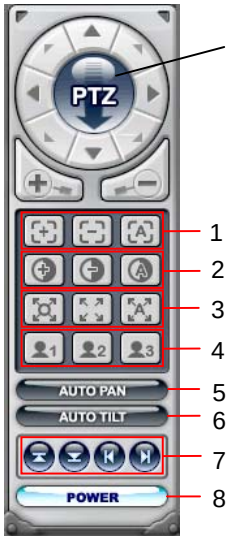
The bar controls the playback speed. Slide the bar to fast forward at 2X, 4X and 8X. Slide the bar to the middle to pause playback. Slide the bar to the left to fast rewind at 2X, 4X and 8X.

11. PAN / TILT / ZOOM CONTROL

If one or more Pan / Tilt / Zoom cameras are installed on the DVR, they can be individually selected and controlled using the PTZ control box. To control a channel-specific PTZ camera, simply click on the channel where the PTZ camera is connected.

The basic functions of the PTZ camera – Pan, Tilt and Zoom can be controlled by the compact control box below at left. For more functions, click on the PTZ and the box will slide up, revealing additional features.





1) Focus Control

Button	Function
	Focus Far
	Focus Near
	Auto Focus

2) Iris Control

Button	Function
	Iris Open
	Iris Close
	Auto Iris

3) Tour

Button	Function
	Set preset tour positions; the total number differs per camera
	Go To; calls up preset
	Start Automatic Tour

4) Special Functions

Executes special functions pre-programmed in the PTZ camera.

5) Auto Pan
Starts automatic panning of the camera between its preset boundaries.

6) Auto Tilt
Starts automatic tilting of the camera between its preset boundaries.

7) Auto Pan / Auto Tilt boundaries

Button	Function
	Set left pan limit
	Set right pan limit
	Set up tilt limit
	Set down tilt limit

12. AUDIO VOLUME
Control the volume of the audio in live monitoring and playback mode.

13. HEALTH
Displays the name of the last five DVRs with an event or a problem. The color will change appropriately based on the event or problems reported from the DVRs.

Warning colors.
RED

The color changes to red when critical functions of the DVR is interrupted or has failed: connection failure, connection timed out, disconnection, power failure, fan lock/recovery, system failure/recovery and HDD failure/recovery.

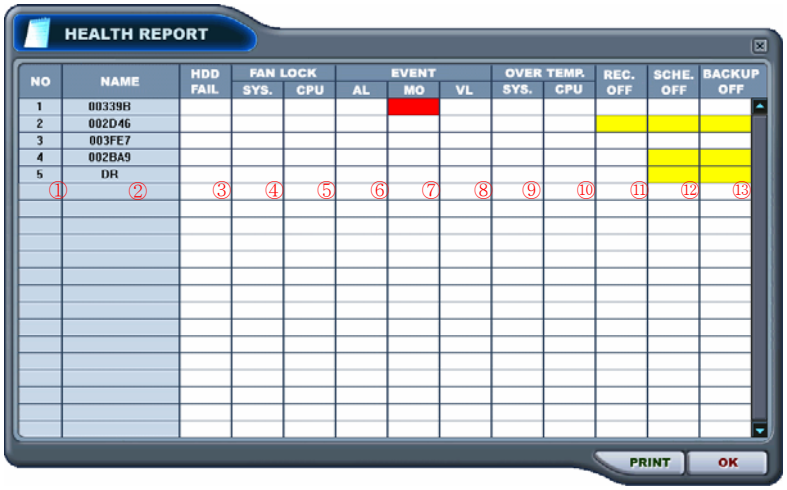
YELLOW

The color changes to yellow when recording and alarm related events occur: video loss, video loss recovery, alarm trigger, motion detection, recording stopped, schedule off and backup stopped.

BLUE

The color remains blue as long as the DVRs are functioning within the normal parameters. It will display the DVR's set name only with the following functions: recording started, backup started and schedule on.

Health report
Health report can be accessed at any time by double-clicking on the warning led. Health report allows a quick glance of all DVRs' status. Maximum of 300 DVRs' status can be displayed simultaneously.



When the health report window is opened, several blocks will be lit or blinking depending on the status of the DVR. Please refer to the following chart for the definition:

Block Color	Definition
Solid Red	An event or a problem had occurred
Blinking Red	Current event or a problem
Solid Yellow	Current status of the DVR

① NUMBER
The order the DVR was entered. In case of network connection error or power failure, this block will blink in red in conjunction with the NAME block.

② NAME
DVR name, either the host name or something created by the user. In case of network connection error or power failure, this block will blink in red in conjunction with the NUMBER block.

③ HDD FAIL
Notifies Hard Drive Disk failure during the operation.

④ SYSTEM FAN LOCK
Notifies System Fan abnormality.

⑤ CPU FAN LOCK
Not supported in NVDV3 Series DVRs.

⑥ ALARM TRIGGER
Notifies the alarm trigger.

⑦ MOTION TRIGGER
Notifies motion detection.

⑧ VIDEO LOSS
Notifies loss of video signals.

⑨ SYSTEM OVERALL TEMPERATURE
Not supported in NVDV3 Series DVRs.

⑩ CPU OVERALL TEMPERATURE
Not supported in NVDV3 Series DVRs.

⑪ REC LED INDICATOR
Displays the status of the recording LED from the DVR. Switches to yellow if inoperative.

⑫ SCHEDULE LED INDICATOR
Displays the status of the schedule LED from the DVR. Switches to yellow if inoperative.

⑬ BACKUP
Displays the status of the schedule LED from the DVR. Switches to yellow if inoperative.

Any DVR name or number, or any of the lit or unlit blocks may be double-clicked to access the properties, CMS log list and DVR log list. Please refer to pages for more information.

14. DVR WINDOW

Any DVR that has been added into the CMS using the DVR Set List Manager will be listed under the DVR window with its own DVR icon and name. Moreover, individual DVR icons also act as a supplementary icon to display individual DVR's status.

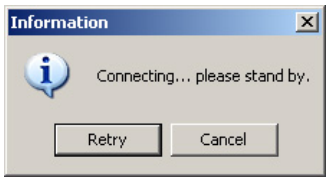
The status of the DVR is displayed in five different icons.

1) Normal

When the DVR is working within normal parameters, the icon color remains blue. Double-click on the icon to begin live monitoring.

2) Network connection in progress

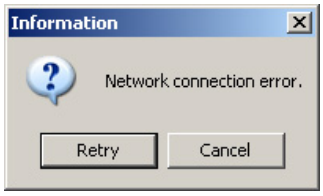
When the CMS program is first run or when the DVR has been added for the first time, the icon will display an exclamation point and will change its color to orange.



If the icon is double-clicked while the connection is in progress, "Connecting… please stand by." pop-up window will appear. Click on **Retry** to reinitiate the connection process or **Cancel** to return to the main window.

3) Network Error / Disconnection

If the DVR is disconnected due to a network error, or if the CMS was not able to connect to the DVR due to an invalid address, port or password, the icon will display a "prohibited" sign and will change its color to pink.



If the icon is double-clicked while the DVR is disconnected or if the password has been changed on the DVR, “Network connection error.” pop-up window will appear. Click on **Retry** to reinitialize the connection process or **Cancel** to return to the main window.

4) System abnormality

If alarm, motion trigger or some system abnormalities such as video loss occurs, the icon will display a question mark and change its color to orange.

Double-clicking on the icon will open the CMS log list, displaying all the past events of the DVR since its first connection to the CMS.

There are two ways of methods of exiting the CMS log list after review:

① Click on the **X** (close) at the upper right corner of the screen to exit the CMS log list while maintaining the icon status.

② Click on **OK** at the lower right corner of the screen to exit the CMS log and to clear the icon status.

5) Live Monitoring

When the DVR is selected to be monitored live, the DVR icon is highlighted and will display playback icon.

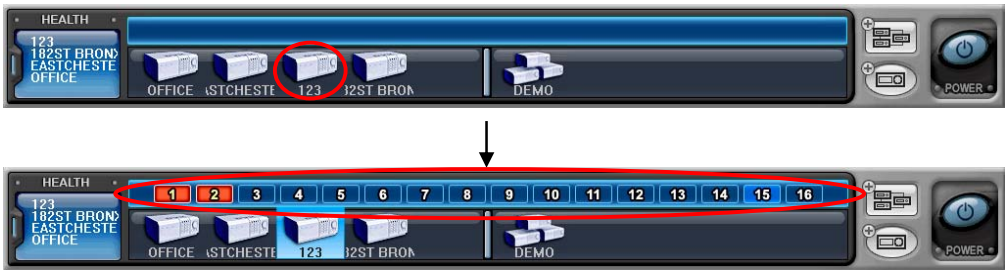
15. VIRTUAL DVR WINDOW

Virtual DVR is not an actual DVR, but a combination, or a group of several DVRs already listed under the DVR window. Under one Virtual DVR set, up to 64 DVRs can be added, pulling one camera from each DVR to be displayed. The Virtual DVR behaves in the same way a DVR would, except for the warning notifications.

16. CAMERA STATUS BAR

In addition to the Health Status Report and supplementary information from the DVR icons in DVR Window, the Camera Status Bar displays the status of individual cameras. The cameras are displayed according to the channel

When the CMS is in live mode for either an individual DVR or for a Virtual DVR, the camera status will be displayed for any DVR.



Once the cameras are displayed on the bar, any of the cameras may be double-clicked to display the selected camera in single channel mode.

Camera Status Definition:

1) Camera normal, non recording mode.

The icon color changes to cyan when the camera is connected, but the DVR or the channel is not in recording mode.

2) Video loss.

The icon color changes to dark blue when the camera signal is lost.

3) Recording.

The  icon color changes to red when the DVR or the channel is in recording mode.

17. DVR SET LIST MANAGER

Set List Manager is used to add or remove individual DVRs.

① Set Name
The set name can be manually entered for an easier identification of an individual DVR. The DVR Host Name is entered automatically with Auto Scan.

② IP
Enter the IP address or the host address of the DVR. The IP address is entered automatically with Auto Scan.

③ Port
The default port for CMS is 7000. The port is entered automatically with Auto Scan.

④ Administrator's Password
Enter the administrator's password to access the DVR. The password is entered as "000000" with Auto Scan.

⑤ Apply
When editing a DVR, click on **Apply** to put the new settings in effect. Please note that the DVR set needs to be highlighted.

⑥ Auto Scan
Auto Scan scans for any DVRs connected within the Local Area Network. As it adds DVRs automatically, it will ignore DVRs already on the list. By default, Auto Scan will enter the Set Name, IP address, Port, and the password with the default DVR settings.

⑦ Add To List
When a DVR is entered manually, click on **Add To List** after entering all the values.

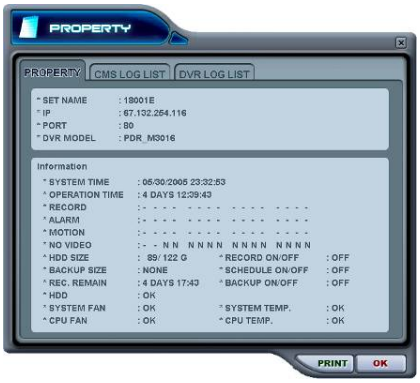
⑧ Del From List
When a DVR needs to be removed from the list, highlight the DVR to be removed, and then click on **Del From List**.

⑨ Setup

If the settings of the DVR needs to be modified after adding the DVR, click on **Setup** to open the DVR settings window.

⑩ Property

Property displays general information about a DVR, such as DVR name, IP address, connection port, Model number, CPU and MICOM version, number of cameras and the compression method.



18. VIRTUAL DVR SET LIST MANAGER

Virtual DVR Set List Manager is used to add or remove Virtual DVRs.

① Set Name
Enter the name of the Virtual DVR.

② Apply
When editing a Virtual DVR's name, click on **Apply** to put the new settings in effect. Please note that the Virtual DVR needs to be highlighted.

③ Auto Arrange
Check this option to have the CMS arrange cameras with any of the events occurring from a virtual DVR with registered cameras. The cameras with events are moved to channel 1 automatically, then arranged in the order of priority.

④ Auto Insert & Arrange
Check this option to have the CMS to add, prioritize and arrange cameras with any of the events occurring from any cameras. The cameras with events are moved to channel 1 automatically, then arranged in the order of priority.

⑤ Alarm
Check this option to have the cameras with alarm triggers to be prioritized and arranged automatically in either **Auto Arrange** or **Auto Insert & Arrange**.

⑥ Motion
Check this option to have the cameras with motion triggers to be prioritized and arranged automatically in either **Auto Arrange** or **Auto Insert & Arrange**.

⑦ Video Loss
Check this option to have the cameras with motion triggers to be prioritized and arranged automatically in either **Auto Arrange** or **Auto Insert & Arrange**.

⑧ Add Virtual Set
After designating a name for a Virtual DVR, click on **Add Virtual Set** to create a Virtual DVR. Please avoid repeating the same name for different virtual DVRs.

⑨ Del Virtual Set

When a Virtual DVR needs to be removed from the list, highlight the Virtual DVR to be removed, and then click on **Del Virtual Set**.

⑩ Property

Property displays general information about a Virtual DVR, such as Virtual DVR name, total number of cameras and IP address information of individual DVRs in the Virtual DVR.

19. POWER

Terminates and exits from the CMS.

5. DVRPLAYER – LIVE MODE

In Live Mode, individual DVRs and Virtual DVRs can be displayed and sorted in any order.

5.1 INDIVIDUAL DVR MONITORING

Double-click on a DVR icon when the DVR icon is blue (operating within the normal parameters) to begin live monitoring.

a. DVR Name and Camera Title
The DVR name and the camera title is displayed on top left corner of each channel. DVR host name will be displayed if Auto Scan feature was used.

b. Channel Status
Displays the current status of each channel.

Indicator	Status
REC	Normal Recording
Wait	Connection in progress
Loss	Video Loss
Close	Disconnected from DVR
Alarm	Alarm Recording
Motion	Motion Recording
PB	Playback mode for individual channels
Live	Live monitoring only; no recording

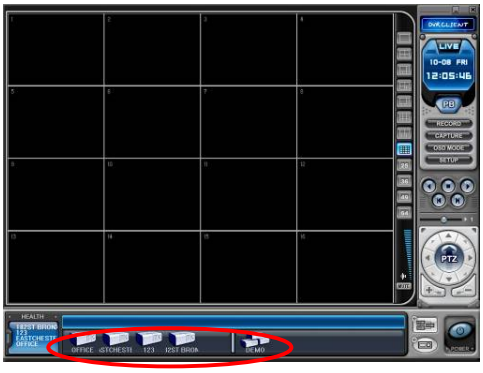
c. Time
Displays the ***local*** time of the DVR's location.

d. Field Per Second
Displays the field rate of the transmitted video for each channel. The transmitted field rate is ***different*** from the actual recording field rate of the DVR.

5.2 VIRTUAL DVR MONITORING

The basics of monitoring a Virtual DVR is just as the individual DVR. The only difference is that a Virtual DVR consists of multiple cameras selected from multiple DVRs.

Selecting a group of cameras to monitor

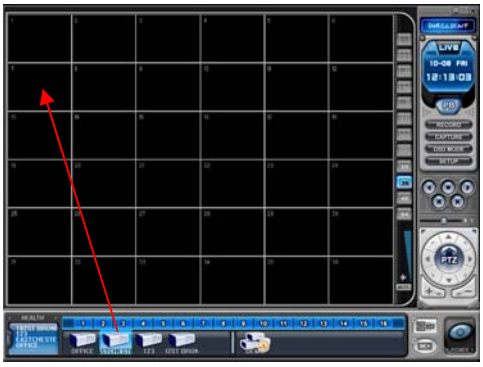


Verify that individual DVRs are listed under DVR Window and a Virtual DVR has been created and listed under Virtual DVR Window.

Double-Click on the Virtual DVR.

Single-click on the desired DVR from the DVR window to select the cameras to add onto Virtual DVR. The cameras will appear on the Camera Bar.

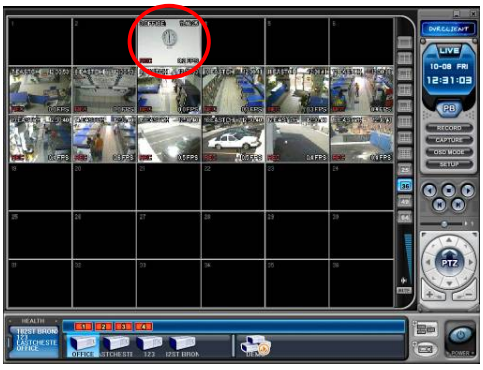
Please note that the number of channels to be displayed may be changed at any time if necessary.



Click-and-drag the DVR to any channel number to display all available cameras under Virtual DVR.

In the example to the left, all available 12 cameras are displayed starting at channel 7.

Individual cameras can be added onto the Virtual DVR by click-and-dragging individual cameras.



These processes can be repeated to add and rearrange the cameras in desired locations.

5.3 DUAL DISPLAY

Individual channels can be selected and begin remote playback while the rest of the channels are in live monitoring mode. Dual display is available for both individual DVRs and Virtual DVRs.

1) Select a channel for playback. In the example below, channel 16 was selected for dual display playback.

2) Right-click on the selected channel, and a context menu will appear on the screen.

3) Left-click on Search. Remote Search window will open. The DVR in which the camera belongs to will be highlighted.

4) Select the date and the time, and then click on **Play**.

5) The selected channel will begin playback in Dual Display Mode.

6) Right-click on the same channel, and then select **Live** to revert back to the live mode.

6. DVRPLAYER – PLAYBACK MODE

DVRs that have been added onto the DVR window using the DVR Set List Manager can be accessed in Playback Mode for remote playback or to download the files onto the remote PC. Unlike the live mode, only one DVR can be accessed at a time.

1. Click on the Mode Selector button to switch to Playback Mode.

① Select Channel

During the remote or local playback, any camera can be accessed and viewed in single channel view mode by clicking on any camera number. The same can be done by double-clicking on any channels.

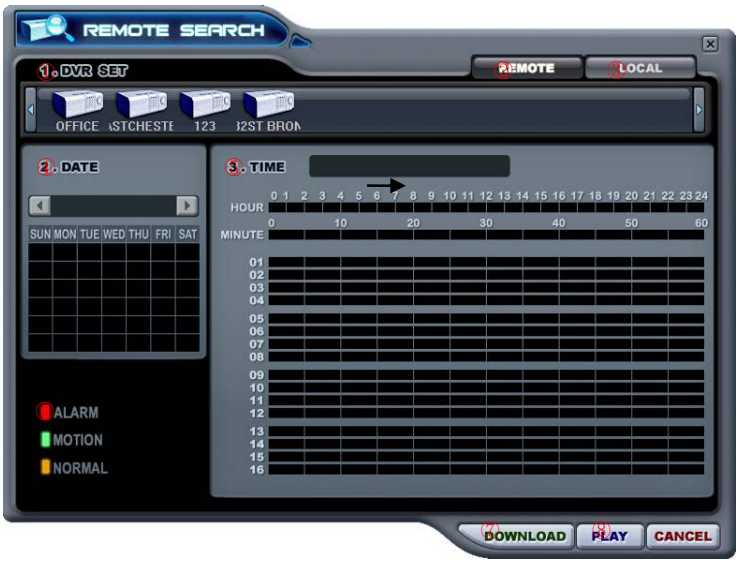
② Hour, Minute and Clip

During remote or local playback, available hour and minute slots are displayed in the slots. Clip displays the beginning and the ending time of the video playing back.

③ Search

Remote Search Window is access by clicking on **Search** button.

2. Remote Search



① DVR Set List
Any DVR that has been added using the DVR Set List Manager will be displayed here.

② Remote
Remote Playback mode tab. The CMS will playback the video directly from the selected DVR.

③ Local
Local file playback mode tab. The CMS will playback the video that are archived on remote PC's hard drive.

④ Date
Displays available files for remote playback or local playback, one month at a time.

⑤ Time
Displays available files for remote playback or local playback in 24 hour format. It will also list any cameras with recorded video for the appropriate hour and minute slot.

⑥ Recorded Video Category
Displays different types of recording for each hour and minute slot: alarm recording in red, motion recording in green, and normal recording in orange.

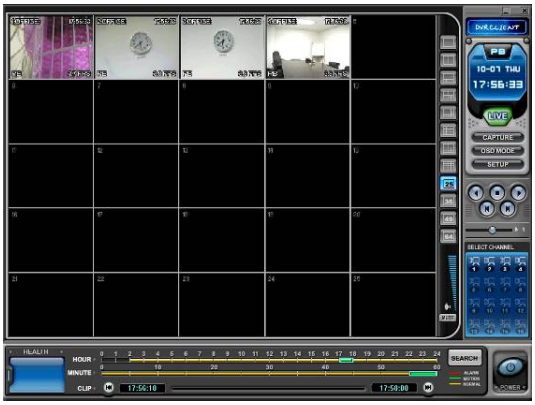
⑦ Download
Any remote data can be downloaded onto the hard drive. By default, the files are saved in "C:\Program Files\DvrPlayer\Download".

⑧ Play
Selected data either from the DVR or from local folder starts playback by clicking **Play**.

3. Remote playback

Select a DVR from the DVR Set List then select the date and the time.

Click on **Play** to begin the remote playback.

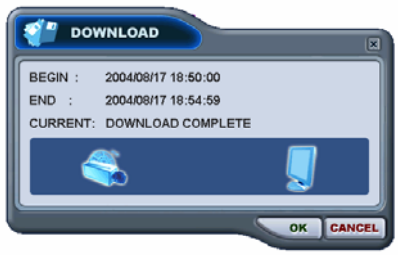


The Hour, Minute and the Clip can be clicked at any time to move backward or forward in time.

4. Selecting a file for download

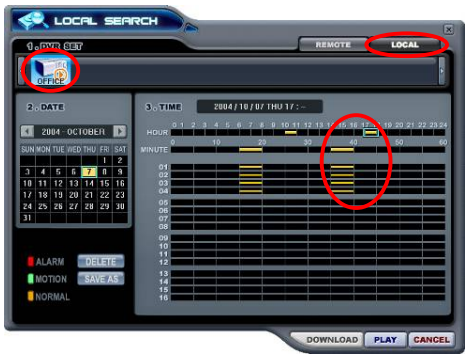
The file selection process is just as selecting a file for remote playback. To download the file, click on **Download** instead of **Play**.

The Download Dialog will appear displaying the Start time, End time and currently downloading section.



Once the download is complete, “Download Complete” will be displayed. Click on **OK** to return to Remote Search window.

5. Local Playback

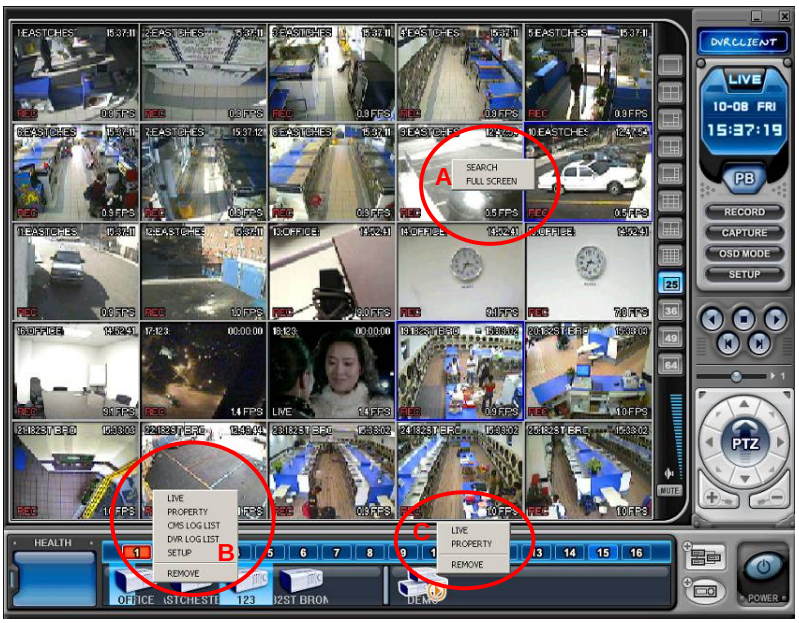


Select the Local Tab, and then select the DVR file from which the file was downloaded from. Select the date, time and the minute slot, and then click on **Play**.

Once the playback begins, the video can be manipulated using the playback controls. The video can be fast forwarded, fast rewound, paused, move field by field in either direction.

7. CONTEXT MENU

The context menu allows access to the submenus for the channel, DVR and the Virtual DVR. The submenus allow access to various features for each individual submenu type.



1. Channel Context Menu

① Search
Enters Remote Search window for single camera.

② Full Screen
Changes the display to single channel view mode.

2. DVR Context Menu

① Live
Start live monitoring for the selected DVR.

② Property
Displays general information of the DVR.

③ CMS Log List
Displays logs of all events while CMS is running.

④ DVR Log List

Displays logs of all events from the DVR from the first power on.

⑤ Setup

Enters the setup dialog for the DVR.

⑥ Remove

Remove the DVR from the DVR Window.

3. Virtual DVR Context Menu

① Live

Start live monitoring for pre-configured Virtual DVR.

② Property

Displays the general information of the Virtual DVR.

③ Remove

Removes the Virtual DVR from the Virtual DVR Window.

8. DVR SETUP

The DVR Setup allows modification of all system settings through CMS as it would be done accessing the DVR menu screen.

DVR setup can be accessed through the context menu from any DVRs, or through the DVR Set List Manager.

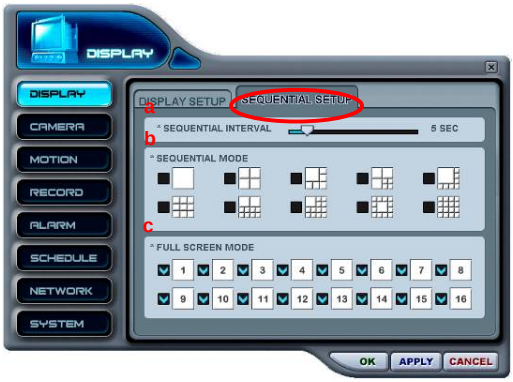
1) Display – Display Setup

a. Select Status Bar show ON or OFF.

b. Select Camera Number and Title display ON or OFF.

c. Select the Border Line and Background colors.

2) Display – Sequential Setup



a. Select the Sequential Interval Time.

b. Select the Sequential View Mode.

c. Select the Cameras to include in Full Screen Sequential Mode.

3) Camera

Select a camera to adjust.

a. Select the Covert Mode option for the selected camera.

b. Adjust Brightness, Contrast and Color.

c. Enter the Camera Title. Also, select the PTZ camera model and the PTZ ID of the camera.

4) Motion

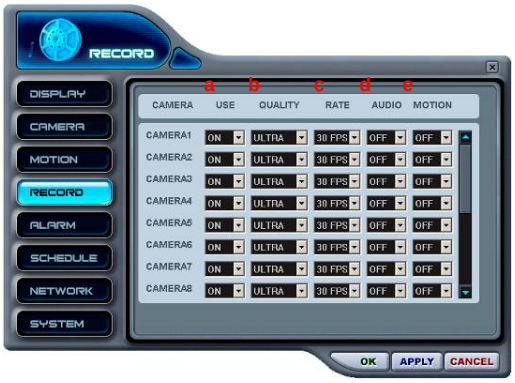
a. Select the post motion record time.

b. Select camera record options.

c. Select the motion sensitivity level.

d. Select from preset motion grid configuration or manually select the motion grids. Select the desired motion grids by left click or delete by right click on the mouse. It is also possible to select smaller motion grids for more precise motion detection.

5) Record



a. Select camera use ON or OFF.

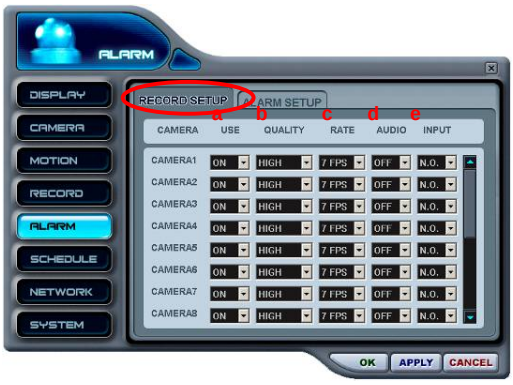
b. Select the record quality.

c. Select the record rate.

d. Select audio record ON or OFF.

e. Select motion record ON or OFF.

6) Alarm – Record Setup



Configure the four recording groups.

a. Select camera use ON or OFF.

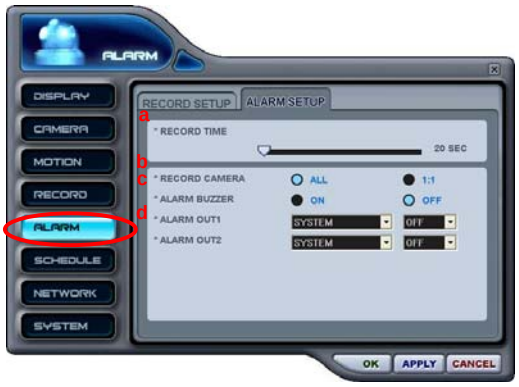
b. Select the record quality.

c. Select the record rate.

d. Select audio record ON or OFF.

e. Select motion record ON or OFF.

7) Alarm – Alarm Setup



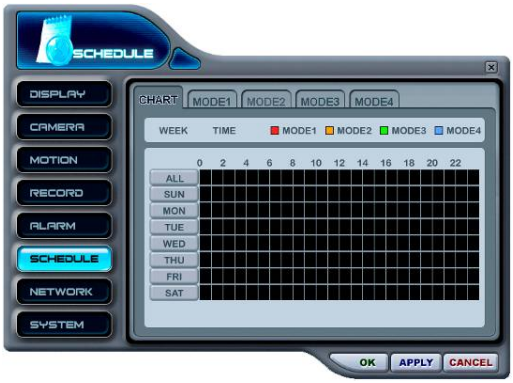
a. Select the post alarm record time.

b. Select camera record options.

c. Select alarm buzzer ON or OFF.

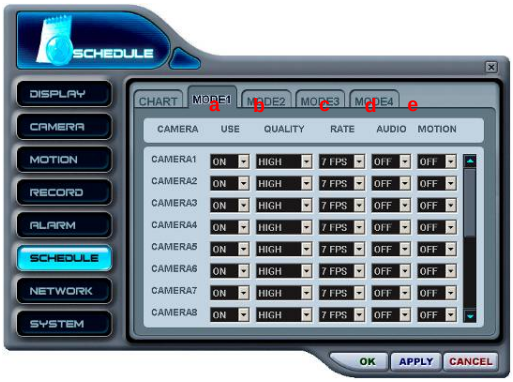
d. Select alarm out 1 ~ 2 options.

8) Schedule – Chart



Schedule setup is the same as configuring the schedule from the DVR's schedule menu.

9) Schedule – Mode 1 ~ 4



a. Select camera use ON or OFF.

b. Select the record quality.

c. Select the record rate.

d. Select audio record ON or OFF.

e. Select motion record ON or OFF.

10) Network

a. Displays the network type.

b. Displays network configuration.

c. Enter the notification e-mail addresses.

11) System – General

a. Enter the DVR ID.

b. Select Auto Key Lock ON or OFF.

c. Select Key Tone on or off.

d. Select overwrite option for the internal hard disk drive.

e. Select overwrite option for the external hard disk drive.

f. Select the global record resolution.

12) System – Time

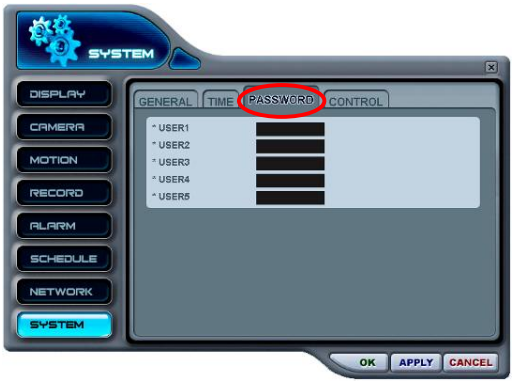
a. Select time sync ON or OFF.

b. Enter the time server's IP address.

c. Enter the date.

d. Enter the time.

13) System – Password



Enter the new passwords for the users.

14) System – Control

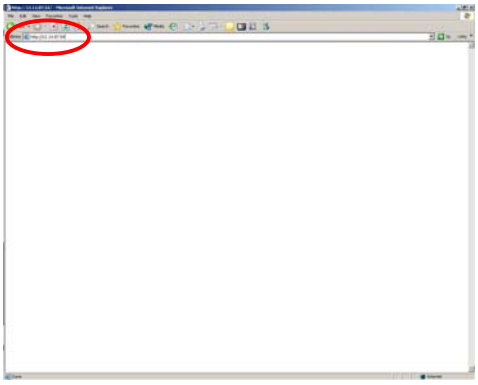
a. Activate or deactivate the recording.

b. Activate or deactivate the schedule recording.

VI. WEB CMS

Web CMS is a CMS software that run over Internet Explorer. It is extremely convenient since the user does not need to install dedicated CMS software in the PC. The function is exactly same as CMS except that WEB CMS does not support Download. It is to view live images and playback only.

1. CONNECT TO THE UNIT VIA INTERNET EXPLORER



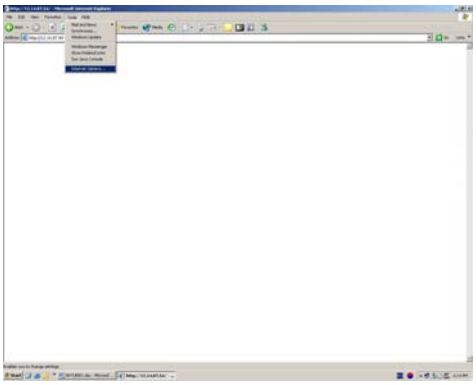
Enter the IP address of the unit in the address pane of the Internet Explorer.

For example, type in http://192.168.0.85:7000

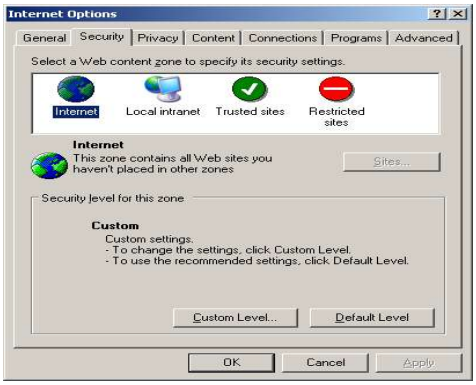
Above illustrates example of a unit when it is utilizing port 7000. The default port for the unit is 80.

1.1 Users with the Windows XP Service Pack 2

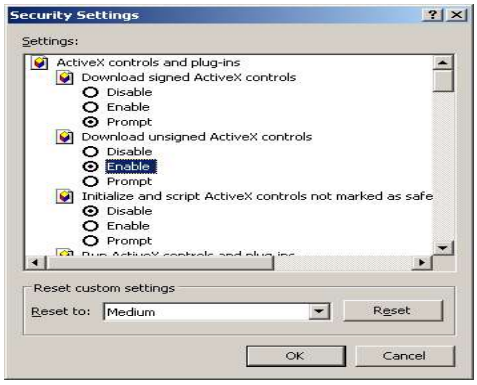
Internet Explorer will prohibit users from installing any unsigned Active X. You must first enable the Internet Explore to accept unsigned ActiveX application.



Go to: Tools => and Internet Options



1) Click Security Tab
2) Click on Custom Level

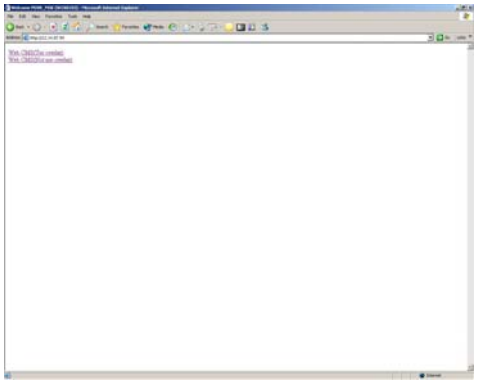


Click Enable for to Download unsigned ActiveX controls

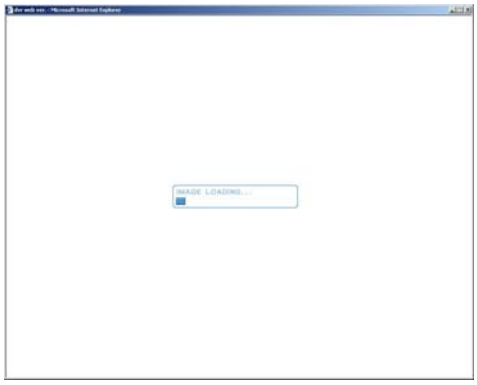
Click on OK. You are now ready do automatically download our ActiveX application.

1.2 Log-in Procedure

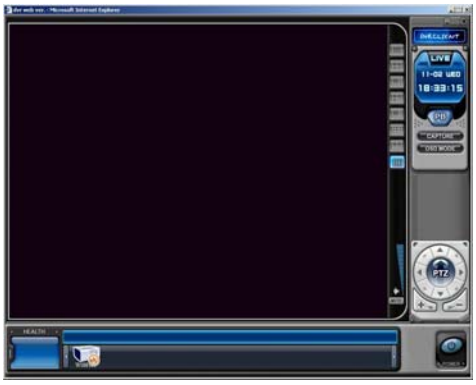
You can either sign in with: admin or user. Next enter the password for the unit.



Click on Web CMS(Use overlay) to connect to the DVR. Please refer to page 85 for more information on CMS overlay.



Wait until the Image Loading is complete.



When the Image Loading is done, the WEB CMS version should appear along with the images from the DVR.

VII. TECHNICAL SUPPORT

Please read the manual and the FAQ thoroughly before contacting Nuvico Help Desk. Nuvico help desk is available from Monday through Friday from 9:00am to 5:30pm Eastern Standard Time.

TOLL-FREE:	866–523–1700
TEL:	201–541–1605
FAX:	201–541–1620
E-MAIL:	techsupport@nuvico.com
HOMEPAGE:	http://www.nuvico.com

Notes

Notes

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