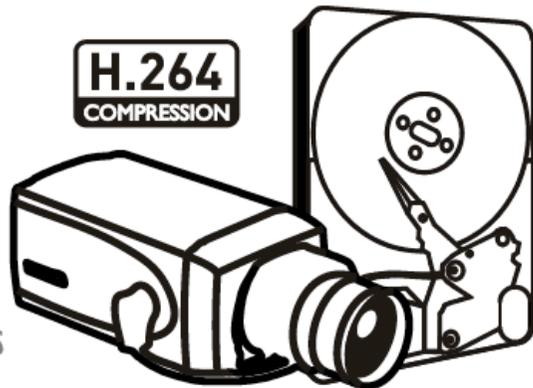




Users Manual

- H.264 Stand-Alone DVR
- Superior Video Quality
- S-ATA Hard Disc Drive
- USB Mouse & Backup
- Advanced Network Features



Preface

We welcome you as a new user of the world's best digital video recorder (DVR), and the leading Digital Video Surveillance System. For effective usage, please read this manual carefully. For future reference, please keep this manual close to hand.

Copyright/Authentication/Trademark/Limited Warranty

Copyright

This manual is produced under copyright law. None of its contents may be copied or duplicated without prior approval.

Copyright 2009~

Authentication

CE, FCC, KCC

Trademark

Ethernet(TM) is the trademark of Xerox Corporation.

Microsoft(TM), MS-DOS(TM), Windows(TM logo), Windows(TM) and Windows NT(TM) are the trademarks of Microsoft Corporation, used in the United States and elsewhere.

Limited Warranty

- The manufacturer, importer and agent shall not be responsible for accidental damage (including injury) and other damage caused by inappropriate use or operation of this product.
- The information in this manual is prepared based on the current specifications for the product. The manufacturer is currently adding new functions and will continue to upgrade the product with new technology. All specifications may be changed without notice to individual users.

Cautions

We strongly recommend that users read all safety cautions carefully before operating the product, to operate the product appropriately.

Since the indicated cautions contain critical safety information, they must be fully complied with. The cautions are categorized into Danger, Warning, Caution and Important.

 Danger	Risk of death or serious injury. This is the highest priority danger warning.
 Warning	Risk of serious or lesser degree of injury. May also cause damage to the product or to property.
 Caution	Risk of minor injury or damage.
 Important	Requirements or limitations regarding operation. Users are recommended to read the relevant details carefully so as to operate the product properly and without harm.

The above cautions indicate the degree of damage that may occur due to inappropriate use of the system.



Risk of death or serious injury.
This is the highest priority danger warning.

- RISK OF EXPLOSION IF BATTERY IS REPLACED BY INCORRECT TYPE. DISPOSE OF USED BATTERY ACCORDING TO THE INSTRUCTIONS.
- THIS EQUIPMENT IS INDOOR USE AND ALL THE COMMUNICATION WIRINGS ARE LIMITED TO INSIDE OF THE BUILDING.
- Please connect the power cord only to the type of AC outlet indicated in the manual or product specification. If connected to other types of power outlet, fire and electric shock may result.
- Do not expose the product to moisture and dampness. Doing so may result in fire and electric shock.
- Do not place heavy objects on top of the power cord. Damage to the power cord may result in fire and electric shock.
- Do not place containers with liquid or small metal objects on top of the product. Liquid or small metal objects getting into the unit may lead to fire and electric shock.
- Do not score, bend, twist, pull or heat the power cord. Damage to the power cord may lead to fire and electric shock.
- Do not remove the top casing of the product. Doing so may result in electric shock. If internal examination and maintenance are deemed necessary, contact the authorized system vendors or installers.
- Do not modify the product in any way. Doing so may lead to fire and electric shock.
- In case of lightning, immediately turn off the power switch and remove the power cord from the power outlet. Failure to do so may result in fire and electric shock.
- Please use only the power cord supplied with the product. Use of other power cords may result in fire and electric shock.
- In case of smoke, smell or noise, immediately turn off the power switch and remove the power cord from the power outlet. Continued operation of the product may result in fire and electric shock. Request a maintenance service from the authorized system vendors or installers.
- If the product is dropped or damaged, turn off the power switch and remove the power cord from the power outlet. Continued operation of the product may result in fire and electric shock. Users should request a maintenance service from the authorized system vendors or installers.
- Do not touch the product with wet hands. Doing so may result in electric shock.



Risk of serious or lesser degree of injury.
May also cause damage to the product or to property.

- Do not leave the power cord or other cables in passageways. Passers-by may trip and fall.
- Avoid contact with water or beverages. Contact with water or beverages may result in damage that cannot be repaired.
- In case of lightning, immediately turn off the power switch and remove the power cord from the power outlet. The product may otherwise be damaged.
- Excessive current from the product and the camera may result in an electric shock. Connect the power cord to an external device only when the products themselves are disconnected from their power supply.



Risk of minor injury or damage.

- If a foreign substance is stuck to the product, remove it using a soft cloth or tissue. Do not use chemical agents (thinner, solvent, etc.) to remove the substance.
- Do not operate or store the product in the following places.
 - An area that is either too cold or too hot
 - An area of high humidity, or in front of an air-conditioner, or in places subject to sudden temperature changes
 - An area where there is excessive dust
 - Areas where heat from the product cannot be emitted through both of the product's side ventilation openings
- Do not place credit cards/telephone cards/bank account books/tickets and other objects with magnetic properties near the product.
- Static electricity may cause damage to the internal parts of the product. Please remove static electricity from your body before touching the rear panel and internal electronic parts of the product.
- If this product is damaged beyond repair or reaches its maximum service life, dispose of it in compliance with local laws and regulations regarding the disposal of lead and plastic waste.



Important

Requirements or limitations regarding operation. Users are recommended to read the relevant details carefully so as to operate the product properly and without harm.

- The product may not work properly if the power source is unstable or and if electric shock occurs. Make sure the correct rated power is available.
- The product is designed to be proof against electric power failures; however, damage may occur as a result of power failure. Current data may be damaged or data might not be recorded. Make sure to use an Uninterruptible Power Supply (UPS).
- Since the product is designed to record video data on the hard disk, an error in the hard disk or other miscellaneous errors might prevent the product from recording properly. Periodic maintenance is required for proper operation of the product.
- The product is designed for users to configure their own interface. However a user configuration error could lead to operation malfunction. This product should be set up by certified installers only.
- Since the product is connected - and tightly coupled - to exterior accessories (camera, sensor, LAN, Hard Disk, etc.), there is a risk of malfunction from external causes. Ensure periodic maintenance by the certified installers.
- Use the rack mounting handle provided with the product for installation.
- In this product, 1 Kbyte equals 1,024 bytes, 1 Mbyte equals 1,024,000 bytes and 1 Gbyte equals 1,024,000,000 bytes.

Contents

Preface	1
Copyright/Authentication/Trademark/Limited Warranty	1
Cautions	1
Contents	4
Chapter 1. Introduction	6
1. The System	6
2. General Features	6
3. Specification	7
Chapter 2. System Installation	9
1. Package Contents	9
2. Connecting Devices	10
2-1. 4 Channel Premium DVR.....	10
2-2. 8/16 Channel Premium DVR.....	12
3. Cautions	14
Chapter 3. Using DVR	15
1. Basic Operation	15
1-1. Front Panel & IR Remote Controller	15
Description.....	15
1-2. Turning on the System.....	16
1-3. Menu Bar	16
1-4. Display Icons	17
1-5. User or Admin Login	18
1-6. The Main Menu	18
1-7. Contextual Menu	20
2. DVR Configuration	21
2-1. SYSTEM.....	21
2-1-1.MENU>SYSTEM>Information	21
2-1-2. MENU > SYSTEM > Date & Time.....	22
2-1-3. MENU > SYSTEM > User.....	22
2-1-4. MENU > SYSTEM > System Log	23
2-2. DEVICE.....	24
2-2-1. MENU > DEVICE > Camera.....	24
2-2-2. MENU > DEVICE > Audio.....	25
2-2-3. MENU > DEVICE > Alarm.....	25
2-2-4. MENU > DEVICE > Keyboard	26
2-2-5. MENU > DEVICE > RS232 & RS485	26
2-3. DISPLAY	27
2-3-1. MENU > DISPLAY > Display	27
2-3-2. MENU > DISPLAY > Monitoring	27
2-4. RECORD	28
2-4-1. MENU > RECORD > Storage	28
2-4-2. MENU > RECORD > Record.....	28
2-4-3. MENU > RECORD > Record Tools	30
2-5. NETWORK	31
2-5-1. MENU > NETWORK > Address	31
2-5-2. MENU > NETWORK > DDNS	31
2-5-3. MENU > NETWORK > Notification	32

2-5-4. MENU > NETWORK > Transmission	32
2-6. EVENT	33
2-6-1. MENU > EVENT > Sensor	33
2-6-2. MENU > EVENT > Motion	34
2-6-3. MENU > EVENT > Video Loss.....	35
2-6-4. MENU > EVENT > Text-In	36
2-6-5. MENU > EVENT > System.....	37
3. Playback	38
3-1. Go to Time.....	38
3-2. Calendar Search	38
3-3. Event Search.....	39
3-4. Text-In Search.....	39
3-5. Playback Control	40
4. Backup.....	41
4-1. Backup	41
4-2. Instant Backup.....	41
4-3. Clip Maker.....	42
Chapter 4. Remote Software NEMON	43
1. NEMON Installation	43
2. Using NEMON	45
2-1. Starting the Software.....	45
2-2. Site Set Up	46
2-3. Favorite Set Up	47
2-4. Play Backup Data	48
2-5. Play Independent HDD Data on PC.....	48
3. Remote Playback.....	49
3-1. Calendar Search	49
3-2. Event Search.....	50
3-3. Saving the recorded data	50
4. Setup	52
4-1. Nemon Setup.....	52
4-2. Remote Setup	54
4-3. Remote Upgrade	54
5. Nemon Callback.....	55
Appendix A. Remote Access Using I.E.	57
COMPLIANCE NOTICE OF FCC:	58
WEEE (Waste Electrical & Electronic Equipment).....	58
ROHS Compliance.....	58

Chapter 1. Introduction

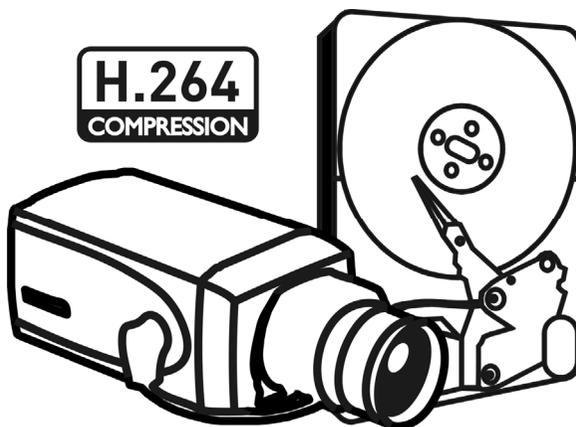
1. The System

This product is the one that you are looking for quite long time. Eventually, The DVR which is high performance real time DVR based on H.264, you can enjoy the full benefit of latest compression H.264 and be free from headache because of stability of the DVR.

This product can distinguish the recorded data clearly compare to MPEG4 due to the motion artifact and will find the tremendous difference. It's your turn to enjoy the true solution for Digital Video Recorder with brand new product.

2. General Features

- True H.264 Standard Video Compression
- Embedded Linux System to give you the Ultimate Reliability
- Dedicated DB Structure for Stability
- Various Recording Resolution D1/Half D1/CIF
- CMS (Central Monitoring System)
- Easy Setup same like DVR GUI in CMS
- Web Monitoring, Searching and Setup
- Own Media Player for Backup Playback
- Four USB Port for Mouse operation, Multi USB Hub and Backup (Two USB Port in 4Ch.DVR)
- Up to Four SATA HDD and No Limitation of Capacity (Up to Two SATA HDD in 4Ch.DVR)
- Two- Way Audio
- Multiple DVRs can be operated with One Keyboard Controller
- Text-In & Relay Output Support
- Real Time Recording and Multi Ch. Playback
- 8/16 Audio Input (4 Mic Input) support (4 Line-In in 4Ch.DVR)
- Archiving Function to Secure the High Stability for Recorded Data
- 4 Spot Output with Event Pop up Function (1 Spot Output in 4Ch.DVR)



3. Specification

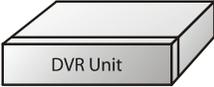
Model		4 Channel Premium DVR
Video	In	4 BNC
	Out	1VGA,& 1 BNC Main, 1 Spot Output
Audio	In	4 RCA (Line-In)
	Out	1 RCA (Line-Out)
Device	Sensor In	4 TTL
	Alarm Out	2 Relay + 2 TTL
	I/O Interface	RS232, RS485, USB2.0 x 1, USB1.1 x 1 for Mouse
Display	Speed	Real Time
	Resolution	720 x 480 (NTSC), 720 x 576 (PAL)
	Split Screen	1, 4, PIP, Digital Zoom
Recording	Compression	H.264 Codec
	Speed / Resolution	120fps@CIF(NTSC) 100fps@CIF(PAL) 60fps@Half D1(NTSC) 50fps@Half D1(PAL) 30fps@D1(NTSC) 25fps@D1(PAL)
	Picture Quality	Very High, High, Standard, Low
	Mode	Time-lapse, Event, Time & Event, Emergency (Panic)
	Playback	1, 4, Digital Zoom
Playback	Search Mode	Calendar Search, Event Search, Text-In Search, Go to Time
	Playback Mode	Multi Channel Normal & Reverse Play, RW & FF (x2, x4, x8, x16, x32), Frame to Frame, Pause
	Interface	Ethernet (10/100 Base)
Network	Protocol	TCP/IP, HTTP, DHCP
	Application	Live, Playback, Setup, Notification (Callback, E-Mail)
	Web Browse	Internet Explorer 7 or higher
	Storage	1xSATA HDD & 1xSATA ODD (or max. 2 SATA HDD w/o ODD)
Backup	CD & DVD-RW, External HDD(USB), External USB Memory	
Control	Front Panel Button, USB Mouse, IR Remote Controller, Joystick Controller	
OSD	Graphic User Interface (Multilingual)	
Approval	FCC, CE, KCC	
ROHS	ROHS Compliance	
Power Consumption	DC12V, 3.33A (40W)	
Operating Temperature	5°C ~ 40°C / 41°F~104°F	
Operating Humidity	0%~80% / non-condensing	
Dimension	340(W)x67(H)x265(D)mm / 13.39(W)x2.64(H)x10.43(D)inch	
Weight	2Kg / 4.4lb (without ODD, HDD)	

Model		8 Channel Premium DVR	16 Channel Premium DVR
Video	In	8 BNC	16 BNC
	Out	1VGA,& 1 BNC Main, 4 Spot Output	
Audio	In	8 RCA (4 Mic in, 4 Line in)	16 RCA(4 Mic in,12 Line in)
	Out	1 RCA (Line Out)	
Device	Sensor In	8 TTL	16 TTL
	Alarm Out	4 Relay + 4 TTL	4 Relay + 12 TTL
	I/O Interface	RS232, RS485, USB2.0 x 3, USB1.1 x 1 for Mouse	
Display	Speed	Real Time	
	Resolution	720 x 480 (NTSC), 720 x 576 (PAL)	
	Split Screen	1,4,9,PIP,Digital Zoom	1,4,9,13,16,PIP,Digital Zoom
Recording	Compression	H.264 Codec	
	Speed / Resolution	240fps@CIF(NTSC) 200fps@CIF(PAL) 120fps@Half D1(NTSC) 100fps@Half D1(PAL) 60fps@D1(NTSC) 50fps@D1(PAL)	480fps@CIF(NTSC) 400fps@CIF(PAL) 240fps@Half D1(NTSC) 200fps@Half D1(PAL) 120fps@D1(NTSC) 100fps@D1(PAL)
	Picture Quality	Very High, High, Standard, Low	
	Mode	Time-lapse, Event, Time & Event, Emergency (Panic)	
	Display	1, 4, 9, Digital Zoom	1,4,9,13,16,Digital Zoom
Playback	Search Mode	Calendar Search, Event Search, Text-In Search, Go to Time	
	Playback Mode	Multi Channel Normal & Reverse Play, RW & FF (x2, x4, x8, x16, x32), Frame to Frame, Pause	
	Interface	Ethernet (10/100 Base)	
Network	Protocol	TCP/IP, HTTP, DHCP	
	Application	Live, Playback, Setup, Notification (Callback, E-Mail)	
	Web Browse	Internet Explorer 7 or higher	
	Storage	3xSATA HDD & 1xSATA ODD (or max. 4 SATA HDD w/o ODD)	
Backup	CD & DVD-RW, External HDD(USB), External USB Memory		
Control	Front Panel Button, USB Mouse, IR Remote Controller, Joystick Controller		
OSD	Graphic User Interface (Multilingual)		
Approval	FCC, CE, KCC		
ROHS	ROHS Compliance		
Power Consumption	DC12V, 6.67A (80W)		
Operating Temperature	5°C ~ 40°C / 41°F~104°F		
Operating Humidity	0%~80% / non-condensing		
Dimension	430(W)x88(H)x428(D)mm / 16.93(W)x3.5(H)x16.85(D)inch		
Weight	6Kg / 13lb (without HDD)		

Chapter 2. System Installation

1. Package Contents

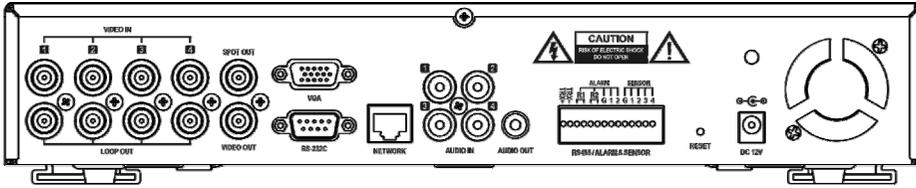
The following components are included in the product:

DVR Unit	
DC Adaptor	
Power Cord	
CD (User's Manual & Network S/W)	
Remote Controller	
Quick Guide	

2. Connecting Devices

2-1. 4 Channel Premium DVR

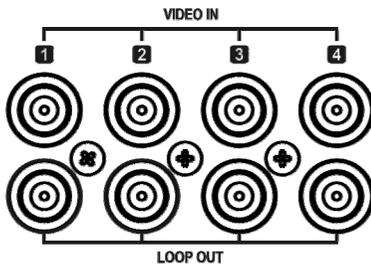
The rear panel of the 4 channel premium DVR comprises the following:



- **Front USB:** Two USB ports are provided to connect external devices like HDD, ODD, Flash memory for Backup, System upgrade or USB mouse on the front panel. A USB mouse can be connected only front panel USB port dedicated only for mouse.

Video Input

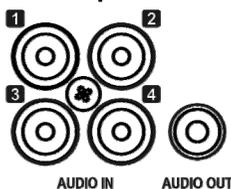
Connect the coaxial cables from the cameras to the BNC video connectors.



Loop-Through Video

Connect the coaxial cables from the Loop BNC connector to another device.

Audio Input



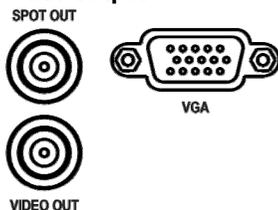
The DVR can record audio up to 4 sources. Connect the audio sources to the Audio-In RCA connectors. All channels need external pre-amplifiers.

It is the user's responsibility to determine if local laws and regulations permit recording audio.

Audio Out

The DVR does not have amplified audio output, so you will need a speaker with and amplifier.

Video Output



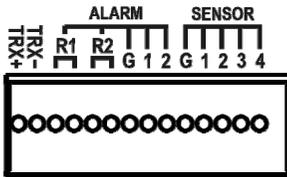
Connect the main monitor to either the Video Out (CVBS) or VGA out connector. Connect the spot monitors to the SPOT OUT connectors as needed.

ETC



- **RS-232C:** An RS-232C connector is provided to connect an ATM or POS machine for Text-In function. Use a cable with a DB9 (female) connector to connect to the DVR.
- **Network:** Connect a Cat5 cable with an RJ-45 connector to the DVR connector for remote monitoring, remote playback, remote setup. See **Chapter 3-2. DVR Configuration** for configuring the Network connections.
- **Reset:** The DVR has a Reset switch that will only be used to return all the settings to the original factory settings. To reset the unit, turn the DVR off first. Turn it on again while poking the straightened paperclip in the reset hole. Hold the switch until the DVR is initializing.
- **Power Connector:** Connect adapter cable to the power connector on the rear panel. (DC12V, 3.33A) Input AC power to the adapter. (free voltage from 100V to 240V, 50/60Hz)

RS485/ALARM/SENSOR



The RS485 connector can be used to control PTZ cameras. The DVR can also be controlled remotely by a control keyboard.

4 alarm output connectors are provided to connect external alarms such as sirens or lights. 2 alarm output connectors have internal relays and the others are TTL signals.

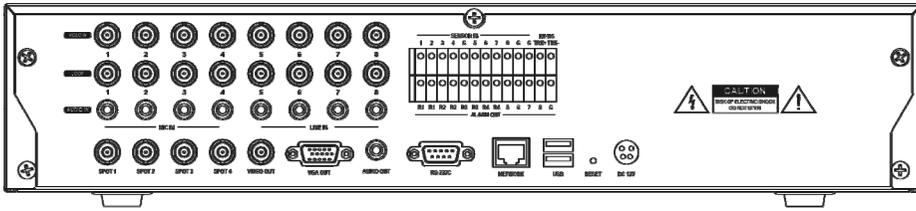
RS485/ALARM & SENSOR

4 sensor input connectors are provided to connect external devices. You can use sensors to signal the DVR with event. To make connections on the terminal block, press and hold the button and insert the wire in the hole below the button.

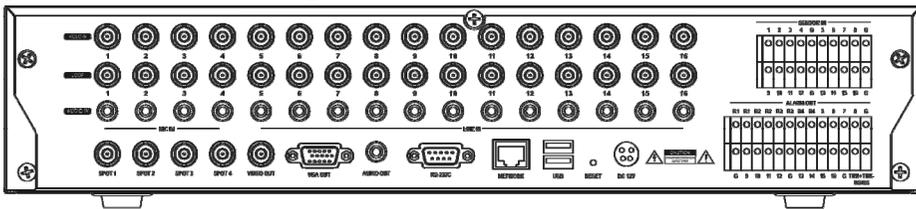
2-2. 8/16 Channel Premium DVR

The rear panels of the 6/18 channel premium DVR comprise the following:

[8 Channel Premium Model]



[16 Channel Premium Model]



Video Input



Connect the coaxial cables from the cameras to the BNC video connectors.

Loop-Through Video



Connect the coaxial cables from the Loop BNC connector to another device.

Audio Input



The DVR can record audio up to 16(8) sources. Connect the audio sources to the Audio-In RCA connectors. 1~4 Channel connectors have internal pre-amplifiers for directly connecting microphones and other channels need external pre-amplifiers.

It is the user's responsibility to determine if local laws and regulations permit recording audio.

Video Output



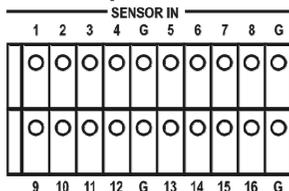
Connect the main monitor to either the Video Out (CVBS) or VGA out connector. Connect the spot monitors to the SPOT1~4 connectors as needed. (Premium model only)

ETC



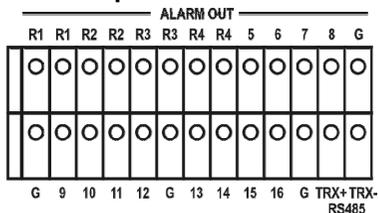
- **Audio Out:** The DVR does not have amplified audio output, so you will need a speaker with and amplifier.
- **RS-232C:** An RS-232C connector is provided to connect an ATM or POS machine for Text-In function. Use a cable with a DB9 (female) connector to connect to the DVR.
- **Network:** Connect a Cat5 cable with an RJ-45 connector to the DVR connector for remote monitoring, remote playback, remote setup. See **Chapter 3-2. DVR Configuration** for configuring the Network connections.
- **USB:** Four USB ports are provided to connect external devices like HDD, ODD, Flash memory for Backup, System upgrade or USB mouse. Two USB ports is located on the rear panel and the other two are on the front panel. A USB mouse can be connected only front panel USB port dedicated only for mouse.
- **Reset:** The DVR has a Reset switch that will only be used to return all the settings to the original factory settings. To reset the unit, turn the DVR off first. Turn it on again while poking the straightened paperclip in the reset hole. Hold the switch until the DVR is initializing.
- **Power Connector:** Connect adapter cable to the power connector on the rear panel. (DC12V, 6.67A) Input AC power to the adapter. (free voltage from 100V to 240V, 50/60Hz)

Sensor Input



16(8) sensor input connectors are provided to connect external devices. You can use sensors to signal the DVR with event. To make connections on the terminal block, press and hold the button and insert the wire in the hole below the button.

Alarm Output & RS485



16(8) alarm output connectors are provided to connect external alarms such as sirens or lights. 4 alarm output connectors have internal relays (Premium model only) and the others are TTL signals. The RS485 connector can be used to control PTZ cameras. The DVR can also be controlled remotely by a control keyboard.

- **Front USB:** Two USB ports are provided to connect external devices like HDD, ODD, Flash memory for Backup, System upgrade or USB mouse on the front panel. A USB mouse can be connected only front panel USB port dedicated only for mouse.

Note: This manual covers the 4-channel, 8-channel and 16-channel DVRs. The DVRs are identical except for the number of cameras, audio inputs and alarms. The illustrations and descriptions in this manual refer to the 16 channel model.

3. Cautions

- Avoid installing the product where there are direct rays or it is hot by locating near from heat generator. (May cause fire)
- Do not put vase, flowerpot, cup, cosmetics, drug, and anything the contain water on product. (May cause fire or electric shock, and it may injure people by falling)
- Do not insert or drop any metal object (coin, hair pin) or flammable object (match, paper) into air hole. (May cause fire or electric shock)
- Do not put any heavy object on it. (May injure people by being fell or destroyed.)
- Put power plug surely not to be moved. (If not, this may cause fire.)
- Unplug power plug and antenna when there are thunders and lightening. (May cause fire.)
- For cleaning the product, wipe surface with dry towel. Using chemical agent or cleaner may change the color and unpeel paint.
- Do not put several plugs at same time. (May cause electric shock.) If there is smoke or strange smell, stop operation. In this case, turn the power off and unplug it, and then contact our service center. (If you keep using it, this may cause fire or electric shock.)
- Do not unplug by pulling cord. (If cord is damaged, it may cause fire or electric shock.)
- Do not plug or unplug with wet hands. (May cause electric shock.)
- Keep the power cord untwisted. (May cause fire or electric shock.)
- Use proper adapter. (Using too much electric power may cause fire or electric shock.)
- Do not install it at where exposed to rain and wind and water drop. (May cause fire, electric shock and transformation.)
- Keep away from fire. (May cause fire.)
- Do not disassemble or remodel on your own. (May cause malfunction or electric shock.)
- Do not put next to flammable materials like flammable spray. (May cause fire.)
- Do not install it at a place with too much dirt. (May cause fire.)
- Do not install it on unstable places like shaking table and inclined place or shaking place. (May injure users by falling down or being upside down.)
- Do not put an heavy object on power cord or avoid it from being pressed by the device. (May cause fire or electric shock.)
- In case of using extension cord, do not use several devices at same time. (May cause fire with abnormal heating of extension.)
- When there are dirt on power plug pin or power outlet, clean it nicely. (May cause fire.)
- Do not damage on power cord or plug, and bend or twist or pull too much, and put it between other objects or heat. If power outlet insertion part is not tight, do not use it. (May cause fire or electric shock.)
- Do not drop or give a shock to the product. (May injure people or cause malfunction.)
- Do not touch power adaptor or signal controller. (May cause electric shock.)
- Do not put any object too close to block cooling fan. (May cause fire.)
- In case of exchanging batteries with improper type, there might be danger of explosion.
- For used batteries, throw away separately from other garbage.
- When you take out batteries, avoid children from eating them by mistake. Keep them away from children. (If a child ate them, contact a doctor right away.)

Chapter 3. Using DVR

1. Basic Operation

1-1. Front Panel & IR Remote Controller

The DVR should be correctly installed before proceeding. The location and the shape of the buttons may vary depending on the DVR model. (In 4-channel DVR, Only some of main buttons most commonly used can be found on the front panel.)

Control	Description
USB Port	Two USB ports are located on the front panel. A USB mouse can be connected USB port dedicated only for mouse as picture directed.
Camera Buttons (1~0)	Pressing camera buttons and Enter button will cause the selected camera to display full screen. Buttons are used to enter passwords.
MENU / EXIT Button	Enters the Setup Menu. User will need to enter the authorized password to assess Setup. In Playback mode, MENU button displays the Playback Menu.
DISPLAY Button	Changes the screen display mode in the current screen or playback screen.
SEQUENCE Button	Displays live channels sequentially.
Up, Down, Left, Right Arrow, ENTER Buttons	These are used to change settings for the product in MENU mode or used in PTZ control mode. (pan, tilt)
BACKUP Button	Copies recorded data to an external storage device.
PLAYBACK Button	Changes to the playback mode from the live mode.
PAUSE Button	Under playback mode, the button can be used to pause the playback screen. - Display menu to save PTZ preset under PTZ mode.
▶ PLAY Button	Plays the video forward. Press the button repeatedly to increase play speed up to max 32 times (1, 2, 4, 8, 16, 32 times) faster. Use this button to move right when setting the menu. - Focus on far distance under PTZ mode.
◀ R.PLAY Button	Plays the video backward. Press the button repeatedly to increase play speed up to max 32 times (1, 2, 4, 8, 16, 32 times) faster. Use this button to move right when setting the menu. - Zoom Out under PTZ mode.
▶▶ STEP FORWARD Button	Move forward by one frame under Pause. Use this button to move up when setting the menu. - Focus on near distance under PTZ mode.
◀◀ STEP BACKWARD Button	Move backward by one frame under Pause. Use this button to

	move down when setting the menu. - Zoom In under PTZ mode.
▲ EJECT Button	It will open or close the backup drive such as CD-RW or DVD - Display menu to load PTZ presets under PTZ mode.
PTZ Button	Changes to the PTZ control mode from the live mode.
ZOOM Button	Zooms the current image on the screen.
PIP Button	Changes to PIP screen mode from live screen.
FREEZE Button	Freeze the current screen.
AUDIO Button	Selects a camera for live & playback audio output.
SPOT Button	Assigns the SPOT output channel.
OSD Button	Turns on/off the OSD display.
LOG Button	Checks the system's log information.
ID Button	Selects the DVR system ID. (Remote controller only)
E.REC Button	Pressing the E.REC button starts Emergency Recording Mode of all camera channels, and displays "!" on the screen. Pressing the button again will stop E.REC mode.
Status LED	Power, HDD, Network, Alarm

1-2. Turning on the System

Connecting the power cord will turn on the power of DVR. It will take approximately 10 to 30 seconds for the system to be initialized. Once the system is initialized, it will display live screen, and begin to record video automatically.

Note: To turn off the system, select SHUTDOWN under main menu (MENU > SHUTDOWN) and unplug the power cord when the shutdown message appears.

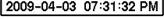
Note: When installing the HDD for the first time, the HDD should be formatted first.
"MENU > RECORD > Storage > HDD format"

1-3. Menu Bar

The menu bar will appear on the bottom of the screen as shown below.



	Pressing the Menu will bring up the main menu list.
	Shows the % of HDD being used.
	Turns on when the HDD is set to be overwritten.
	Sequence display mode.

	Turns on when the system is connected to the network.
	Turns on when the Alarm is being activated.
	Archiving mode
	E.REC (Emergency Recording) Mode.
	Displays date & time.
	IR Remote Controller

1-4. Display Icons

	No Recording
	Recording (Red)
	E.REC (Emergency Recording)
	Event Recording (Red)
	Pre Event Recording (Blue)
	Motion Detection
	Sensor Detection
	Text In
	PTZ Camera
	Instant Backup
	Clip Maker (Blue)
	Backup (Red)
	Video Loss

1-5. User or Admin Login

Press MENU to enter main menu screen. Login in screen appears to enter ID (Administrator or User) and Password. Password can be set up to 8 numbers by the combination of numbers from 0 to 9. The factory default password is 'none' so press OK to log in to the system for a first time log in. Password can be set under password set up option (MENU > SYSTEM > User). System will be automatically log out if it is not in-use for sometime. This "Auto Logout Time" can be set under password set up option (MENU > SYSTEM > User).

1-6. The Main Menu

The Main Menu of DVR consists of SYSTEM, DEVICE, DISPLAY, RECORD, NETWORK and EVENT. And each menu consists of various sub menus that allow detail set up of the system. Use Mouse, Remote Controller or Front Buttons to access to each menu.

Note: Please make sure the system log out is done when the system setting or operation completed to prevent any unauthorized changes of system settings or operations.

MAIN MENU	SYSTEM	Information
		Date & Time
		User
		System Log
	DEVICE	Camera
		Audio
		Alarm
		Keyboard
		RS232 & RS485
	DISPLAY	Display
		Monitoring
	RECORD	Storage
		Record
		Record Tools

	NETWORK	Address
		DDNS
		Notification
		Transmission
	EVENT	Sensor
		Motion
		Video Loss
		Text-In
		System
	LOGOUT	
SHUTDOWN		

1-7. Contextual Menu

Camera	>	
Layout	>	2 x 2
OSD	>	3 x 3
Freeze		1 + 12
Sequence		✓ 4 x 4
Zoom		Next Page
PIP		Previous Page
Spot		
Audio		
PTZ		
Backup		
Playback		
Emergency Record		
Log		
Eject		
Setup Menu		

Additional Contextual Menu screen appears by pressing right button on the Mouse. Layout option allows changing Camera on the monitor. Select preferred camera display option on the monitor.

- Camera** : Select camera no.
- Layout** : Select display mode (8/16 ch. DVR Only)
- OSD** : Select OSD display option
- Freeze** : Pause current image display
- Sequence** : Begin sequence display
- Zoom** : Zoom in image by X2
- PIP** : Select PIP mode and camera
- Spot** : Select each spot monitors' display
- Audio** : Select Audio outs
- PTZ** : Select PTZ options
- Backup** : Select backup options
- Playback** : Playback recorded data
- E. Record** : Start Emergency Recording
- Log** : Select System/Event log
- Eject** : Eject installed ODD
- Setup Menu** : Enter Main setup menu

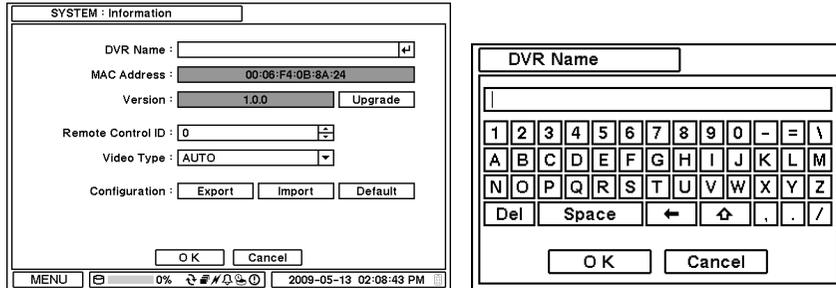
For more information on Contextual Menu please refer to 2. DVR Configuration.

2. DVR Configuration

2-1. SYSTEM

Under SYSTEM menu, System configuration options for general Information, Date &Time, Password, Storage, System Log and Back Up can be selected.

2-1-1.MENU>SYSTEM>Information



In the Information screen, DVR Name, System Version, Upgrade, Mac Address and Configuration options can be selected. Highlight and press DVR Name  to enter or change DVR name. Name the DVR by using the virtual keyboard.

To Upgrade the system, save the upgrade file to USB Flash Memory and connect it to DVR. Once the Device is connected, press Upgrade button to execute system upgrade.

Upgrade will take approximately 5 minutes. DVR will reboot automatically when the upgrade is completed.

Note: DO NOT remove USB Flash Memory or turn off the system during the upgrade. Removing USB Flash Memory or Turning off the system during the upgrade may cause system malfunctioning.

Remote Control ID

Enter Remote Control ID to control multiple DVRs individually. If Remote Control ID remains as 0, Remote ID does not have to be selected when using remote controller. It will work as general ID for any remote controls and a remote control will communicate with any DVRs with ID 0.

Video Type

The system automatically detects camera signal types as NTSC/PAL. But the system also offers manual selection options for different signal types.

Configuration

System settings can be saved and loaded using Configuration option

Export: Save settings to USB Flash Memory

Import: Load saved settings from USB Flash Memory

Default: Load factory default settings

Note: Configuration Import does not affect or changes system and network settings. Network settings will also not be changed when selecting Default option.

2-1-2. MENU > SYSTEM > Date & Time

	Month	Week	Day	Time
Begin	3	5	SUN	02:00:00 AM
End	10	5	SUN	03:00:00 AM

Date: 2009-04-04 Format
Time: 04:50:46 PM Format

In the Date & Time, Time Zone, Date, Time, NTP Server, Holiday options can be selected.

Highlight and press Time Zone to select right Time Zone.

Select 'Use Daylight Saving Time' if it is applicable. Enter start and end date/time for local 'Daylight Saving Time'.

Press button to set up Date and Time. Press button to select a date & time display format.

Use NTP

NTP Server: EXAMPLE.NTP.ORG
Interval: 1 day Update

Select 'Use NTP' to enter Time Servers to be synchronized with DVR. Highlight and press to enter Time Server using the virtual keyboard. Press 'Update' to synchronize the DVR time with the registered time server.

Note: NTP is not essential for DVR operation. Any type of Standard Time Server can be used (e.g. time.windows.com). Time Synch might not be completed due to heavy traffic or delays

from the Time Synch server.

	From	To	X
1	xxxx-01-01	xxxx-01-03	X
2	xxxx-03-01	xxxx-03-01	X
3	xxxx-04-01	xxxx-04-01	X
4			X
5			X
6			X
7			X
8			X
9			X
10			X

1/5

Press Holiday to set specific dates for Holiday setup. Set specific date by pressing button. Change and delete dates using and buttons.

Note: There are some Holidays fall on different days. Therefore, they have to be updated every year.

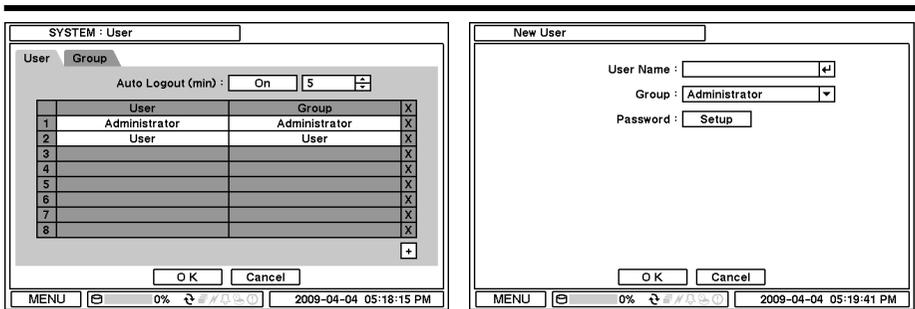
2-1-3. MENU > SYSTEM > User

	Group	X
1	Administrator	X
2	User	X
3		X
4		X
5		X
6		X
7		X
8		X

Group Name:

- ALL
- Setup System
- Setup Device
- Setup Display
- Setup Record
- Setup Network
- Setup Event
- Format
- Upgrade
- Shutdown
- Reset Alarm
- PTZ
- Playback
- Backup / Clip Maker
- Remote Access

Set user registration and access rights for the system. Press Group tap to add and set group. Press to add a new group. Enter a group name and select access rights for a group. To remove an existing Group, press next to it.



Press User Tab to enter/add a new user.

Auto Logout: Turn On or Off Auto Logout option.

Press **+** to add a new user. To remove an existing user, press **X** next to it.

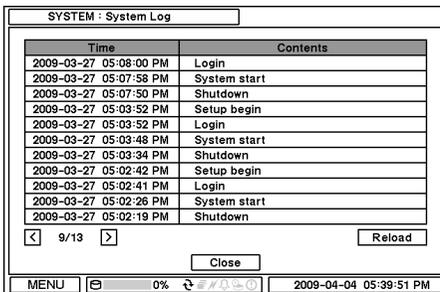
User Name: Enter a user name

Group: Select a Group which a new user will belong to

Password: Set a new password or change a password.

Note : DO NOT have to enter Current password when setting password for the first time as there is no default password for Admin/User.

2-1-4. MENU > SYSTEM > System Log



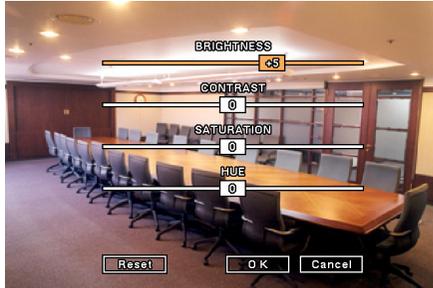
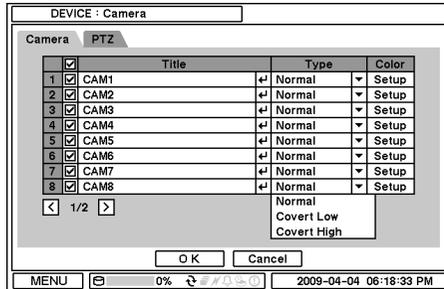
In the System Log, full list of system logs can be searched.

Press **Reload** button to refresh log list. USE **<** **>** button to search log list page by page.

2-2. DEVICE

Under Device menu, Device configuration options for Camera, PTZ, Alarm & Buzzer and RS232 & RS485 (POS/Keyboard) can be selected.

2-2-1. MENU > DEVICE > Camera



Set Camera display option. Camera display (video loss display) can be disabled by unmarking the box next to it if there is no camera connected. Press

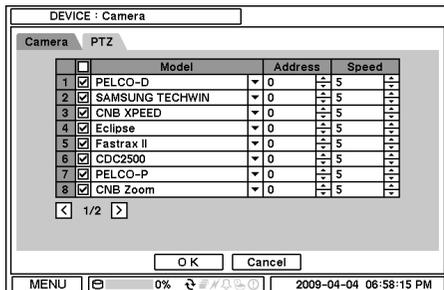
Normal: Normal camera display

Covert Low: No display of video image on screen but OSD still remains on screen.

Covert High: Neither of video image or OSD will be displayed on screen.

Note: Any Covert options will not affect recording data as it only changes monitoring conditions.

Press Setup button under Color to adjust video color. Click or drag a control box to adjust each color level.



PTZ Control

Select channel connected with PTZ camera.

Select PTZ from the contextual menu appears by pressing right mouse button.

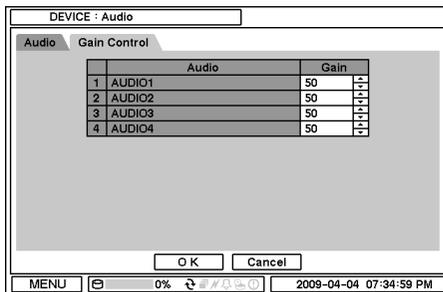
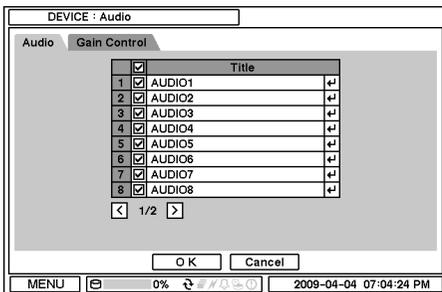
Note: PTZ can only be controlled in single screen mode.

Use icons on screen to control PTZ. By using a mouse, click arrows to move around PTZ and

click icons for each functions of PTZ camera.

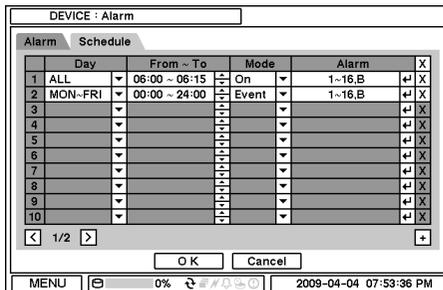
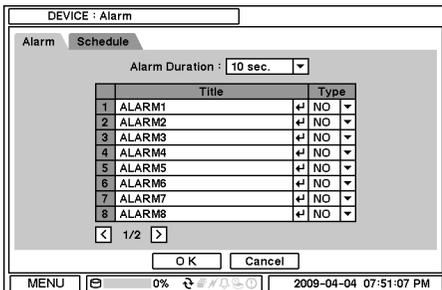
	Zoom Out
	Zoom In
	Focus on near distance
	Focus on far distance
	Save Presets
	Load Presets

2-2-2. MENU > DEVICE > Audio



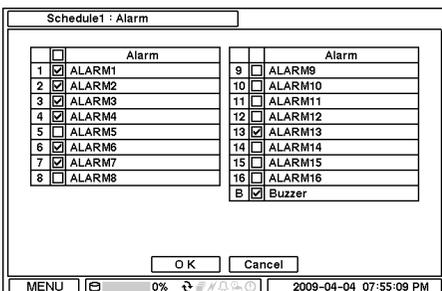
Select Audio for Audio recording. Gain Control Menu is available for Mic-In inputs only. (8/16 ch. DVR Only) Control Gain value using  button.

2-2-3. MENU > DEVICE > Alarm



Alarm duration: Set Alarm activation time from 5 seconds to 10 minutes.

Select Schedule tap to schedule Alarm operation. Alarm can be set by day, time, mode and inputs (camera).



Press  to choose Alarms and set Buzzer with Alarm activation.

2-2-4. MENU > DEVICE > Keyboard

Press to find and select keyboard from the list.

2-2-5. MENU > DEVICE > RS232 & RS485

	bps	Data Bit	Stop Bit	Parity	Usage
RS232	9600	8	1	None	Text-In
RS485	9600	8	1	None	PTZ

Press to select a device for each ports.

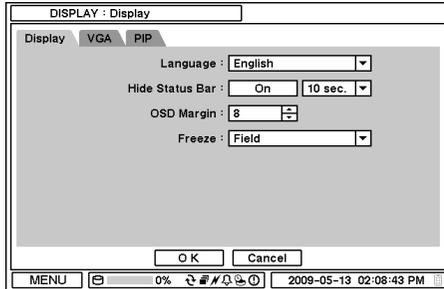
RS232: Supports Text In (POS) device.

RS485: Supports PTZ and Keyboard.

2-3. DISPLAY

Under Display menu, Display configuration options for OSD and Monitor can be selected.

2-3-1. MENU > DISPLAY > Display

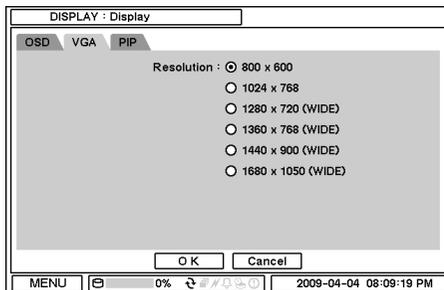


Language: Select system language. Press to find available language options.

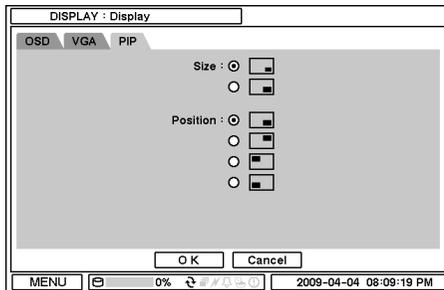
Hide Status Bar: Select On/Off and time to hide Status Bar when system is not in use.

OSD margin: Set OSD margin (position) using .

Freeze: Display an image in either Field or Frame format when it is in still (freeze) mode.

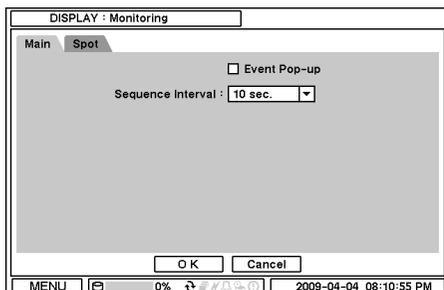


Various resolution options are available for different types of monitors. Please select monitor resolution under VGA tap menu.



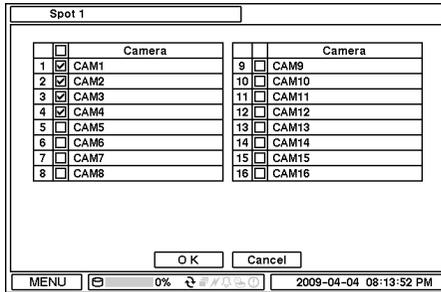
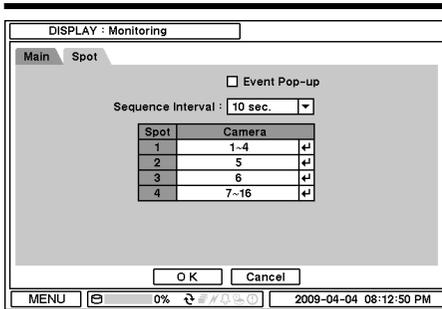
PIP (Picture In Picture) size and its display positions can be selected under PIP menu. Please select desired size and positions of PIP display.

2-3-2. MENU > DISPLAY > Monitoring



Event Pop-up: Pops up the camera image in full screen when pre-set event occurs.

Sequence Interval: Set time interval between cameras under sequence mode.

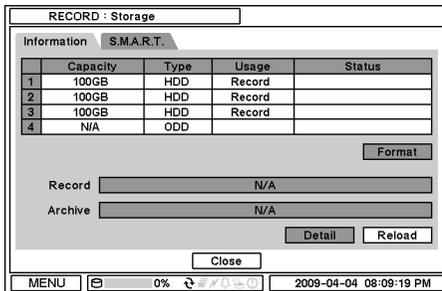


Event Pop-up: Pops up the camera image in full screen on spot monitors when pre-set event occurs.

Sequence Interval: Set time interval between cameras on spot monitors for sequencing. Select camera display option on spot monitors. Spot outs support full and sequential camera displays. Press button to set single or multi cameras for sequential display on spot monitors.

2-4. RECORD

Under Record menu, Record configuration options for Storage, Record, Archive, and Record Tools can be selected.

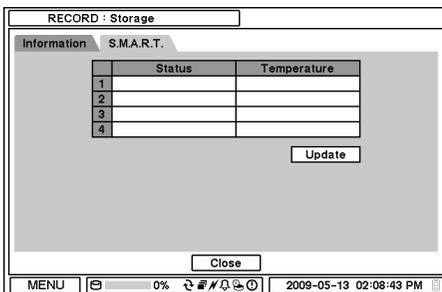


2-4-1. MENU > RECORD > Storage

In Storage, it displays the installed/connected storage status such as Capacity, Type, Usage and Status.

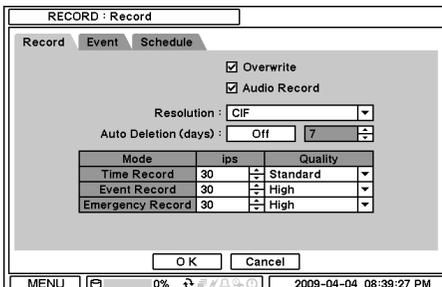
Format: Press Format to format selected HDD. Record: Displays the recording period and data stored on HDD.

Archive: Displays the Archiving period and data stored on HDD.



In S.M.A.R.T, HDD status are being displayed including its temperature. Click Update to get the latest status.

2-4-2. MENU > RECORD > Record



In Record, general recording options can be selected including overwrite, resolution, speed, recording quality and etc.

Overwrite: Select Overwrite to overwrite recorded HDD data when it is full.

Audio Record: Select Audio Record to record audio with video image.

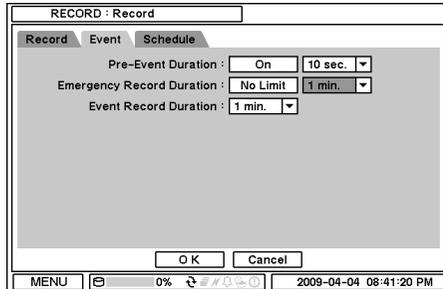
Resolution: Select recording resolution.

Auto Deletion(days): Turn on Auto Deletion to delete any data older than the defined days automatically.

Time Record: Set ips/quality for continuous recording

Event Record: Set ips/quality for event recording

Emergency Record: Set ips/quality for emergency recording mode.



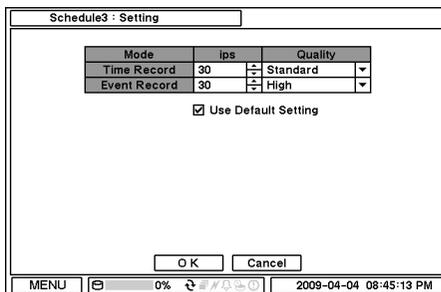
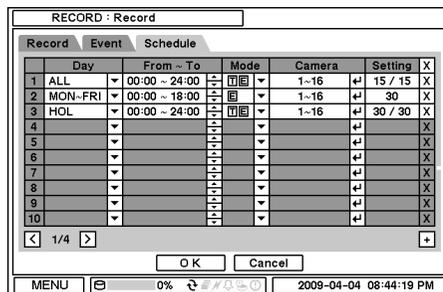
In Event, pre and post recording options for Event can be set.

Pre-Event Duration: Video Images occurred right before an Event can be recorded by setting Pre-Event under Event Mode. Duration Pre-Event recording can be set using Pre-Event(sec) upto 60 seconds.

Emergency Record Duration: Time duration can be set for Emergency recording from 5 seconds to 30 minute or continuously by selecting No Limit option.

Event REC Duration: Set recording duration for events up to 30 minutes.

Emergency Record Duration: Time duration

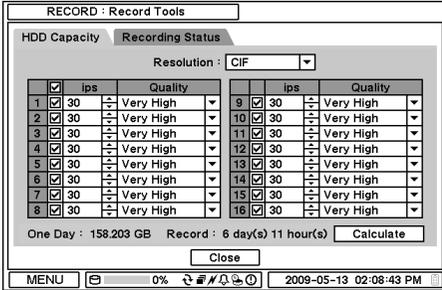


In Schedule, fully detailed and specified recording schedules can be set by day, time, modes, cameras and recording options.

Press **[+]** to add a new schedule. To remove an existing schedule, press **[X]** next to it. Press Setting to set recording options.

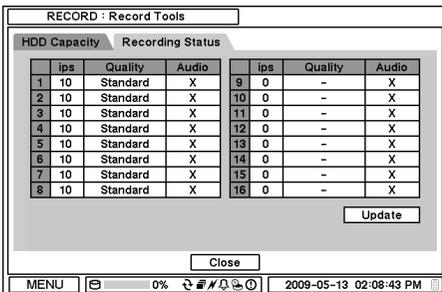
Use Default Setting: Check Use Default Setting to follow main recording setting under Record menu.

2-4-3. MENU > RECORD > Record Tools



In Record Tools, estimated HDD usage and recording period can be calculated. Press Calculate once resolutions, ips, number of cameras and quality are set. The recording period is calculated based the size of HDD installed.

NOTE: Changes Ips manually. It does not change Ips according to the change of resolution.



In Recording Status, current recording options and status are displayed.

2-5. NETWORK

Under Network menu, Network configuration options for network Address, DDNS, Remote Notification and Transmission can be set up.

2-5-1. MENU > NETWORK > Address

Live	Port
Live	10101
Playback	10102
Setup	10103
Web	80

In Address, Information such as Type, IP address, Subnet Mask, Gateway Port and DNS can be set for network connections.

Type: Select network type of Static or DHCP.

ID Address: Enter IP address using button.

Subnet Mask: Enter Subnet Mask using button.

Gateway: Enter Gateway using button.

DNS: Set up the IP address of the DNS server. If you set up the DNS Server, the domain name of the DVRNS server instead of the IP address can be used during the DVRNS Server setup.

In Port, Select appropriate port number for external access to the system

The port list shows necessary ports to be opened for each operations.

Note: Default TCP port is 10101 but it can be set from 8000 to 12000 if it is necessary.

2-5-2. MENU > NETWORK > DDNS

Use DDNS
DDNS Server :
Hostname :
 Use ID
ID :
Password :

In the DDNS, network options for DDNS can be selected.

DDNS: Dynamic Domain Name Server allows dynamic network connections.

Note: "www.dyndns.org" offers free registrations or trial for DDNS service.

"www.dyndns.org" is recommended if other DDNS is not available. Please refer to the appendix for DDNS set up page.

Host Name: Name the DVR or site where it is located using the virtual keyboard by pressing .

ID/Password: ID and Password are required for Authentication.

Note: Use ID/Password registered in DDNS.

2-5-3. MENU > NETWORK > Notification

	Address	Port
1		10110
2		10110
3		10110
4		10110
5		10110
6		10110
7		10110
8		10110
9		10110
10		10110

In Callback, set up IP addresses of client sites so that Events detected in local system can be notified to multi remote client sites simultaneously. Enter IP addresses of client sites to receive events notifications on remote sites. Press to pop up the virtual keyboard.

Callback Interval: Select Callback Interval to set time interval between consequential events

being sent to remote site.

Note: Any events occur between the pre-set interval time will not be sent to remote site. e.g. If the interval is set as 30 seconds, only the events occur every 30 seconds since the first event will be sent to remote site.

E-Mail Interval : 1 min.

SMTP Server :

Sender :

Recipient :

In Email, Events can be notified to personal email addresses by text message.

SMTP Server: Enter SMTP server using the virtual keyboard. SMTP server information can be obtained from a system administrator.

Sender: Enter the address/name where the email is being sent from.

Recipient: Enter the email address of a recipient.

E-Mail Interval: Select E-Mail Interval to set time interval between consequential events being sent to remote site via email.

Note: Any events occur between the pre-set interval time will not be sent to remote site. e.g. If the interval is set as 30 seconds, only the events occur every 30 seconds since the first event will be sent to remote site via email.

2-5-4. MENU > NETWORK > Transmission

Remote Live (ips) : 30

Limit Bandwidth (Mbps) : No Limit 10

In Transmission, Network transmission can be controlled with ips and bandwidth.

Note: Max. ips on Network transmission is 120ips.

2-6. EVENT

Under Event menu, events can be set in synchronization with cameras, alarm and remote notifications.

2-6-1. MENU > EVENT > Sensor

EVENT : Sensor

Sensor Record Alarm Notification

	<input type="checkbox"/>	Title	Type
1	<input checked="" type="checkbox"/>	SENSOR1	NO
2	<input checked="" type="checkbox"/>	SENSOR2	NO
3	<input checked="" type="checkbox"/>	SENSOR3	NO
4	<input checked="" type="checkbox"/>	SENSOR4	NO
5	<input checked="" type="checkbox"/>	SENSOR5	NO
6	<input checked="" type="checkbox"/>	SENSOR6	NO
7	<input type="checkbox"/>	SENSOR7	NO
8	<input type="checkbox"/>	SENSOR8	NO

< 1/2 >

OK Cancel

MENU 0% 2009-04-06 09:39:52 AM

In Sensor, each sensor can be selected for activation and its type. Select Sensor Type using button.

NC: Normally Closed

NO: Normally Opened

EVENT : Sensor

Sensor Record Alarm Notification

Sensor	Record
1	SENSOR1 1-16
2	SENSOR2 2
3	SENSOR3 3
4	SENSOR4 4
5	SENSOR5 5
6	SENSOR6 6
7	SENSOR7 7
8	SENSOR8 8

< 1/2 >

OK Cancel

MENU 0% 2009-04-06 09:41:13 AM

1.SENSOR1

Camera	Camera
<input checked="" type="checkbox"/> CAM1	<input checked="" type="checkbox"/> CAM9
<input checked="" type="checkbox"/> CAM2	<input checked="" type="checkbox"/> CAM10
<input checked="" type="checkbox"/> CAM3	<input checked="" type="checkbox"/> CAM11
<input checked="" type="checkbox"/> CAM4	<input checked="" type="checkbox"/> CAM12
<input checked="" type="checkbox"/> CAM5	<input checked="" type="checkbox"/> CAM13
<input checked="" type="checkbox"/> CAM6	<input checked="" type="checkbox"/> CAM14
<input checked="" type="checkbox"/> CAM7	<input checked="" type="checkbox"/> CAM15
<input checked="" type="checkbox"/> CAM8	<input checked="" type="checkbox"/> CAM16

OK Cancel

MENU 0% 2009-04-06 09:43:30 AM

In Record, each sensor can be synchronized with single and multi cameras. Press to select cameras to be synchronized with sensors.

EVENT : Sensor

Sensor Record Alarm Notification

Sensor	Alarm
1	SENSOR1 1
2	SENSOR2 2,4,6,8
3	SENSOR3 3
4	SENSOR4 4
5	SENSOR5 5
6	SENSOR6 6
7	SENSOR7 7
8	SENSOR8 8

< 1/2 >

OK Cancel

MENU 0% 2009-04-06 09:44:36 AM

2.SENSOR2

Alarm	Alarm
<input type="checkbox"/> ALARM1	<input type="checkbox"/> ALARM9
<input checked="" type="checkbox"/> ALARM2	<input type="checkbox"/> ALARM10
<input type="checkbox"/> ALARM3	<input type="checkbox"/> ALARM11
<input checked="" type="checkbox"/> ALARM4	<input type="checkbox"/> ALARM12
<input type="checkbox"/> ALARM5	<input type="checkbox"/> ALARM13
<input checked="" type="checkbox"/> ALARM6	<input type="checkbox"/> ALARM14
<input type="checkbox"/> ALARM7	<input type="checkbox"/> ALARM15
<input checked="" type="checkbox"/> ALARM8	<input type="checkbox"/> ALARM16
	<input type="checkbox"/> Buzzer

OK Cancel

MENU 0% 2009-04-06 09:45:50 AM

In Alarm, each sensor can be synchronized with single and multi alarms. Press to select alarms to be synchronized with sensors.

EVENT : Sensor

Sensor Record Alarm Notification

Sensor	Notification
1	SENSOR1 1,2
2	SENSOR2 4
3	SENSOR3 E
4	SENSOR4 7
5	SENSOR5 8
6	SENSOR6 4,E
7	SENSOR7
8	SENSOR8

< 1/2 >

OK Cancel

MENU 0% 2009-04-06 09:47:24 AM

6.SENSOR6

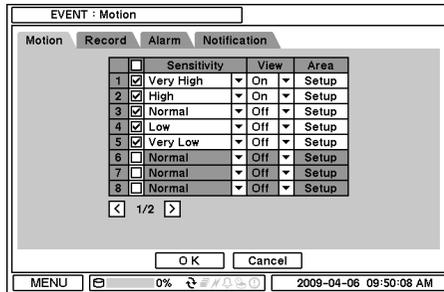
Callback	E-Mail
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	
<input type="checkbox"/>	
<input checked="" type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	

OK Cancel

MENU 0% 2009-04-06 09:48:26 AM

In Notification, each sensor can be synchronized with single and multi callback or emailing sites. Press to enter callback or email address to be synchronized with sensors.

2-6-2. MENU > EVENT > Motion



In Motion, system provides Motion Detection function. Set Motion Detection using Sensitivity, View and Area options.

Sensitivity: Select motion sensitivity from Very Low to Very High.

View: On or Off the appearance of motion zones on screen when motions is detected.

Area: Define the area for motion detection.

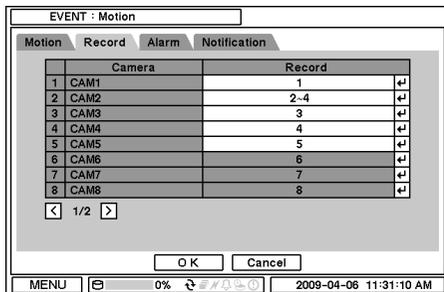
Press Setup under Area to define motions detection areas. The blocks indicate the area where is defined for motion detection

Select Block: Use arrow keys to move around a box. Select individual blocks to set motion zones. Use number keys to select and unselect blocks (When using a mouse, use a left button).

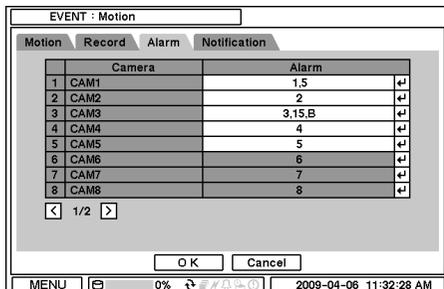
Clear Block: Unselect all blocks inside a box

Select All: Select blocks on entire screen.

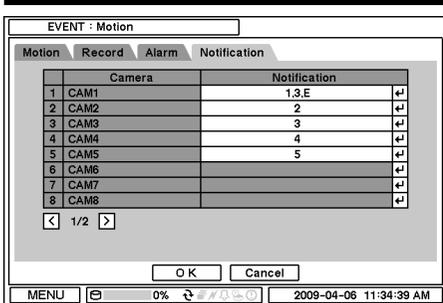
Clear All: Unselect blocks on entire screen.



In Record, each camera can be synchronized with single and multi motion detections from other cameras. Press **[F4]** to select cameras to be synchronized with motions detections.

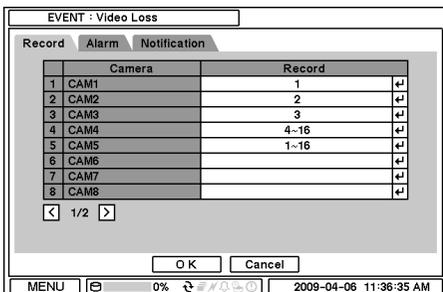


In Alarm, each camera with motion can be synchronized with single and multi alarms. Press **[F4]** to select alarms to be synchronized with cameras for motion events.

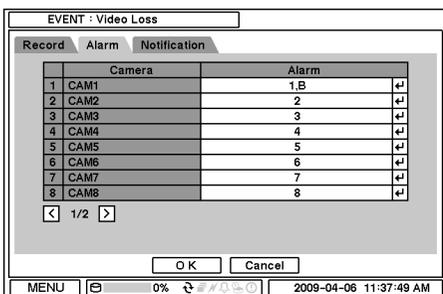


In Notification, each camera with motion can be synchronized with single and multi callback or emailing sites. Press **[↔]** to enter callback or email address to be synchronized with cameras for motion events.

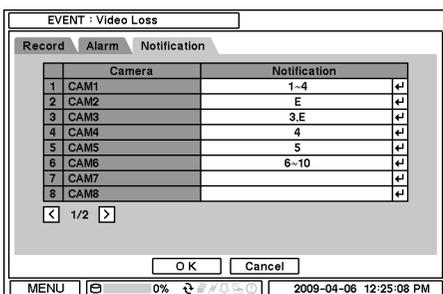
2-6-3. MENU > EVENT > Video Loss



In Video Loss, single or multi cameras can be synchronized for event recording when there is a video loss. Press **[↔]** to select single or multi cameras to be synchronized with cameras for video loss.



In Alarm, each camera with video loss can be synchronized with single and multi alarms. Press **[↔]** to select alarms to be synchronized with cameras for video loss.



In Notification, each camera with video loss can be synchronized with single and multi callback or emailing sites. Press **[↔]** to enter callback or email address to be synchronized with cameras for video loss.

2-6-4. MENU > EVENT > Text-In

EVENT : Text-In

Text-In Record Alarm Notification

Text-In Model : POS

Transaction Begin : Any Char.

Transaction End :

Ignore String :

Line Delimiter : LF

Case Sensitive

OK Cancel

MENU 0% 2009-05-13 02:08:43 PM

The system allows Text In from POS/ATM machines.

Note: For use of POS/ATM, the system must support general ASCII code.

Text-In Model: Select Text-In model from the list

Transaction Begin: Enter a word which the transaction info to be displayed on screen as a start.

Any Character: Check Any Character to start display a text with any character as a start.

Transaction End: Enter a word of last line where the transaction info to be displayed on screen as the end. If you want additional lines to be displayed after the transaction end, select more line options.

Line Delimiter: Enter a symbol or a word to distinguish the end of lines.

Ignore String: Enter a word to ignore strings includes selected word.

Case Sensitive: Select Case Sensitive option if distinguish a word with case sensitivity.

EVENT : Text-In

Text-In Record Alarm Notification

	Input Device	Record
1	RS232	1-4

OK Cancel

MENU 0% 2009-05-13 02:08:43 PM

1.SENSOR1

	Camera	Camera	
<input checked="" type="checkbox"/>	CAM1	<input checked="" type="checkbox"/>	CAM9
<input checked="" type="checkbox"/>	CAM2	<input checked="" type="checkbox"/>	CAM10
<input checked="" type="checkbox"/>	CAM3	<input checked="" type="checkbox"/>	CAM11
<input checked="" type="checkbox"/>	CAM4	<input checked="" type="checkbox"/>	CAM12
<input checked="" type="checkbox"/>	CAM5	<input checked="" type="checkbox"/>	CAM13
<input checked="" type="checkbox"/>	CAM6	<input checked="" type="checkbox"/>	CAM14
<input checked="" type="checkbox"/>	CAM7	<input checked="" type="checkbox"/>	CAM15
<input checked="" type="checkbox"/>	CAM8	<input checked="" type="checkbox"/>	CAM16

OK Cancel

MENU 0% 2009-04-06 09:43:30 AM

In Text In, text event can be synchronized with single or multi alarms. Press to select camera(s) to be synchronized with text event.

EVENT : Text-In

Text-In Record Alarm Notification

	Input Device	Alarm
1	RS232	1,2,B

OK Cancel

MENU 0% 2009-05-13 02:08:43 PM

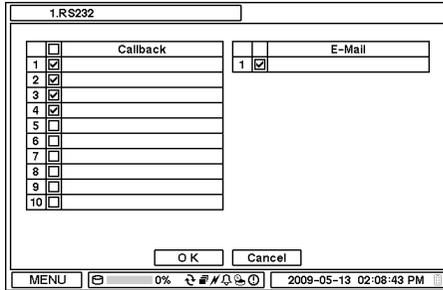
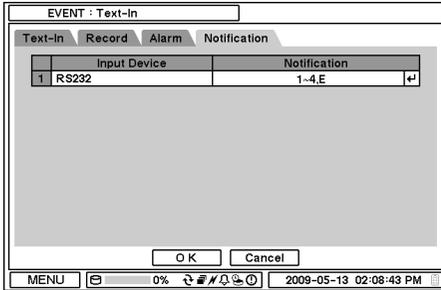
2.SENSOR2

	Alarm	Alarm	
<input type="checkbox"/>	ALARM1	<input type="checkbox"/>	ALARM9
<input checked="" type="checkbox"/>	ALARM2	<input checked="" type="checkbox"/>	ALARM10
<input checked="" type="checkbox"/>	ALARM3	<input checked="" type="checkbox"/>	ALARM11
<input checked="" type="checkbox"/>	ALARM4	<input checked="" type="checkbox"/>	ALARM12
<input type="checkbox"/>	ALARM5	<input checked="" type="checkbox"/>	ALARM13
<input checked="" type="checkbox"/>	ALARM6	<input checked="" type="checkbox"/>	ALARM14
<input type="checkbox"/>	ALARM7	<input checked="" type="checkbox"/>	ALARM15
<input checked="" type="checkbox"/>	ALARM8	<input checked="" type="checkbox"/>	ALARM16
		<input type="checkbox"/>	Buzzer

OK Cancel

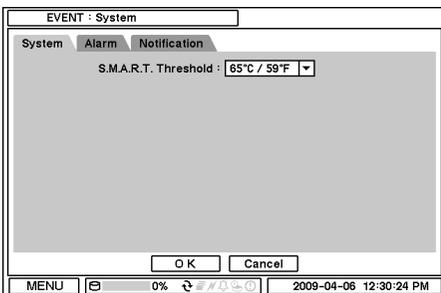
MENU 0% 2009-04-06 09:45:50 AM

In Alarm, text event can be synchronized with single or multi alarms. Press to select alarms to be synchronized with text event. If B is selected, system will buzz on alarm detections.

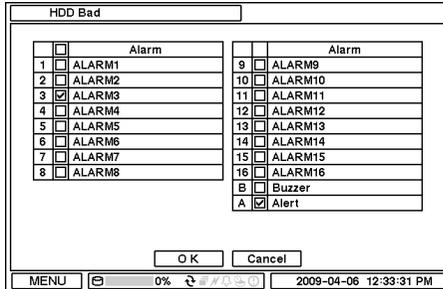
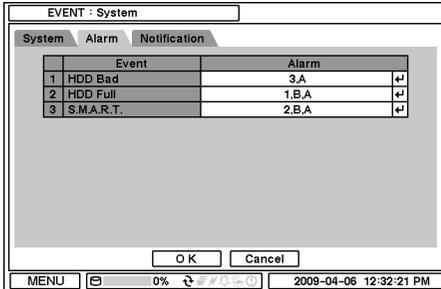


In Notification, text event can be synchronized with single and multi callback or emailing sites. Press to enter callback or email address to be synchronized with text event.

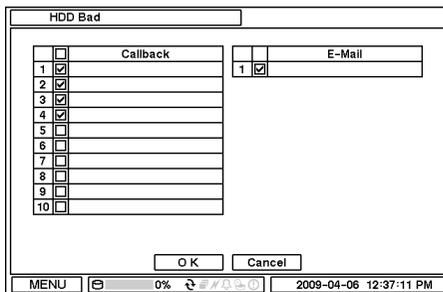
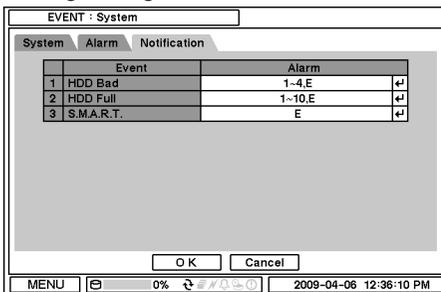
2-6-5. MENU > EVENT > System



In System, S.M.A.R.T function monitors storage conditions such as Temperature, Conditions and Recording. S.M.A.R.T Threshold allows to pre set tolerable temperature level of storage. If HDD temperature increases over pre set temperature, it will notify a user in various ways according to following settings.



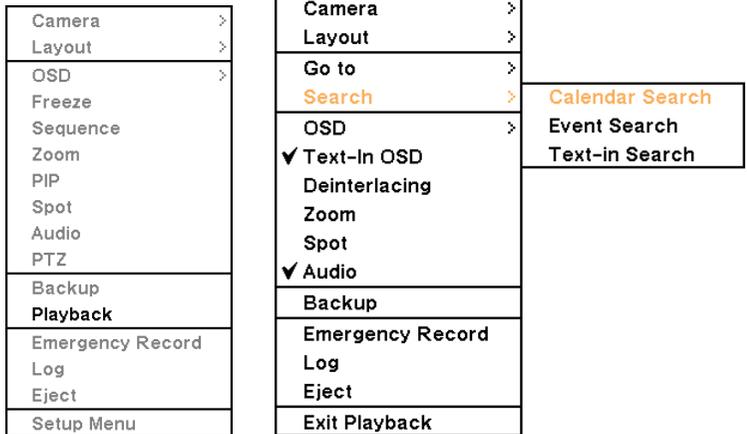
In Alarm, each system event can be synchronized with single and multi alarms. Press to select alarms to be synchronized with each event. If Alert is selected, system will pop up a warning message on screen.



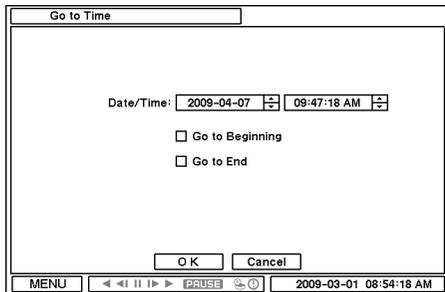
In Notification, each system events can be synchronized with single and multi callback or emailing sites. Press to enter callback or email address to be synchronized with system events.

3. Playback

The system provides various playback menu to search recorded data. Please press right mouse button on mouse or press playback button on the front panel.

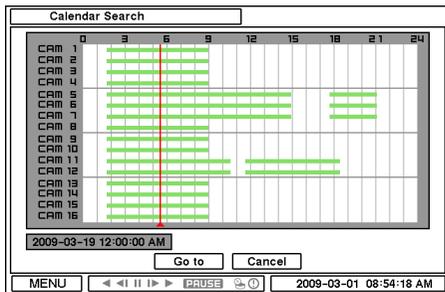
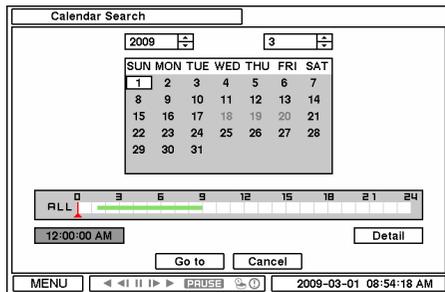


3-1. Go to Time



Select Go to Time to search recorded data by time/date. Set time/date using [] button. Go to Beginning and End options are selectable to search the very first and last data recorded. Once desired settings are completed, press OK to begin playback.
 Go to Beginning : Move to the very first recorded data.
 Go to End : Move to the latest recorded data.

3-2. Calendar Search



Calendar Search provides easy graphical search by displaying numbers (dates). Dates with recorded data will be highlighted. Once you select the date, it will display record time table below. The numbers on the top of the table shows the time frame in 24hours format, and titles on the left indicate cameras numbers. The color bar shows the full information of recorded data on the selected date. Move the indicator (line) to select specific recorded time of the selected date. For a detail display of recorded data please press Detail.

Once desired settings are completed, press Go To to begin playback.

3-3. Event Search

Time	Event : All
2009-03-01 03:24:01 PM	Emergency1
2009-03-01 04:21:11 PM	Emergency1
2009-03-01 04:30:00 PM	Emergency1
2009-03-01 05:00:31 PM	Emergency1
2009-03-01 05:55:36 PM	Emergency1
2009-03-01 05:59:22 PM	Motion1
2009-03-01 06:05:20 PM	Motion2
2009-03-01 06:10:12 PM	Motion3
2009-03-01 06:54:33 PM	Motion1
2009-03-01 07:32:45 PM	Motion12

- ▼ All
- Motion
- Sensor
- Video Loss
- Text-In
- Emergency

Event Search provides easy search by event list recorded. Select the date and type of event to find specific data. Press Event: All section on the top of the list to display event search options.

All: System displays every event

Motion: System displays every events related to Motion

Sensor: System displays every events related to Sensor

Video Loss: System displays every events related to Video Loss

Text-In: System displays every events related to Text In

Emergency: System displays every events related to Emergency Recording

Once find specific list of event, move up and down button to highlight the log and press it to playback the event data.

3-4. Text-In Search

Text-In Search

Text-In Model : POS

From : First 2009-06-23 08:53:09 AM

To : Last 2009-06-28 01:59:05 PM

	Search Text
1	<input checked="" type="checkbox"/> ACCOUT
2	<input checked="" type="checkbox"/> SUM
3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>

Time	Contents

Text In Search provides easy search by transactions. Search for Time and Transaction information. Press Search for detail information.

Text In Model: Select a model type for Text In

From: Set beginning time to start search or select First for search from the first data.

To: Set end time to end search or select Last for search to the last data.

Search Text: Enter any words to search text data include the words.

Once entering all the search information, press OK to start Text In search.

3-5. Playback Control



R.Play: Reverse Playback

Step Backward: Go to the previous image

Pause: Freeze or Stop current image

Step Forward: Go to the next image

Play: Play the data at normal speed

To control the backward and forward playback speed, press on ◀ or ▶ repeatedly. Playback speed can increase up to x32.

4. Backup

4-1. Backup

Backup

Source : Record

Device : Flash

File Name : untitled

From : 2009-04-07 11:00:49 AM

To : 2009-04-07 11:00:49 AM

Camera : 1-16

Audio

Status : Ready (0 Bytes / 0 Bytes) Update

Start Close

MENU 2009-03-01 08:54:18 AM

In the BACKUP, the recorded data can be selected for backup to USB devices.

Press USB Device to select the type of USB Device connected to the system.

Select date & time period of data to be backup using button.

Select Camera number to be backup or All to backup all the data recorded during the selected period. To back up recorded Audio with video data together select Audio.

Status shows capacity of the device being prepared for backup, and it will show backup progress during backup.

Note: The backup process could be slowdown if the system is being monitored/playback on the remote using the client program during the backup process.

Note: "DO NOT remove the back up media while the data backup is being processed. It may cause critical damage to either the media or system if the backup media is removed during the backup process."

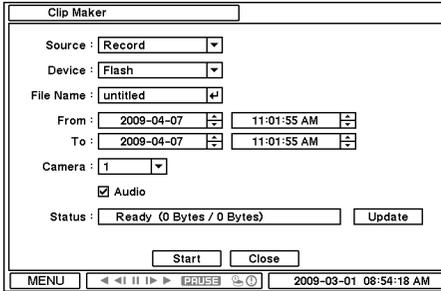
4-2. Instant Backup

Press backup button to start Instant Backup during the playback. Instant Backup window will appear when press backup button during the normal playback mode. Select Device, File Name, Audio and press Start to continue the playback and backup. The Backup Icon will appear on the screen during the Instant Playback. Press backup button one more time to stop and complete Instant Backup.

Note: "DO NOT remove the back up media while the data backup is being processed. It may cause critical damage to either the media or system if the backup media is removed during the backup process."

Note: Playback speed will be slower than usual while instant back up is processing.

4-3. Clip Maker



Clip Maker allows to create single channel backup file which can be played on PC. Select Clip Maker option on the pop up menu during the live or pause mode on the playback.

Select the backup option for Clip Maker. Press **Start** button to create Clip Maker. Use Quick Time player to play the file created using Clip Maker

Note: The Clip Maker file can not be played on other programs such as Window Media Player.

Chapter 4. Remote Software NEMON

1. NEMON Installation

Find Software CD contains 'Nemon' in the box and Insert CD into PC.

Double click on NemonSetup.exe file to start installation procedure. When the following dialog box appears, click **Next**

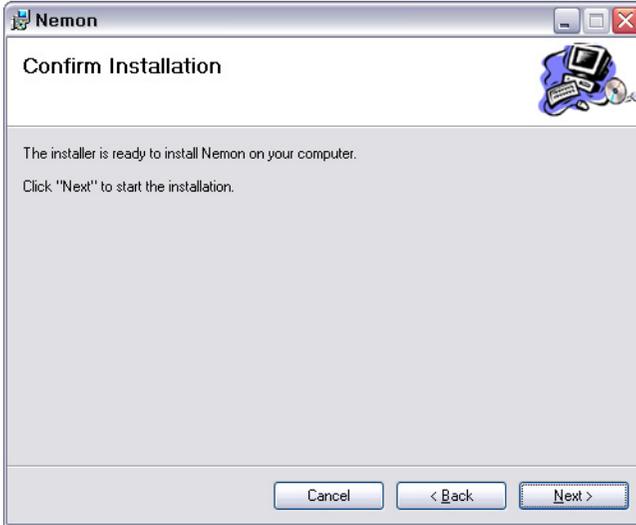


After selecting program folder and desired option, click **Next**

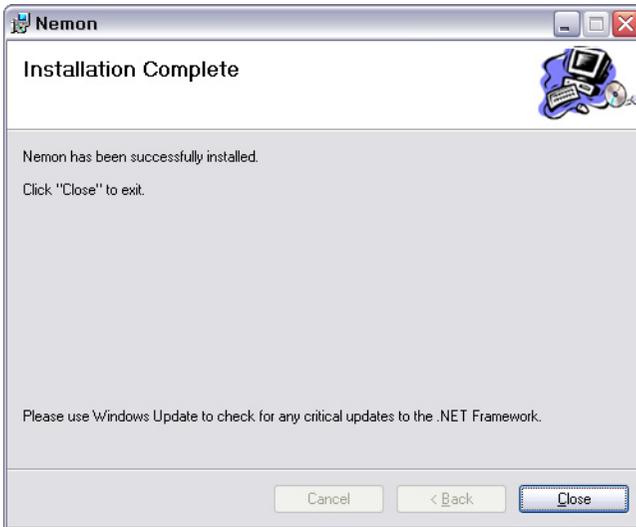


- Everyone : Allow all PC users to get access to Nemon software.
- Just me : Allow only private PC user access to Nemon software.

When the following dialog box appears, click **Next**



Click **Close** to complete installation procedure.

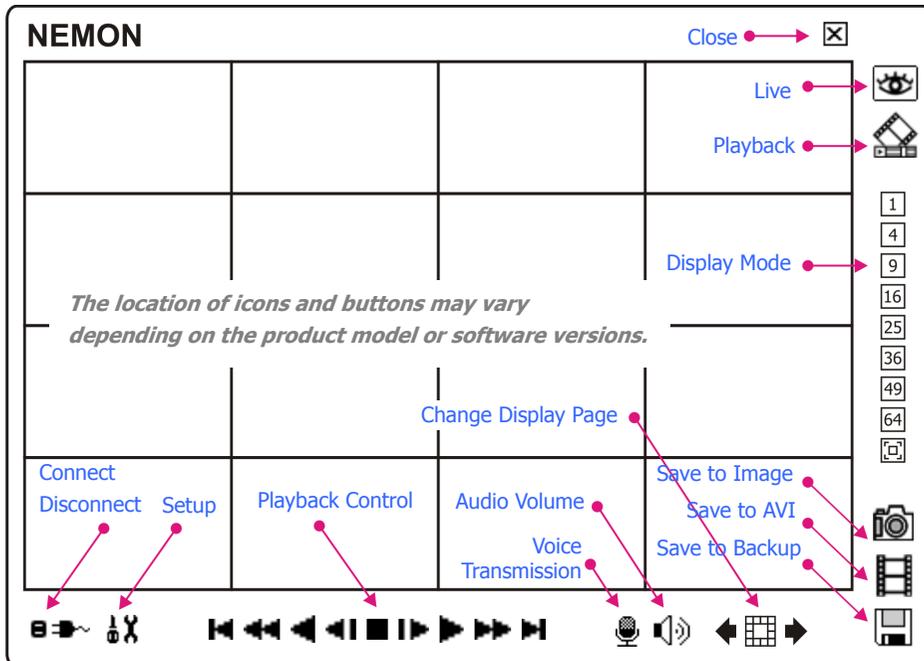


2. Using NEMON

2-1. Starting the Software

Double click on 'Nemon' icon on PC to run the software.

Main screen of the remote software appears as shown below.



Live: Click the image to enter the live mode

Playback: Click the image to enter the playback mode

Display Mode: Select display modes (single screen, 4, 9, 16, 25, 36, 49, 64 and full screen)

Save to Image: Save the recorded data in Image file format.

Save to AVI: Save the recorded data in AVI file format.

Save to Backup: Backup the recorded data.

Connect / Disconnect: Click button for site setup and connect

Setup: Click button for remote software setup

Playback Control: Use buttons to control playback images (Stop, Move by Image, Play, Rewind/Forward, and Move to First/End)

Change Display Page: Change Display Mode to Previous or Next page in camera order.

Audio Volume: Click Audio icon to select audio volume and mute options.

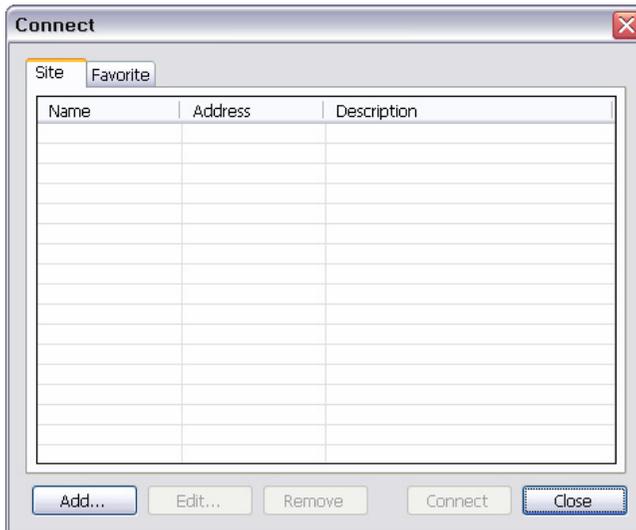
Select a camera to receive Audio of the selected camera (highlighted in orange lines).

Voice Transmission: Click button to transmit remote voice to the local DVR.

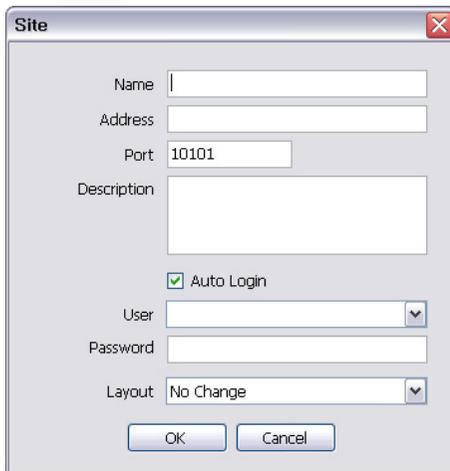
Close: Click the image to close the software

2-2. Site Set Up

Click  button to display registered remote locations or add new locations.



Click **Add** button to add remote location and required information.



Name: Enter Site Name

Address: Enter IP address or domain name of the site

Port: Enter port number if there is a specific port to be set for the software

Description: Enter the description of the site

Auto Login: If do not want the Log In window to be popped up every time starting the remote S/W, check Auto Login to skip User/Password authentication process

User: Select the type of user from the list

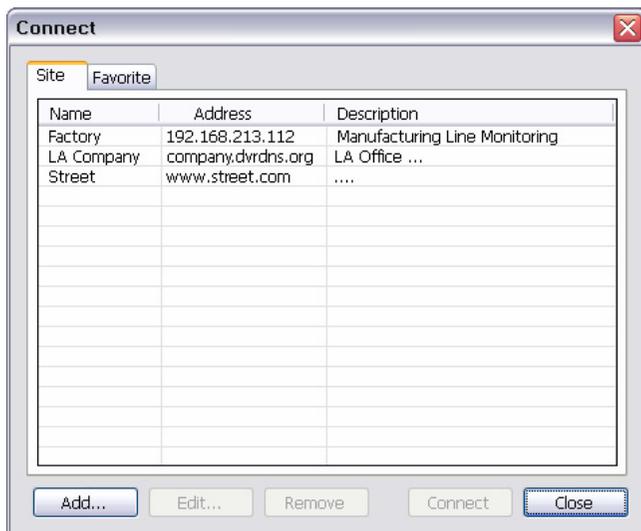
Password: Enter the password of DVR

Layout: Select desired display layout for the site when it is connected

Note: Layout can be changed after begin connected using the display option on the menu.

Click **OK** to save information and complete the registration.

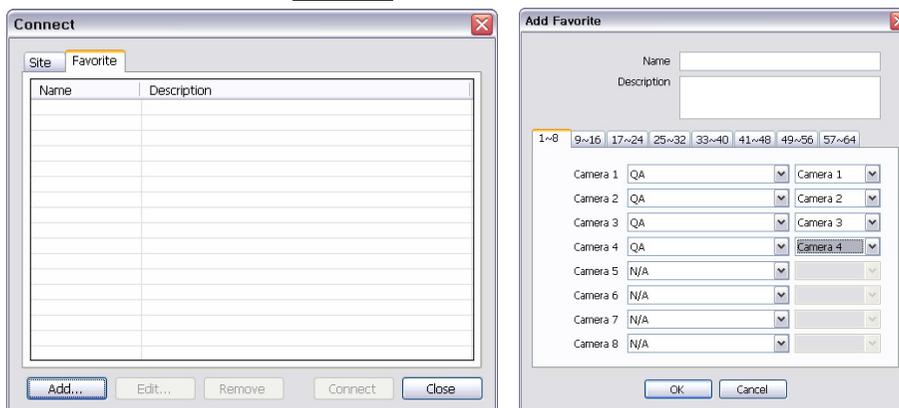
Double click the location or Highlight it and click **Connect** button to get connected to the site.



2-3. Favorite Set Up

Favorite function allows multi site management. Up to 64 different cameras and sites can be monitored and managed on one screen.

Click  button and select **Favorite** tap.

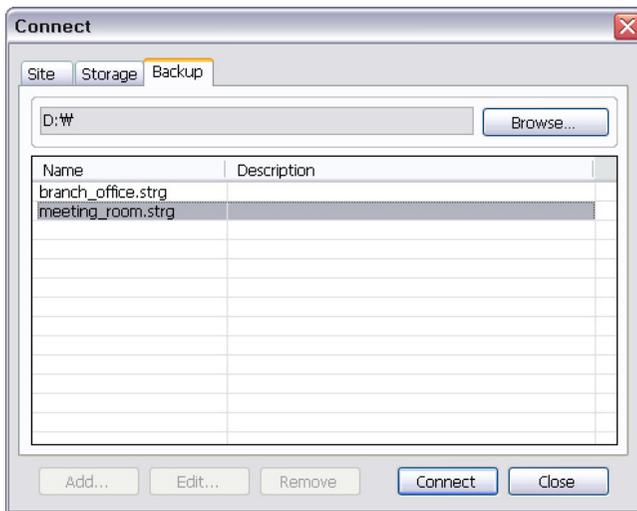


Click **Add** button to group multiple sties as one favorite group.

Enter the group name and description. Up to 64 different cameras or sites can be grouped and displayed together. Select sites and cameras from the drop down list by clicking  button.

Note: Sites should be registered under 'Site' menu before setting the favorite.

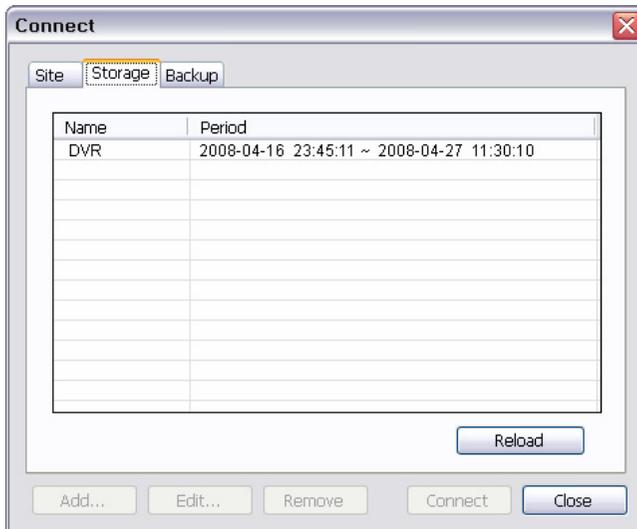
2-4. Play Backup Data



Backed up data from the local site can be played on the remote site. Select the location where the data is saved. Select the file and click **Connect** to play the video.

Note: Recorded Audio can be played on single screen only.

2-5. Play Independent HDD Data on PC



Independent HDD (removed from a DVR) data can be played on PC using Nemon S/W. Have the HDD connected to PC using a SATA to USB connector cable. Make sure the HDD is connected to PC properly

Open Nemon S/W and Click  button.

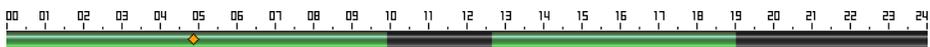
Click **Storage** tap to display HDD information (if HDD is not shown please click **Reload** button to refresh the list). Double click the list or highlight and click **Connect** button.

3. Remote Playback

3-1. Calendar Search

- Click on  icon on the menu screen to bring up search menu.
 - Click  for Calendar search. Dates with recorded data will be displayed in bold letter.
- Select the date and use time table to select specific time. Click Play button to start playback.

May, 2008						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



-  Playback Control Button
-  Rewind
-  Reverse Play
-  Beginning
-  Step Backward
-  Stop
-  Step Forward
-  End
-  Play
-  Fast Forward

Go To Time

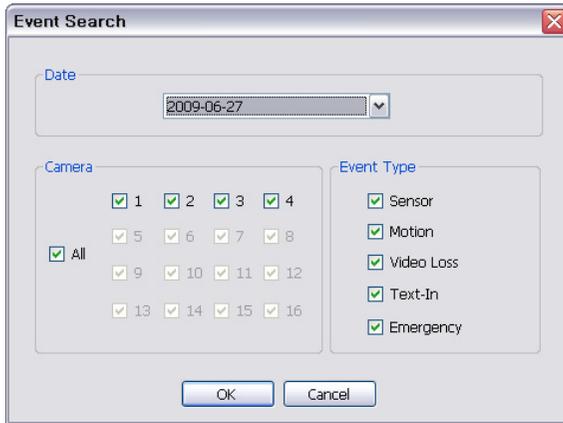
- Click on  icon to display time search window. Enter specific time to search the data

A dialog box titled "Select Time" with a close button (X) in the top right corner. It contains a text input field with "AM 12:00" and a small dropdown arrow on the right. Below the input field are two buttons: "OK" and "Cancel".

- Click on  icon refresh and update the calendar info.

3-2. Event Search

- Click  tap to display menu for Event search
- Click  to enter event query option.



	04	2008-05-14	14:52:21
	03	2008-05-14	14:52:21
	01	2008-05-14	14:52:21
	02	2008-05-14	14:51:23
	03	2008-05-14	14:50:32
	01	2008-05-14	14:50:32
	01	2008-05-14	14:50:32
	02	2008-05-14	14:50:22
	01	2008-05-14	14:49:17
	01	2008-05-14	14:49:17

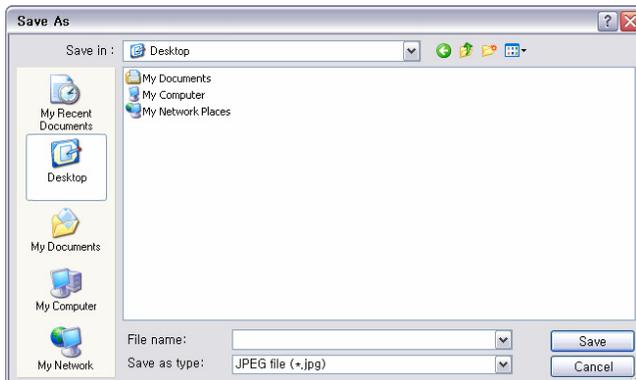
Select an event from the list for playback. Search through the list using   buttons.

Select the date of event search for from the Date list. Select All or specific camera numbers for related event search. Type of events can be selected from the list for detail and effective search.

3-3. Saving the recorded data

Save to Image

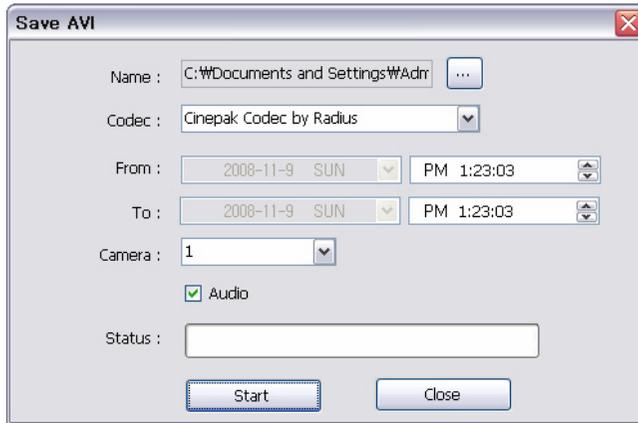
Pause the playback and press  button to save the recorded data in Image file format. 'Save As' dialogue will appear.



- Enter file name and file type.
- The Image can be saved in JPEG, BMP and PNG format.

Save to AVI

- Pause the playback and press  button to save the recorded data in AVI file format. 'Save AVI' dialogue will appear.



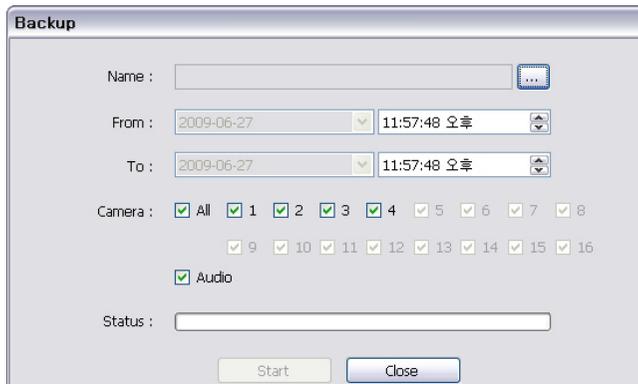
The 'Save AVI' dialog box contains the following fields and controls:

- Name: C:\Documents and Settings\WAdr ...
- Codec: Cinepak Codec by Radius
- From: 2008-11-9 SUN PM 1:23:03
- To: 2008-11-9 SUN PM 1:23:03
- Camera: 1
- Audio
- Status: (empty text box)
- Buttons: Start, Close

- Enter file name and select Location.
- Select appropriate Codec.
- Select the time period.
- Select Camera number and Audio. Press Start to create AVI file.

Save to Backup

- Pause the playback and press  button to backup the recorded data. 'Backup' dialogue will appear.



The 'Backup' dialog box contains the following fields and controls:

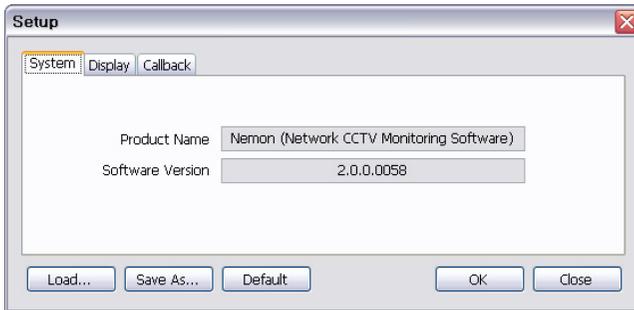
- Name: (empty text box) ...
- From: 2009-06-27 11:57:48 오후
- To: 2009-06-27 11:57:48 오후
- Camera: All 1 2 3 4 5 6 7 8
 9 10 11 12 13 14 15 16
- Audio
- Status: (empty text box)
- Buttons: Start, Close

- Enter file name and select Location.
- Select the time period.
- Select Camera number and Audio. Press Start to create Backup file.

4. Setup

4-1. Nemon Setup

Click on  to enter local setup menu.



Product Name: Displays general information of the S/W

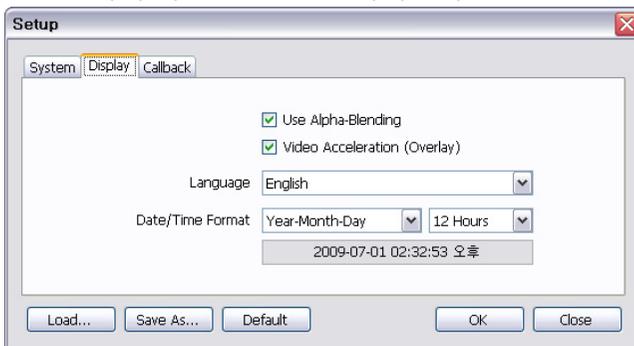
Software Version: Displays current S/W version

Load: Load saved data for settings for remote software

Save as: Save current settings of remote software

Default: Set default settings of remote software

Click on display tap to enter remote display setup menu.



Use Alpha-Blending: Enables alpha-blending effect to S/W UI

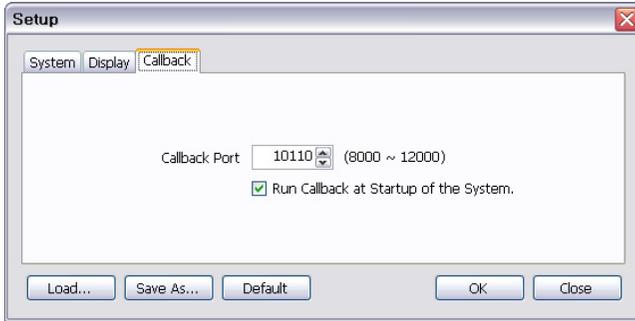
Video Acceleration: Video Acceleration option enhances natural live image display on the client S/W. Please do not select this option as it may cause improper live image display. Some PC graphic card does not support and comparable with Video Acceleration option.

Note: There are some graphic cards do not support such functions. In this case, unselect the option as it might result in abnormal system operation

Language: Select language option for the remote software

Date/Time Format: Select Date/Time Format for the remote software

Click on Callback tab to enter Callback setup menu.



Please set network ports (8000~12000, default: 10110) for Callback function.

4-2. Remote Setup

Click  to enter remote set up menu.

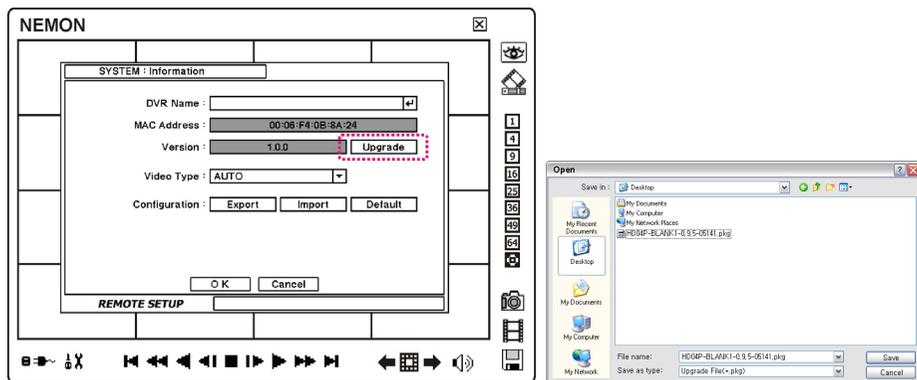
Single connection (single site): please get a site connected for monitoring first, and click  Button.

Favorite connection (multi sites): please click camera or site on the monitoring screen, and click  button.

Note: The remote software provides interactive setup system that allows easy local DVR settings from remote sites. It gets exactly same menu and options as the local system. Therefore please refer to "Chapter 3-2. DVR Configuration" and following chapters for the detail information.

4-3. Remote Upgrade

The system upgrade can be done through Nemon program on PC.



- Select and connect a site for system upgrade
- Click  button to pop up the setup menu and select Information under System.
- Click Upgrade next to S/W version to find a file for upgrade
- Select the file location and the file to upgrade the system.

Note: Please do not close down Nemon S/W or power off a computer until the system upgrade is completed.

5. Nemon Callback

Start-> Program -> Network Monitoring Software -> Nemon Callback

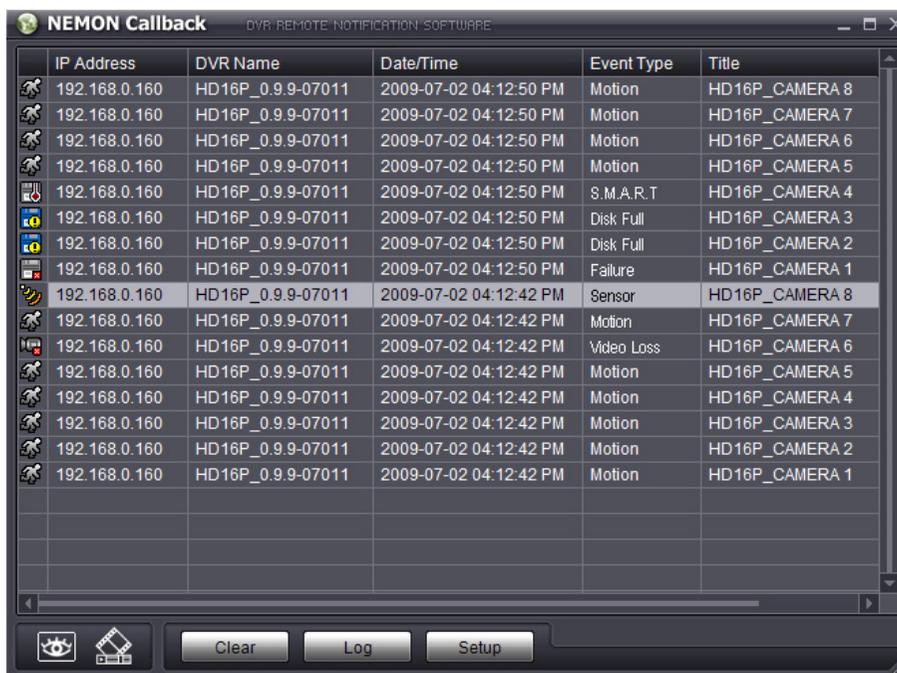


Nemon Callback icon will be displayed on the bottom right of Window once the program starts.



Callback message will be displayed/notified as shown above.

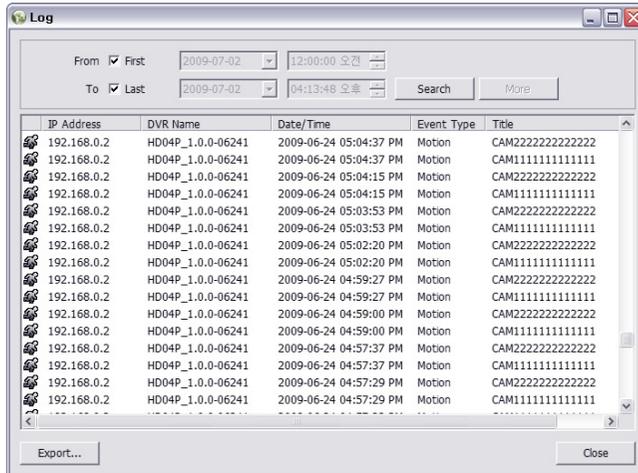
Click Nemon Callback icon to display main window of Callback as shown below.



Select a log from the list and click Live or Playback icon image to connect related DVR.

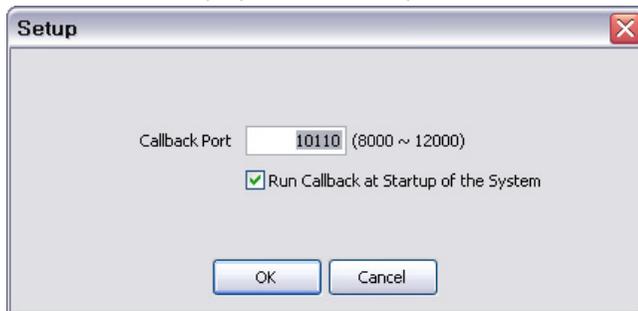
Clear: Clear all the logs listed on Nemon Callback window

Log: Click Log button to display log search window as shown below.



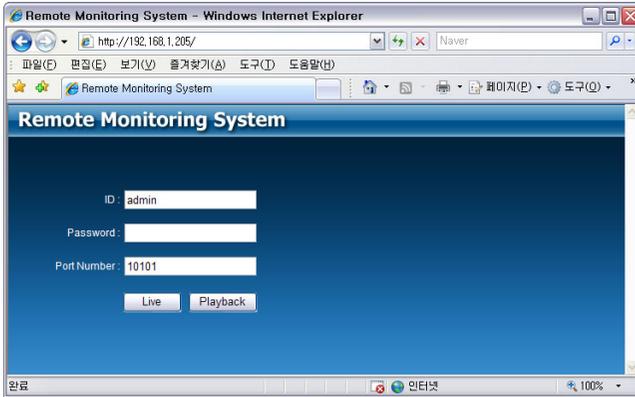
Up to 100,000 log can be saved. 1,000 log lists will be displayed per search. Click More button to display next 1,000 logs. Click Export button to save searched logs in either txt or csv format.

Setup: Click Setup button to set a port for Callback. Check Run Callback at Startup of the System box to start Callback program automatically with Window



Appendix A. Remote Access Using I.E.

DVR can be accessed remotely using Internet Explorer. Execute internet explore program and enter DVR address (e.g. IP) to get connected.



Remote Log In page appears once connected to DVR. Enter ID and PW, and select Live or Playback mode to display desired remote control option. Please install Active X when Internet Explore displays Active X installation message.



Remote Monitoring



Remote Playback

Please refer to the remote program 'Nemon' manual if detail instructions on the control option is needed.

Note: Web is supported only on Internet Explorer 7.0 or above.

COMPLIANCE NOTICE OF FCC:

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE, IN WHICH CASE USERS WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT THEIR OWN EXPENSE.

WARNING: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS OF DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

WEEE (Waste Electrical & Electronic Equipment)

Correct Disposal of This Product (Applicable in the European Union and other European countries with separate collection systems)



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

ROHS Compliance

