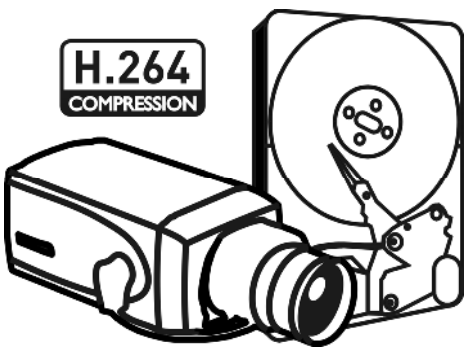
8/16 Channel H.264 Stand-Alone DVR

User's 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

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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.

	Risk of death or serious injury. This is the highest priority danger warning.
	Risk of serious or lesser degree of injury. May also cause damage to the product or to property.
	Risk of minor injury or damage.
	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.

Danger	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 INSTRCTIONS.
- 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.

Warning	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.

Caution	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.

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Chapter 1. Introduction

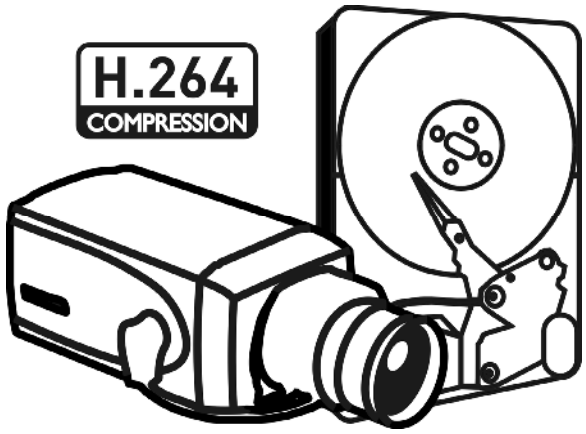
1. The System

Great Value but Less Budget Product is in Your Hand now. No more to find high quality product with affordable target price in the market. As part of 4 ~ 16 channel DVR series, this DVR is the exact solution what you looking for in four channel DVR. The big demand of real H.264 four channel DVR with high performance and stability but pay less from end users make it possible to launch the DVR.

With our full built-in function, you don't need to waste of your time to find four channel solution of yours. Now you can have the great value product from us to make your full H.264 DVR product line unique.

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
- Up to Four SATA HDD and No Limitation of Capacity
- Two- Way Audio
- Multiple DVRs can be operated with One Keyboard Controller
- Text-In & Relay Output Support
- 4 Audio Input support
- Spot Output with Event Pop up Function



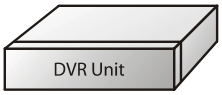
3. Specification

Model		8 Channel	16 Channel
Video	In	8 BNC	16 BNC
	Out	1VGA,& 1 BNC Main, 1 Spot Output	
Audio	In	4 RCA (Line-In)	
	Out	1 RCA (Line-Out)	
Device	Sensor In	8 TTL	16 TTL
	Alarm Out	2 Relay + 2 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	120fps@CIF(NTSC) 100fps@CIF(PAL) 60fps@Half D1(NTSC) 50fps@Half D1(PAL) 30fps@D1(NTSC) 25fps@D1(PAL)	240fps@CIF(NTSC) 200fps@CIF(PAL) 120fps@Half D1(NTSC) 100fps@Half D1(PAL) 60fps@D1(NTSC) 50fps@D1(PAL)
	Picture Quality	Very High, High, Standard, Low	
	Mode	Time-lapse, Event, Time & Event, Emergency (Panic)	
Playback	Display	1, 4, 9, Digital Zoom	1,4,9,13,16,Digital Zoom
	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	
Network	Interface	Ethernet (10/100 Base)	
	Protocol	TCP/IP, HTTP, DHCP, ADSL(PPPoE)	
	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)x92.5(H)x428(D)mm / 16.9(W)x3.64(H)x16.8(D)inch	
Weight		5.38Kg / 11.86lb (without HDD)	

Chapter 2. System Installation

1. Package Contents

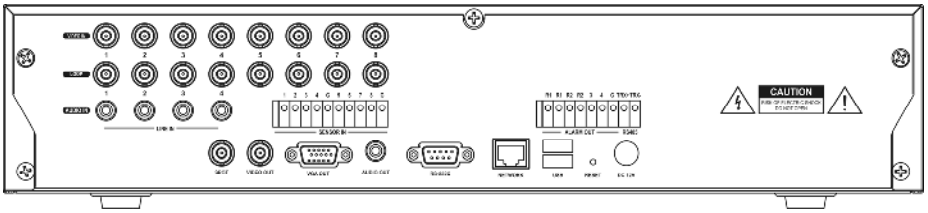
The following components are included in the product:

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

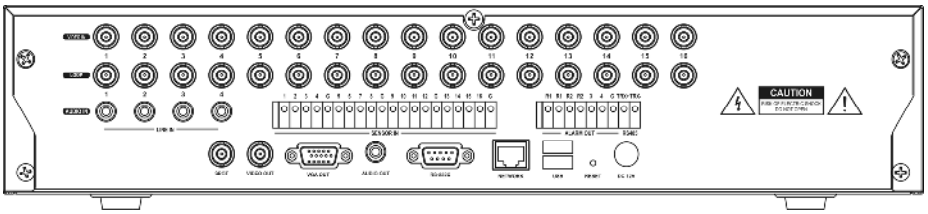
2. Connecting Devices

The rear panels of the DVR comprise the following:

[8 Channel Model]



[16 Channel 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 4 sources. Connect the audio sources to the Audio-In RCA connectors. Audio input channels need external pre-amplifiers.
It is the user's responsibility to determine if local laws and regulations permit recording audio.

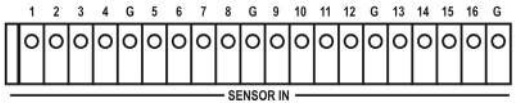
Video Output

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

ETC

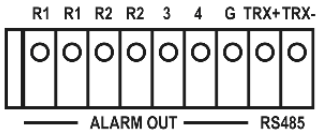
- **Audio Out**: The DVR does not have amplified audio output, so you will need a speaker with and amplifier.
- **RS-232C**: An RS-232C connector is provided to connect an ATM or POS machine for Text-In function. Use a cable with a DB9 (female) connector to connect to the DVR.
- **Network**: Connect 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, 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



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.
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, 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 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.

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 stars 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.

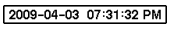
Note: To turn off the system, select SHUTDOWN under main menu (MENU > SHUTDOWN) and unplug the power cord when the shutdown message appears.

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.

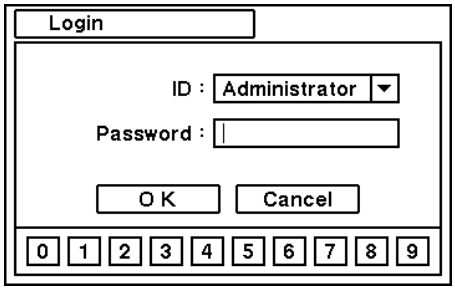
MENU	Pressing the Menu will bring up the main menu list.
0%	Shows the % of HDD being used.
	Turns on when the HDD is set to be overwritten.
	Sequence display mode.
	Turns on when the system is connected to the network.

	Turns on when the Alarm is being activated.
	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

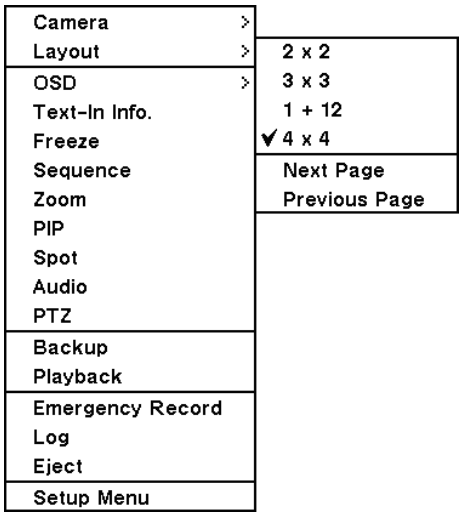
The Main Menu of DVR consists of SYSTEM, DEVICE, DISPLAY, RECORD, NETWORK and EVENT. And each menu consists of various sub menus that allow detail set up of the system. Use Mouse, Remote Controller or Front Buttons to access to each menu.

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
		Quick Setup
		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



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
OSD : Select OSD display option
Text-In Info.: On/Off Text-In OSD
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

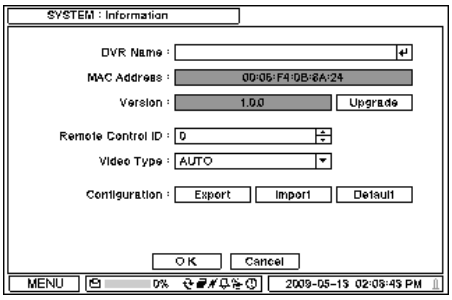
For more information on Contextual Menu please refer to 2. DVR Configuration.

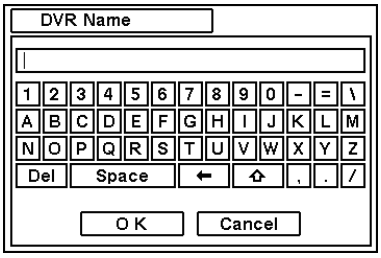
2. DVR Configuration

2-1. SYSTEM

Under SYSTEM menu, System configuration options for general Information, Date &Time, User, Quick Setup and System Log 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

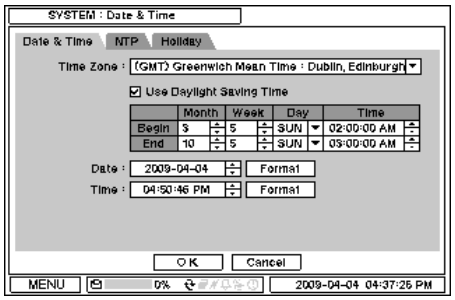
The system automatically detects camera signal types as NTSC/PAL. But the system also offers manual selection options for different signal types.

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

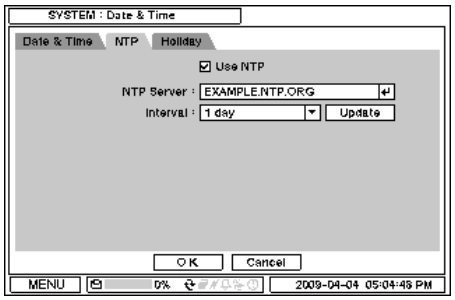


In the Date & Time, Time Zone, Date, Time, NTP Server, Holiday options can be selected.

Highlight and press Time Zone ▼ to select right Time Zone.

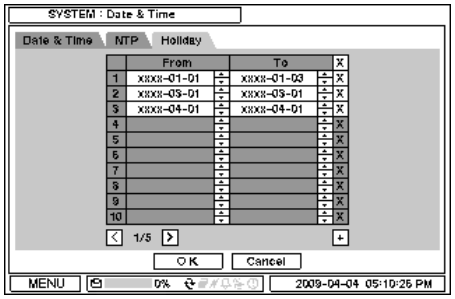
Select 'Use Daylight Saving Time' if it is applicable. Enter start and end date/time for local 'Daylight Saving Time'.

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



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.

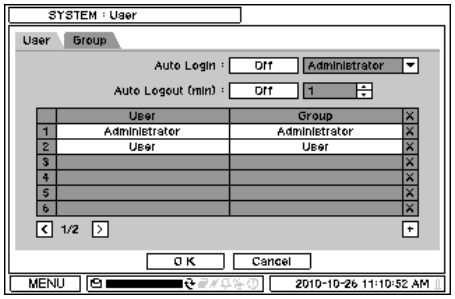
Note: NTP is not essential for DVR operation. Any type of Standard Time Server can be used (e.g. time.windows.com). Time Synch might not be completed due to heavy traffic or delays from the Time Synch server.

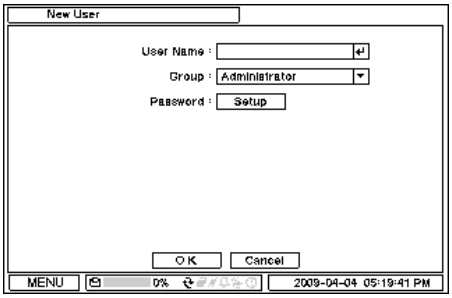


Press Holiday to set specific dates for Holiday setup. Set specific date by pressing + button. Change and delete dates using ▲▼ and X buttons.

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

2-1-3. MENU > SYSTEM > User



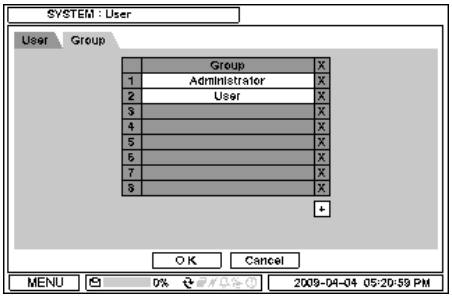


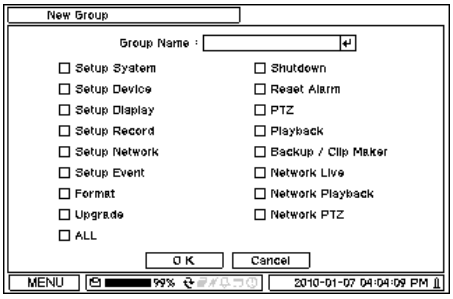
Press User Tab to enter/add a new user.

Auto Login: It allows a user to log in right after the system boots up automatically. As a system allows auto log in without the authentication process please make sure DVR has a limited access by non authorized personnel.

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.

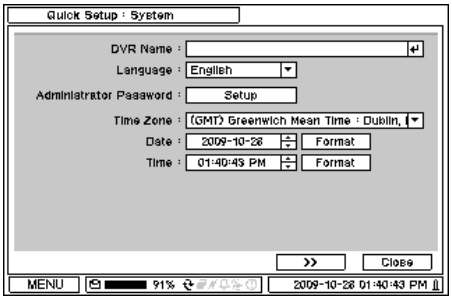
Note : DO NOT have to enter Current password when setting password for the first time as there is no default password for Administrator/User.

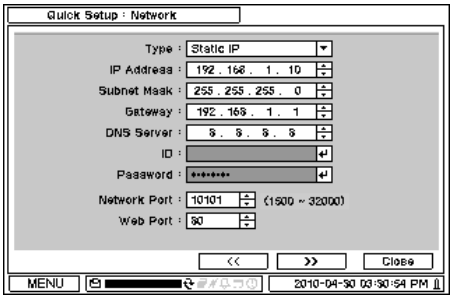


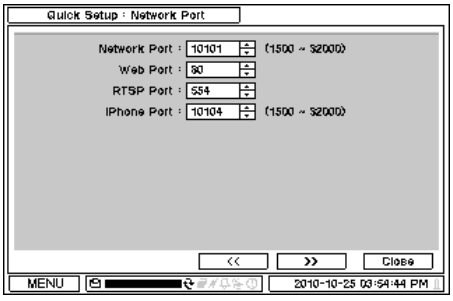


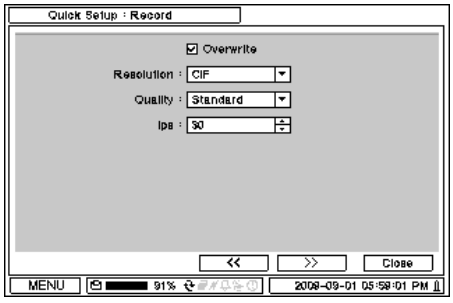
Set user registration and access rights for the system. Press Group tap to add and set group. Press [+] to add a new group. Enter a group name and select access rights for a group. To remove an existing Group, press [X] next to it.

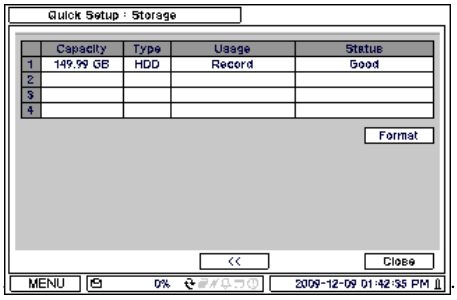
2-1-4. MENU > SYSTEM > Quick Setup





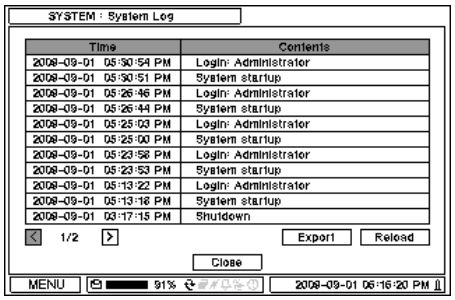






Quick Setup Menu allows easy and basic setup for main menu settings.

2-1-5. MENU > SYSTEM > System Log



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

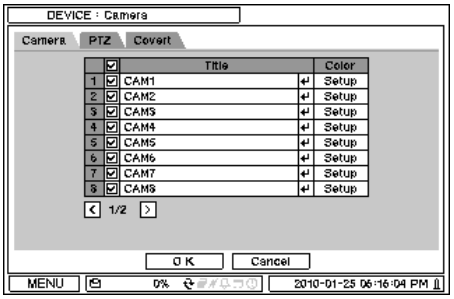
Press [Reload] button to refresh log list. USE [<] [>] button to search log list page by page.

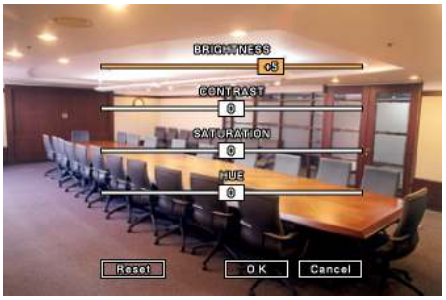
Log list can be export in txt format.

2-2. DEVICE

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

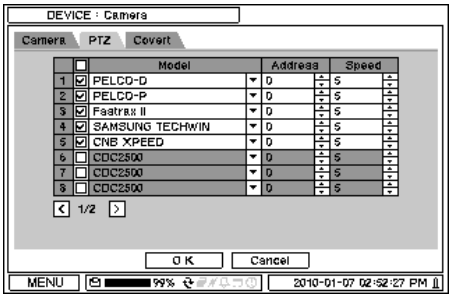
2-2-1. MENU > DEVICE > Camera





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 ↵ to change Camera title.

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



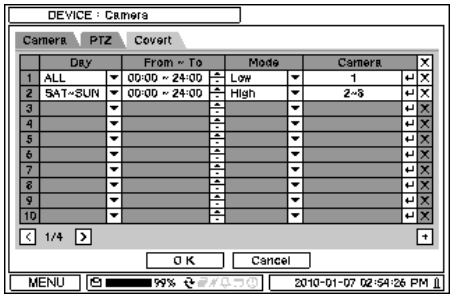
PTZ Control

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



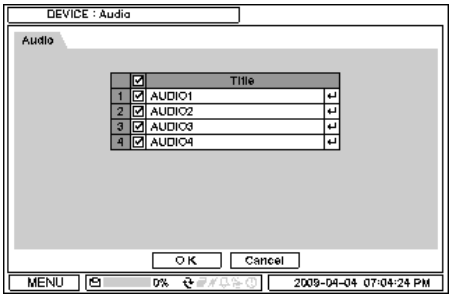
Covert Setting

Covert setting allows the privacy on monitoring. If Covert is set, live image will not be displayed. Covert can be scheduled by day, time and mode by cameras.

Covert Low Mode: No display of video image on screen but OSD still remains on screen.
Covert High Mode: Neither of video image or OSD will be displayed on screen.

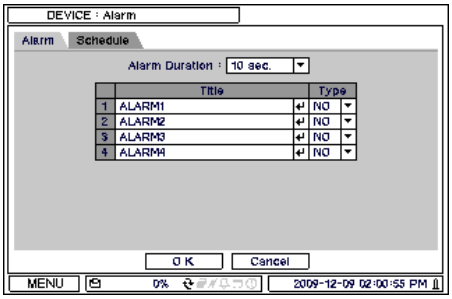
Note: Any Covert options will not affect recording data as it only changes monitoring conditions.

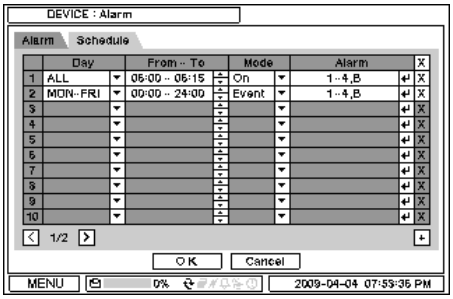
2-2-2. MENU > DEVICE > Audio



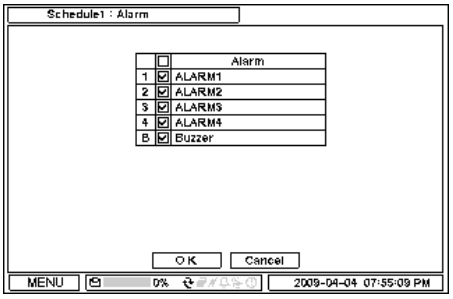
Select Audio for Audio recording.

2-2-3. MENU > DEVICE > Alarm



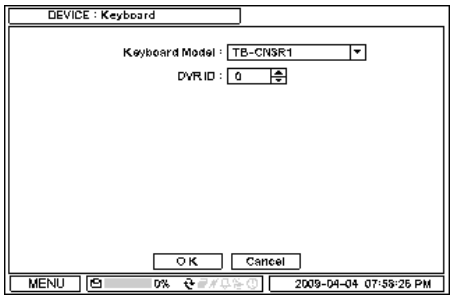


Alarm duration: Set Alarm activation time from 5 seconds to 10 minutes.
Select Schedule tap to schedule Alarm operation. Alarm can be set by day, time, mode and inputs (camera).



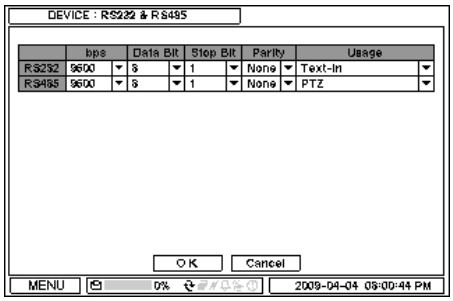
Press ↵ to choose Alarms and set Buzzer with Alarm activation.

2-2-4. MENU > DEVICE > Keyboard



Press ▼ to find and select keyboard from the list.

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



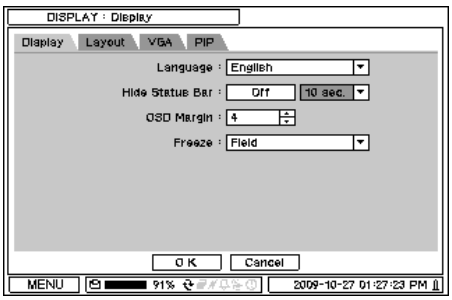
Press ▼ to select a device for each ports.
RS232: Supports Text In (POS) device. PTZ and Keyboard
RS485: Supports Text In (POS) device ,PTZ and Keyboard.

Note: Text In devices (e.g. Cash Register) needs to use ASCII code for Text In info on DVR

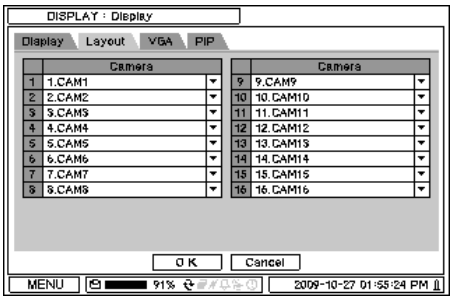
2-3. DISPLAY

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

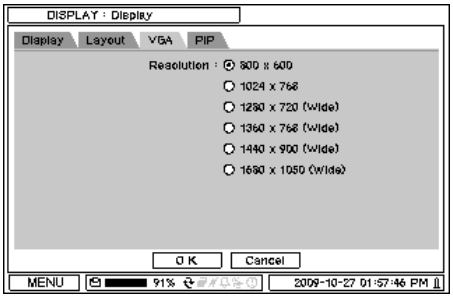
2-3-1. MENU > DISPLAY > Display



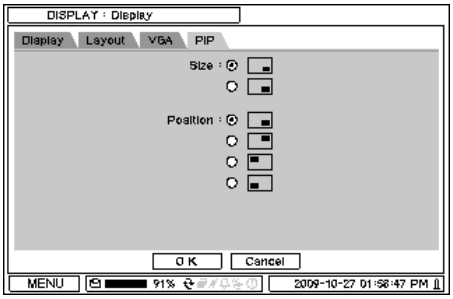
Language: Select system language. Press ▼ to find available language options.
Hide Status Bar: Select On/Off and time to hide Status Bar when system is not in use.
OSD margin: Set OSD margin (position) using ▲▼.
Freeze: Display an image in either Field or Frame format when it is in still (freeze) mode.



Layout: Allows to change or reallocate video inputs' (cameras) displays.

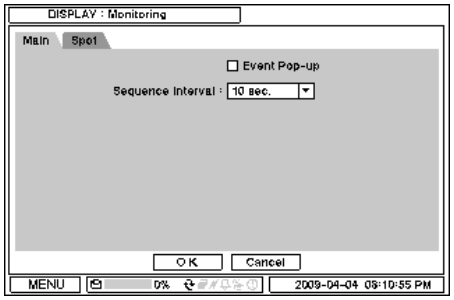


Various resolution options are available for different types of monitors. Please select monitor resolution under VGA tap menu.

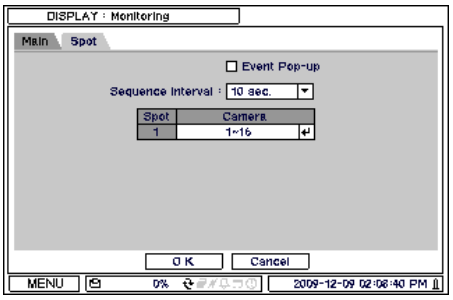


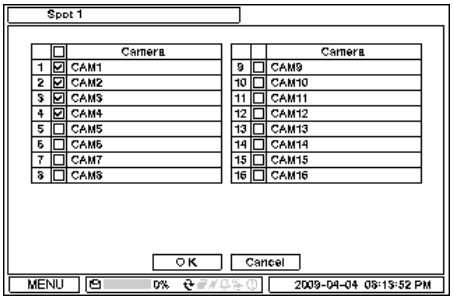
PIP (Picture In Picture) size and its display positions can be selected under PIP menu. Please select desired size and positions of PIP display.

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.



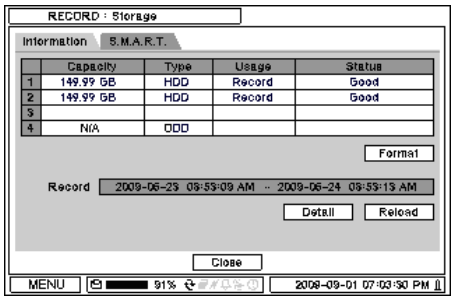


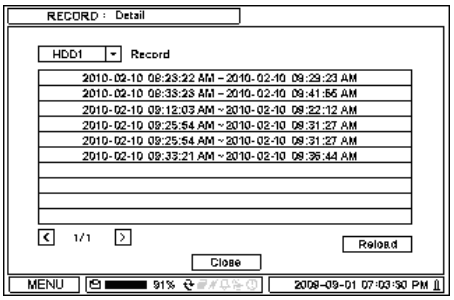
Event Pop-up: Pops up the camera image in full screen on spot monitors when pre-set event occurs.
Sequence Interval: Set time interval between cameras on spot monitors for sequencing.
Select camera display option on spot monitors. Spot outs support full and sequential camera displays. Press ↵ button to set single or multi cameras for sequential display on spot monitors.

2-4. RECORD

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

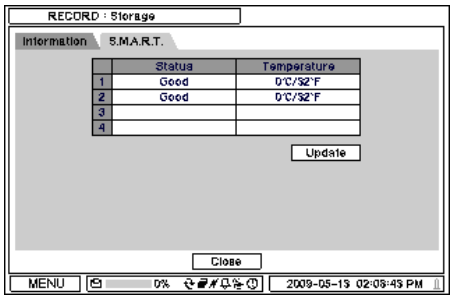
2-4-1. MENU > RECORD > Storage





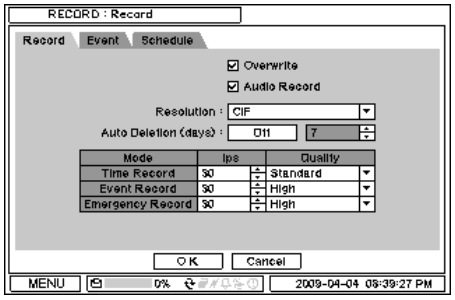
In Storage, it displays the installed/connected storage status such as Capacity, Type, Usage and Status.

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



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

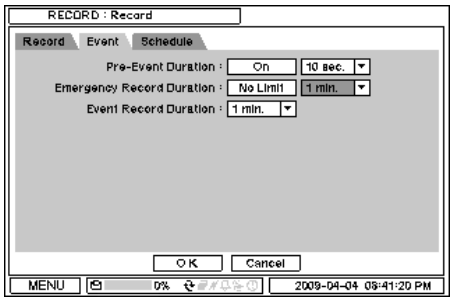
2-4-2. MENU > RECORD > Record



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.

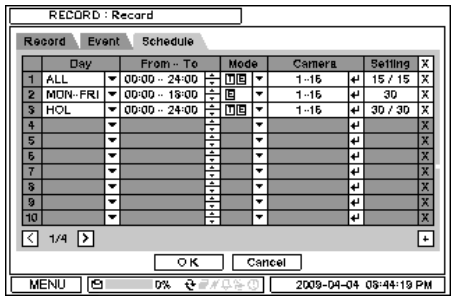


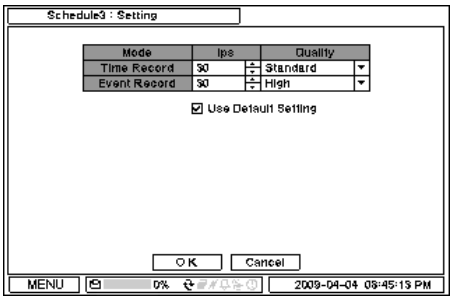
In Event, pre and post recording options for Event can be set.

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 30 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.



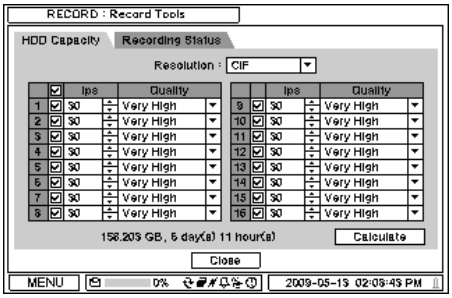


In Schedule, fully detailed and specified recording schedules can be set by day, time, modes, cameras and recording options.

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



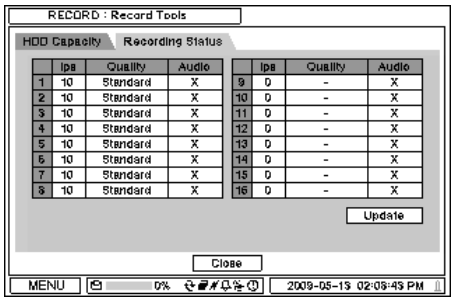
In Record Tools, estimated HDD usage and recording period can be calculated. Press Calculate once resolutions, ips, number of cameras and quality are set. The recording period is calculated based the size of HDD installed.

The GB size shows the HDD size requires for a day recording. Day and Hours shows the period can be recorded based on the installed HDD size.

Note: The calculation results show approximate data only. Same frame rate and video quality does not guarantee same storage size and recording duration. This is due to the variety of conditions on images such as more/less colors or more/less movements. This situational variance will affect the file sizes more at lower frame rate settings.

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

Note: approximate size for each resolution – CIF: 360X240, Half D1: 720x240, D1: 720x480

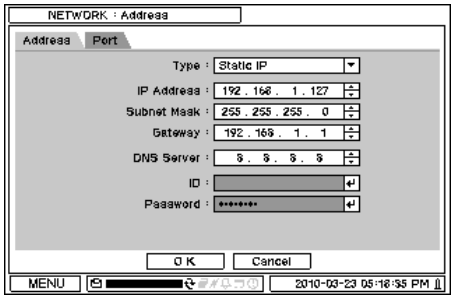


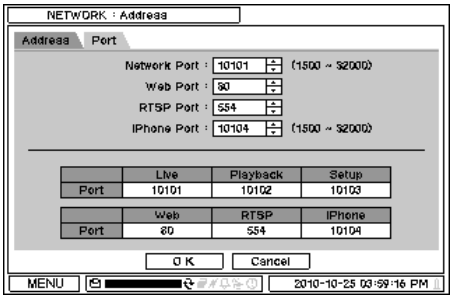
In Recording Status, current recording options and status are displayed.

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





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

Type: Select the type of network configuration from: Static IP, DHCP and ADSL(with PPPoE).

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.

Network Port: Set port for DVR Remote Client.

Web Port: Set port for Web Remote Client.

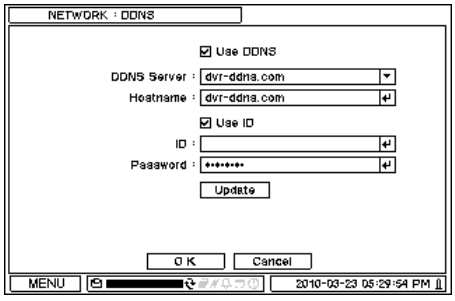
RTSP Port: Set port for Android based devices.

iPhone Port: Set port for iPhone.

Note: ID and Password are required in ADSL(with PPPoE) type.

Note: Default TCP port is 10101 but it can be set from 1500 to 32000 if it is necessary.

2-5-2. MENU > NETWORK > DDNS



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

DDNS: Dynamic Domain Name Server allows dynamic network connections.

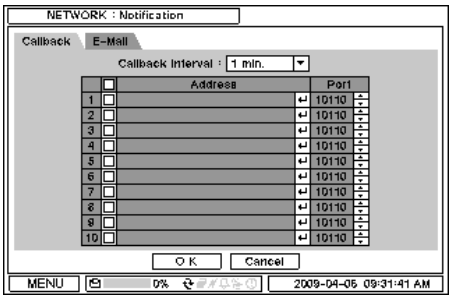
Note: "dvr-ddns.com" and "www.dyndns.org" offer free registrations for DDNS service. Please refer to the appendix for DDNS set up page.

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.

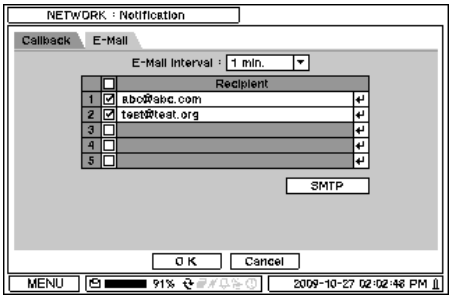
2-5-3. MENU > NETWORK > Notification

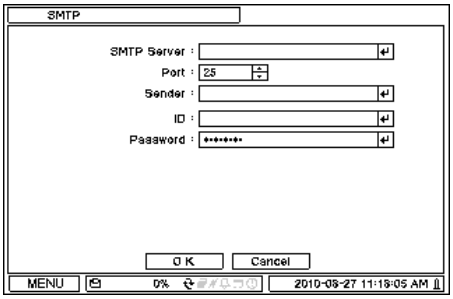


In Callback, set up IP addresses of client sites so that Events detected in local system can be notified to multi remote client sites simultaneously. Enter IP addresses of client sites to receive events notifications on remote sites. Press ↵ to pop up the virtual keyboard.

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.





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

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

Recipient: Enter the email address of a recipient. Up to 5 recipients can be entered.

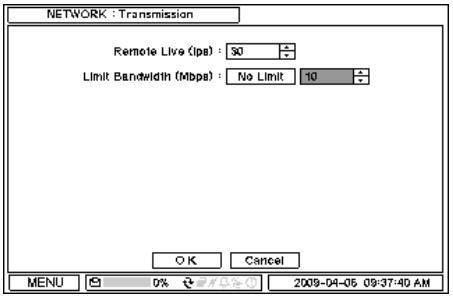
Note: Any events occur between the pre-set interval time will not be sent to remote site. e.g. If the interval is set as 30 seconds, only the events occur every 30 seconds since the first event will be sent to remote site via email.

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.

SSL/TLS: Check SSL/TLS to send an email via an SMTP server requiring SSL authentication.

2-5-4. MENU > NETWORK > Transmission



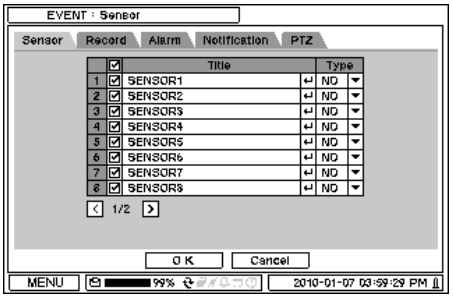
In Transmission, Network transmission can be controlled with ips and bandwidth.

Note: Max. ips on Network transmission is 120ips@16ch-DVR and 60ips@8ch-DVR.(NTSC)

2-6. EVENT

Under Event menu, events can be set in synchronization with Sensor, Motion, Video Loss, Text-In, System.

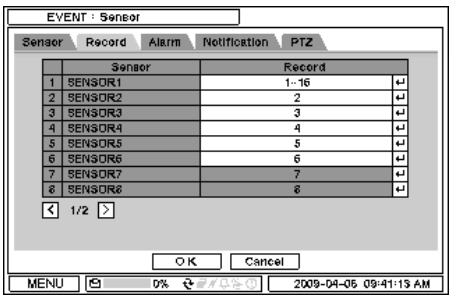
2-6-1. MENU > EVENT > Sensor

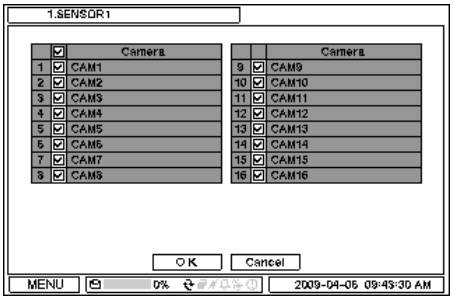


In Sensor, each sensor can be selected for activation and its type. Select Sensor Type using ▼ button.

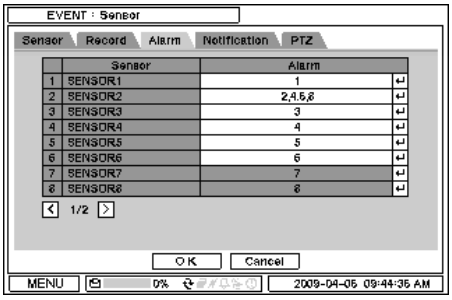
NC: Normally Closed

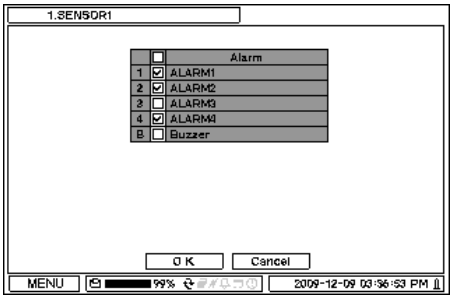
NO: Normally Opened



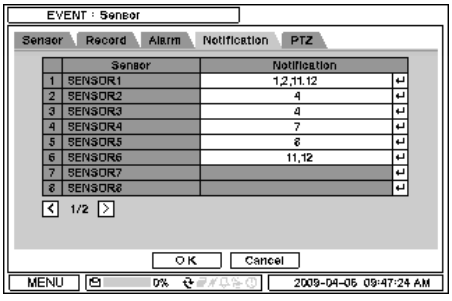


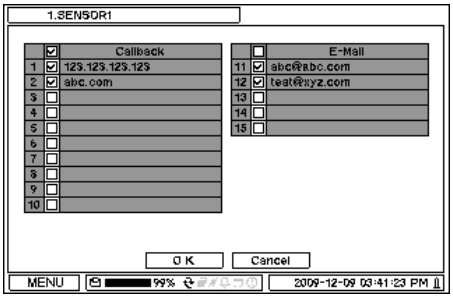
In Record, each sensor can be synchronized with single and multi cameras. Press ↵ to select cameras to be synchronized with sensors.



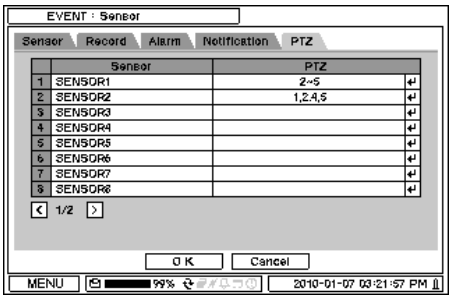


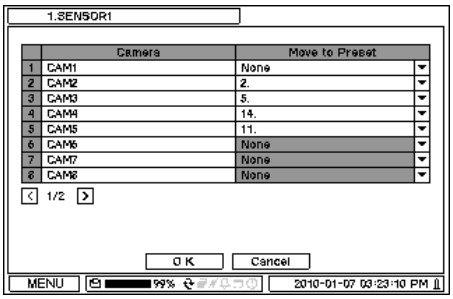
In Alarm, each sensor can be synchronized with single and multi alarms. Press ↵ to select alarms to be synchronized with sensors.





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.

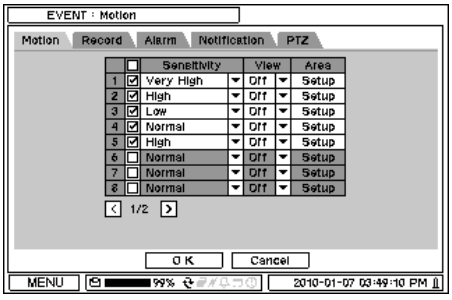




PTZ can be sync with Event using its preset function. If Event occurs, PTZ moves to the position where event and positions are pre set. The above menu shows, Sensor 1 is set to sync to cameras 2,3,4 and 5. If you click PTZ section, PTZ preset (position) can be set for cameras in the event of Sensor activation.

PTZ event related preset can be synch only with Sensor/Motion/VideoLoss events. If there are multi events occur to a camera at same time, it takes events in order of Sensor > Motion > VideoLoss.

2-6-2. MENU > EVENT > Motion

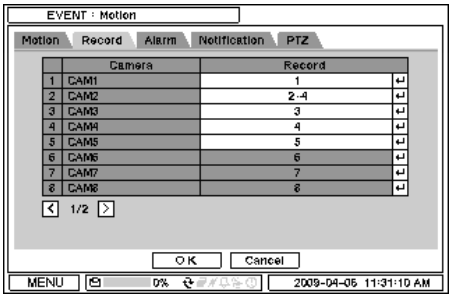


In Motion, system provides Motion Detection function. Set Motion Detection using Sensitivity, View and Area options.

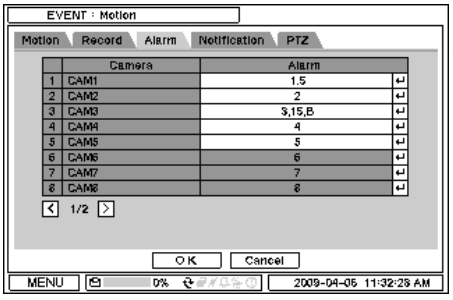
Sensitivity: Select motion sensitivity from Very Low to Very High.
View: On or Off the appearance of motion zones on screen when motions is detected.
Area: Define the area for motion detection.

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

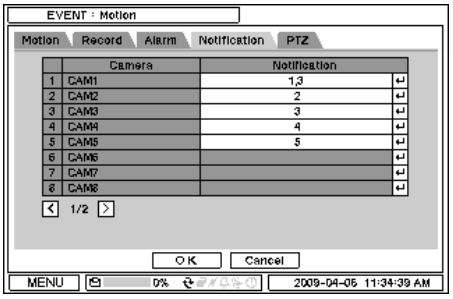
Select Block: Use arrow keys to move around a box. Select individual blocks to set motion zones. Use number keys to select and unselect blocks (When using a mouse, use a left button).
Clear Block: Unselect all blocks inside a box
Select All: Select blocks on entire screen.
Clear All: Unselect blocks on entire screen.



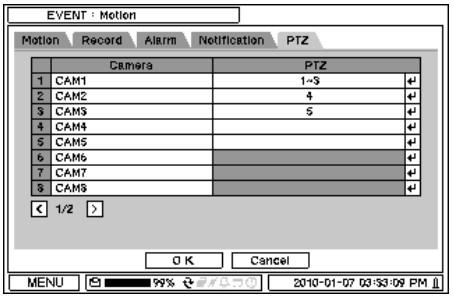
In Record, each camera can be synchronized with single and multi motion detections from other cameras. Press ↵ to select cameras to be synchronized with motions detections.



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

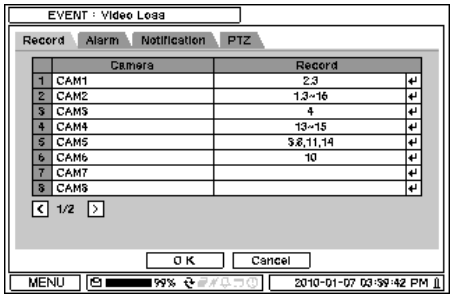


In Notification, each camera with motion can be synchronized with single and multi callback or emailing sites. Press ↵ to enter callback or email address to be synchronized with cameras for motion events.

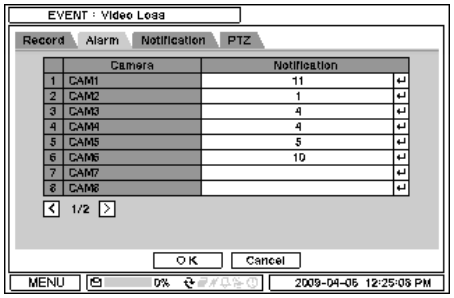


PTZ can be sync with Motion event using its preset function. If Motion is detected, PTZ moves to the position where event and positions are pre set.

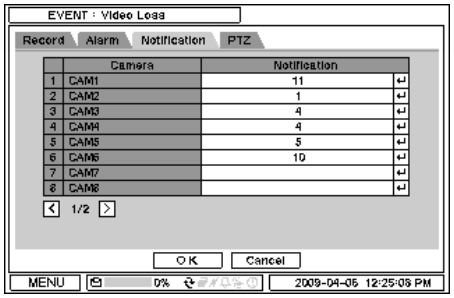
2-6-3. MENU > EVENT > Video Loss



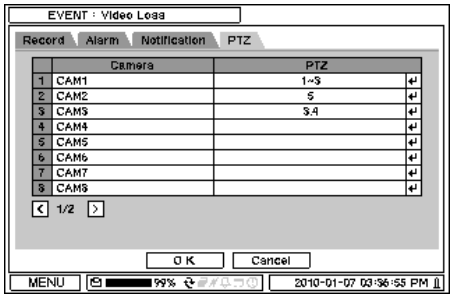
In Video Loss, single or multi cameras can be synchronized for event recording when there is a video loss. Press ↵ to select single or multi cameras to be synchronized with cameras for video loss.



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.

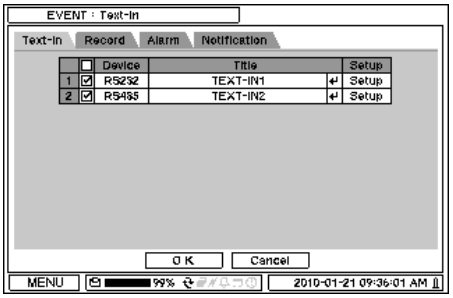


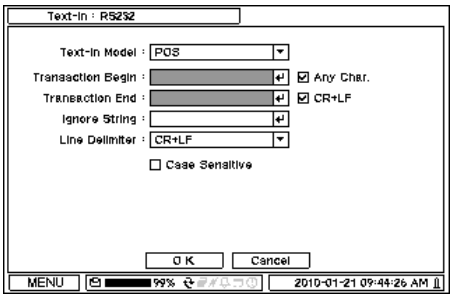
In Notification, each camera with video loss can be synchronized with single and multi callback or emailing sites. Press ↵ to enter callback or email address to be synchronized with cameras for video loss.



PTZ can be sync with Video Loss event using its preset function. If Video Loss occurs, PTZ moves to the position where event and positions are pre set.

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

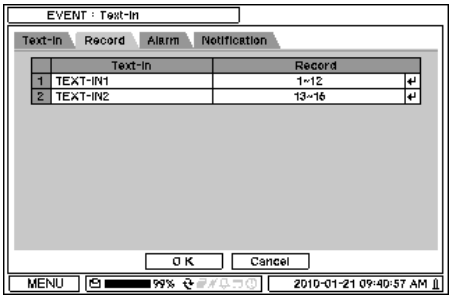


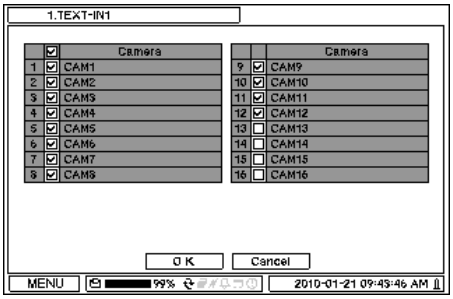


The system allows Text In from POS/ATM machines.

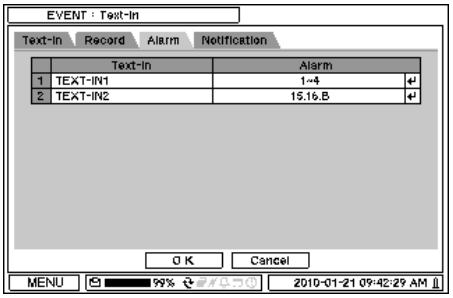
Note: For use of POS/ATM, the system must support general ASCII code.

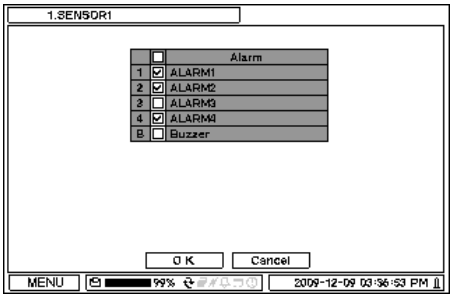
Text-In Model: Select Text-In model from the list
Transaction Begin: Enter a word which the transaction info to be displayed on screen as a start.
Any Character: Check Any Character to start display a text with any character as a start.
Transaction End: Enter a word of last line where the transaction 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.
Ignore String: Enter a word to ignore strings includes selected word.
Line Delimiter: Enter a symbol or a word to distinguish the end of lines.
Case Sensitive: Select Case Sensitive option if distinguish a word with case sensitivity.



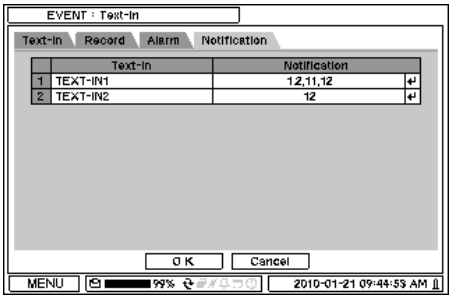


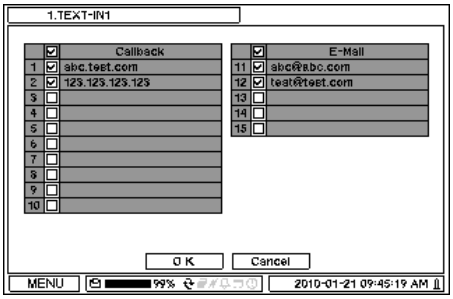
In Record, text event can be synchronized with single or multi camera record. Press ↵ to select camera(s) to be synchronized with text event. If RS232/RS485 Port are being used at the same time, it has to be used for different cameras. For example, if RS232 is set for cameras 1~12, RS485 should be set with 13~16. They can't share same cameras.



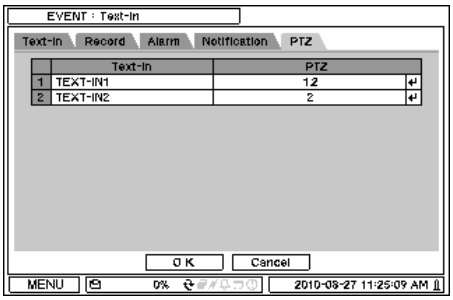


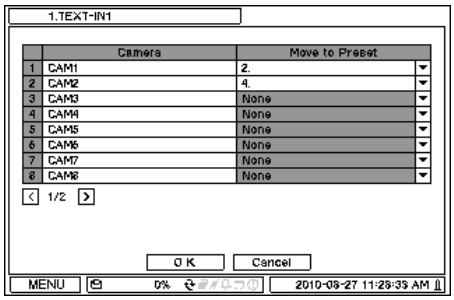
In Alarm, text event can be synchronized with single or multi alarms. Press ↵ to select alarms to be synchronized with text event. If B is selected, system will buzz on alarm detections.





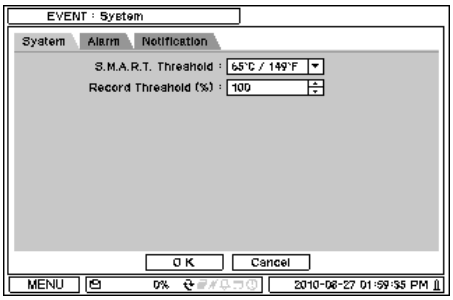
In Notification, text event can be synchronized with single and multi callback or emailing sites. Press ↵ to enter callback or email address to be synchronized with text event.





In Text In, each text input can be synchronized with single and multi cameras. Press ↵ to select cameras to be synchronized with text inputs.

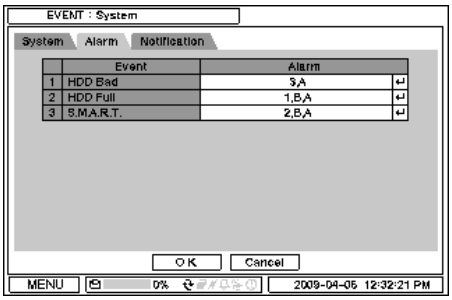
2-6-5. MENU > EVENT > System

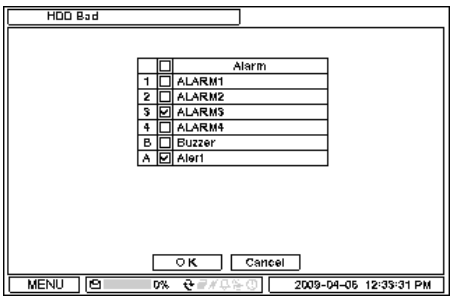


In System, S.M.A.R.T function monitors storage conditions such as Temperature, Conditions and Recording.

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.

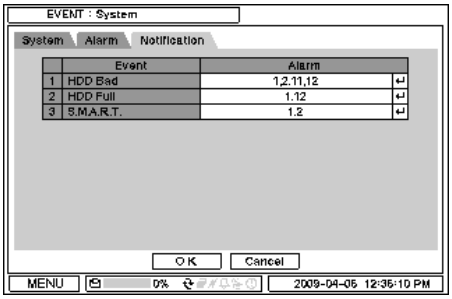
Record Threshold option can be set to notify a message for the indication of HDD storage usage level. Warning message can be notified in various ways as described below.

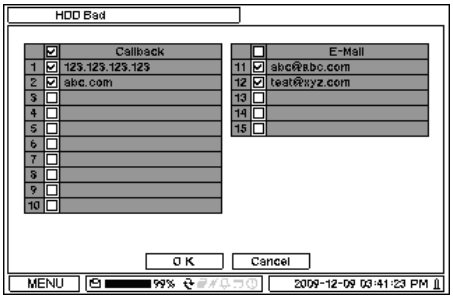




In Alarm, each system event can be synchronized with single and multi alarms. Press ↵ to select alarms to be synchronized with each event. If Alert is selected, system will pop up a

warning message on screen.

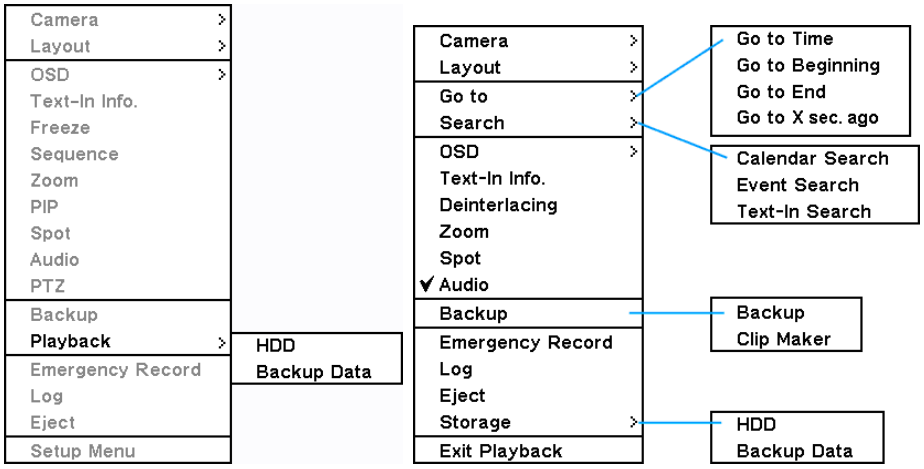




In Notification, each system events can be synchronized with single and multi callback or emailing sites. Press ↵ to enter callback or email address to be synchronized with system events.

3. Playback

The system provides various playback menu to search recorded data. Please click right Mouse button on Search Mode and select the storage type. If backup data is selected, the data on external HDD can be searched.



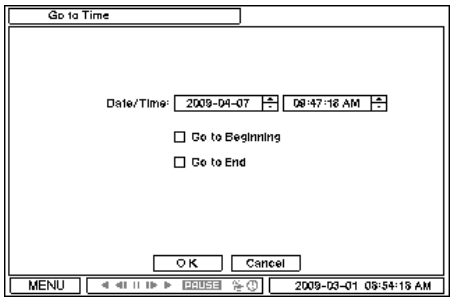
Camera : Select camera no.
Layout : Select display mode (8/16 ch. DVR Only)
Go to : Search recorded data by time/date. Move to the beginning or end of recorded data. Also search data by 5/10/15/30/60 seconds backward from the current time of search.
Search : Select Calendar Search, Event Search and Text In Search

OSD : Select OSD display option
Text-In Info.: Select Text display option for POS or ATM machines.
Deinterlacing: De Interlacing for D1 resolution
Zoom : Zoom in image by X2
Spot : Select each spot monitors' display
Audio : Select Audio outs

Backup : Select backup or Clip Copy option

E. Record : Start Emergency Recording
Log : Select System/Event log
Eject : Open installed ODD
Storage : Select playback storage option
Exit Playback: Exit Search Mode and return to Live Mode

3-1. Go to Time

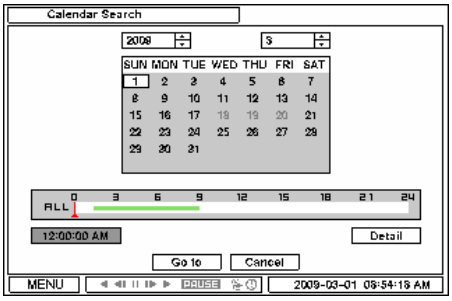


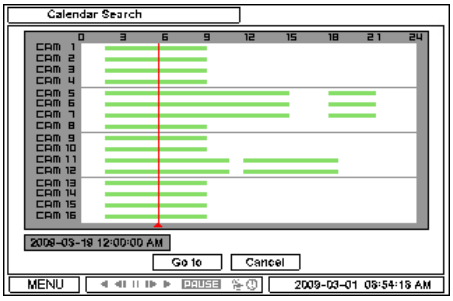
Select Go to Time to search recorded data by time/date. Set time/date using ⇕ button. Go to Beginning and End options are selectable to search the very first and last data recorded. Once desired settings are completed, press OK to begin playback.

Go to Beginning : Move to the very first recorded data.

Go to End : Move to the latest recorded data.

3-2. Calendar Search

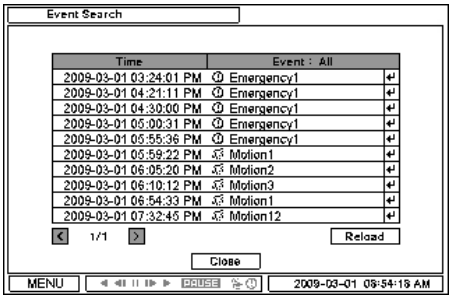


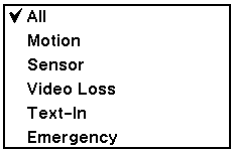


Calendar Search provides easy graphical search by displaying numbers (dates). Dates with recorded data will be highlighted. Once you select the date, it will display record time table below. The numbers on the top of the table shows the time frame in 24hours format, and titles on the left indicate cameras 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





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 tope 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

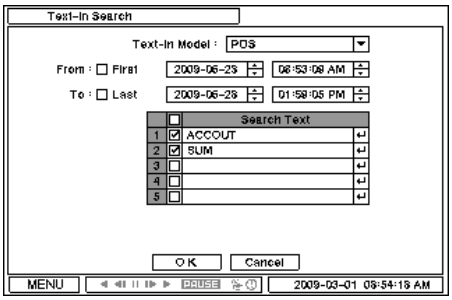
Video Loss: System displays every events related to Video Loss

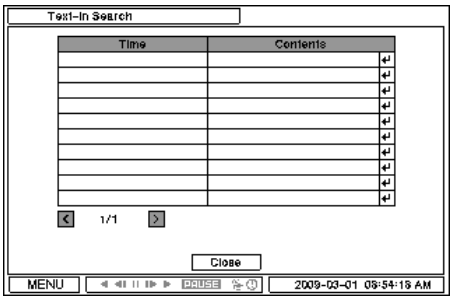
Text-In: System displays every events related to Text In

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



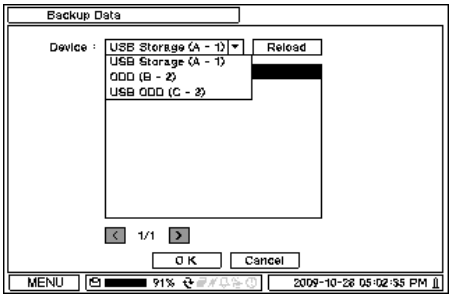


Text In Search provides easy search by transactions. Search for Time and Transaction information. Press Search for detail information.

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. Backup Data Playback



Backup files on backup medias can be played on DVR. Insert the media with backup files and select a file to playback it on DVR.

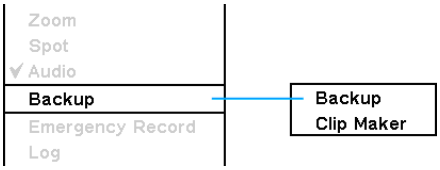
3-6. Playback Control

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

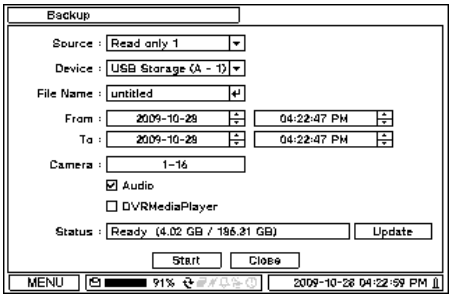
To control the backward and forward playback speed, press on ◀ or ▶ repeatedly. Playback speed can increase up to x32.

4. Backup

Recorded data can be backed up on USB Flash memory. Select backup or Clip Copy option during Search or Live mode by selecting Backup.



4-1. Backup



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.

The files saved (backup) in DVRMediaPlayer (.exe) format allows multi camera backup and the files would not require any specific codec for playback on PC. To open and play a file saved in DVRMediaPlayer (.exe), double click the file and it will automatically be played on Internet Explore window. This fuction is supported only on Internet Explorer 7.0 or above.
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."

Note: During the CD or DVD back up the ODD door could be opened and closed as a process of back up. Please do not remove CD or DVD during the back up in any cases until it is done completely.

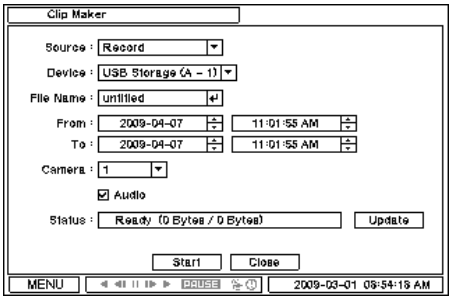
4-2. Instant Backup

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.

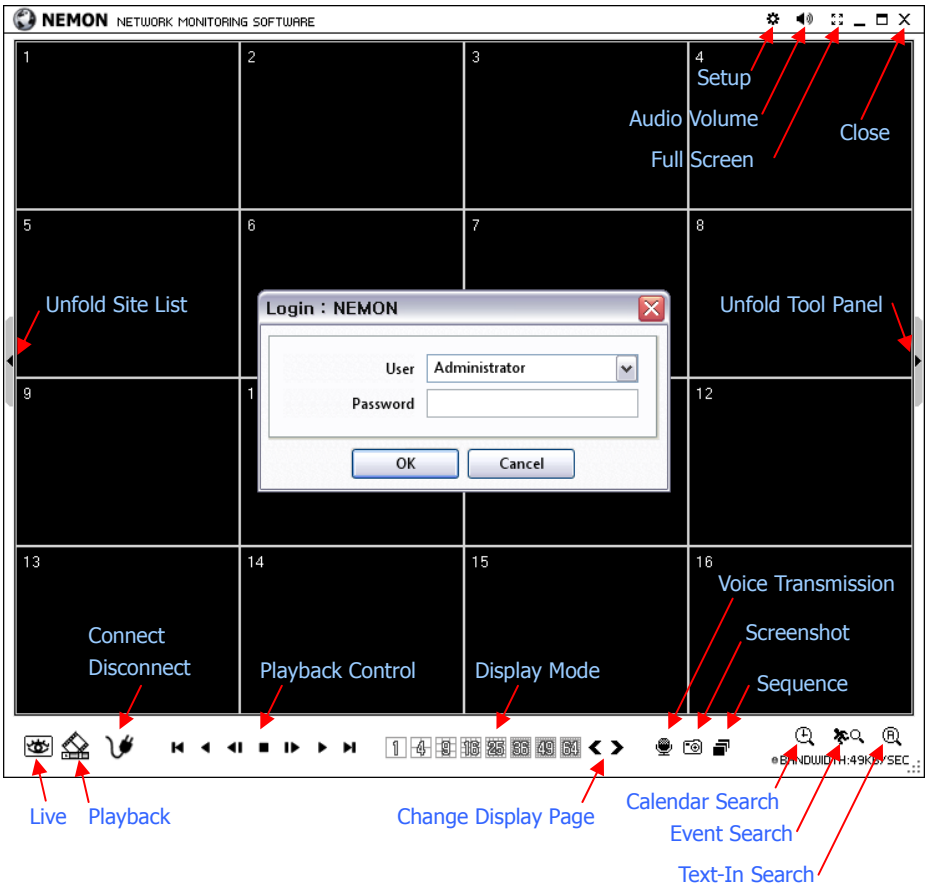
Chapter 4. Remote Software NEMON

1. Using NEMON

1-1. Starting the Software

Double click on 'Nemon2' icon on PC to run the software.
Main screen of the remote software appears as shown below.

Note: A minimum resolution should be more than 1024 x 620; and a recommendable one is over 1280 x 1024.



The Log In window will appear when Nemon program starts. Select user level as each user will have different authority level over the system control depend on the pre set up. Enter OK once the user level is selected as the default password is 'none'.

Live: Click the image to enter the live mode.
Playback: Click the image to enter the playback mode.
Connect / Disconnect: Click button to connect a site as live or playback mode.

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

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

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

Voice Transmission: Click button to transmit remote voice to the local DVR.
Screenshot: Capture the current screen and save it as a image file.
Sequence: Display images on pre selected sites in sequence mode.

Setup: To change set up on Nemon S/W or a remote DVR.
Audio Volume: Click Audio icon to select audio volume and mute options.
Select a camera to receive Audio of the selected camera (highlighted in border lines).
Full Screen: Display image on full screen mode.
Close: Click the icon to close the software

The below options are only selectable under playback mode.

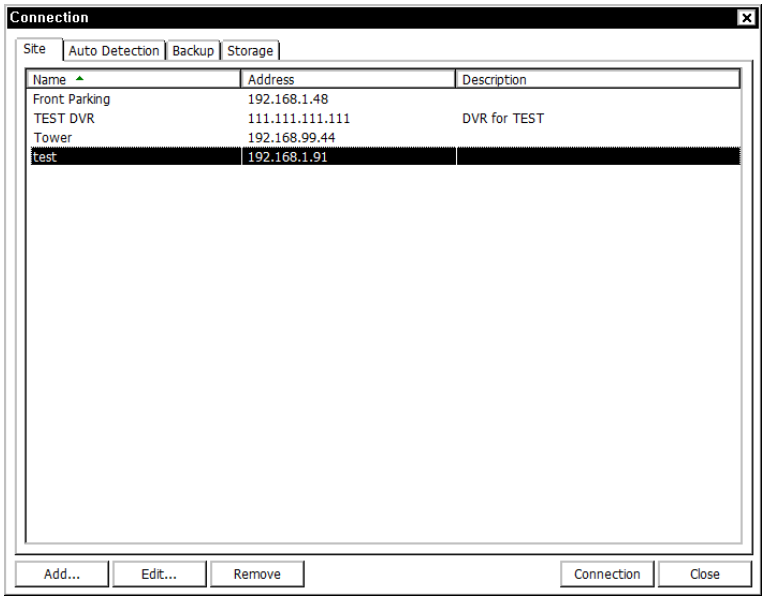
Calendar Search: Search data on a graphic calendar and time table.
Event Search: Search data using recorded event logs.
Text-In Search: Search data using recorded Text-In data from POS/ATM device.

Backup: Shows backup options as below:
- Save as MP4: Save the recorded data in MP4 file format.
- Backup: Backup the recorded data.

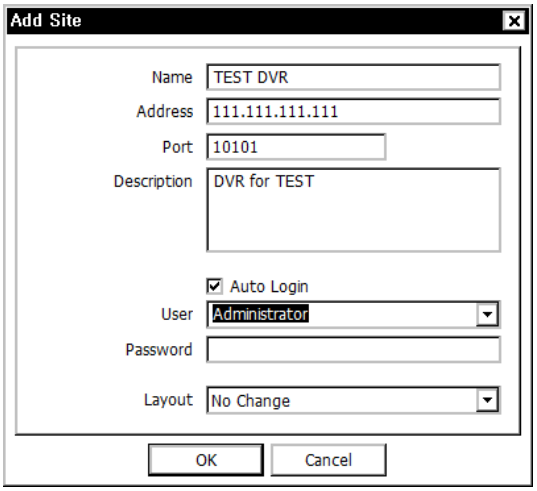
Storage: Select a storage type installed in the connected DVR. Either recording HDD or Archiving HDD can be selected for playback.

1-2. Site Set Up

Click [Connect] 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

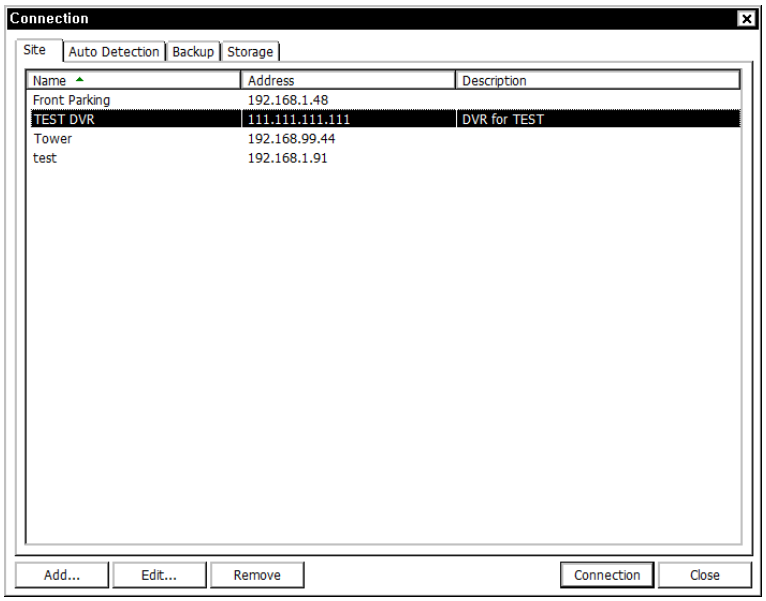
User: Select the type of user from the list

Password: Enter the password of DVR

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

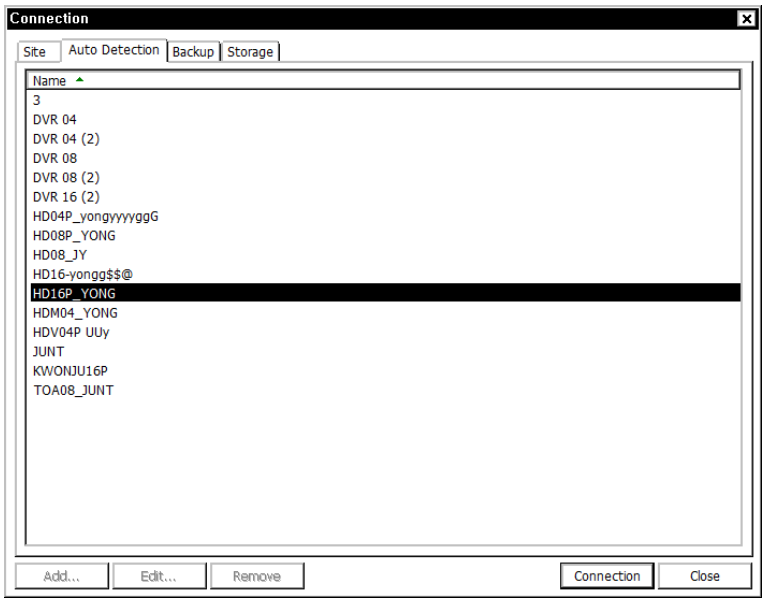
Note: Layout can be changed after begin connected using the display option on the menu.

Click [OK] to save information and complete the registration. Double click the location or Highlight it and click [Connection] button to get connected to the site.



The DVR and Client program on PC start searching each other once they are on the same local network. The Auto Detecttion menu shows the DVRS detected on the same local network.

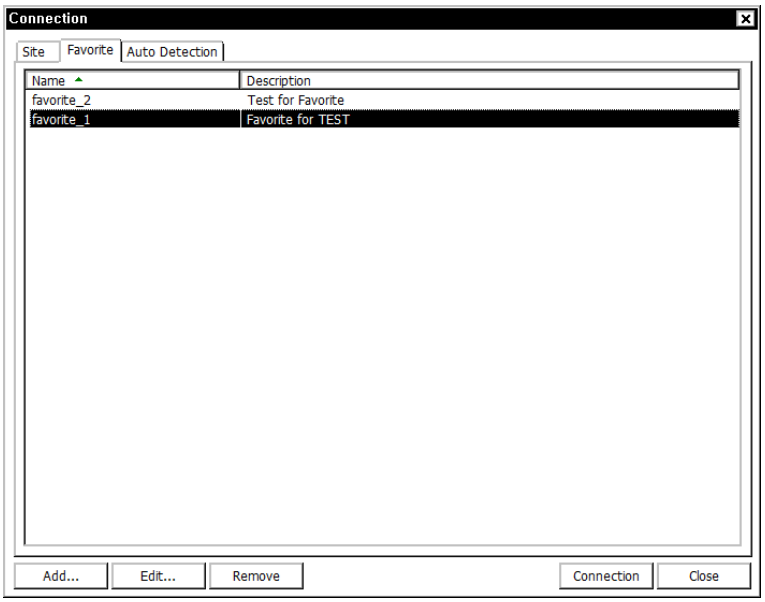
Note: This function is only available on local networks. No settings are required if both DVR and PC use DHCP. But if the Static IPs are used, DVR and PC need to have same subnet info and with different static IP addresses.



Note: Auto Detecttion finds DVRs on the local network automatically. To use this function, Apple® Bonjour® needs to be installed in PC. Please refer to http://www.apple.com/bonjour for more details and download.

1-3. Favorite Set Up

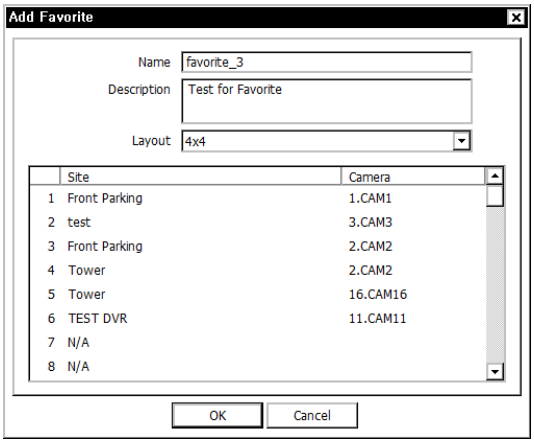
Favorite function allows multi site management. Up to 64 different cameras and sites can be monitored and managed on one screen. Select [Favorite] tap.



Click [Add] button to group multiple sties as one favorite group.

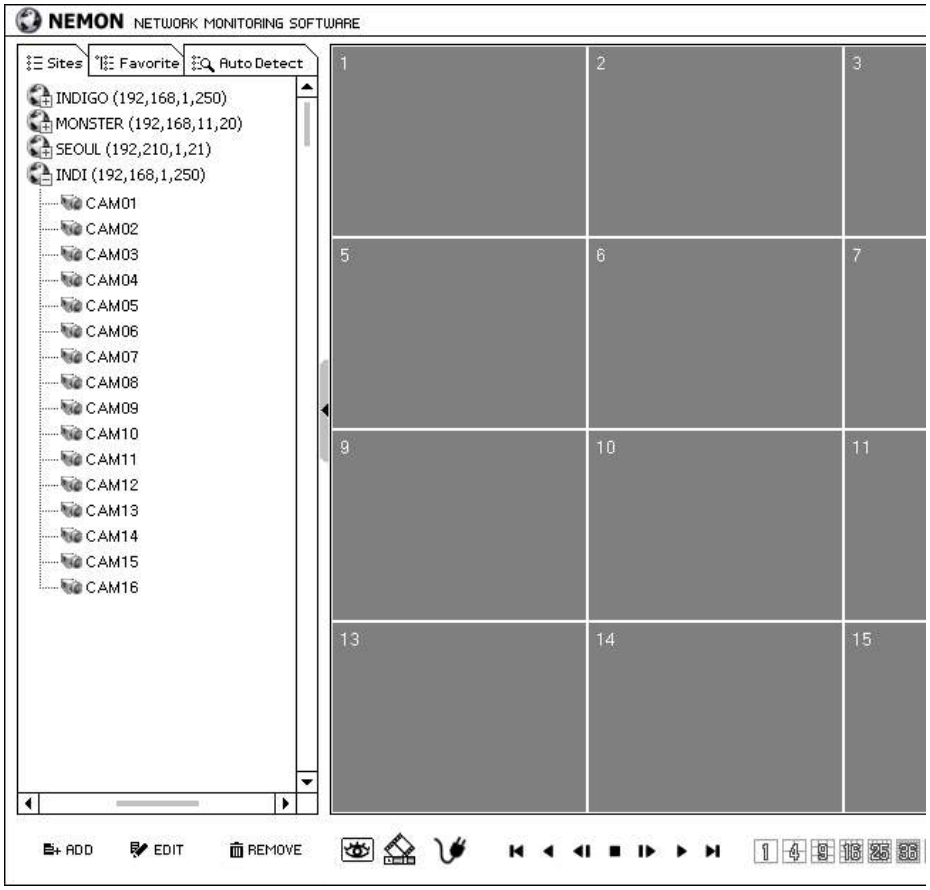
Enter the group name and description. Up to 64 different cameras or sites can be grouped and displayed together. Select sites and cameras from the drop down list by clicking ▼ button.

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



1-3. Site List Panel

The remote sites also can be registered on Site List Panel. Use ADD , EDIT , REMOVE buttons on the bottom to register and managed the remote sites and favorite sites.



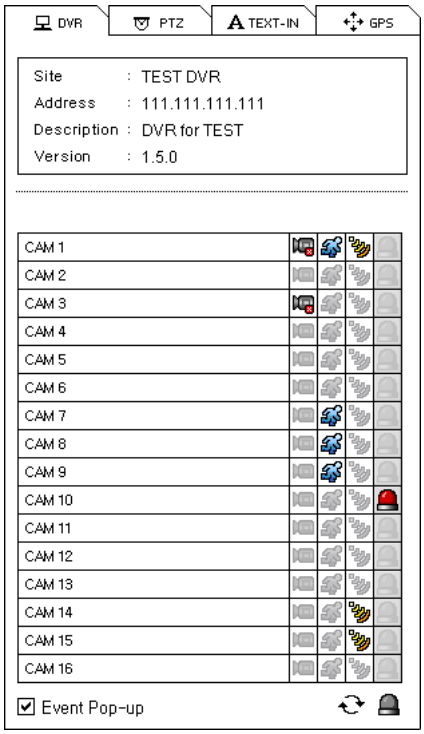
Drag and Drop the listed sites on to the display section to connect the sites. Each camera can be dragged and dropped to arrange independent displays. This allows making a display by a group of cameras from the different sites.

Once the group of cameras from the different sites has been set, move Favorite tap to save this new setting as a new Favorite site.

Note: Each camera can be dragged and dropped onto displays only in Sites. (not Favorites and Auto Detection)
Note: Camera positions (CH locations) can be exchanged or move around by Drag & Drop.

1-4. Tool Panel

1-4-1. DVR Status



DVR tap shows Video Loss, Motion Detection, Sensor Detection status of currently connected remote site. User can activate a remote alarm on DVR Status options.

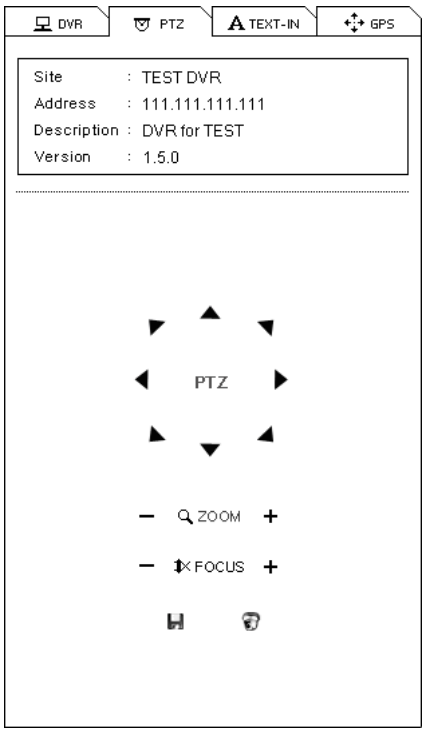
Reload: Refresh the latest DVR status info.

Reset Alarms: Turn off activated Alarms on the DVR.

Event Pop-up: Set event pop up option. A camera will be displayed in full screen mode in case of event. Set Pop up duration at Setup > System > Event Pop-up Duration.

Note: Event Pop-up will not be activated even it is checked when DVR status menu is hidden or other menu options (e.g. PTZ control) are being used.

1-4-2. PTZ

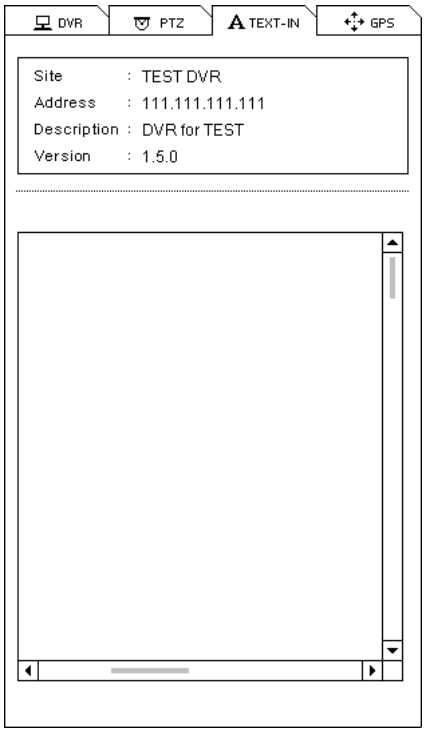


The second tap of Tool Panel is PTZ controller. Once DVR is connected in Live mode and select the PTZ view CH, it will display the site info and activate the PTZ controllers.

Set Preset: Save PTZ camera's current location. Up to 16 Presets can be saved

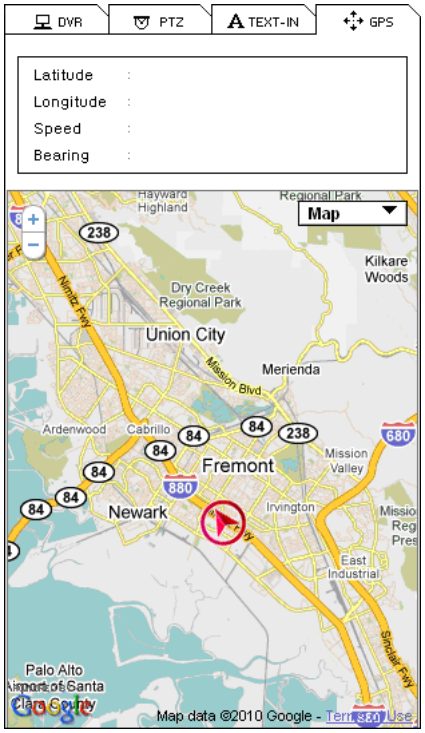
Move to Preset: Move PTZ cam based on the preset settings.

1-4-3. TEXT-IN



Displays recorded TEXT-IN info. TEXT-IN tap is activated under playback mode only.

1-4-4. GPS



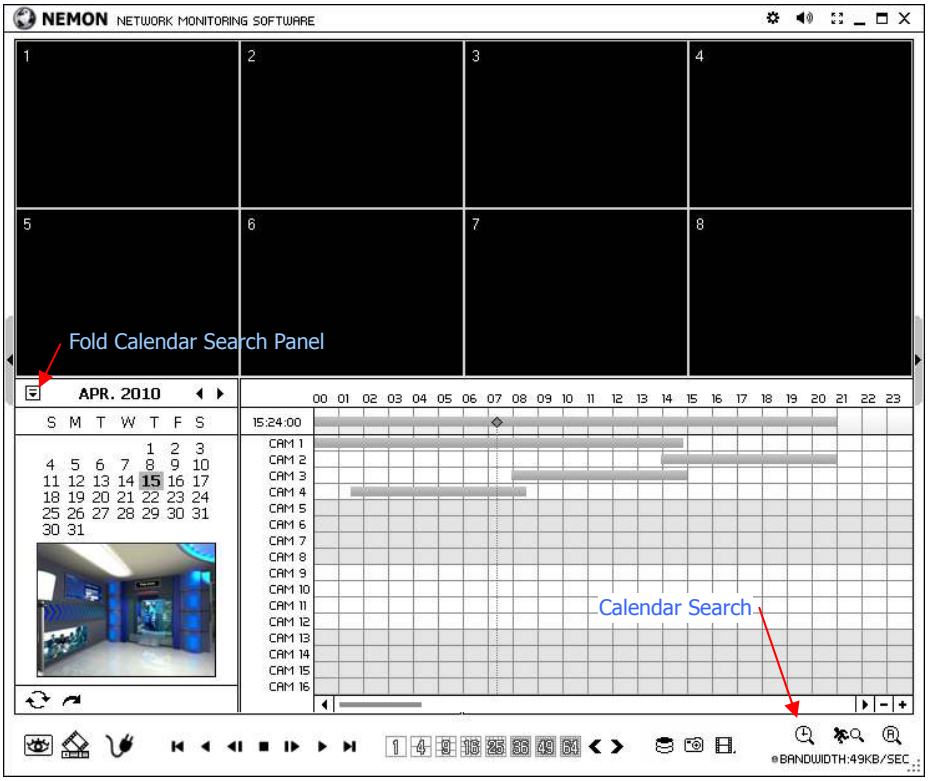
GPS is for Mobile DVR tracking under playback mode. GPS data is recorded with images using built in GPS on Mobile DVR. This data will be displayed on Google Map under playback mode.

Note: the GPS function isn't used for this DVR

2. Remote Playback

2-1. Calendar Search

Calendar Search Panel appears when a site is connected under playback mode as shown below. Time bar will appear once the date is selected and the image preview will appear when the specific time is selected on the time bar.



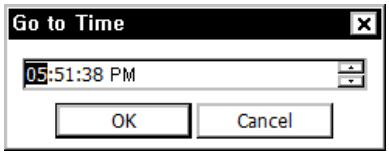
Use below buttons to control the playback image.

Playback Control Button

- Beginning
- Reverse Play / Rewind
- Step Backward
- Stop
- Step Forward
- Play / Fast Forward
- End

Go To Time

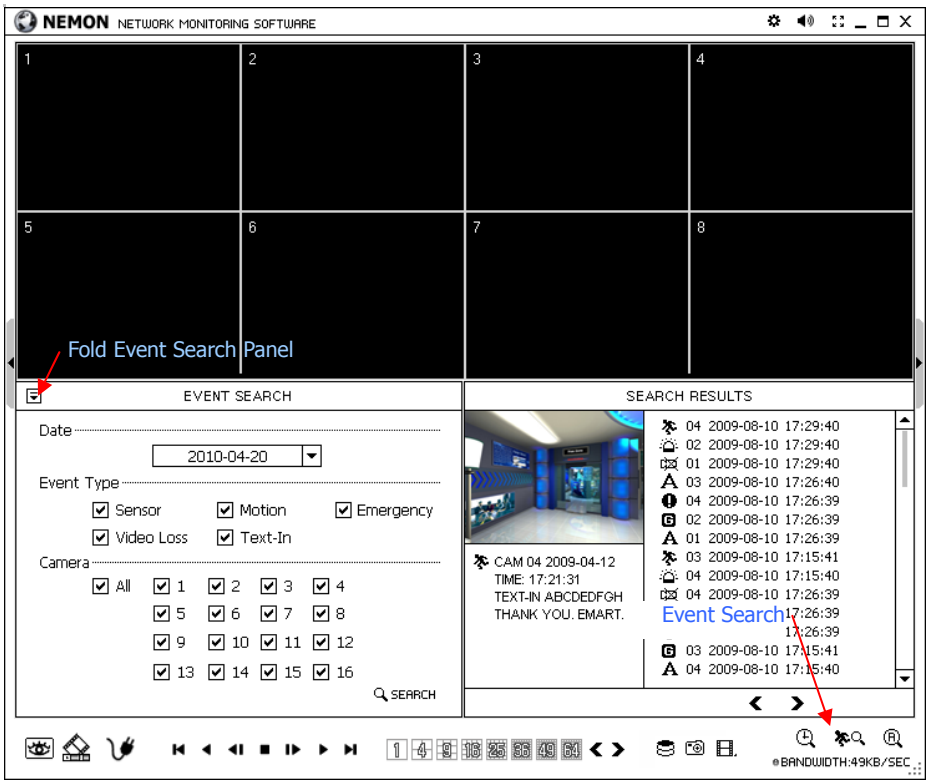
• Click on icon to display time search window. Enter specific time to search the data



• Click on icon refresh and update the calendar info.

2-2. Event Search

Select Event Search on the bottom of the screen to open Event Search Panel. Enter Date, Event Type and etc and select SEARCH button to retrieve the search results.

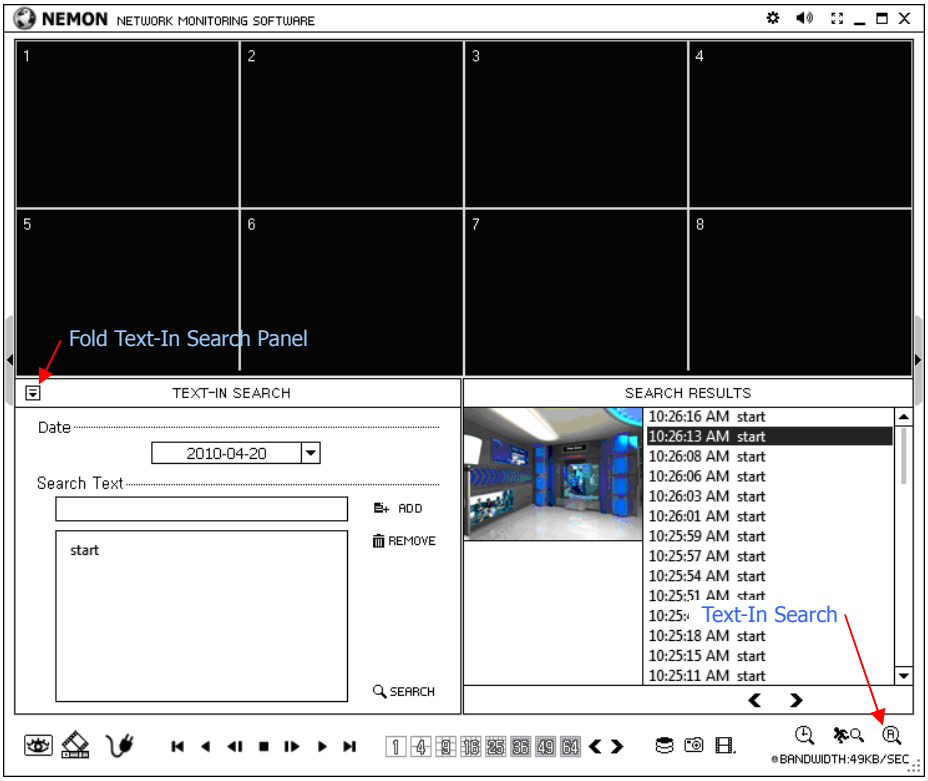


Select an event from the list for playback. Search trough the list using < > buttons.

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. Text-In Search

Select Text-In Search on the bottom of the screen to open TEXT-IN Search Panel. Enter Date and Text and select SEARCH button to retrieve the search results.



Select an text-in event from the list for playback. Search trough the list using < > buttons.

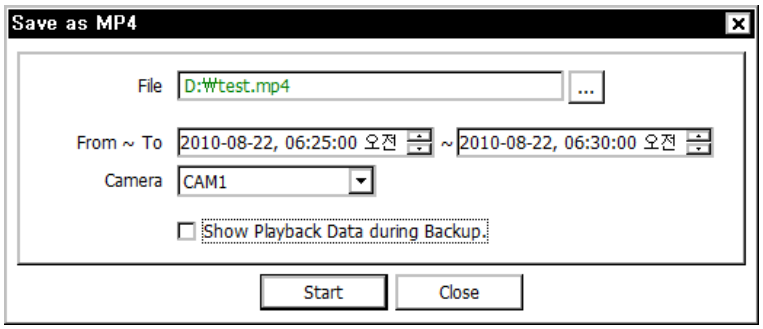
3-4. Saving the recorded data

Screenshot

Select button to capture the current image during the playback as show below. Select Save... button to save the image. The Image can be saved in JPEG, BMP and PNG format.

Save as MP4

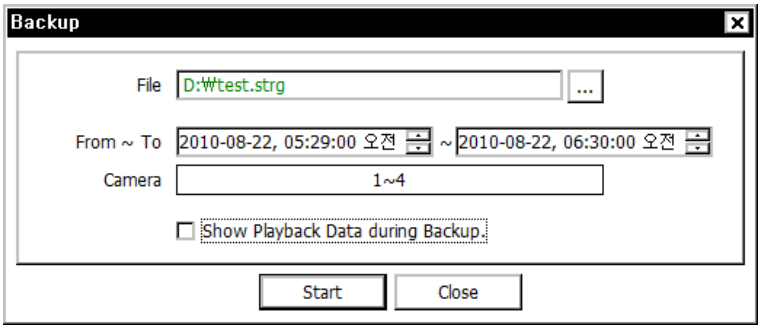
Select button during the playback and select "Save as MP4" to open the window as shown below to save data in MP4 format.



- Enter file name and select Location.
- Select the time period.
- Select Camera number. Press Start to create MP4 file.

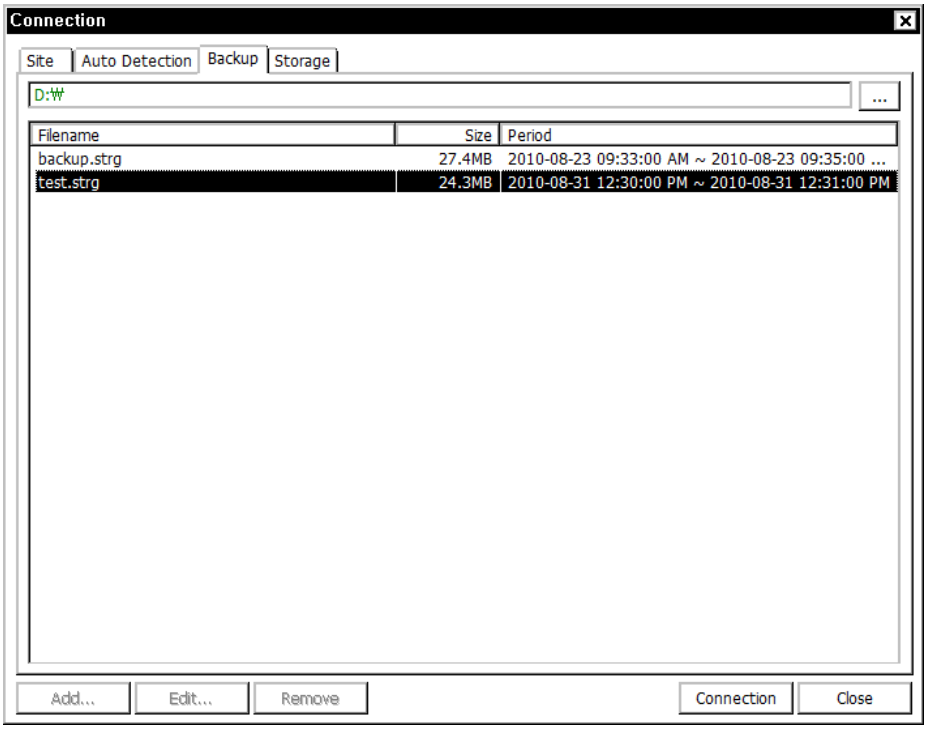
Backup

Select 🎞 button during the playback and select "Backup" to open the window as shown below to save data in own video format.



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

3-5. Play Backup Data

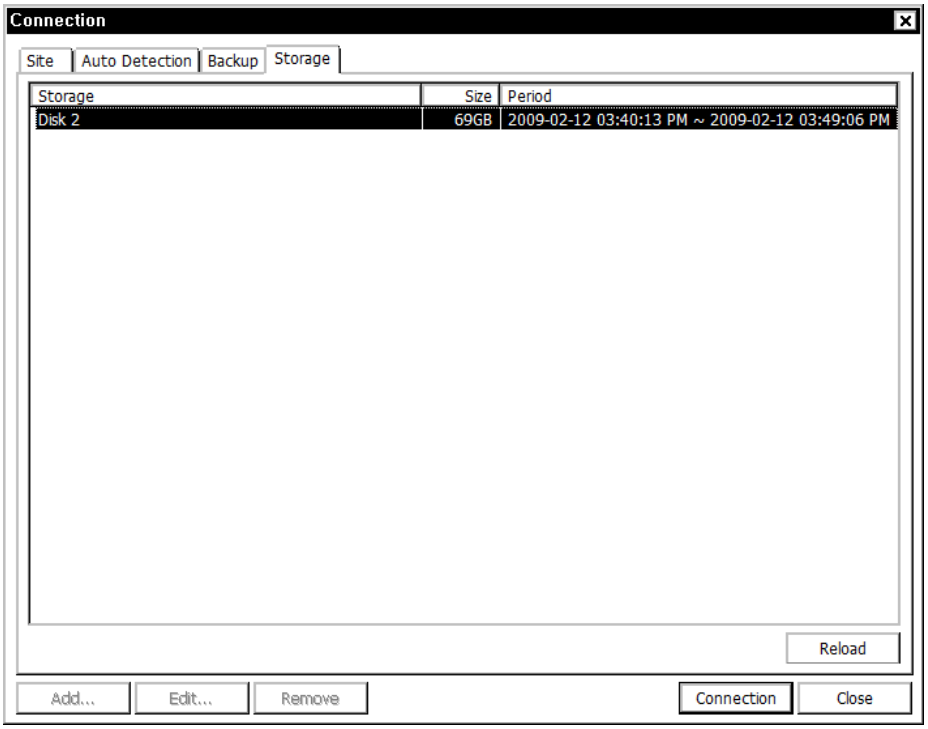


Backed up data from the local site can be played on the Nemon software.

Select button during the playback and above window will appear. Select the location where the data is saved. Select the file and click Connection to play the video.

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

3-6. Play Independent HDD Data on PC



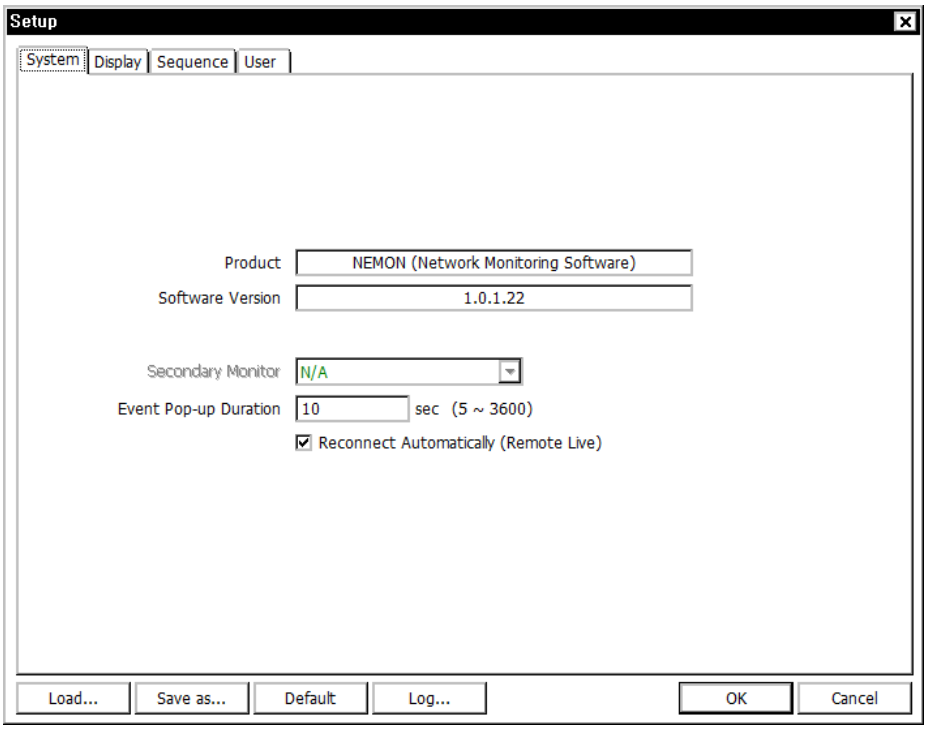
Independent HDD (removed from a DVR) data can be played on PC using Nemon S/W. Have the HDD connected to PC using a SATA to USB connector cable. Make sure the HDD is connected to PC properly

Select button during the playback. 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 [Connection] button.

4. Setup

4-1. Nemon Setup

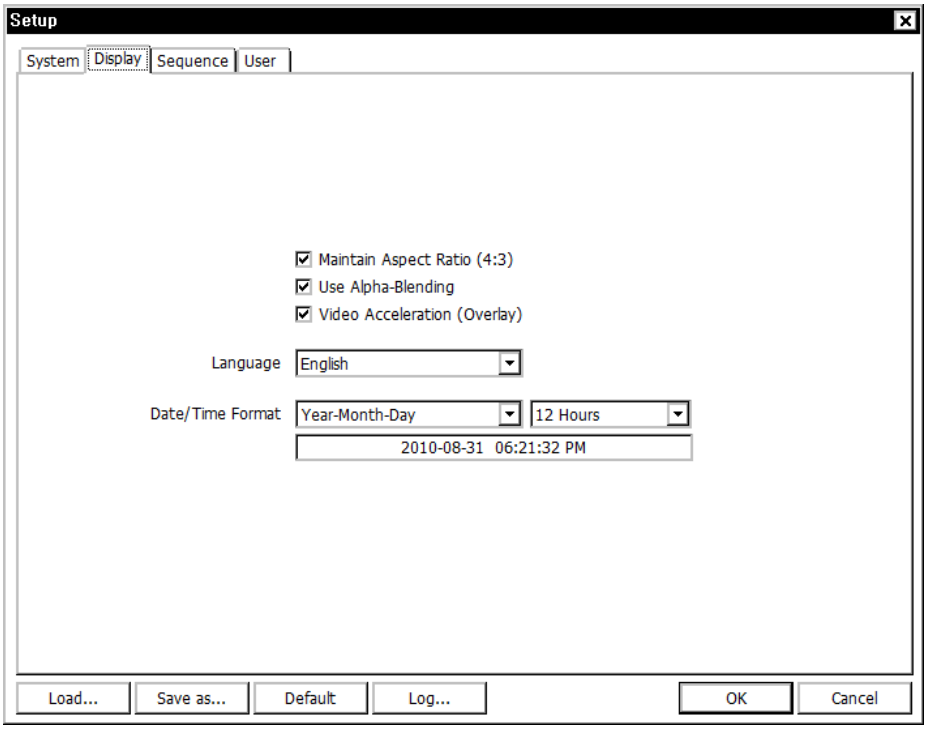
Click on ⚙ and Setup to enter Nemon setup menu.



Product: Displays general information of the S/W
Software Version: Displays current S/W version
Secondary Monitor: Select the secondary monitor when using multi monitors on PC
Event Pop-up Duration: Set the time duration for a camera display when it is displayed in full screen mode in case of event.
Reconnect Automatically: Set auto reconnection on Live if the connections is ended by any chances.

Load: Load saved data for settings for remote software
Save as: Save current settings of remote software
Default: Set default settings of remote software
Log...: Displays the history of S/W usage

Click on Display tap to enter display setup menu.

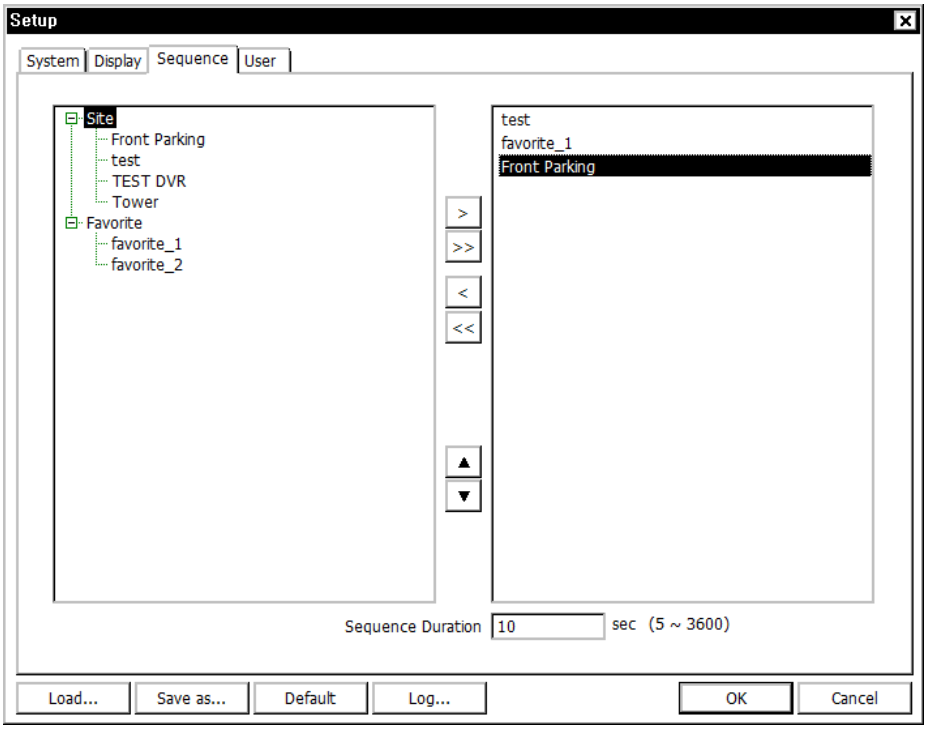


Maintain Aspect Ration (4:3): Keep 4:3 ration on Nemon display screen
Use Alpha-Blending: Enables alpha-blending effect to S/W UI
Video Acceleration: Video Acceleration option enhances natural live image display on the client S/W. Please do not select this option as it may cause improper live image display. 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

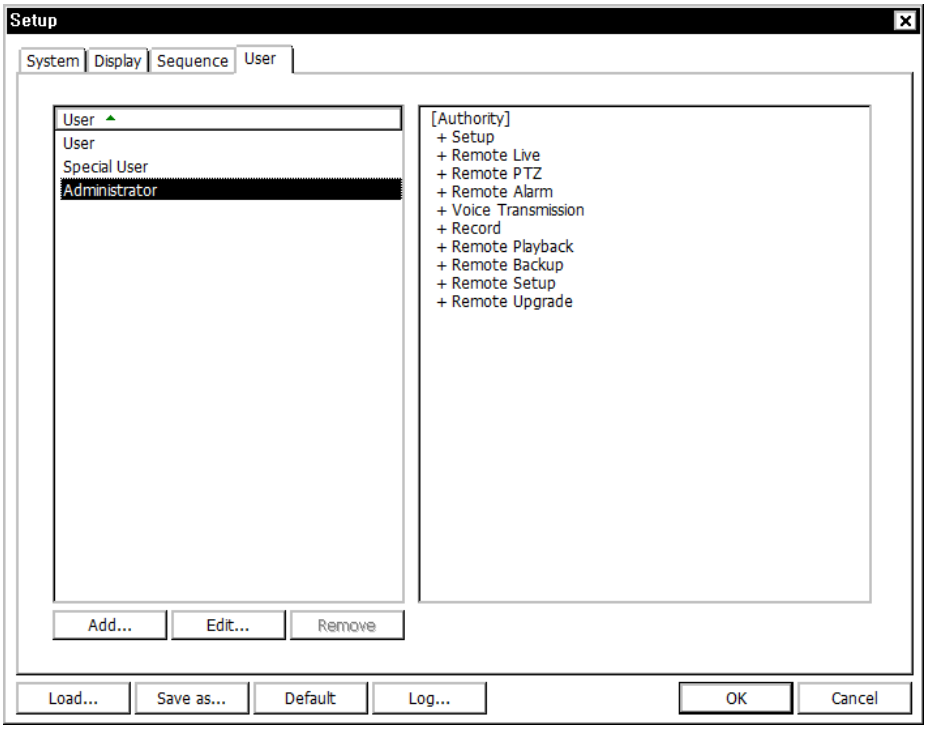
Click on Sequence tap to enter sequence setup menu.



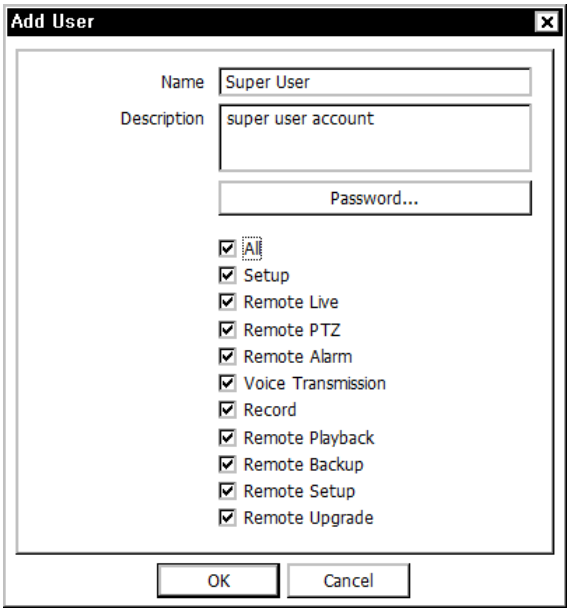
Set sequence mode and sequential sites from registered individual or Favorite sites. Click the site and select [>] button to add the site into the sequencing list. [>>] button will move the all sites to into the sequencing list.

Sequence Duration: Set sequence interval time.

Click on User tap to enter user setup menu.

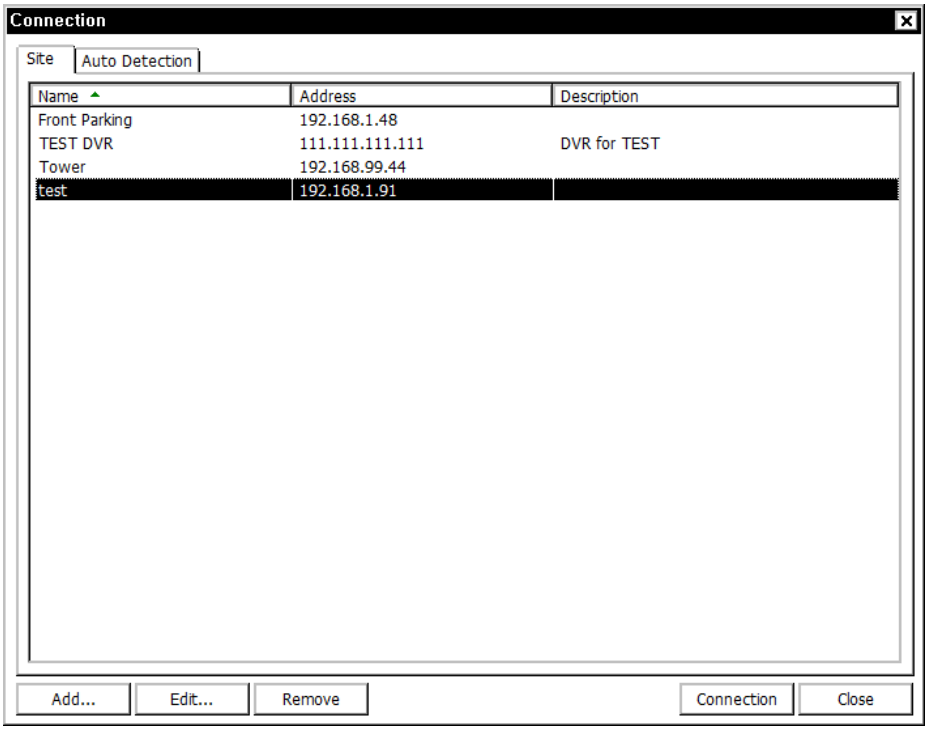


Register Nemon Software users. Each user needs to use the password they set in registration when they log in. Select Add to start new user registration.

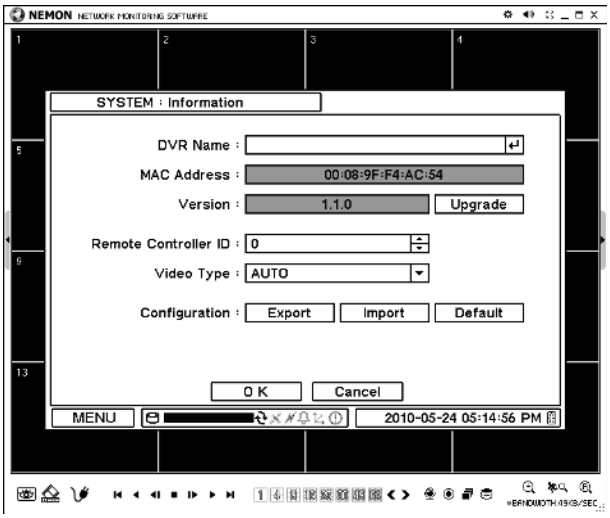


4-2. Remote Setup

Click on ⚙ and [Remote Setup] to enter remote setup menu.



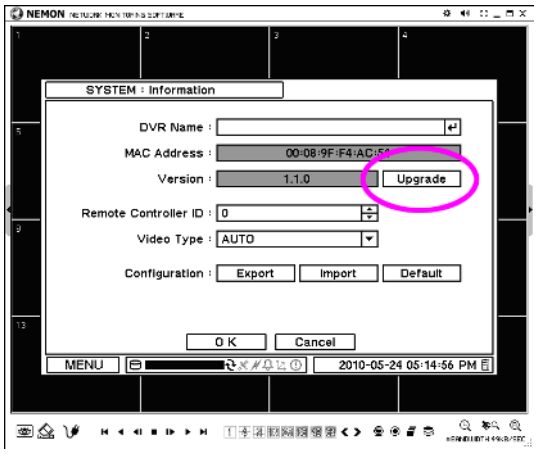
Select a DVR for setup and select Connection button. Setup menu will appear as show below once it is connected

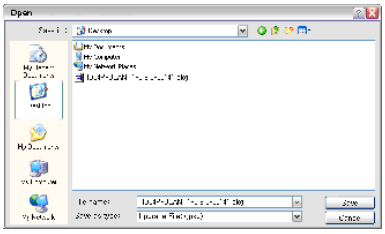


Note: The remote software provides interactive setup system that allows easy local DVR settings from remote sites. It gets exactly same menu and options as the local system.

4-3. Remote Upgrade

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



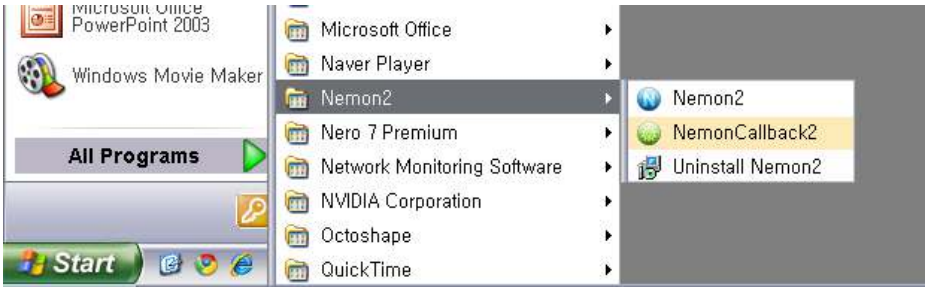


- Click on ⚙ and [Remote Setup] to enter remote setup menu.
- Select Information under System.
- Click [Upgrade] next to S/W version to find a file for upgrade
- Select the file location and the file to upgrade the system.

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

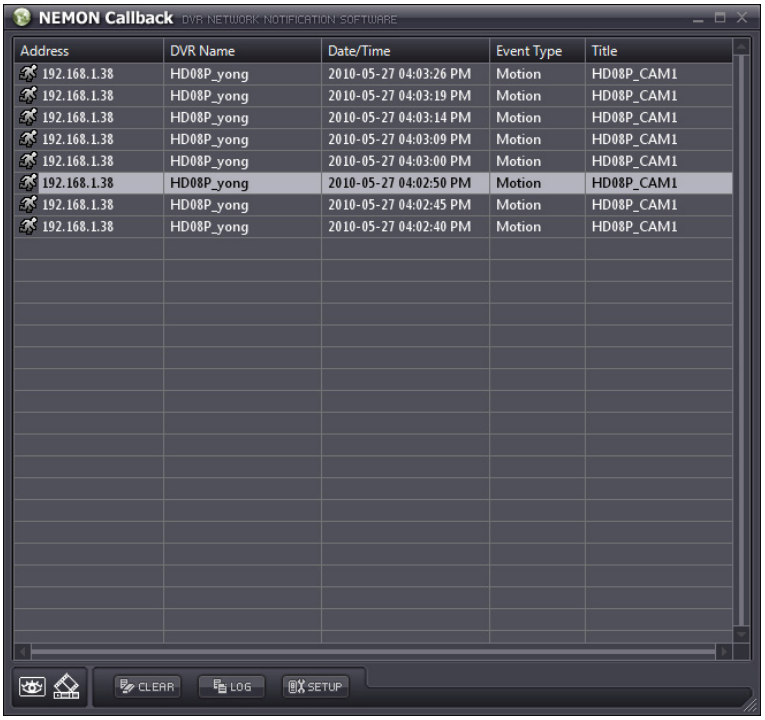
5. Nemon Callback

Start-> Program -> Nemon2 -> Nemon Callback2



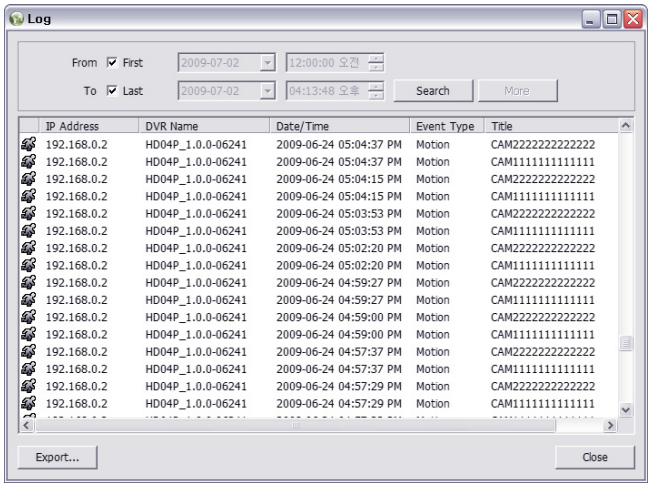
Nemon Callback icon will be displayed on the bottom right of Window once the program starts.

Callback message will be displayed/notified as shown above.
Click Nemon Callback icon to display main window of Callback as shown below.



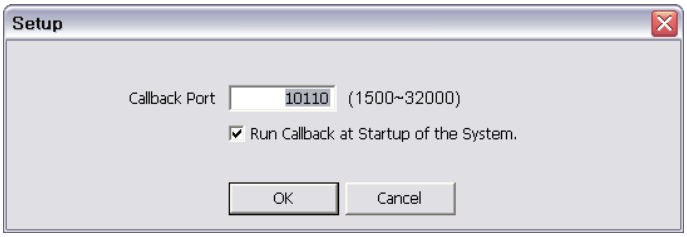
Select a log from the list and click Live or Playback icon image to connect related DVR.

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.



Note: UDP port needs to be set (open) to transmit Callback if Firewall is being used.

Appendix A. Remote Access Using I.E.

DVR can be accessed remotely using Internet Explore. 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, PW and Port information, 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

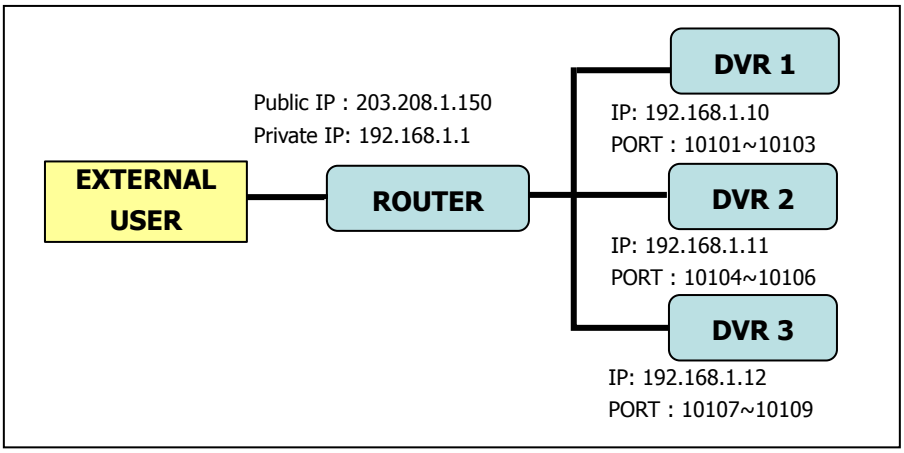
Please refer to the remote program 'Nemon' manual if detail instructions on the control option is needed.

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

Appendix B. How to set DDNS using router

(Except using public IP or connect with ADSL directly)

Make it easy to understand through the example as below. Please refer the Diagram and follow this instruction. For example, If you connect 3 DVRs through local Network.



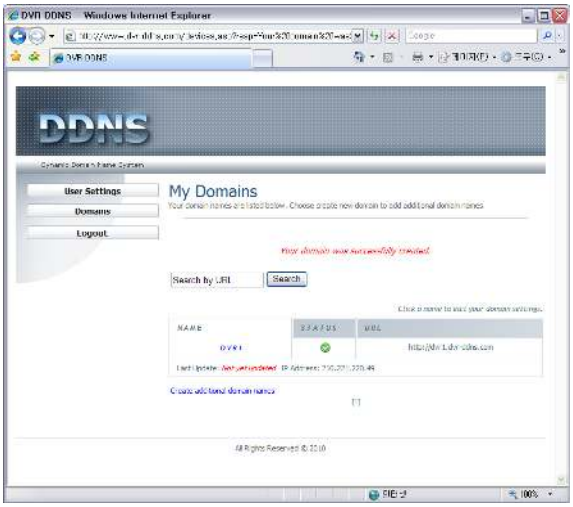
1. Domain Name Creation

- Go to http://www.dvr-ddns.com/
- Click 'Sign up!' to make the Account.

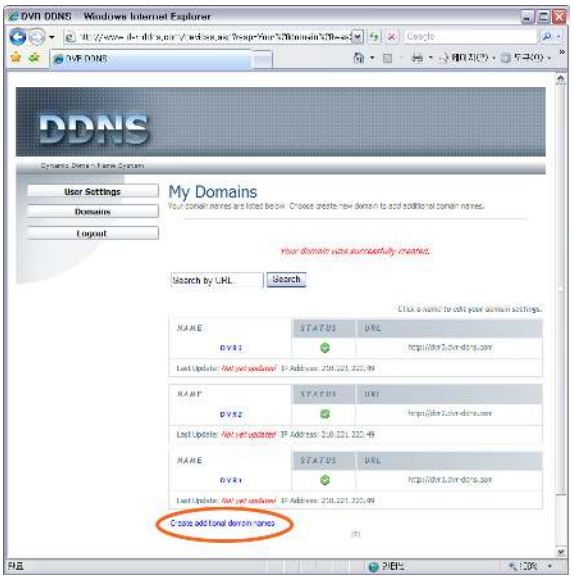
- Fill out the registration information as below.
- Click 'Submit' to make the account.

- Enter your domain name and click 'Request Domain' to create the domain name.

- You can see the registered dome name "dvr1.dvr-ddns.com"

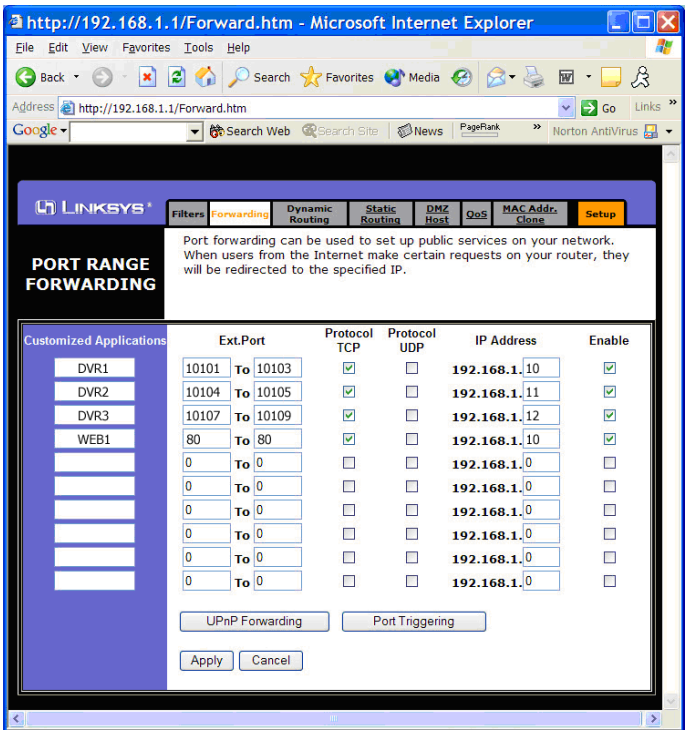


- You can create 3 domain names for one account.
- Click "Create additional domain names" to make another domain name.



2. Router Configuration

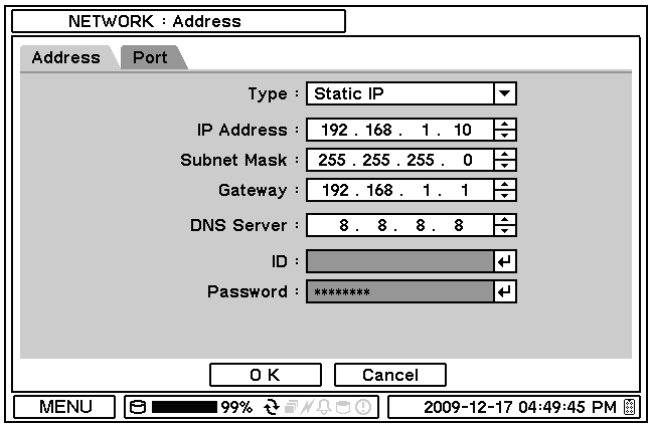
- Insert the gateway address on the explorer to connect the homepage for the Router.
  - Go to "Port Forwarding" Menu. (The picture below is for particular Router.)



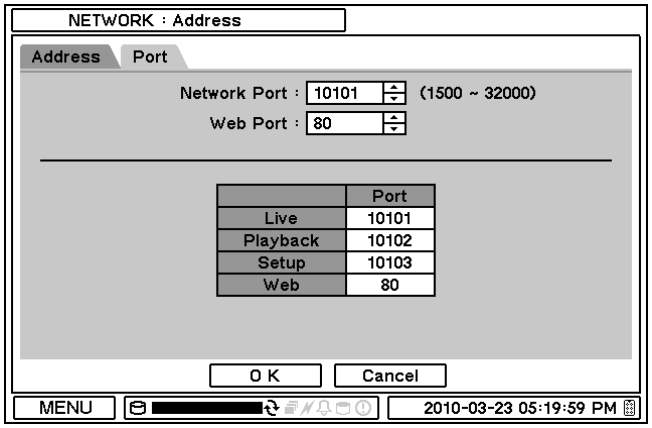
- Please insert the IP address and Port number for DVR in the Port Forward menu.
- The Port number which you insert at this point make it possible to distinguish each of DVRs
- Specify the WEB port number to access the DVR with Internet Explorer. Default port number is 80.

3. DVR Configuration

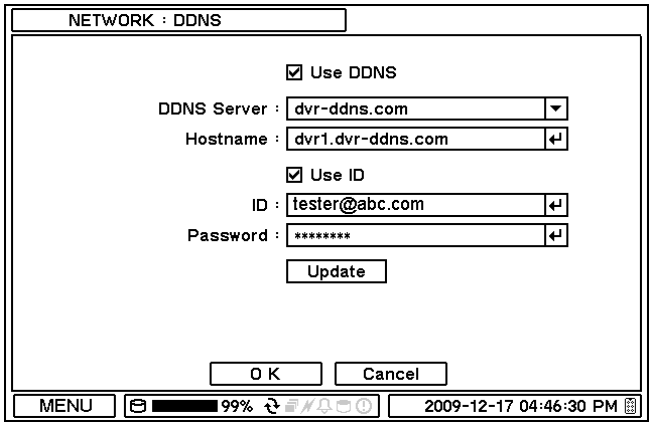
Example of DVR Network setting.



Select Static IP option and enter following options accordingly. The system should be allocated with individual IP address.



Make sure the ports for DVR are all set accordingly or set network ports according to DVR port settings.



DDNS can be used once the system is registered on DDNS server. ID and PW are required for the registered server authentication.

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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.

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