

# **NVMS Manual**

**Version 2.15**

**Digital Watchdog**

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**Appendix 1> Quick Installation Guide**

# 1. Overview of NVMS (Network Video Management Software)

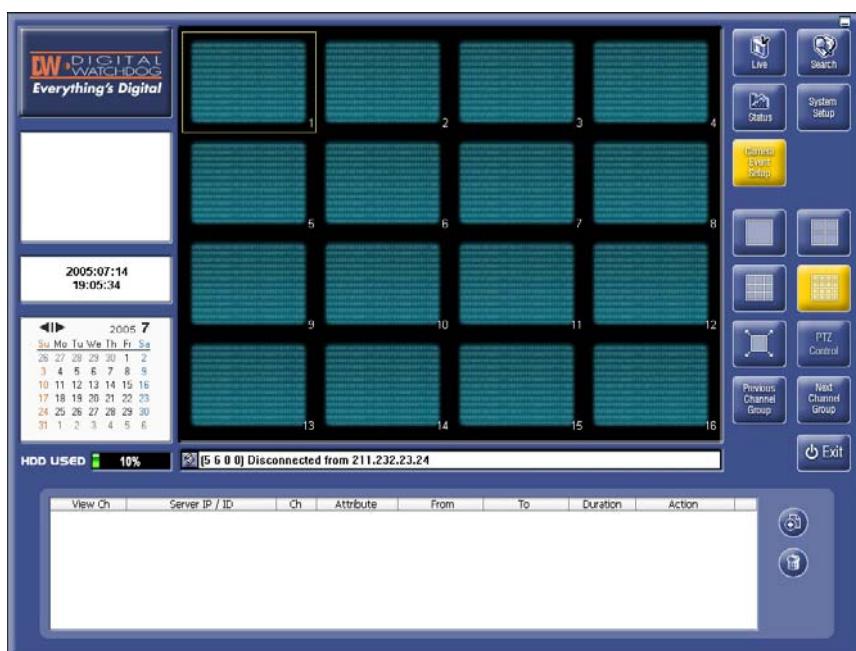
NVMS software can receive digital video from either network video cameras or network video recorders for continuous viewing or recording, using programmable controls to specify the parameters of the recording to be done.

Hardware system requirements depend on each NVMS model (4/16/32/64/160 channel) and also depend on the number of network video cameras or network video recorders connected. For more detailed information, users can refer to hardware system requirements at the Digital Watchdog website; <http://www.digital-watchdog.com>

This manual is based upon the 160-channel version of NVMS however, the contents are fully applicable to the 4, 16, 32, and 64 channel versions of NVMS, except the change of the number of channels supported.

NVMS can access network video cameras or network video recorders at the same time, up to the maximum capacity of the NVMS version being used. Each channel operates independently of the others for viewing and all other NVMS features. You can monitor, save, search and playback video previously recorded in real time, or by programmed capture. NVMS video has enhanced image quality and higher video speed through its use of the MPEG4 codec as compared to JPEG or Wavelet image rendering techniques.

For proper video operation, NVSM requires a PC capable of supporting 1024×768 resolution and True color (24bit).



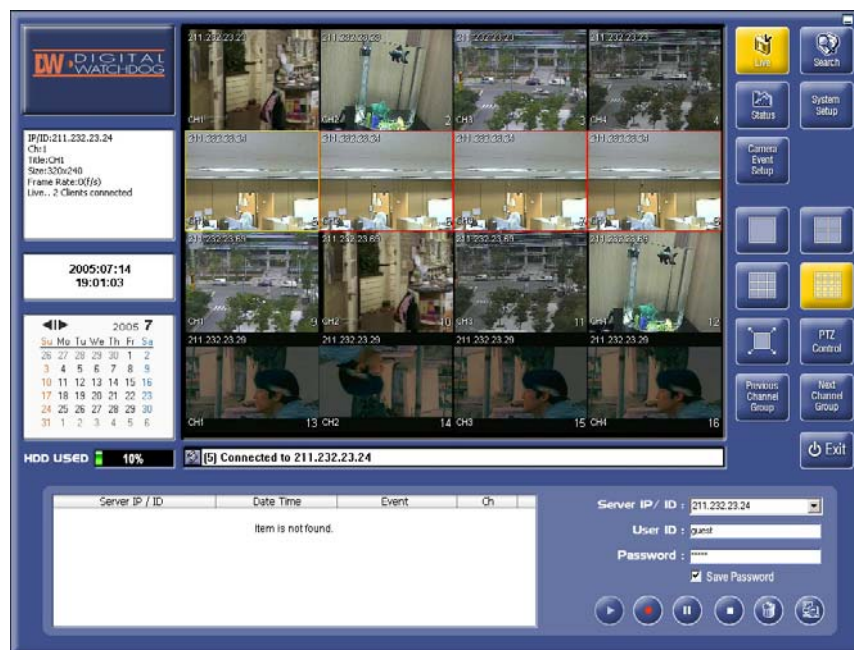
[Figure 1] Network Video Management Software

## 2. Main Viewer

### 1) Overview

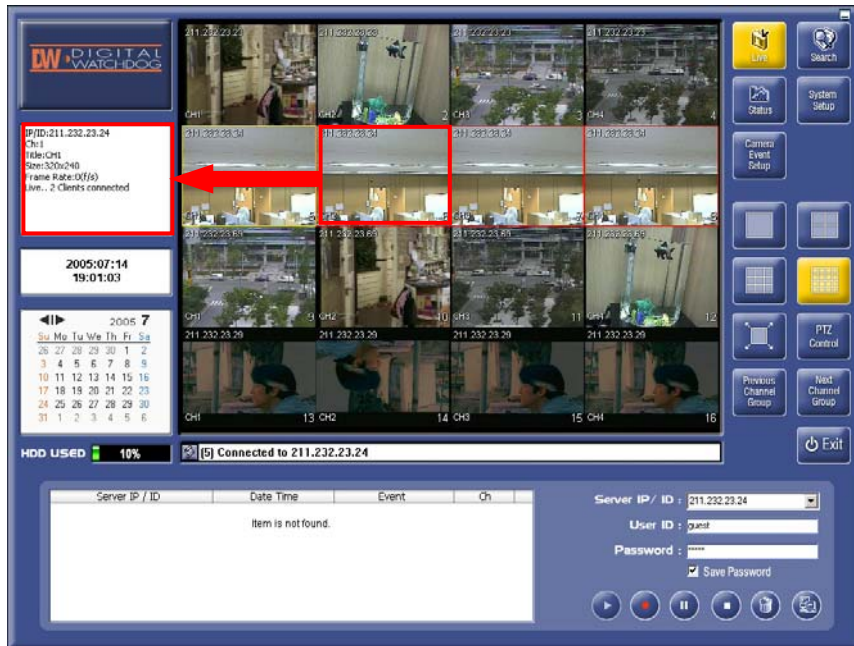
The main viewer provides remote access to network video cameras or network video recorders to monitor live video images. The main viewer log shows a record of events for the connected remote network video cameras or NVR as well as viewing of live video feeds. A maximum of 16-channels can be viewed on each page, with 10 selectable pages, for a total of 160 channels.

Each channel operates independently so you can monitor live video, playback previously recorded images, or record live images on different channels simultaneously. NVMS is capable of a maximum of 160 live channels, recording 160 channels, or simultaneous playback of up to 16 previously recorded video files at the same time.

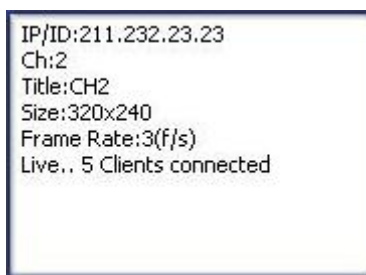


[Figure 2] Main Window of NVMS

## 2) Information Window and Clock Window



[Figure 3] Select one channel from Information window



After the user selects the channel by clicking on a channel, the channel's outline color turns yellow. Channel information is then displayed, such as the source of IP&ID, selected channel number, its title, resolution, frame rate and the number of connected clients.

[Figure 4] Information Window



Shows present date and time

[Figure 5] Clock Window

## 3) Calendar and HDD Gauge



The calendar provides access to recording files. Dark red colored dates mean that there are recording file(s) available for that date. When you click on a red date, the red date becomes active as a button. You can use the calendar in the Search Page for convenience; you just click on the red date, find the recording files and select the recording files for that date.

[Figure 6] Calendar



[Figure 7] Click red color date to see recording files in Search Page



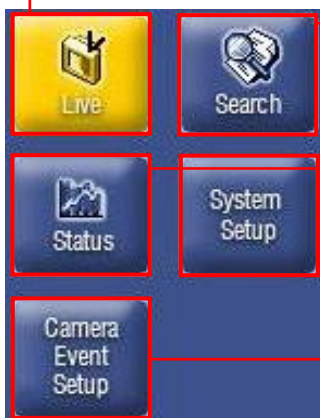
Indicates the percentage of hard disk drive space used on drive where the video recording files are stored.

[Figure 8] HDD Gauge

#### 4) Page Selection Window

LIVE : Button for selecting Live Page.

Refer to detailed explanation in chapter 3



SEARCH : Button for selecting Search Page.

Refer to detailed explanation in chapter 4

STATUS : Button for selecting Status Page.

Refer to detailed explanation in chapter 5.

SYSTEM SETUP : Button for selecting System Setup Page.

Refer to detailed explanation in chapter 6.

CAMERA EVENT SETUP : Button for selecting Camera Event

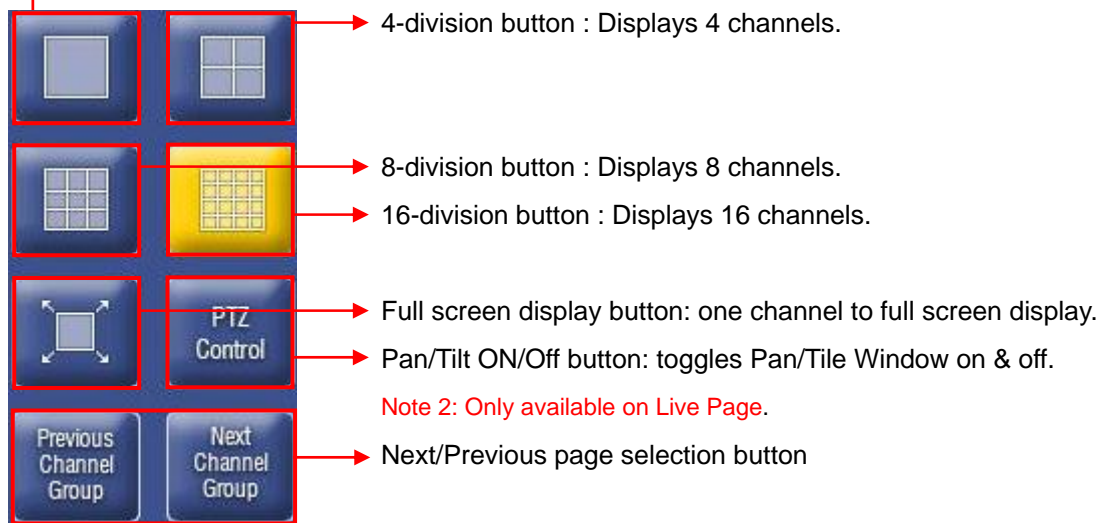
Setup Page. Refer to detailed explanation in chapter 7

[Figure 9] Page Selection Window Note 1: Button backgrounds turn yellow when they are activated.

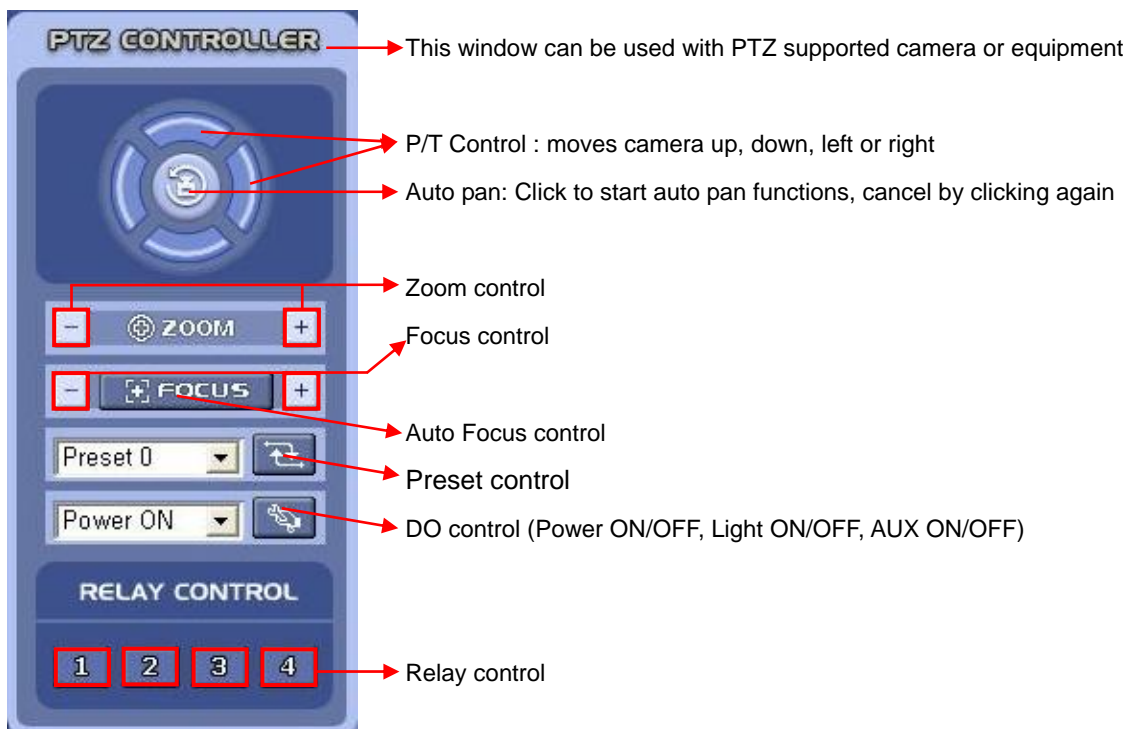


## 5) Display screen division and Pan/Tilt selection window

Single division button : Displays 1 channel



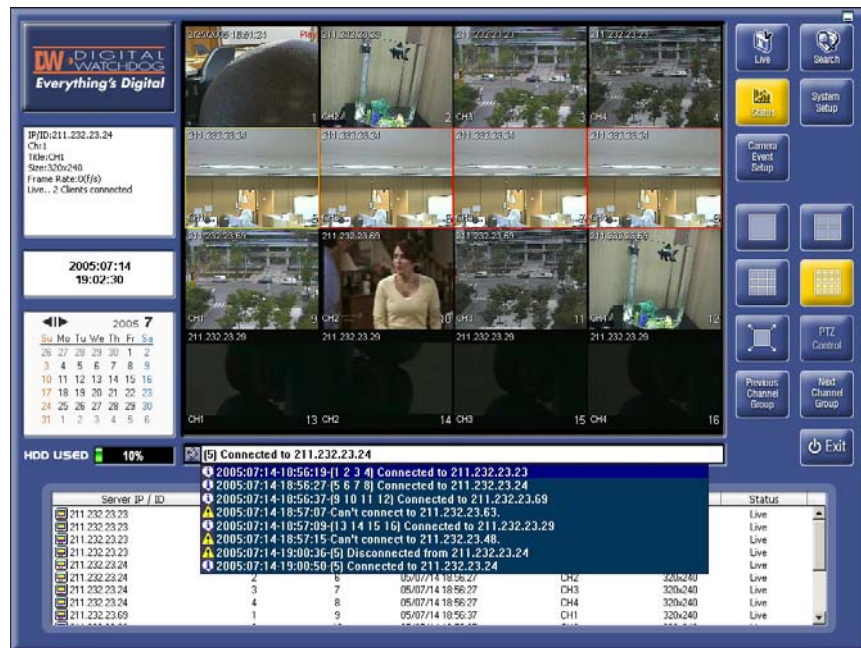
[Figure 10: Display Screen Division and Pan/Tilt Selection Window]



[Figure 11] Pan/Tilt Control Panel





## 6) Status Information Window



[Figure 12] Status information view

Show connection and status between NVMS and network video cameras or NVRs.

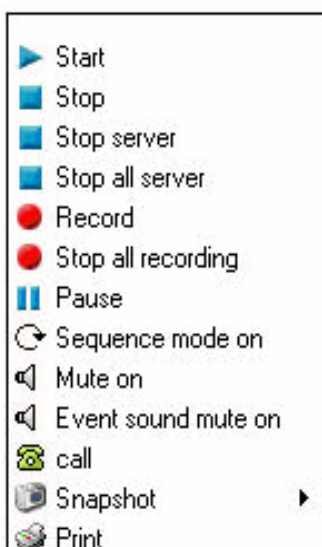
 Message history button : Clicking this button will produce a drop down with a maximum of 80 previous connections and their current status. To close drop down, select one of the connections. To clear all status information, click on the  “recycle bin” icon in the top right of status information window.

## 7) Pop Up Menu

To bring up the “Pop up menu”, click the right mouse button. You can connect a single channel of a network video recorder using the “CONNECTING DIALOG” box pop up request for an individual IP camera. To connect all available channels of an NVR at once, use the Main Viewer (Figure 2). Figure 13 shows the “CONNECTING DIALOG” box using the “start” function of the “Pop up menu”. In the “CONNECTING DIALOG” box, enter the IP/ID of the NVR or IP camera, User ID, Password and then select the channel you want to access.



[Figure 13] Connecting Dialog box



[Figure 14] Pop up menu

**Start** : Pop up Connecting Dialog

**Stop** : Stop the channel selected by the mouse

**Stop server** : Stop all channels of selected NVR.

**Stop all server** : Stop all connected NVRs and IP Cameras.

**Record** : Start a 30 minute continuous record of the channel selected by the mouse.

**Stop all recording** : Stop all recording channels on NVMS.

**Pause** : Pause or restart the channel selected by the mouse.

**Sequence mode on** : Shows each channel or page in sequence mode. Sequence duration is 10 seconds.

**Mute on** : Mutes sound that NVMS receives from IP cameras or NVRs.

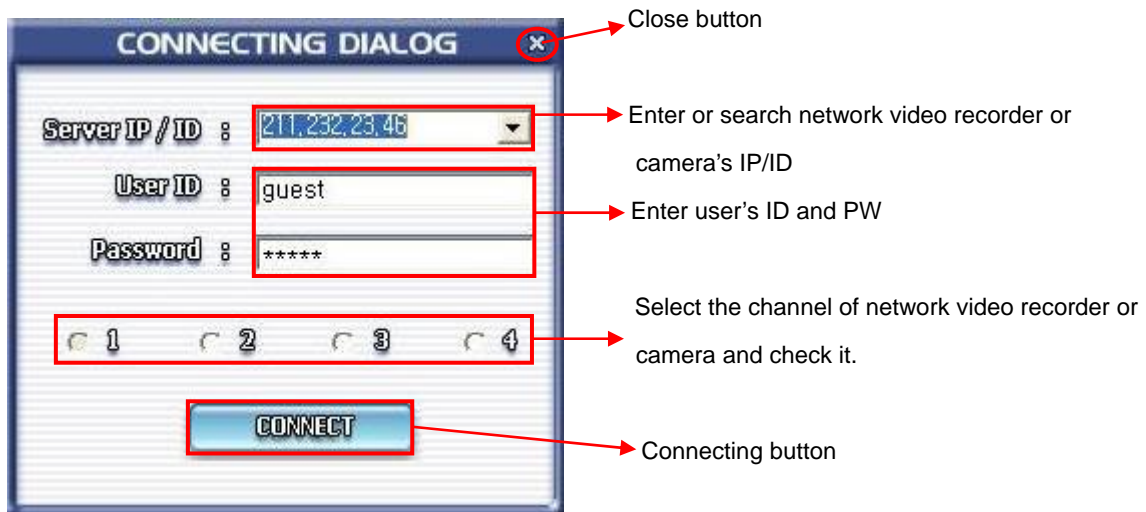
**Event sounds mute on** : Mute event sounds that NVMS receives from IP cameras or NVRs.

**Note 3** : For event sound mute in NVMS to function, you must first set up the event (motion or others) in the **Sensor & Alarm Page** and also the **Audio set up page** in the admin pages of the network video recorder or IP camera. Refer to the respective product manuals for instructions.

**Call** : With this button, you can call the clients where an interphone and NVR4 are installed.

**Snapshot** : Supports both a snapshot of a selected channel or NVMS page.

**Print** : Print each channel or page.



[Figure 15] Explanation of CONNECTING DIALOG

**Note 4** : If the connection is already set up in **Schedule Page**, this dialog will not happen.

## 8) Exit Program

[Figure16] shows "Exit" button for exiting the NVMS program. After clicking "Exit", the Password window pops up.



[Figure 16] Exit program



Enter the password with 3333 as a default.

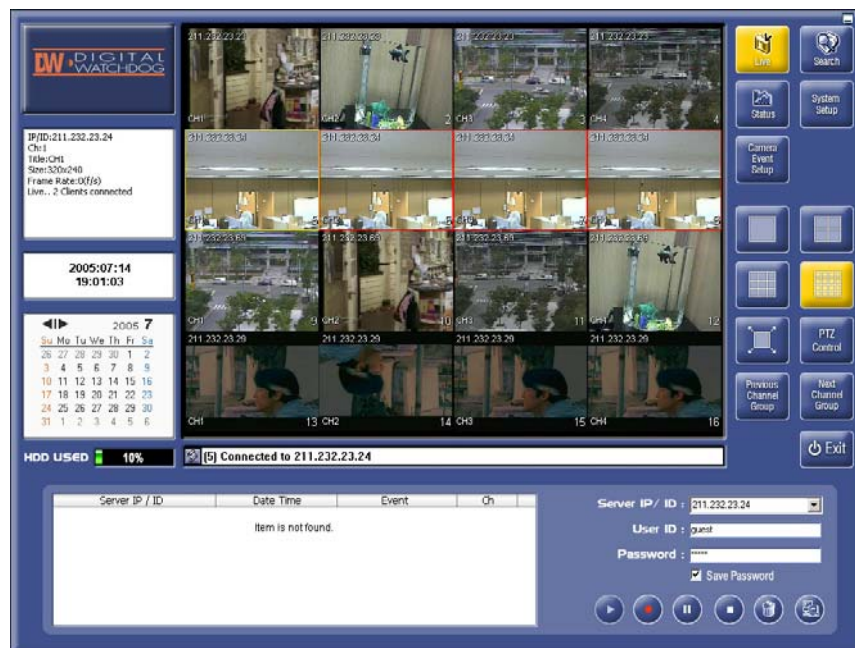
[Figure17] Password Window

## 3. Live Page

### 1) Overview

Live Page is the initial display page once the NVMS program has started up. In the Live Page, the user enters the IP address, login ID and Password for each network video recorder or IP camera that the user wants to access. Once each NVR or IP camera's IP/ID information and user ID & PW for the respective NVR or IP camera has been entered and connection is established, the user can monitor live images from the connected network video recorders or IP cameras. The main function of Live Page is to monitor and record live images.

**Note 5 :** The NVR or camera IPs are interchangeable with the English ID registered with the third party Dynamic Domain Name Server (DDNS) service you have subscribed to. The DDNS information is entered by the user into the "Registration" panel of the admin page of the individual NVR or IP camera. This programs the NVR or IP camera with the required login ID & PW to connect to the DDNS and update it each time it reboots with the current IP address that it is using. The NVMS will then be able to find the IP address for the ID through the DDNS to complete the connection.



[Figure 18] Live Page

### 2) Event List

NVMS can receive event data from each NVR or IP camera that has been programmed with the IP address of the NVMS machine that will service its events. For event data to be sent to a specific NVMS IP, use the NVR or IP camera's admin pages to enter the NVMS IP in "event server IP address" under "Sensor & Alarm" for each NVR and IP camera.

## Reporting: E-mail, FTP and Event Server



About the events 0:00 ~ 23:30

E-mail	List	<input type="text"/>
	SMTP Server	<input type="text"/>
	Attach a Snapshot?	<input type="checkbox"/>
	Attach a Pre-post Alarm Image?	<input type="checkbox"/>
	E-mail	<input type="text"/>
		<input type="button" value="Add"/> <input type="button" value="Modify"/> <input type="button" value="Delete"/>
FTP (Video recorded will be sent here)	Server Address	<input type="text"/>
	Directory	<input type="text"/>
	Upload Snapshot?	<input type="checkbox"/>
	Upload a Pre-post Alarm Image?	<input type="checkbox"/>
	User ID	<input type="text"/>
	Password	<input type="text"/>
Event Server (Report events to this server)	List	<input type="text"/>
	IP Address	<input type="text"/>
	Report	<input checked="" type="radio"/> IP <input type="radio"/> ID

[Figure 19] Set up server for IP camera or NVR4










\* Note 6 : If a static IP address of a specific NVMS machine is entered in the "Event Server" panel of an NVR's or IP camera's admin page (Sensors & Alarms), only the specified NVMS' static IP address can receive the event data. However, any NVMS machine that connects to the NVR or IP Camera can also service its event data. To do this, leave the "Event Server" field blank on the NVR or IP camera and select the "Online Event" function in the configuration page of the NVMS machine (See section 6.2 for more details).

You can identify the event type being reported in the Event List by its icon.

 → Motion icon.  → Sensor icon.

The following feature functions only in installations where the "Online Event" feature in NVMS, described in Note 6 & Sect 6.2, is not used and static IP event reporting is used instead.

When an item in the Event List is selected, double clicked, and that video channel is not currently monitored by NVMS, a connection will be established and monitoring will begin for the video channel reporting the event.

Server IP / ID	Date Time	Event	Ch
 211.232.23.29	2005-07-11 15:15:38	Motion	4
 211.232.23.29	2005-07-11 15:15:38	Motion	3
 211.232.23.29	2005-07-11 15:15:38	Motion	2
 211.232.23.29	2005-07-11 15:15:34	Motion	4
 211.232.23.29	2005-07-11 15:15:34	Motion	3
 211.232.23.29	2005-07-11 15:15:34	Motion	2
 211.232.23.29	2005-07-11 15:15:32	Motion	1
 211.232.23.23	2005-07-11 15:15:32	Motion	3
 211.232.23.29	2005-07-11 15:15:30	Motion	1

[Figure 20] Event list



### 3) Server IP/ID & User ID/Password

A maximum of 64 NVR or IP camera IP/IDs can be saved for later selection with the IP/ID drop down box. When an NVR or IP camera's IP/ID is entered, user login ID & PW information for that device is also entered. Once the "Start" button is selected, NVMS will establish a connection to that IP/ID and all available channels from that device are displayed for monitoring. By checking "Save Password", the login information for that device is also saved, and is available with the IP/ID selection, so the user need not re-enter this information to reconnect to that IP/ID at a later time.



[Figure 21] Window for entering server ID/IP and user's ID & PW

By entering a "Group" Name, users can access all network video devices that belongs to a predefined group. To set up a group configuration, refer to the following group configuration in the "Group setting" section.

### 4) Command Buttons

Command buttons in Live Page are as follows;



[Figure 22] Command buttons in Live Page

- Start

This button begins access to the network video device for which the necessary information in Figure 21 has been entered. If selected & the network video device's IP/ID has already connected to NVMS, the Message history button or status information view will indicate that all channels are already active for that device.

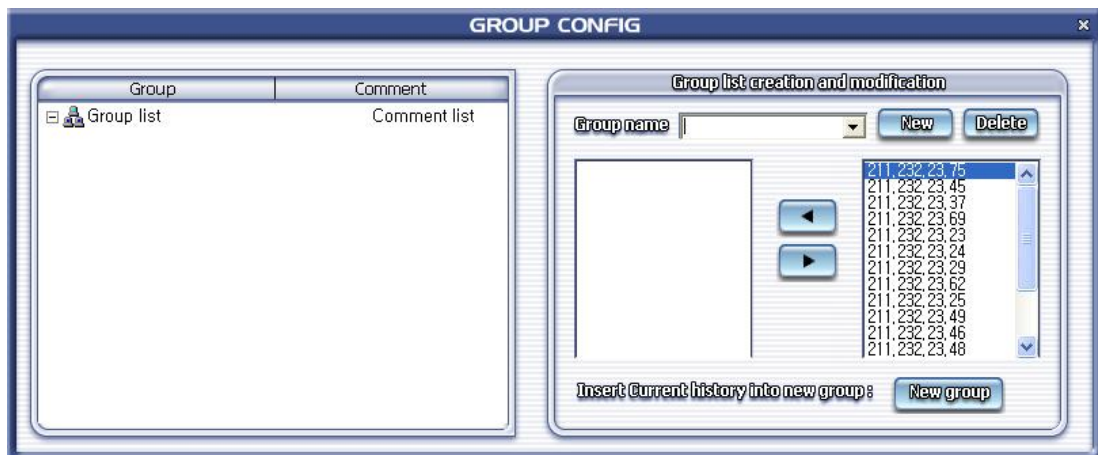
- Record

Select the channel you want to record on the display and click the Record button to start recording. Recording time is 30 minutes, after which recording terminates. NVMS begins a new recording file if the Record command is given again. The Pop Up menu covered in Section 2.7 may also be used to begin a 30 minute recording session. If the selected video device is disconnected during recording, NVMS saves the recording it has received and closes the file. NVMS will create a new file when recording is resumed. For situations where the user needs to have longer recording sessions than 30

minutes, the longer time must be entered using Section 7 of this manual, which covers the Schedule Page.

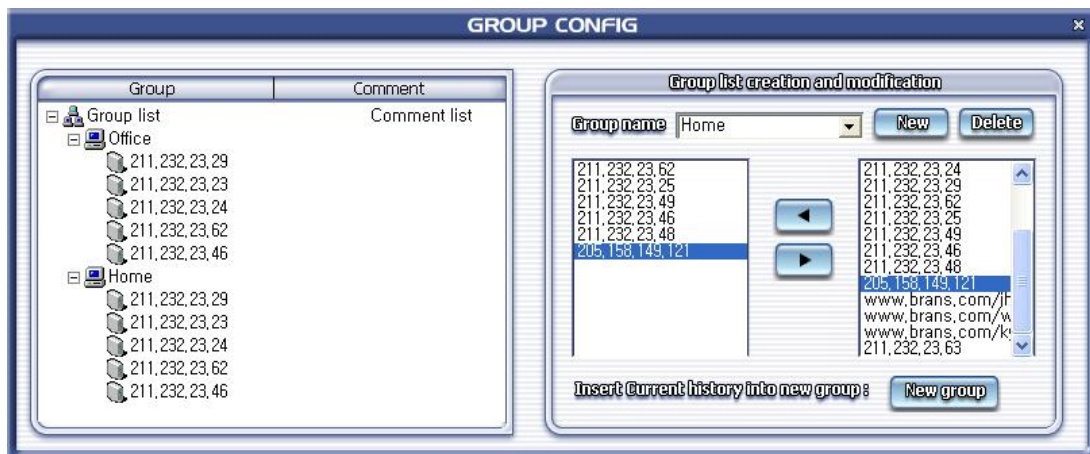
- Pause : Pause or restart live image
- Record/Live stop : Stop the playing of playback & live
- Clear list : Delete event list
- Group setting

This button allows the user to create groups of video devices for convenient connection. To create a Group, click on the Group settings button, and the GROUP CONFIG dialog box will pop up.



**[Figure 23] Group Configuration dialogue box**

The GROUP CONFIG dialog box permits the user to click on a group in the left panel and see all the video devices in that group in the panel on the right. In using the right panel, video devices can be added to or removed from the selected group.



**[Figure 24] Double click group name**

The panel on the left has a comments field that allows the user to enter comments about that device by double-clicking on an individual device, which will cause a small data entry dialog box to pop up [Figure 26]. After entering the desired comment, select the Apply button to place the data in the appropriate comment field of the left panel.





[Figure 25] Enter Comment in above dialogue box



[Figure 26] Group list creation and modification

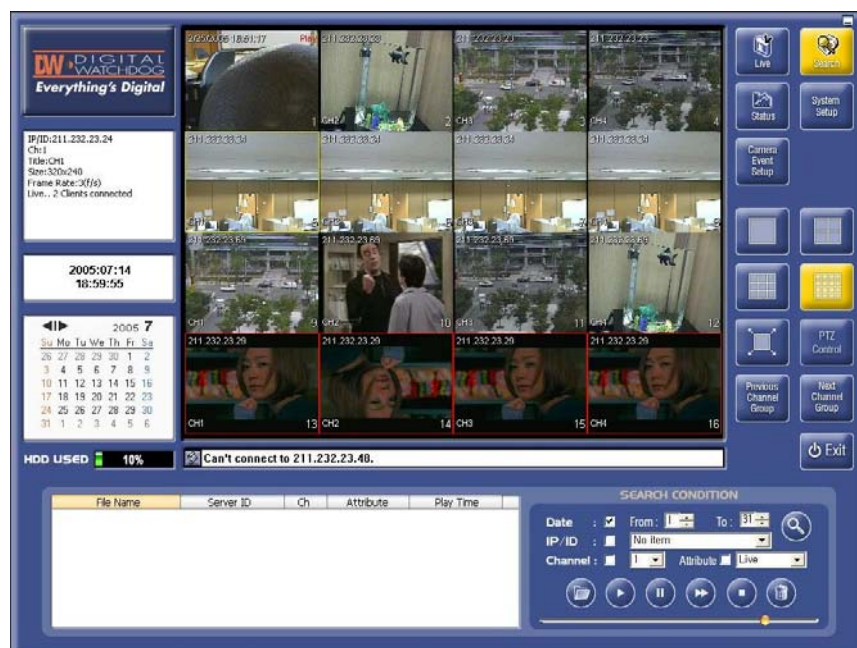
### The procedure of group setting

1. Enter a new name in "Group Name" and click the New button.
2. Select a device IP/ID from "Right IP/ID list" and click the left arrow button 4  
→ The selected IP will move to "Left IP/ID list".
3. Each group can have a maximum of 16 IP/ID addresses in it.
4. There can be a maximum of 10 groups.
5. To access a group, use the group name instead of the individual server IP/ID, as follows  
"@group name" without the quotation marks.
6. Groups can be modified using the left/right arrows to add and remove devices from the group selected.
7. To delete a group, select the group in the left panel, and click "Delete".

## 4. Search Page

### 1) Overview

The Search Page is composed of a file list, search conditions panel, search command buttons, and slide bar showing playback progress. Searched files in the file list can be played back by double clicking on one of them, or selecting the playback button.



[Figure 27] Search Page

## 2) Recording File List

The recording file list contains recording files that fits the parameters selected in the search condition panel. Detailed information for each file which includes File Name, Server ID, CH (channel), Attribute and Play Time for each recording file is listed. File Names are the time and date that the file was created. Server ID is the recording file's source server IP/ID and CH is the channel number used for the recording file. The Attribute indicates if the recording type is Live, Motion, Sensor or Continuous. A Live recording indicates a live image recording, started by using the Record button. Motion, Sensor and Continuous are triggered by settings entered in the Schedule page. For more information, please refer to chapter 7. FTP provides a means for a recording file of up to 120 seconds in length to be sent to an FTP server, set in the admin page "Sensor & Alarm" panel of the NVR or IP camera. In order for NVMS to access these files, they must be accessible either locally or through a network connection (Section 6.2). For more detailed information about NVR FTP settings, refer to NVR manual.

File Name	Server ID	Ch	Attribute	Play Time
2005-07-11-15-41-22	211,232,23,23	01	Motion	00:00:59
2005-07-11-15-42-55	211,232,23,23	01	Motion	00:00:59
2005-07-11-15-44-03	211,232,23,23	01	Motion	00:00:59
2005-07-11-15-45-06	211,232,23,23	01	Motion	00:00:59
2005-07-11-15-46-16	211,232,23,23	01	Motion	00:00:11
2005-07-11-15-46-36	211,232,23,23	01	Motion	00:00:03
2005-07-11-15-47-02	211,232,23,23	01	Motion	00:00:22
2005-07-12-16-46-04	211,232,23,23	01	Continuous	00:01:13
2005-07-12-16-47-18	211,232,23,23	01	Continuous	00:00:02

[Figure 28] Recording file list

## 3) Search Condition and Search

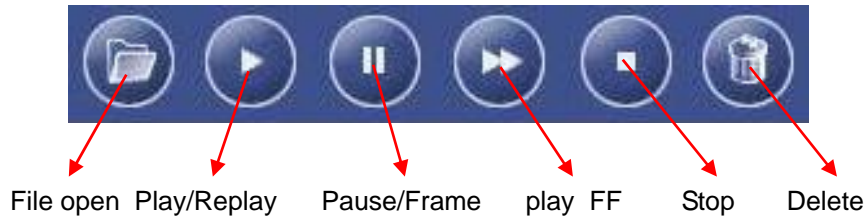
In this section, the user is able to set search conditions to search for recorded files. The search condition includes Date, Server ID/IP, Channel, and Attribute. To search for a recording file that fits search conditions, select the search condition and click on the search button. Through skillfully selecting and combining the search conditions provided, the user can isolate those recording files of interest, even in a large group of recording files stored on the hard drive.



[Figure 29] Setting up search condition

#### 4) Search Command button

Search command includes File open, Play/Replay, Pause/Frame Play, FF, Stop and Delete.



**[Figure 30] Search Command**

- File open  
Select a recording file from those located on the NVMS PC local drive or network.
- Play/ Replay  
To playback recording file, or restart a paused recording file.
- Pause/Frame play  
Pauses recoding file playback, each additional click plays the next frame in the recording file.
- FF  
Doubles the playback speed of a recording file, press Play to return to normal speed.
- Stop  
To stop playback of a file that was in process of playback.
- Delete file  
Select a file from the recording list and click the delete button. Once the file is deleted, it can not be recovered.



When a recording file playback is in progress, the top right of the channel shows a red “Play”.

**[Figure 31] Playback recording file**

Name:2005-07-11-15-41-22  
 IP/ID: 211.232.23.23  
 Ch:1  
 Title:CH1  
 Size:320x240  
 Attribute:Motion  
 Play Time:0:00:59

When a playback is in progress, as in figure 32, user can see the recording file in the Information window by selecting the playback window during playback.

**[Figure 32] Information of recording file**

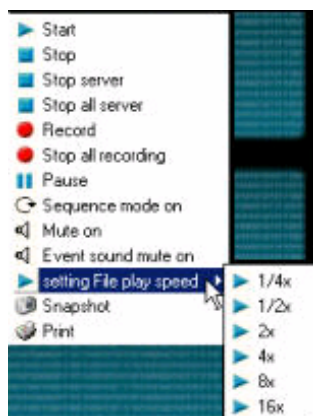
※ Continuous playback mode

Users can playback multiple recording files in one continuous playback session. This is done by the user selecting the first file to be played from the file list window, holding down the shift key on the keyboard, and then selecting the last file the user wishes to playback. A continuous playback of all selected recording files selected from the file list will begin when the Play/Replay button is selected. Holding the Ctrl key allows selection of individual recording files for continuous playback together.

File Name	Server ID	Ch	Attribute	Play Time
2005-07-11-15-41-22	211,232,23,23	01	Motion	00:00:59
2005-07-11-15-42-55	211,232,23,23	01	Motion	00:00:59
2005-07-11-15-44-03	211,232,23,23	01	Motion	00:00:59
2005-07-11-15-45-06	211,232,23,23	01	Motion	00:00:59
2005-07-11-15-46-16	211,232,23,23	01	Motion	00:00:11
2005-07-11-15-46-36	211,232,23,23	01	Motion	00:00:03
2005-07-11-15-47-02	211,232,23,23	01	Motion	00:00:22
2005-07-12-16-46-04	211,232,23,23	01	Continuous	00:01:13
2005-07-12-16-47-18	211,232,23,23	01	Continuous	00:00:02

**[Figure 33] Continuous playback mode**

※ Pop up menu in Search Page



**[Figure 34] Pop menu in Search Page**

In the Search Page, there is an additional pop up menu available only during playback. Once playback begins, right click on the playback window and the pop up menu in fig. 35 will appear. The user can then adjust the playback speed of the recording file by ¼, ½, 2, 4, 8, and 16 times normal speed.

## 5) Display Recording File

The File search list will contain all recording files meeting the search criteria requested. There are two methods to play a recording file in the list; the first method is to double click on a file in the file list. NVMS finds an unused display window automatically and plays the file. The second method is to click on an unused display window and click the play button. The File slide will indicate playback progress and may be used to adjust playback position forward or backwards.



**[Figure 35] File slide bar**

[Reference : icons that are seen in file list]

     : Live, Continuous, Sensor, Motion, FTP



## 5. Status Page

### 1) Overview

The Status Page button is in the top right of NVMS, and is high lighted in green in fig. 37. The status list is at the bottom of the Status Page, and shows information about connected video devices, including server IP/ID, Ch (channel), View Ch (channel), connect time, title, size, and status.



[Figure 36] Status page

### 2) Status List

Server IP / ID	Ch	View Ch	Connect Time	Title	Size	Status
205.158.149.121	1	1	05/07/11 15:35:47	PTZ Camera	320x240	Live
205.158.149.121	2	2	05/07/11 15:35:47	DVD with Audio	320x240	Live
205.158.149.121	3	3	05/07/11 15:35:47	Demo Room	320x240	Live
205.158.149.121	4	4	05/07/11 15:35:47	Building Front	320x240	Live
211.232.23.23	1	5	05/07/11 15:35:58	CH1	320x240	Live
211.232.23.23	2	6	05/07/11 15:35:58	CH2	320x240	Live
211.232.23.23	3	7	05/07/11 15:35:58	CH3	320x240	Live
211.232.23.23	4	8	05/07/11 15:35:58	CH4	320x240	Live
211.232.23.24	1	9	05/07/11 15:36:07	CH1	320x240	Live
211.232.23.24	2	10	05/07/11 15:36:07	CH2	320x240	Live

[Figure 37] Status list

[Reference: icons that are seen in file list]

: Live, Continuous, Sensor, Motion, FTP, Disconnected

※ Difference between Ch and View Ch

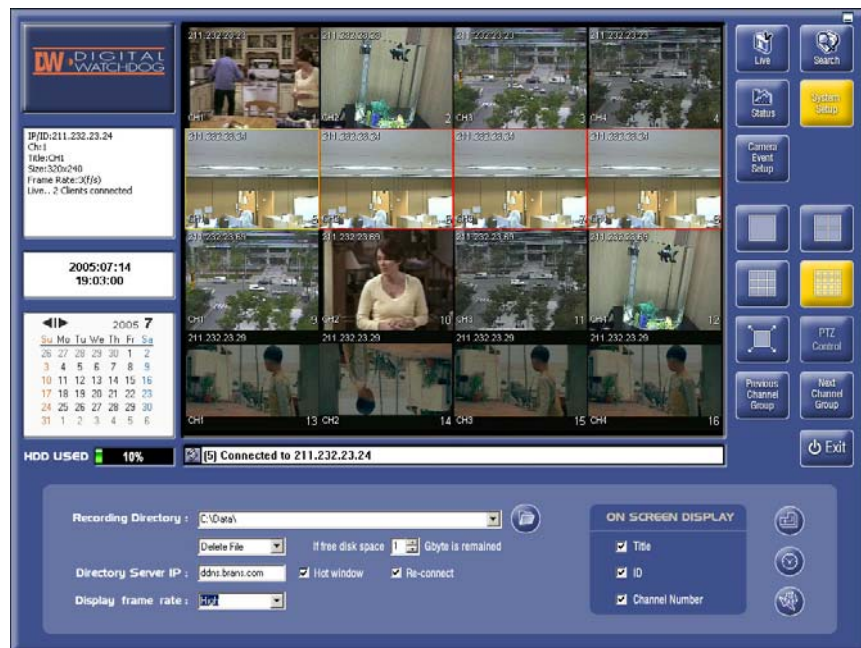
The Status list shows each channel in NVMS View channel order. View channel means the channel showed in the NVMS display. Ch (channel) refers to the specific channel of the connected video device. For instance, View channel 5 shows channel 1 of the video device at IP/ID 211.45.102.40 along with that channel's information, such as connect time, title (video1), size (resolution; 320x240), and status (Live).



## 6. Configuration Page

### 1) Overview

General operating settings that configure NVMS for efficient operation in your environment are selected and set in the Configuration Page. Vital settings, such as selecting the local directory where recording files will be stored is selected in the Configuration Page. Another vital selection is setting NVMS to “Delete File” to free disk space or “Stop Rec (recording)” if the HDD has reached a predetermined capacity limit for recording. The Configuration Page has many other functions the user must understand to properly and efficiently operate NVMS.



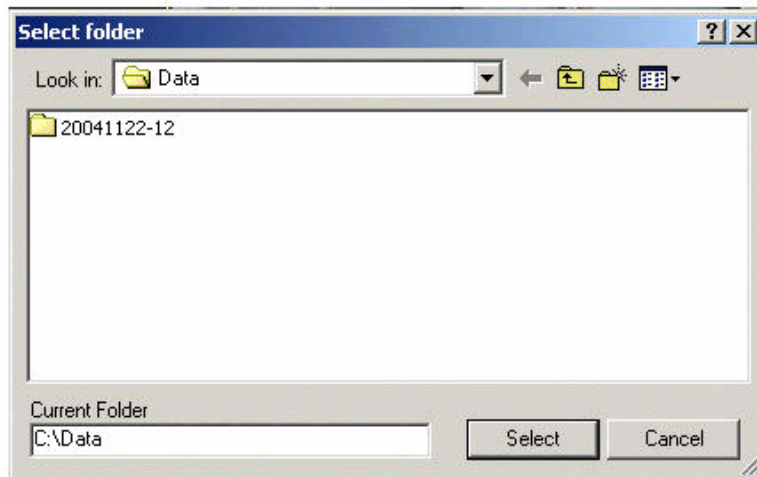
[Figure 38] Configuration page

### 2) The functions in Configuration Page

- Changes do not take affect until the “Apply” button is selected.
- Recording Directory



The Recording Directory path points to the root folder in which sub folders are created, where recording files are stored. By default, this directory is in the directory path where NVMS was installed. The user can select an alternate folder path for recording files to be stored, by clicking the “Browse” button and selecting a directory in the pop up dialogue box as shown in figure 40.



**[Figure 39] Pop up dialogue box after clicking Browse button**

Note 7: NVMS does not support multiple data storage paths for storage of recording files. The path and folder entered will use the space available for that drive letter until HDD capacity limits specified are reached, at which time NVMS will either delete files or stop recording depending on the action selected below.



**[Figure 40] Changed Recording Directory - after clicking “Select” button, click “Apply”**

- Setting HDD capacity limits and action on reaching limit, delete file or stop recording



The user can set up HDD capacity. For instance, the figure shows that user set 1 GB as the limit for remaining HDD space. If 1 GB remains on the HDD, NVMS will “Delete File” to free HDD space. The HDD gauge shows the space used on the drive letter where the recording files are stored. The user can alternately choose to “Stop Rec (recording)” when the specified remaining HDD space limit is reached.

- Setting up Dynamic IP resolution

NVMS requires IP addresses to recognize and connect to network video devices. Some network video devices use dynamic IP addresses which must be resolved in order for NVMS to locate and connect to the video device. To resolve dynamic IP addresses, NVMS uses a DDNS (Dynamic Domain Name Server). Either the IP address or the dotted name of the DDNS that NVMS will use to resolve dynamic IP address is entered in this field.



**[Figure 41] DDNS setting**

- Setting up Hot window

The Hot window function is intended to facilitate watchman efficiency by attracting attention to scheduled events being triggered. After selection of the Hot window function, live video from the channel that triggered the event is switched into the Calendar window. For detailed information about setting up events on network video devices, refer to “Sensor & Alarm” in the network video device manual and section 7 Schedule Page in this manual.



**[Figure 42] Hot window**

- Setting up Reconnect

When a network video device has had a problem or is disconnected due to network trouble, selecting this function allows NVMS to reconnect the network video device when a connection is reestablished.



**[Figure 43] Re-connect**

- Setting up Display frame rate

The user can choose from three frame rates (High/Medium/Low) for the display. High: plays all of frames that are sent to NVMS. Medium: plays 1/3 of frames that are sent to NVMS. Low: plays only the key frames that are sent to NVMS.



**[Figure 44] Display frame rate**

- Setting up OSD(On Screen Display)

Checking Server ID, CH number, or Title places this information in the display frame for the network video device channel being displayed on the viewing display.



**[Figure 45] OSD**

- Schedule rebooting.



Sets a length of time NVMS will operate before it will reboot.

For instance, the NVMS will be restarted in 2 days and 10 hours.

If user want not to use this function, he or she enter only "0" in three fields of schedule Rebooting dialogue box.

- Extra configuration.



- FTP setting

Proper NVMS FTP operation depends on three separate parts.

- 1) The FTP server.
- 2) Setup of the FTP & Event Server parameters in the NVR administration pages.
- 3) Setup of the "FTP root directory" path in NVMS.

- FTP Server

The user supplied third party FTP server must be installed on the same PC as the NVMS application. A unique user ID & PW for an authorized logon to be used by NVR devices must be established using normal procedures in the FTP server software. A normal part of setting up a new user account involves setting the default root directory that the user ID & PW will default to upon logon. Note the default path that the FTP server will use for the NVR logon, as you will need it when you select and set the "FTP root directory" in NVMS.

- Setup of the FTP & Event Server parameters in the NVR administration pages

Logon to the NVR to be configured for FTP, enter the administration pages for that NVR, and select the "Sensor & Alarm" panel. Once in the "Sensor & Alarm" section, scroll to the "Reporting: Email, FTP and Event Server" section. Enter the ID & PW you created on the FTP server, select what files you want sent to the FTP server, and enter the IP address of the FTP server. The "Directory" field is normally left blank, which will cause the files that are sent to the FTP server to be placed in the default root directory that the user ID & PW will default to upon logon.

If a subdirectory exists under the default root directory, and the ID & PW is authorized to change directory to that subfolder, it can be entered in the "Directory" field. For example if an

authorized subfolder named nvrdata exists under the default root directory, enter \nvrdata. This will cause the incoming files to be placed in that subfolder of the root directory. This path modification information will automatically be sent to NVMS when the NVR sends NVMS an FTP event notification message.

Normally, if the "Online Event Setting" is enabled as described in section 6.2 of the NVMS manual, the NVR "Event Server" section of the "Sensor & Alarm" is left blank. The exception to this is if FTP is to be used to send video clips to the FTP server for retrieval by NVMS. In this case, you will need to fill in the NVMS server IP address, and select the ID radio button. When all of the NVR "Sensor & Alarm" FTP and Event Server fields have been set, select the "Add" button followed by the "Save" button.

- Setup of the "FTP root directory" path in NVMS

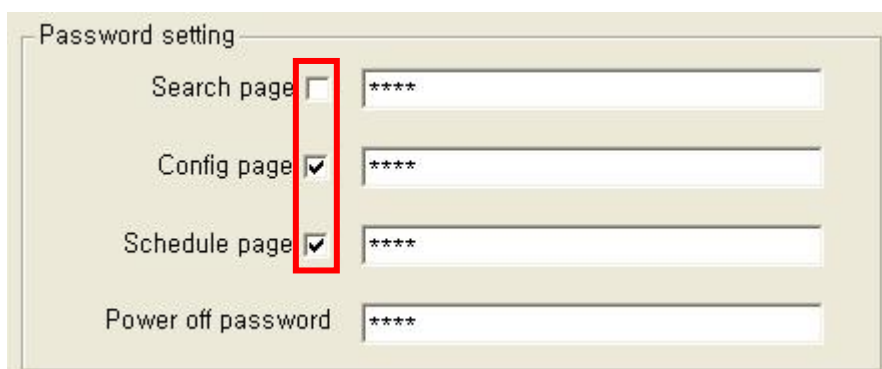


The FTP root directory is the default root directory path that the NVR user ID & PW will default to upon logon, which was configured when the NVR FTP account was created on the FTP server. If a subfolder is used under the root directory as described above (\nvrdata) the NVR will automatically inform NVMS about the additional subfolder path information in its FTP event notification to NVMS. It is not necessary to include subfolders as part of the path in this setting.

Once NVMS is notified by the NVR of the FTP event, it will move the video clip file from the FTP folder to its own video recording file path, rename it, and update its database files so that it can locate FTP video clip files during NVMS searches. Only video clip files are moved, any JPEG files that are also sent by the NVR to the FTP server will not be processed by NVMS and will remain in the FTP root directory or programmed subfolder.

- Password setting

This panel is used to set Password protection upon activating the Search Page, Configuration Page, and Schedule Page or selecting Power on/off. If an available selection is left unchecked, no password dialogue box will pop up when the user activates one of these functions.

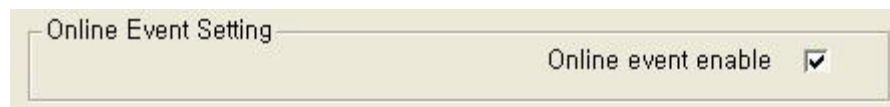


- Online Event Setting

This function allows the NVMS machine to use DHCP and have a dynamic IP address rather than a static IP address.

If the Online Event Setting is enabled, network video device motion detection or sensor data is processed by all NVMS machines that connect to the device regardless of the type of IP address that either device is using (static or dynamic) or how the IP address is resolved (static, DHCP, DDNS, or DNS).

There are several direct affects of changing from a static IP to a dynamic IP address relationship for processing motion detection or sensor data. The first change is that the relationship between the video device and NVMS becomes connection oriented rather than fixed address oriented. This means that all that is required for NVMS to process motion detection or sensor data from a given video device is the establishment of a connection to that video device from NVMS. If no connection is established, motion detection or sensor data is not processed by NVMS. The second affect is that multiple NVMS machines can establish a connection to a video device, allowing the processing of that device's motion detection or sensor data at multiple NVMS locations.



- D/O Configuration

User can make a name for each DO such as ID 1 with Door, ID 2 with Light, etc.

That makes users to recognize the use of controlling each D/O.

That is, user can see the name of each DO as budding on the PTZ control panel.



## 7. Schedule Page

### 1) Overview

The user can set up scheduled recordings triggered by events or continuous recording in this page. Scheduled recordings have an “Attribute” which describes the type of recording that will be made, these include None, Motion, Sensor, and Continuous. As the types of attributes imply, this setting sets the nature of how and why a recording is made. The “Attribute” that is selected is related to the “Action” setting and can be set to “Recording” or “Recording (Daily)”. The specific details of these settings will be covered in this section.

View	Ch	Server IP / ID	Ch	Attribute	From	To	Duration	Action
1	1	211.232.23.23	1	Motion	2005-7-13 19:3	2005-7-14 19:3	1	Recording(Daily)
2	2	211.232.23.23	2	Sensor	2005-7-13 19:3	2005-7-14 19:3	1	Recording(Daily)
3	3	211.232.23.23	3	Continuous	2005-7-13 19:3	2005-7-14 19:3	1440	Recording(Daily)
4	4	211.232.23.23	4	Motion	2005-7-13 19:3	2005-7-14 19:3	1	Recording(Daily)
5	1	211.232.23.24	1	Sensor	2005-7-13 19:3	2005-7-14 19:3	1	Recording
6	2	211.232.23.24	2	Continuous	2005-7-13 19:3	2005-7-14 19:3	1440	Recording







[Figure 46] Recording Schedule page



## 2) Scheduled list and how to set up scheduled recording

- **Scheduled list**

The scheduled list can have a maximum of 160 entries.

The Scheduled list shows the scheduled recordings the user has set up, and shows the status of connected network video devices. The Scheduled list contains fields for the View Ch (channel), Server IP/ID, Channel, Attribute, From Time, To Time, Duration and Action. The user can determine if a particular network video device is connected or disconnected by the icon to the left of View Ch for each Server IP/ID. When a network video device is disconnected the  icon is displayed. Other icons that can appear are      and indicate if the recording Attribute is Live, Continuous, Sensor, Motion or FTP respectively.

View Ch	Server IP / ID	Ch	Attribute	From	To	Duration	Action
 1	211.232.23.69	1	Motion	2005-7-13 16:40	2005-7-14 16:40	1	Recording(Daily)
 2	211.232.23.69	2	Sensor	2005-7-13 16:40	2005-7-14 16:40	1	Recording(Daily)
 3	211.232.23.69	3	Continuous	2005-7-13 16:40	2005-7-14 16:40	1440	Recording(Daily)
 4	211.232.23.69	4	Continuous	2005-7-13 16:40	2005-7-14 16:40	1440	Recording
 5	211.232.23.46	1	Motion	2005-7-13 16:40	2005-7-14 16:40	1	Recording

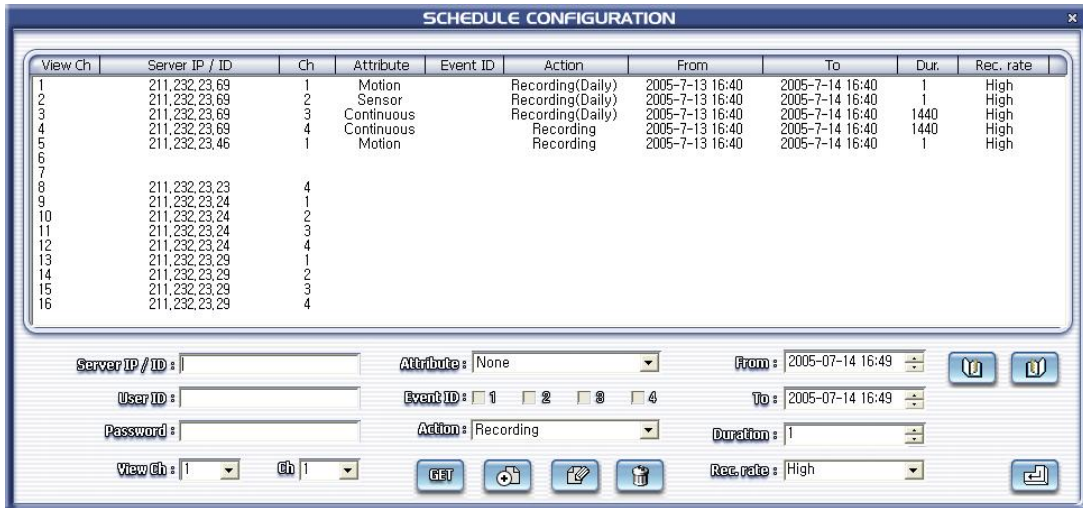
[Figure 47] Scheduled list

Schedule entries can not be changed while a scheduled recording is in process. The user can delete a scheduled recording by selecting it with a mouse click and then clicking the “Delete” button on the right of the scheduled list. If user deletes a scheduled item from the list, but recording is already in the progress, the user can stop the recording and save the file in the Recording Directory.



- **How to set up scheduled recording**

To set up a scheduled recording, first open the “Schedule Configuration” fig. 47, and click the icon shown above. There are two methods of setting up a scheduled recording.



[Figure 48] Schedule Configuration

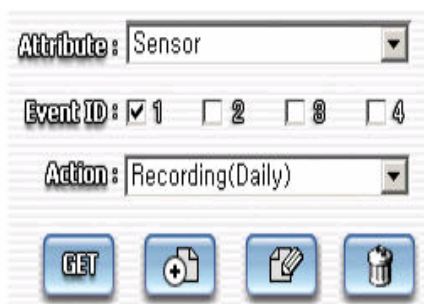
◇ Method 1 ◇



1. Clicking the GET button will collect information from all connected NVR & IP cameras and populate the appropriate fields on this page.

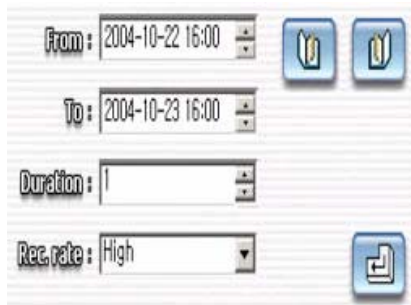
2. Select the device/channel that is to be scheduled for recording.

\* Clicking a device/channel in the list will turn it blue, and its information will appear in the settings panel automatically.



[Figure 49] Recording Mode & Duration

3. Select one of the 3 Attributes such as Sensor, Motion, or Continuous from the drop down box.
4. Set an Event ID only with Sensor or Motion. This should be the same Event ID set in the video device.
5. Select an Action from the drop down box. To repeat recording daily, choose Recording (Daily). To record once, choose Recording.



**[Figure 50] Recording Time**

6. Enter beginning time in From field and ending time in To field to schedule recording.
7. Set the recording time period of each event in the Duration field.  
\* Duration is necessary for sensor or motion events and can be set to a maximum of 10 minutes and a minimum of 1 minute.
8. User can choose recording frame rate level with the Rec. rate field.

9. Finish by selecting “Modify”  and then “Apply” 

. ◇ Method 2 ◇

1. User enters Server IP/ID, User ID, Password, View Ch, and Ch from the keyboard.
2. User follows procedure from step 3 to step 8 in method 1.

3. Finish by selecting “Modify”  and then “Apply” 

## 8. System Requirements

### 1) H/W

- Memory : 1GB or higher
- Resolution : 1024 x 768 or higher
- Color : True color(24bit) or higher

### 2) S/W

- OS : Windows 2000 Server, Windows XP
- Necessary bandwidth : 2Mbps for 120FPS

## Appendix 1> Quick Installation Guide

※ You should install USB Hard Lock key driver in advance.

Find the NVMS.exe on the CD and install it. Take the default settings in the install by selecting the "Next" button in the installation wizard and then selecting Finish.

