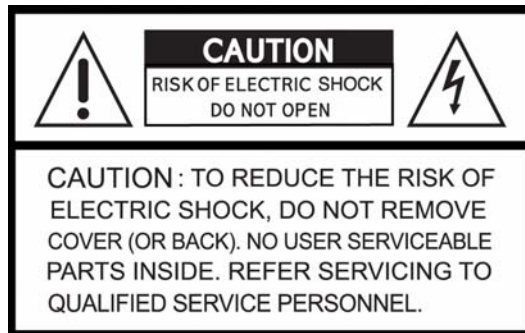


# **USER GUIDE**

## **4 Channel Digital Video Recorder**

## **SAFETY PRECAUTIONS**



## **EXPLANATION OF SYMBOLS**



This symbol is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.



This symbol is intended to alert the user to the presence of unprotected "dangerous voltage" within the product's enclosure that may be strong enough to cause a risk of electric shock persons.

### **CAUTION**

THIS PRODUCT HAS MULTIPLE-RATED VOLTAGES (100V AND 240V).

SEE INSTALLATION INSTRUCTIONS BEFORE CONNECTING TO THE POWER SUPPLY

THIS PRODUCT USES A LITHIUM BATTERY.

THERE IS A RISK OF EXPLOSION IF THE BATTERY ON THE MAIN BOARD IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO INSTRUCTIONS.

THIS EQUIPMENT AND ALL COMMUNICATION WIRINGS ARE INTENDED FOR INDOOR USE.

TO REDUCE THE RISK OF FIRE ELECTRIC SHOCK, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE.

## **WARNING**

The product should be installed by a trained professional. The DVR should be powered off when connecting camera, audio, or sensor cables.

The manufacturer is not responsible for any damages caused by improper use of the product or failure to follow instructions for the product.

The manufacturer is not responsible for any problems caused by or resulting from the user physically opening the DVR for examination or attempting to fix the unit. The manufacturer may not be held liable for any issues with the unit if the warranty seal is removed.

## HDD INSTALLATION

Screw the HDD brackets to the HDD and insert rubber rings.



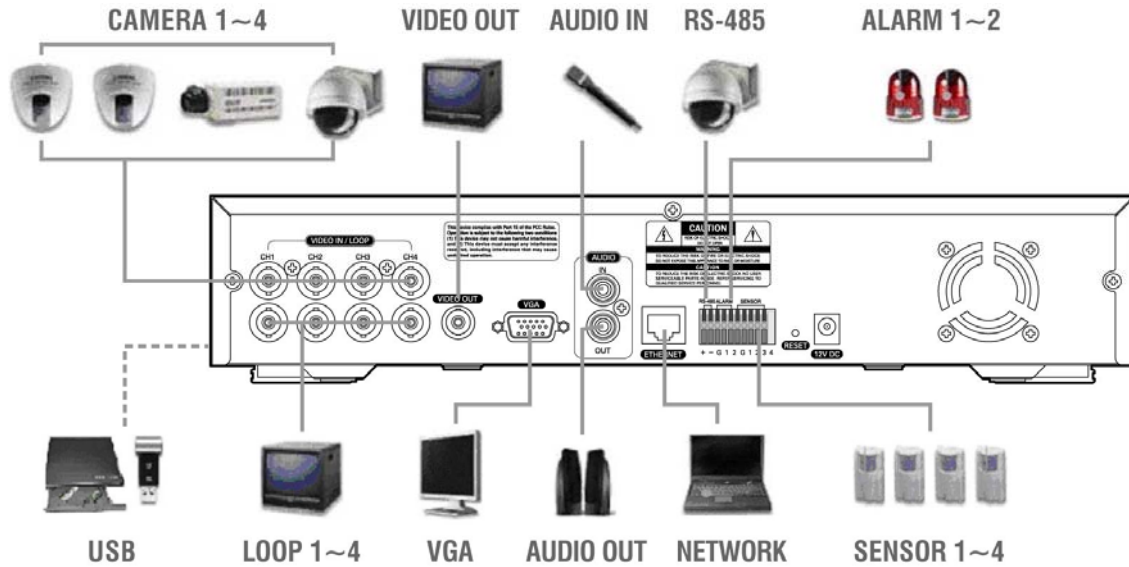
Fix the HDD to the chassis.



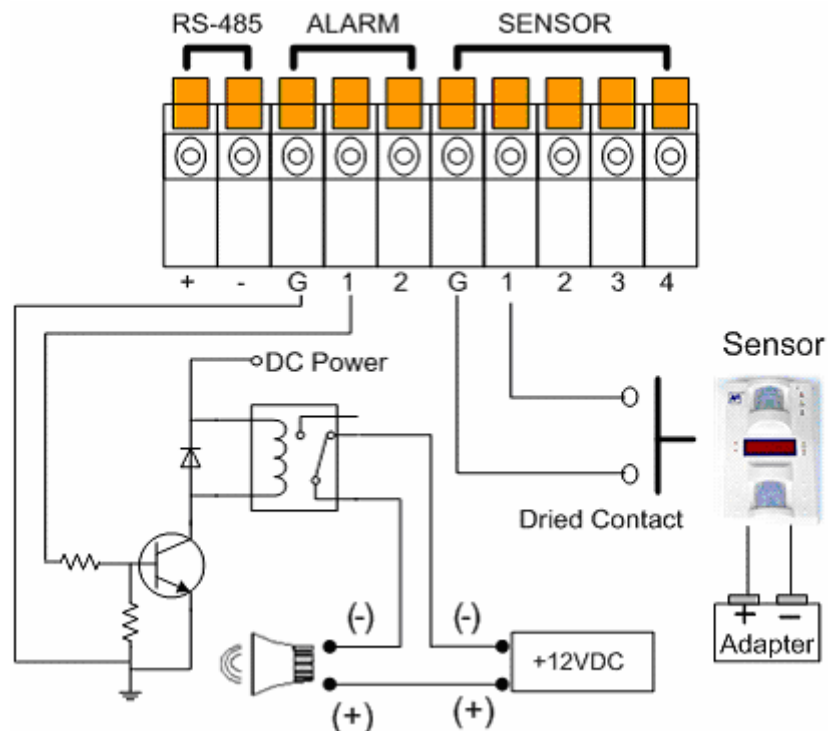
Firmly insert SATA data cable and power cable to the HDD.



## SYSTEM SCHEMATIC



## Wiring Camera Control port and Sensor input / Alarm output



**SENSOR INPUT:** 5V TTL input. Connect two signal lines of sensor to the desired sensor number. (You can set the type-NC or NO- of sensor at "Setup" mode).

**ALARM OUTPUT:** 5V TTL output. Connect two output lines of alarm to the desired alarm number (G and 1~2) after you set the circuit diagram like above

## TABLE OF CONTENTS

1. Introduction .....	9
1-1. The System .....	9
1-2. General Features .....	9
1-3. Package Contents .....	10
2. Basic Operation .....	11
2-1. Front Panel .....	11
2-2. Rear Panel .....	12
2-3. Start the System .....	13
2-4. Menu Bar .....	13
2-5. Display Icons .....	13
2-6. User or Admin Login .....	13
2-7. The Main Menu .....	14
2-8. Contextual Menu .....	14
3. DVR Configuration .....	15
3-1. System .....	15
3-1-1. MENU > SYSTEM > Information .....	15
3-1-2. MENU > SYSTEM > Data & Time .....	16
3-1-3. MENU > SYSTEM > Password .....	16
3-1-4. MENU > SYSTEM > Storage .....	17
3-1-5. MENU > SYSTEM > System Log .....	18
3-1-6. BACKUP .....	18
3-1-7. Clip Maker .....	19
3-2. Device .....	20
3-2-1. MENU > DEVICE > Camera .....	20
3-2-2. MENU > DEVICE > PTZ .....	21
3-2-3. MENU > DEVICE > Sensor & Motion .....	22
3-2-4. MENU > DEVICE > Alarm & Buzzer .....	23
3-3. Record .....	23
3-3-1. MENU > RECORD > Record Setting .....	23
3-3-2. MENU > RECORD > Schedule .....	24
3-3-3. MENU > RECORD > Event .....	26
3-4. Display .....	26
3-4-1. MENU > DISPLAY > OSD .....	26
3-4-2. MENU > DISPLAY > Monitor .....	27
3-5. Network .....	27

3-5-1. MENU > NETWORK > Address .....	27
3-5-2. MENU > NETWORK > DDNS .....	28
4. Playback .....	29
4-1. Display .....	29
4-2. Search Options .....	29
4-2-1. Go to Time .....	29
4-2-2. Calendar Search .....	30
4-2-3. Event Search .....	30
4-2-4. Playback Control .....	31
5. Web Viewer .....	32
5-1. Login .....	32
5-2. Live .....	32
5-3. Playback .....	33
5-3-1. Calendar Search .....	34
5-3-2. EVENT Search .....	34
6. HDxViewer .....	35
6-1. Quick Start .....	35
6-1-1. Live .....	35
6-1-2. Search .....	38
6-1-3. Setup .....	39
6-2. Server list indication .....	40
6-3. Program shutdown, volume, PTZ control, server connection & disconnection .....	41
6-4. Screen division, full screen and switching .....	41
6-5. LCD window and log .....	42
6-6. Single channel player, network recording and preset .....	42
6-7. Authentication .....	43
6-8. Screen capture .....	43
6-9. Server list .....	44
6-9-1. Server connection .....	45
6-9-2. Server disconnection .....	46
6-9-3. Connect all servers .....	46
6-9-4. Watching video .....	47
6-9-5. Not watching video .....	47
6-10. Server list use .....	47
6-11. Single channel player .....	48
6-12. Preset .....	48

6-13. Setup .....	48
6-13-1. Local setup .....	49
6-13-2. Remote setup .....	49
6-14. Search .....	49
6-15. Backup Viewer .....	50
APPENDIX.....	52
A-1. DDNS(Dynamic Domain Name Server) .....	52
A-1-1. Use DDNS service after signing up for autoipset.com.....	52
A-1-2. Use DDNS without signing up for autoipset.com .....	55
A-2. Compatible HDD models .....	55
A-3. Specifications .....	56



# **1. Introduction**

## **1-1. The System**

Thank you for purchasing the most reliable 4 channel DVR with high quality image. HDF1212 provides better compression than current other MPEG4 DVR and best image quality, smallest packet size, DVD quality video, transmits video more efficiently over networks than any of previous technologies.

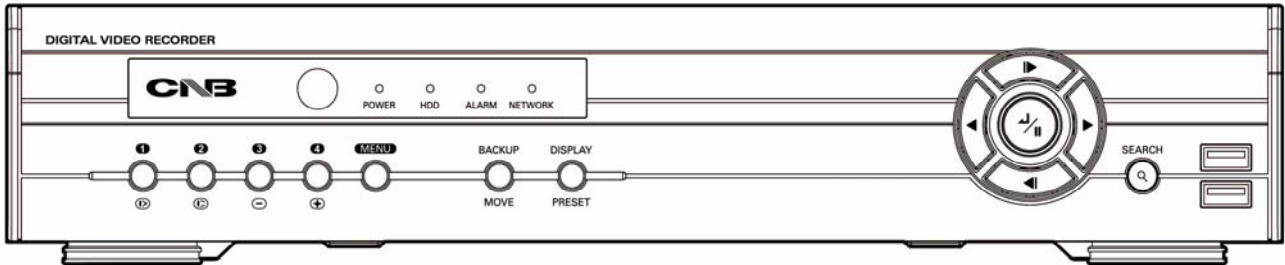
The DVR guarantees the most reliable security system ever introduced in the market. The DVR brings you the most reliable and fully featured surveillance technology you have ever experienced. The latest official H.264 video compression standard will lead you the new technology in CCTV.

## **1-2. General Features**

- Embedded Linux System to Guarantee Maximum Reliability
- H.264 Video Compression Standard
- Max.120 (NTSC) / 100(PAL) ips Recording
- Supports D1 / Half D1 / CIF Resolution
- Multi Operational System: Display, Recording, Playback, Networking, Backup
- Dedicated DB System for Stability
- Offers Lower Bit Rates and Better Picture Quality
- Easy One Touch Backup
- Backup, Upgrade, Setup via USB and Network
- Superior Image Quality of H.264 in Low Bandwidth
- Interactive Setup for Easy Remote Control
- 4 Cameras In / 1 Audio In
- Supports SATA HDD

### 1-3. Package Contents

The following components are included in the HDF1212 package:



DVR SET



1. NETWORK CLIENT S/W CD



2. REMOTE CONTROLLER & BATTERY

3. MANUAL



4. ADAPTOR & POWER CABLE



5. RUBBER RINGS & SCREWS FOR HDD INSTALLATION



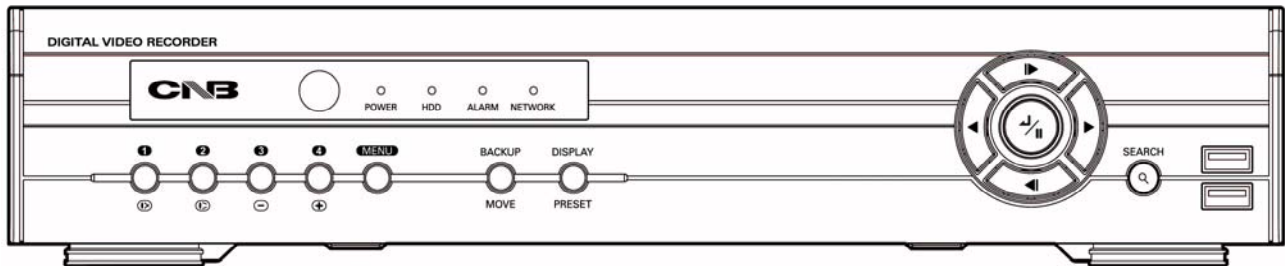
6. IDE HDD CABLE



7. HDD BRACKETS

## 2. Basic Operation

### 2-1. Front Panel



- **USB Port** : USB ports on the front panel provides following functions:

- i. Backup files using USB Flash Memory or USB-IDE HDD
- ii. Control the system using an USB Mouse
- iii. Save/Load the system settings using an USB Flash Memory.

- **LED Indication**

**Power LED**: LED will be on when power is supplied to the system

**HDD LED**: LED will be on when data is being recorded or searched in HDD.

**NETWORK LED**: LED will be on when the system is being connected via network.

**ALARM LED**: LED will be on when the alarm is being activated.

- **Front panel buttons**

**MENU**: Press the 'Menu' button to enter/exit the setup screen.

**SEARCH**: Press the 'SEARCH' button to enter playback mode.

Playback menu will be popped up if you press 'SEARCH' button again at playback mode.

**BACKUP/MOVE**: Press the 'Backup/Move' button to enter backup menu. In addition, the button can be also used to display menu for loading PTZ presets under PTZ mode.

**DISPLAY/PRESET**: Press the 'Display/Preset' button to change display mode from Quad to Sequence or Sequence to Quad. In addition the button can be also used to display menu for saving PTZ preset under PTZ mode.

**1 / [D]** : Display Camera no.1 / Focus on near distance under PTZ mode.

**2 / [F]** : Display Camera no.2 / Focus on far distance under PTZ mode.

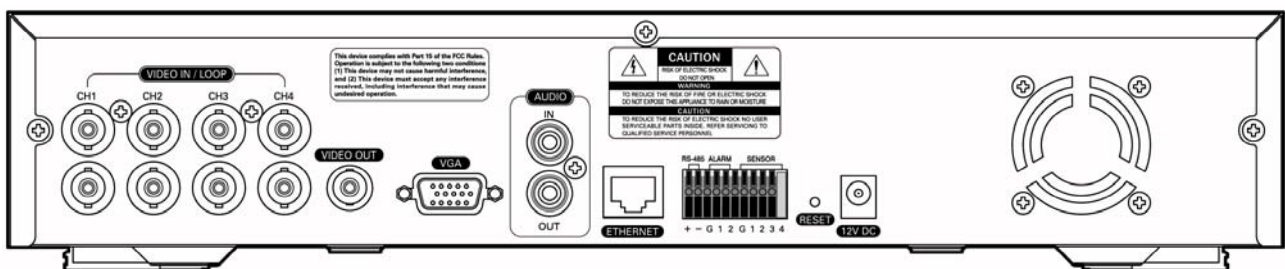
**3 / [-]** : Display Camera no.3 / Zoom Out under PTZ mode.

**4 / [+]** : Display Camera no.4 / Zoom In under PTZ mode.

- ▶ : Move forward by one frame under Pause. Use this button to move upward when you set the menu.
- ◀ : Move backward by one frame under Pause. Use this button to move downward when you set the menu.
- ◀ : Play the video backward. Press the button repeatedly to increase play speed up to 32 times faster than usual (Sequence: 1, 2, 4, 8, 16, 32 times). Use this button to move left when you set the menu.
- ▶ : Plays the video forward. Press the button repeatedly to increase play speed up to 32 times faster than usual (Sequence: 1, 2, 4, 8, 16, 32 times). Use this button to move right when you set the menu.
- ⏸ : Press the button to complete the settings. Under playback mode, the button can be used to pause the playback screen.

## 2-2. Rear Panel

The rear panel of the DVR comprises the following:



- Video Input port: Four connectors for video input (NTSC/PAL).
- Video Loop Through: Four connector for video loop out.
- Video Out: Composite video output in NTSC/PAL format.
- VGA Out : Connector for VGA monitor.
- Audio In / Audio Out: RCA (line level).
- Network : RJ-45 connector for LAN connection
- Terminal Blocks
  - RS-485: For control the PTZ cameras and external control keyboard.
  - Alarm Out: This terminal blocks connect external alarms to the DVR. (5V TTL OUTPUT)
  - Sensor In: This terminal connects external sensors to the DVR. (5V TTL INPUT)
- Reset: This reset switch will return all the settings to the original factory settings.
- DC Power Jack : Apply 12V DC using the DC adaptor supplied with equipment(DC12V / 3.33A)

## 2-3. Start the System

Connecting the power cord will turn on DVR. The system initialization will take approximately 10 to 20 seconds. Once the system is initialized, it will display quad screen, and begin to record video automatically.



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

## 2-4. 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

**%**: Shows the % of HDD being used

 : Turns on when the HDD is set to be overwritten.

 : Turns on when the system is connected to the network

 : Turns on when the Alarm is being activated

## 2-5. Display Icons

 : Recording

 : No Recording

 : Event Recording

 : Pre Event Recording

 : Motion Detection

 : Sensor Detection

 : Sequence

 : PTZ Camera

## 2-6. User or Admin Login



Press **MENU** to enter main menu screen. When Login screen appears, please enter ID (Admin or User) and

Password. Password can be set up to 8 numbers with the combination of numbers from 1 to 4. The factory default password is '1111' so press OK to log in to the system. Password can be set under password set up option (MENU > SYSTEM > Password). 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 > Password).

- **Admin:** Admin has all authority to control DVR.
- **User:** User does not have authority to access DVR menu.

## 2-7. The Main Menu

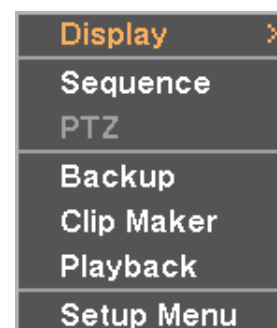
The **Main Menu** of DVR consists of SYSTEM, DEVICE, RECORD, DISPLAY and NETWORK. And each menu consists of various sub menus that allow detail set up of the system. Use Mouse, Remote Controller or Front Buttons to access to each menu.



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.

## 2-8. Contextual Menu

Additional **Contextual Menu** screen appears by clicking right button of the Mouse. Display option allows changing Camera on the monitor. Select All to display all cameras on the monitor. For other menu options on Contextual Menu please refer to "3. DVR Configuration".



### 3. DVR Configuration

#### 3-1. System

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

##### 3-1-1. MENU > SYSTEM > Information



In the **Information** screen, DVR Name, System Version, Upgrade, Mac Address and Configuration options can be selected.

- **DVR Name:** Please select DVR Name and input DVR name using the virtual keyboard.
- **Version/Upgrade:** In order to upgrade the system, save the upgrade file to USB Flash Memory and connect it to DVR. If you press Upgrade button, upgrade process will start and it will take approximately 5 minutes. DVR will reboot automatically when the upgrade is completed.



**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.**

- **NTSC/PAL:** Select Camera Signal System (NTSC / PAL / AUTO) which is connected to DVR.



**When DVR and cameras are turned on and off with one switch, DVR may cause system errors if NTSC/PAL is set to AUTO.**

- **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



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

### 3-1-2. MENU > SYSTEM > Data & Time

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

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

Highlight and press Time Zone to select right Time Zone, and please check 'Use Daylight Saving Time' if it is applicable. Enter start and end date/time for local 'Daylight Saving Time'. Click button to set up Date and Time. Select 'Use NTP' to enter Time Servers to be synchronized with DVR. Highlight and press to enter Time Server using the virtual keyboard. Press 'Time Sync' to synchronize the DVR time with the registered time server.



**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.**

### 3-1-3. MENU > SYSTEM > Password

In the **Password**, Admin Password, User Password and Auto Logout options can be selected.

Press 'Change' and Password set up screen will appear to set or change Admin/User Password.



- **Current** : Enter current password
- **New** : Enter new password
- **Confirm** : Re-Enter new password for the confirmation



The Default password is set to '1111'

Set time interval for Auto Logout using  button

### 3-1-4. MENU > SYSTEM > Storage



In the **Storage**, HDD Format, Record Period and Smart options can be selected.

When installing the HDD for the first time, the HDD should be formatted first.

Highlight and press **Format** button to begin HDD format.

- **Record Period**: displays the information on the period of recorded data.
- **Auto Deletion (day)**: Keep the recorded data for a selected day(s) from the time you set. If the new record period starts, it will delete all past period of recorded data.
- **S.M.A.R.T** option allows checking the status of installed HDD.
  - **Disk Status**: Shows the HDD's condition
  - **Temperature**: Show the HDD's current temperature
  - **Threshold** : Allow to set acceptable max HDD temperature



If the HDD temperature exceeds the preset temperature under Threshold, the system will active an alarm to notify the change.

### 3-1-5. MENU > SYSTEM > System Log



Time	Contents
10/03/2008 16:19:29	Logout
10/03/2008 16:17:04	Logout
10/03/2008 16:16:43	Remote setup begin
10/03/2008 16:16:04	Setup end
10/03/2008 16:15:43	Setup begin
10/03/2008 16:15:41	Login (Admin)
10/03/2008 16:04:36	Logout
10/03/2008 16:03:33	Login (Admin)
10/03/2008 16:01:47	DDNS update fail
10/03/2008 15:59:49	Logout
10/03/2008 15:58:49	Setup end

Reload Close 1/84

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.

### 3-1-6. BACKUP

You can backup data that can be only played with Backup Viewer program.

Here is the direction to generate a backup file.

- Please connect a flash memory drive or a portable storage to DVR system
- Please press **Backup** button and select **Backup**, then you will see a screen like below.  
(Using Mouse : Click the right button of mouse and select **Backup** at the menu)



**Backup**

Device : Flash

File Name : untitled

From : 2008-10-12 01:31:17 PM

To : 2008-10-12 01:31:17 PM



Camera : ☒ ALL ☒ 1 ☒ 2 ☒ 3 ☒ 4

☒ Audio

Status : Ready (0 Bytes / 48.0 MB) Update

Start Close

MENU HSD 0% 2008-10-12 01:31:38 PM

- If your device information does not show up at **Status**, please select **Update** button to renew your device information.
- Please input file name with virtual keyboard by clicking  button.
- Please select the time range of data that you want to backup at **From** and **To** using  button.

- Please check camera numbers that you want to backup data from.
- Please check at **Audio** option if you have audio data with selected camera.
- Please select **Start** button to begin backup process.
- You can check backup process at **Status**.

**It may take a long time to backup data depending on the file capacity**

Now, a backup file is created at your flash memory drive, so you can only play this file with Backup Viewer Program.



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



### 3-1-7. Clip Maker

You can also backup data as a clip that can be played with Quick Time Player, so you do not need Backup Viewer program to play clip files.

Here is the direction to generate a clip file.

- Please connect a flash memory drive or a portable storage to DVR system
- Please press **Backup** button and select **Clip Maker**, then you will see a screen like below.  
(Using Mouse : Click the right button of mouse and select **Clip Maker** at the menu)



- If your device information does not show up at **Status**, please select **Update** button to renew your device information.
- Please input file name with virtual keyboard by clicking  button.
- Please select the time range of data that you want to backup at **From** and **To** using  button.

- Please check camera numbers that you want to backup data from.
- Please check at **Audio** option if you have audio data with selected camera.
- Please select **Start** button to begin backup process.
- You can check backup process at **Status**.

**It may take a long time to backup data depending on the file capacity**

Now, FileName.m4v file is created at your flash memory drive, so you can play this file with Quick Time Player



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

### 3-2. Device

Under **Device** menu, Device configuration options for Camera, PTZ, Sensor & Motion and Alarm & Buzzer can be selected.

#### 3-2-1. MENU > DEVICE > Camera



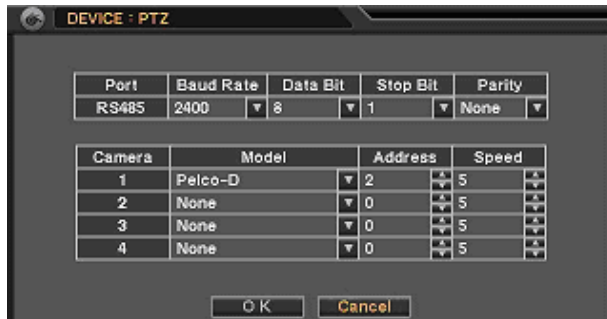
In the **Camera**, Use, Covert and Title options can be selected.

- **USE:** Turn on or off connected cameras.
- **Covert:** If Covert is on, no video images will be displayed on the monitor.
- **Title :** Name each Camera using virtual keyboard by pressing



Even though it shows no video images on the monitor by setting Covert to on, it still records the video images. It only blocks the video images from being monitored by others.

### 3-2-2. MENU > DEVICE > PTZ

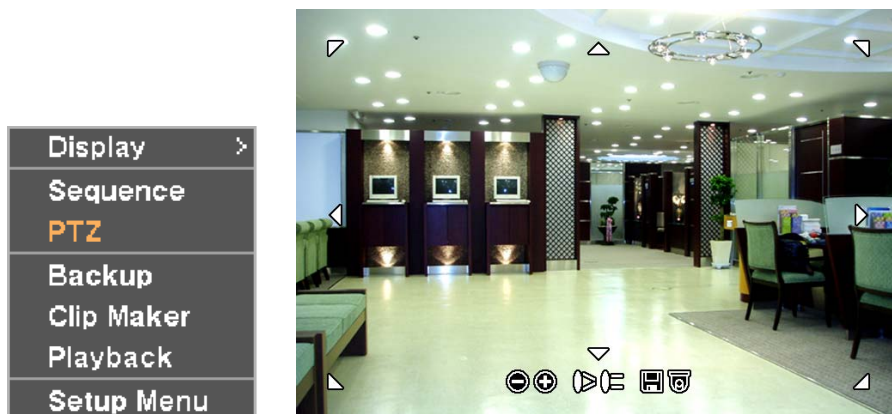


In the **PTZ**, PTZ model, options such as Address, Baud Rate and Speed can be selected.

- **Baud Rate:** Select appropriate Baud Rate from the list. Press to drop down the list.
- **Model:** Select appropriate PTZ model from the list. Press button to drop down the PTZ list.
- **Address:** Set PTZ address (0-255) using button.
- **Speed:** Select PTZ speed from 1 to 10 using button.

### PTZ control

Select a channel connected with PTZ camera. Select PTZ from the contextual menu appears by clicking right mouse button.



: Zoom Out

: Zoom In

: Focus on near distance

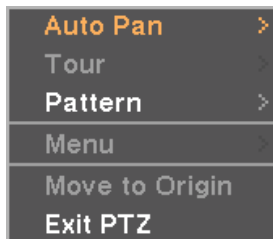
: Focus on far distance

: Save Presets

: Load Presets

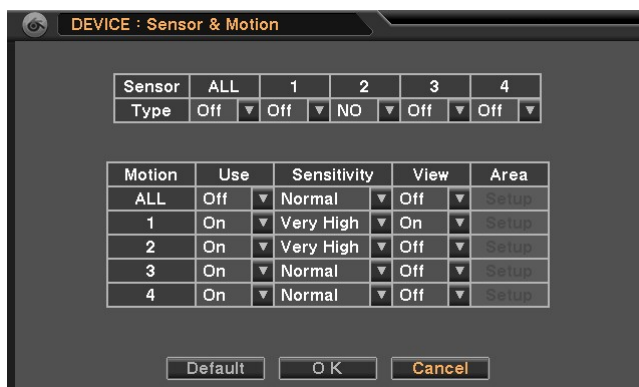


**Please refer to PTZ camera manual for appropriate setting values for PTZ settings. PTZ can only be controlled in single screen mode.**



- **Auto Pan** : On/Off Auto Panning
- **Tour** : On/Off Touring
- **Pattern** : On/Off pattern
- **Menu** : On/Off or Set the menu of PTZ camera
- **Move to Origin** : Bring PTZ to original position
- **Exit PTZ** : Exit PTZ mode

### 3-2-3. MENU > DEVICE > Sensor & Motion



In the **Sensor & Motion**, Sensor Type and Motion Detection options can be selected.

- **Sensor Type**: Select **Sensor Type** using  button. **NC**(Normally Closed), **NO**(Normally Opened)

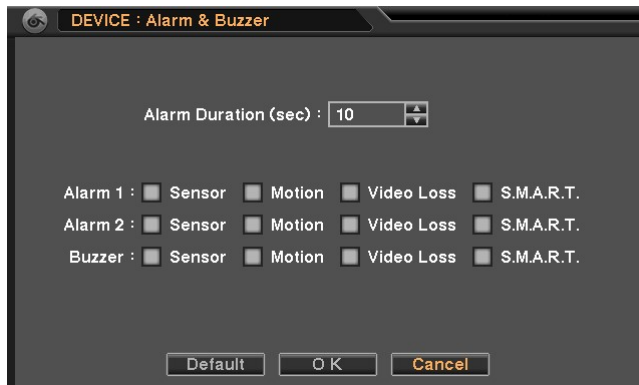
The system provides **Motion Detection** function. Set Motion Detection using below option:

- **Use**: Turn Motion Detection On or Off
- **Sensitivity**: Set system's sensitivity of motion
- **View**: Display selected Motion Area on the monitor
- **Area**: Define the area where motion to be detected

Highlight and press '**Setup**' under area to set the area motion to be detected. Motion setup screen will appear. The blocks indicate the area is defined for motion detection. Use mouse or Enter/Channel (1~4) buttons to select/unselect the blocks. Motion contextual menu will appear by clicking right mouse button.

- **Select Block**: Select four blocks at a time
- **Clear Block**: Unselect four blocks at a time
- **Select All**: Select all blocks
- **Clear All**: Unselect all blocks

### 3-2-4. MENU > DEVICE > Alarm & Buzzer



In the **Alarm & Buzzer**, Alarm Duration, Alarm Outs and Buzzer options can be selected.

DVR has two alarm outs which can be associated with all or selected event types.

Set **Alarm Duration** time from 10 to 300 seconds using button.

Select event type to be synch with Alarm out. The system has internal **Buzzer** can be synch with events.

Select event type to activate internal buzzer whenever the system detects events.

## 3-3. Record

Under **Record** menu, Record configuration options for Recording, Schedule, and Event can be selected.

### 3-3-1. MENU > RECORD > Record Setting



In the **Record Setting**, HDD Overwrite, Audio Record, Real-time Recording, Resolution, and Recording Speed (ips) and Quality for Time/Event Recording options can be selected.



**Only single channel recording is supported at D1 resolution.  
Only two channel recording is supported at Half D1 resolution.**

- **HDD Overwrite:** Overwrite recorded data and continue recording when HDD is full.
- **Audio Record:** Select Audio Record option to record audio with video images.



**Audio will be recorded but it will not be synched with specific channels.**


- **Real-time Recording:** Selecting Real-time Recording will allow performing full recording/playback speed of 120ips (100ips); however, the system will record 1ips during Playback.



**To record data all the times, even during Playback, DO NOT recommend selecting Real-time Recording option. Max recording speed will be 60(50) ips but the system will record during playback by unselecting Real-time Recording option.**

	Real-time Recording	None Real-time Recording
Max. Rec/Playback	120(100)ips	60(50)ips
Rec. during Playback	1 ips	60(50)ips

- **Resolution:** Select recording resolution from CIF to D1.

Set desired recording speed using  button. Maximum recording speed can be changed depend on the recording mode.

- **Quality:** Select record image Quality from Low to Very High. Higher image quality means larger the image size.
  - **Low:** 1~2Kbytes / image (CIF, 30ips)
  - **Standard:** 2~3Kbytes / image (CIF, 30ips)
  - **High:** 3~5Kbytes / image (CIF, 30ips)
  - **Very High:** 5~7Kbytes / image (CIF, 30ips)


### 3-3-2. MENU > RECORD > Schedule



In the **Schedule**, Day, From ~ To, Mode, Camera and Setting for detail recording options can be selected.

- **Day:** Various days can be selected for recording by Day, Week (MON to FRI), Weekend (SAT to SUN), Holiday (HOL) and All.

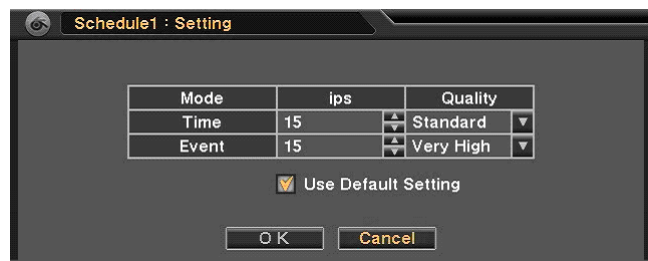


- **From ~ To:** Set desired recording time using  button. Time can be selected from 00:00 to 24:00.
- **Mode:** Select recording mode by Time, Event, Time/Event (T/E) and No Record.
  - **Time:** Continuous Record Mode
  - **Event:** Record only when there is an event as preset
  - **Time & Event:** Combination of Time and Event record mode.




**Event settings will be applied only when there is an event otherwise the system is recording by following the Time.**

- **Camera:** Select cameras to be recorded.
- **Settings:** Select desired settings of recording speed and image quality.



**If select Use Default Settings, the system will record at 15ips and Standard quality. The system always follow recording settings under Recording Setting menu unless specific time and recording options are set under Recording Schedule.**

- **Holiday:** Press Holiday to set specific dates for Holiday setup. Set specific date by pressing Add button. Change and delete dates using  and X buttons.



**There are some Holidays falls on different days. Therefore, they have to be updated every year.**

### 3-3-3. MENU > RECORD > Event



In the **Event**, various event options of Pre-Event, Event REC Duration and Camera associations can be selected.

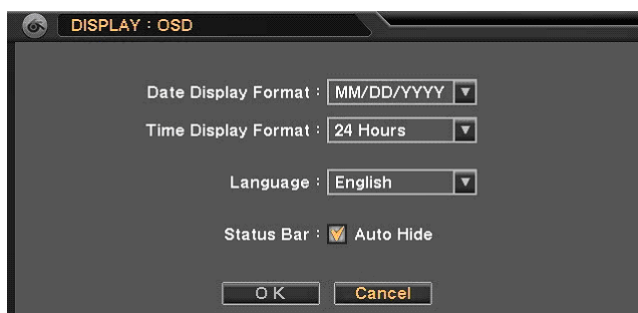
- **Pre-Event (sec):** Video Images occurred right before an Event can be recorded by setting Pre-Event under Event Mode. Duration Pre-Event recording can be set using Pre-Event (sec) up to 30 seconds.
- **Event REC Duration (min):** Set recording duration for events up to 30 minutes.

All the events can be associated any cameras. Mark event types to be associated with each camera.




### 3-4. Display

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

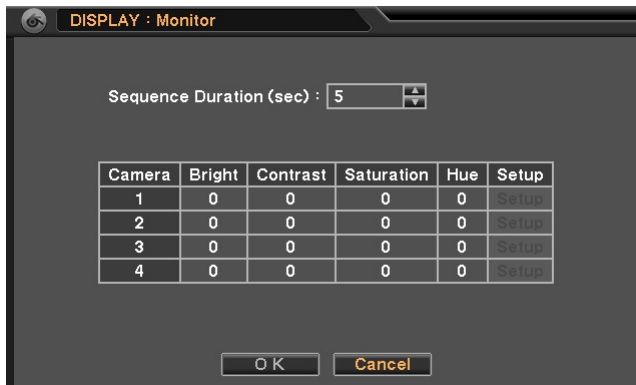
#### 3-4-1. MENU > DISPLAY > OSD



In the **OSD**, Data & Time display format, Language, Status Bar Hide can be selected.

- **Date Display Format:** Select preferred Date Display Format from the list using  button.
- **Time Display Format:** Select preferred Time Display Format from the list using  button.
- **Language:** Select preferred Language from the list using  button.
- **Status Bar:** If you mark Auto Hide, the status bar disappears in 10 seconds while the system is not in use.

### 3-4-2. MENU > DISPLAY > Monitor



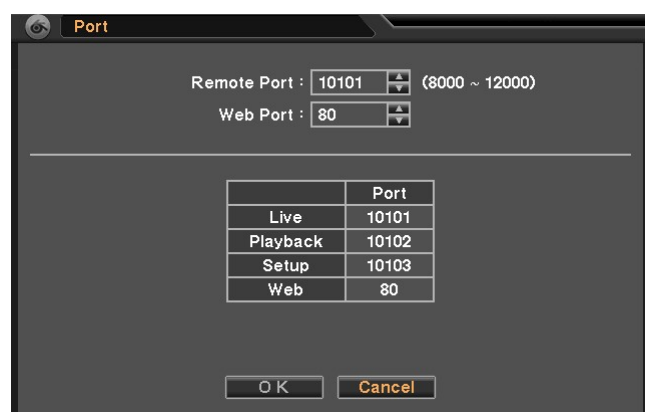
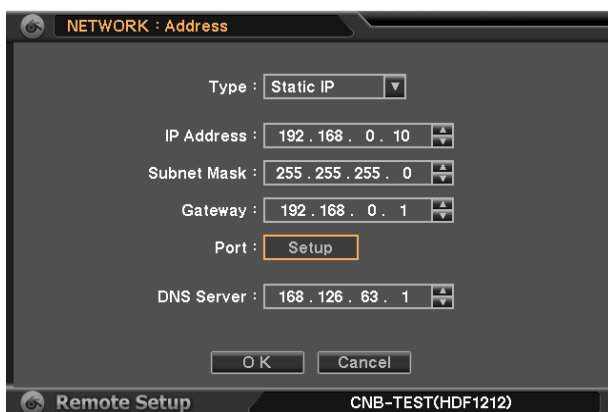
In the **Monitor**, Sequence Duration (sec) and color control options can be selected.

- **Sequence Duration (sec):** Set interval time for the camera sequence.
- **Setup:** Press Setup button to adjust video color. Click or drag control box to adjust each color levels.

### 3-5. Network

Under Network menu, Network configuration options for network Address and DDNS can be selected.

#### 3-5-1. MENU > NETWORK > Address



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

- **Type:** Select network type of Static or DHCP.
- **ID Address:** Enter IP address using button.
- **Subnet Mask:** Enter Subnet Mask using button.
- **Gateway:** Enter Gateway using button.

- **Port:** Select appropriate port number for external access to the system
- Remote Port: This port is required to be connected to DVR via HDxViewer.
- Web Port: This port is required to be connected to DVR via Internet Explorer.



**Default TCP port is 10101 but it can be set from 8000 to 12000 if it is necessary**  
**After you modify port numbers, DVR will be automatically restarted.**



**Router or similar devices users need to open additional TCP ports for network connection, such as Live, Playback, Setup, and Web.**

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

### 3-5-2. MENU > NETWORK > DDNS

Dynamic DNS (DDNS) allows you to create a hostname that points to your dynamic IP or static IP address. We also provide an update mechanism which makes the hostname work with your dynamic IP address of DVR

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

- **Use DDNS :** To decide whether using DDNS service or not
- **DDNS:** Dynamic Domain Name Server allows dynamic network connections.
- **Hostname:** Create a hostname that points to your dynamic IP or static IP address.
- **Use ID:** To decide whether managing hostname through autoipset.com or not.
- **ID/Password:** autoipset.com's ID and Password.



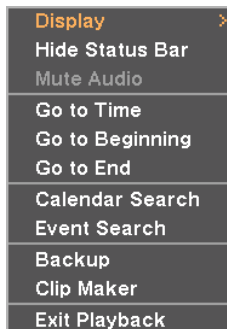
**For more specific information about DDNS and its registration and management at autoipset.com, please see the appendix.**

## 4. Playback

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



### 4-1. Display

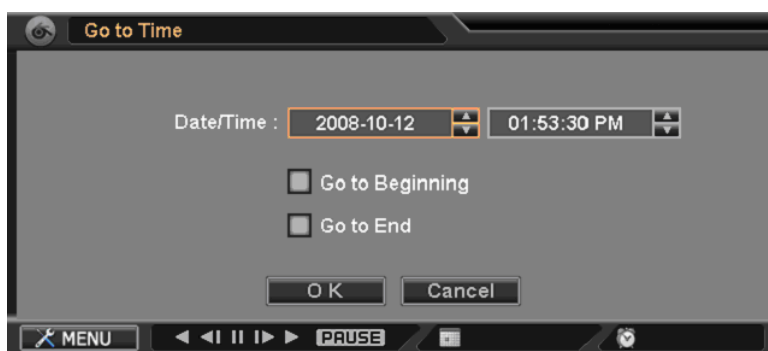



Select display mode or camera from **Display** list or double click on a camera to bring up specific camera in full screen mode. Highlight and press **Hide Status Bar** to keep the status bar disappear from the screen. If you do not want to hear recorded audio, select **Mute Audio**.

### 4-2. Search Options

Please select most convenient search options from the contextual menu.

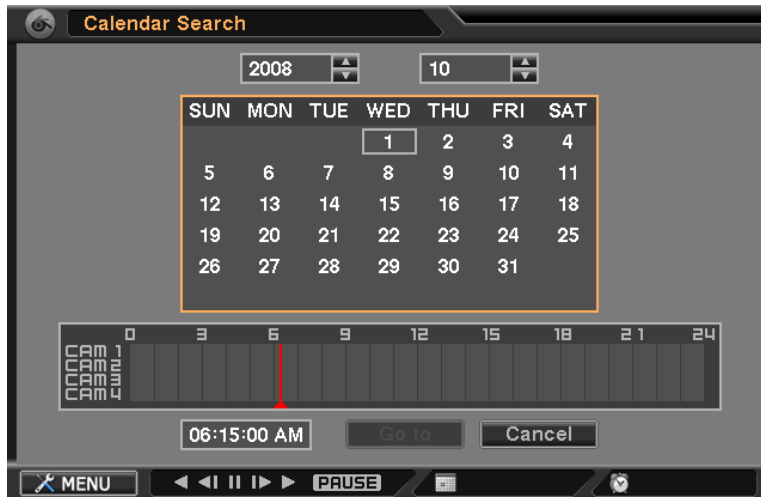
#### 4-2-1. Go to Time



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 search.

- **Go to Beginning:** Move to the very first recorded data.
- **Go to End:** Move to the latest recorded data.

#### 4-2-2. Calendar Search

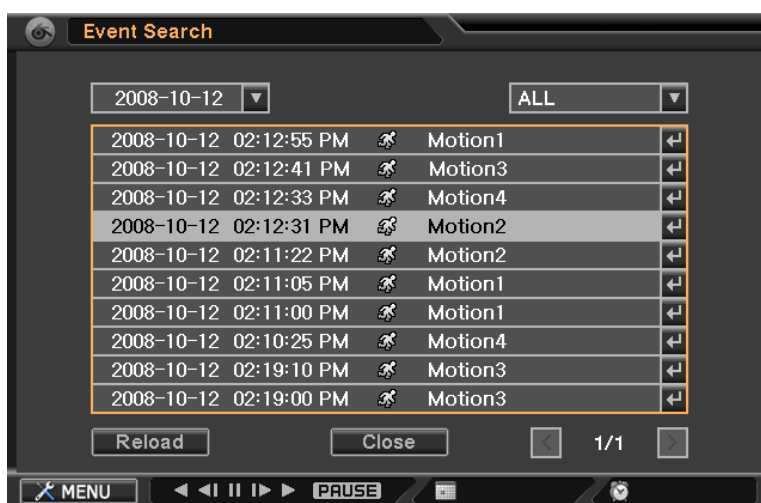


Calendar Search provides easy graphical search by displaying numbers (dates). Dates with recorded data will be highlighted. Once you select the date, it will display record time table below.

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.


Once desired settings are completed, press OK to begin search.

#### 4-2-3. Event Search



Event Search provides easy search by event list recorded. Select the date and type of event to find specific data.

- **All** : System displays every events
- **Motion** : System displays every events related to Motion
- **Sensor** : System displays every events related to Sensor

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

#### 4-2-4. 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.

## 5. Web Viewer

User can access to use DVR's Setup, Live Web Monitoring, Playback functions through Internet Explorer.

### 5-1. Login

User can access to the DVR's Remote Monitoring System if user inputs DVR's IP address or its registered hostname at Internet Explorer's address bar.

The image shows the login interface of the Remote Monitoring System. It has a blue header with the title "Remote Monitoring System". Below the header, there are three input fields: "ID : admin", "Password :", and "Port Number : 10101". At the bottom, there are two buttons: "Live" and "Playback".

At the DVR's login page, User should input correct ID, Password, and Port Number in order to use Live or Playback function.

- **ID** : DVR's Administrator ID only (Default ID: admin)
- **Password** : DVR's Administrator Password (Default Password : "1111")
- **Port Number** : DVR's Port Number (Default Value : 10101)

*\*If you need more information about Port Number, please check the following manual section.*

*"3-5-1. MENU > Network > Address "*





- **Live** : Live Web Monitoring
- **Playback** : Search and Play the DVR's recorded data

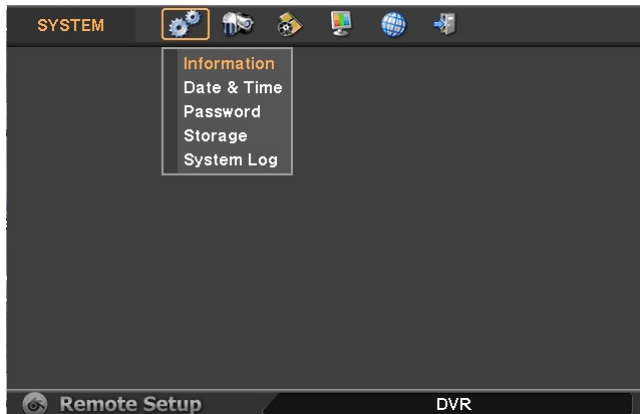
### 5-2. Live

Users can access the Live Web Monitoring and DVR's configuration





-  : One Channel View Mode.
-  : Change the display channel at One Channel View Mode.
-  : Quad View Mode.
-  : Full screen View Mode.
- **Setup**: Changed the DVR configuration.












### 5-3. Playback

User can search and play the DVR's recorded data.



- **Playback Icon**

- |  |  |
|--|--|
|  : Backward High-Speed Play(X2, 4, 8, 16, 32)         |  : Backward Play              |
|  : Forward High-Speed Play(X2, 4, 8, 16, 32)          |  : Forward Play               |
|  : Jump to the beginning of data at the selected date |  : Backward Play by one frame |
|  : Jump to the end of data at the selected date       |  : Forward Play by one frame  |
|  : Pause  |  |

### 5-3-1. Calendar Search

User can select a specific time to search for the recorded data at the calendar.



As you see the picture, date marked as red color if there is recorded data on the calendar. In addition, selected date marked as yellow color.

◀, ▶ : Change month / year

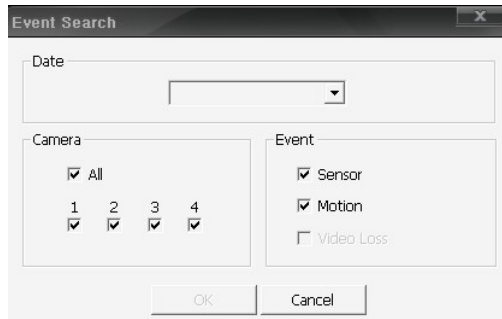
📅 : Search data by inputting specific time.

↻ : Refresh the DVR's recorded data information.

### 5-3-2. EVENT Search

User can search recorded events data through the Event Search function.

Event Search window will be come up if user clicks the Event Search button, then user should select the date and click ok button. Now, you can select any event that you want to check on the Event list.



◀, ▶ : Change the Event List pages

🔍 : Event Search again with different date

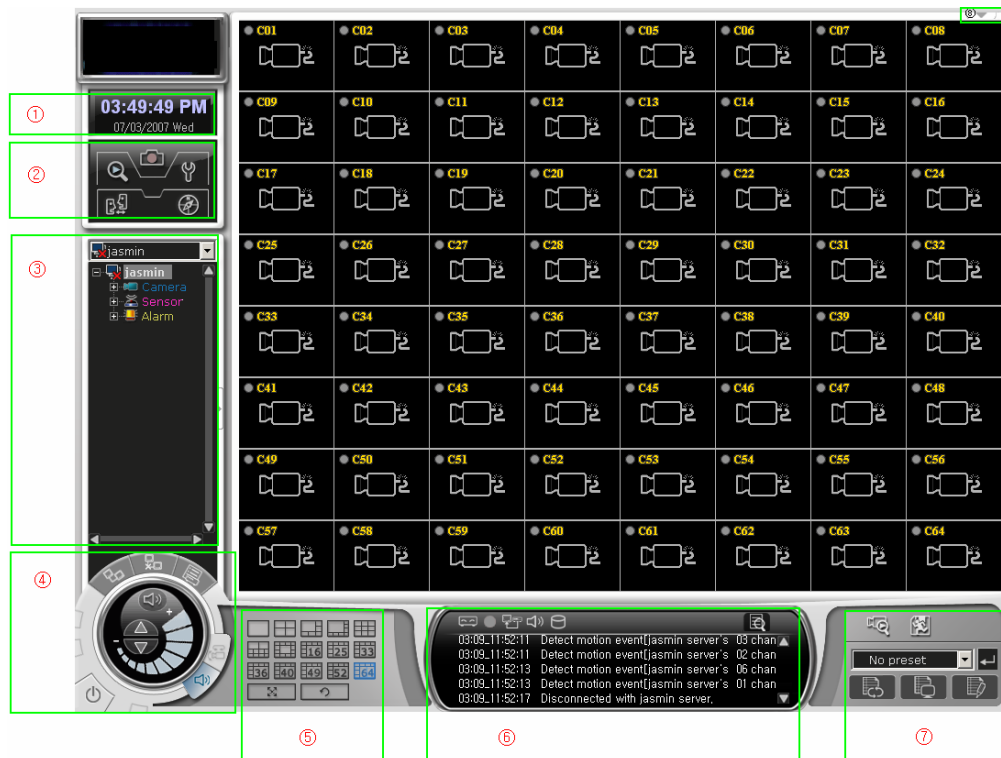


**Web viewer may not display videos properly if user use low performance video cards, especially on-board type.**

## 6. HDxViewer

HDxViewer can manage a number of DVR (maximum 16) as integrated through network.

HDxViewer can indicate video of DVR systems connected to network in 64 video channel screen at maximum and utilize various functions such as setup, PTZ control, preset setup, search (remote/local), E-Map.



① indicates current date, time, day of system where HDxViewer is installed.

② is used for search, screen capture, setup, E-Map

③ indicates list of servers registered on HDxViewer

④ is used for program shut down, server connection and disconnection, management, and PTZ control

⑤ is used for control of screen division

⑥ indicates logs detected in server and HDxViewer

⑦ is used for single channel player, network recording and adding, editing and switching of preset.

⑧ is minimizing button.

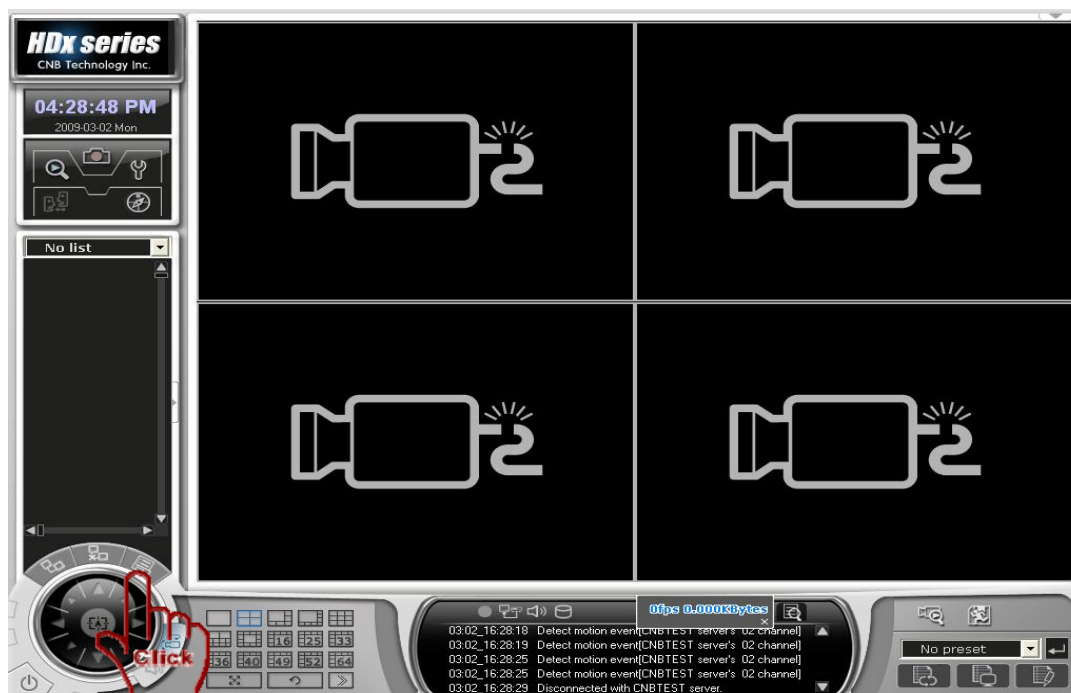
### 6-1. Quick Start

#### 6-1-1. Live

User can do the Live Monitoring with HDxViewer.

1. Please install HDxViewer program on your computer, and then run the program by double clicking HDxViewer icon on the desktop.

- Please select Server List menu like below.



- Please input DVR Server Information at Server List Management Window, and then select Add.

**Server list management window**

Server list

Server name	Server Address	Type	Server state

Server information

Server name  User ID

Server address  User password

Access port  Type

**Server Name:** Please input server name that you want to use

**Server Address:** Please input DVR IP address or DDNS hostname.

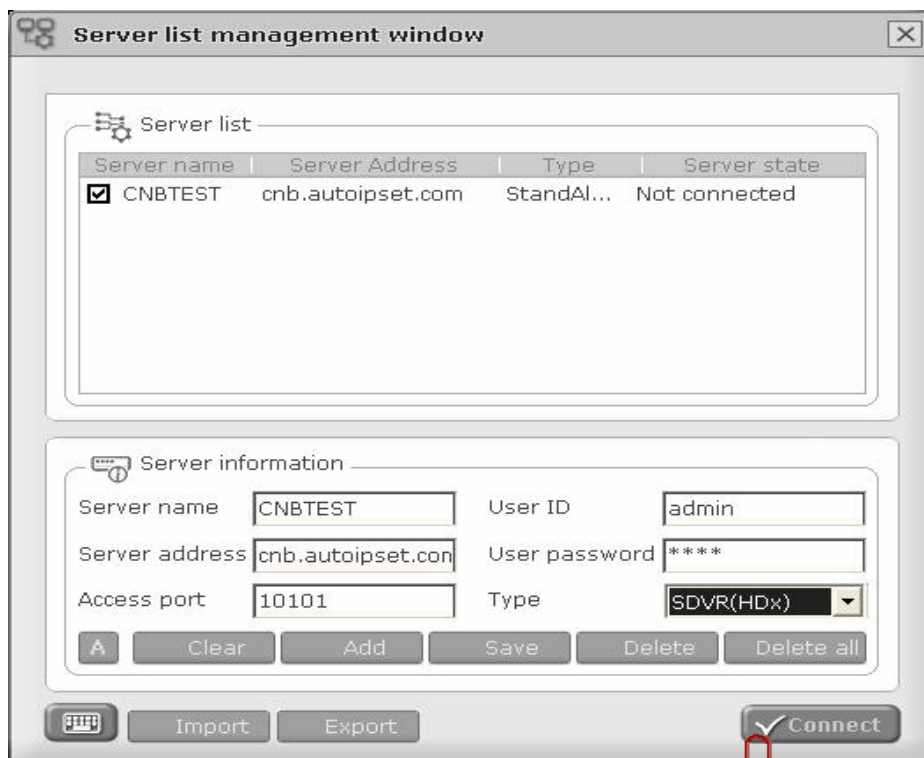
(You can check DVR IP address or DDNS host name at DVR menu-address or DDNS.)

**Access Port:** Please input DVR access port number. (Default port number: 10101)

**User ID:** Please input user ID that is the same as DVR login ID – Default : admin.

**User Password:** Please input DVR login password – Default: 1111.

- Please select a DVR on Server List, then please select connect button.



- Please select a camera number on server list like below to view live monitoring.





## 6-1-2. Search

User can search and play the recorded videos with HDxViewer.

1. Please select search button after accessing to DVR.



2. Please select a DVR server to search at Select remote, then press OK button.



3. Please select the specific time, such as date, hour, and minute, to search like below.



- Please click Play button to view recorded videos.



- Please select Live button to go back to live monitoring mode.

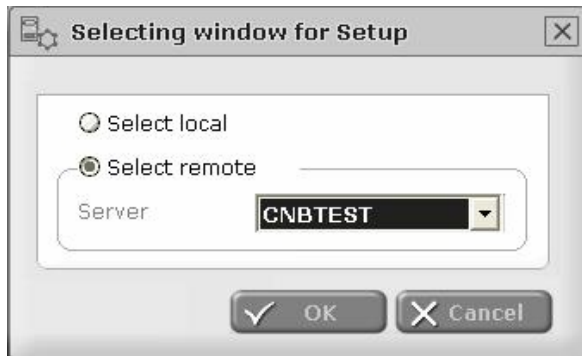
### 6-1-3. Setup

User can set DVR configuration remotely with HDxViewer.

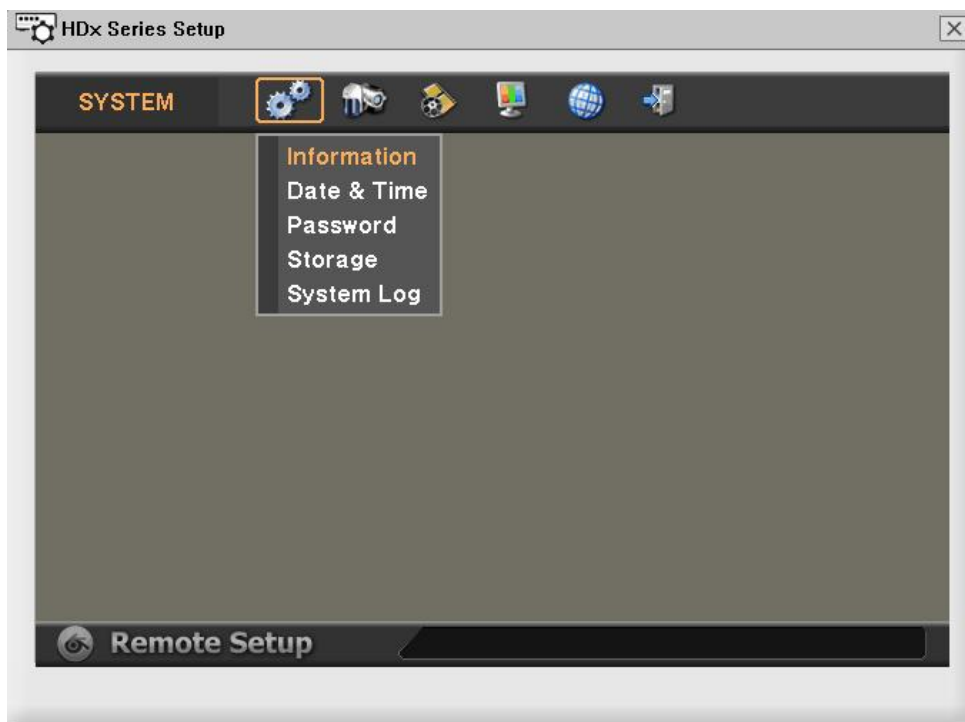
- Please select setup button after accessing to DVR.



2. Please select a DVR server to setup at Select remote, then press OK button.



3. User can set DVR configuration with the same environment like DVR.  
Please select X button to close setup window.



## 6-2. Server list indication






It indicates server name, IP address, camera and sensor registered in HDxViewer.

It indicates the status of servers (connection and event) and devices (cameras, sensors and alarms).



### 6-3. Program shutdown, volume, PTZ control, server connection & disconnection



	<p>Program shut down button.</p> <p>If you click button, authentication window to close HDxViewer will run.</p> <p>If you click any part on HDxViewer program including 'program shut down' with check on of button of 'use log on/off' in system setup in HDxViewer setup, authentication window will run.</p>
	<p>Connect button.</p> <p>If you click button, it will try connection to the selected server in the server list.</p>
	<p>Disconnect button.</p> <p>If you click button, it will try disconnection to the selected server in the server list.</p>
	<p>Server list management button.</p> <p>If you click button, server management window will run.</p>
	<p>PTZ control button.</p> <p>If you click button, PTZ control window will run.</p>

### 6-4. Screen division, full screen and switching


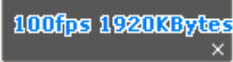

You can enlarge a certain channel in full screen by double-click on that.

## 6-5. LCD window and log

It in text form indicates the status of server connected with.




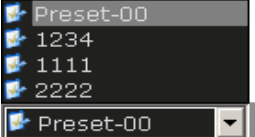





According to setup of server and HDxViewer, log exists or not.



	It indicates the storing, network, and HDD from the left.
	It indicates the current status of network.
	View event the button. If you click button, event log viewer will run.

## 6-6. Single channel player, network recording and preset




	Single channel player button If you click button after selecting channel, a window to see single channel will run.
	Network recording button If you click button, it changes  'activate status' icon and stores the video in the system where HDxViewer is installed.
	If you click  'go to preset' button after selecting preset, it is applied to the current HDxViewer.
	Go to preset button If you click button, the current screen changes into preset screen.
	Preset switching button If you click button, it switches the preset consequently.
	Edit preset button If you click button, preset setup window will run.
	Preset screen button If you click button, preset addition window will run.

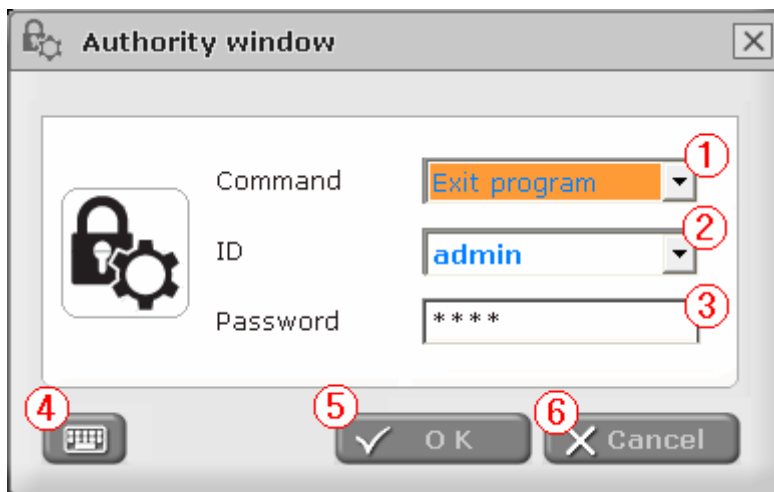
## 6-7. Authentication

You must be authorized in authentication window to use HDxViewer.

You can run log on, log off, program shut down, program minimize, system off and system restart.

If program starts with check on in ☒ Using log on/off 'log on/off' button in system setup in setup, authentication window will run if any part of HDxViewer program including program shut down button is clicked.

If ☒ Using log on/off 'log on/off' button is checked, authentication window will run when  'program shut down' button is clicked.



- ① You can select commands such as log on, log off, program shut down and program minimize if you select command in command list.
- ② With Select on ID list, you can select user ID. If ☒ See user list on log-on window 'show user list' is checked off in log-on window in system setup of HDxViewer setup, you can input the ID manually with this ID button.
- ③ Input password for user ID
- ④ If you click button, virtual keyboard will run.
- ⑤ If you click button, it will run the command in command list. If the ID selected through ID list were not-existing ID or with incorrect password, command will not run.
- ⑥ If you click button, command will not run and authentication window will close.

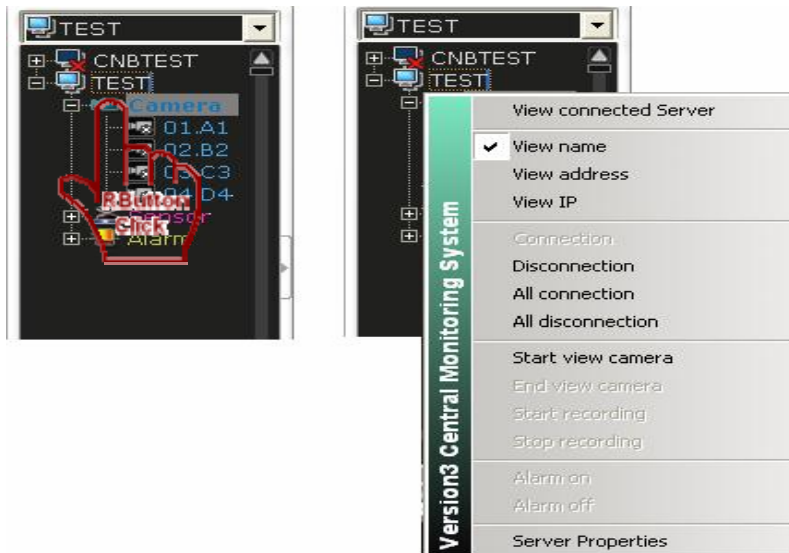
## 6-8. Screen capture



Will capture the still shot of current video and output (save or print out).

## 6-9. Server list

You can select menu by click of right button of mouse.



### + View connected DVR

If you click button, it indicates list of only connecting servers in server list.

### + View name / View address / View IP

If you click each button, the list can be in name, address and IP address.

The above is an example selected as name indication.

### + Connection / Disconnection

If you click each button, it will connect and disconnect to server.

According to the connecting status of server, it changes into:

**Connection** -> **Connection**

**Disconnection** -> **Disconnection**

Menu is enabled or disabled

### + All connection / All disconnection

If you click each button, it will try to connect and disconnect to all servers registered in server list.

### + Start view camera / End view Camera

If you click each button, you can watch or not camera.

According to watching status, it changes into:

**Start view camera -> Start view camera**

**End view Camera -> End view Camera**

Menu is enabled or disabled.

#### **+ Start recording / End recording**

If you click each button, you can record video or not.

According to recording status, it changes into:

**Start recording -> Start recording**

**End recording -> End recording**

Menu is enabled or disabled.

#### **+ Alarm on / Alarm off**

If you click each button, you can activate alarm or dissolve.

According to alarm activating status, it changes into

**Alarm on -> Alarm on**

**Alarm off -> Alarm off**

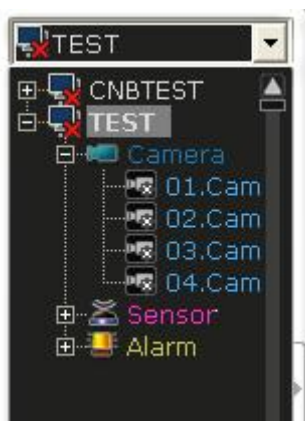
Menu is enabled or disabled

#### **+ DVR system information**

If you click button, server info window of the selected server will runs with indication of DVR information. (The picture below shows the connected status, and may be different in disconnection status.)

### **6-9-1. Server connection**

1) Click twice name of  'not connected server'



2) Completing connection changes icon (.

### 6-9-2. Server disconnection

1) Click the connected server



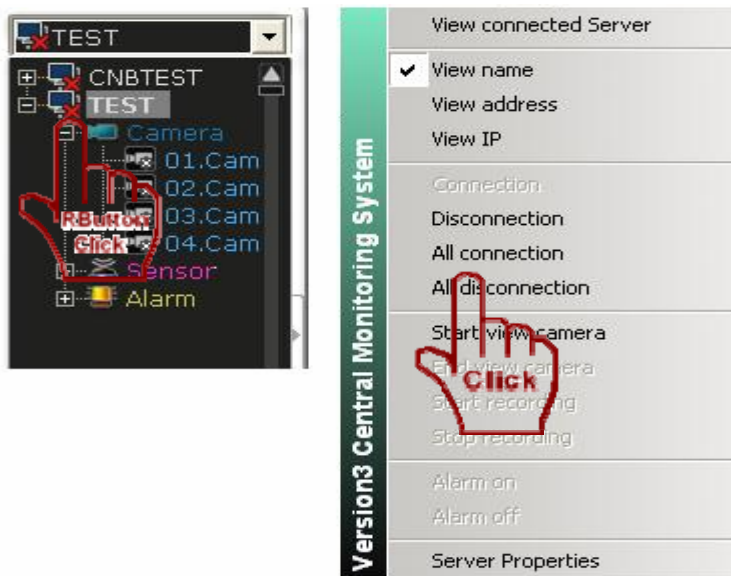
2) Click the button to disconnect



3) Connection is cancelled and icon shape changes (❌).

### 6-9-3. Connect all servers

1) If menu is indicated by click on right button of mouse on server list, click 'All connection'.



2) Icon of connected server is changed.

3) If you click 'disconnect all' button in menu, it will disconnect all servers.

#### 6-9-4. Watching video

1) If you double-click camera of connected server, you can watch video.



: Video is output in channel.



: Video is not being output in channel.



: Video is being recorded in the system where HDxViewer is installed.

#### 6-9-5. Not watching video


1) If menu is indicated by click on right button of mouse on camera with video, click 'stop watching camera' button. (or double-click camera icon in tree control)

2) Video of camera gets hidden and icon changes. (

\* Watching video and its dissolution can be done through drag and drop.

#### 6-10. Server list use



If you click  button of server list, server list management window will run.

There are server name, IP address (of server), connecting method and server status information in server list management window.

You can add server in the list or delete and bring server list from other system with HDxViewer.



The screenshot shows the 'Server list management window' with a table of server information and a form for adding new servers.

Server name	Server Address	Type	Server state
<input checked="" type="checkbox"/> CNBTEST	cnb.autoipset.com	StandAl...	Not connected

Below the table is a 'Server information' section with the following fields:

- Server name: CNBTEST
- User ID: admin
- Server address: cnb.autoipset.com
- User password: \*\*\*\*
- Access port: 10101
- Type: SDVR(HDx)

At the bottom of the window are buttons for 'A', 'Clear', 'Add', 'Save', 'Delete', 'Delete all', 'Import', 'Export', and a 'Connect' button with a checkmark.

## 6-11. Single channel player

If you click  'single channel player button, single channel player window will run.

It offers saving full motion, still shot capture, PTZ control, live screen and full screen



## 6-12. Preset

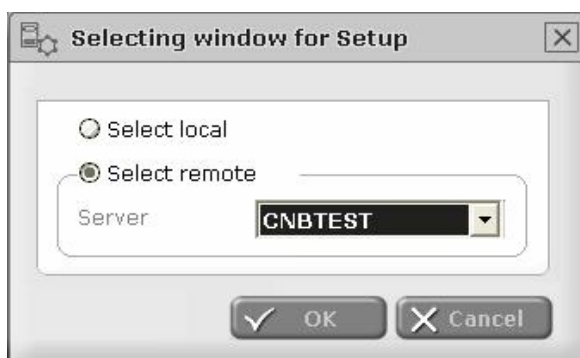
If you click 'add preset' button, you can save the current screen status. (If clicked, add preset window will run and add preset.)

If you click 'edit preset' button, preset setup window will run and can edit/add/delete.

If you click 'switching' button, presets are consequently switching and display videos.

## 6-13. Setup

If you click the setup button () , setup selection window will run.




You can select HDxViewer setup or server setup by click on 'setup selection' button (local or remote).

If you click 'remote selection' button, the currently connected server is selected.

You can start setup by click 'OK' or stop setup by 'cancel'.




### 6-13-1. Local setup

If you click  'setup' button, setup selection window will run.



HDxViewer setup window will run if server is not connected at all.

If you click 'OK' after clicking on 'local selection', HDxViewer setup window will run. Only system administrator can do setup.

### 6-13-2. Remote setup

If you click the  'setup' button, setup window will run.

Without any server connected, HDxViewer setup window will run.

If you click  'OK' button after firstly clicking  Remote selection 'remote selection' and secondly selecting server to setup by clicking 'server selection', remote setup window will run.


It is possible to set system. Camera, recording schedule, video event, sensor, alarm, storage device, network, user and email in remote setup and initial screen is system setup.


Only system administrator (admin) can run setup.

## 6-14. Search

If you click  'search' button, remote search will run.



 Local selection

You can select search in HDxViewer system or search in server by clicking  Remote selection 'remote search selection'.

If you click 'remote selection' button, you can select the currently connected server.

If you click 'OK' button, search window will run.

If you click 'Cancel' button, you can stop searching.

## 6-15. Backup Viewer

Backup data can be played with Backup Viewer program.



Please connect memory stick or portable hard disk that holds backup data before running Backup Viewer Program.



Using this button user can load backup data. If user succeeds to load a file, recorded date for backup data will be marked at calendar like below.



**2** This color indicates the date the backup data exists.

**13** This color indicates the user selecting date.

If user selects the colored date on calendar, recorded camera numbers will be marked like below.



.If user selects one of camera numbers, the beginning of recorded image will be shown at the main screen, and the recorded time range will be marked at playback selection zone like below.



User can select a specific time to search at playback selection zone.



The button to save image.

If you click button, current playback image is captured and still image window runs.



The button to save in AVI

It can save current video as a motion video file.

Usage: 1. Play video where user want to save from as AVI and click save AVI button.

2. User should play video until it reach the end of video where user want to save as AVI.

3. Even though user increases play speed, AVI file is saved normally.

4. If user click stop button, saving to AVI process will be done.



The button to add print.

If you click button, add a current screen to the print list and run printing window..



The button to view print.

If you click button, printing window runs.

## APPENDIX

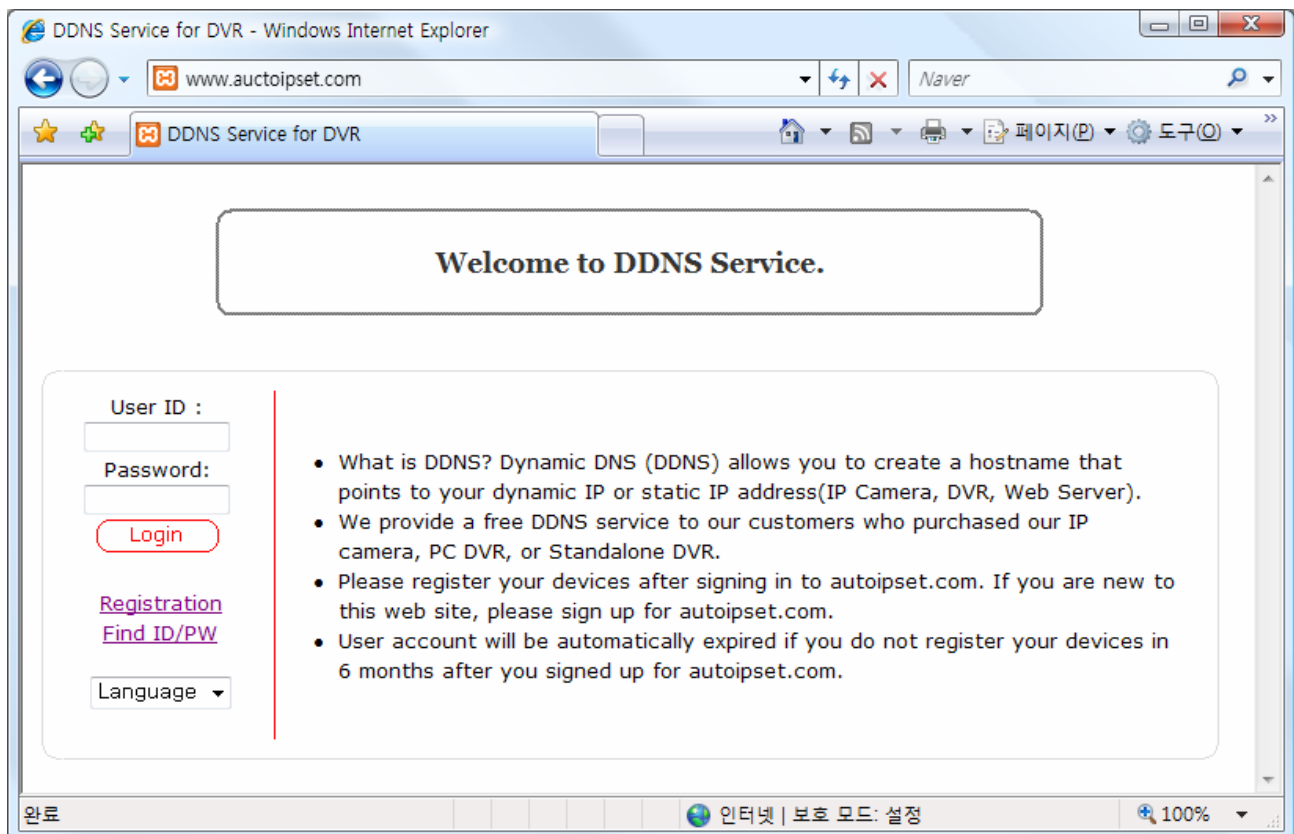
### A-1. DDNS(Dynamic Domain Name Server)

Dynamic DNS (DDNS) allows you to create a hostname that points to your dynamic IP or static IP address (IP Camera, DVR, and Web Server). We also provide an update mechanism which makes the hostname work with your dynamic IP address of DVR. You can use DDNS service after signing up for autoipset.com or without signing up process.

#### A-1-1. Use DDNS service after signing up for autoipset.com

##### 1. Sign up for autoipset.com

Please run Internet Explorer program, and then please type <http://www.autoipset.com> at Internet Explorer's address bar. You will see the web page for DDNS service like below.



Please click "Registration" in order to sign up for autoipset.com.

User ID :  [Check ID]

(Up to 20 characters)

Password :

Confirm :

(Up to 20 characters)

Name :

(Up to 20 characters)

E-mail :

(Please input an E-mail address that you want to get your password info when you forgot your password.)

Submit

Please fill up the blank with correct information, and then click submit button. You should check the duplication of your user ID by clicking “Check ID” before submission.

## 2. Log in

Please log in with your ID and Password.

After you log in, you can see the list of your registered DVR like below at the product list.

DDNS Service for DVR - Windows Internet Explorer

www.auctoipset.com/user/list.php

DDNS Service for DVR

User List

Product List

Edit User Info

Log out

	Hostname	Public IP	Status
<input type="radio"/>	dvr1.auctoipset.com:80	211.104.176.100:80	<span style="color: green;">●</span>
<input type="radio"/>	dvr2.auctoipset.com:80	211.104.176.101:80	<span style="color: green;">●</span> [delete]

※ If you click your hostname, it will directly open your IP Camera, DVR, or Web Server page.

※ If you want to delete your registered hostname, please click [Delete] key after selecting the hostname.

The last connection time with DDNS

<span style="color: green;">●</span>	In 5 minutes
<span style="color: orange;">▲</span>	Between 5 and 20 minutes
<span style="color: gray;">●</span>	More than 20 minutes
<span style="color: red;">×</span>	Naver connected to DDNS

### 3. DDNS registration

Please select DDNS menu at your DVR with the following route.





DVR > MENU > NETWORK > DDNS







First, please input a hostname that you want to use, and then please select the check box for Use ID.

Next, please input ID and Password that you registered at autoipset.com, and then please click “Update” button. Finally, if you see the message, “DDNS: Succeeded in updating”, then all the registration process is done.

### 4. DDNS Management

Status	Specification
	Elapsed time since last update is Less than 5 minutes
	Elapsed time since last update is more than 5 minutes and less than 20 minutes
	Elapsed time since last update is more than 20 minutes
	No update history

### 5. Delete the registered DDNS

	Hostname	Public IP	Status
	dvr1.autoipset.com:80	211.104.176.100:80	
	dvr2.autoipset.com:80	211.104.176.101:80	

[delete]

Please select the DVR DDNS that you want to delete, and then click “Delete” button.

### A-1-2. Use DDNS without signing up for autoipset.com

Please select DDNS menu at your DVR with the following route.

DVR > MENU > NETWORK > DDNS



The screenshot shows the 'NETWORK : DDNS' configuration window. It has a dark background with white text. At the top, there's a title bar with a camera icon and the text 'NETWORK : DDNS'. Below the title bar, there's a checkbox labeled 'Use DDNS' which is checked. Underneath, there are two input fields: 'DDNS Server : autoipset.com' and 'Hostname : DVR'. Below these, there's another checkbox labeled 'Use ID' which is unchecked. Underneath that, there are two more input fields: 'ID : ' and 'Password : '. At the bottom of the window, there are three buttons: 'Update', 'O K', and 'Cancel'.

Please input a hostname that you want to use, and then please click “Update” button. If you see the message, “DDNS: Succeeded in updating”, then all the registration process is done.

### A-2. Compatible HDD models

BRAND	CAPACITY	Model Number	Model Name
SEAGATE	80GB	ST380815AS	Barracuda 7200.10 Series
	160GB	ST3160815AS	Barracuda 7200.10 Series
	250GB	ST3250310CS	DB35.4 Series
	250GB	ST3250310NS	Barracuda ES.2 Series
	500GB	ST3500320AS	Barracuda 7200.11 Series
	1000GB	ST31000340SV	SV35.3 Series
HITACHI	160GB	HDS721616PLA380	Deskstar 7K160
	250GB	HDP725025GLA380	Deskstar P7K500
	500GB	HDP725050GLA360	Deskstar P7K500
	1000GB	HDS721010KLA330	Deskstar 7K1000

### A-3. Specifications

Model		HDF1212	
[Video]			
Input	Composite	4CH, 1.0Vp-p, 75Ω, NTSC / PAL	
Output	Main Monitor	Composite 1CH BNC, 1.0Vp-p, 75Ω, NTSC / PAL	
		1 CH VGA	
	Loopback Output	4CH BNC    1.0Vp-p, 75Ω	
[Audio]			
Input & Output		1CH Line input / 1CH Line output	
Aduio Codec		ADPCM	
[Recording]			
Compression Format		H.264 Baseline Profile (MPEG4 Part10)	
Compression Rate		4 Step Selectable	
Frame Rate (NTSC/PAL)	Realtime mode	CIF : MAX. 120 / 100 fps	D1 : Channel 1 select only
	Triplex mode	CIF : MAX. 60 / 50 fps	Half D1 : Channel 1, 2 select only
Recording Mode		Time Continuous / Schedule / Motion / Sensor	
Motion Detection		Each Channel Area selectable	
[Display]			
Display Rate		Real time display per camera	
Multiscreen Display		1 / 4 / Auto Sequence	
[Playback]			
Playback Mode		Normal Playback, Various playback speed (forward and backward)	
Search Mode		Archived data Search, Date/time, Calendar, Event	
[Storage]			
Internal HDD	Interface Type	1 SATA Internal HDD	
	Max HDD Capacity	Support 1000GB	
	File System	Own File System	
[Network]			
Remote Access Tool		ActiveX Base Web, HDxViewer Access	
Dynamic IP support		With CNB DDNS Server	
Network Interface		10/100 bas-T Ethernet(RJ-45)	
[Others]			
Sensor Input		4CH (TTL, terminal block NO/NC Programmable)	
Alarm Output		2CH (TTL, terminal block)	



PTZ Camera Control	1 RS-485
Control Applications	Via Front Consol Control, USB Mouse, Remote Controller, TCP/IP (Network)
Backup	Clip copy to USB, Quick Time (MOV)
Power	12V DC
Dimensions(WxHxD)mm	351x276x71