

Palm-Sized 1 Ch Video Encoder



User Manual

The picture might differ according to the specification and model.
Contents of this user manual are protected under copyrights and computer program laws.

1st Edition : 10 Jun 2009

Thank You

Before operating the system, please read this user manual thoroughly and retain it for future reference.

NOTICE

This user manual provides instructions for installing the Video Encoder on your network and initial operation as well. For all other aspects of using the product, please refer to the user manuals contained on the CD in this package.

Remote Software and Manual in the CD

- **CMS (CentralManager Software)**
 - > Max 180 channel real-time monitoring
 - > Up to 5 monitors on a single P/C workstation
- **SMS (StorageManager Software)**
 - > Master storage software to record live image data
 - > Perfect compatibility with CMS for data search and playback

Main Features of the Video Encoder

- **Compact and cost-effective solution**

The palm-sized Video Encoder is designed for installation just on the top or bottom of an analog camera by using mounting hooker.
- **Real-time transmission at D1 resolution**

The Video Encoder can transmit distortion-free images in all resolutions up to D1 at real-time speed.
- **H.264 Triple-Stream**

The Video Encoder delivers H.264 three simultaneous streams in full frame rate at the highest resolution.
- **Local recording by USB media**

User can instantly record images by programmed schedule when alarm is triggered and/or network connection is failed, to avoid any data loss.
- **Remote recording by SMS**

Master storage server is available, offering user to record massive volume of video data with full flexibility over network.
- **Many more...**

Remote PTZ control, two-way audio & built-in web server

Cautions

Read Before System Operation

Follow these details to prevent material damage or personal injury.

Signs of Caution and Warning



Warning: This sign indicates that the user could die or be seriously wounded if not used or installed properly.



Caution: This sign indicates that the user could be wounded or could expect property damage if not used or installed properly.



Warning: Do not expose the product to fog, rain or too much humid to decrease danger from electric shock or fire.

General Warning



Warning

1. Use the power cord, which is supplied or recommended by the supplier, or it may cause fire.
2. Do not disassemble or reassemble the product.
It may cause malfunction or fire.
3. Enquire to your vendor for repair.
It may cause electric shock or fire if the repair is not done properly.
4. Do not touch the product with wet hands.
It may cause malfunction or electric shock.
5. Product installation must be ensured to a professional for product installation, or it may cause malfunction, electric shock or fire.
6. Ground applies to video products equipped with a 3-wire grounding type plug having a third (grounding) pin.
This plug only fits into a grounding-type power outlet.
If grounding is not done, it may cause malfunction or electric shock.
7. Ground connection must not touch gas pipe, water pipe or telephone line.
If grounding is not done properly, it may cause electric shock.
8. Prevent metallic foreign substance from going inside the product.
It may cause malfunction or electric shock.
9. Do not spray insecticide or flammable spray while driving.
It may cause fire.
10. Place the system in a open place where air ventilation is guaranteed, or it may cause over-heating and seriously damage the system to be fired.
11. Prevent water from instilling inside electrical parts.
Clean with a dry towel or malfunction or electric shock could result.



Caution

1. Use the power cord, which is supplied or recommended by the supplier.
The internal fan rotates at high speed and may cause an accident.
2. Do not drop, give strong vibration, or shock to the product.
It may cause malfunction.
3. The air inhaler of the front panel and air outlet of the back panel must not be blocked during installation.
The internal temperature of the product would be greater than allowable and could cause malfunction or fire.
4. Do not touch the product or the power cord when there is thunder.
It may cause electric shock.
5. Do not install the product near or on top of heating source.
The internal temperature of the product would be greater than allowable and could cause malfunction or fire.
6. Do not install the product on inclined or unstable location or where vibration could be committed.
It may cause malfunction.

Cautions about the Power



Warning

1. Must use the outlet of the grounding to connect the power cord, or it may cause fire.
2. Do not connect on the middle of power cord or use extension cord.
It may generate heat or cause fire.
3. Do not touch the power cord with wet hands.
It may cause electric shock.
4. Keep power cord dry and protect from humidity.
It may generate heat or cause fire. The power cord is not waterproof.
5. Hold the body of the plug while removing the power plug.
Do not pull the power cord. Damage to the power cord may generate heat or cause fire.
6. Check the power plug regularly.
Humidity and moderation in smoking may cause fire.
7. Remove power cord from outlet when product is not used for a long time.
It may cause short-circuit or electric shock.



Caution

1. Do not turn off the power by removal of the power plug.
To turn off the power, click the power button from the front panel.
When the system stops abnormally, the power button might not work. Click power button for 5 full seconds to turn power off.
2. Do not cut off the power artificially, or give shock or vibration to unit while the hard disk is activating.
It may cause hard disk failure or loss of data.



Remarks

Function or configuration is subject to be changed or modified without notice for improvement of the product.
Internet Explorer is a registered trademark of Microsoft Corporation.
Windows XP and Windows Vista is a registered trademark of Microsoft Corporation.

Contents

1. INSTALLATION.....	1
1.1 PACKAGE CONTENTS	1
1.2 HARDWARE DIMENSION	2
1.3 SYSTEM CONFIGURATION	3
1.4 INSTALL THE HARDWARE.....	4
1.5 ASSIGN THE IP ADDRESS	5
2. WEB SURVEILLANCE.....	9
2.1 WEB LOGIN	9
2.2 WEB MONITORING	11
2.3 WEB PLAYBACK	12
2.4 WEB CONFIGURATION	13
3. CMS – QUICK GUIDE	24
3.1 SOFTWARE INSTALLATION	24
3.2 INITIAL SETTING.....	24
3.3 LIVE MONITORING	28
3.4 SYSTEM (F/W) UPGRADE	31
4. SMS – QUICK GUIDE.....	32
4.1 SOFTWARE INSTALLATION	32
4.2 INITIAL SETTING.....	32
4.3 RECORDING	36
4.4 VOD SERVICE	37
4.5 FILE SEARCH	39
4.6 HDD/RAID SETTING	40
5. TROUBLE SHOOTING.....	41

1. Installation

Follow the step as below to install the Video Encoder on your local network.

1. Check the package contents
2. Install the hardware
3. Assign an IP address

Warning

- 1) To reduce fire or shock hazard, do not expose the unit to rain or moisture.
- 2) The installation should be made by a qualified service person and conformed to all local codes.
- 3) The casing of the unit is not approved for outdoor use. The product may only be installed in indoor environment.

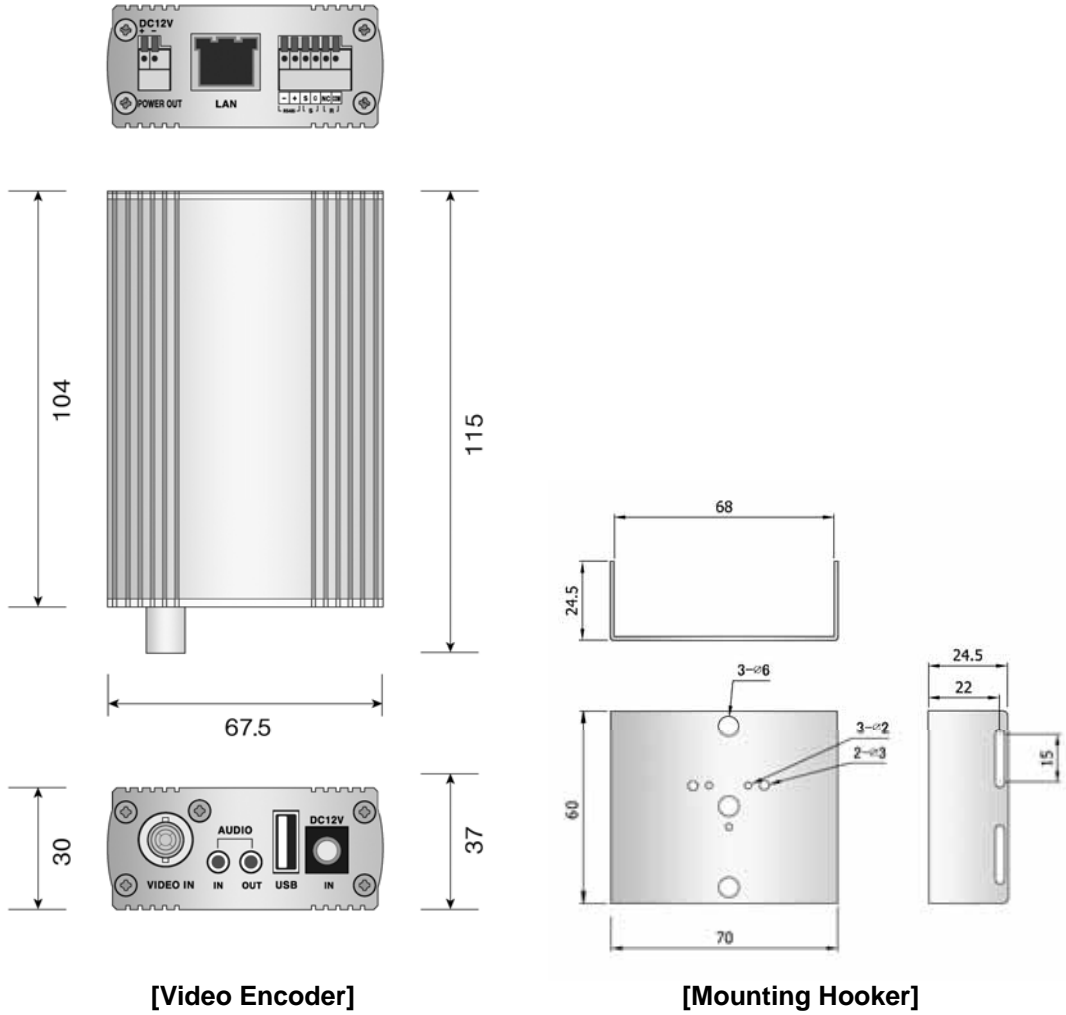
1.1 Package Contents

Make sure that you have following items supplied with the product. If any of those items is missing or damaged, notify your vendor immediately. Keep the packing utilities for moving or storage purposes afterwards.

Item	Description
Main Product	1 Channel Video Encoder
Printed Material	User Manual of the Video Encoder
CD & CD Case	<ul style="list-style-type: none">• User Manual of the Video Encoder• IP Installer : Software• CMS : Software & User Manual• SMS : Software & User Manual
Power Adaptor	12V, 2A D/C Adaptor and Power cord
Mounting Hooker	<ul style="list-style-type: none">• Metal bracket for mounting on the analog camera and/or wall/ceiling.• 4 screws
Power-out Cable	Power cable to feed 12V power to analog camera

Note Since the power consumption of Video Encoder itself is not more than 12 W (12V x 1A), another 12W (12V x 1A) can be assigned for power supply to the connected analog camera. If your camera needs more than 12W of power supply, you have to use a D/C adaptor with bigger capacity accordingly.

1.2 Hardware Dimension

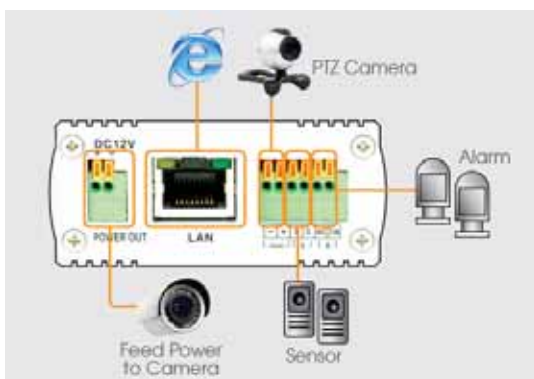


1.3 System Configuration



[Front Panel]

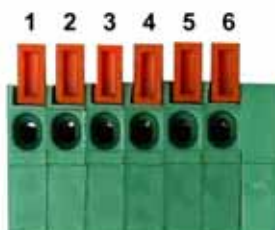
- Video In : Camera Input
- Audio In : External Microphone
- Audio Out : External Speaker
- USB Port : For Local Recording
- Power In : DC 12V, 2A



[Rear Panel]

- Power Out : Feed power to camera
- LAN : RJ-45 Ethernet Port
- RS485 : PTZ Control
- Sensor : Sensor input
- Alarm : Alarm Output

Note [Terminal Block]



No.	Sensor
1	RS485 D-
2	RS485 D+

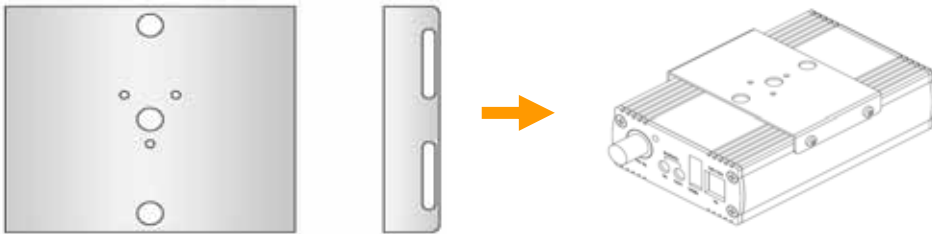
No.	Alarm
3	Sensor
4	Sensor Ground
5	Alarm (+)
6	Alarm (-)

1.4 Install the Hardware

The Video Encoder is supplied with a mounting hooker for mounting it to a wall/ceiling and/or on the top/bottom of an analog camera. It can feed 12V D/C power to the connected camera.

1.4.1 Mounting to the Wall or Ceiling

1. Firstly place the mounting hooker against the wall or ceiling and attach it with the screws through the appropriate bottom holes.
2. Position the Video Encoder on the mounting hooker and fix it with 4 screws through the holes on the left and right side.
3. Connect a camera to the BNC port and LAN cable to the Ethernet port.
4. Connect the power cable to turn on the product.



1.4.2 Mounting to the Analog Camera

1. Firstly place the mounting hooker on the top or bottom of the analog camera and attach it with the screws through the appropriate bottom holes.
2. Position the Video Encoder on the mounting hooker and fix it with 4 screws through the holes on the left and right side.
3. Connect a camera to the BNC port and LAN cable to the Ethernet port.
4. Connect the power cable to turn on the product.
The power of the connected camera can be provided from "Power-Out" connector of the Video Encoder.



1.5 Assign the IP Address

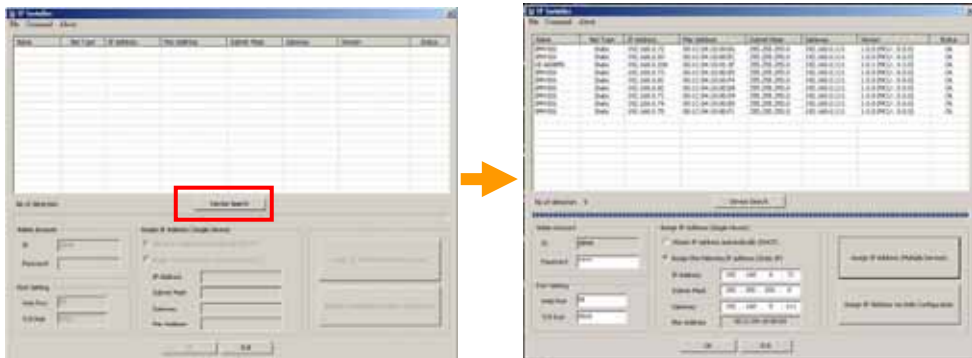
It is recommended to use IP Installer supplied with this product for assigning an IP address on the Video Encoder. User can assign IP address by using CMS software, too. See CMS section for detailed instruction.

1.5.1 Set the IP Address with IP Installer

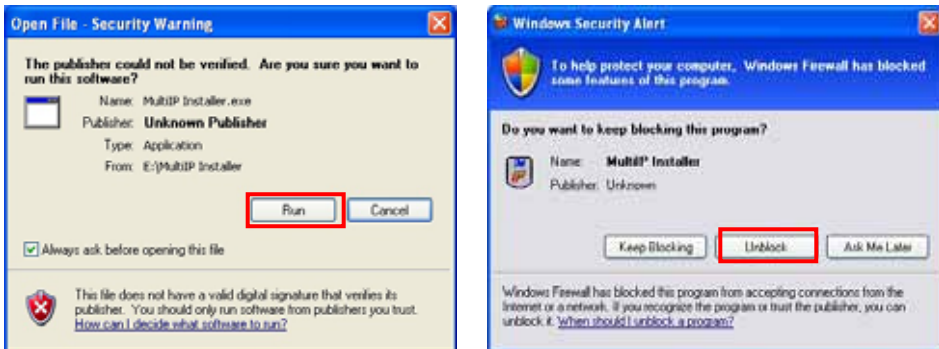
Once executed, IP Installer discovers and displays the device list on your network and then user can manually assign the IP address. Pay attention that the computer running IP Installer must be on the same network segment as the Video Encoder.

[Device Search]

1. Check that the Video Encoder is connected to the network
2. Execute IP Installer contained in the CD.
3. Click [Device Search] button to search the devices on the network
4. The list of connected devices shows.

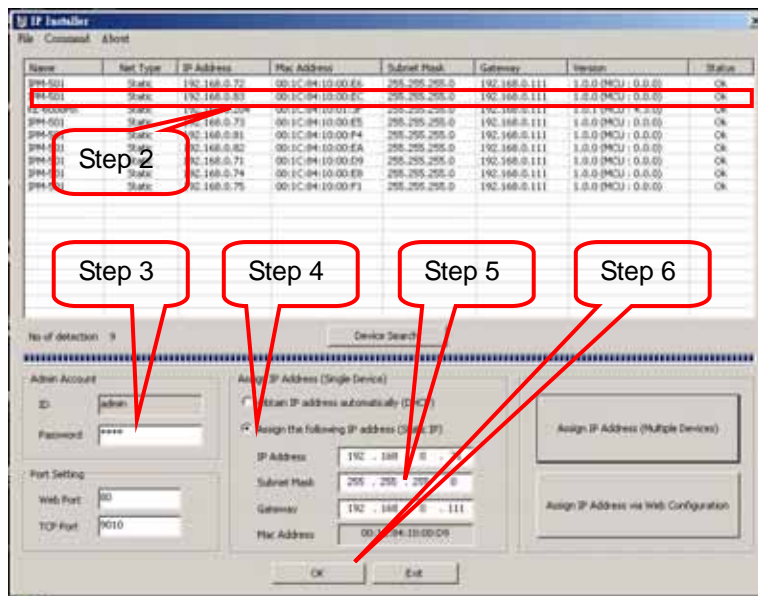


Note When you execute IP Installer, you may encounter Windows “Security Warning” message. In this case, click [Run] and [Unblock] button to proceed. If device search fails, check that there is no firewall blocking the operation.



[Set the IP Address (Single Device)]

1. Reserve an unused IP address on the same network segment as your computer.
2. Select the target device in the list
3. Enter the password of admin account.
Default password of admin account is "1234".
4. Select "Assign the following IP address (Static IP)" in the section of [Assign IP address (Single Device)]. If you select "DHCP", an IP address is automatically obtained.
5. Enter IP address, subnet mask and gateway that the selected device will use.
6. Click [OK] button to save the settings at the Video Encoder.

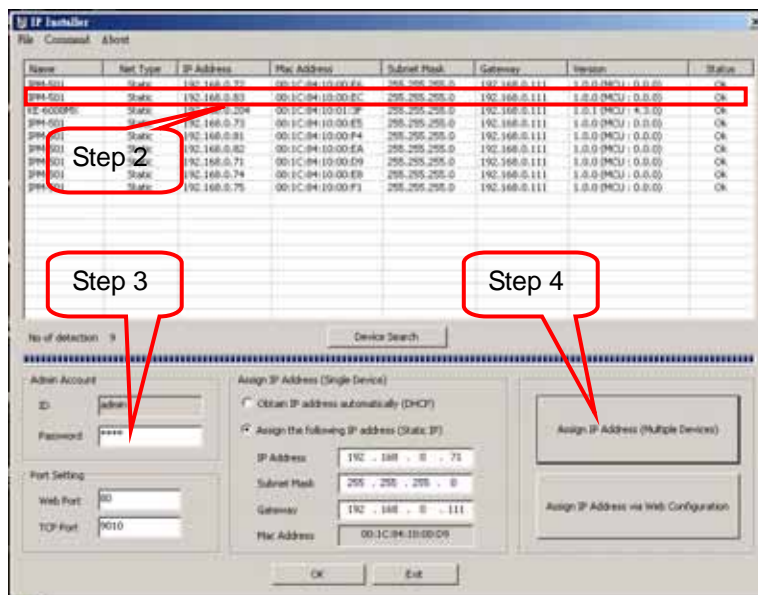


- Note**
- 1) Web port and TCP port can be changed depending on your network environment.
 - 2) If any of above ports is changed, you have to set same port # on the remote software.

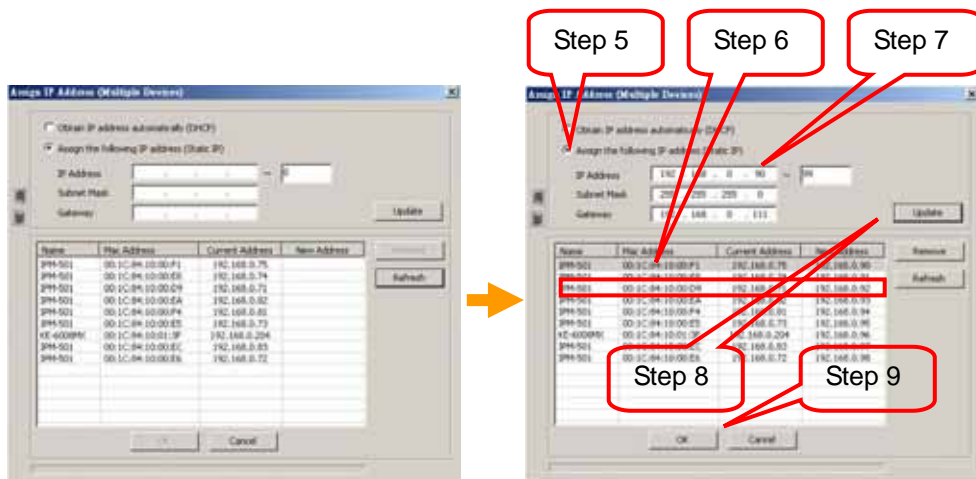
[Set the IP Address (Multiple Devices)]

IP Installer can automatically set up the IP addresses to multiple devices by suggesting IP addresses from a specific range.

1. Reserve the range of unused IP addresses on the same network segment as your computer.
2. Select anyone of the target devices in the list to activate password input.
3. Enter the password of admin account.
Default password of admin account is "1234".
4. Click [Assign IP Address (Multiple Devices)] button to open the multiple IP setting window.



5. Select "Assign the following IP address (Static IP)".
If you select "DHCP", the addresses are automatically obtained.
6. Just click anyone of the target devices in the list to automatically show subnet mask and gateway, or manually enter those in the IP setting window.



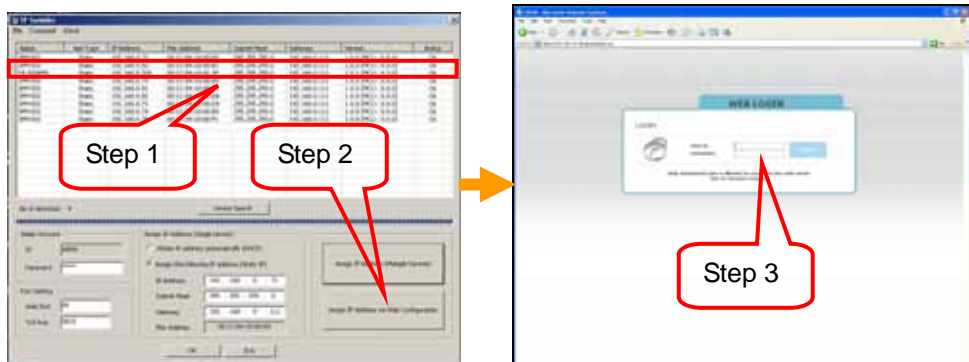
7. Enter the range of IP addresses that the selected devices will use.
8. Click [Update] button to show newly assigned IP addresses for verification.
If you want to change IP addresses, repeat step 7 & 8.
9. Click [OK] button to save the settings at the Video Encoders.

Note 1) The position of each device can be reallocated by using scroll button.
2) If Any device can be removed by clicking [Remove] button.
3) If you want to restore the removed device, click [Refresh] button.

1.5.2 Set the IP Address with Internet Explorer

Once the connected device is discovered and displayed in the list, user can assign IP address by using Internet Explorer.

1. Select the target device in the list.
2. Click [Assign IP Address via Web Configuration] button to open Internet Explorer.
3. Enter ID and password for web login.
Default ID and password are "admin" and "1234", respectively.
4. For further details, see Web Surveillance section.



2. Web Surveillance

The system has built-in web server by itself.

Thus, user can be always connected to the system by ordinary web-browser via network for live monitoring, playback or remote configuration without installing any additional software.

2.1 Web Login

User is required to input the right IP address in the web browser after getting the web port available by router. After allowing the download of the Active-X file, user can find the login page as below. Default USER ID and PASSWORD are "admin" and "1234".



[Active-X Installation]

1. If the P/C doesn't have Active-X installed, installation guide message is automatically shown as below to request to download the latest version of Active-X file.
2. Click installation guide message and install Active-X.



3. In order to download Active-X file without any problem, "Security Setting" of IE web browser has to be properly made. Select "Tools > Internet Options > Security > Internet > Custom Level" in IE menu and enable all Active-X controls and plug-in as below.
4. If right-positioned screen is shown, Active-X installation is done successfully.



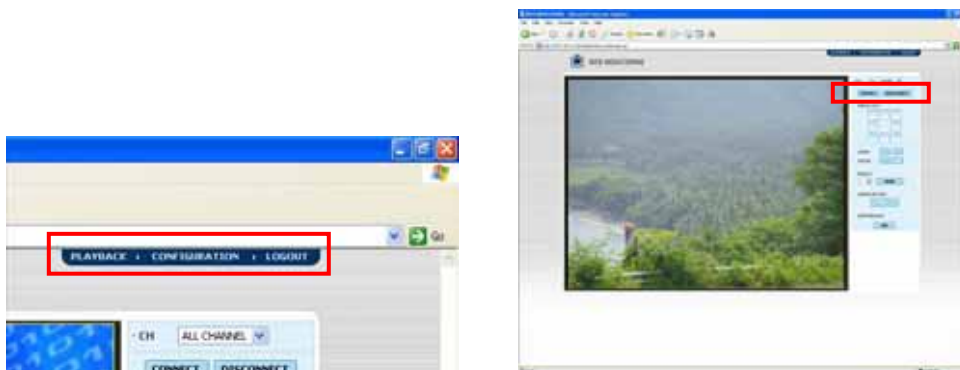
-
- Note**
- 1) The product doesn't have its own recording function, except USB thumb drive.
 - * In order to record image, separate program (ex. SMS) is required.
 - * Live monitoring can be available with Internet Explorer or separate program such as CMS.
 - 2) USB thumb drive is for emergency recording when the data transmission is not available due to the network problem.
-

2.2 Web Monitoring

At the beginning, it is set as LIVE MONITORING.

User can select other menus such as PLAYBACK and CONFIGURATION, or LOGOUT.

PLAYBACK is for playback of the data which is in USB thumb drive, and CONFIGURATION is for changing setting value of the product.

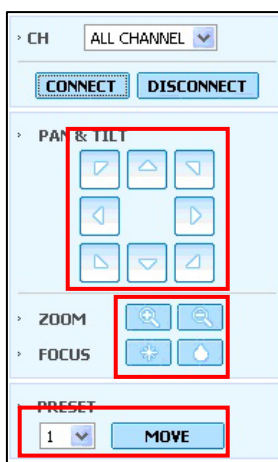


Click [CONNECT] button to connect the Video Encoder for live monitoring.

Note In the channel selection box on the upper right side, user can select channel # and default is "All Channel". For this model, "All Channel" and "Ch 1" are the same because it has only 1 channel video input.

[PTZ Control]

If PTZ camera is connected to the product, PTZ control on Internet Explorer is available.

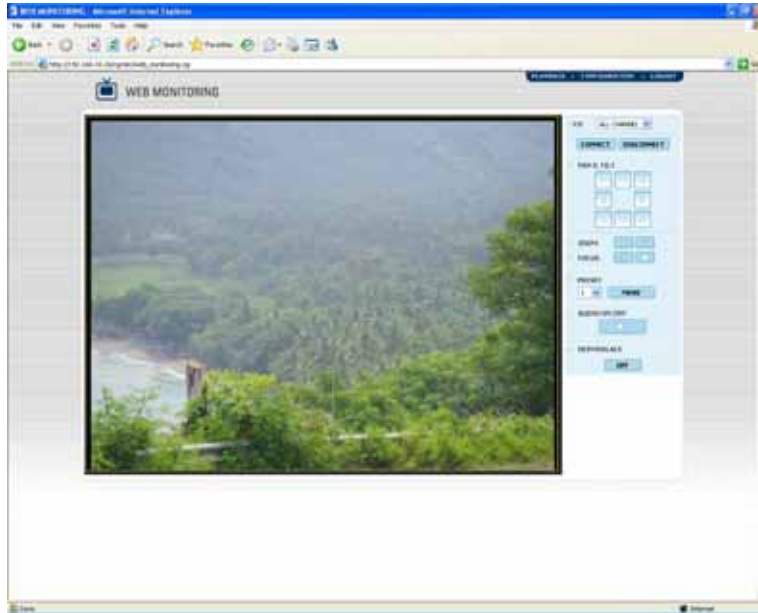


- PAN & TILT : Change position with 8-direction keys.
- ZOOM : Zoom In/Out control
- FOCUS : Focus In/Out control
- PRESET : Select preset number and move to correspondent position.

* Preset position should be set at the camera itself, not at the Video Encoder.

2.3 Web Playback

User can remotely playback the images stored in USB thumb drive by clicking “PLAYBACK” button in the right-top corner of the window.



Playback Time

Select the date and time and click “GO” button.

Playback Icon

Play/Pause is toggled and playback speed is shown on the right box.

Play DST

Check this box to play overlapped images during DST (Daylight Saving Time) period. When DST finishes, the “one hour” overlapped data is shown in dark-blue color in Intelli-Search bar.

Intelli-Search Bar

User can move the red-vertical line to the time that user wants to search.

The colors of the time bar are different by each recording mode. See Web Configuration section for details.

[Audio On/Off & De-Interlace]



- AUDIO ON/OFF : Enable/disable audio
- DEINTERLACE : Enable/disable of image de-interlacing.

* De-interlace and Audio On/Off function is applied to both live monitoring and playback.

2.4 Web Configuration

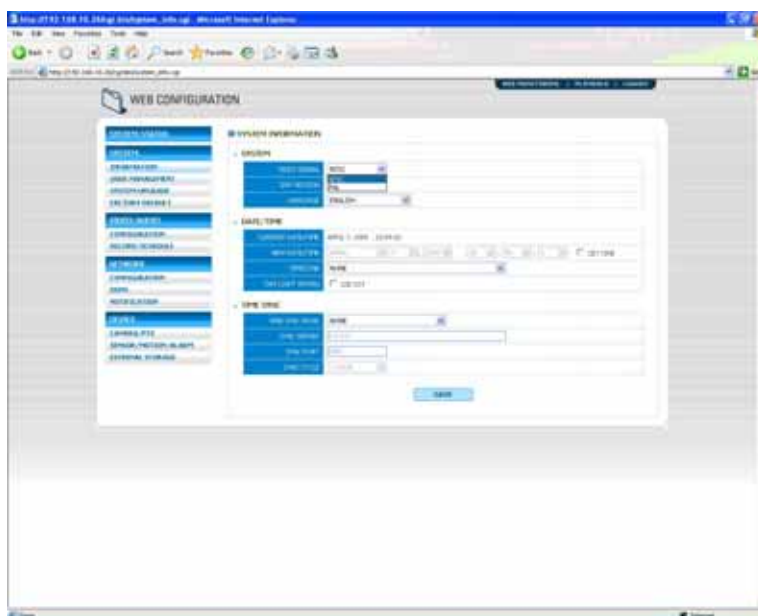
After login with the right ID and password, user can make various settings in Web Configuration window as below. This Web Configuration is only available to “admin” account.

[Menu of Web Configuration]

Main Classification	Sub Classification
SYSTEM STATUS	
SYSTEM	INFORMATION
	USER MANAGEMENT
	SYSTEM UPGRADE
	FACTORY DEFAULT
VIDEO/AUDIO	CONFIGURATION
	RECORD/SCHEDULE
NETWORK	CONFIGURATION
	DDNS
	NOTIFICATION
DEVICE	CAMERA/PTZ
	SENSOR/MOTION/ALARM
	EXTERNAL STORAGE

2.4.1 SYSTEM

2.4.1.1 Information



Video Signal

Select NTSC or PAL

Language

Select menu language

Daylight Saving Time (DST)

Select "USE DST" to use DST and designate the time zone of the system.

Time Sync

There are two types of Time Sync mode.

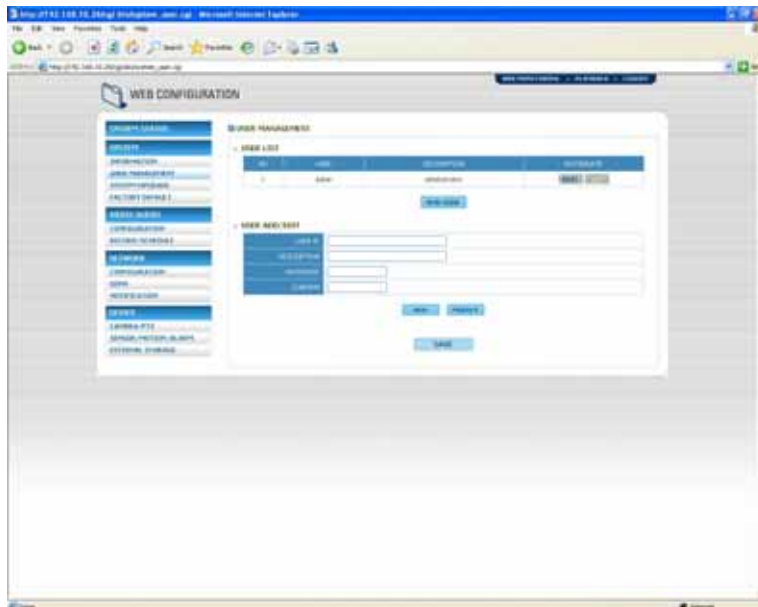
1) Server Mode

The operating device is set as a Time Sync Server, which can synchronize the time clock of another devices connected over same network environment.

2) Client Mode

The operating device is set as one of the client devices. Input the IP No of designated device or CMS P/C as a Time Sync Server in "SYNC SERVER", then its time clock is synchronized with Time Sync Server by setup time in "SYNC CYCLE".

Note Default Sync Port is 8002 and should be set with the same port as that of Time Sync Server.

2.4.1.2 User Management**User List**

To register new user, click [NEW USER] and then input the User ID and Password of new user.

User Edit

To change the information of existing user, click [EDIT] and change details.

Note Administrator account

Admin account itself cannot be deleted because it has all authorities for the device, but, its description and password can be changed.

2.4.1.3 System Upgrade

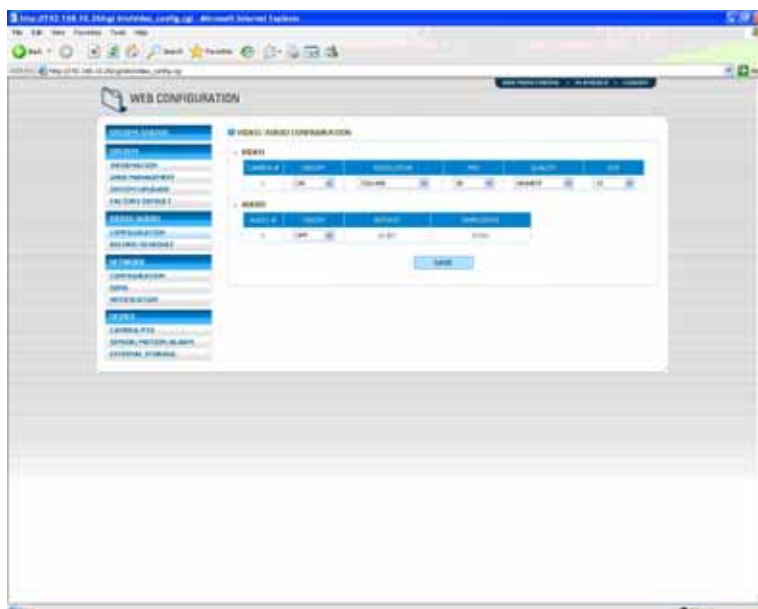
It is for firmware upgrade of the system. Click [Browser] to select file. After file selection, start upgrade by clicking [UPGRADE] button.

2.4.1.4 Factory Default

It initializes all setting value to the factory default and thus all the setting values made by user will be deleted.

2.4.2 VIDEO/AUDIO

2.4.2.1 Configuration



Video On/Off

When video Off is selected, there won't be no image to be recorded or transmitted.

GOP

GOP is for the selection of the number of I-Frame (Key Frame) to be recorded and transmitted and can be selected between 1~30(NTSC) and 1~25(PAL).

If the lower GOP is selected, the file size will be larger and consequently network load will be increased. It is recommended to select in consideration of network condition and storage capacity. Default GOP value is 15.

Audio On/Off

Audio On/Off is valid only for live monitoring through Internet Explorer and it doesn't affect to audio data recording and transmission.

Note GOP (Group of Pictures)

It means the frame group from an I-Frame to the frame just before the next I-Frame and it contains an I-Frame and a few P-Frames.

* I-Frame (Intra Frame)

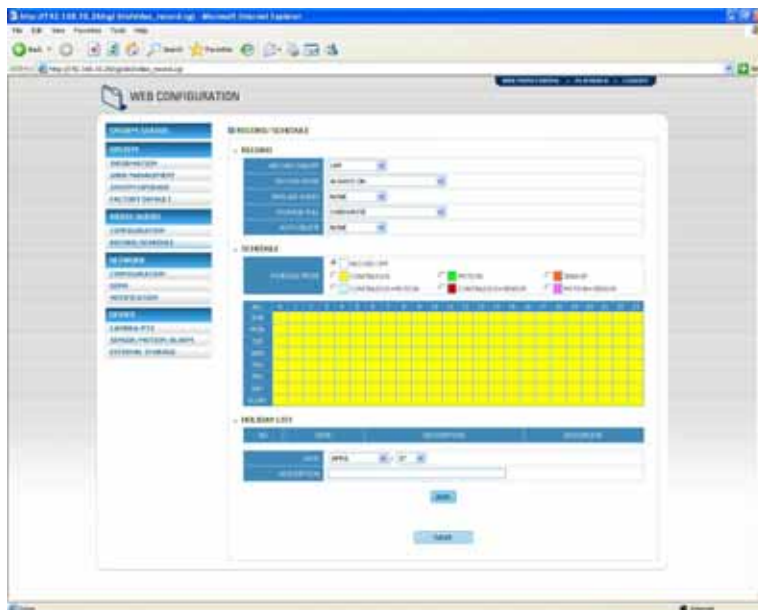
It is the Key Frame with a whole picture which is compressed directly from the source like JPEG type. It has a good quality but requires a large file size.

* P-Frame (Previous or Predicted Frame)

It is made based on the previous I-Frame and has a small file.

If the GOP is set as 15, one Key Frame and 15 P-Frame will be transmitted and constitute image.

2.4.2.2 Record/Schedule



Record On/Off

USB thumb drive should be plugged in the system when record is set as On.

Record Mode

There are two kinds of record mode.

- * Always On : Record all the time
- * Network Fail : Record only when the network is disconnected/failed.

Storage Full

When the capacity of USB thumb drive is fully occupied, user can select one of following options.

- * Overwrite : Keep recording by deleting the oldest recording data.
- * Disable Recording : Stop recording

Auto Delete

The system will overwrite the video data recorded earlier than the number of days set.

If it is set as 3 days, the system will keep the latest 3 days data only

Schedule

It is to set the recording schedule of USB thumb drive. User can identify each schedule mode by its unique color bar.

- * **No color** : No recording
- * **Yellow color** : Continuous recording
- * **Green color** : Motion-detection recording
System records only when motion is detected in the motion area.
In addition, user can make motion recording configuration in "MOTION ALARM" of "DEVICE" menu. If user sets "OFF" in "MOTION ALARM" of "DEVICE" and sets "MOTION" in "SCHEDULE", then the system will record when motion is detected but motion alarm is not activated.
- * **Orange color** : Sensor-activated recording
In sensor mode, the system will record when sensor is triggered only during dwell time as set in "SENSOR" of "DEVICE" menu. If user sets "OFF" in "SENSOR" of "DEVICE" and sets "SENSOR" in "SCHEDULE", then the system will not record anything even though a sensor is triggered.
- * **Sky Blue color** : "Continuous" + "Motion detection" recording
The system records all the time by "continuous" as set by "CAMERA" of "RECORD" but will switch recording mode to motion configuration as made by "MOTION ALARM" of "DEVICE" if motion is detected in motion area. The system also will notify "motion event" message to remote P/C over the network.
- * **Dark orange color** : "Continuous" + "Sensor-activated" recording
System records all the time by "continuous" as set by "CAMERA" of "RECORD" but will switch recording mode to sensor configuration as made by "SENSOR" of "DEVICE" if a sensor is triggered during dwell time. The system also will notify "sensor event" message to remote P/C over the network.
- * **Pink color** : "Motion detection" + "Sensor-activated" recording
The system does not record in normal operation but records only when motion is detected as set by "MOTION" of "DEVICE" and a sensor is triggered as set by "SENSOR" of "DEVICE". If user set "OFF" in both "MOTION" of "DEVICE" and "SENSOR" of "DEVICE", then the system will not both record and notify to remote P/C.

Note The recorded during DST (Daylight Saving Time) will be indicated in **Dark Blue color** in Intelli-Search Bar on playback mode.

Holiday

It is to set holiday schedule.

* Select month/date to add holiday list. It is recommended to input description for clarification.

* Click [ADD] to add new holiday and click [Edit] or [Delete] to edit or delete the existing list.

Note All the setting value will be applied after clicking [SAVE] button.

2.4.3 NETWORK

2.4.3.1 Configuration

NETWORK CONFIGURATION

NETWORK

NETWORK TYPE	LAN
IP ADDRESS	192.168.10.26
SUBNET MASK	255.255.255.0
GATEWAY	192.168.10.1
DNS	210.220.163.82
WAN PORT	9010
WAN PORT 2	80
MAC ADDRESS	00:22:77:34:56:99

SAVE

Network Type

Select network connection type. LAN is for static IP and DHCP is for dynamic IP.

DNS

DNS is the IP address of domain name server and is required when the mail notify function is used.

2.4.3.2 DDNS

DDNS uses dynamic IP server that is operated by manufacturer. Select "USE DNS" to use DDNS.

NETWORK DDNS

DDNS INFORMATION

DDNS SERVICE	<input checked="" type="checkbox"/> USE DNS
DDNS TYPE	CCTV-LINK.NET
DDNS PORT	10000
DOMAIN NAME	
PASSWORD	*****
PASSWORD CONFIRM	*****

SAVE

DDNS Type

“cctv-link.net” is DDNS domain name that is operated by manufacturer. User is not supposed to change this name.

DDNS Port

Default is “10000”. User cannot change this port number.

Note In case of DDNS connection, [Mac Address + DDNS domain name] format should be used at the site registration of remote software such as SMS & CMS. For example, if the Mac address of the product is “00:1C:84:01:00:02”, then the right IP address at the site registration of remote software shall be “001c8401002.cctv-link.net”.

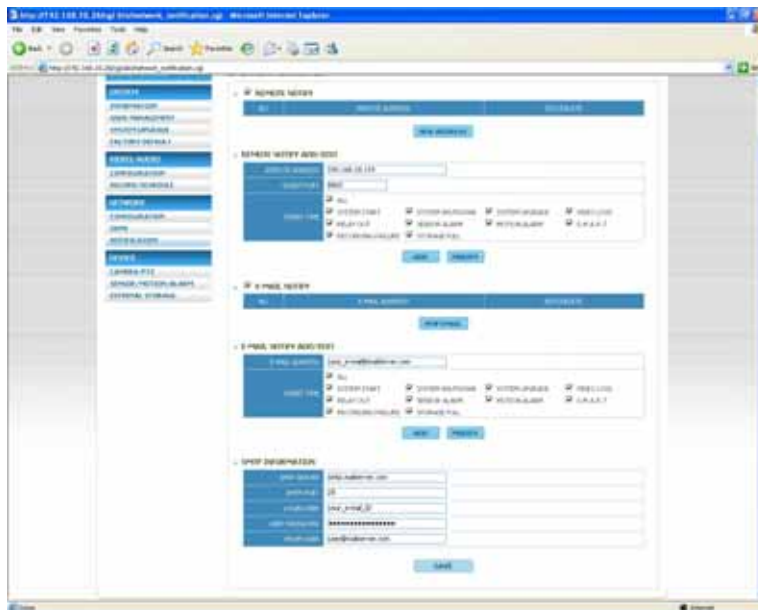
Mac address of the product can be checked on the [SYSTEM STATUS] screen, the initial screen of CONFIGURATION.

Note Setting in Router

If the network is used by router, it is required to open the related network ports in reference of below chart.

Protocol	Port	Usage	Remark	Editable	Location
TCP	9010	Control port of authorization service	TCP Base Port	Yes	Network/ Network
TCP	9011	Control port of VOD service	TCP Base Port +1		
TCP	9012	Data port of VOD service	TCP Base Port +2		
TCP	9013	Control port of Live service	TCP Base Port +3		
TCP	9014	Data port of Live service	TCP Base Port +4		
TCP	9017	System log service	TCP Base Port +7		
TCP	8002	Time sync service		Yes	System Info & Date/Time Setting
TCP	8003	Event notify socket (requesting port)		Yes	Network/ Notification
TCP	80	Web service		Yes	Network/ Network
TCP	10000	DDNS Server	Fixed		Network/ DDNS

2.4.3.3 Notification



Remote Notify

It can notify various events to remote system.

Input IP Address and Port, and select Event Type. Then, click [ADD] to register it.

E-Mail Notify

It can make an e-mail notification to the registered e-mail address.

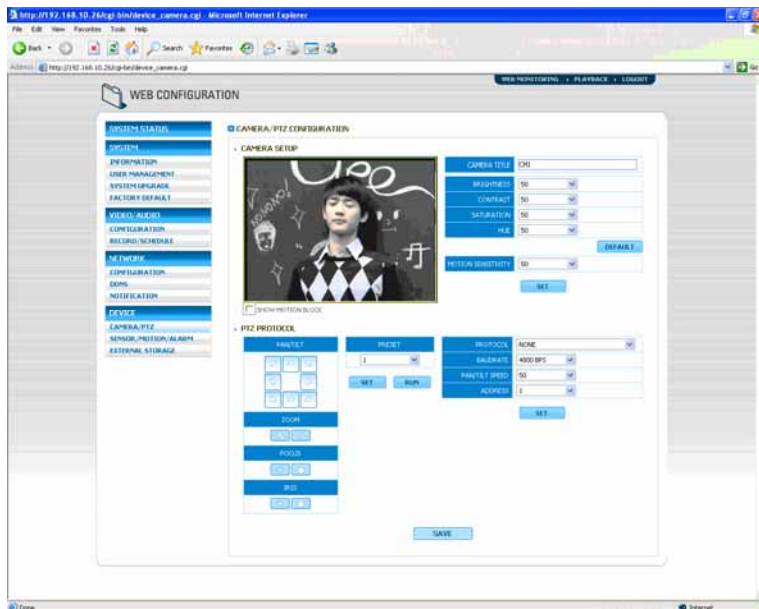
Input E-mail Address and select Event Type. Then, click [ADD] to register it

Note First priority of configuration is put on “RECORD/SCHEDULE” of “VIDEO/AUDIO”. Thus, the system will not notify alarm message upon motion alarm or sensor even though user ticks the check-box of above event selection, unless user sets the “RECORD/SCHEDULE” of “VIDEO/AUDIO” and “SENSOR/MOTION/ALARM” of “DEVICE” accordingly.

For example, If user sets just “CONTINUOUS” only in “RECORD/SCHEDULE” of “RECORD” and tick “All” check-box of “REMOTE NOTIFY”, then the system will not notify alarm message. In this case, user has to set “CONT + MOT”, “MOTION”, “SENSOR”, or “CON + SENS” and then tick “ALL” check –box in order to enable REMOTE NOTIFY properly.

2.4.4 DEVICE

2.4.4.1 Camera/PTZ



Camera Setup

- * Camera Title : Input camera title.
- * Brightness : It can be set between 0 ~ 100. Default is 50.
- * Contrast : It can be set between 0 ~ 100. Default is 50.
- * Saturation : Saturation can be set between 0 ~ 100. Default is 50.
- * Hue : It can be set between 0 ~ 100. Default is 50.
- * Motion Sensitivity : It controls sensitivity of motion detection and can be set between 10 ~ 100. Default is 50.
- * Show Motion Block : Enable/Disable of motion detection area display.

Note How to select/deselect motion detection area.

- * Click each block with the mouse to select/deselect.
 - * Drag mouse from the left side to the right side to select.
 - * Drag mouse from the right side to the left side to deselect.
-

PTZ Protocol

- * Protocol : Select appropriate protocol that is correspondent with PTZ camera type.
- * Baud Rate : Select baud rate of the connected PTZ camera.
Available range is 2400bps ~ 57600bps.
- * PAN/TILT Speed : Set Pan/Tilt speed of the PTZ camera.
It works in the case that the PTZ camera supports it.
- * Address : Set the address of the PTZ camera.

- * Preset : Set Preset position of the PTZ camera.
The setting is applied to PTZ camera but it isn't memorized at the Video Encoder. Maximum Preset number is 255 but it can be restricted by the number that PTZ camera supports.
Set the position with 8 direction keys and select preset number and click [SET]. Then, click [RUN] after selecting preset number to move that position.
- * Zoom : Control Zoom In/Out. It can be used for preset setting.
- * Focus : Control Focus In/Out.
- * IRIS : Control IRIS.

2.4.4.2 Sensor/Motion/Alarm

Sensor

SENSOR/MOTION/ALARM						
SENSOR						
SENSOR #	ON/OFF	RELAY OUT	INTENSIVE RECORDING	PRESET	PRE-ALARM	POST-ALARM
1	OFF	NONE	OFF	NONE	NONE	3 SEC

- * On/Off : Enable/Disable of the sensor.
- * Relay Out : It is for selection of relay output.
- * Intensive Recording : If the sensor is activated, it increases recording/transmission speed up to the maximum frame.
- * Preset : When the sensor is activated, the camera moves to the selected preset position. It can be selected between 1 ~ 6.
- * Pre-Alarm : It makes the product record/transmit in a certain period of time prior to the time that sensor is activated. It can be set between 1 ~ 5 seconds..
- * Post-Alarm : It activates alarm for a certain period of time after sensor is activated.
- * Type : It is for selection of sensor type between Normal Open(N/O) and Normal Close(N/C).

Motion Alarm

MOTION ALARM					
CAMERA #	ON/OFF	RELAY OUT	INTENSIVE RECORD	PRE-ALARM	POST-ALARM
1	OFF	NONE	OFF	NONE	3 SEC

- * On/Off : Enable/Disable of the motion detection alarm.
- * Relay Out : It is for selection of relay output when the motion is detected.
- * Intensive Recording : If the motion is detected, it increases recording/transmission speed up to the maximum frame.
- * Pre-Alarm : It makes the product record/transmit in a certain period of time prior to the time that motion is detected. It can be set between 1 ~ 5 seconds..
- * Post-Alarm : It activates alarm for a certain period of time after motion is detected.

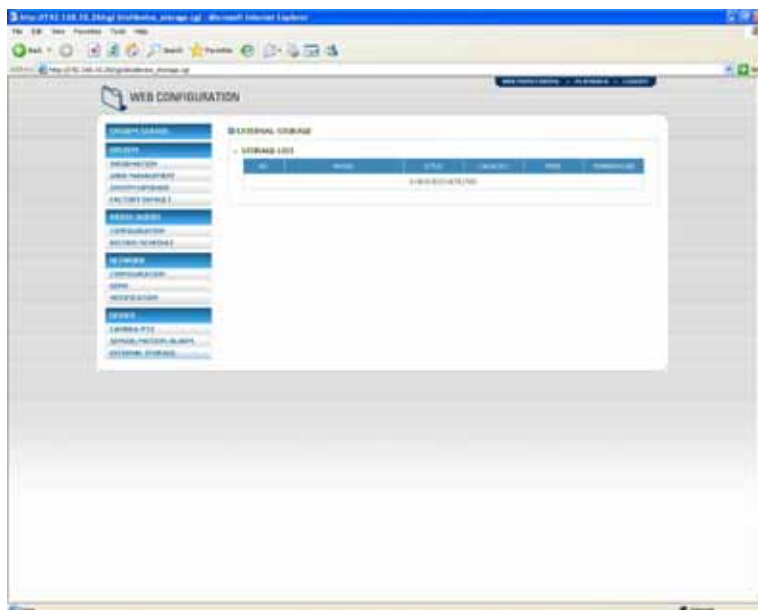
Extra Alarm

EXTRA-ALARM				
ALARM	ON/OFF	RELAY OUT	POST-ALARM	
VIDEO LOSS	OFF	NONE	3 SEC	
NETWORK FAILURE	OFF	NONE	3 SEC	
S.M.A.R.T	OFF	NONE	3 SEC	
RECORDING FAILURE	OFF	NONE	3 SEC	
ALARM	ON/OFF	USAGE	RELAY OUT	POST-ALARM
STORAGE_FULL	OFF	100 %	0	3 SEC

- * Video Loss : It activates alarm when there is no image. Relay output and alarm output time can be set in 1 ~ 5 seconds.
- * Recording Failure : It activates alarm when the recording in the USB thumb drive is failed. Relay output and alarm output time can be set in 1 ~ 5 seconds.
- * Storage Full : It activates alarm when there is no more recording space left in USB thumb drive. Relay output and alarm output time can be set in 1 ~ 5.

2.4.4.3 External Storage

It shows model name, status, capacity and remained capacity of the connected recording device.



3. CMS – Quick Guide

CMS (Central Management System) is a powerful centralized management solution that offers user full flexibility to control the entire system over the network, and consists of 4 functional modules, **System Monitoring, Image Display, E-Map and System Configuration**.

[The instruction for initial operation of CMS software is described in this quick guide. For full details, please see CMS User Manual contained in the CD.](#)

3.1 Software Installation

User can find “CMSSetup.exe” file in the CD and click it to start the installation of CMS software. User can easily set up this program by following InstallShield Wizard, which is for user to simply click “next” buttons.



Upon clicking “Finish” button, user can find the icon of “CMS” created on desktop window. After initial installation, user can click this icon to execute CMS software.

Note CMS program is located in “C:\Program Files\CMS” as default unless user changes its folder during program installation.

3.2 Initial Setting

3.2.1 System Startup

Click the CMS icon on desktop window to get the CMS login window as below. Input the correct “User ID” and “Password” in the login box, then, CMS software will be executed. Create the password for administrator when the first login.



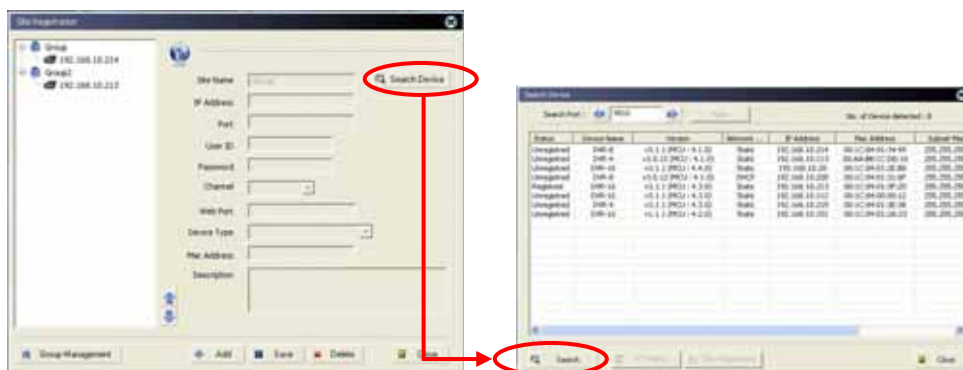
3.2.2 Site Registration

This is to register the relevant products such as DVR, IP camera and IP server in this CMS software, which is the 1st step to run the program.

Click the “Site Registration” (🌐) icon on the top-left corner of main window to get the “Site Registration” window. User can newly register the device or modify existing device information in this window.

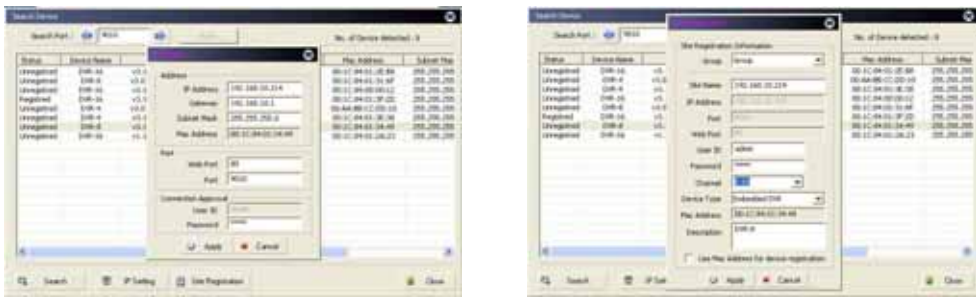


Click “Search Device” button on the “Site Registration” window to get “Search Device” table as below, and then click again “Search” button on the “Search Device” table to get the full list of the connected devices on the same network environment.

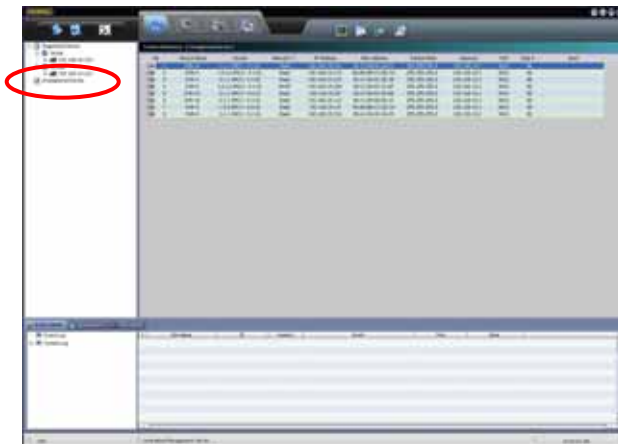


User can find all the devices detected by CMS in “Search Device” table as above. In this table, user is able to obtain those device information such as Status, Device Name, Version Information, Network Type, IP Address, Mac Address, Subnet Mask, Gateway, and Result.

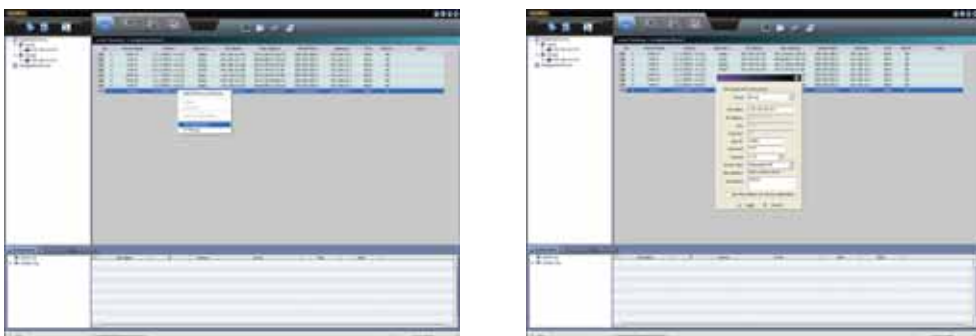
Upon clicking “IP Setting”, user can easily change an IP address of a selected device over the network. Once user lists up all the unregistered devices in the table, user can select a certain device to be registered in the CMS by mouse click on “Site Registration”. User can select a group to include this site, change site name, IP address, or change password and so on whichever is available in this menu window.



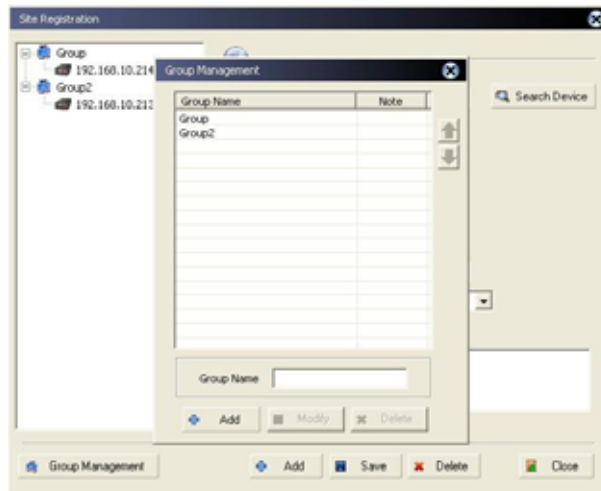
In other way, user can simply click on “Unregistered Device” on the left tree window to list up all the devices that are detected on the same network condition but not yet registered by user.



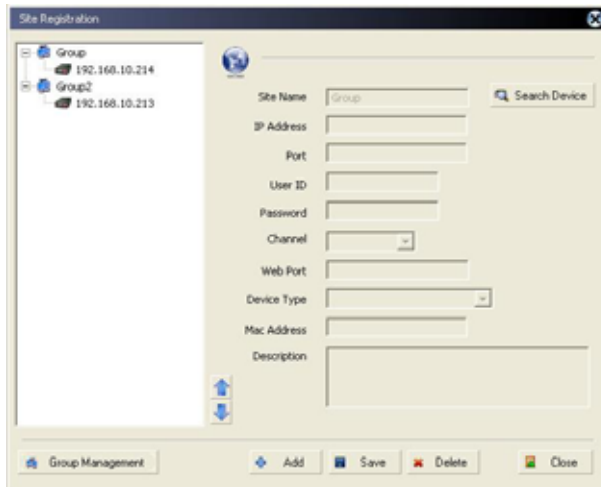
When user selects a certain device in the list, then user can click the right button of the mouse to pop up a sub-menu to refresh the list, register device or set up network information.



User can create, delete, change, or move a group in “Group Management” of “Site Registration” menu. In order to move group location, user can click up/down arrow button in right side of the menu window. In order to create a new group, change the name of group or delete an existing group, user can click “Add/Modify/Delete” buttons in the bottom of the “Group Management” menu window as below.



In order to move a location of a registered device up and down, user can click “up/down” arrow button after user once positions a mouse pointer among registered devices in a certain group. User can also delete, add or modify a registered device in “Site Registration” menu once after user selects a certain registered device in left window.

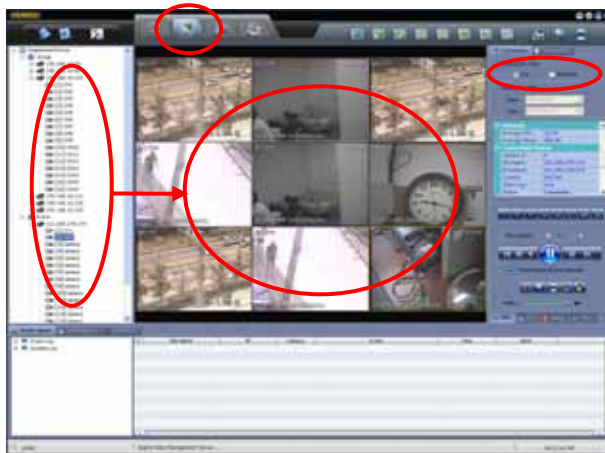


3.3 Live Monitoring

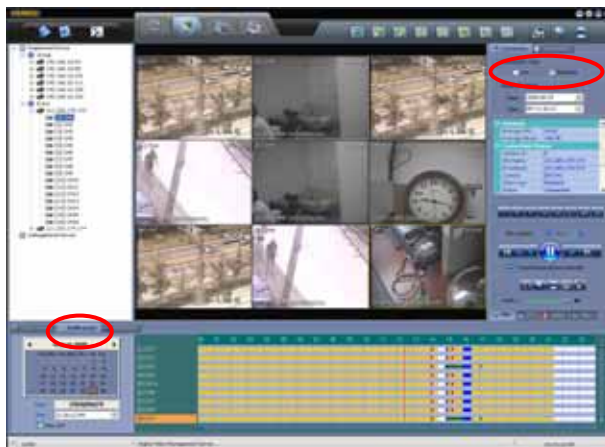
This window is to mainly get users live monitoring and playback in each independent camera channel on the window of maximum 36 channel basis.

3.3.1 Drag & Drop Connection

User can simply drag & drop by mouse to open video in empty channel for both live and playback. Once user selects either “Live” or “Playback” in the left-side sub-menu, user can drag & drop an individual video channel or entire video group and then drop them into an empty channel that user wants to monitor or play.



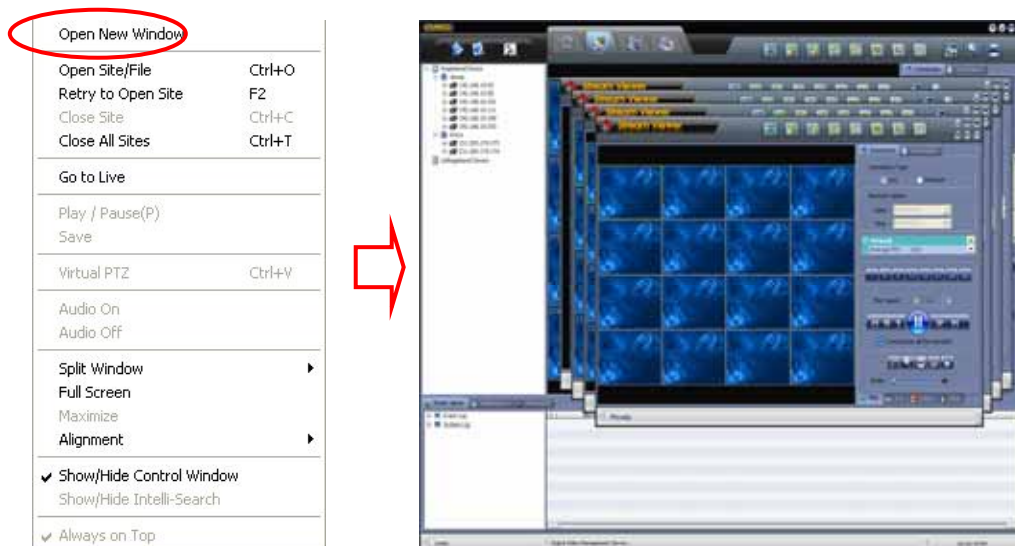
Under playback mode, user can find time bar in different colors by recording modes in “Intelli-Search” bar. User can reposition the vertical time bar with mouse control to move forward and backward for different time search. Or, user can select a certain date in calendar and then drag & drop a video channel or entire device to playback.




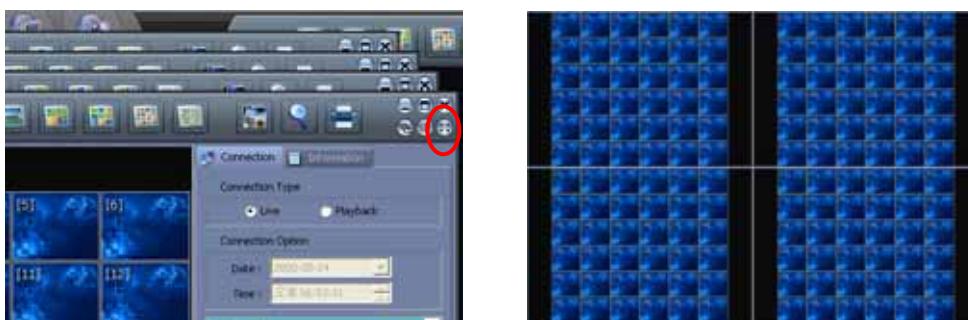
3.3.2 Open New Window (Sub-Menu Control)


Sub-menu is created by click of mouse right button as below.

User can create another 36 channel window in sub-menu by mouse click on “Open in new window”. This creation enables user to get multiple windows up to total 4 different new windows that is each maximum 36 channels per window, which is useful in surveillance via multiple monitors. User can move this new window to other monitor by mouse if user has multiple monitors.



Or, user can spread all the new windows in single monitor by mouse click on “” in the right top corner of the window screen.



If user wants to have full screen mode, then user can click the quad-arrow icon () in the top right corner of the window. To get back to the original mode, then user can hit “ESC” key of the P/C keyboard.

User can install multiple monitors by moving a new monitoring window to other monitors by mouse dragging.

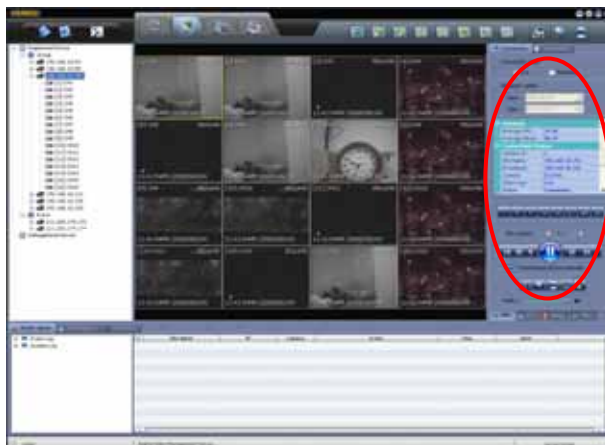


Note Cascade-screen mode is for multi-monitoring purpose via multiple monitors at the same time, whereas full-screen mode is for single-monitoring purpose via a large-sized PDP/LCD monitor.

Note Theoretically, CMS program supports up to 180 channel monitoring at the same time. However, key conditions for maximum number of channel support are rather dependent on PC & network resources than the program itself.

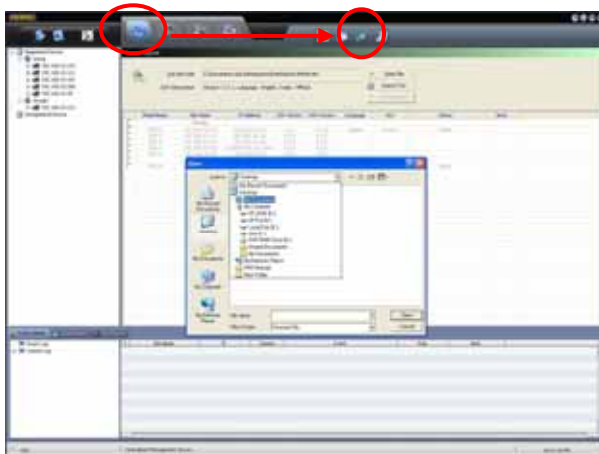
3.3.3 Control Panel

User is able to fully control the connected video channels in this control panel located in the right side of the main window for such as screen mode, playback, backup, printing, relay, sensor, PTZ, image filtering, and so on.

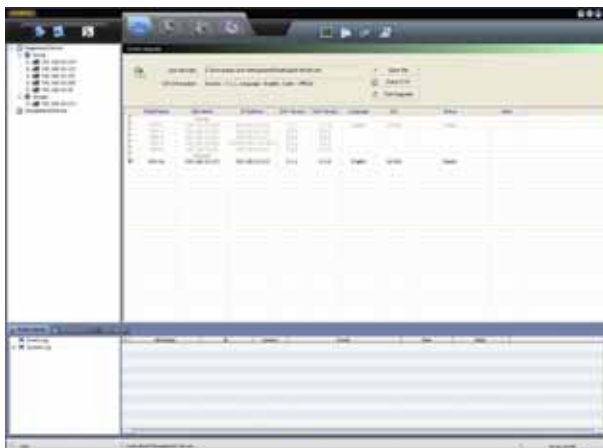


3.4 System (F/W) Upgrade

System Upgrade feature helps administrator easily upgrade all or selected devices with new firmware by one-click over network. User can click “Open File” to find firmware file and select firmware file to upgrade.



Click “Check F/W” to find and select eligible devices, which is marked and highlighted on the list.



When user click “Start Upgrade” button, upgrade will be started. After upgrade process is finished, the Video Encoder will reboot by itself.

-
- Note**
- 1) Power failure while it is being upgraded may cause serious damage to the product.
 - 2) Upgrade with incorrect file may cause serious damage to the product.
 - 3) Upgrade time may vary according to the network condition.
 - 4) IP address may vary in case of DHCP.
-

4. SMS – Quick Guide

SMS can record live video and audio data over network and manage recorded data with full flexibility. Under effective combination with CMS, user can build up perfect total management system like no others in the security industry.

[The instruction for initial operation of SMS software is described in this quick guide. For full details, please see SMS User Manual contained in the CD.](#)

4.1 Software Installation

User can find “SMSSetup.exe” file in the CD and click it to start the installation of SMS software. User can easily set up this program by InstallShield Wizard as below, which is for user to simply click “next” buttons.



Upon clicking “Finish” button, user can find the icon of “SMS” created on desktop window. After initial installation, user can click this icon to execute SMS software.

Note SMS program is located in “C:\Program Files\SMS” as default unless user changes its folder during program installation.

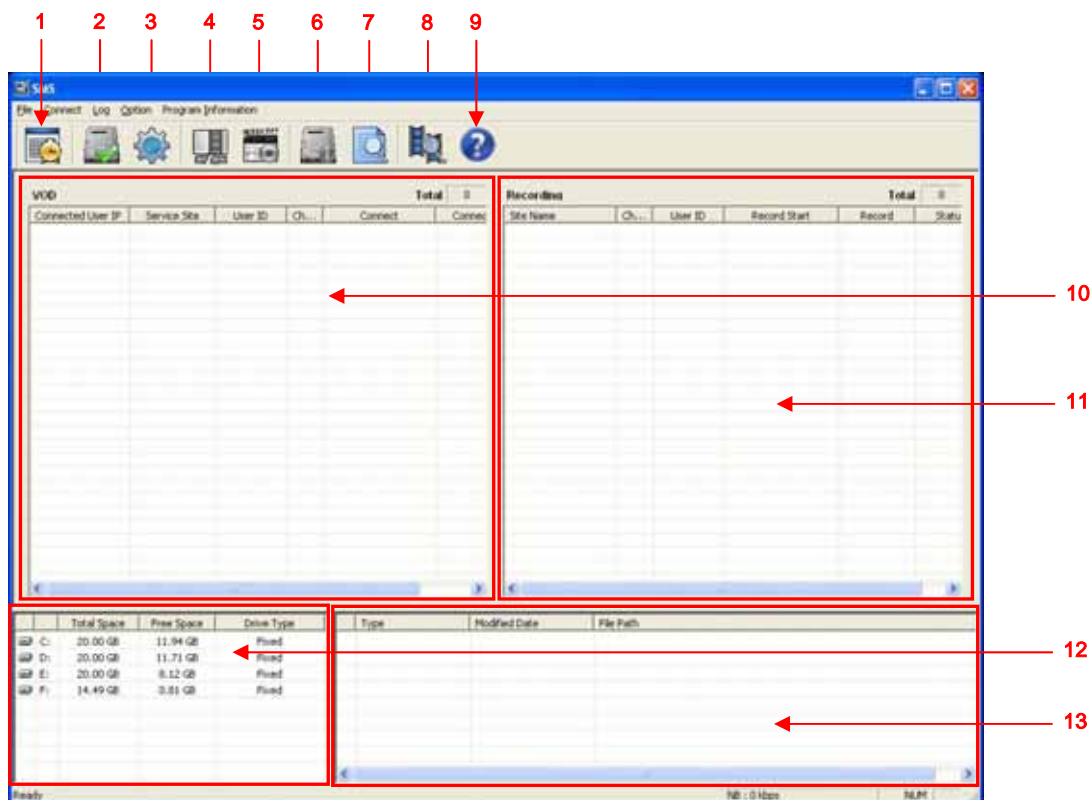
4.2 Initial Setting

4.2.1 System Startup

Click the SMS icon on desktop window to get the SMS login window as below. Input the correct “User ID” and “Password” in the login box, then, SMS software will be executed. The default password for “Administrator” is **none**, leaving it empty in password. If you want, create new password for “Administrator” when the first login.




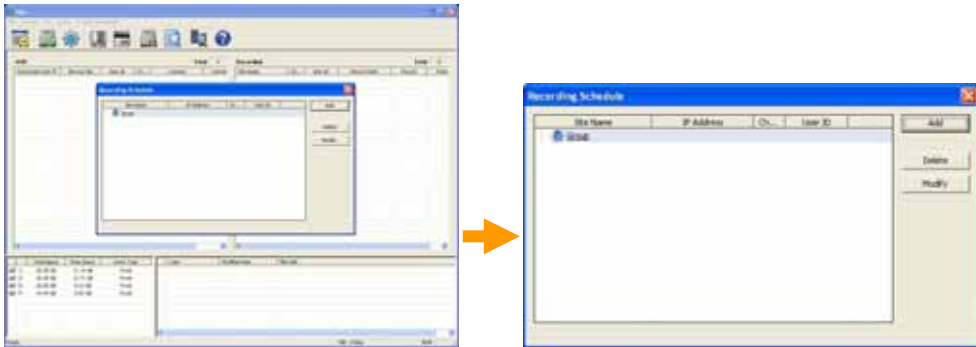
4.2.2 Screen Layout



1. Recording Schedule Management : Site Registration & Recording Schedule Setting
2. Disk Setup : HDD/RAID Setting
3. Option Setup : Network Setting and Log Save Path Setting
4. Disconnection of File Service : Disconnection of all VOD Services to CMS
* Disconnection of each VOD Service can be done by clicking the right button of the mouse,
5. Stop Recording : Stop Recording of all Recording Channels
* Stop recording of each channel can be done by clicking the right button of the mouse.
6. View Server Condition : Return to Main Screen from Log Viewer Screen
7. Log Search : Go to Log Viewer Screen
8. File Search : Open File Search Screen
9. Information : Show SMS Version Information
10. VOD Status Screen : Show VOD service Status
11. Recording Status Screen : Show Recording Status of Each Site & Channel
12. HDD/RAID Status Screen : Show HDD/RAID Status
13. File Creating & Deleting Status Screen : Show Current File Creating & Deleting Status

4.2.3 Site Registration (Recording Schedule Setup)

- 1) Select Recording Schedule Management icon  to open recording schedule screen.



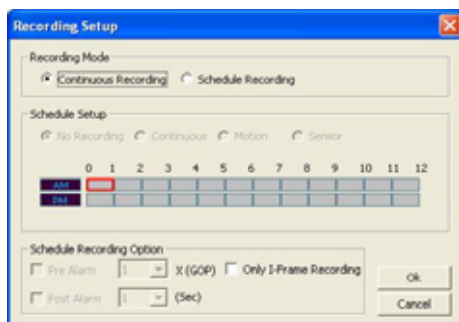
- 2) In recording schedule screen, click [Add] to open site registration/scheduleSetting screen as below. Input Site Name, IP Address, User ID, Password, Port, Channel and Description.



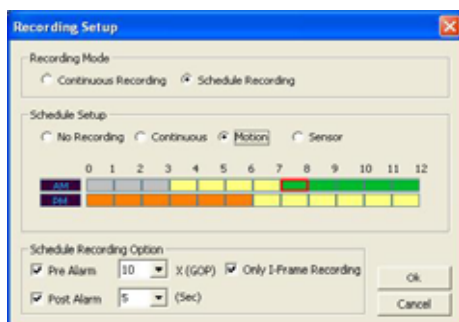
- In case of DDNS connection, input URL as per following format.
[mac address].[ddns link] : ex.) 001c84010021.cctv-link.net
- In order to register multi-channel for a single device such as DVR, input "**X – Y**" format in Channel: ex.) 1 - 16

Note Maximum number of channel can be registered is 200.

3) Click [Recording Setup] button. Then, recording setup screen will pop up as shown below.



- In case of continuous recording mode, no other items are required to select except “Only I-Frame Recording”



- In case of schedule recording, user can select various recording options.
 - (1) Schedule Setup
 - Select recording method and time period by mouse click.
 - No Recording : Gray
 - Continuous Recording : Yellow
 - Motion Recording : Green
 - Sensor Recording : Orange
 - (2) Schedule Recording Option
 - Pre Alarm : Setup Pre Alarm recording in connection with Motion or Sensor recording.
 - Post Alarm : Setup Post Alarm recording in connection with Motion or Sensor recording.

Note Motion and Sensor recording requires proper setup at the correspondent device.

Note Pre Alarm recording is set based on the no. of GOP.
 GOP means the frame group from an I-Frame to the frame just before the next I-Frame and it contains an I-Frame and a few P-Frames.

* I-Frame (Intra Frame)

It is the Key Frame with a whole picture which is compressed directly from the source like JPEG type. It has a good quality but requires a large file size.

* P-Frame (Previous or Predicted Frame)

It is made based on the previous I-Frame and has a small file.

- 4) After finishing all required setup, click [OK] at Recording Setup and [Apply] at Site Registration/Schedule Setting. Then, the site will be registered and shown on the list as below.



Note SMS starts recording right after finishing site registration and schedule setting. And it keeps recording as per schedule as far as the program runs.

4.3 Recording

4.3.1 Recording Status

This screen shows current recording status of each site and channel.

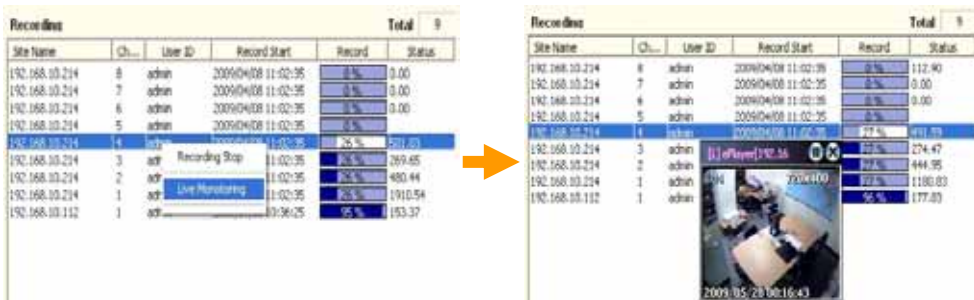
Recording					Total	9
Site Name	Ch...	User ID	Record Start	Record	Status	
192.168.10.214	8	admin	2009/04/08 11:02:35	0 %		
192.168.10.214	7	admin	2009/04/08 11:02:35	9 %	578.83	
192.168.10.214	6	admin	2009/04/08 11:02:35	9 %	599.29	
192.168.10.214	5	admin	2009/04/08 11:02:35	0 %		
192.168.10.214	4	admin	2009/04/08 11:02:35	9 %	409.92	
192.168.10.214	3	admin	2009/04/08 11:02:35	9 %	213.90	
192.168.10.214	2	admin	2009/04/08 11:02:35	9 %	275.67	
192.168.10.214	1	admin	2009/04/08 11:02:35	9 %	741.02	
192.168.10.112	1	admin	2009/04/08 10:36:25	78 %	58.61	

Note Record (Percentage)

Each recorded file is created on 1 hour base. Therefore, the percentage will be renewed every 1 hour.

4.3.2 Live Monitoring

To display current recording image of a channel, select a channel and open menu with the right button click of the mouse. When [Live Monitoring] is clicked, monitoring screen will pop up as following picture.



4.4 VOD Service

4.4.1 VOD Status

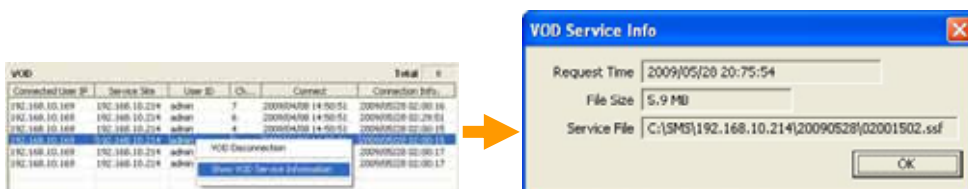
This screen shows current VOD service status of each site and channel.

VOD						Total	7
Connected User IP	Service Site	User ID	Ch...	Connect	Connection Info.		
192.168.10.169	192.168.10.214	admin	8	2009/04/08 14:28:52	2009/05/28 01:01:41		
192.168.10.169	192.168.10.214	admin	7	2009/04/08 14:28:52	2009/05/28 01:48:46		
192.168.10.169	192.168.10.214	admin	6	2009/04/08 14:28:52	2009/05/28 01:48:46		
192.168.10.169	192.168.10.214	admin	4	2009/04/08 14:28:52	2009/05/28 01:00:15		
192.168.10.169	192.168.10.214	admin	3	2009/04/08 14:28:51	2009/05/28 01:00:15		
192.168.10.169	192.168.10.214	admin	2	2009/04/08 14:28:51	2009/05/28 01:00:16		
192.168.10.169	192.168.10.214	admin	1	2009/04/08 14:28:51	2009/05/28 01:00:16		

- Connected User IP : IP address of CMS which is connected to SMS for VOD service
- Service Site : Site name of the recorded data
- Connection Info. : Time of recorded data which is being played at CMS.

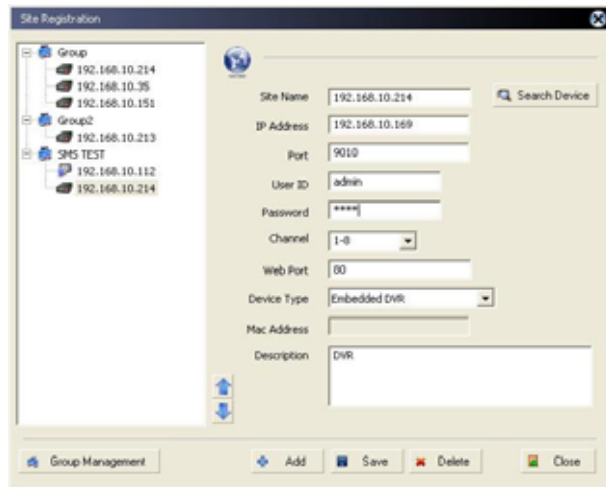
4.4.2 VOD Service Information

To view Information of each VOD service, select a channel and open menu with the right button click of the mouse. When [Show VOD Service Information] is clicked, information screen will pop up as following picture.



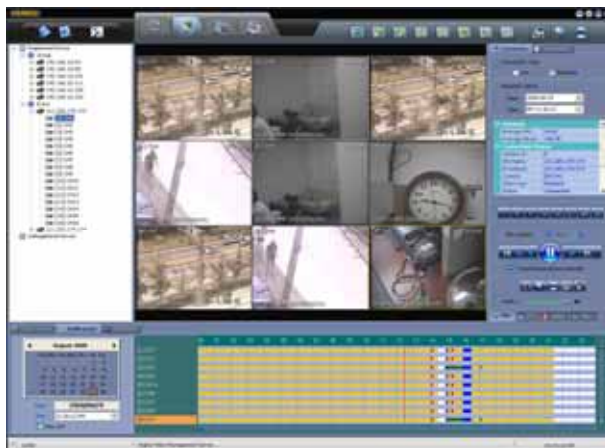
4.4.3 VOD Monitoring at CMS Platform

1) In Site Registration screen of CMS, input necessary information to connect to SMS.



-
- Note**
- 1) Site Name & Channel are for the site (device) of the recorded data to search and playback.
 - 2) IP Address, Port, User ID and Password are for those of SMS.
-

2) In Monitoring screen of CMS, go to “Playback” mode and select date and time with calendar and/or Intelli-Search bar to find desired recorded data. And then, select site or channel and drag/drop it to monitoring screen.



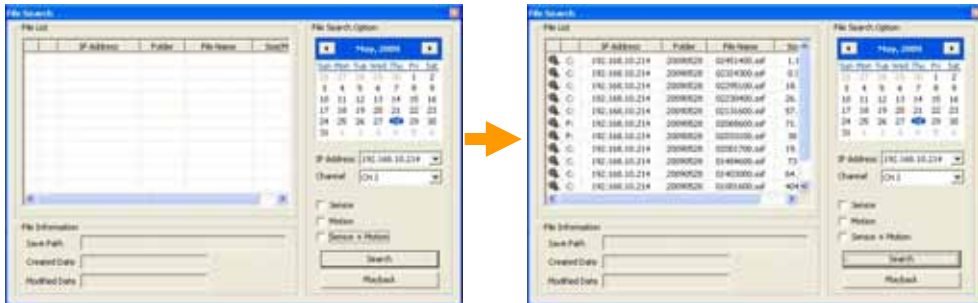
-
- Note** For the detail information of using CMS, please refer to CMS User Manual.
-

4.5 File Search

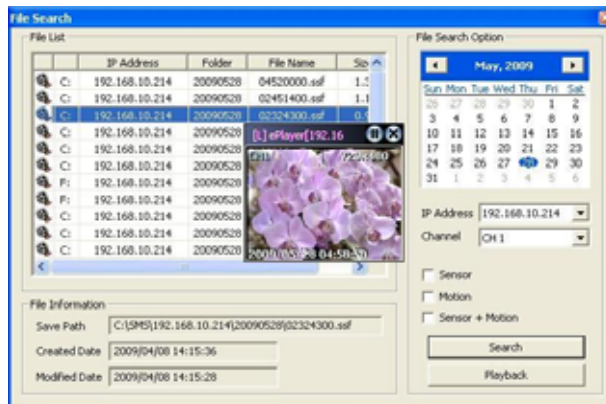


Select File Search icon to open file search screen.

Select desired date and IP Address and Channel number to search. And click [Search] button to see the file list.



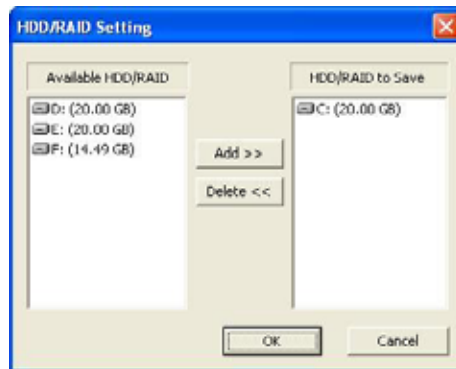
To display recorded image of a channel, select a channel and click [Playback] button. Then, monitoring screen will pop up as following picture.



- Note**
- 1) With the same procedure, multiple channels can be played with multiple pop-up screens.
 - 2) Pop-up screen can be enlarged by double clicking of the mouse on the screen.
 - 3 different sizes are available.

4.6 HDD/RAID Setting

Select Disk Setup icon  to open HDD/RAID setting screen



Add HDD/RAID to save file from the available disk which is shown on the right side.

Note Data will be saved in alphabetical order of drives.

When a drive is full,

- 1) In case that there is another drive to save, data will be saved to the next drives.
 - 2) In case that there is no other drive to save or all the drives are full, new data overwrites the oldest data.
-

5. Trouble Shooting

1. The product doesn't work.

- a. Check the power supply.
- b. Check BNC and LAN cable connection with the product and turn on the power again.
- c. It may take about 1~2minutes to start operation.

2. No image is displayed on Internet Explorer.

- a. Check BNC cable that is connected to the product.
- b. In case that the network is used by Router, check all required ports(TCP Base Port ~ TCP Base Port +7) are open.

3. Sensor is activated but it doesn't work properly.

- a. Check the schedule setting in Video/Audio Setup. It should be set as Sensor or Continuous + Sensor mode.
- b. Check the sensor setting in Device Setup. It should be "On".
- c. Check the sensor type selection (N/O or N/C) in Device Setup.
- d. Check the contact type of the sensor. It is recommended to use dry contact type. Wet contact type may cause damage to the product.

4. Motion is occurred on the image but it doesn't work properly.

- a. Check the motion sensitivity in Device Setup. If the sensitivity is too low, it doesn't detect motion well. And, on the contrary, if the sensitivity is too high, noise of the image can be regarded as motion.
- b. If there is a continuous motion occurred, the alarm is not triggered continuously though it keeps on motion detection recording while motion is occurring.
- c. Check the schedule setting in Video/Audio Setup. It should be set as Motion or Continuous + Motion mode.

5. In WAN network circumstance, connection to the product which has a private IP address is not available.

- a. Check the DMZ or Port Forwarding at Router. For the detail, please discuss with your network administrator.
- b. Some of Intelligent Switches don't allow data transmission of the product. For the detail, please discuss with your network administrator.
- c. Check the firewall setup on network. Data transmission may be restricted by the firewall. For the detail, please discuss with your administrator.
- d. Some of Anti-Virus program may restrict to data transmission of the product. Stop the Anti-Virus program, for a while, and try connecting again.
- e. It is recommended to operate the product in Windows XP and Windows Vista.

6. PTZ camera doesn't move.

- a. Check the connection cable between PTZ camera and the product.
- b. Check the electrode of the connection cable.
- c. Check the PTZ camera supports RS-485 communication.
- d. Check the protocol setting in Device Setup is correspondent to that of PTZ camera.
- e. Check the Baud rate and address setting in Device Setup is correspondent to that of PTZ camera.

7. A certain preset of PTZ camera doesn't work.

- a. The number of preset which is supported by the PTZ camera can be restricted. Check the PTZ camera manual to confirm that the preset number is supported by the PTZ camera
- b. There are some PTZ cameras which use a certain preset number for a special function. Check the PTZ camera manual.
- c. Check the preset number has a set position in Device Setup and set again to confirm.

8. IRIS function doesn't work.

- a. Mostly, it is because the PTZ camera doesn't support IRIS function. Check the PTZ camera.
- b. Check the cable for IRIS cable connection.
- c. If Auto IRIS function is activated at the PTZ camera, IRIS control doesn't work properly. Check the PTZ camera manual.