

Versatile/Lite H.264 DVR

OSD Setup Manual

Version 2.2

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Menu System Overview

The detailed functions and settings of **Versatile/Lite H.264 DVR** can be set by entering the intuitive Graphical User Interface (GUI) OSD setup menu. Collaborating with a USB mouse, setting up the DVR can be easy as operating on a PC. This chapter particularizes the items and options in the OSD setup menu.

< Username and Password >

Press MENU and select an account to login. There are two preset accounts: “admin” and “user”. The next step is to enter a corresponding password. The preset password for the administrator account “admin” is “1234”, while the preset password for the account “user” is “4321”.



NOTE: It is strongly suggested to change the preset password to prevent unauthorized access to the unit.

An icon displayed at the status bar will show the authority level of the account. Under logout condition, the icon will show “Guest”. When an account is logged in, its authority level number (1~8) will be shown.

Before completely logout, other functions can also be accessed without having to login again. There are two ways to logout: manually logout by pressing ESC key at Live mode, or auto logout when keys are not pressed for a preset period of time (default 5 minutes) at Live/ Menu mode.

< Key Usage >

The key usage differs under the OSD menu and in the Virtual keyboard. The difference can be seen while setting some items, such as Unit Name and IP Address.

■ *Key Usage in OSD Menu*

The following introduce some keys used frequently to setup the DVR via the OSD menu.

<Direction Keys>

In the OSD menu, Direction Keys are used to move the cursor to previous or next fields. UP / DOWN are used to change the value in the selected field.

<ENTER>

In OSD menu or selection interface, press the key to make selection or save settings.

<ESC>

Press to cancel or exit from certain OSD menu without saving any changes.

■ **Key Usage in Virtual Keyboard**

A virtual keyboard shows up while editing settings such as camera title, unit name, etc. The virtual keyboard displays as follows.

!	@	#	*	-	_	+	=	,	.	/	←	
1	2	3	4	5	6	7	8	9	0	Del		
A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z
<<		>>		Space			Cancel		OK			

<To input characters>

Move the cursor by pressing Direction keys and press ENTER to select characters.

<To move the cursor in title entry field>

Select “<<” / “>>” and press ENTER to move the cursor to left / right in the title entry field.

<To delete previous character>

Select <Backspace> and press ENTER.

<To delete current character>

Select <Delete> and press ENTER.

<To exit the virtual keyboard>

Select <OK> and press ENTER to save the settings and exit. Otherwise press ESC or select <Cancel> and press ENTER to exit without saving changes.



NOTE: If a USB keyboard is connected and when any key on the keyboard is pressed, the cursor on the virtual keyboard will be automatically moved to <OK>.

System Setup

Select <System Setup> from the Main Menu and press ENTER to enter the System Setup menu. The items in the System Setup menu are described in the following sections.

System Setup	
System/Version Info	
Language	English
Date/Time	
Unit Name	DVR
Show Unit Name	No
User Management	
Network Setup	
RS485 Setup	
Audio Output/Key Beep	
UPS Setup	

< System/Version Info >

The System/Version Info menu allows users to view system information such as hardware and software version. From the System Setup menu, select <System/Version Info> and press ENTER. The following menu is displayed. The first five items are “read only”, thus CANNOT be changed. The items in this menu are described in the following subsections.

System/Version Info	
Model Name	****
Video System	NTSC
Hardware	**_**_**
Software	****_****_****_****
MAC Address 1	**.*.*.*.*.*.*.*
Software Upgrade	
Software Upgrade Via Internet	

■ **Model Name**

This item shows the model name of the DVR.

■ **Video System**

This item shows the current video system of the DVR.

■ **Hardware**

This item shows the hardware version of the DVR.

■ **Software**

This item shows the software version installed on the DVR.

■ **MAC Address 1**

This item identifies the first Media Access Control (MAC) address of the DVR.

■ **Software Upgrade**

This item is used for updating software of the **Versatile/Lite H.264 DVR** via local device. The menu is displayed as follows.

Software Upgrade	
Upgrade Version	Select
XXXX-XXXX-XXXX-XXXX	No

Connect an USB storage device containing upgrade software to the DVR; the available upgrade files will be listed in the menu. To update the system, select a file and use UP / DOWN keys to choose <Yes>. Press ENTER to confirm the selection and start the upgrade process. The **Versatile/Lite H.264 DVR** will download the software, update the system files, and reboot automatically.

The upgrade may take several minutes to save the changes in the memory of the system. After the DVR is rebooted, please check the software version again.



NOTE: Power interruption is **NOT** allowed during the software update. Ensure that no power interruption can occur until the DVR is completely rebooted.



NOTE: Do not remove the external USB ThumbDrive / DVD+RW before the DVR has completely shutdown (hard drive and fan are off). Removing the external USB ThumbDrive / DVD+RW before shutdown can cause the system to update improperly.

■ **Software Upgrade Via Internet**

The item is used to upgrade the unit's software via the internet. Select one of the listed software versions and choose <Yes>. The DVR downloads the software, updates the system files, and reboots automatically.

< Language >

The Language item allows users to select the language for the OSD menu and screen messages. Language selection takes effect immediately when the selection is made. Press UP / DOWN to select from listed languages and press ENTER to confirm.

< Date/Time >

Users can set the current date, time and other OSD parameters in this menu. Login using account with proper privilege to enter the submenu. In System Setup menu, select <Date/Time> and press ENTER. The Date/Time menu displays as follows.

Date/Time	
Date	2011/02/21
Time	PM 10:39:26
Time Zone	OFF
Date/Time Display	ON
Date Display Mode	Y/M/D
Time Display Mode	12 HR
Daylight Saving Time Setup	
Network Time Protocol Setup	



NOTE: The reset of Date / Time setting only applies to new video. The date and time of previously recorded video will not be changed.



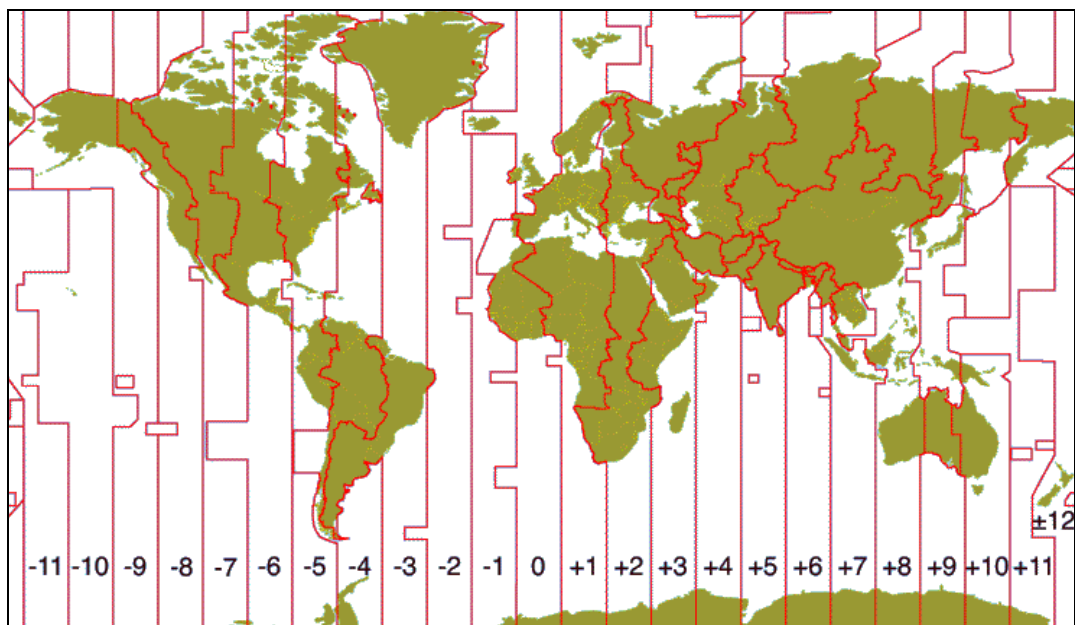
NOTE: To avoid database corruption, formatting the database is recommended after changing Date / Time setting.

■ *Date / Time*

Select <Date> or <Time> and press ENTER to adjust the settings. LEFT / RIGHT keys are used to move the cursor to previous or next field, ENTER is for selecting, and UP / DOWN are used to change the value in the selected field.

■ *Time Zone*

Press ENTER to set users' local time zone. Please refer to the following figure or visit www.greenwichmeantime.com to find out users' local time zone.





NOTE: <Time Zone> must be set to users' local time zone or the <Network Time Protocol Setup> will not be accessible.

■ ***Date/Time Display***

Select <ON> or <OFF> to setup whether to display date/time information on the screen. Press ENTER and use the UP / DOWN keys to change the setting.

■ ***Date Display Mode***

This menu allows users to set the display type of the date. Three options are provided: <Y/M/D>, <M/D/Y> or <D/M/Y>. “Y” represents “Year”, “M” represents “Month” and “D” represents “Day”. Use UP / DOWN keys to change the setting.

■ ***Time Display Mode***

Users can set the time format to <12 HR> or <24 HR>. Use the UP / DOWN keys to change the format.

■ ***Daylight Saving Time Setup***

This function is for people who live in certain regions to observe Daylight Saving Time. The menu displays as follows:

Daylight Saving Time Setup	
Daylight Saving Time	Off
DST Start	Apr 1st Sun 01:00
DST End	Oct Last Sun 01:00
DST Bias	60 Min

- ***Daylight Saving Time***

Select <On> to enable, or <Off> to disable the function. If the function is disabled, the DST Start / End time and DST Bias will be grayed out and cannot be accessed. If this function is enabled, the date/time information will be shown on the screen with a DST icon when playing back recorded video or searching video in the event list. “S” indicates summer time and “W” indicates winter time.

- ***DST Start / End***

These items are used to set duration of daylight saving time. Use LEFT / RIGHT to move the cursor to the previous or next field, UP / DOWN to change the settings.

- **DST Bias**

This item allows users to set the amount of time to move forward from the standard time for daylight saving time. Available options are <30>, <60>, <90> and <120> minutes.

- **Network Time Protocol Setup**

After time zone is set, the <Network Time Protocol Setup> option will be available.

Network Time Protocol Setup	
NTP Server	time.nist.gov
Automatically Time Sync	Off
Manually Time Sync	No

- **NTP Server**

Enter this item to setup a feasible time server. The default time server is time.nist.gov. Users can change it to any other time server if desired. IP addresses of other time servers are listed below for reference.

129.6.15.28	129.6.15.29	132.163.4.101
132.163.4.102	132.163.4.103	128.138.140.44
192.43.244.18	131.107.1.10	69.25.96.13
206.246.118.250	208.184.49.9	64.125.78.85
207.200.81.113	64.236.96.53	68.216.79.113

- **Automatically Time Sync**

Select <ON> and the time will be synced once an hour.

- **Manually Time Sync**

Select <Yes> to sync the time immediately.

< Unit Name >

Users are allowed to assign a unit name, up to 11 characters, to the **Versatile/Lite H.264 DVR**.

Follow the steps below to edit the unit name.

- Select <Unit Name> from System Setup menu and press ENTER. A virtual keyboard displays as below.

!	@	#	*	-	_	+	=	,	.	/	←	
1	2	3	4	5	6	7	8	9	0	Del		
A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z
<<		>>		Space			Cancel		OK			

- Use Direction keys to move the cursor to the wanted character.
- Press ENTER to add the character to the entry field (up to 11 characters).
- When the unit name is entered, move the cursor to <OK> and press ENTER to save the settings and exit.

< Show Unit Name >

This item enables the unit name of the **Versatile/Lite H.264 DVR** to be shown on the monitor. Select <Yes> to show or select <No> to hide.

< User Management >

The DVR provides the option to create up to seven sets of usernames and passwords with customized authority, excluding the preset “admin” account. The menu is as the following.

User Management	
Password Protection	On
Auto Logout	300 Sec
Account Setup	
Permissions Setup	
Load Default Setting	No

■ **Password Protection**

Select <On> to request for username and password for accessing functions listed in Authority Setup menu, or select <Off> to allow free access.

■ **Auto Logout**

Users can setup time for automatic logout of system when no operation is performed. Select from <60 Sec>, <120 Sec>, <300 Sec> and <600 Sec>. Alternatively, select <Disable> and the system will not automatically logout.

■ **Account Setup**

Setup customized username, password, and authority level in this menu. Note that the account is case sensitive and password cannot contain the number “0”. Press Direction keys and ENTER to select items. The privilege level ranks from levels 1~8, which level 8 has the highest authority. Alternatively, select <Disable> to stop using the account.

Account Setup		
Account:	admin	Mod
Password:	****	Mod
Privilege:	Level 8	
	Confirm	
	Cancel	



NOTE: The account name and privilege level of the preset “admin” account cannot be changed.

■ **Permissions Setup**

Setup permitted authority level for accessing the functions listed in this menu. The functions include: Playback/Search, Hidden Camera, Dome Control, Live Operation, Call Control, Export Data, Menu Access, System Setup, Monitor Setup, Camera Setup, Record Setup, Sequence Setup, Event Setup, Database Setup, Configuration, POS Setup and Shutdown. Press Direction keys and ENTER to select from items. In accordance with users’ privilege level defined in <Account Setup>, the authority level here also ranks from levels 1~8, with level 8 as the highest level. Users will be able to access any function that is set to their equivalent level or lower. Alternatively, select <DISABLE> to allow free access.

Permissions Setup	
Item	Authority
Playback/Search	DISABLE
Hidden Camera	LEVLE8
Dome Control	DISABLE
Live Operation	DISABLE
Call Control	DISABLE
Export Data	DISABLE



NOTE: The “Menu Access” cannot be set to <Disable>.

When the account does not have authority to access certain functions, an error message will be displayed on the screen.

■ **Load Default Setting**

This item is for restoring the default settings. Select <Yes> to load default setting or select <No> to exit.

< Network Setup >

The Network Setup menu allows users with proper privilege to configure the network by specifying the network related settings, such as IP address and Netmask, etc. Check with the network administrator and/or network service provider for more specific information. The menu is as the following. Items in this menu are described in the following sections.

Network Setup	
LAN Select	LAN
LAN Setup	
Web Port	80
DDNS Setup	
UPnP Setup	

■ **LAN Select**

This item allows users to select the network type among <LAN>, <PPPoE>, and <None>. If the internet connection is a local area network communication, please select <LAN>. If the internet connection is a broadband medium, such as DSL Line or cable modem, please select <PPPoE>. PPPoE stands for Point-to-Point Protocol over Ethernet. It is a specification for connecting the users on an Ethernet to the Internet through a common broadband medium.

If <None> is selected, then there is no need to set further LAN or PPPoE settings. Therefore, the second item <LAN Setup> will be inaccessible.

■ LAN Setup

The network related settings in the LAN Setup menu should be associated with the network service type. Select <LAN Setup> in Network Setup menu and press ENTER to set the parameters. The menu displays as follows.

LAN Setup		
DHCP		Off
IP		192.168.1.150
Netmask		255.255.255.0
Gateway		192.168.1.1
DNS		0.0.0.0
PPPoE Account		
PPPoE Password		
PPPoE Max Idle		35 Min
Connect At Booting		Yes
Network Restart		No

- DHCP

This item allows users to obtain a dynamic IP address from DHCP (Dynamic Host Configuration Protocol) server when the DVR boots up. When using DHCP, the settings are dynamic and will change every time the DVR power on or off, depending on the network's setup.

If the item is enabled (On), a dynamic IP will be assigned to **Versatile/Lite H.264 DVR**. In this case, users do not need to set a static IP and the Ethernet settings, including IP address, Netmask, Gateway, and DNS settings will be read-only.

If the DVR is using a permanent address, disable DHCP (Off) to manually set IP Address, Netmask, Gateway, and DNS. See the network system administrators or IT personnel for appropriate values.

- IP

This item is used to configure the IP (Internet Protocol) address of the DVR. The IP address is the identifier for the DVR on a TCP/IP LAN. Please note that to set a static IP address, DHCP must be set to <Off>.

- **Netmask**

A netmask is a 32-bit mask used to divide an IP address into subnets and specify the networks available hosts. Its value is defined by the network administrator. It takes the form as `***.***.***.***`, for example, `255.255.255.255`.

This item allows users to enter the value of the Netmask for the DVR. Please note that to configure this item, DHCP must be set to <Off>.

- **Gateway**

Gateway is a node on a network that serves as an entrance to another network. Users are allowed to specify the IP address of the gateway or router associated with this DVR. To configure this item, DHCP must be set to <Off>.

- **DNS**

DNS is the abbreviation for “Domain Name Server”, which is an Internet service that translates domain names into IP addresses. The advantage of using DNS is that domain names are easier to remember.

This item allows users to specify the IP address of the Domain Name System associated with the DVR. To configure this item, DHCP must be set to <Off>.

If the server is unavailable when using DHCP, the DVR will search for the network server and boots up more slowly. This network search continues until it times out.

- **PPPoE Account**

The item allows users to setup the PPPoE login username.



NOTE: For accessing the PPPoE settings, select <PPPoE> as the Network Type in Network Setup menu.

To setup the login username, follow the steps:

- Select <PPPoE Account> from LAN Setup menu and press ENTER. A virtual keyboard displays.

!	@	#	*	-	_	+	=	,	.	/	←	
1	2	3	4	5	6	7	8	9	0	Del		
A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z
<<			>>			Space		Cancel		OK		

- Use Direction keys to move the cursor to the desired character.
- Press ENTER to add the character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the setting and exit.

- **PPPoE Password**

The item allows users to setup the PPPoE password. Follow these steps to setup the login password.

- Select <PPPoE Password> from LAN Setup menu and press ENTER. A virtual keyboard displays.
- Use Direction keys to select from characters.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the setting and exit.

- **PPPoE Max Idle**

The item indicates the duration that the modem connection remains active if there is no acknowledgement from the remote PC. Users can select the idle time from 0 to 600 minutes.

- **Connect At Booting**

The DVR is allowed to automatically connect to the internet when booting up. Select <Yes> to connect at booting, otherwise select <No>.

- **Network Restart**

Network restart is required after network settings are changed. Select <Yes> to restart the network connection.

■ **Web Port**

To avoid the default service port (port 80) being jammed, this item enables users to change port 80 to another port. To change the web port, move the cursor over <Web Port> and press ENTER, then adjust the setting by UP / DOWN keys.

■ **DDNS Setup**

Dynamic Domain Name System (DDNS) allows a DNS name to be constantly synchronized with a dynamic IP address. In other words, it allows those using a dynamic IP address to be associated to a static domain name so others can connect to it by the domain name.

Once the setting is completed, the DDNS address will be:

<http://hostname.ddns.iview-ddns.com>

Fore example, if the chosen host name is “**H264DVR**”, then the address will be:

<http://H264DVR.ddns.iview-ddns.com>

Select <DDNS Setup> from Network Setup and press ENTER. The menu displays as below.

DDNS Setup	
Enable DDNS	On
Service Provider	iview-ddns
Host Name	XXXX_XXXX
DDNS Port	80
DDNS Account	
DDNS Password	
Submit/Update	No
ezDDNS	No

- **Enable DDNS**

The item is used to enable or disable the Dynamic Domain Name Service. Select <On> to enable the service, or <Off> to disable.

- **Service Provider**

There are three different service providers: <iview-ddns>, <dyndns> and <ChangeIP>. When <iviewddns> is selected, users can setup preferred <Host Name> and <DDNS Port>. After users submitted the setting, the DDNS address will be as <http://hostname.ddns.iview-ddns.com>.

Alternatively, when <dyndns> is selected, users need to first obtain accounts from the website <http://dyn.com/dns/>. The further required items are <Host Name>, <DDNS Account>, and <DDNS Password>.



NOTE: If <dyndns> is selected, <DDNS Port> and <ezDDNS> will be grayed out. The ezDDNS function is only available for the iviewddns provider.

- Host Name

The item allows users to setup a domain name, which is used for entering the **Versatile/Lite H.264 DVR** through internet on the remote PC.

To setup the host name of the DVR, follow the steps.

- Select <Host Name> from DDNS Setup menu and press ENTER. A virtual keyboard displays as below.

!	@	#	*	-	_	+	=	,	.	/	←	
1	2	3	4	5	6	7	8	9	0	Del		
A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z
<<		>>		Space			Cancel		OK			

- Use Direction keys to select character.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.



NOTE: Each **Versatile/Lite H.264 DVR** should have a unique host name.

- DDNS Port

The item allows users to setup the port for DDNS. Press UP / DOWN Direction keys to change the port.

- DDNS Account

Users who are using DynDNS as the service provider have to input a DDNS account name. Follow the same step as described in <Host Name> setup to input a valid account name.

- **DDNS Password**

Users who are using DynDNS as the service provider have to input a DDNS password. Follow the same step as described in <Host Name> setup to input the password goes with the valid user name.

- **Submit/ Update**

When the settings are finished, move the cursor to this item and select <Yes> to submit the settings.



NOTE: If more than one **Versatile/Lite H.264 DVR** has the same domain name, only the first one will be submitted successfully.

- **ezDDNS**

ezDDNS enables the users to register for host name automatically. Press ENTER and select <Yes>. The following screen will be displayed:

ezDDNS Submit/update ok! Host name is XXXX_XXXXXX Press any key to return



NOTE: The DVR must be connected to the *Real IP address, or be assigned a specific port using **Port Forwarding technique.

*A "Real IP" is an IP address that is assigned to users by the ISP.

A "Virtual IP" is an IP address assigned either manually or through DHCP. When users are assigned a Virtual IP, users must use **Port Forwarding technique to assign a specific port to DVR.

■ **UPnP Setup**

UPnP is the abbreviation for Universal Plug and Play, which is a technology that integrates a universal protocol for widespread plug-and-play devices to ease the network implementation. When a PC and a DVR both installed the UPnP function, the PC can automatically recognize the DVR in the same local area network. The advantage of this function is that PCs can connect to the DVR via the remote control software by directly clicking on the icon representing the DVR in <My Network Places> folder. The menu will be as the following.

UPnP Setup	
UPnP	On
UPnP NAT Traversal	No

- **UPnP**

Set the first item UPnP to <ON> and the DVR is now with UPnP function.

- **UPnP NAT Traversal**

The UPnP NAT traversal function will help to automatically setup a router if the DVR connects to the internet via a router. Select <Yes> and the settings of router will be taken care by the DVR itself.

< RS485 Setup >

This menu allows users to setup the parameters of the DVR's RS-485 communication port. From System Setup, select <RS485 Setup> and press ENTER. The following menu is displayed.

RS485 Setup	
Unit ID	224
Baud Rate	9600
Bits	8
Stop	1
Parity	None

- **Unit ID**

This item is used to change the RS-485 ID address of the DVR. The ID is in the range of <1> to <255>.

- **Baud Rate**

The Baud rate options for associated with the protocol are <2400>, <4800>, <9600>, <19200>, <38400>, and <57600>.

- **Bits**

Users can specify the bits in a word associated with this protocol. The available options are <6>, <7> and <8> bits.

- **Stop**

Users can specify the stop bit associated with this protocol. Options are <1> and <2> stop bits.

- **Parity**

This item is used to specify the parity associated with this protocol. Options are <Odd>, <Even> and <None>.

< Audio Output/Key Beep >

Enter this menu to setup the audio output or key beep.

Audio Output/Key Beep	
Audio Output	OFF
Key Beep	On
Split Mode Audio	OFF

■ **Audio Output**

This item is for setting the audio output mode. The audio will be outputted when the monitor shows a chosen channel in full screen. The available options are as below.

<Live/PB>: Select this option to play the recording sounds of live image in live mode, and sounds of recorded video in playback mode respectively.

<Always Live>: Select this option to play live sounds in both live mode and playback mode.

<Off>: Select this option to disable the audio output function.

■ **Key Beep**

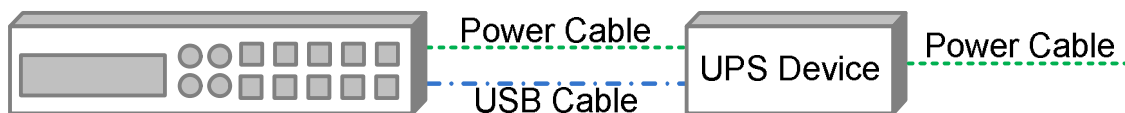
This item is used to enable or disable the key tone. Select <On> to enable the key tone, or <Off> to disable.

■ **Split Mode Audio**

This item allows users to select and output the audio of the selected channel while viewing multiple channels. Select <CH01> through <CH16> to output the preferred audio, or select <OFF> to disable audio output in multiple window viewing modes.

< UPS Setup >

When users wish to connect the NVR to the power source via an UPS device, the required connections are illustrated as the following figure. The USB cable is for data communication between the NVR and the UPS device.



The UPS Setup menu is as the following.

UPS Setup	
UPS Protocol	APC
Power Failure Scenario	Shutdown
UPS Shutdown Setting	
UPS Info	

■ **UPS Protocol**

This item is for users to select an appropriate UPS protocol. Note that if the UPS protocol is not selected, <UPS Info> will be grayed out and not available for setup.

■ **Power Failure Scenario**

For this item, users can choose what action the NVR should take when power failure occurs. If <Shutdown> is selected, users have to do further setting under <UPS Shutdown Setting>. Otherwise, select <None> and power of the NVR will be cut off when electricity of the UPS device totally runs out.

■ **UPS Shutdown Setting**

When <Power Failure Scenario> is set to <Shutdown>, this item will become available. Users have to setup under which condition should the NVR begin to automatically shutdown. The menu is shown as below.

UPS Shutdown Setting	
Min Remaining Battery Level	5 %
Min Remaining Run Time	5 mins
Delay To Activate	10 secs



NOTE: The NVR will begin to shutdown when one of the first two condition satisfied.

- **Min Remaining Battery Level**

For this item, users can decide the NVR should begin to shutdown when the remaining battery level reaches the specific percentage. The ranges are from 5% to 95%.

- **Min Remaining Run Time**

For this item, users can decide the NVR should begin to shutdown when the remaining run time reaches the specific value. The ranges are from 5 minutes to 30 minutes.

- **Delay To Activate**

This item allows users to set delay time before the NVR begin to shutdown. The ranges are from 10 seconds to 20 seconds.

- **UPS Info**

After UPS protocol is selected, this item will become available. Users can check out UPS related information as shown below.

UPS Info	
UPS Model	*****
UPS Protocol	*****
UPS Status	Lost Communication
Remaining Battery Level	77 %
Remaining Run Time	93 mins
Query Time	16 secs ago

- **UPS Model**

This item shows the model name of the UPS device.

- **UPS Protocol**

This item shows the protocol of the UPS device.

- **UPS Status**

This item will show the connection status between the NVR and the UPS device. Refer to below for the description of each displayed value.

Unknown

This will be displayed when there is no UPS device connected.

Lost Communication

This means there might be problems due to the USB cable connection between the NVR and the UPS device.

Online

This will be shown when everything is fine. Nothing to be worry about.

On Battery

This will means the power source is not available. The NVR is running based on the battery of the UPS device.

- Remaining Battery Level

This item shows the remaining battery level of the UPS device.

- Remaining Run Time

This item shows the remaining run time of the UPS device.

- Query Time

This item tells the last retrieving time of the UPS information. Normally, the information will be refreshed every 5 seconds when the UPS status is <Online> or <On Battery>. However, when there is error on USB cable connection and the UPS status shows <Lost Communication>, the query time will be more than 5 seconds.

Monitor Setup

The Monitor Setup menu allows users to adjust the quality of the displayed image. Select <Monitor Setup> from the Main menu and press ENTER. The following menu is displayed.

Monitor Setup	
Show Camera Name	Yes
OSD Transparency	0 %
VGA Resolution	1024*768
Show Color Bar	
Mouse Sensitivity	100%
Hide Status Bar	No
Status Bar Size	Medium

< Show Camera Name >

This item allows users to choose whether to display the camera name on the screen or not. The default is <Yes>, which displays the camera names with the video.

< OSD Transparency >

This item allows users to set the OSD menu transparent in a certain degree, so that users can see the live images while configuring the OSD settings. The options are <0%>, <15%>, <30%>, <45%>, <60%>, <75%>, and <90%>.

< VGA Resolution >

This item allows users to select appropriate VGA resolution for the VGA monitor connected to the DVR. The options are <1024*768>, <1280*1024> and <1080P>.



NOTE: If the selected VGA resolution is too high that the monitor cannot support, the message “No Signal” will be shown on screen. Then please press ESC on the front panel to restore the original setting.

< Show Color Bar >

Choose this item to display color bar pattern on the screen. The color bar helps to adjust the monitor hue, saturation, text color, and display options. Press ESC to exit the color bar pattern display and return to the OSD menu.

< Mouse Sensitivity >

This item allows users to set the sensitivity of the connected mouse. Starting from <10%>, with 10% increment, the maximum value is <100%>.

< Hide Status Bar >

Users can choose whether to hide the status bar. The default setting is <No>. If users decide to hide the status bar, set this item to <Yes>.

< Status Bar Size >

This item allows users to select the displaying size of the status bar. The default setting is <Medium>. The other available displaying sizes are <Small> and <Large>.

Camera Setup

The items in the Camera Setup menu enable users to set camera parameters, including camera title, dome protocol and ID for each connected camera.

< Analog Camera >

If the connected camera is an analog camera, please continue with this section. Items in this menu are described in the following subsections.

Camera Setup	
Analog Camera Select	CH01
Dome Protocol	None
Dome ID	0
Camera Name	CH1
Hidden	No
Adjust Video	
Copy Settings	

■ **Analog Camera Select**

This item is used to select a camera for setting the parameters. The related settings will follow the selected camera, such as dome protocol and camera title. Move the cursor to <Analog Camera Select> and press ENTER, then select a channel using UP / DOWN keys.

■ **Dome Protocol**

If the connected camera is a dome camera, select the communication protocol associated with the dome camera using ENTER and Direction keys. The available protocol includes <DSCP>, <AD422>, <Pelco D>, <Pelco P>, <Fastrax 2>, <JVC>, <Panasonic_C> and <Panasonic_N>. The default is set to <None>.

■ **Dome ID**

This item is used to assign an ID number to the selected dome camera. Note that ID number must match the ID address set by the dome camera.

■ **Camera Name**

This item allows the users to change the name of each connected camera. By default, the names of cameras are numbered from 1 through 16 respectively. The names will be displayed on screen after the changes of the names are set.

Follow these steps to enter a new name for a camera.

- Move the cursor to <Camera Name> and press ENTER. A virtual keyboard with alphanumeric characters is displayed as below.

!	@	#	*	-	_	+	=	,	.	/	←	
1	2	3	4	5	6	7	8	9	0	Del		
A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z
<<		>>		Space			Cancel		OK			

- Use Direction keys to select character.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.

■ **Hidden**

This function allows users to set monitor display of the specific camera to be hidden while the DVR continues to record video. Choosing <Yes> means to hide monitor display of the selected camera; or choose <No> to remain monitor display of the specific camera non-hidden.

■ **Adjust Video**

Enter this menu to adjust video display settings.

Adjust Video	
Brightness	0
Contrast	0
Saturation	0
Hue	0
Reset	No

- **Brightness**

Move the cursor to the item and press ENTER for adjusting the brightness of the camera. Use UP / DOWN keys to adjust the numeric value. The range of brightness values is <-128> to <127>.

- **Contrast**

Move the cursor to the item and press ENTER for adjusting the contrast of the camera. Use UP / DOWN keys to adjust the numeric value. The range of contrast values is <-128> to <127>.

- **Saturation**

Move the cursor to the item and press ENTER to adjust the color saturation of the camera by using UP / DOWN keys. This value will be ignored on monochrome monitors. The range of saturation values is <-128> to <127>.

- **Hue**

Move the cursor to the item and press ENTER for adjusting the hue of the camera. Use UP / DOWN keys to adjust the numeric value. The range of hue values is <-128> to <127>.

- **Reset**

Select <Yes> for this item to reset the above video adjustment settings.

■ **Copy Settings**

This item allows users to copy the settings of the current selected analog camera to any other connected analog cameras. Enter this menu and select one or more target analog cameras. Then select <Confirm> to apply the settings.

Copy Settings							
COPY TO:							
01	02	03	04	05	06	07	08
09	10	11	12	13	14	15	16
Select All		Deselect All		Confirm		Cancel	

Record Setup

The total record time of **Versatile/Lite H.264 DVR** will be effected by **HDD capacity**, **recording rate (Picture per Second)**, **image quality settings**, and **event settings**.

The greater the recording rate and the higher the quality setting, the shorter the recording duration. Most of the related factors can be set here in this submenu.

The Record Setup menu allows users to set recording quality, recording schedules, and other recording parameters. Login using account with proper privilege to access Record Setup menu. In the Main menu, move the cursor to <Record Setup> and press ENTER. The following menu is displayed.

Record Setup	
Record Mode Setup	
Schedule Setup	
Preset Config	Best Quality
Per Camera Config	
ezRecord Setup	
Advance Schedule Setup	
Data Lifetime Setup	
Circular Recording	ON
Audio Recording	ON
Purge Data	

< Record Mode Setup >

Enter this menu to setup record resolution. The relative record settings, such as preset configuration, will follow the record mode setting. The menu is displayed as the following.

Record Mode Setup	
Record Resolution	720*240
Record Format	H264
Max Rec. PPS	480
CBR/VBR	CBR

■ Record Resolution

Select resolution of the recorded video. If the recording is set to NTSC system, the selections are 720*480 (D1), 720*240 (Half D1), and 352*240 (CIF). If the recording is set to PAL system, the selections are 720*576 (D1), 720*288 (Half D1), and 352*288 (CIF).

■ Record Format

The video format will be H.264 compression. This item is read-only.

■ **Max Rec. PPS**

This item will remain constant. In most cases, each channel will be 30PPS for NTSC and 25PPS for PAL. The only two exceptions are 8CH and 16CH models of **Lite H.264 DVR**. Their D1 resolution only supports 15PPS for NTSC and 12.5PPS for PAL per channel.

■ **CBR/VBR**

This item allows users to select an encoding method for the unit.

CBR, standing for Constant Bit Rate, means a way to encode a file at a fixed rate. That also indicates a CBR file has consistent file size and quality.

VBR, standing for Variable Bit Rate, allocates an appropriate amount of data per second, depending on the complexity of the video file.

It's strongly suggested to use VBR encoding when reliable video quality is the top priority.



NOTE: Since a VBR file doesn't have a fixed size, the HDD space usage cannot be calculated and thus ezRecord function is not supported for VBR mode. Therefore, if ezRecord is selected as the preset record configuration, the option of this menu item will automatically be set as <CBR>.

< Schedule Setup >

This submenu is used to set the day and night time, or weekend recording schedule. The Day and Night schedules are for defining day time and night time; the Weekend schedule can be modified for weekends and holidays. Select <Schedule Setup> from the Record Setup menu and press ENTER; the following menu is displayed.

Schedule Setup	
Day Time Start	AM 06:00
Day Time End	PM 06:00
Night Time Start	AM 06:00
Night Time End	PM 06:00
Weekend Schedule	On
Weekend Start	Fri PM 06:00
Weekend End	Mon AM 06:00

■ **Day / Night Time Start / End**

The Day/Night Start Time and End Time determines the duration of day/night recording time. Time is indicated in 1-minute increments. The time display format in this menu is based on the setting of <Time Display Mode> in <System Setup>.

■ **Weekend Schedule**

<Weekend Schedule> determines whether a weekend schedule is in effect. Choose <ON> to take effect the related weekend settings.

■ **Weekend Start / End**

<Weekend Start> indicates the specific day and time when weekend schedule should begin, for example, Fri PM 06:00. <Weekend End> indicates the specific day and time when weekend schedule should end, for example, Mon AM 06:00. Time is indicated in 1-minute increments.

Note that the value users have set indicates when the regular Day and Night scheduling ends, and Weekend recording begins.

< Preset Record Configuration >

The <Preset Config> is used to select the preset recording quality. Several different preset recording quality levels are offered for users to choose: <Best Quality>, <Standard>, <Extended Record>, <Event Only>, <ezRecord>, <512Kbps DSL>, <256Kbps DSL>, <128Kbps DSL>, <Adv. Schedule> and <OFF>. For different preset configurations, the recording file size differs.

Refer to the table below for file sizes of a few simple preset configurations. For other preset configurations, file sizes are variable and further setup is required. <Event Only> will be described in <Event Setup> section. <ezRecord> will be explained in <ezRecord Setup> section. Instruction about <Adv. Schedule> can be found in <Advance Schedule Setup> section. When <OFF> is selected, refer to section <Per Camera Config> for more details.

Resolution	D1		Half D1		CIF	
DVR	Versatile	Lite	Versatile	Lite	Versatile	Lite
Best Quality	12 KB/Pic	15 KB/Pic	7 KB/Pic	8 KB/Pic	5 KB/Pic	6 KB/Pic
Standard	8 KB/Pic	9 KB/Pic	5 KB/Pic	6 KB/Pic	3 KB/Pic	4 KB/Pic
Extended	4 KB/Pic	3 KB/Pic	3 KB/Pic	4 KB/Pic	1 KB/Pic	2 KB/Pic
512Kbps DSL	3 KB/Pic	4 KB/Pic	3 KB/Pic	4 KB/Pic	3 KB/Pic	4 KB/Pic
256Kbps DSL	2 KB/Pic	3 KB/Pic	2 KB/Pic	3 KB/Pic	2 KB/Pic	3 KB/Pic
128Kbps DSL	1 KB/Pic	2 KB/Pic	1 KB/Pic	2 KB/Pic	1 KB/Pic	2 KB/Pic

< Per Camera Config >

This sub-menu is used to set the Day / Night / Weekend PPS and recording quality for each individual channel. <Preset Configuration> must be set to <OFF> in order to access these related settings. The menu is displayed as below.

Per Camera Config			
Camera Select	Day	Night	CH01 Weekend
Normal PPS	30	30	30
Normal Qlty	Mid	Mid	Mid
Event Max PPS	30	30	30
Event Qlty	Best	Best	Best
Event Act	Both	Both	Both

■ **Camera Select**

The item is used to select a desired channel for setting the parameters. Move the cursor to <Camera Select> and press ENTER, then select a channel using UP / DOWN keys. Press ENTER again to confirm the selection.

■ **Normal PPS**

<Normal PPS> is used to set the recording rate for normal status. Please note that the normal PPS for each channel cannot exceed 30 for NTSC / 25 for PAL.

■ **Normal Qlty**

This item is used to set the picture size for normal status recording. The available options are: <Low>, <Fair>, <Mid>, <High> and <Best>.

■ **Event Max PPS**

<Event Max PPS> is used to set the event recording rate for Event status. Usually, the Event PPS is set equal to or greater than the Normal PPS. The setting is depending on users' application. If the Event PPS is set to <0>, the DVR will not record event video when alarms triggered.

■ **Event Qlty**

This item is used to set the picture size for event status recording. The available options are: <Low>, <Fair>, <Mid>, <High> and <Best>.

■ **Event Active**

Users are allowed to choose which alarm type needs to be recorded. The available options are <Alarm> (alarm events only), <Motion> (motion detection events only) and <Both> (alarm event + motion detection), and <None>. The default setting is <Both>, which includes Alarm and Motion events recording.

< ezRecord Setup >

This item aims to ease the complicated record settings, and to make the setup much easier. Note that this item can be accessed only when <ezRecord> is selected as the option for <Preset Config>.

Select <ezRecord Setup> from <Record Setup> and press ENTER, the menu is displayed as below:

ezRecord Setup	
How Many Days To Record	2 Days
Daytime Record	Yes
Night Record	Yes
Weekend Record	Yes
Average Normal PPS	3.75
Average Normal Quality	Best

Follow these steps to Setup ezRecord:

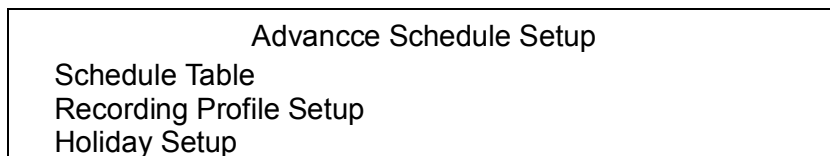
- Select <How Many Days To Record> and press ENTER, then press UP/DOWN to select a desired number of days. The average normal PPS & quality will be adjusted automatically. The maximum recording days depends on the storage size of the HDD. In other words, the larger the storage size, the more days the DVR can record.
- Move to <Daytime Record> and press ENTER. This item is for users to select whether the DVR will record during daytime. If yes, use UP/DOWN to select <Yes> to enable daytime recording; or select <No> to disable.
- Repeat the same procedures for <Night Record> and <Weekend Record>, respectively. Note that <Weekend Record> will be inaccessible if <Weekend Schedule> in <Schedule Setup> is set to <OFF>.
- Select <Average Normal PPS> and press ENTER, then press UP/DOWN to choose a desired number of PPS. The <How Many Days To Record> will be computed automatically.
- Select <Average Normal Quality> and press ENTER, then press UP/DOWN to select a desired quality. The <How Many Days To Record> will be computed automatically.



NOTE: The current number of connected cameras will affect the recording quality automatically calculated by the <ezRecord Setup>. Therefore, when there are cameras disconnected or connected, the <ezRecord Setup> should be reset.

< Advance Schedule Setup >

When <Adv. Schedule> is selected as the option for <Preset Config>, users need to further configure the schedule and recording setting under this menu. The Advance Schedule setup menu is shown as below.



■ Schedule Table

In this menu, users can assign recording type for days in a week by hours. Moreover, the recording type for pre-defined holidays can also be specified here. Refer to the steps below to setup the schedule table.

Schedule Table																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sun																								
Mon																								
Tue																								
Wed																								
Thu																								
Fri																								
Sat																								
Hol																								

Recording Type

Best Quality
 Standard
 Extended
 Profile 1

Profile 2
 Profile 3
 Event Only

Best Quality ▼

Confirm Cancel

- Click on a preferred recording type at the bottom.
- Click at any grid of time to assign the selected recording type.
- Click on any hour on the top to fill up the column.
- Click on any day on the left to fill up the roll.
- Click on the top left grid to always record with the selected recording type.
- Click on the <Confirm> button to save the setting.

■ Recording Profile Setup

Enter this menu to setup normal and event recording options for profile 1, profile 2 and profile 3 for each channel. Follow the steps below to complete the setting.

Recording Profile Setup			
Camera Select	Profile 1	Profile 2	Profile 3
			CH01
Normal PPS	30	30	30
Normal Qlty	Best	Best	Best
Normal Resolution	D1	D1	D1
Event Max PPS	30	30	30
Event Qlty	Best	Best	Best

- Setup PPS, quality and resolution of normal recording videos.
- Setup maximum PPS and quality of event recording videos.

■ Holiday Setup

The DVR also allows users to define holidays that require special monitoring and recording settings. The Holiday Setup menu is as below.

Holiday Setup	
Holiday List	
Add Holiday	01/01

- Next to <Add Holiday>, select a specific month and date and press ENTER to add the date as a holiday.
- Add more holidays via the step described above.
- Select <Holiday List> and press ENTER to see the specified holidays.
- Users can also remove holidays in the <Holiday List> menu.

< Data Lifetime Setup >

Data Lifetime indicates the duration that a video is saved and recallable in the HDD. Only those video recorded within Data Lifetime can be displayed on the screen and played back. The video exceeded Data Lifetime will be hidden and cannot be retrieved for playback.

Data Lifetime Setup	
Data Lifetime Mode	General
Data Lifetime	0 Days
Data Lifetime By Day	
Data Lifetime By Channel	



NOTE: If users want to playback a video which is beyond the data lifetime, please extend the duration till the recording data/time of the video is included.

■ **Data Lifetime Mode**

This item allows the user to choose preferred data lifetime mode. There are three types of data lifetime mode: General, By Day, and By Channel. When a specific mode is selected, the other two will be grayed out and cannot be accessed.

■ **Data Lifetime**

When data lifetime mode is set as <General>, this item will be accessible. Press ENTER to select this item and press UP / DOWN keys to set the data lifetime. The value ranges from <1> to <365> days. Alternatively, select <0> to disable this function.

■ **Data Lifetime By Day**

When data lifetime mode is set as <By Day>, this item will be accessible. Enter this menu and users can setup data lifetime of each weekday independently. The value ranges from <1> to <365> days. Alternatively, select <0> to disable this function.

■ **Data Lifetime By Channel**

When data lifetime mode is set as <By Channel>, this item will be accessible. Enter this menu and users can setup data lifetime of each channel independently. The value ranges from <1> to <365> days. Alternatively, select <0> to disable this function.

< Circular Recording >

Users can choose to record video in circular mode or in linear mode. If circular mode (set to <ON>) is selected, the DVR will store new video data to overwrite the oldest recorded video. If linear mode (set to <OFF>) is selected instead, the DVR will stop recording when HDD capacity is full. The percentage of HDD usage will be displayed as icons in the status bar. Furthermore, an alert icon will show up in the status bar when HDD usage reached 98%. In the mean time, an internal buzzer will start beeping.

From the Record Setup menu, move the cursor to <Circular Recording> and press ENTER, then select <ON> / <OFF> using UP / DOWN keys.

< Audio Recording >

This item allows users to enable / disable Audio recording function of the DVR. When it's set to <ON>, audio input is recorded and saved with the video. When it's set to <OFF>, audio is ignored.

< Purge Data >

This item is used to delete the Normal or Event videos. In <Record Setup> menu, move the cursor to <Purge Data> and press ENTER. The <Purge Data> menu is shown as below.

Purge Data	
Purge All Data	No
Purge All Event Data	No
Purge Event Before	2000/01/01
Start To Purge	No

■ **Purge All Data**

This item is used to delete all videos from the database. Use UP / DOWN keys to select <Yes> and start the deletion by setting <Start to Purge> to <Yes>.

■ **Purge All Event Data**

This item is used to delete all event videos from the database. Use UP / DOWN keys to select <Yes> and start the deletion by setting <Start to Purge> to <Yes>.

■ **Purge Event Before**

This item is used to delete event video before a specific date. Use LEFT / RIGHT keys to move the cursor to next or previous field, ENTER to select the item and UP / DOWN to adjust the value. Start the deletion by setting <Start to Purge> to <Yes>.

■ **Start To Purge**

After selected the videos to be deleted or chosen the date for deletion, set this item to <Yes> to start the deletion, or select <No> to cancel.

Sequence Setup

The Sequence Setup menu allows users to set the camera sequence schedule and dwell time for main and call monitor. Select <Sequence Setup> in main menu and press ENTER. The menu displays as follows.

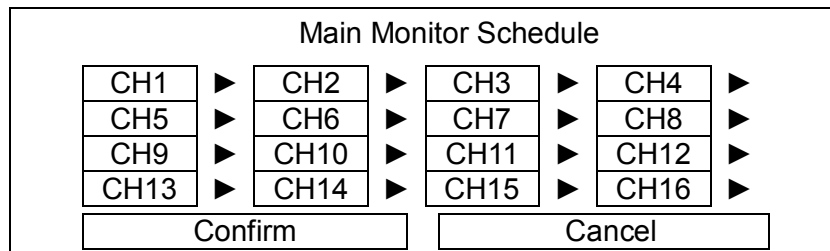
Sequence Setup	
Main Monitor Dwell	5 Sec
Main Monitor Schedule	
Call Monitor Dwell	5 Sec
Call Monitor Schedule	

< Main / Call Monitor Dwell >

The main/ call monitor can be set to display full screen video of all installed cameras in sequence. These items are used to set the dwell time, which is the duration of time elapsed before switching to the next channel. The dwell time ranges from 1 to 120 seconds.

< Main / Call Monitor Schedule >

This item is used to set displaying sequence of connected cameras to be displayed on the main/ call monitor in full screen format. Move the cursor to <Main Monitor Schedule> and press ENTER. The menu is displayed as follows.



Follow these steps to set a sequence:

- Press LEFT / RIGHT direction keys to move to previous / next sequence order.
- Press UP / DOWN keys to assign a channel to that order in the sequence.
- Continue the steps until the sequence is completed.
- To setup a sequence with less than the maximum number of entries, select <Circular> to end the sequence.

The maximum number of entries in a sequence equals to the number of channels. The sequence can include a specific camera or cameras multiple times.



NOTE: When the display mode is in multiple channels, the schedule setup here will not be followed. The display sequence will be in numeral order of all channels.

Event Setup

This menu allows users to determine **Versatile/Lite H.264 DVR** behavior in response to alarm events. In the Main menu, move the cursor to <Event Setup> and press ENTER. The following menu is displayed. Items in the Event Setup menu are described in the following subsections.

Event Setup	
Internal Buzzer	ON
Event Icon	ON
Alert Notification Setup	
Event Full Screen	None
Event Duration	20 Sec
Per Channel Config	
E-mail Management	

< Internal Buzzer >

This item allows users to enable / disable internal buzzer of the **Versatile/Lite H.264 DVR**. If <ON> is selected, the buzzer is activated in response to alarm events. If <OFF> is selected, the buzzer is not activated.

< Event Icon >

This item enables (ON) / disables (OFF) the display of event icons on the monitor when alarm events occur. The event icons are represented by a character according to the event types respectively. Refer to the following table for association of event icons and event types.

Event Icon	Event Type
A	Alarm in event
M	Motion detection event
L	Video loss event

< Alert Notification Setup >

This function allows users to send alert notifications to the CMS program which had been installed to the computer. For detailed setup instruction, please refer to the CMS user's manual.

Alert Notification Setup	
Alert Configuration Set	1
Alert Notification	OFF
Alert IP	0.0.0.0
Alert Port	9999
Alive Interval	120 Sec

■ **Alert Configuration Set**

<Alert Configuration Set> provides 3 combinations of Alert Notification, IP, and Port.

■ **Alert Notification**

4 options are included in this item; <OFF>, <Event>, <Alive>, and <Both>.

<**OFF**>: The Alert Notification is turned off.

<**Event**>: When the alarm is triggered, the DVR will send an alert message to the CMS.

<**Alive**>: The DVR will send an alive message to the CMS every *N* second just to show users that the connection between the DVR and CMS is in effect. The time interval *N* can be adjusted in <Alive Interval>.

<**Both**>: This enables the DVR to send both Event and Alive alert messages to the CMS.

■ **Alert IP**

The Alert IP must match the IP address of the computer.

■ **Alert Port**

The ports for DVR and the CMS Alert **MUST** be the same.

■ **Alive Interval**

Users can define the time interval (1 to 255 seconds) between each alive message. This item will not be accessible if the alert notification menu is set to <OFF> or <Event>.

< **Event Full Screen** >

This function allows the DVR to display the alarm channel in full screen size when an alarm is triggered.

Select <None> to disable this function, <Main> to display the alarm channel on Main Monitor when an alarm is triggered, <Call> to display the alarm channel on Call Monitor, or select <Both> to display the alarm channel on both Main Monitor and Call Monitor.

< **Event Duration** >

This item determines the duration of the buzzer and Alarm Out relay function after an alarm is triggered. The available event duration range is from 5 second to 999 seconds.

< Per Channel Config >

This menu is used to configure the <Video Loss Detect>, <Motion Detect>, <Alarm In> and <Alarm Out> settings for each channel. The menu is displayed as below.

Per Channel Config	
Channel Select	CH01
Video Loss Detect	OFF
Motion Detect	OFF
Detection Config	
Alarm In	OFF
Alarm Out	ON
Copy Event Settings	

■ **Channel Select**

The item is used to select a desired channel for setting the parameters. Move the cursor to <Channel Select> and press ENTER, then select a channel using UP / DOWN keys. Press ENTER again to confirm the selection.

■ **Video Loss Detect**

This item allows users to enable or disable Video Loss as an alarm event. Select <ON> to enable Video Loss alarm events, or <OFF> to disable.

■ **Motion Detect**

This item allows users to enable or disable motion detection function of **Versatile/Lite H.264 DVR**. Select <ON> to enable Motion Detect alarm events, or <OFF> to disable. If motion detection function is enabled, it is required to define motion detection parameters such as detection area and sensitivity settings in <Detection Config>.

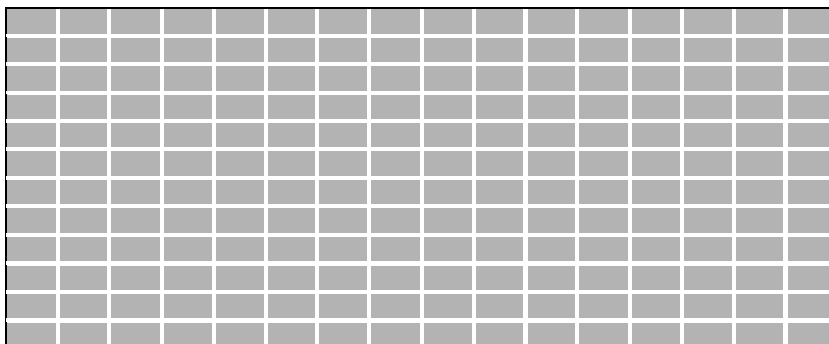
■ **Detection Configuration**

If motion detection function is enabled, it is required to define the motion detection parameters such as detection area and sensitivity settings. Select a channel for setting the parameters, move the cursor to <Detection Config> and press ENTER. The Detection Configuration menu displays as follows.

Detection Config	
Detected Area Setup	
Sensitivity	60 %
Block Threshold	4

- **Detected Area Setup**

After selected this item, the detected area is displayed as follows. The detection area consists of 192 (16×12) detection grids.



Use the Direction keys to move the cursor and press ENTER to select or de-select a grid. Press MODE to select all of the grids for detection; press MODE again to de-select all of the grids.

- **Sensitivity**

This item is used to set the sensitivity of detection grids for the camera. A greater value indicates more sensitive motion detection. A motion alarm will be triggered once the amount of motion detected exceeds the Threshold value.

Move the cursor to <Sensitivity> and press ENTER, and then use UP/DOWN keys to adjust the value. The value is increased by 4% increment.

- **Block Threshold**

<Block Threshold> indicates the motion alarm triggered level; select from <1> to <16>. Selecting <1> means the DVR will trigger the alarm when one grid is detected; and selecting <16> means the DVR will trigger the alarm when 16 grids are detected. Move the cursor to <Block Threshold> and press ENTER, and then use UP / DOWN keys to adjust the value.

■ **Alarm In**

This item allows users to enable/ disable alarm input detection. According to users' application, select <N/O> (Normal Open) or <N/C> (Normal Close) to enable the alarm input detection, or select <OFF> to disable the detection.

If <N/C> is selected without installing any device, an alarm will be triggered and the Event Icon will always display on the monitor until the selection is changed to <N/O> or <OFF>, or when a device is installed.

■ **Alarm Out**

This item allows users to enable/ disable the alarm output on the selected channel to activate the relay. The signal can be a light or siren to caution an alarm event. Select <ON> to enable the alarm output, or <OFF> to disable.

■ **Copy Event Settings**

This item allows users to copy the event settings of the current selected analog camera to any other connected analog cameras. Enter this menu and select one or more target analog cameras. Then select <Confirm> to apply the settings.

Copy Event Settings							
COPY TO:							
01	02	03	04	05	06	07	08
09	10	11	12	13	14	15	16
Select All		Deselect All		Confirm		Cancel	

< **E-mail Management** >

There can be three sets of e-mails defined in this menu for receiving event/alarm notices.

E-mail Management	
E-mail Select	1
E-mail Activate	Off
E-mail Address	
E-mail Video Attachment	Off
Event/Alarm Selection	
SMTP Server Setup	

■ **E-mail Select**

Select a number to setup its e-mail related settings.

■ **E-mail Activate**

This item enables (On) / disables (Off) the e-mail notification of events/alarms. When an event/alarm is triggered and <E-mail Activate> is enabled, an e-mail regarding the event/alarm will be sent to the pre-defined e-mail address.



NOTE: In order to send an event notification e-mail successfully, be sure that the DVR is connecting to the internet.

■ **E-mail Address**

This item is used to edit the e-mail address where event/alarm notification will be sent. Follow these steps to setup the e-mail address.

- Select <E-mail Address> and press ENTER. A virtual keyboard displays.
- Use Direction keys to move the cursor for selecting from characters.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.

■ **E-mail Video Attachment**

The function allows the DVR to send out a brief AVI video regarding the event/alarm. The number of the attached AVI videos will be equivalent to the number of cameras connected to the DVR. For example, if the DVR has been connected with 8 cameras, then 8 videos will be attached to the notice e-mail. The total size of the video will be about 2 MB.

Select <On> to enable this function; or select <Off> to disable it.



NOTE: The video clips of the e-mail attachment will ONLY be in *.avi format. Please download the Divx Player from www.divx.com to play the *.avi files.

■ **Event/Alarm Selection**

This menu lists different types of events and alarms that users can choose whether to send notification e-mails when any of them occurred. Select <Yes> to enable e-mail notification of the chosen event/alarm. Otherwise, select <No> to disable it.

Event/Alarm Selection	
Event/Alarm	Selection
Motion Detect Event	Yes
Video Loss Event	Yes
Alarm Trigger Event	Yes
UPS Power Failure Alarm	No
System Fan Alarm	No
Disk Error Alarm	No



NOTE: The <Disk Map Change Alarm> refers to any addition, deletion or port change of installed HDD(s), both internal and external, comparing to the DVR's status before it was shutdown. If this alarm is set to <Yes>, the alarm e-mail will be sent out to inform users about the change of disk map of the DVR.

■ SMTP Server Setup

Simple Mail Transfer Protocol (SMTP), a protocol for sending e-mail messages between servers. SMTP is a relatively simple, text-based protocol that one or more recipients of a message are specified and the message text is transferred.

Select <SMTP Setup> from Network Setup menu and press ENTER; the menu displays as follows.

SMTP Setup	
E-mail via SMTP	On
SMTP Server	
SMTP Port	25
SMTP Account	
SMTP Password	
Use SSL Connection	Off

- E-mail via SMTP

The item enables users to determine if the unit sends e-mail via SMTP. Select <On> to send e-mail via SMTP using direction keys; if not, select <Off>.

- SMTP Server

This item enables users to set the SMTP server. Contact the network service provider for more specific information.

Follow the steps to setup the SMTP Server.

- Select <SMTP Server> from SMTP Setup menu and press ENTER. A virtual keyboard displays.

!	@	#	*	-	_	+	=	,	.	/	←	
1	2	3	4	5	6	7	8	9	0	Del		
A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z
<<		>>		Space			Cancel		OK			

- Use Direction keys to move the cursor to the desired character.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.

- **SMTP Port**

The item is used to change SMTP port to another port, if necessary. SMTP usually is implemented to operate over Internet port 25.

To change the SMTP port, move the cursor to <SMTP Port> in SMTP Setup menu and press ENTER. Use UP / DOWN keys to change the values in the selected field.

- **SMTP Account**

The item allows users to setup the SMTP username. Follow these steps to setup the login username.

- Select <SMTP Account> from SMTP Setup menu and press ENTER. A virtual keyboard displays.
- Use Direction keys to move the cursor for selecting from characters.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.

- **SMTP Password**

The item allows users to setup the SMTP password. Follow these steps to setup the password.

- Select <SMTP password> from SMTP Setup menu and press ENTER. A virtual keyboard displays.
- Use Direction keys to move the cursor for selecting from characters.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.

- **Use SSL Connection**

SSL stands for Secure Sockets Layer, which provides communications security over the Internet. Select <On> for this item to enable SSL connection. Otherwise, select <Off> to disable SSL connection.

Database Setup

The menu displays information of internal and external HDDs. In the main menu, select <Database Setup> and press ENTER. The following menu is displayed.

Database Setup	
Total Size	xxxGB
Free Size	xxxGB (Circular)
Avail. Rec Time	Circular
Internal Disks	
Data Protection	
Repair On Power Loss	On



NOTE: If the detection of HDDs fails, the message “HDD fail” will be displayed.

< Total / Free Size >

Total Size shows the total storage capacity of HDDs that have been added to the database. Free Size indicates free storage space available for recording in the database. “Circular” will be shown if the DVR is set to record in circular mode. Both of them are read-only.

< Avail. Rec Time >

This item indicates the available time duration for recording. If the DVR is set to record in circular mode, this item will show “Circular”. This information is read-only as well.



NOTE: If VBR mode is selected in <Record Mode Setup>, the available time will not be able to be calculated. Thus there will be no value displayed for this item.

< Internal Disks >

Select <Internal Disks> to see information of the built-in HDDs. The menu is displayed as below.

Internal Disks			
Device Name	Active	Detail	Action
#: xxxxxxx-xxxxxx	Yes	No	None

The information of the built-in HDDs will be listed by model name and status. If no storage device is connected to the DVR, the message “No Available Items!” will be displayed.



NOTE: If the file system of the internal HDDs is not compatible for the DVR, the system will format the internal HDDs automatically without notice.

<Device Name> and <Active> are read-only. The number in front of the device name represents the SATA port that the HDD is connected to. If no storage device can be found, the message “No available items!” will be displayed.

Active

This item indicates if the HDD is added to the database. <Yes> means the HDD has been added to the database.

Detail

This item enables users to see the S.M.A.R.T. info of all the internal disks. Press ENTER and select <Yes>, then the S.M.A.R.T. info of the selected internal disk will be displayed on the screen.

Action

This item allows users to add the HDD to the database or remove it from the database. The options are <None> (no action), <Add> (add the selected HDD to the database), <Remove> (remove the selected HDD from the database), <Format> (format the selected HDD).



NOTE: Before disconnecting an external HDD from the DVR, **ALWAYS** remember to remove it from the database first.

< Data Protection >

Enter this menu to select the data users wish to protect from data purging or overwriting.

Data Protection				
Date	Time	Event	Loc.	Lock
2010/12/06	PM 01:29:08	Yes	INT01	NO
2010/12/06	PM 01:42:41	Yes	INT01	NO
2010/12/07	AM 09:36:02	Yes	INT01	NO
2010/12/07	PM 12:45:31	No	INT01	NO
2010/12/07	PM 12:55:56	No	INT01	NO
First Page				
<input type="button" value="<<<"/> <input type="button" value="<<"/> <input type="button" value="<"/>		<input type="button" value=">"/> <input type="button" value=">>"/> <input type="button" value=">>>"/>		

The first column shows the date/time information. The second column shows whether the data contains event videos. The third column shows the location where the data is stored. From the fourth column, users can change the option to <YES> to protect the selected data. When the data is no more important, users can change the option back to <NO>.

< Repair On Power Loss >

This item enables the DVR to do auto HDD scan after powered on, if the DVR previously experienced unexpected power loss or was not shutdown properly. If auto scan failed, formatting of HDD is required. The preset is <On>. This helps to secure the data saved in the HDD. Therefore, it is suggested to keep this function enabled.



NOTE: If password protection is enabled, login with authorized account will be prompted before HDD format. Regarding details of HDD scan, please refer to the User's Manual for more information.

Configuration

The Configuration menu can be used to restore the default factory settings, import/export configuration, and view/export system log. Select <Configuration> from the main menu and press ENTER. The following menu is displayed. Items in this menu are described in the following subsections.

Configuration	
Load Factory Default	No
Import Config	
Export Config	
System Log	
Operation Log	Off

< Load Factory Default >

This item is used to load the factory default setting. Select <Yes> to restore the factory default setting from the read-only memory, or select <No> to cancel.

< Import Configuration >

This item allows users to load a DVR configuration that was saved in an external drive. To import a configuration that was previously exported, make sure the device with the saved configuration is connected to the DVR. Select <Import Config> from the Configuration menu and press ENTER. The following menu is displayed.

Import Config	
Config Name	Select
xxxx-xxxx	No
xxx-xx	No

Press UP/ DOWN to select one of the available configuration files, and choose <Yes> to start importing the configuration.



NOTE: If the record mode of the imported configuration is different from the DVR's current configuration, a warning message will be shown and the system will reboot.



NOTE: DO NOT remove the external device before the DVR completely reboots, otherwise it will be formatted.

< Export Configuration >

Users are allowed to save a DVR configuration by exporting it to an external drive, such as an USB Flash Drive. Before exporting the configuration, make sure the device in which the configuration will be saved is attached to the DVR appropriately. Select <Export Config> from the Configuration menu and press ENTER. The following menu is displayed.

Export Config	
Copy Destination	
Config Name	
Begin Export	No

Items in this menu are described in the following sections.

■ *Copy Destination*

Enter this item to list available destinations (external storage devices) where the configuration can be exported. Press UP/ DOWN to select a destination. Please note that saving a different configuration to the same destination with the same file name will overwrite the previous configuration file without warning.

Copy Destination	
Device Name	Select
XXXX-XXXX	No



NOTE: It is not allowed to select the built-in DVD+RW as a copy destination.

■ *Configuration Name*

This item allows users to assign a name to the exported configuration file. Use the virtual keyboard to enter the configuration file name. Note that the file name can only contain up to 15 characters, with no spaces.

■ *Begin Export*

Select <Yes> to begin exporting the configuration file, or select <No> to exit.



NOTE: It is strongly recommended to export configuration before upgrading the DVR system. Also, backup the configuration routinely is recommended as well, just in case for unexpected situation.

< System Log >

Select <System Log> and a list of system logs will be displayed on the screen. Users can export the system log as a data file to an external storage device. Connect a USB storage device and select <Export> to export the system log file to the USB storage device. Alternatively, press COPY can also export the system log file. Note that in the mean time, a digital signature file will also be exported.

< Operation Log >

Set <Operation Log> to <On> and operation logs will start to be recorded in the system log. Alternatively, set to <Off> and operation logs will not be part of the system log.

Export

The Export menu enables users to export recorded video with or without digital signature to a USB storage device, or to a DVD+RW. Make sure an external storage device is available and connected to the appropriate port for video export.

When the recorded video is exported with digital signature, the output will be four files, including *.gpg, *.avi (*.drv), *.sig and readme.txt. Exporting a video whose size is 1GB with digital signature may take about 30 minutes.



NOTE: The inserted DVD+RW will be ejected when its capacity is 99% full.

Export							
Select Device							
Select Ch:	Ch1	Ch2	Ch3	Ch4	Ch5	Ch6	All
From:	2011/02/19 AM 07:50:05						
To:	2011/02/28 PM 03:09:18						
Select Events							
Data Type	Normal						
Export Format	DRV						
Digital Signature	No						
Erase Disc	No						
Begin Export	No						



NOTE: The system log will keep records of all video exportations, including duration, start time, and end time.

< Select Device >

The available external devices for exporting video will be listed by name and free size in Select Device menu. The Select Device menu displays as follows.

Select Device			
Device Name	Available	Sel	
xxx-xxx-x-x-xx	256 MB	No	
xx-xxx-xx-xxxx	1.5 GB	No	

Device Name

The item shows the name of the available devices.

Available

The item shows the free space of the available devices.

Sel

Set this item to <Yes> to set the selected device as the exporting destination.



NOTE: The item <Erase Disk> from Video Export menu will be grayed out when the selected device is not a DVD+RW or when the device is not selected yet.

< Select Channel >

The item is used to select channels for export. Move the cursor to the desired channel using LEFT / RIGHT keys, select or de-select a channel by pressing ENTER.

< From / To Time >

These items are used to set the time which data export begins and ends. Move the cursor using Direction keys, and press ENTER to select the date / time items; adjust the selected date and time value by UP / DOWN keys.



NOTE: When the Start / End Time are set, remember to select the exporting Data Type.

< Select Events >

Select the item to display the event list for exporting event video. Move the cursor to scroll the event list and press ENTER to select the events users want to export.



NOTE: Users will not be allowed to access <Select Events> if <Data Type> is set to <Normal>.

< Data Type >

This item is used to select exporting video type. The options are <Normal> (export normal video only), <Event> (export event video only) and <Both> (export both normal and event video).



NOTE: If users want to export selected event video using the item <Select Event>, users have to set <From> and <To> to the same day and time. Otherwise, not only the selected event video will be exported to the selected destination, but also other event videos recorded during the period between <From> and <To>.

< Export Format >

This item is for selecting exporting video format. The options are <DRV>, <AVI>, and <Original>. The DRV and AVI files are compressed video files while the original files are raw data of the unit's recorded video.

The DRV and original files can only be played back with the remote monitoring software and **DVRPlayer**, and multiple cameras video can be played back from one file. The AVI files can be played back with Windows Media Player. Note that if multiple channels are exported for AVI files, each channel is exported to a separate file.

< Digital Signature >

The Digital Signature function enables users to export video clip with the unit's unique signature key. It aims to authenticate that a video clip was exported from the unit and it has not been modified. Users can export video clips with or without a digital signature file (*.sig). Set the item to <Yes> to export with the signature file, or <No> to export without it.

Make sure that an external storage device, such as a USB Hard Drive or USB ThumbDrive, is available and connected to the appropriate port for export.

For more information on verifying digital signature, see [Appendix B: DVR Player](#).

< Erase Disc >

This function is used to remove information found on a DVD+RW disk prior to writing new information. Select <Yes> and press ENTER. The data on the DVD+RW will be erased when the exporting process begins.



NOTE: This item will be grayed out when the selected device is not a DVD recorder or when the device is not selected yet.

< Begin Export >

Set this item to <Yes> and the DVR will prepare to export the select recorded video. The Backup Confirmation window will be displayed for users to double confirm data of the exporting video. Press ENTER to confirm and the exportation will begin.

POS Setup (Versatile H.264 DVR Only)

The <POS> function is only available for **Versatile H.264 DVR**. It provides a connection between a DVR and a Point-of-Sale equipment, such as cash registers. With this function, the financial transaction data can be linked to specific camera images and recorded to the DVR. To enable this function, enter OSD setup menu and select <POS>. Press Enter and the menu will be shown as follows. Items in this menu are described in the following subsections.

	POS	
POS Function		On
POS Overlay		Live & PB
Exception POS Setup		
Input Setup		

< POS Function >

This item is used to enable/disable this function. Select <On>, the text database will be created on the hard disk.

< POS Overlay >

This item is for users to choose which mode users want to display the POS overlay on the monitor. Select <Live> to display the POS overlay in Live mode only; select <PB> to display the POS overlay in Playback mode only; and select <Live & PB> to display in both modes.



NOTE: POS overlay only shows in full screen mode.



NOTE: PB overlay is available only under x1 playback speed.

< Exception POS Setup >

This sub-menu is used to define the conditions that will be treated as an “Exception” and thus trigger an action (the function will be implemented later).

	Exception POS Setup	
Exception No.		1
Trigger		On
Exception String		NO SALE
By Numerals		OFF
Value		
Value (Upper Limit)		

- ***Exception No.***

Select an exception number for further settings. Users can select from <1> to <16>.

- ***Trigger***

Select <On>, those transactions which contain “Exception Strings” and which meet the “Numerals” conditions will be marked as exceptions in the text database and will trigger preset actions such as alarm output.

- ***Exception String***

This item allows users to define Exception String. The “Exception String” is case-sensitive. Only exactly matched ones will be marked as exceptions.

- ***By Numerals***

“Exception String” must be defined before “By Numerals” takes effect. If “By Numerals” is enabled, only transactions which meet both “Exception String” and “By Numerals” condition will be marked as exceptions and thus trigger an action. Users can select from the following options:

OFF:

The function is disabled.

Specific:

The value of transaction meets a specific value will be marked as an exception. The specific value needs to be set through the following sub-menu <Value>.

Greater Equal Than:

The value of transaction greater than or equal to a certain value will be marked as an exception. The specific value needs to be set through the following sub-menu <Value>.

Less Equal Than:

The value of transaction less than or equal to a certain value will be marked as an exception. The specific value needs to be set through the following sub-menu <Value>.

Inside The Range:

The value of transaction within a certain range will be marked as an exception. The specific value needs to be set through the following sub-menus <Value> and <Value (Upper Limit)>.

Outside the Range:

The value of transaction outside a certain range will be marked as an exception. The specific value needs to be set through the following sub-menus <Value> and <Value (Upper Limit)>.



NOTE: Transactions will only be marked as exceptions in the text database after “Exception String” and “By Numerals” are set AND “Trigger” is <ON>. The data that has been stored before will not be marked as exceptions.

< Input Setup >

This item is used to choose the connection method between the POS Device and the DVR. Also some relative settings of the connection method can be configured.

Input Setup	
Input Source	Direct Connected
Camera Selection	1
Text Filter	ASCII
Manual Filter Setup	
Input Process	Canonical
Text Baud Rate	9600
Text Bits	8
Text Stop	1
Text Parity	None

■ **Input source**

Select whether the input source is directly connected or connected with the Data Converter. If the input source is directly connected, users may need to go to the next item, Camera Selection, to select a corresponding camera.

■ **Camera Selection**

Select a camera to display the POS overlay.

■ **Text Filter**

This item is used to choose the text filter. The supported models for pole display and printer are listed below.

Pole Display	Printer	POS Machine
Cache Technology VFD-202T	Citizen CBM-1000 II	Acula AQ-812
Citizen C2202	Citizen CT-S300	IBM SurePOS 700
Digipos CD5220	Dell T200	Samsung ER-380M
Emax Pole Display	Epson TM-T88II/ TM-T88III/ TM-T88IV	Samsung ER-655
Epson DM-D Series	Epson TM-T90	Senor POS
Logic Controls LD9000	Epson TM-930 II	
Logic Controls PD3000	Epson RP-U420	
Logic Controls PD6000	IBM SureMark TF6	
Logic Controls TD3000	IBM SureMark TM6	
Magellan	Ithaca iTherm 280	
Partnertech CD5220	Ithaca POSJet 1000	
Posiflex ICD-2002	POS-X Xr500	
Posiflex PD 302	Samsung SRP350	
Posiflex PD 303	Sensor TP-288	
Posiflex PD-2100	Star TSP100 futurePRNT	
Posiflex PD-2200	Star TSP600	
POS-X Xp8000	Star TSP700	
Scales	Star TSP800	
Sibnet	TPG (Axiohm) A794	
STAR SCD400-PD	WP-520(ESC/POS)	
Soteke VFD2025		
Soteke VFD2029		
TEC		
Toledo 8217		
TYSSO VFD Series		
Ultimate Technology PD1100XL		
Wedderburn DS-770		

■ **Manual Filter Setup**

After entering the Manual Filter Setup menu, users should key in hexadecimal digits. The menu of the item is shown as follows.

Manual Filter Setup	
Header 1	
Header 2	

■ **Input Process**

If users will be using a Pole Display from a PC based POS, select <Canonical>. <Non-Canonical> is to be selected when using a Pole Display from a Standalone POS.

■ ***Text Baud Rate***

This item allows users to setup the baud rate of RS232 which connects the POS Device and the DVR.

■ ***Text Bit***

This item allows users to setup the bits of RS232.

■ ***Text Stop***

This item allows users to setup the stop of RS232.

■ ***Text Parity***

This item allows users to setup the parity of RS232.

Shutdown

This item is used to shut down or reboot the DVR. If the **Versatile/Lite H.264 DVR** must be shut down for any reason, please follow the proper shut down and power on procedures to avoid any potential damages to the DVR.

Shutdown	
Power Off	
Reboot	
Power Key Privilege	Auth

< Power Off >

Press ENTER on this item to shut down the DVR. Do not remove the power source during shutdown until the message "You can safely turn off DVR now!" displays.

< Reboot >

Press ENTER on this item to reboot the DVR. The color bar and system checking information are displayed on the monitor until the DVR is completely restarted.

< Power Key Privilege >

According to the setting of this item, users are able to quick shutdown the DVR via long pressing the Power Key. This item defines the action of the power key. The options are <Auth>, <Confirm>, <Direct>, and <Disable>. The following explains each option.

<Auth>: This will ask users to login with an authorized account, when Password Protection function is enabled. If Password Protection function is disabled, the action will be the same as the next option <Confirm>.

<Confirm>: When this option is selected, a confirmation message will be shown after pressing and holding the Power Key. Users can confirm or cancel the quick shutdown function.

<Direct>: For users who wish to enable the quick shutdown function without any confirmation or login process, select this option and the DVR will automatically shutdown after pressing and holding the Power Key.

<Disable>: Select this option to disable the quick shutdown function.

Appendix A: Record Duration

The record duration varies based on the HDD capacity and the settings of resolution, recording quality and events. The following tables give a sample calculation of record duration according to different HDD capacities with different settings of resolution and recording quality, excluding consideration of events. The recording quality refers to the quality setting of <Per Camera Config> in <Record Setting>, assuming all channel are set to the same quality at all times.



NOTE: Record duration times are based on actual tests and represent average file sizes. Performance may vary depending on specific installations and usages. Audio recording requires 8 KB per second (or 0.7 GB per day) for data storage.

Record Duration (Days) for Versatile H.264 DVR

D1	Recording Quality Mode									
	Low (4 KB)		Fair (6 KB)		Mid (8 KB)		High (10 KB)		Best (12 KB)	
	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
500 GB Internal Storage										
With Audio	2.72	3.22	1.85	2.20	1.40	1.67	1.13	1.35	0.95	1.13
Without Audio	2.90	3.48	1.93	2.32	1.45	1.74	1.16	1.39	0.97	1.16
1 TB Internal Storage										
With Audio	5.48	6.49	3.73	4.44	2.83	3.37	2.28	2.72	1.91	2.28
Without Audio	5.84	7.01	3.90	4.67	2.92	3.51	2.34	2.80	1.95	2.34

Half D1	Recording Quality Mode									
	Low (3 KB)		Fair (4 KB)		Mid (5 KB)		High (6 KB)		Best (7 KB)	
	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
500 GB Internal Storage										
With Audio	3.55	4.19	2.72	3.22	2.20	2.62	1.85	2.20	1.60	1.90
Without Audio	3.87	4.64	2.90	3.48	2.32	2.78	1.93	2.32	1.66	1.99
1 TB Internal Storage										
With Audio	7.15	8.45	5.48	6.49	4.44	5.27	3.73	4.44	3.34	3.83
Without Audio	7.79	9.35	5.84	7.01	4.67	5.61	3.90	4.67	3.22	4.01

CIF	Recording Quality Mode									
	Low (1 KB)		Fair (2 KB)		Mid (3 KB)		High (4 KB)		Best (5 KB)	
	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
500 GB Internal Storage										
With Audio	9.16	10.54	5.12	6.00	3.55	4.19	2.72	3.22	2.20	2.62
Without Audio	11.60	13.92	5.80	6.96	3.87	4.64	2.90	3.48	2.32	2.78
1 TB Internal Storage										
With Audio	18.45	21.25	10.31	12.09	7.15	8.45	5.48	6.49	4.44	5.27
Without Audio	23.37	28.04	11.69	14.02	7.79	9.35	5.84	7.01	4.67	5.61

Record Duration (Days) for Lite H.264 DVR

D1	Recording Quality Mode									
	Low (3 KB)		Fair (6 KB)		Mid (9 KB)		High (12 KB)		Best (15 KB)	
	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
500 GB Internal Storage										
With Audio	6.56	7.65	3.55	4.19	2.43	2.89	1.85	2.20	1.49	1.78
Without Audio	7.73	9.28	3.87	4.64	2.58	3.09	1.93	2.32	1.55	1.86
1 TB Internal Storage										
With Audio	13.23	15.41	7.15	8.45	4.90	5.82	3.73	4.44	3.01	3.59
Without Audio	15.58	18.70	7.79	9.35	5.19	6.23	3.90	4.67	3.12	3.74

Half D1	Recording Quality Mode									
	Low (4 KB)		Fair (5 KB)		Mid (6 KB)		High (7 KB)		Best (8 KB)	
	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
500 GB Internal Storage										
With Audio	2.72	3.22	2.20	2.62	1.85	2.20	1.60	1.90	1.40	1.67
Without Audio	2.90	3.48	2.32	2.78	1.93	2.32	1.66	1.99	1.45	1.74
1 TB Internal Storage										
With Audio	5.48	6.49	4.44	5.27	3.73	4.44	3.34	3.83	2.83	3.37
Without Audio	5.84	7.01	4.67	5.61	3.90	4.67	3.22	4.01	2.92	3.51

CIF	Recording Quality Mode									
	Low (2 KB)		Fair (3 KB)		Mid (4 KB)		High (5 KB)		Best (6 KB)	
	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
500 GB Internal Storage										
With Audio	5.12	6.00	3.55	4.19	2.72	3.22	2.20	2.62	1.85	2.20
Without Audio	5.80	6.96	3.87	4.64	2.90	3.48	2.32	2.78	1.93	2.32
1 TB Internal Storage										
With Audio	10.31	12.09	7.15	8.45	5.48	6.49	4.44	5.27	3.73	4.44
Without Audio	11.69	14.02	7.79	9.35	5.84	7.01	4.67	5.61	3.90	4.67

Appendix B: DVRPlayer

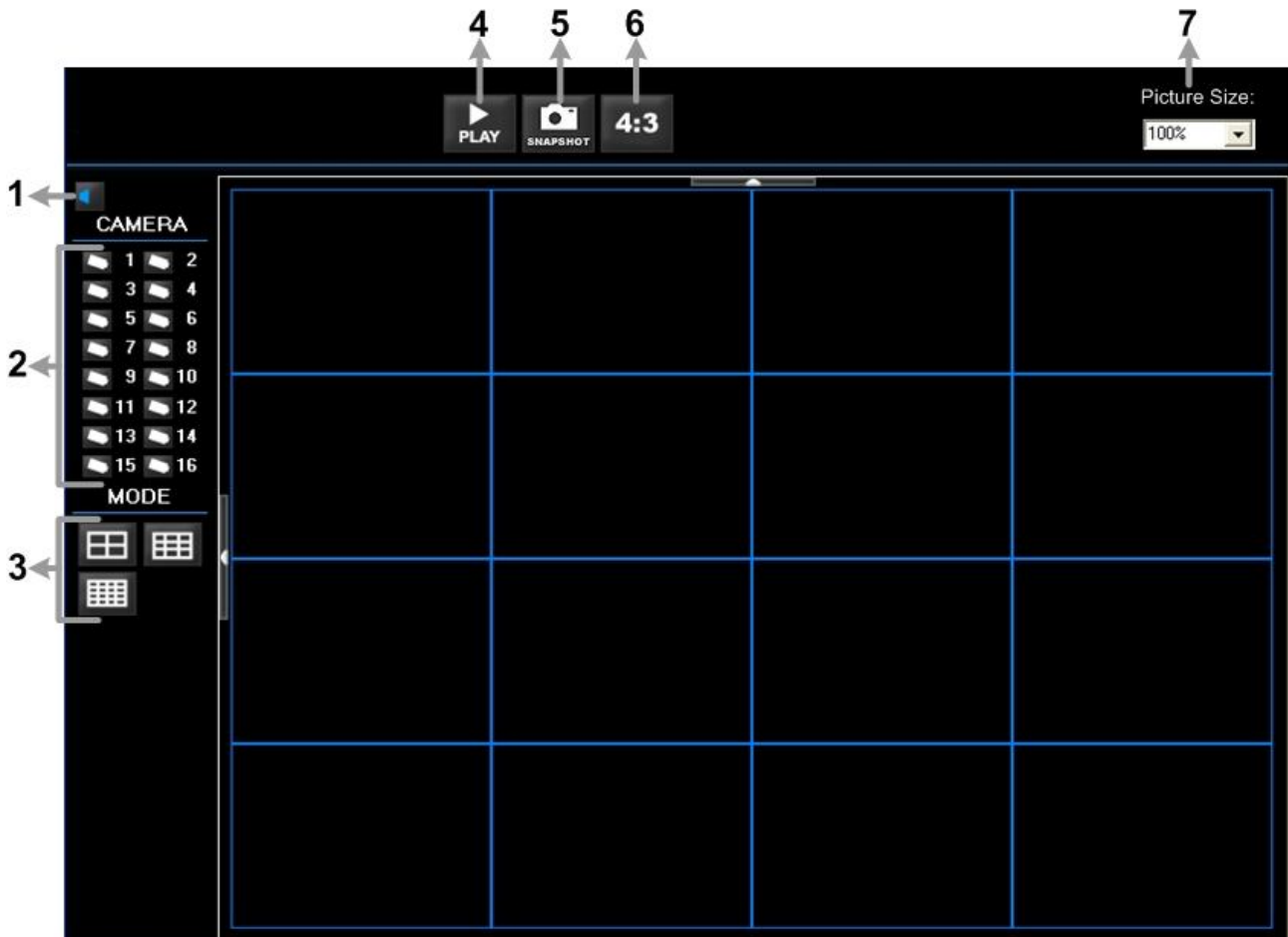
DVR**Player** is a software that enables users to playback the *.drv files recorded by the DVRs at a PC site.



NOTE: The DVR**Player** can ONLY accept and playback *.drv files.

First connect to the DVR via DVR**Remote**. Then download the DVR**Player**.zip file by clicking on the link provided on the DVR**Remote** main window. Extract the zip file to the same folder. Click on the DVR_Player.exe, and the main window of the DVR**Player** displays as shown below.

The main window of the DVR**Player** displays a list of cameras and mode selection buttons at the left-hand side. Using the mode selection buttons, users can select a desired viewing mode, including 4-window, 9-window and 16-window.

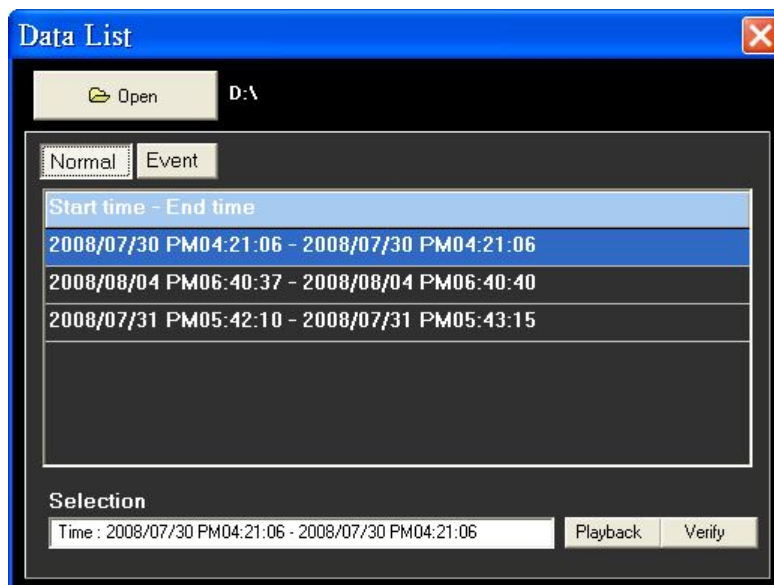


The functional items are:

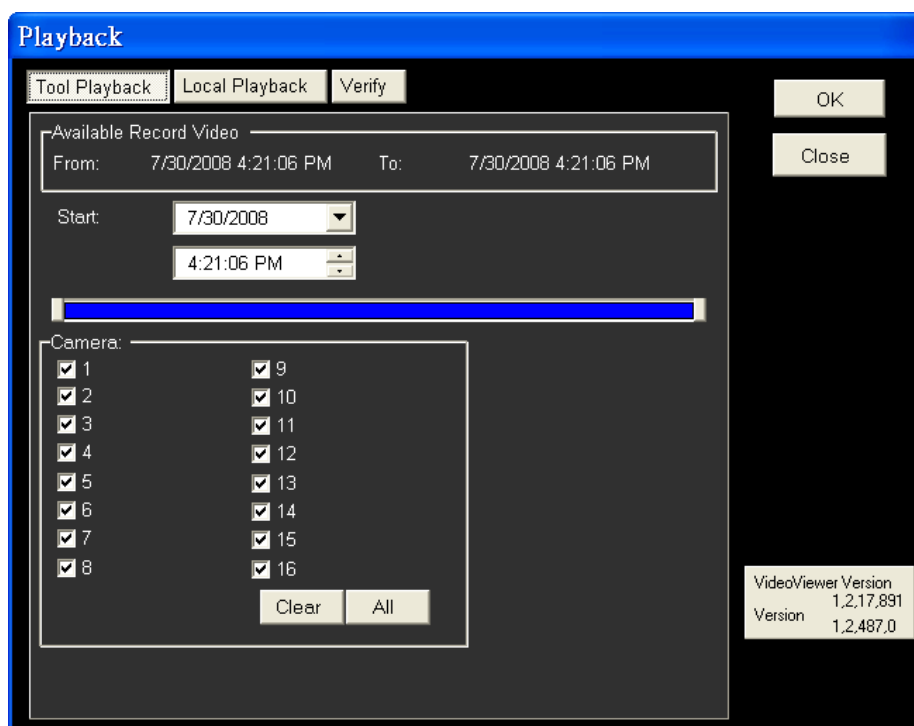
1	Audio On/Off	5	Capture Snapshot
2	Camera Selection	6	Change Viewing Aspect to 4:3
3	Mode Selection	7	Change Picture Size
4	Play Recorded *.drv Files		

Playback the videos on the Data List

Click <PLAY> on the toolbar at the top of the main window. The “Data List” window displays, shown as the figure below:



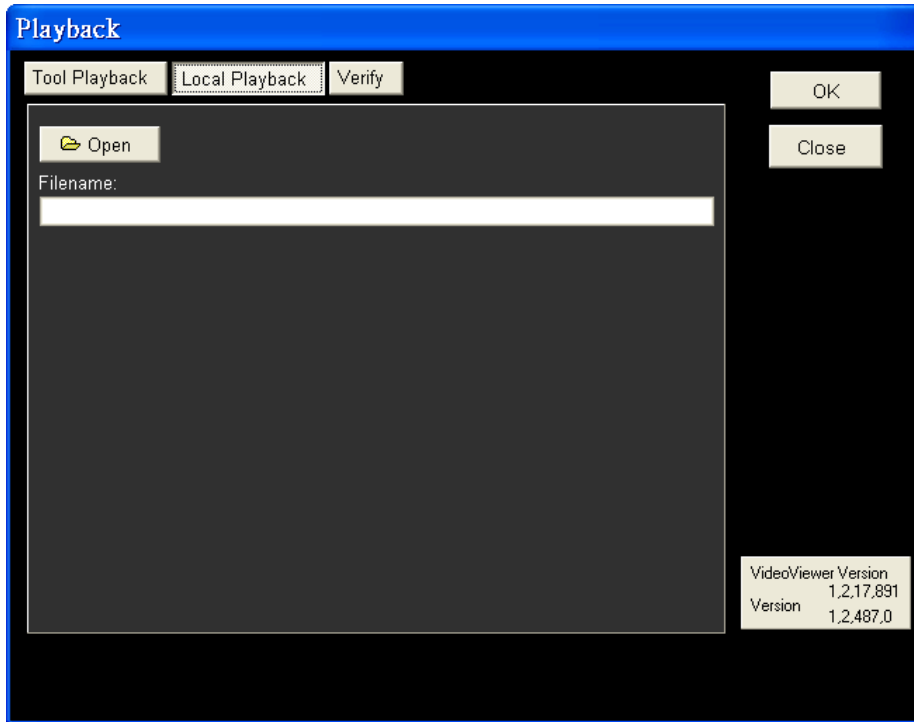
The “Data List” will show all recorded videos, “Normal” and “Event” separately, that are stored in the destination folder appeared at the top. Note that users can also click <Open> on the top to select a different folder which contains recorded videos. Select one from the list and click <Playback> at the bottom, then the “Playback” window will be shown as below:



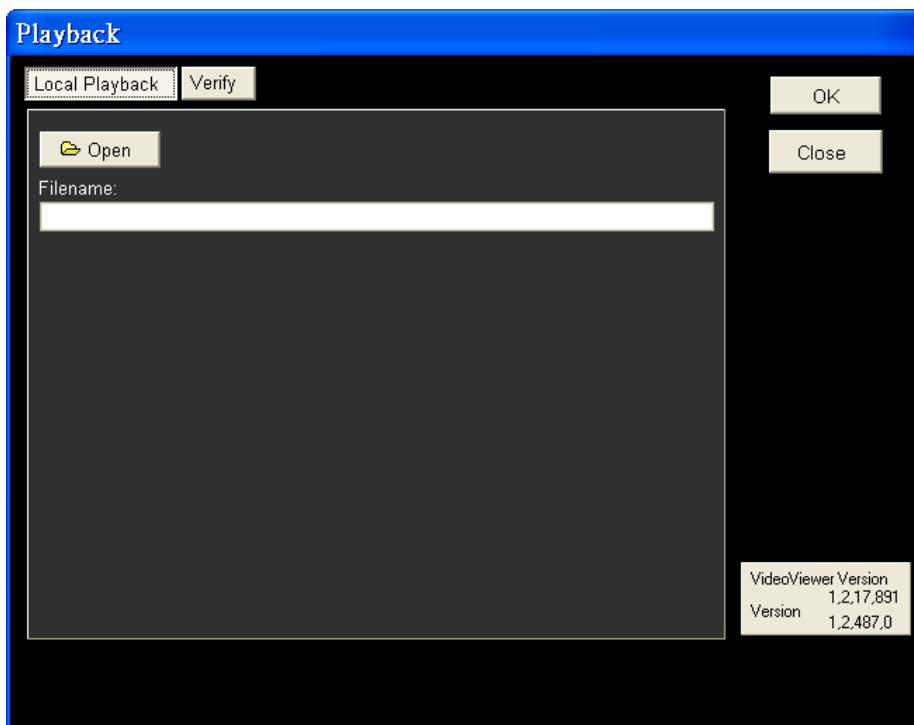
In the <Tool Playback> tab, users can set starting time and displaying cameras of the selected video. Then click <OK> on the upper right-hand corner of the window to start playback the video with selected starting time and displaying camera on the main window.

Local Playback the selected *.drv files

In the <Local Playback> tab, as shown below, users can click <Open> to select a specific *.drv file and click <OK> to playback the file on the main window.



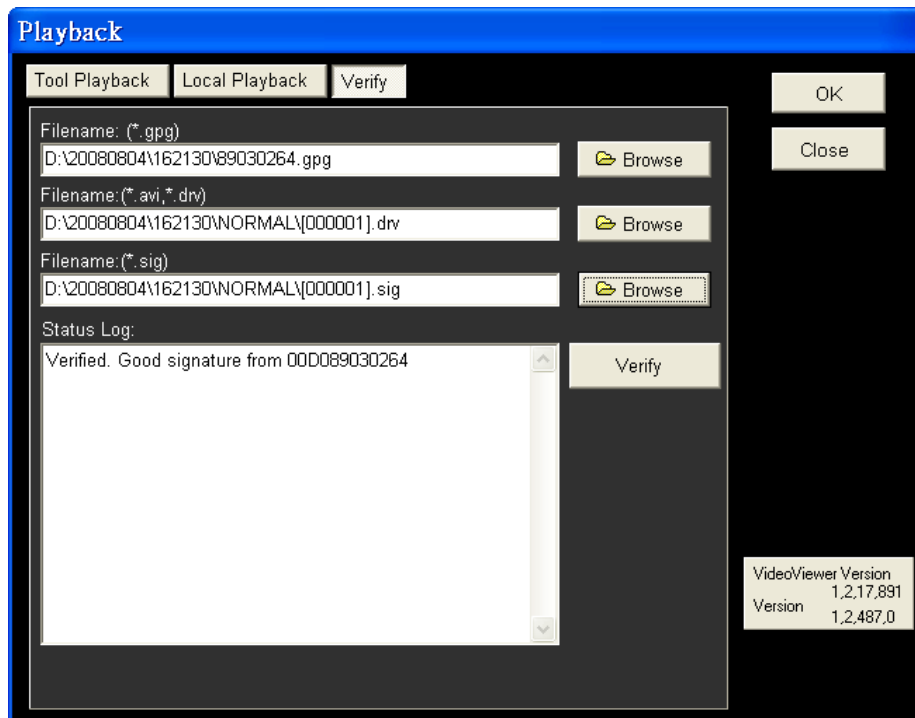
Note: If users click the close button at the top-right corner of the “Data List” window, the following “Playback” window with <Local Playback> tab and <Verify> tab only. The function of <Verify> tab will be described on the next page.



Verify digital signature of exported videos

In the <Verify> tab, as shown below, users can authenticate videos with digital signatures. Follow the steps below to complete the verification.

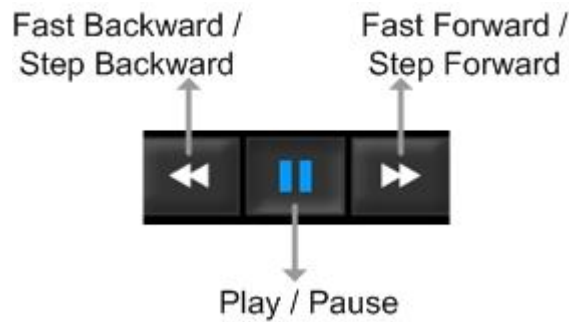
- Select any video from the Data List and click <Verify> at the bottom, then the “Playback” window will be displayed returning a GOOD or BAD signature result in the <Status Log> field. A GOOD signature indicates the exported clip has not been altered, whereas a BAD signature means the video might be changed at some point.



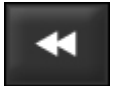



- Alternatively, click <Browse> to select the *.pgg, *.drv (or *.avi), *.sig files, which belong to the video to be authenticated, respectively. After all files are selected, click <Verify> button to start verifying digital signature.

Playback Controls

When the video starts to playback on the main window, the playback control buttons will be displayed on the toolbar at the top of the main window. Please refer to below picture:



Refer to the following table for description of playback control buttons used while playing back the *.drv file.

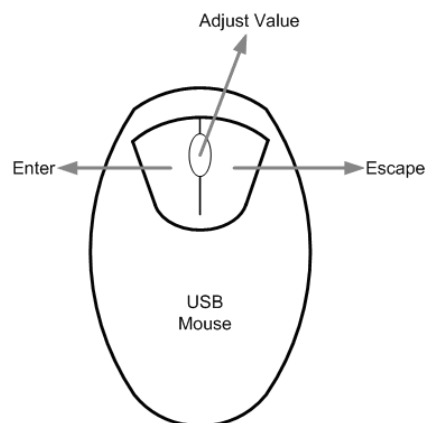
ICON	BUTTON	DESCRIPTION
	Fast Backward / Step Backward	<ol style="list-style-type: none"> 1. Click to playback the video backward. Click repeatedly to select the desired playback speed from 1X, 2X, 4X, 8X, 16X and 32X. 2. When the playback is paused, click once to move one step backward.
	Play	Click to resume the playback. The icon is displayed when the playback operation is paused.
	Pause	Click to pause the playback. The icon is displayed while playing back the video.
	Fast Forward / Step Forward	<ol style="list-style-type: none"> 1. Click to playback the video forward. Click repeatedly to select the desired playback speed from 1X, 2X, 4X, 8X, 16X and 32X. 2. When the playback is paused, click once to move one step forward.

Appendix C: USB Mouse Operation

Users can use an USB mouse to operate the DVR. To use the USB mouse, please read through the following descriptions.

Plug in an USB mouse to any USB port of the DVR. Move the USB mouse, and the cursor should appear. Move the cursor to the right side of the screen and a Live Panel will be displayed. The icons on the Live Panel are the same as the functional keys on the front panel of the DVR.

Clicking the left button functions the same as pressing the "ENTER" key. Clicking the right button functions the same as pressing the "ESC" key. The scroll wheel is used to change values.



For example, if users want to change dome camera ID, enter the OSD setup menu and go to the following path: <Main Menu> → <Camera Setup> → <Dome ID>.

Left click on <Dome ID> and scroll the wheel up or down, the ID number will change as the scroll wheel moves. Stop moving the scroll wheel when the preferred ID number appears, then left click on the <Dome ID> and the ID number will be changed.

Special Operations

There are two special operations provided when an USB mouse is connected. One is camera title alignment and the other is motion detection area setup.

Camera Title Alignment

Users are allowed to change the display position of camera titles of all channels. To change the camera title position of any single channel, left click on the camera title and drag to any preferred position. If users want to set all of the camera titles to the same position that is set for a specific channel, right click on the specific camera title and select <Align Here> from the pull-down menu. Users can also change the monitor type as BNC or VGA. The other options allow users to quickly set all camera titles to the preset positions at once.

Motion Detection Area Setup

When users are setting the motion detection area, an USB mouse can help to speedily complete the setup. Enter the OSD setup menu and go to the following path: <Main Menu> → <Event Setup> → <Per Channel Config> → <Detection Config> → <Detected Area Setup>. The screen is split into 16x12 grids, where the grids can be selected or deselected as motion detection area.

Left click once on any grid to select or deselect the specific grid. Moreover, left click and drag to choose multiple grids, then a pull-down menu will be displayed when the mouse button is released. Choose <BLOCK SELECT> to set the grids as motion detection area, or choose <BLOCK DESELECT> to deactivate the grids. Otherwise, choose <CANCEL> to do nothing.

Right clicking the USB mouse will display a different pull-down menu, which includes: <Select All>, <Deselect All>, and <Confirm>. Choose <Select All> to set all grids as motion detection area, or choose <Deselect All> deactivate all grids. When the setup is completed, choose <Confirm> to save the setting and return to the previous page.

Appendix D: HDD Copy Tool (EXT2IFS)

The data system of the DVR's HDD is totally different from Windows® based PC. So if users just simply plug the HDD onto the PC, the PC will not recognize its existence. Hence, to access data from the DVR's HDD, users will need a special HDD Copy Tool driver called EXT2IFS. This appendix will introduce how to download, install, and setup EXT2IFS and the DVR's HDD.



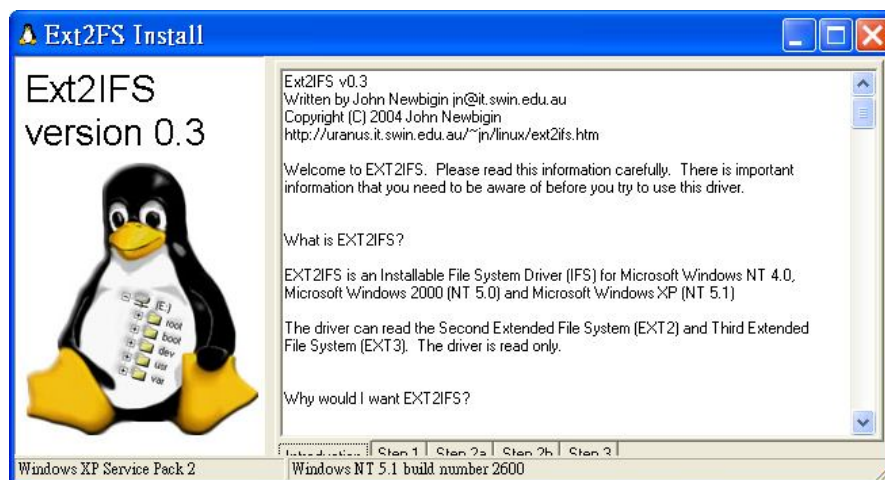
NOTE: This driver is also compatible for HDDs with EXT3 file system.

Installation of the DVR's HDD

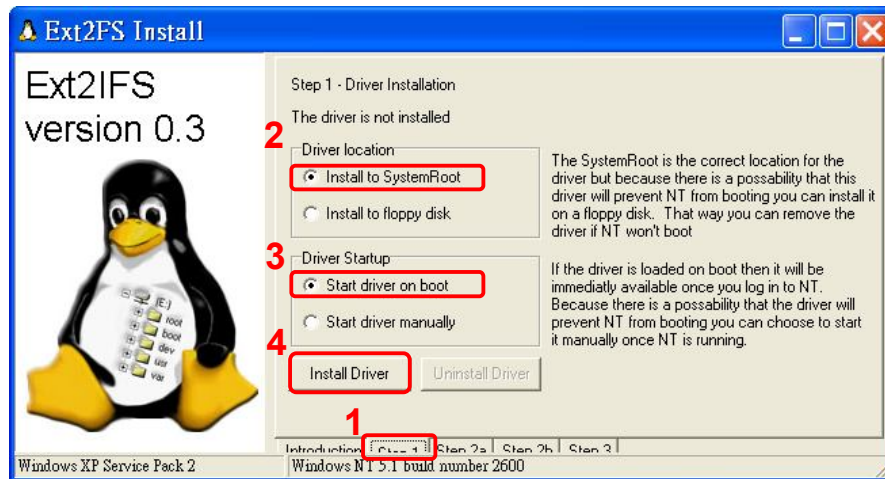
EXT2IFS can be found on the website: <http://uranus.it.swin.edu.au/~jn/linux/ext2ifs.htm>. A detailed description about the driver can also be found. Plug in the DVR's HDD to the PC, then follow the steps below.

Step 1. Download EXT2IFS to the PC from the website listed above.

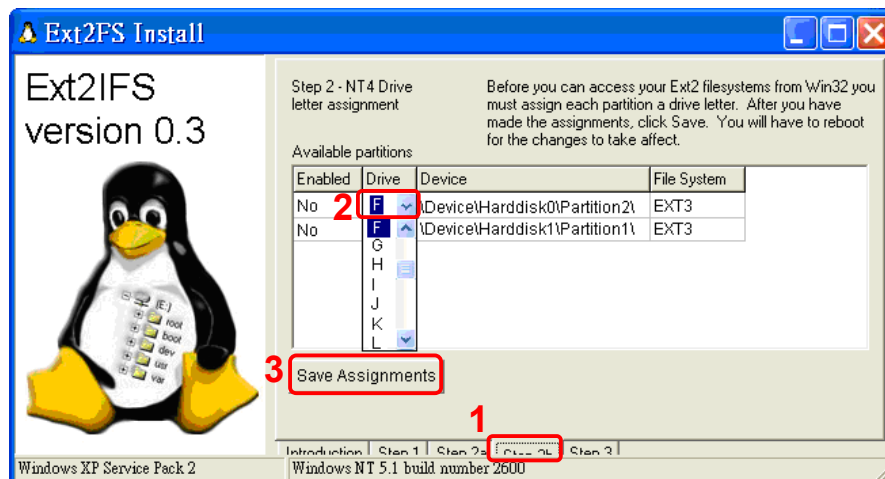
Step 2. Extract the EXT2IFS driver that was just downloaded. Open the extracted folder and double click on "service.exe", and the window below will be displayed.



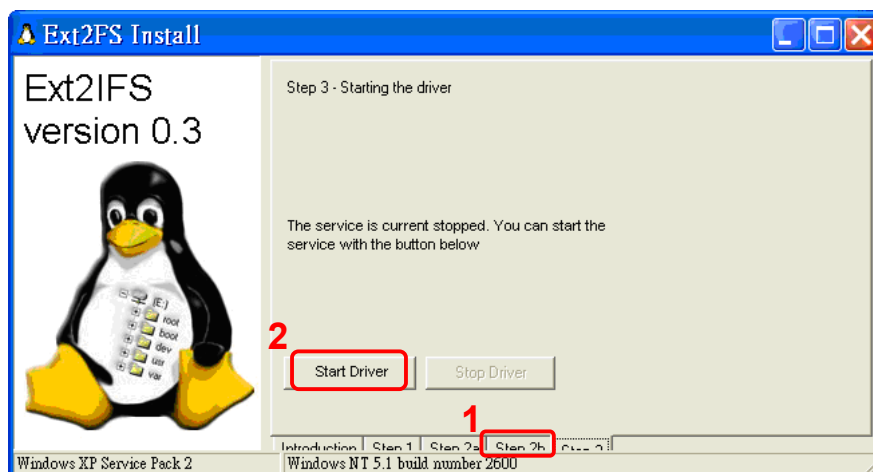
Step 3. Click <Step 1>, then choose <Install to SystemRoot> and <Start driver on boot> options, as shown below. Then, click <Install Driver> button.



Step 4. Click <Step2b>. Assign each partition to a drive letter. After the assignment of HDDs are made, click <Save Assignments> button.



Step 5. Click <Step3>. Then, click <Start Driver> button. Now, reboot the PC for the changes to take effect. The HDD installation is now completed.

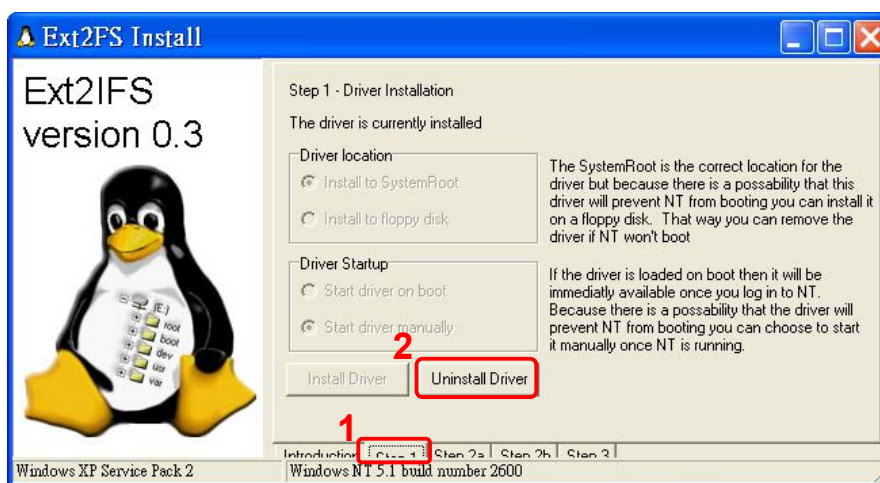


After the DVR's HDD is correctly installed, videos in the DVR's HDD can be played back by using the DVRPlayer. Refer to **Appendix B: DVRPlayer** for detail instruction about the operation of the DVRPlayer.

Removal of the DVR's HDD

To remove the HDD from the PC, follow the instruction below.

Re-open the EXT2IFS, and go to <Step 1> menu. Click "Uninstall Driver", and a message will be shown as: "The service is currently started. You will have to reboot before the service is completely uninstalled." Click on "OK" and turn off the PC. Remove the HDD from the PC, and reboot the PC. The removal of HDD is now completed.



Central Management Software

User's Manual

Version 3.20

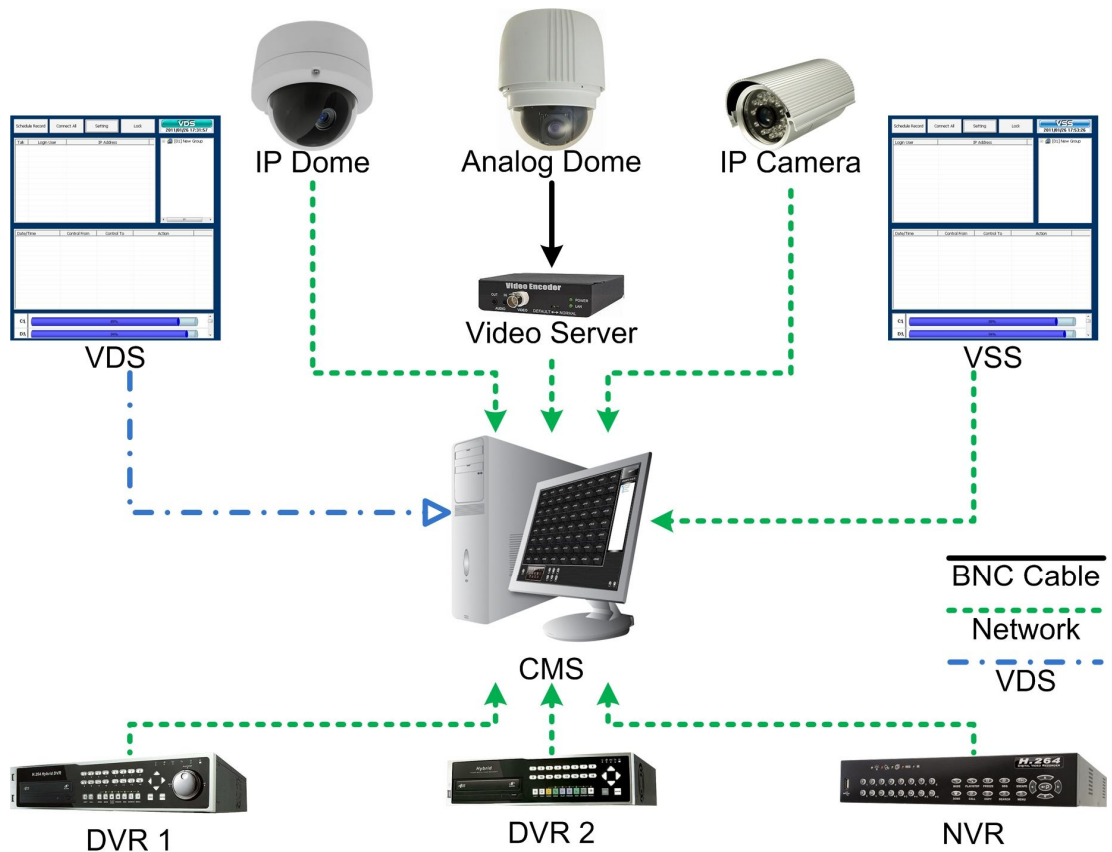
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1. Overview

Central Management Software (CMS) is a powerful and professional centralized monitoring system designed for all range of applications and projects. With CMS, accessing and monitoring multiple surveillance equipments such as DVRs, and Mega-Pixel IP Cameras is just a few clicks away. The feature-packed intelligent surveillance offers the professional users with complete and enhanced surveillance experiences.



Features

- PC-based recording and monitoring software
- Manages up to 1024 channels
- Simultaneously up to 64 channels Live view
- Supports 5 Megapixel IP Camera
- Supports Fisheye IP Camera
- Supports multi-screens
- Instant / scheduled recording
- Event playback and alert notification
- SSL E-mail notification
- Dual Streams: main stream for recording / sub stream for preview
- Supports remote playback
- Remote PTZ control

- Remote IP Camera configuration
- Supports multi-layers E-Map
- Supports ePTZ function
- Supports multiple languages

1.1 System Requirement

The following chart shows recommended computer system:

Operating Systems	Windows XP, Windows Vista, Windows 7	
CPU	Minimum: Intel® Core™ 2 Duo 2.4 GHz	Recommended: Intel® Core™ i7-2600 8MB Cache 3.4 GHz
RAM Memory	Minimum: 1GB	Recommended: 4GB
HDD	Minimum: 80GB	Recommended: 1TB
Video Card	Minimum: Graphics card with more than 64MB RAM	Recommended: GeForce GTS450 1GB PCI-E 16X
Ethernet	Minimum: 100 BaseT	Recommended: Gigabit LAN
Tested Setup	CPU: Intel® Core™ i7-2600 (8MB Cache, 3.4 GHz); RAM: DDR3 4GB; OS: Windows 7 Professional; Ethernet: Gigabit LAN; Mainboard Chip: Intel H6X	



NOTE: For Live viewing of more than 16 IP devices, users need to lower the camera resolution and change the compression method to MPEG4 or MJPEG.



NOTE: If the operating system is Windows Vista or Windows 7, some functions (such as Record, Auto Reboot, etc) will not work properly due to User Account Control (UAC). Follow steps below to solve this problem.

Step 1. If a previous version of CMS is installed, export setting files of CMS servers (1~4) before installing the new version CMS.



Step 2. Due to UAC, user accounts in Windows Vista and Windows 7 cannot properly run applications that will write in “C:\Program Files\” folder. Therefore, CMS will be installed in “C:\” folder instead.

Step 3. Once the new version CMS is installed, import the setting files back to CMS servers (1~4).

2. Software Installation

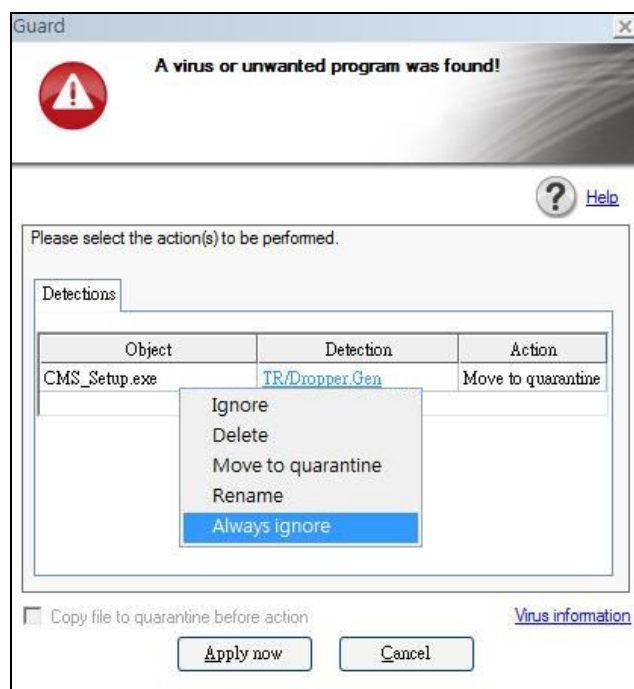
Follow the steps below to install CMS to the local computer.

Step 1. There are 2 ways to start the installation.

Option 1. Download the compressed file and extract  CMS_Setup.rar it. Click on the CMS_Setup.exe file to start  CMS_Setup.exe the installation.



NOTE: Some antivirus software might report false alarm when users move the mouse cursors over the CMS_Setup.exe file. Right click and select <Always ignore> in order to continue the installation.



Option 2. If CMS will be installed via a CD, the installation will startup automatically when the CD is inserted into the CD-Rom. The <CMS Setup Menu> window will be displayed. Choose <INSTALL CMS> to start installing CMS. Choose <CMS USER'S MANUAL> to open the user's manual. Choose <EXIT> to exit the <CMS Setup Menu>.

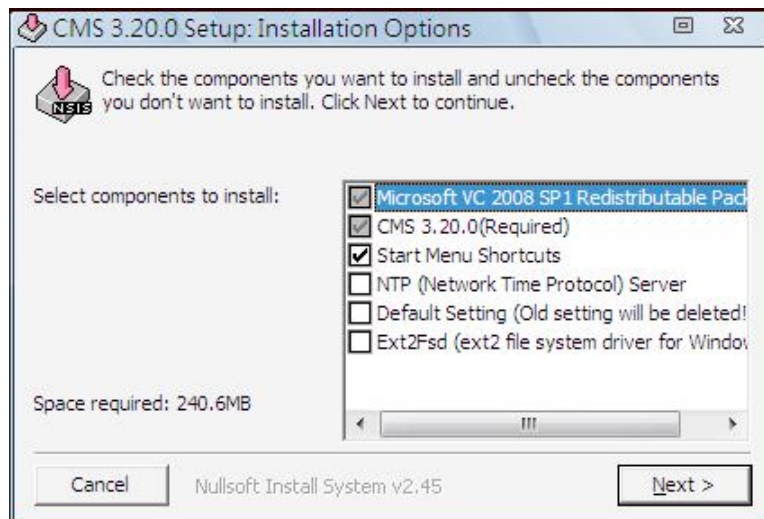


NOTE: If an older version of CMS had been installed in the local computer, a message box will be prompt. Click <OK> to uninstall the previous version.



NOTE: After clicking <OK>, a un-installation confirmation dialog will be displayed. Click <Uninstall> to uninstall the older version and continue with the next step.

Step 2. Select the components that are going to be installed. It is strongly recommended to select the <Start Menu Shortcuts> to create shortcuts in the Start Menu and on the Desktop. Otherwise whenever the program is to be opened, it will have to be found under the path: “\CMS\EXE\CMS.exe”. Click <Next> to go to next step.



The components of CMS Installation Setup are:

- a. Microsoft VC 2008 SP1 Redistributable Package: This is an upgrade package required for correctly running CMS.
- b. CMS 3.20.0(Required): CMS main program must be installed.
- c. Start Menu Shortcuts: Check the box to create shortcuts in the Start Menu and on the Desktop.
- d. NTP (Network Time Protocol) Server: Check the box to install the NTP server.
- e. Default Setting (Old setting will be deleted!): Check the box to load default setting, or uncheck it to load the old setting of previous installed CMS.
- f. Ext2Fsd (ext2 file system driver for Windows): Check the box to install driver in order to be able to read raw files in DVR HDD.



NOTE: The EXT2IFS driver also works for reading ext3 file systems. If users have already installed the EXT2IFS driver and software, please uninstall it beforehand, for there might be confliction occurs while installing Ext2Fsd driver during CMS installation.

Step 3. CMS main program will be the first program to be installed. Choose a folder to install CMS or it will be installed to a default destination folder “\CMS\”. Click <Install> to start the Installation; or click <Back> to go back to the previous step.

Step 4. The NTP Server will be the next program to be installed. The NTP Server enables the local computer, which is running CMS, to become a central NTP Server for the connected DVR(s) so the time for the local computer and the connected DVR(s) is synchronized. When the confirmation window popup, click <OK> to start installing the NTP Server.

Step 5. When the Software Installation is completed, click <Close> to exit.

NTP Service (Server)

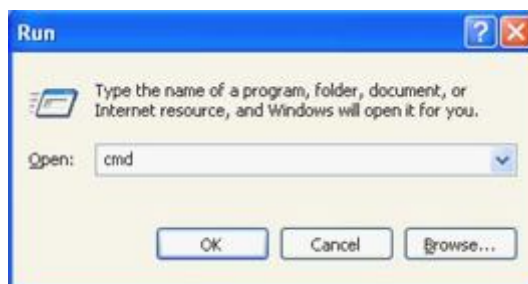
The NTP Service (Server) enables the local computer, which is running CMS, to become a central NTP server for the connected DVR(s) so the time for the connected DVR(s) and the local computer is synchronized.

To do so, the IP address of the local computer is needed.

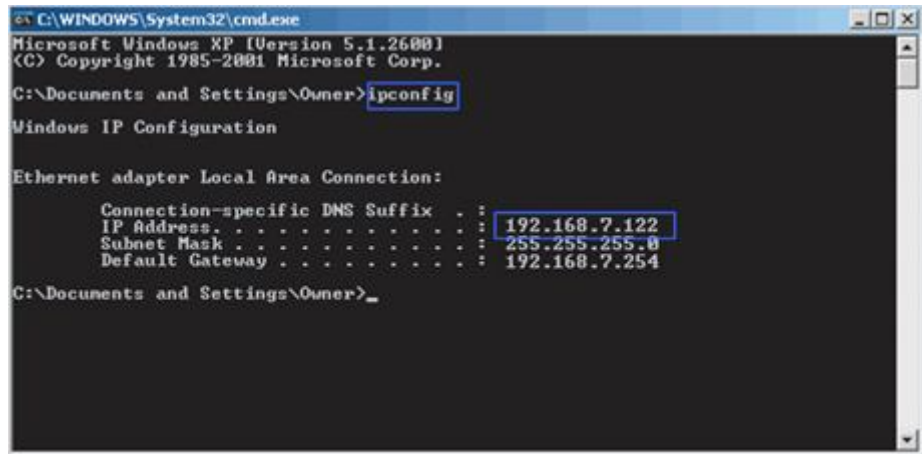
Go to **Start** menu, select **Run**.



Type in **cmd** and click OK.




Type in **ipconfig** to get the IP Address of the local computer. Write down the IP address on a piece of paper for later use.



After the IP address is found, setup the connected DVR(s).

First, go to <Main Menu> → <System Setup> → <Date/Time> → <Time Zone> to setup time zone. To find out the local time zone, please visit www.greenwichmeantime.com

 **NOTE:** <Time Zone> must be set or <Network Time Protocol Setup> will not be accessible.

After entered the local time zone, <Network Time Protocol Setup> menu will be accessible. Go to <Main Menu> → <System Setup> → <Date/Time> → <Network Time Protocol Setup>, and the following menu will be displayed.

Network Time Protocol Setup	
NTP Server	time.nist.gov
Automatically Time Sync	On
Manually Time Sync	No

In this example, the NTP server should be set to “192.168.7.122” which is the IP address of the local computer. After the NTP server is set, select <Yes> for <Manually Time Sync> to immediately sync the time with the local computer. The time sync can also be updated periodically. Select <On> for <Automatically Time Sync> and the time will be automatically synced once an hour.

2.1 Start Menu Add-ons

Click on the Start menu and find CMS. There are several add-ons, as shown below.



Joystick

Go to the Joystick submenu and users will be granted with two pictures for brief instructions of joystick controls. Refer to subsection ***Joystick Control*** under section ***PC System Info*** for more details about joystick usages.

Multi-CMS

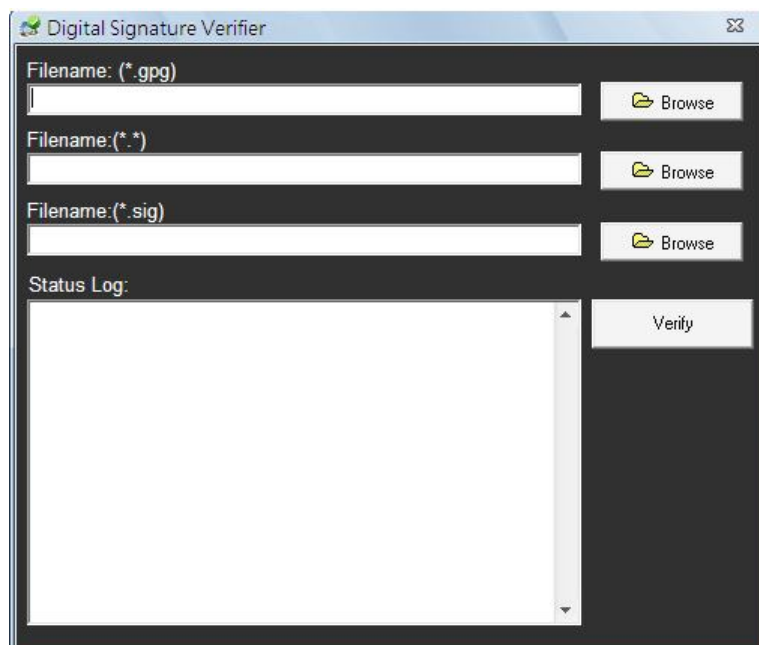
Access the Multi-CMS submenu and it provides four CMS server applications. Users can select to startup any preferred CMS server.

CMS

Select this item to startup CMS server.

Digital Signature Verifier

Digital Signature Verifier allows users to verify exported video files with digital signatures. As shown below, pick up all required files and click on <Verify>. A GOOD signature indicates the exported clip has not been altered, whereas a BAD signature means the video might be changed at some point.



Help

This item links to the PDF file of User's Manual.

Install Ext2Fsd

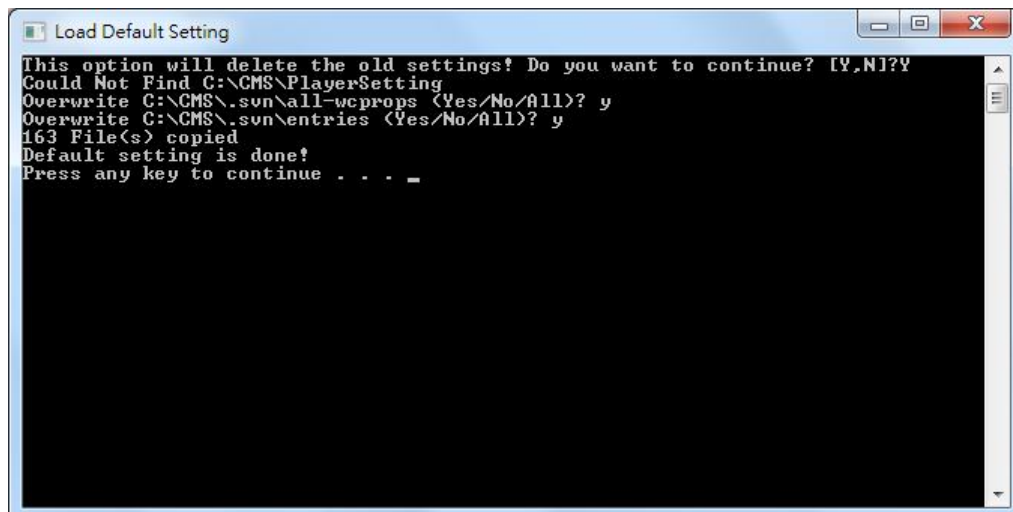
For users who need to read raw files directly from the DVR HDDs, select this item to install the driver for ext2 and ext3 file systems.

Install VC2008 Redistributable Package

Select this item and the system will begin to install VC2008 Redistributable Package. This is required in order to correctly run CMS.

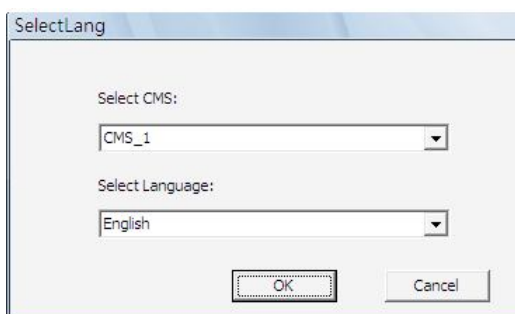
Load Default Setting

If users need to restore the default setting, click on this item and a command window will be prompted for confirmation. As shown below, answer "Y" to the questions and the default setting shall be loaded.



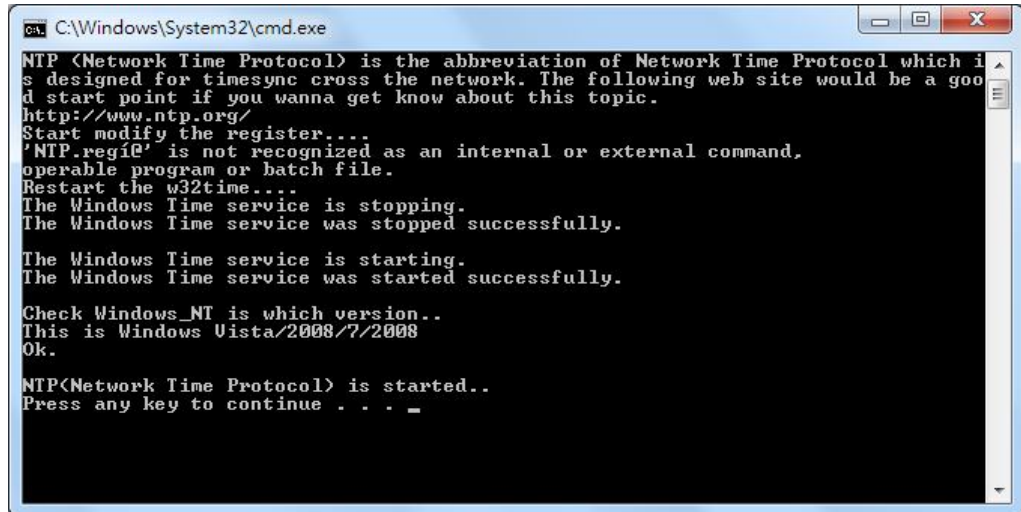
Select Language

This item allows users to change the system language for selected CMS server. Choose a CMS server and its new language, then click on <OK> to confirm.



Start NTP Server

If users wish to sync the PC's time with a Network Time Protocol (NTP), select this item and a command window will be prompted. Confirm to add NTP register and let the command window run the rest works. After the NTP is started, users can press any key to finish the process.



```
C:\Windows\System32\cmd.exe
NTP (Network Time Protocol) is the abbreviation of Network Time Protocol which is
designed for timesync cross the network. The following web site would be a good
start point if you wanna get know about this topic.
http://www.ntp.org/
Start modify the register...
'NTP.regio' is not recognized as an internal or external command,
operable program or batch file.
Restart the w32time...
The Windows Time service is stopping.
The Windows Time service was stopped successfully.

The Windows Time service is starting.
The Windows Time service was started successfully.

Check Windows_NT is which version..
This is Windows Vista/2008/7/2008
Ok.

NTP(Network Time Protocol) is started..
Press any key to continue . . . _
```

2.2 Software Upgrade

CMS software can be upgraded to new released version automatically or manually. The upgrade process will be performed in CMS main window.

Please refer to section **About CMS** for more information about automatic and manual software upgrade.

3. Start Up CMS

Before starting up CMS, PRO version users have to insert the USB Dongle. Otherwise the intelligence functions especially designated for PRO version will not be available.



NOTE: If the version of USB Dongle is an older version comparing to CMS, an error message will be displayed to request users to insert the correct version of USB Dongle.



NOTE: If USB Dongle is unplugged while running CMS, a warning message will be displayed. Users have to re-insert the USB Dongle or CMS will be automatically shutdown in 10 seconds.

There are 3 ways to start CMS. Note that method A and B are only available if the “Start Menu Shortcuts” component is installed. Please see section **Software Installation** for more information.

Method A: Click Start menu and select Programs; find “CMS” from the listed programs.

Method B: Double click on the shortcut icon on the desktop.

Method C: Go to “\CMS\EXE\” and double click on CMS icon.

3.1 Starting Up

If CMS is started for the first time, select a desired language for the interface. The available languages are listed in the scroll box. Click <OK> to confirm the selection.



NOTE: If the system memory or CPU frequency is less than the requirement, the error message will be displayed.

3.2 Login

The default username & password are: “**admin**” and “**1234**”. Enter the default username and password, then check <Save user name and password> to save time from entering username and password every time CMS starts. Click <OK> to login.

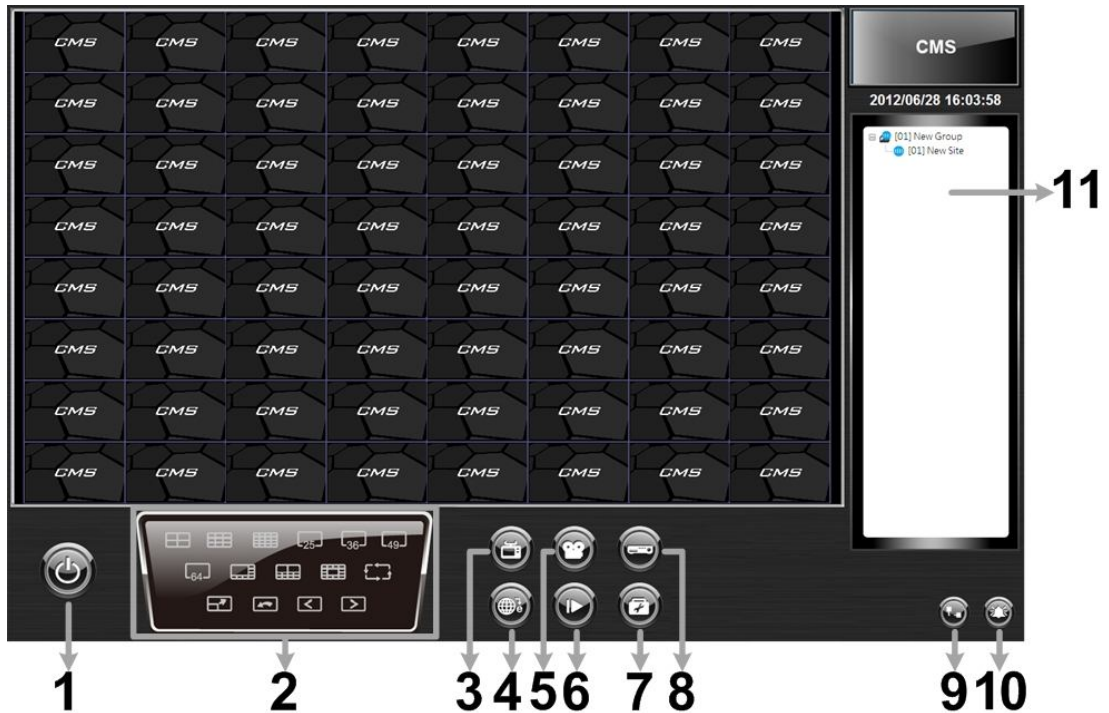
Username and password accounts can be added or removed under the <CMS User> tab in <Setting> configuration window. Refer to the **CMS User** section for more information.



NOTE: If the wrong username or password is entered for 3 times, an error message will be displayed, and CMS will be closed automatically after <OK> is clicked. Restart CMS to enter the correct username and password.

4. CMS Main Window

After started up CMS, the main window of CMS will be shown as the figure below. The name of each button is indicated as follows.



1	Power Button
2	Display Mode: 4-windows, 9-windows, 16-windows, 25-windows, 36-windows, 49-windows, 64-windows, 8-windows, 10-windows, 13-windows, Sequence, Full screen, Last mode, Page up, Page down
3	View Operator
4	Emap
5	Record
6	Playback
7	Setting
8	System information
9	Disconnection Log
10	Alert Log
11	Site Tree

The usage and function of each button will be briefly described as follows. Their detailed instruction will be in later sections.

Power Button

Click on the Power button and the pull-down menu includes: <Lock>, <Exit> and <Minimize>. Users can lock CMS system, exit CMS system, or minimize CMS main window.

Display Mode

Click on any icon to view the connected camera images in multiple window modes. The available viewing modes are 4-windows, 9-windows, 16-windows, 25-windows, 36-windows, 49-windows, 64-windows, 8-windows, 10-windows and 13-windows. In addition, icons Sequence, Full screen, Last mode, Page up and Page down give users variable options in monitor surveillance.

View Operator

Click on the <View Operator> icon and the pull-down menu are <Live all>, <Re-sort>, <Snapshot>, <Video preview>, and <Sequence Setting>. Select <Live all> to switch all sites to Live mode. <Re-sort> allows users to reset the displaying layout to the listed orders in the site tree. Choose <Snapshot> to save a snapshot of current window. <Video preview> is for preview and selection of display mode. <Sequence Setting> is for setup of sequence order list and sequence dwell time.

Emap

Click on the <Emap> icon to open up Emap program. Emap is a program that allows users to illustrate positions of cameras on self selected images.

Record

Click on the <Record> icon and the pull-down menu includes: <Instant record> and <Schedule record>. Users can initiate instant video record or configure schedule record settings.

Playback

Click on the <Playback> icon and the pull-down menu are <Local Playback> and <Remote Playback>. Selecting <Local Playback> will bring up CMS Player window, for users to playback video data stored in the local computer. On the other hand, <Remote Playback> allows users to playback recorded video stored in the HDD of the connected DVR. Please refer to **Appendix A** for more information about CMS Player.

Setting

Click on the <Setting> icon and users can configure <CMS Setting> and <Device Setting>.

System information

Click on the <System information> icon and the pull-down menu includes: <Device Health>, <PC system info.>, <About CMS>, <CMS operator log> and <Device operator log>. Select any menu item to display the related information.

Disconnection Log

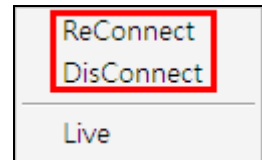
Click on the <Disconnection Log> icon to see the log that listed all abnormally disconnected sites. When abnormal disconnection occurred, the icon will blink to capture users' attention.

Alert Log

Click on the <Alert Log> icon to see a list of triggered alert events. When an alert event is triggered, the icon will blink to remind users.

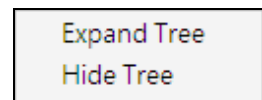
Site Tree

Site tree displays sites that are currently being viewed. If the connection to a certain camera is failed, there will not be image displayed on its assigned grid. Right click on the "site" and click <ReConnect> to try to establish the connection to the site. The <DisConnect> option allows users to only disconnect a certain site.

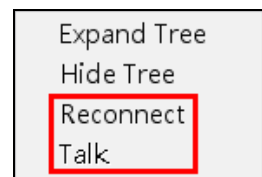


Select <Live> after right click on a site and CMS will retrieve Live monitoring image(s) of the site.

By right clicking on the group icon, the options shown as on the right allows users to expand or hide the site tree at once.



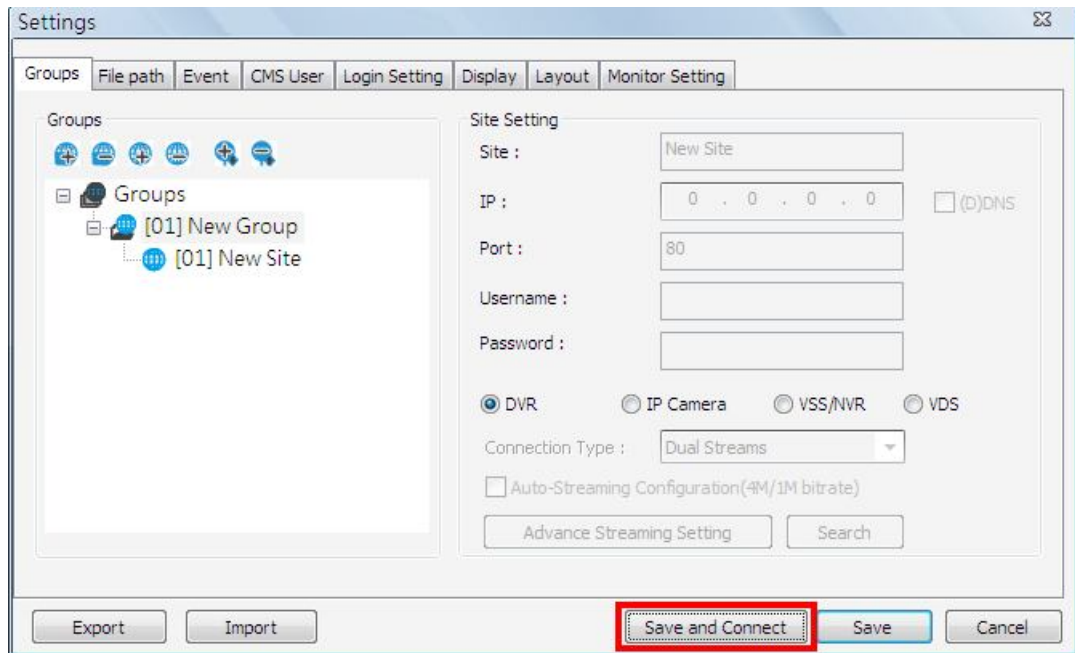
If the group is connecting to a VDS, the right click options are as shown on the right. Select <Reconnect> to re-establish the connection to VDS. Select <Talk> to initiate two-way communication between CMS and VDS.



5. Configure CMS

CMS supports up to 10 groups, with at most 64 IP devices added in each group. The following sections will guide users to setup CMS step by step.

Click on the <Setting> icon and select <CMS Setting>. The following window will be displayed.



NOTE: The configuration in “Groups” tab and “Import” function will be unable to be saved when CMS is detecting network connection or is connecting to some sites. Error messages will be shown to inform users.




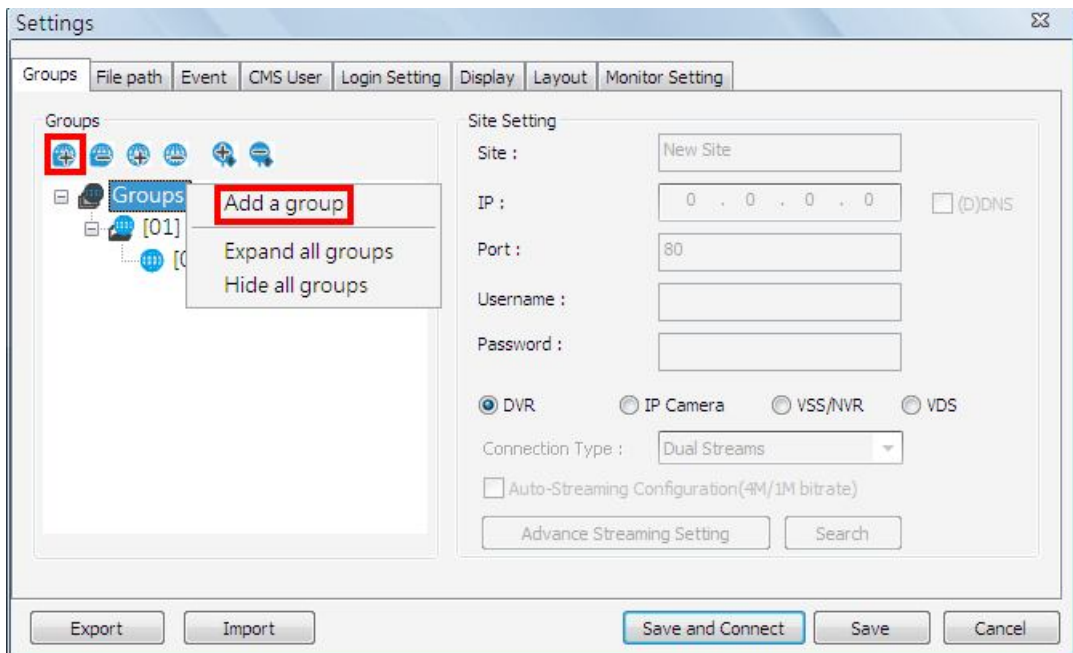
NOTE: When the setting of connecting group and sites is completed, users can directly click on <Save and Connect> to connect the sites.

5.1 Setup Groups

Up to 10 groups can be set in CMS. This section guides users to add or remove a group, and also shows users how to set “Start Group”.

Add a group

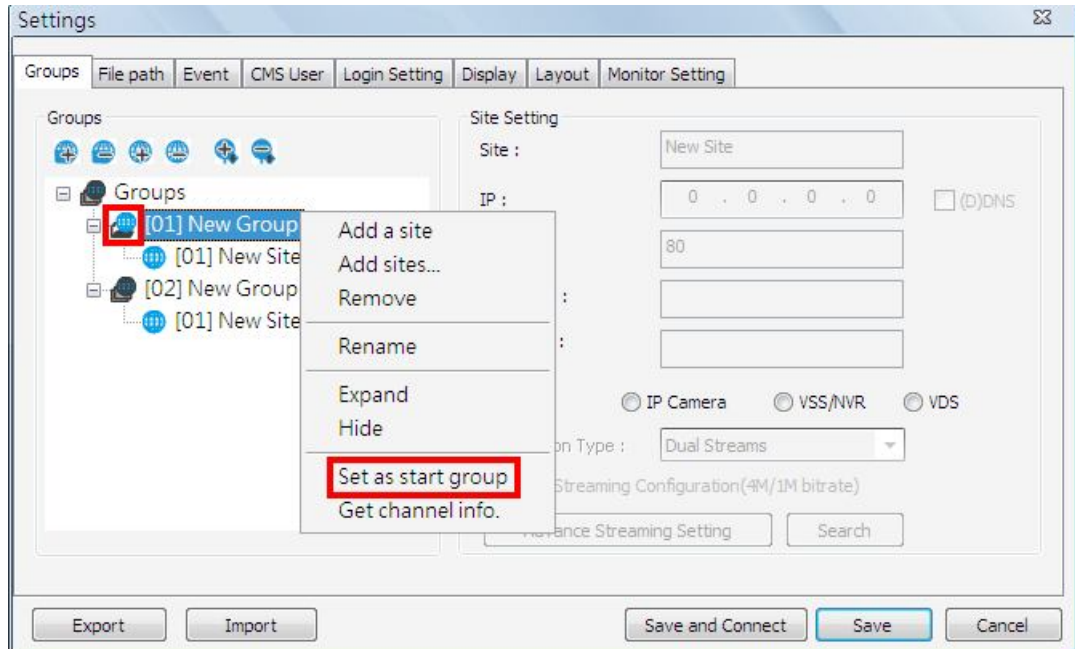
Click on  button to add a group. The other way to add a group is to right click on <Groups>, and select <Add a group>.



Set Start Group



“Start Group” is the group that will be connected after started up CMS.

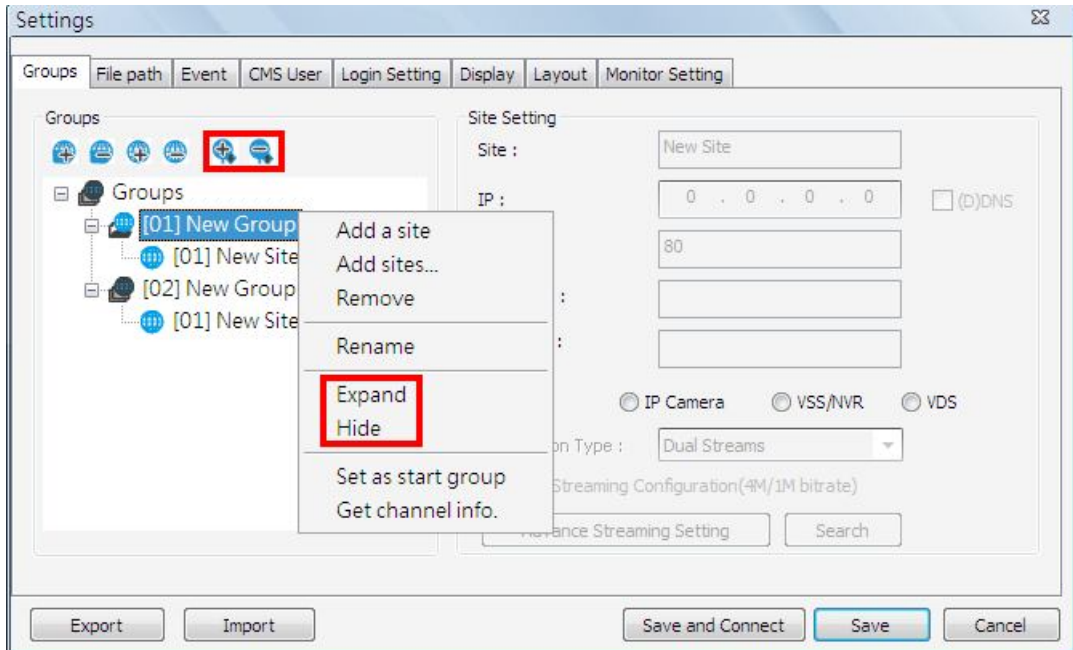
Right click on the group to be set as “Start Group”, and select <Set as start group> from the pull-down menu.




NOTE: If a group is set as the “Start Group”, the icon will be changed as shown in the figure above.

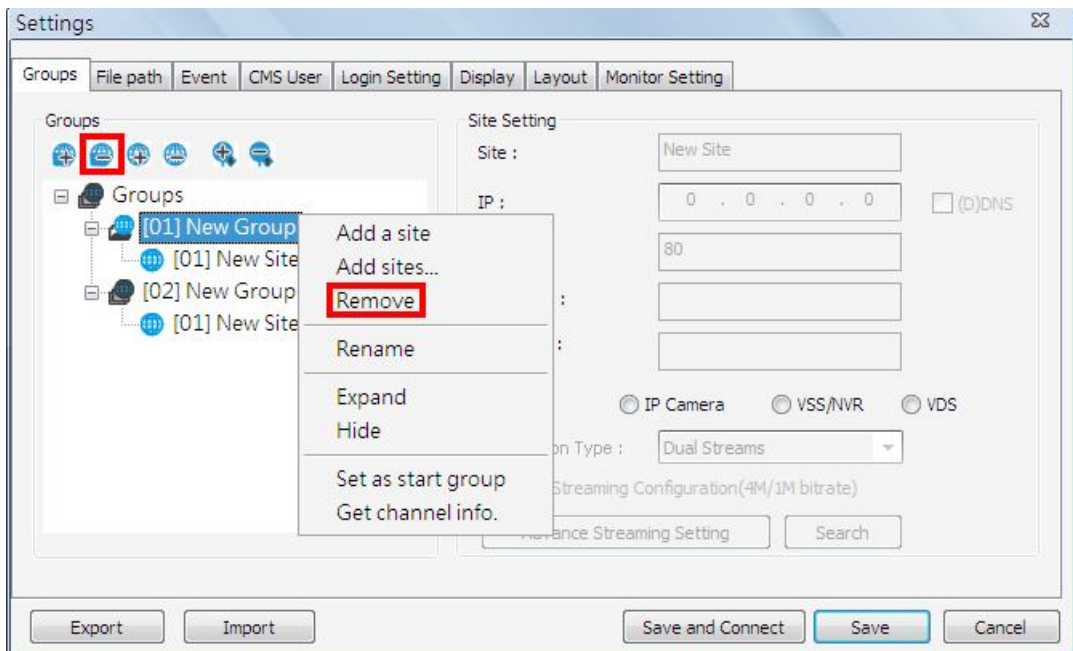
Expand / Hide a Group

There are two ways to expand or hide a group. One way is to use the   buttons; the other way is to right click on the group and select <Expand> or <Hide> from the pull-down menu.



Remove a Group

To remove a group, click on the group to be removed, and then click on the  button directly to remove the group. The other way to remove a group is to choose <Remove> after right clicked the group.




5.2 Manage the Sites

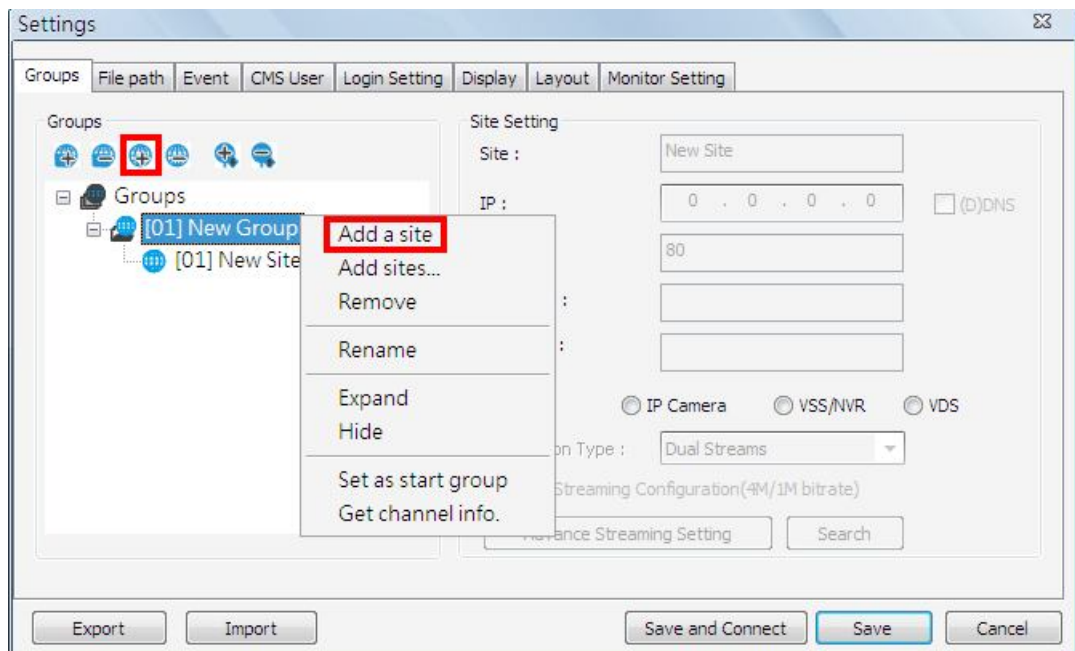
The following sections are instruction of the management of the sites, including add or remove sites and configuration.

5.2.1 Add/Remove a Site

This section describes how to add or remove a site. CMS supports at most 64 IP devices to be added to each group. If more than 64 IP devices are added, error message will be displayed.

Add a site

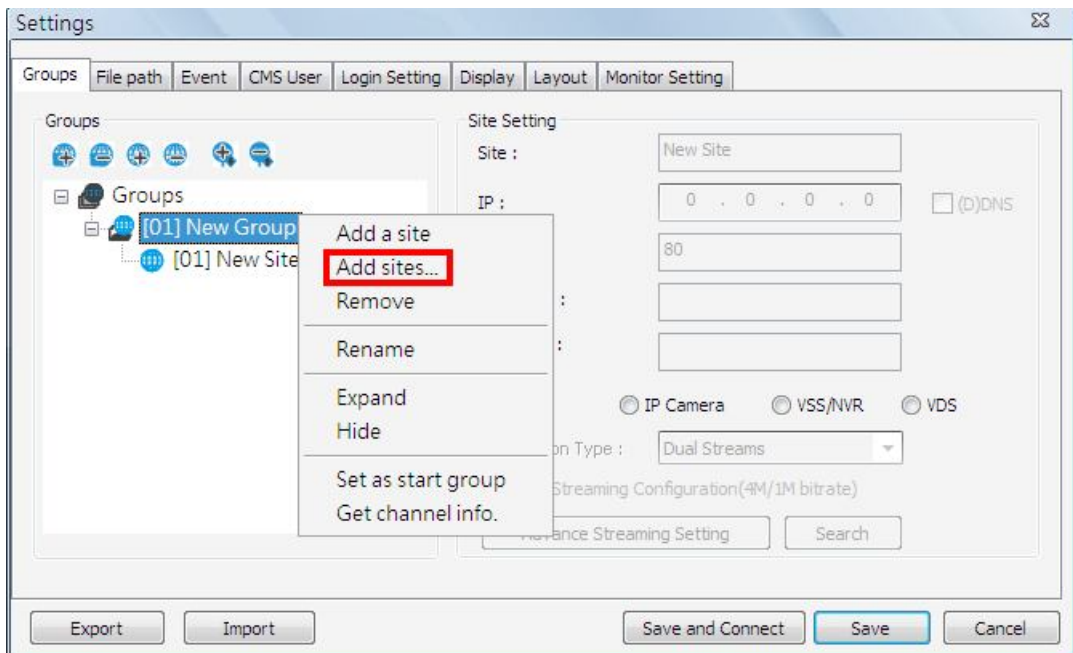
Choose a group to add a new site. Click on the  button to add a site to this group. The next section will show how to setup the site step by step.



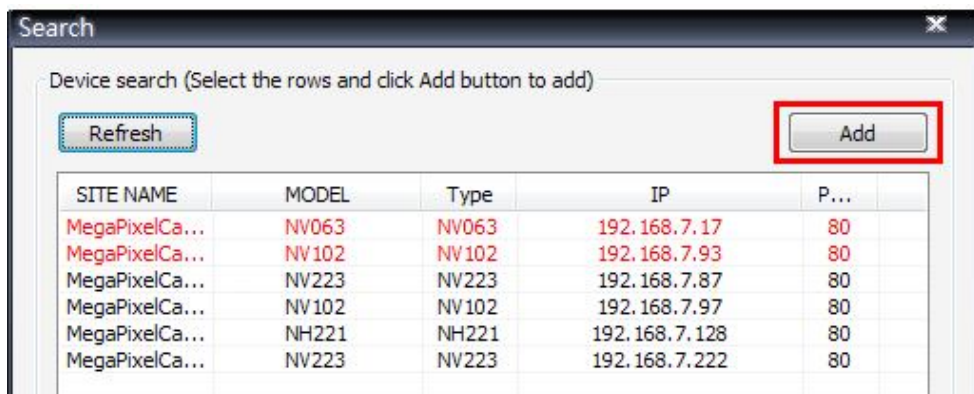
The other way to add a new site to a group is to right click on the group, and select <Add a site>.

Add Multiple Sites

Right click on a group, and select <Add sites...> to add multiple sites at once.




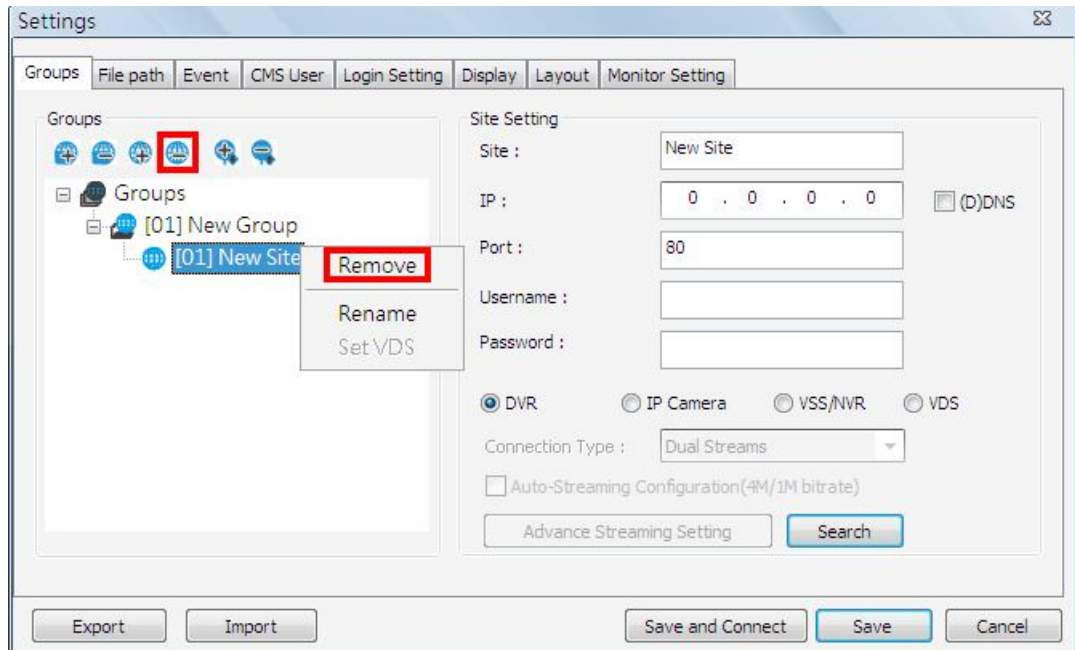
Then a device search window will be displayed as below. Press and hold Ctrl key to select more than one site. After sites are selected, click <Add> to add the selected sites. Please jump to relative sections coming after to complete site setup.



NOTE: The sites that are already added in this group will be shown in Red in the device search window.

Remove a site

To remove a site, click on the site that is to be removed, and click on the  button directly to remove the site.



The other way to remove a site is to right click on the site, and select <Remove> from the pull-down menu.

A new site can be a DVR, an IP camera, a VSS/NVR, or a VDS. The number of sites equals to the total number of the DVRs, IP Cameras, and VSS/NVR. However, the VDS can only be individually added to a new group all alone by itself. The following sections will show how to setup configuration of the sites.

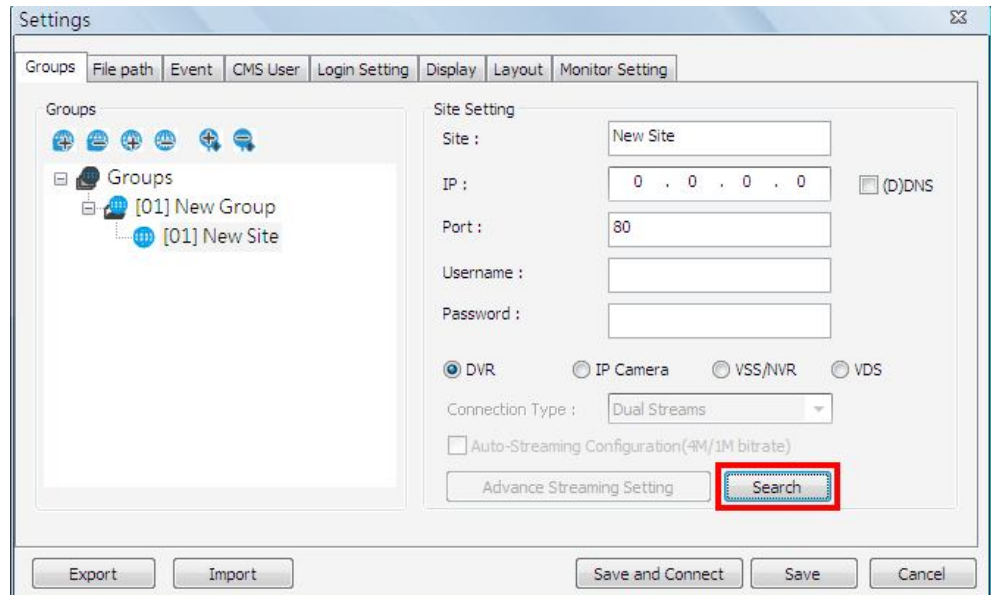
5.2.2 Setup the Site via Device Search

There are two ways to setup a site. The simple way is via Device Search.

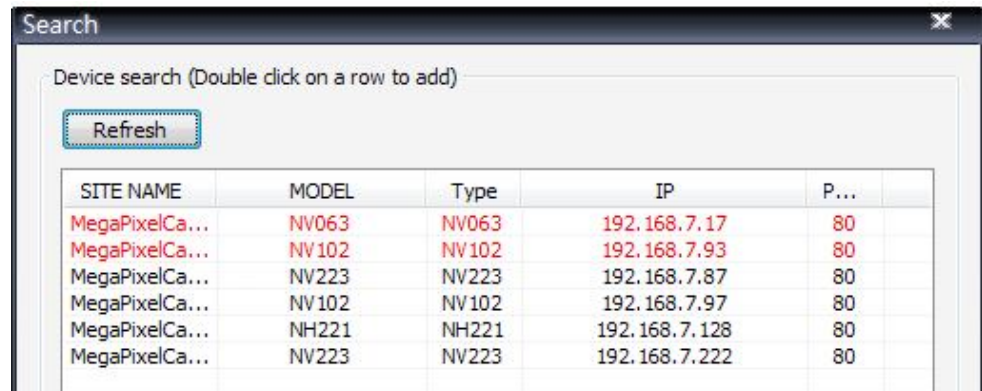
CMS is able to search for IP addresses of DVRs, IP Cameras, VSS/NVR, and VDS connected to the PC's LAN network. The ports used for device search are 6666 and 6667. Please make sure that these two ports are not in-use nor blocked by firewall or virus scan software.

Follow steps below to search for DVR(s), IP Camera(s), VSS/NVR, or VDS.

Step 1. If there are DVRs, IP Cameras, VSS/NVR, and/or VDS installed in the LAN network, CMS can search for IP addresses of the installed devices. Click the Search button (**on the bottom right**) to open the Search window.



Step 2. The list will show the IP addresses of DVR(s), IP Camera(s), VSS/NVR, and VDS available in the LAN network. Select from the list and **Double Click** on the IP address to add it to a site. Then enter username and password of the selected DVR, IP Camera, or VSS/NVR. For VDS, refer to section **Setup the VDS Site Manually** for further configurations. Note that if the sites are already added in this group, they will be shown in Red.



SITE NAME	MODEL	Type	IP	P...
MegaPixelCa...	NV063	NV063	192.168.7.17	80
MegaPixelCa...	NV102	NV102	192.168.7.93	80
MegaPixelCa...	NV223	NV223	192.168.7.87	80
MegaPixelCa...	NV102	NV102	192.168.7.97	80
MegaPixelCa...	NH221	NH221	192.168.7.128	80
MegaPixelCa...	NV223	NV223	192.168.7.222	80

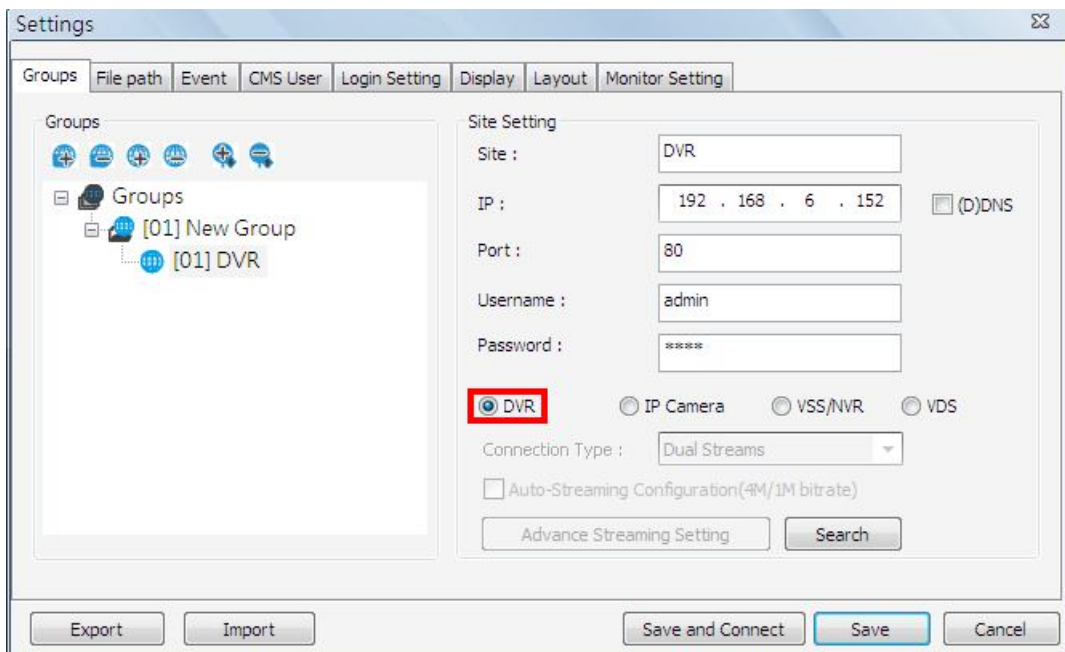



NOTE: The Device Search function can only be used to search for addresses within the same LAN. For example, if the local computer uses an IP address of 192.168.1.5, and a connected DVR has an IP address of 192.168.1.7, CMS will be able to find the IP address of the DVR. However, if there is another DVR connected to another LAN network such as 192.168.3.6, CMS (whose IP is 192.168.1.5) will not be able to find the IP address of the DVR in another LAN network.

5.2.3 Setup the DVR Site Manually

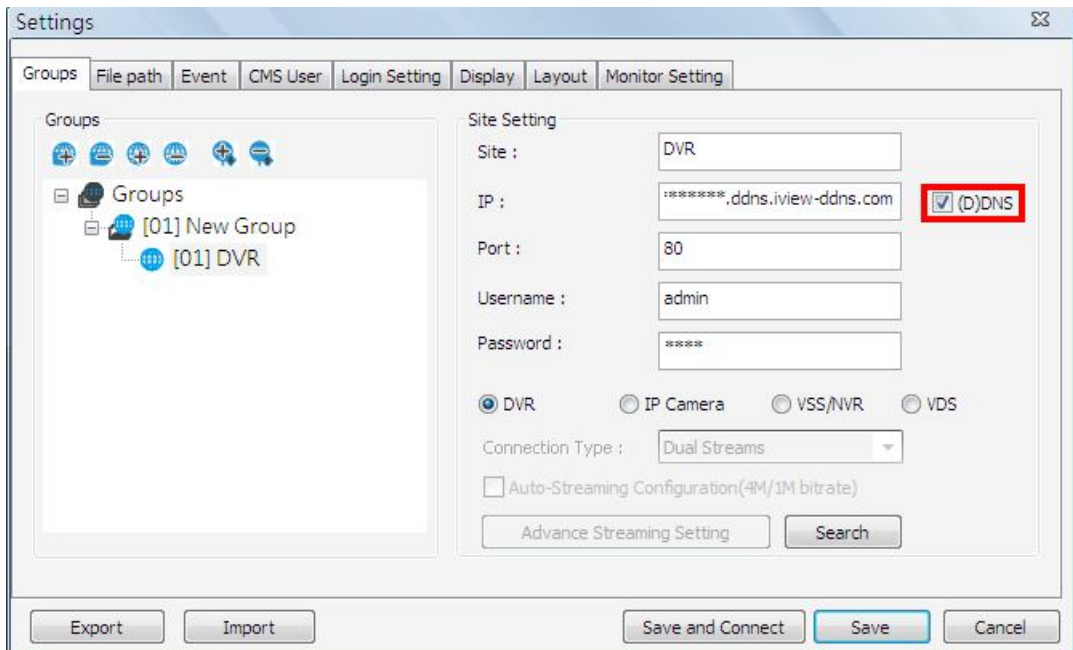
If the detailed information (IP address, port, username, and password) of the connected DVR is provided, a site can be setup manually.

Add a new site and enter the Site name, IP address, Port, Username, and Password. Select <DVR> and click <Save> to complete the setting.



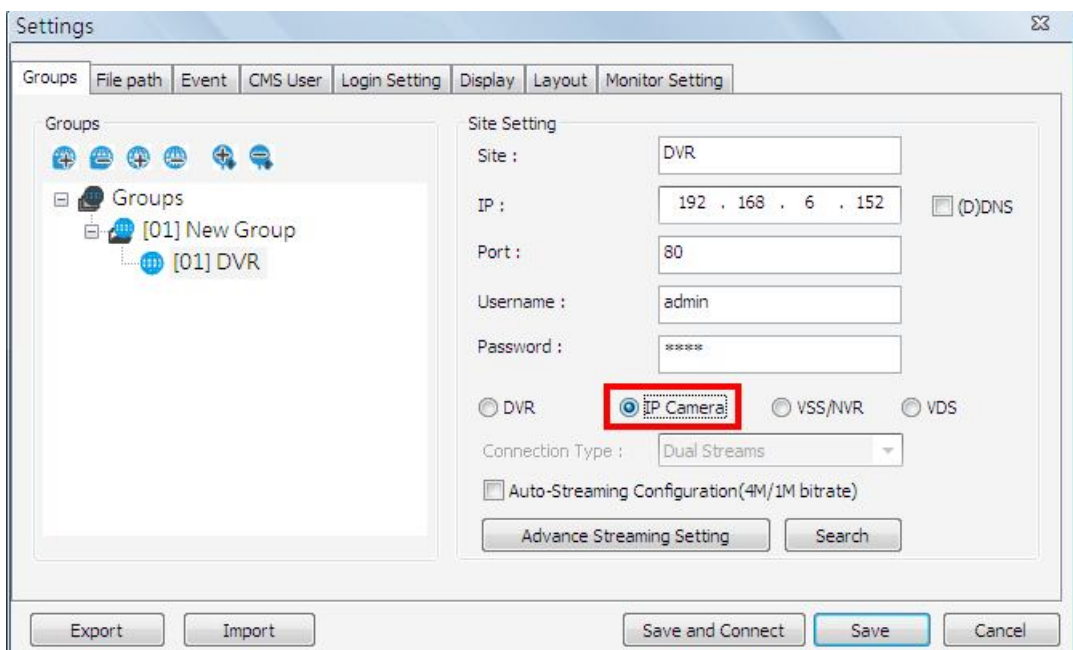
 **NOTE:** If the entered Username and Password is a user account instead of an administrator account, the same DVR account restriction will be applied. When a user account accessed a function that is restricted, a warning message will be displayed.

If the DDNS information of the DVR is known, the DDNS data can be used to setup a site. Check the box <(D)DNS> circled below, and type in the DDNS data. Click <Save> to complete the setting. An example of the DDNS address looks like: *****.ddns.iview-ddns.com.



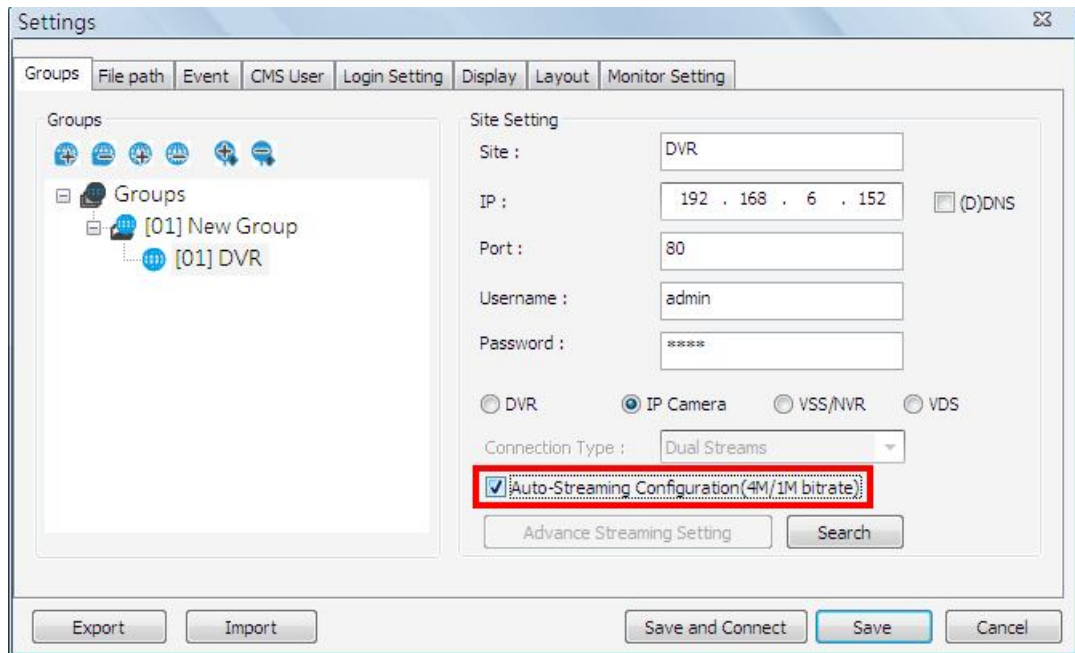
5.2.4 Setup the IP Camera Site Manually

If an IP Camera is to be added to CMS, the required information includes the IP address, port, username, and password of the IP Camera. Enter the data and select <IP Camera> as circled below.



Auto-Streaming Configuration

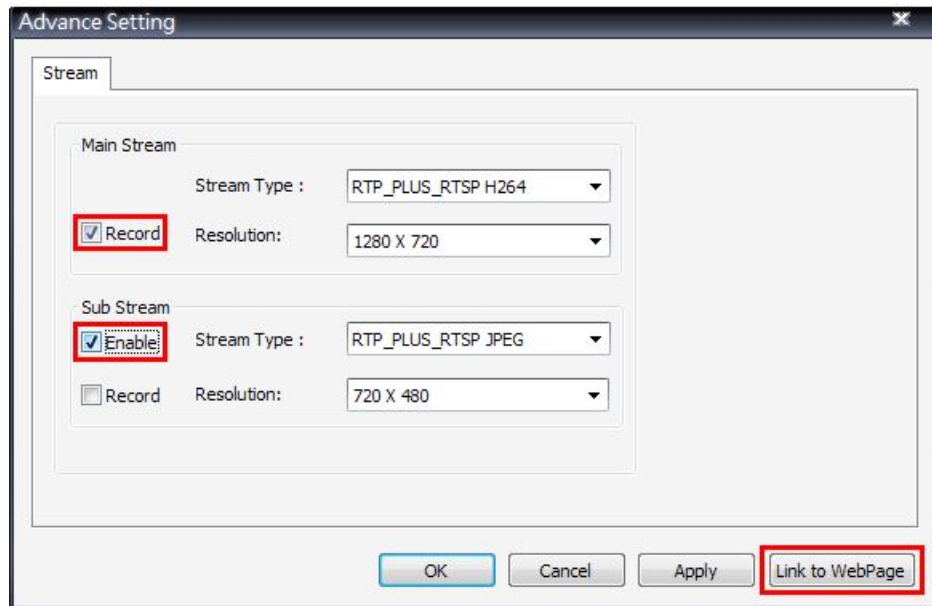
For users who wish to enable auto-streaming, check the box in front of <Auto-Streaming Configuration(4M/1M bitrate)>. CMS will logon to the IP Camera twice to retrieve two different types of video streams. The main stream is H.264 with largest resolution and 4096 bit rate, which will be the recording format. On the other hand, the sub stream is H.264 with smallest resolution and 1024 bit rate, which will be the live display format.



NOTE: When Auto-Streaming Configuration is enabled, <Advance Streaming Setting> will be disabled in the mean time.

Advance Streaming Setting

Users can also manually setup dual streaming function via clicking on <Advance Streaming Setting>. If users wish to connect to the IP Camera's webpage via a browser, click <Link to WebPage> at the bottom.



NOTE: Auto-Streaming Configuration has to be disabled in order to be able to setup <Advance Streaming Setting>.

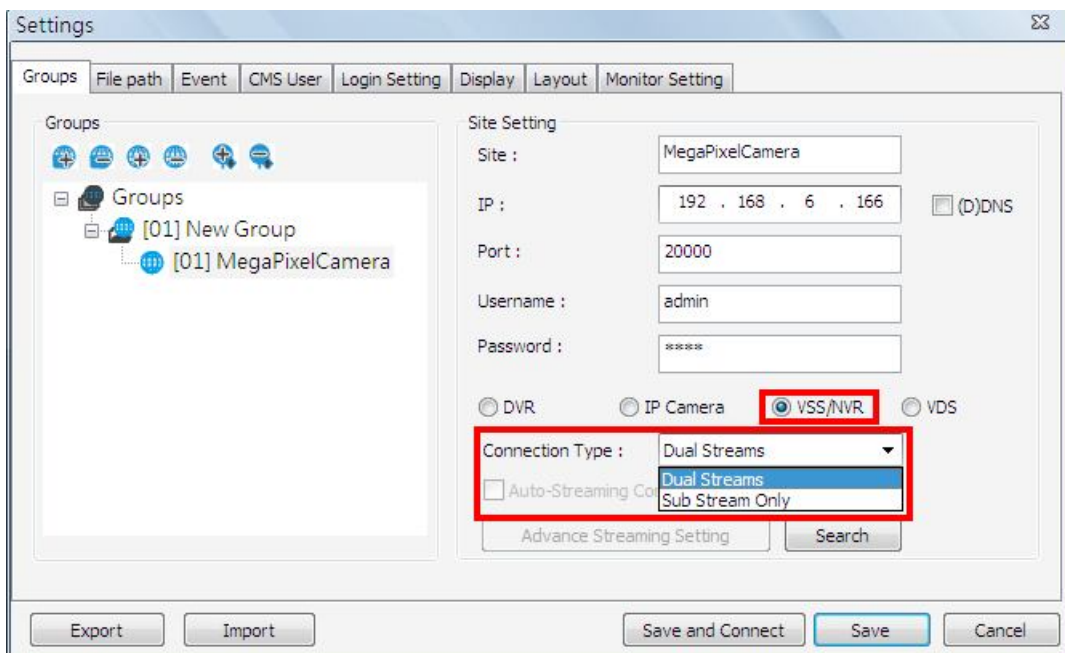
- Step 1.** Check the box in front of <Enable> under Sub Stream section to enable dual streaming. Otherwise, uncheck to disable dual streaming function.
- Step 2.** Select preferred stream type and resolution for both the main stream and the sub stream.
- Step 3.** Check the box in front of <Record> under Main Stream section **OR** Sub Stream section to select the recording format at CMS site.
- Step 4.** Click on <OK> to confirm and save the setting. A popup window will be displayed to notify users that the setting is changed. Clicking on <Apply> will allow users to check the effect of the setting via the live display window immediately.



NOTE: If sub stream is not enabled, users will not be able to change dual streaming options during Live display at the main window. It will be preset as <Display: Main Stream>.

5.2.5 Setup the VSS/NVR Site Manually

When users are adding a VSS/NVR site, select <VSS/NVR> as marked below. Then enter IP address, port, username, and password of the VSS/NVR site.



The next step is to setup connection type. Users can select <Dual Streams> or <Sub Stream Only>. The recording/displaying scenarios are as follows.

When <Dual Streams> is selected:

1. **VSS**: The recording/displaying streams will follow rules of dual streaming option selected with predefined main/sub streams at VSS sites.
2. **NVR**: The recording streams will be whatever streams come in. The displaying streams will follow rules of dual streaming option selected.

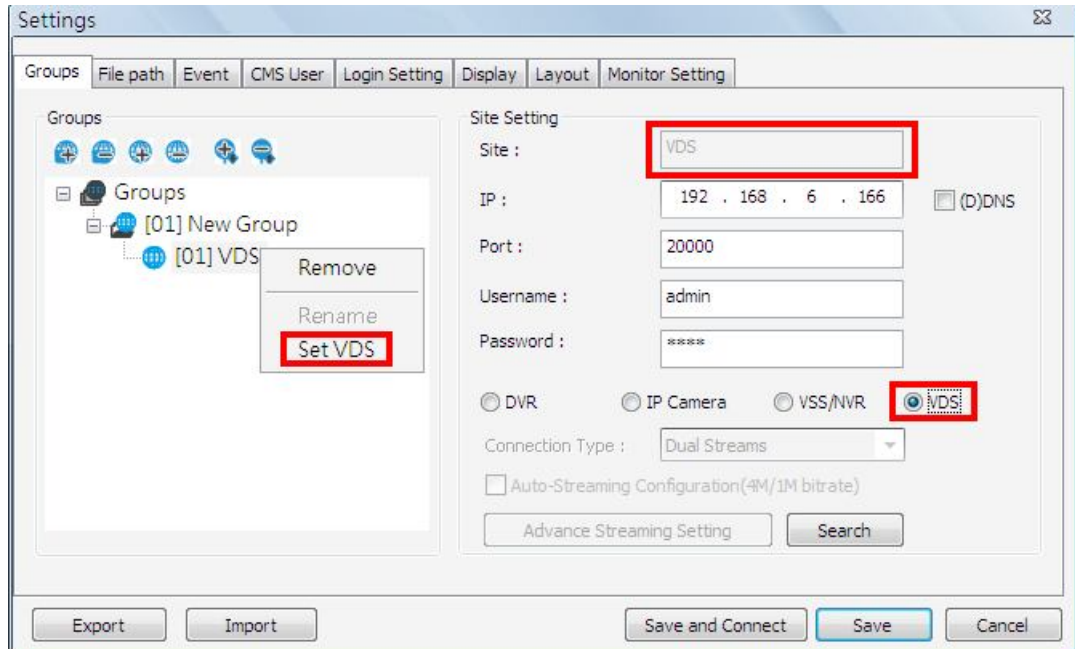
When <Sub Stream Only> is selected:

For both VSS and NVR sites, both recording and displaying streams will be the sub stream. The dual streaming options will not be available.

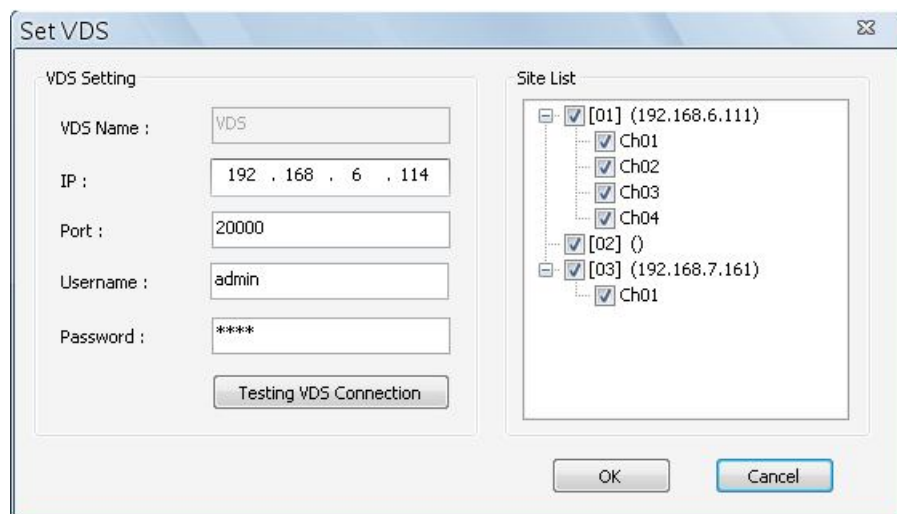
Click <Save> to complete the setting.


5.2.6 Setup the VDS Site Manually


If users want to add a VDS site, it has to be the only site in the group. Select <VDS> as circled below. The site name will be automatically changed to “VDS” and it cannot be renamed.



A setup window will be popped up as below. Input the IP, port, username, and password of VDS. Then click on <Testing VDS Connection> to test if the connection to VDS is successful. The testing result will be displayed on the right. Note that “()” next to site 2 of VDS means site 2 is not connected by VDS. Users can check or uncheck in front of the sites to select whether to display their videos. Click <OK> to confirm and save the setting.

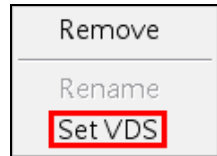


 **NOTE:** If IP address of CMS is not added to the White List of VDS, a message “Not In White List!” will be popped up.

 **NOTE:** If IP address of CMS is added to the Black List of VDS, a message “In Black List!” will be popped up.

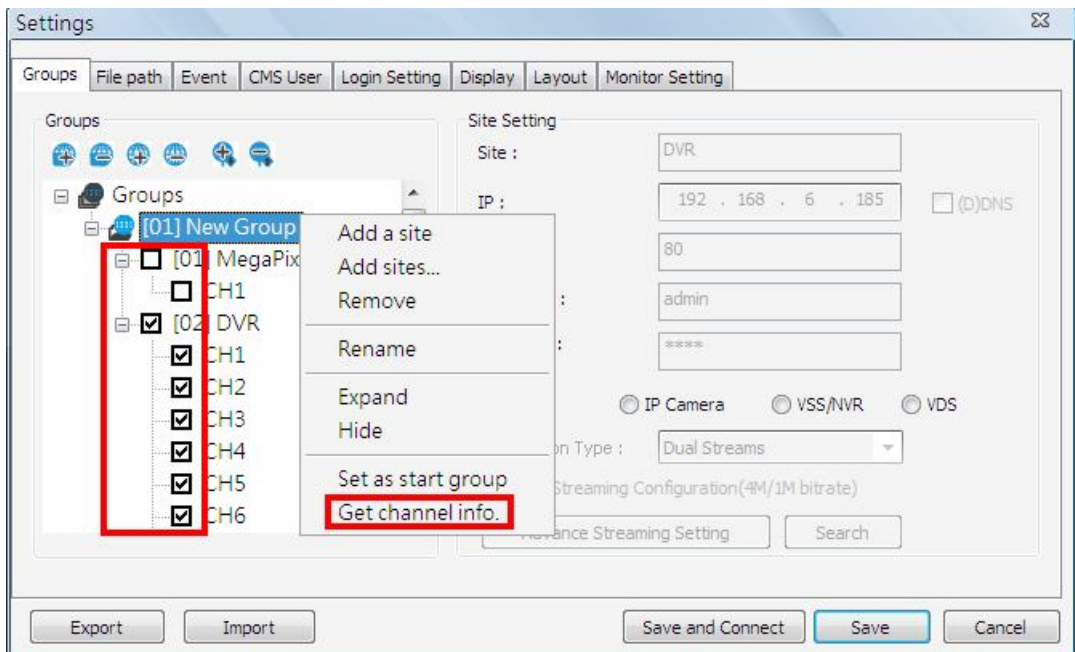
For further details of VDS settings, please refer to User's Manual of VDS.


When users wish to edit the settings of VDS site, select <VDS> again or right click on the VDS site and select <Set VDS> to pop up the Set VDS window.



5.2.7 Get Channel Info.

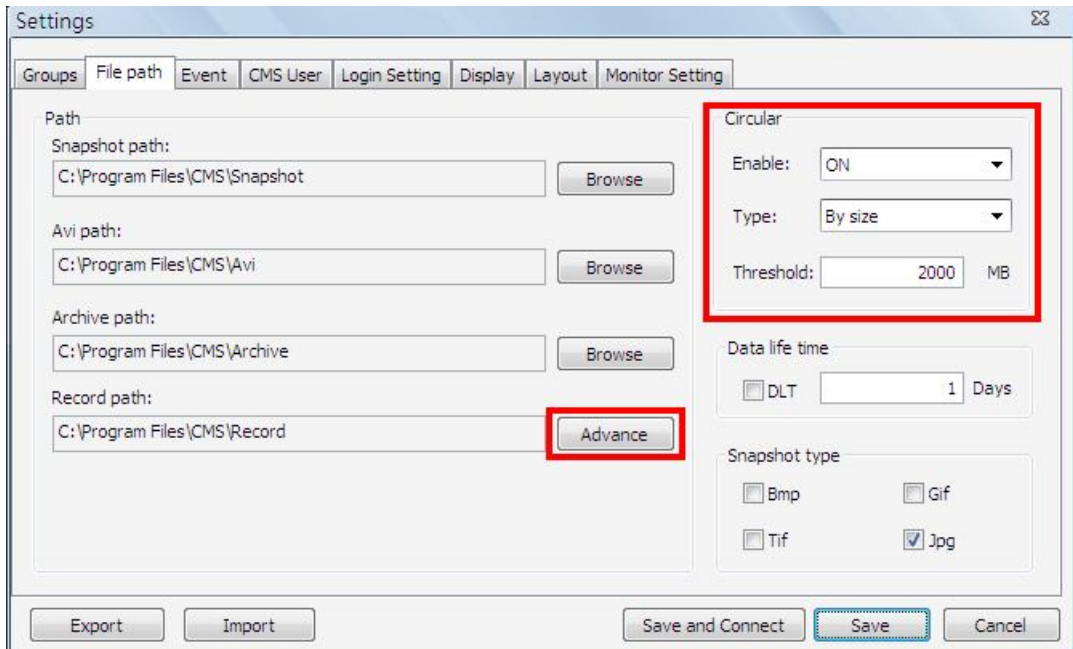
After site setting is completed, right click the mouse on the group and select <Get channel info.>. CMS will retrieve number of channels of all added sites, and users can select displaying channels by checking the box in front of them. The unchecked channels will not be displayed in Live monitoring window and they will be grey out in the site tree.



 **NOTE:** The number of displaying channels is limited to 64 channels, no matter how many sites are added.

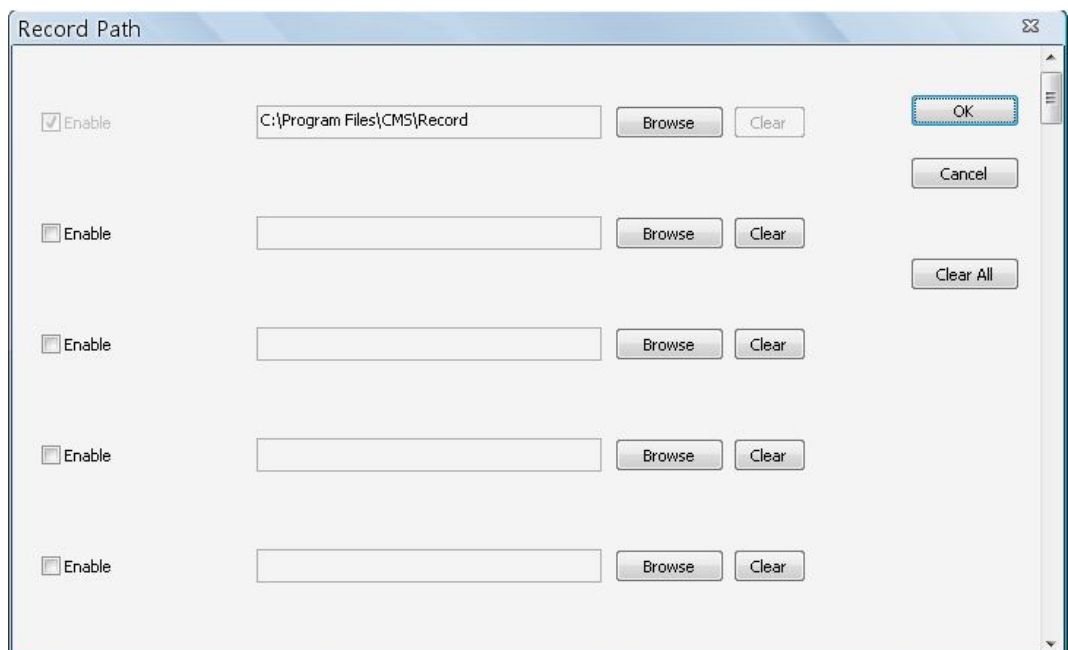
5.3 Setup File Path

The File Path menu defines stored destination for snapshot files, AVI files, archive files, recorded videos and alert log files. It is recommended to use the default folders.



Record Path

The recorded videos can be stored in more than one folder. Click on <Advance> and the following window will be shown.



The number of selectable folders equals to the number of HDDs the PC connects to, excluding HDDs with capacity less than 2GB. Check the "Enable" box and click <Browse> to set more destination folders. Each folder should be from different HDD or an error message will be displayed. Note that if a HDD with less than 2GB capacity is selected, an error message will be shown. Click on <Clear All> will delete all folders except the first preset folder.

In each folder, subfolders will automatically be created with folder name "RecordFolder*****", which ***** represents an 8-digit serial number. Each subfolder can store up to 500 videos. Once a subfolder is full, a new subfolder with a subsequent number will be created and new files will be stored to the new subfolder.

Circular Function

The <Circular> function is used to adjust the HDD space usage of CMS. For example, when the threshold is set to 2GB, and there are 20GB free disk space remaining in the HDD, CMS can only access the HDD no more than 18GB. When the free disk size is smaller than threshold:

1. If the circulation of files is performed at first time, CMS will start to overwrite the earliest recorded data. Next time when CMS starts up, the circulation of files will continue from where it was up to.
2. If the destination folders are reset, new folders will be created to store new files. The old files will be deleted and rewritten with new files.

Record Videos from IP Cameras to Remote Network Disks

When videos from IP Cameras will be recorded to a remote network disk, the DRV file is going to be stored under a temporary folder "\CMS\TEMP_REC\" if the file size is less than 100MB. Once the file size reached 100MB, the file will automatically be transfer to the designated remote network disk.

If the recording is interrupted (either connection reset, disconnected, stops recording, etc), a progress bar will be shown to inform users that the DRV file is being transfer to the designated remote network disk.



NOTE: For CMS servers 2~4, the temporary folders will be named as TEMP_REC2, TEMP_REC3, and TEMP_REC4.

Data Life Time

If users checked the box in front of "DLT" to enable Data Life Time function, the duration in days has also to be defined. When Data Life Time function is enabled, CMS will check the file edit time of the recorded video files in all "Record Path" and any video files exceed the defined duration will automatically be permanently deleted.

Snapshot Type

CMS has a snapshot function, and the file type for snapshot can be defined here. Note that if more than one type are selected, take 2 types for example, then each snapshot is saved to 2 types of files. They are the same image, but in different formats. For instance, if Bmp & Tif are selected and the snapshot is taken, two types of image files of the same snapshot image will be created.

5.4 Alert Events

The alert function enables the connected DVR(s) to send alert signals to CMS. This section describes how the alert function works.

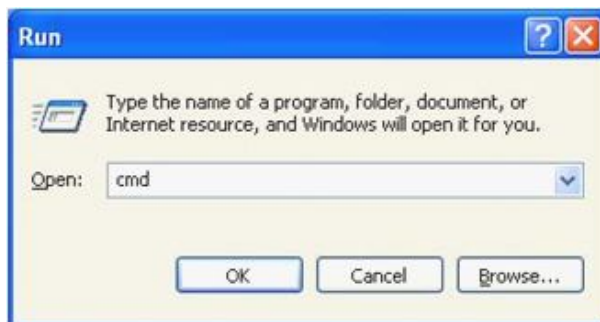
Setting up the alert function

Step 1. Find the IP address of the local computer.

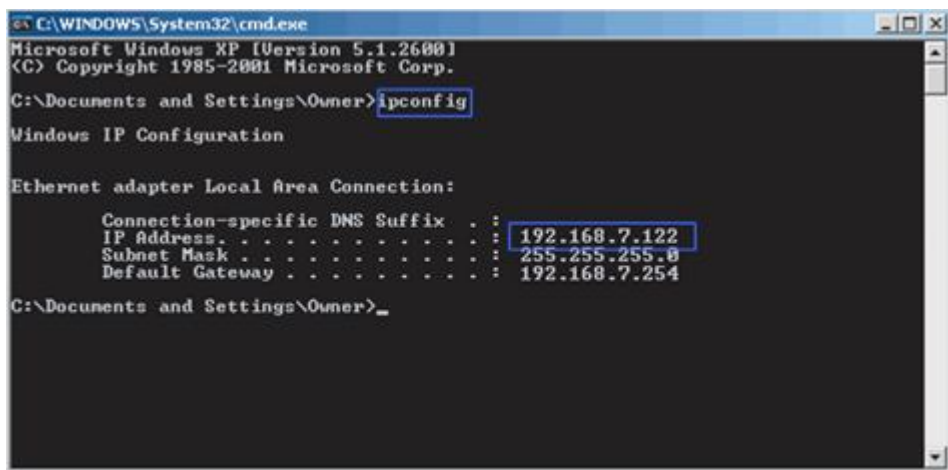
Go to **Start** menu, select **Run**.



Type in **cmd** and click OK.




Type in **ipconfig** to get the IP Address of the local computer. Write down the IP address on a piece of paper for later use.



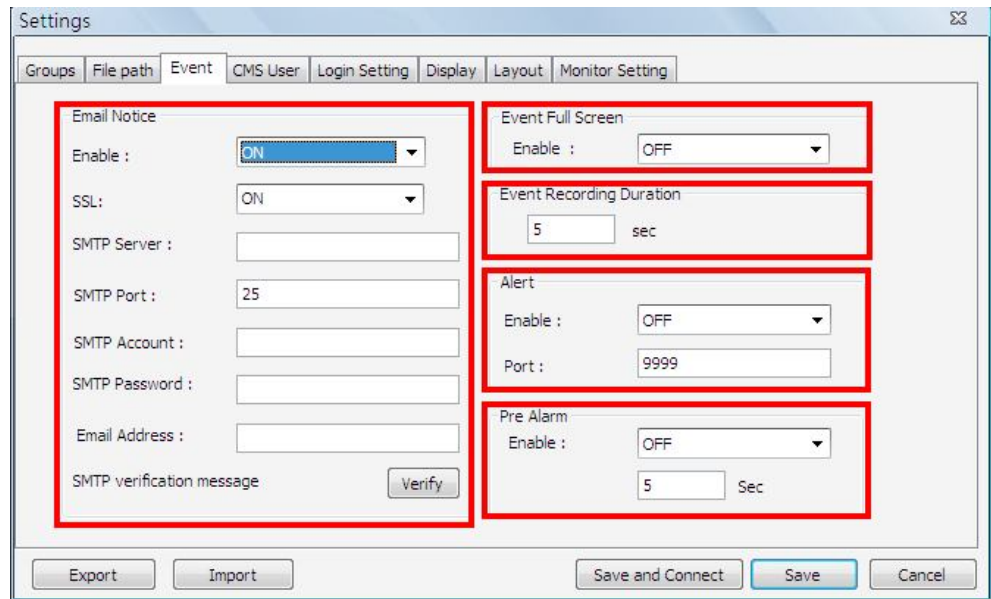
Step 2. Setup the <Alert Notification Setup> on the connected DVR(s). The <Alert Notification Setup> allows users to send alert notifications to CMS program which had been installed to the computer.

Alert Notification Setup	
Alert Configuration Set	1
Alert Notification	OFF
Alert IP	192.168.7.122
Alert Port	9999
Alive Interval	120 Sec

- Alert Configuration Set
<Alert Configuration Set> provides 3 combinations of Alert Notification, IP, and Port. Users can match the connected DVR to at most 3 different CMS servers.
 - Alert Notification
4 options are included in this item; <OFF>, <Event>, <Alive>, and <Both>.
 - <**OFF**>: The Alert Notification is turned off.
 - <**Event**>: When the alarm is triggered, the DVR will send an alert message to CMS.
 - <**Alive**>: The DVR will send an alive message to CMS every *N* second just to show that the connection between the DVR and CMS is in effect. The time interval *N* can be adjusted in <Alive Interval>.
 - <**Both**>: This enables the DVR to send both Event and Alive alert messages to CMS.
 - Alert IP
The Alert IP must match the IP address of the local computer. In this example, the IP address of the local computer is 192.168.7.122.
 - Alert Port
The Alert Port is the port used for sending and receiving alert signals. Choose any port that is not restricted by the network. The ports for both connected DVR and CMS Alert **must be the same**. In this example, the port is set to 9999.
-  **NOTE:** If 2 configuration sets are corresponding to 2 different CMS servers, each CMS server must have its own unique port number.
- Alive Interval
Time interval (1 to 255 sec) between each alive message can be set here.

Step 3. Setup the Alert of CMS.

Click on the <Setting> icon and go to Event tab to setup the port in the “Alert” section. Note the port must match the DVR’s setting. And select <ON> to enable the alert function.



In addition, users can send alert notice to a specific email via a SMTP server by selecting <ON> next to <Enable> in “Email Notice” section. If the email server requires SSL, select <ON> next to <SSL>. Then enter all required SMTP information. If the format of the email address is entered incorrectly, an alert message will be shown on the screen. After SMTP information is filled in, click on <Verify> to confirm if the input data are correct. The message shown next to <Verify> will indicate if SMTP setup is successful.



NOTE: CMS will also send emails when connections to DVRs are lost or when errors occurred in HDDs.

In the “Event Full Screen” section, users can choose whether to display full screen of the alerted channel. Select <ON> to activate this function, or <OFF> to deactivate it.

The “Event Recording Duration” section is for users to define recording duration of event videos, when schedule is set and/or when motion recording is enabled.

In the “Pre Alarm” section, users can setup pre alarm video duration to be a part of event videos. Note that normal video recording has to be enabled in order to provide video data to the matching event video.



NOTE: If users reconnect or disconnect the sites, the list of the event full screen will be cleared.



NOTE: Once the list of the event full screen finished playing, the window will return to former viewing status.

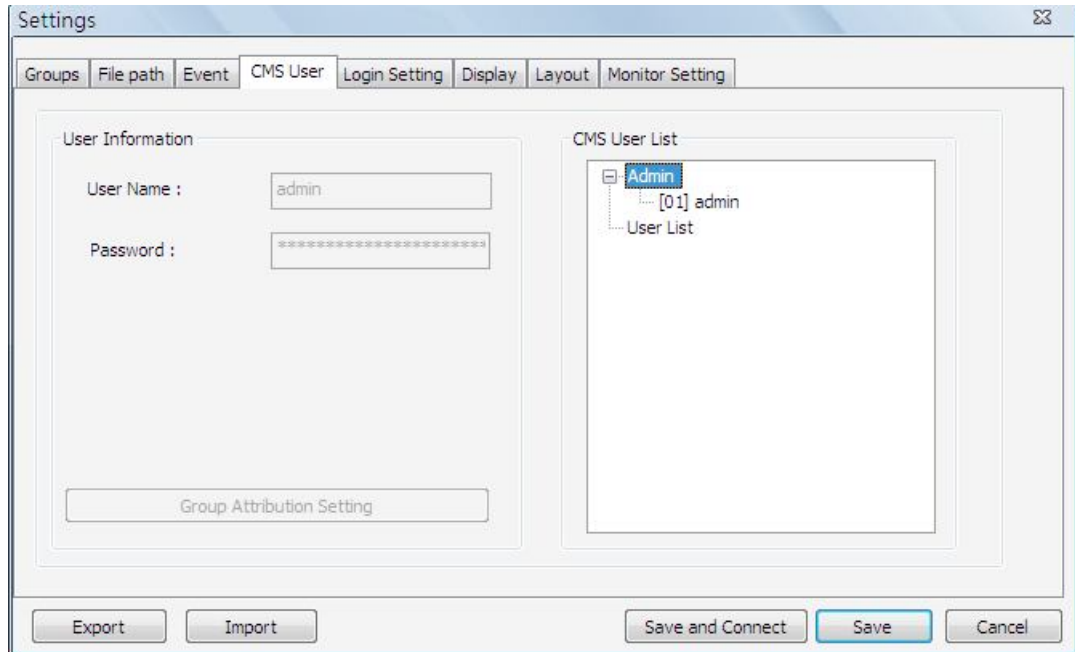
Step 4. Alert Action


The connected DVR sends 4 types of alert message (State) to CMS: Alive, Alarm, Motion, and Video Loss. Alive messages are sent when the notification option is set to <Alive> or <Both> in the connected DVR. Alarm, Motion, and Video Loss messages are sent when the notification option is set to <Event> or <Both> in the connected DVR.

For details about alert information list, refer to section **Alert Log**.

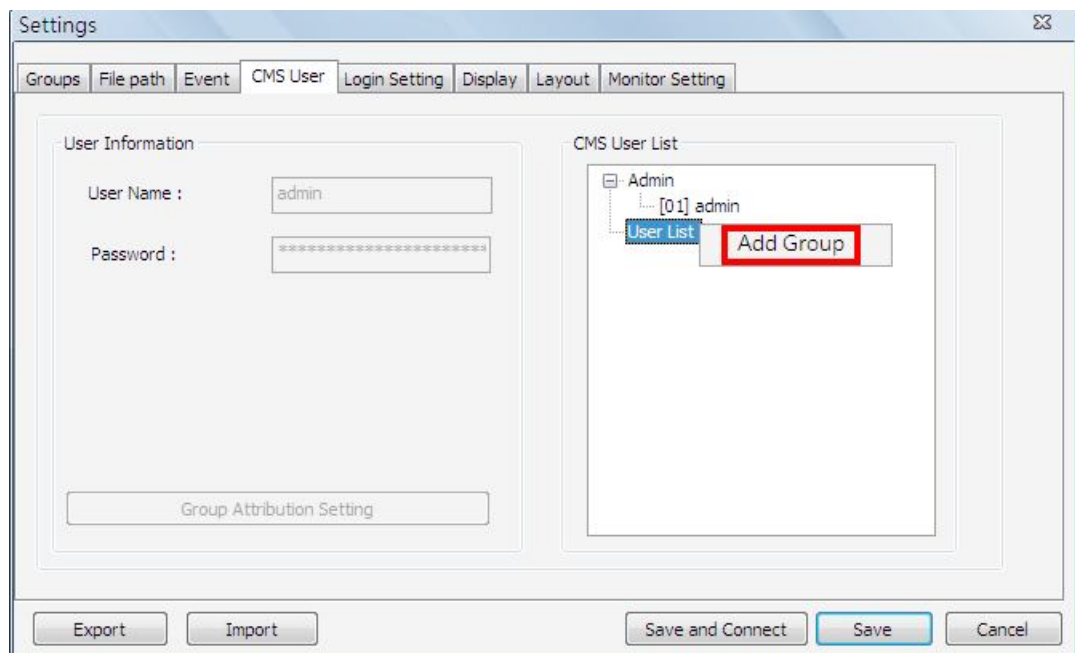
5.5 CMS User

The <CMS User> is for the management of user accounts in CMS. Users can set users' account information and privileges. The default username and password are: **admin** and **1234**.

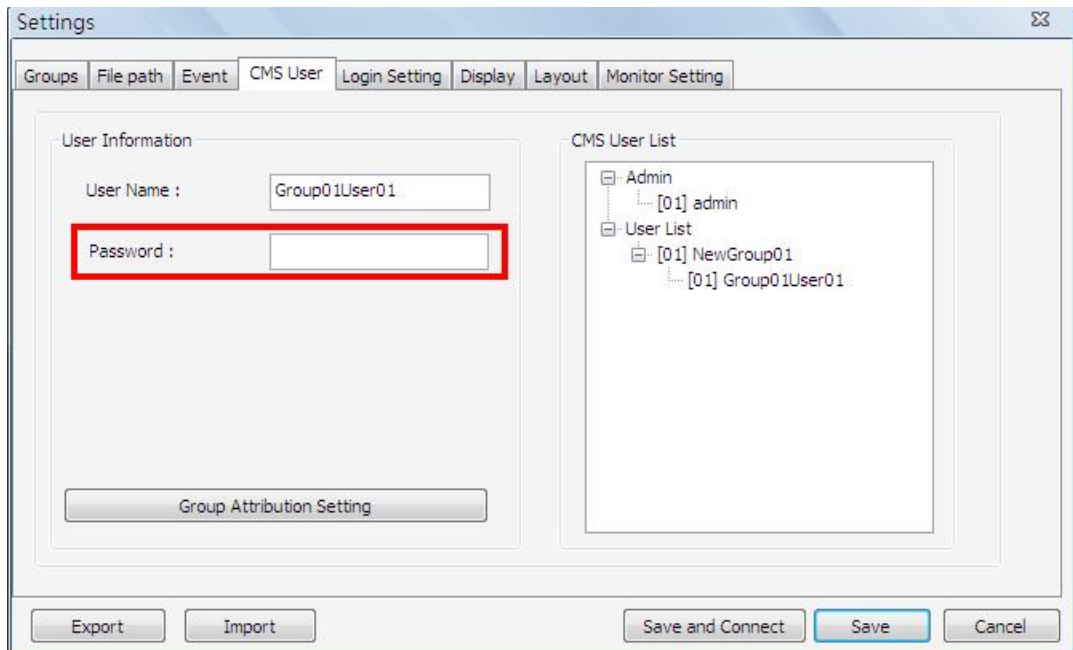


 **NOTE:** Only users under the <Admin> group have the privilege to change the settings in <CMS User>.

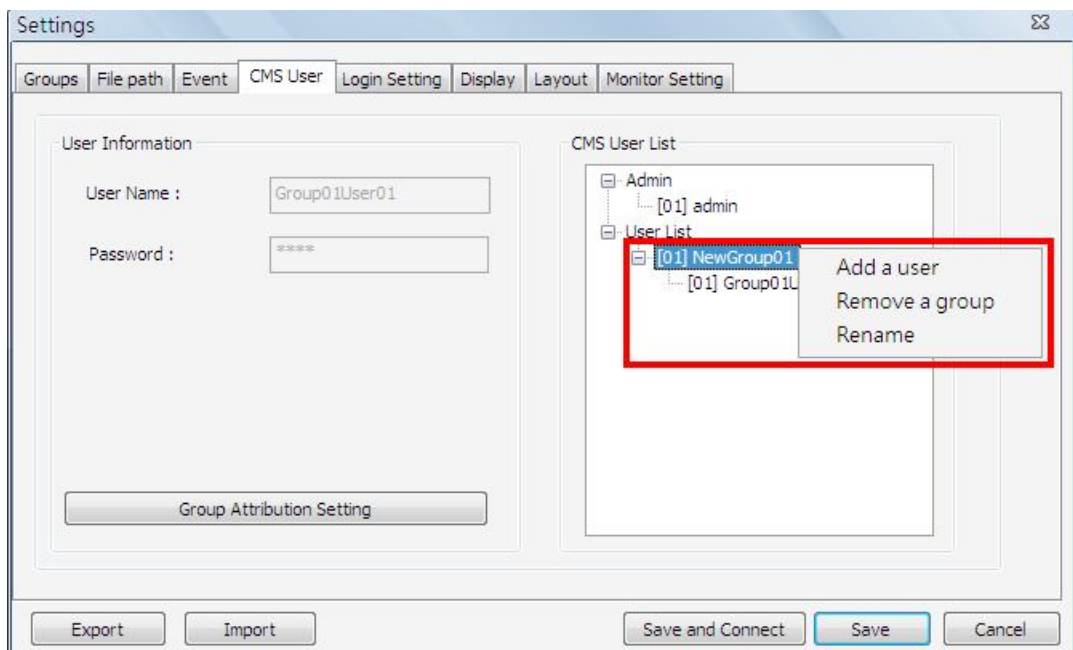
To add a user, users must first add a group. Right click on <User List> and select <Add Group> from the pull-down menu.



After the group is added, the first user account of the group will also be created. Users **MUST** set the password for this account before users can go to the next step.

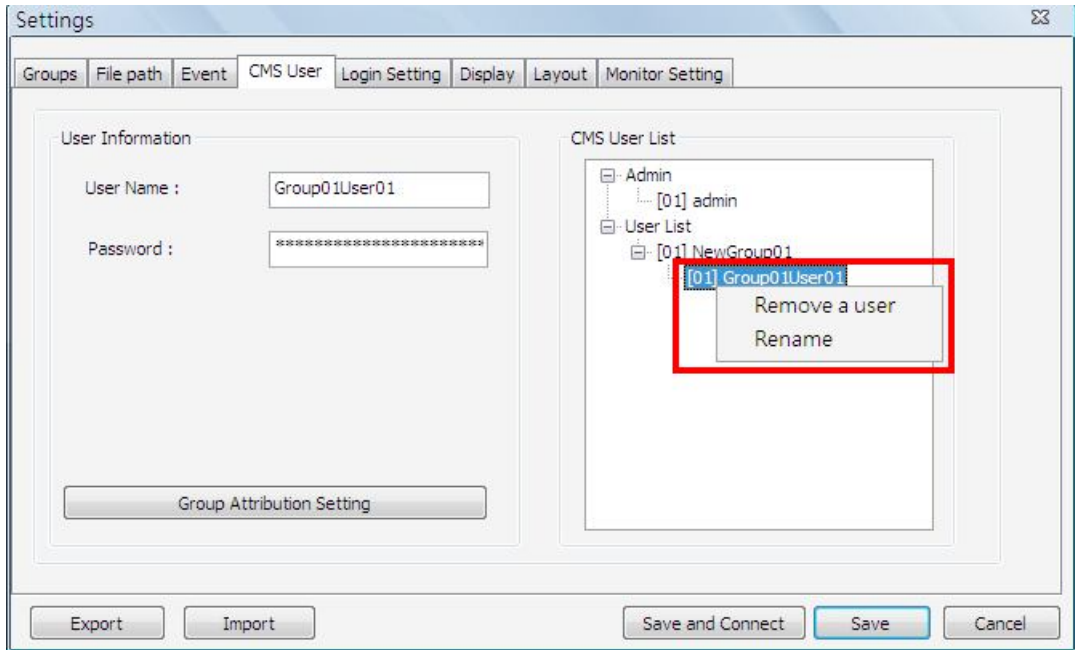


Right click on <NewGroup01> to add a user, remove a group, or rename the group.

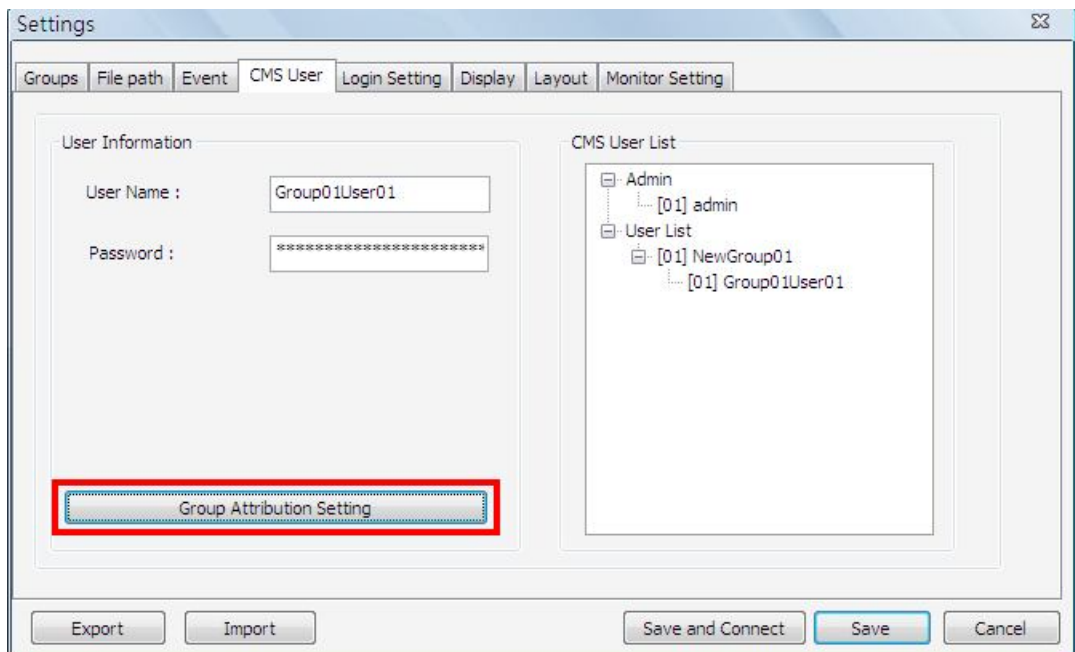


NOTE: The account currently used to login cannot be deleted. An error message will be displayed.

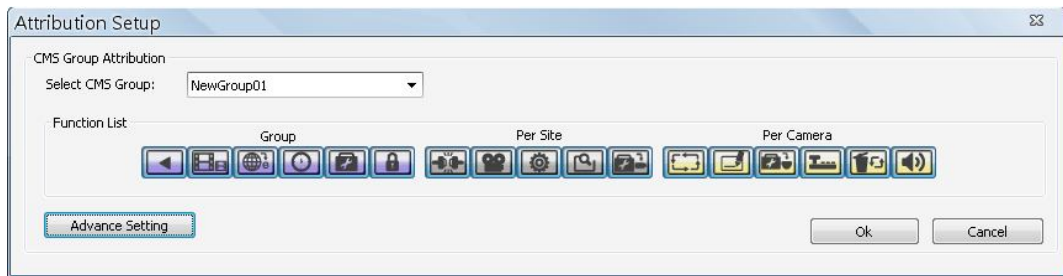
Right Click on <Group01User01> to remove a user or rename username.



The <Group Attribution Setting> is for setting up the privileges of the selected user. Users can give each user account different privileges by configuring this function.

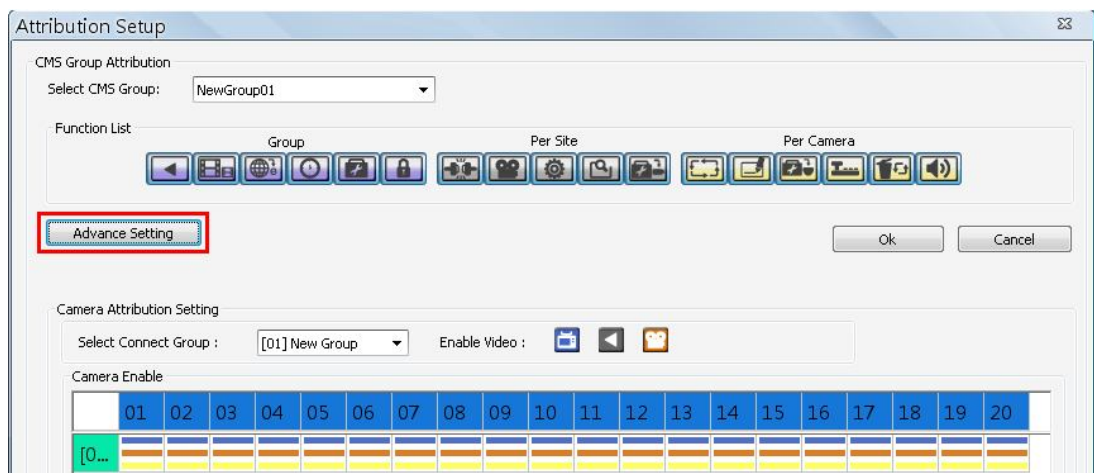



After entering the <Group Attribution Setting>, the following diagram will be shown. Select a user account in <Select CMS Group>, and users can click on the buttons to enable or disable its privileges.




- ◆ Purple buttons are CMS menu controls including: Playback, Player, Emap, Schedule Record, Setting, and Lock.
- ◆ Gray buttons are site controls including: ReConnect\DisConnect, Record, Configuration, Event, and Camera Setting.
- ◆ Yellow buttons are camera controls including: Sequence, Rename, Dome Setting, Dome Control, Remove, and Sound Notification.

Each camera can be set to enable/disable Live, Play, or Record function individually after clicked on <Advance Setting>. Refer to the following figure for details.



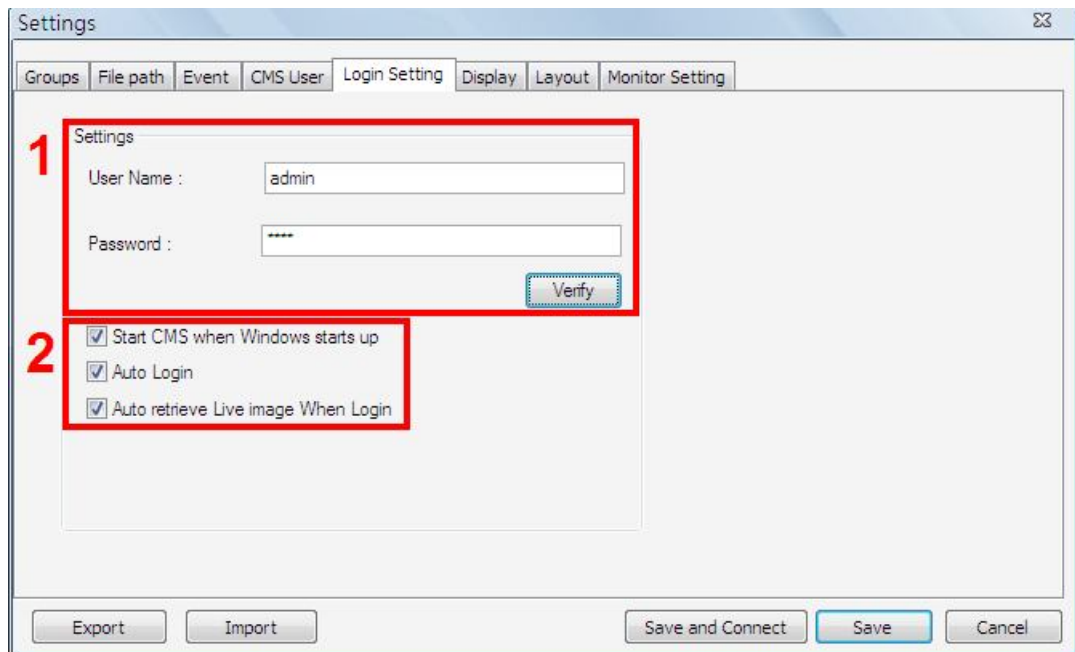
 **NOTE:** The preset is 20 cameras for all sites. The real number of cameras per each site will not be detected.

 **NOTE:** These settings will affect the whole operation of CMS. Please be very careful while configuring the settings.

Next time when users login, users can choose to enter CMS either as the admin or users.

5.6 Login Setting

Users can edit options regarding login settings in this section. Administrator username and password is required to edit the setting.



As shown in the above picture, the box marked “1” is where users can enter a set of username and password to be used for auto login. The “Verify” button can help users to check if username and password are correct. The following messages boxes will pop up to inform the result of verification.

The box marked “2” contains the options regarding automatic actions. Clicking the first option “Start CMS when Windows starts up” to request the computer to open CMS in the mean time when the system startup. Note that the other two options “Auto Login” and “Auto retrieve Live image When Login” will be checked at the same time. Nonetheless, it is still users’ choice to determine the favorite setting.

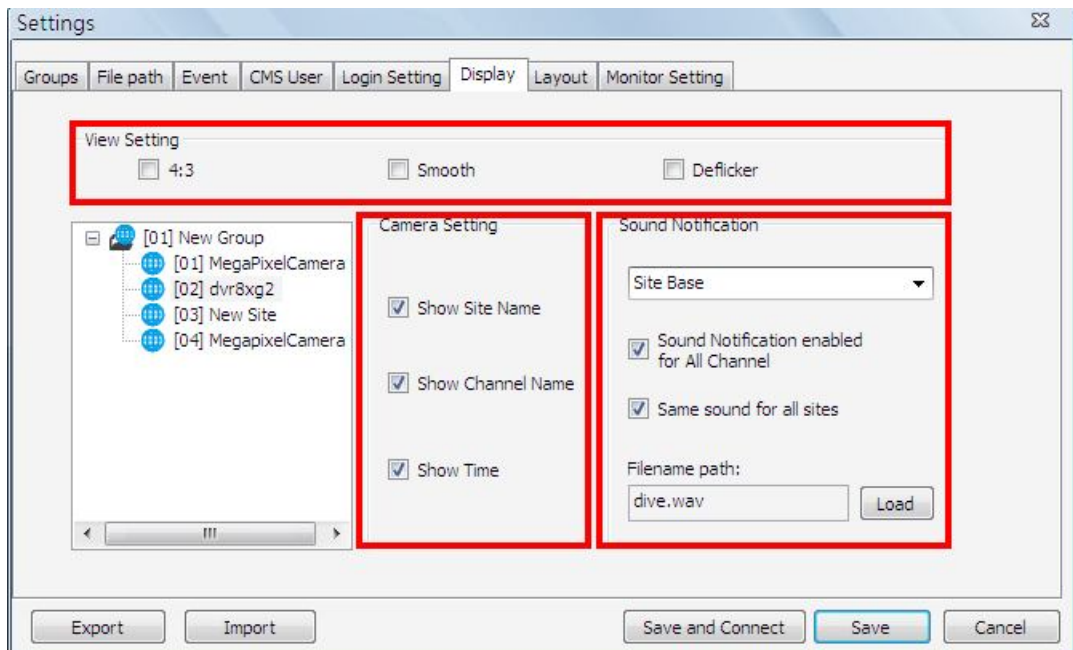
A message box will be shown when CMS is auto opening after the system started up. Click “Cancel” can terminate opening CMS.

Click the second option "Auto Login" to automatically login when CMS starts. Remember to enter and verify username and password in box 1.

Click the third option "Auto retrieve Live image When Login" to automatically connect to the sites in the start group when CMS starts. Detection of internet connection will be performed before hand and a pop-up message will be displayed. Click <Stop> to terminate the detection and AutoLive will not be initiated.

5.7 Display

Under <Display> tab, users can configure image display, camera info display, and sound notification settings.



View Setting

Check the box in front of <4:3> to change the image aspect to 4:3 ratio. Smooth function helps to give the displaying camera image more sharpness. Enable deflicker function to avoid gleaming of images.

Camera Setting

Under this part, users can select whether to show site name, channel name, and/or time on the displaying camera image. Check the boxes and the selected information will be shown on the top-left corner of the camera image.

Sound Notification

Camera sound notification enables a preset sound file to be played when an alert event occurs. Users can setup sound notification options for the sites listed in the site tree on the left. First select a site in the site tree, and choose <Site Base> or <Channel Base> from the pull-down menu.

Select <Site Base> from the menu and check the option <Sound Notification enabled for All Channel> to switch on sound notification for all channels. All sites having the option <Same sound for all sites> checked will play the same sound file, which will be the latest selected one. Click on <Load> to select a sound file.



NOTE: On the top-left of the camera grids, word string “[SN]” will be shown to indicate sound notification is switched on for the channels.

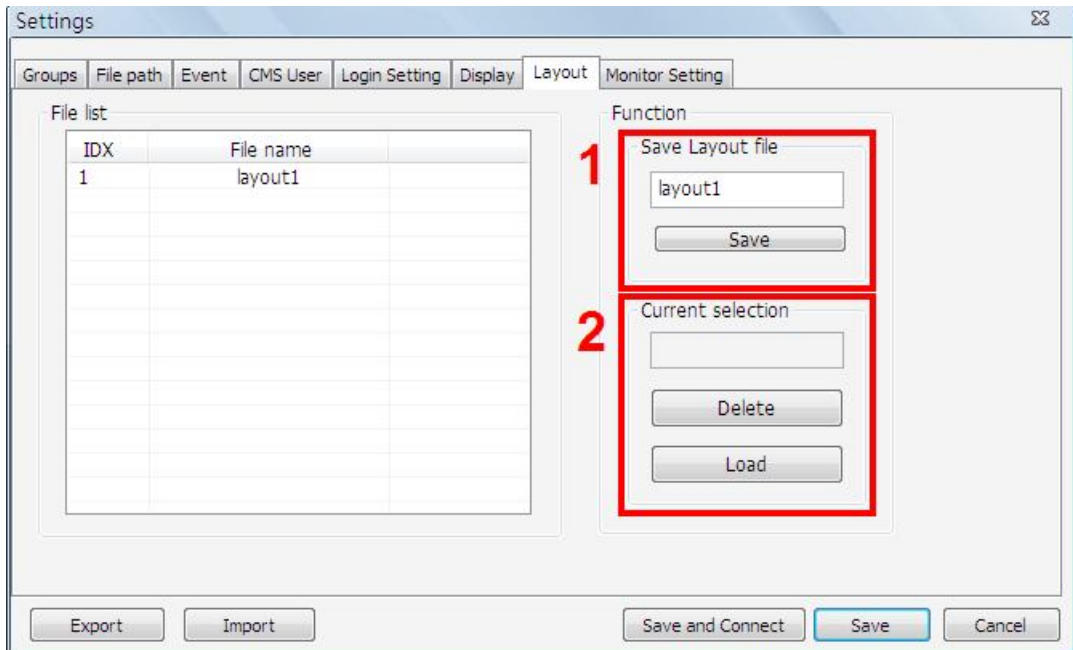
Select <Channel Base> from the menu if users wish to switch on sound notification only for specific channels. Click <Load> to select a sound file. Next users need to go to the Device Setting window to enable/disable sound notification for the selected channels. Refer to section ***Device Setting*** for more details.



NOTE: The sound files selected will be saved in CMS folder \Setting\SoundNotification\.

5.8 Layout

The Layout tab helps users in saving preferred layout format and retrieving the previously saved layout format.

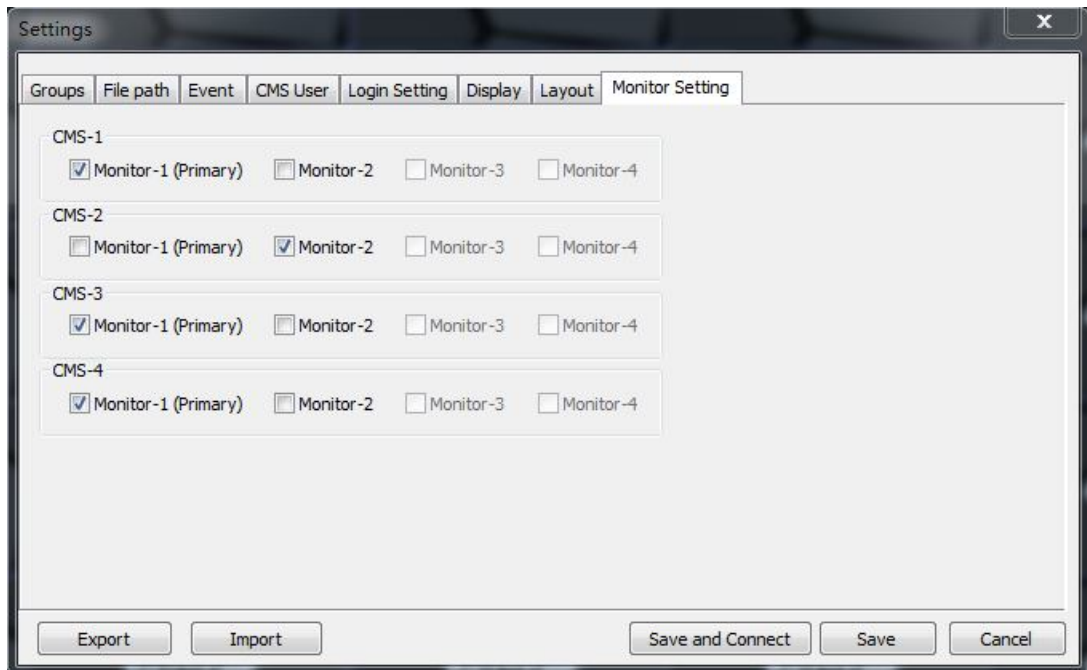


When users wish to save the current viewing display layout, first type in a file name and click on <Save> as shown in box 1.

In box 2, users can load or delete previously saved layout file. First select a file in the file list on the left, and click on <Delete> / <Load> to delete / load the selected layout file.

5.9 Monitor Setting

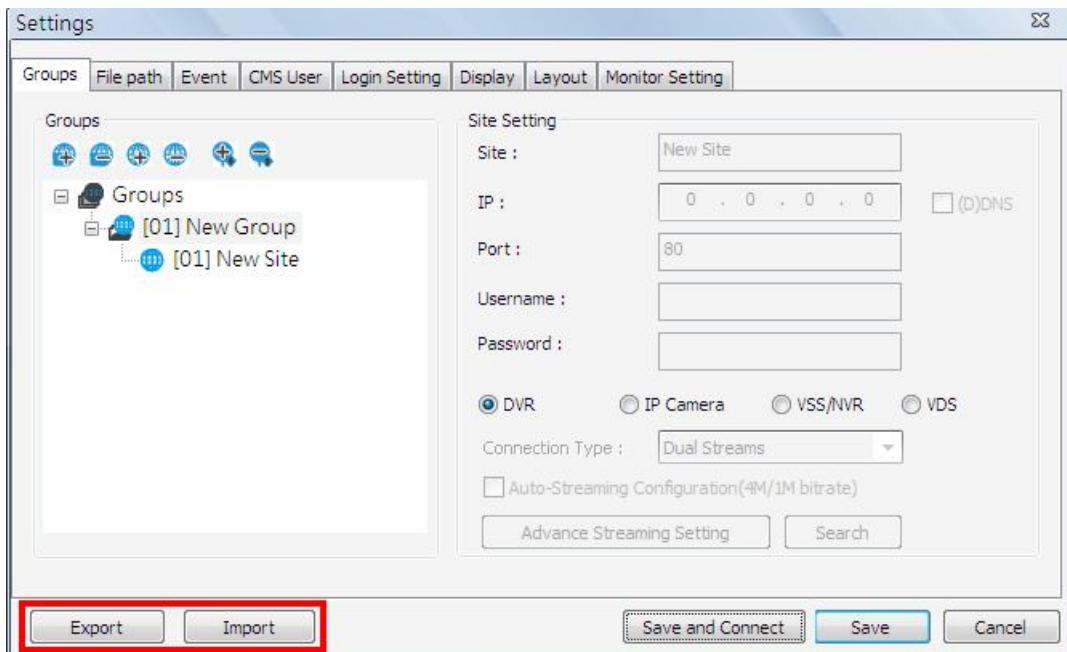
When two or more monitors are connected, users can decide which monitor to show which CMS server under the Monitor Setting tab.



As shown in the above picture, the PC is connected to two monitors. Therefore, users can select displaying monitors for each CMS server by checking the box in front of the preferred monitor.


5.10 Export or Import Settings

The export / import function provides users the option to backup and restore the settings as needed.



To export the configuration, click on <Export> and select a directory to save the configuration file.

To import a previously saved configuration, click on <Import> and find the configuration file that is going to be restored.

 **NOTE:** After a setting is imported and saved, the imported setting will be loaded immediately and CMS will reconnect to the sites in the live group.

6. Operation of CMS

Users can open up to 4 CMS instances simultaneously. If the PC is connected to more than one monitor, for example 4, then the PC can open up to 4 CMS instances at the same time on the 4 different monitors respectively. However the processor and RAM of the PC will limit the number of CMS instances as well. Note that all monitors have to be set to the same displaying resolution.



NOTE: Resolution of the monitors **MUST** be set to 1280*768 or above.

CMS multiple instances limitation according to the PC:

Dual Core or Hyper-Threading	RAM \geq 512MB	Open 1 CMS
	RAM \geq 1GB	Open up to 2 CMS
	RAM \geq 1.5GB	Open up to 3 CMS
	RAM \geq 2GB	Open up to 4 CMS
Single Core and Frequency > 2.0GHz	RAM \geq 512MB	Open 1 CMS
	RAM \geq 1GB	Open up to 2 CMS
	RAM \geq 1.5GB	Open up to 3 CMS
	RAM \geq 2GB	Open up to 4 CMS
Single Core and Frequency \leq 2.0GHz	RAM \geq 512MB	Open 1 CMS



NOTE: It is recommended to keep the connected channels within 512 channels if multiple CMS instances are opened.

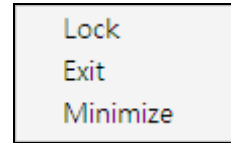
Network Connection Detection

CMS will auto detect network connection status. If CMS lost network connection, an error message will be displayed. Click on <Stop> to cancel the network detection function.

When CMS detected the restore of network connection, the error message will disappear. Click on <Stop> to cancel this function.

6.1 Power Button

Click on the Power button and the pull-down menu are <Lock>, <Exit> and <Minimize>. Users can lock CMS system, exit CMS system, or minimize CMS main window.



Lock CMS System

The Lock function helps users to protect CMS from unauthorized use when there is need to be away from the computer for a while. Closing CMS is not allowed and other functionality will be limited as described below.

Click on the Power button and select <Lock>, then a confirmation message will be displayed. Click “Yes” to confirm locking up CMS system.

When CMS is locked, windows control will be as the following two types:

	Type	Example	Windows Control
1	Setting	Settings, Schedule Record, Emap, Dome Control, etc	The windows will be closed without saving changes. It is recommended to save settings before locking up CMS.
2	Monitoring	Archive, Alert, etc.	It is not allowed to close the window but just minimize it.



NOTE: If CMS is forced to be closed while it's locked, CMS system will still be locked when it is started up again.

Unlock CMS System

Click on the Power button and select <Unlock>, then a login window will be displayed for users to enter username and password to unlock CMS.

To unlock, the following are two scenarios:

	Login Account	Unlock Account	Note
1	User	- Login User - Any Administrator	The access authority will still be User's limit.
2	Administrator	- Login Administrator	If password is changed, use new password to unlock.



NOTE: If the password of the current login account is changed, use the new password to unlock.

Exit CMS System

Click on the Power button and select <Exit> to close CMS.

Minimize CMS Main Window

Click on the Power button and select <Minimize> to minimize CMS main window. CMS can be minimized to the tray icon or to the taskbar button. Refer to section **PC System Info**, for more information.

6.2 Display Mode

The available display modes are single channel, 4-windows, 9-windows, 16-windows, 25-windows, 36-windows, 49-windows, 64-windows, 8-windows, 10-windows and 13-windows. Click on any icon to view the selected display mode. To view in single channel, double click on the channel in the site tree or on the grid.



NOTE: When the display is in single channel and the resolution is set to higher than D1, the ratio of length/width of the displayed image will be fixed.

Displaying Color of Camera Titles

There are three different displaying colors for camera titles Red, White, and Green. The following chart shows the meaning of three different colors.

Red	The connected site is a DVR currently recording.
White	1. The connected site is a DVR NOT recording. 2. The connected site is an IP Camera
Green	CMS is remotely playing back videos from connected sites.

In addition, icons Sequence, Full screen, Last mode, Page up and Page down give users variable options in monitor surveillance.

Sequence

Click on the <Sequence> icon to start sequence display of cameras added in the sequence list. The initial display mode will be what was set in sequence setting (1*1, 2*2, 3*3, 4*4 or 5*5). Refer to section **Sequence Setting** for details about sequence setups.

After sequence display is started, users can still change the split mode by clicking on the display mode icons for 4-windows, 9-windows, 16-windows or 25-windows. However, the initial split mode set in <Sequence Setting> will remain the same. Note that icons for any other display modes will not be accessible because they are not allowed to be shown in sequence mode.

The following functions are disabled in sequence mode:

1. Right click to see channel menu
2. Zoom In/Out
3. Page up / Page down
4. Drag and drop channels or sites to the display grids
5. Remove any channel grids on the display windows



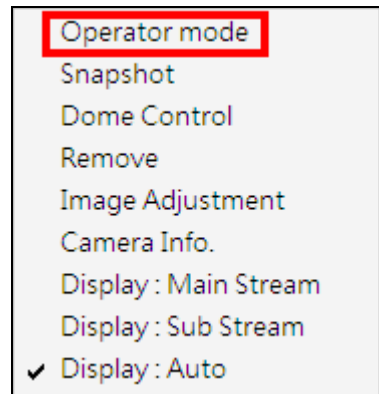
NOTE: If users enabled the <Event Full Screen> function and an event is triggered while running the sequence, CMS will display event full screen. The sequence will not resume until event full screen ends.

Click on the <Sequence> icon again to exit the sequence mode.

Full Screen/ Operator mode

Click on the <Full screen> icon to view the display window in full screen.

To exit from full screen mode, right click and select <Operator mode> in the pull-down menu. Users will be able to return to the operation layout. Note that <Operator mode> will only appear in the pull-down menu under full screen mode.



Alternatively, users can also press ESC key on the keyboard to return to the operation layout.

Last mode

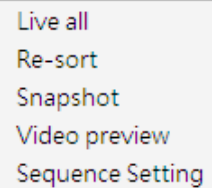
<Last mode> allows users to quick return to last display mode.

Page Up / Page Down

Click on the <Page up> button to display images of previous cameras in the site tree. On the other hand, click on the <Page down> button to display images of next cameras in the site tree.

6.3 View Operator

Click on the <View Operator> icon and the pull-down menu are <Live all>, <Re-sort>, <Snapshot>, <Video preview> and <Sequence Setting>. Details of the menu items are described in the following subsections.



6.3.1 Live All

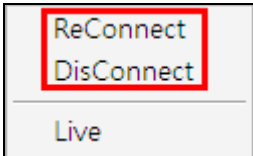
This menu item allows users to connect all sites in current site tree and display their Live monitoring at one click. More details about connection to sites, please refer to the following descriptions.



NOTE: For Live viewing of more than 16 IP devices, users need to lower the camera resolution and change the compression method to MPEG4 or MJPEG.

Reconnect/Disconnect the Sites

If the connection between CMS and any connected site has been interrupted, users can reconnect the site by right clicking on the **Site** in the site tree and select <ReConnect> from the pull-down menu. Users can also disconnect any site by right clicking and selecting <DisConnect> from the pull-down menu.



Select <Live> after right click on a site and CMS will retrieve Live monitoring image(s) of the site.

Auto-Reconnect of Specific Disconnected Sites

CMS will automatically reconnect to specific disconnected sites every 7 minutes. Refer to the following table for all possible cases.

Situation	Auto-Reconnect
Sites that are not connected at the beginning:	Yes
Sites that are disconnected manually	No
Sites that are connected at the beginning but disconnected for some reason later on	Yes

6.3.2 Re-sort

The Re-sort function helps to rearrange display of camera images from all connected sites listed in the site tree. The first channel of the first connected site will be displayed in the first grid and so on from top to the bottom.

There are other ways to change displaying grids for channels / sites. Refer to the following descriptions.

Assign a Channel / Site to Certain Grid(s)

CMS allows users to assign any channel / site in the site tree to any grid of CMS main window. Follow steps below to complete assignment.

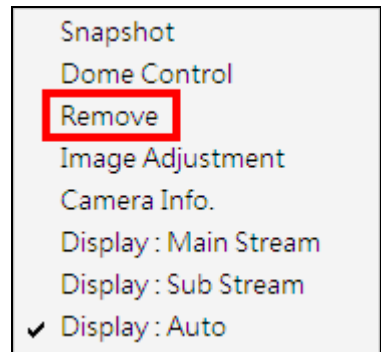
Step 1: Click and hold the channel / site users want.

Step 2: Drag and drop it onto the grid that users want to assign to.

Remove Display Grids

Users can also remove any channel by right clicking on the grid and select <Remove>. Or users can select any grid and press <Delete> key on the keyboard to remove the channel.

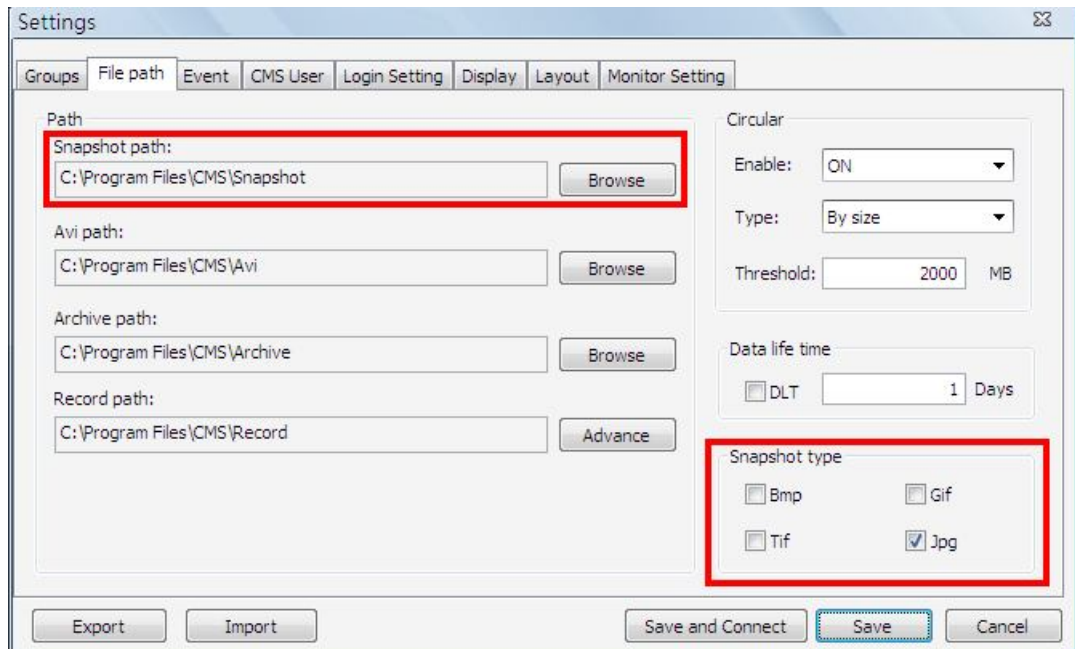
Note that the Re-sort function will restore the removed channels.



NOTE: The functions listed above will not be accessible in sequence mode.

6.3.3 Snapshot

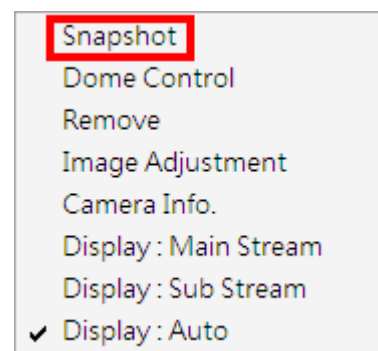
The Snapshot function is a simple screen capture tool. When users click on <Snapshot>, it will capture the screenshot of the window that users are currently viewing. The snapshot files will be saved to the default path “\CMS\Snapshot\” or the folder that users selected in <File Path> setting.



As shown above, the default snapshot type is Jpg. If users have selected more than one file type, users will get more than one files for one snapshot.

There are 2 ways to take the snapshot. One is to click on the <View Operator> icon and select <Snapshot>, then the snapshot window will be displayed. Click on <OK> to save the snapshot.

The other way is to right click on any grid, and select <Snapshot>. The file(s) will be saved without showing the confirming window. Note that it will only capture the image of the selected channel.



6.3.4 Video Preview

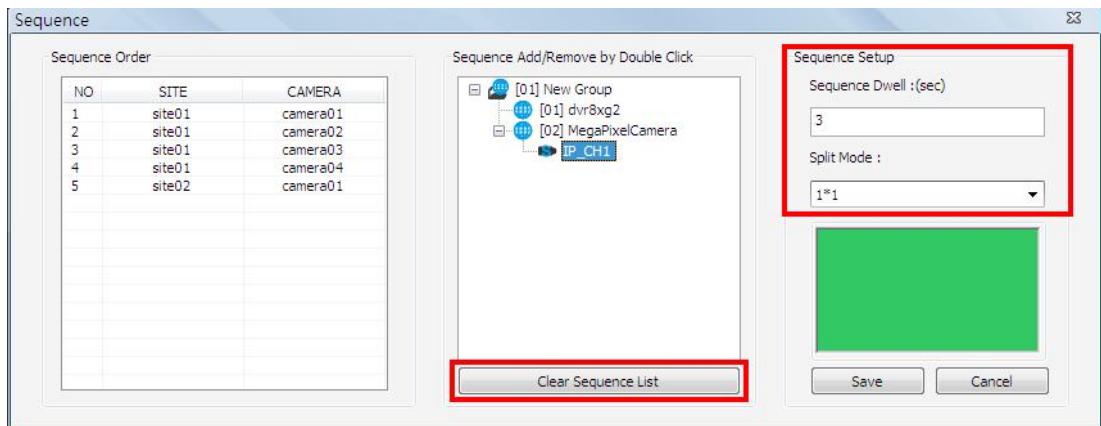
Video preview function allows users to choose showing channels in preferred display mode. Video preview window is as shown below.



First select a preferred display mode shown at the bottom. Then click on <Page up> / <Page down> to choose showing channels. Double click on the chosen showing channels to return to CMS main window. CMS main window will be images of the chosen showing channels in selected display mode.

6.3.5 Sequence Setting

This function is for users to setup the displaying sequence. Before starting sequence display, users need to add channels to the sequence list. Double click on any channel in the site tree to add / remove the channel in the sequence list, shown as below on the left. Note that only channels of the connected sites will be displayed in the site tree. When a channel is added to the sequence, a capital "S" will be shown on the channel's icon.



Under <Sequence Setup> on the right, users can setup the dwell time (1 to 120 seconds) and sequence split mode (1*1, 2*2, 3*3, 4*4 or 5*5). Click on <Save> to save the settings.

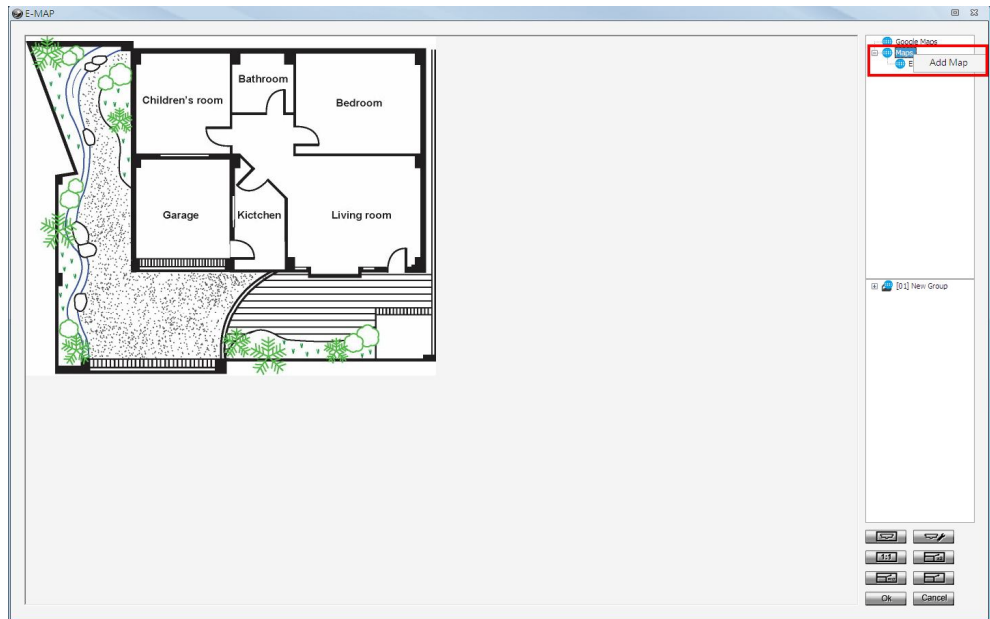
Click on <Clear Sequence List> to empty the sequence list.

6.4 Emap

Emap is a function that allows users to illustrate the positions of cameras on a self-selected image. Click on the <Emap> icon to open the Emap window. Refer to the instruction below to setup the Emap.

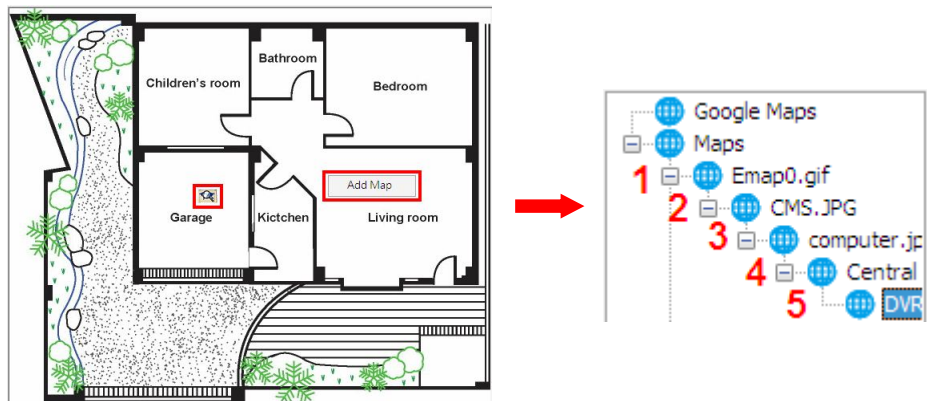
Add / Remove / Rename Maps

Step 1. First right click on “Map” in the map list, as shown below, and select <Add Map> to add a self-selected map. The supported picture formats are Bmp, Jpg and Gif files.

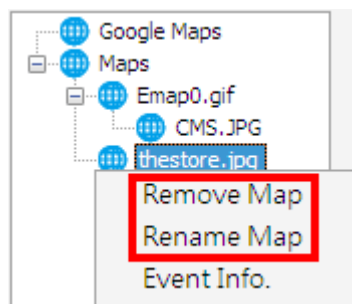


NOTE: The image shown in the window is the default picture. It will only be available when CMS default setting is installed.

Step 2. A new map can also be added within an existing map. Right click on the displaying map and select <Add Map>. The added map will be shown as an icon (as in below picture) at its added position on the original map. Users can add up to five levels of within maps.



Step 3. Right click on a map in the map list to rename or remove it.



NOTE: <Event Info.> will pop-up an event list including events from the cameras linked in the map.

Google Map Function

For users who wish to add maps with geographic location in Google Map, refer to the following steps.



Step A. Double click on the <Google Maps> icon and Google Map will be displayed.

Step B. Type the name of the location and click on <Search>. If Google Map is able to find the target location, it will be shown at the center of Google Map. The display size of Google Map will not be changed.


Step C. Click on the directional icons to move Google Map to any preferred directions. Click on the center icon to return to the last view.

Step D. Click on +/- to magnify/shrink the display size of Google Map. Alternatively, drag the slider bar to select a preferred display size.

Step E. Select preferred type of Google Map. "Hybrid" is the mixture of pure map and Satellite map.

Step F. Right click on a preferred location and select <Add Map> to add a self-selected map.

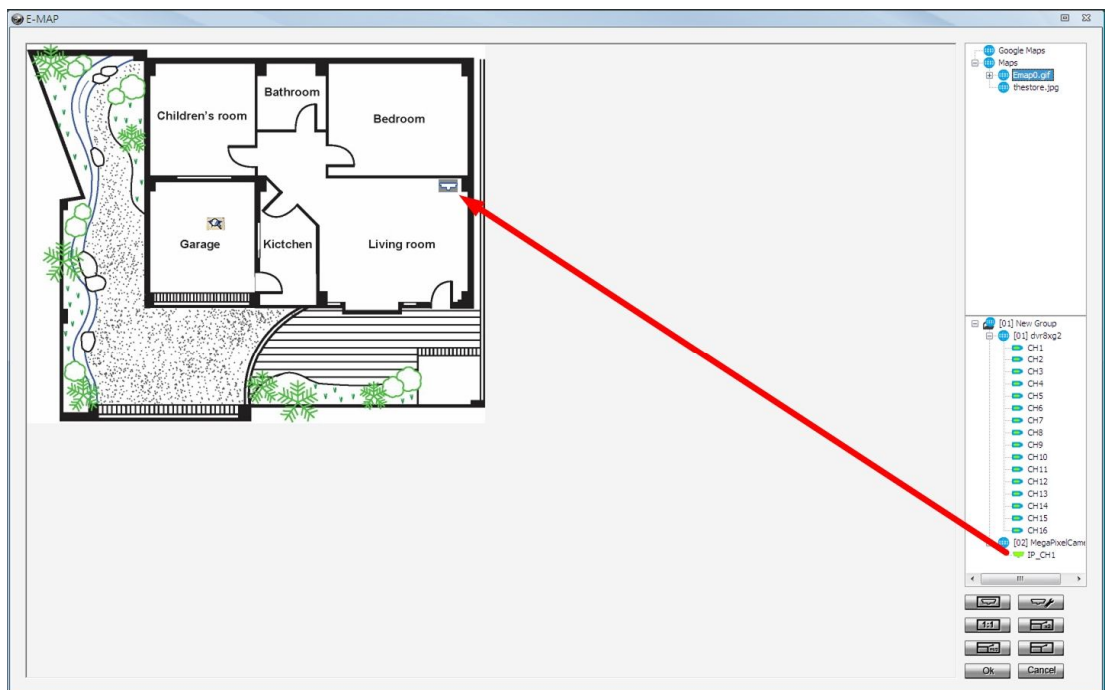
Step G. Once a map is added, a balloon with a letter will be displayed to mark the location of the map. Users can always click and drag balloons to change their locations. Right click on any balloon and users can remove or rename the selected map.

 **NOTE:** Double click on any balloon and the map will be displayed. Alternatively, the map can also be restored via double clicking on the map icon in the map list.

Google Map also supports five levels of within maps. Please refer to **Step 2** of the previous subsection for more details about within maps.

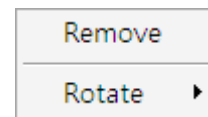
Add Cameras to the Map

Double click on a selected map icon in the map list to display the map. Drag and drop a camera from the site tree to any desired position of the map.







Remove Cameras from the Map


Right click on a camera icon in the map and users can remove it from the map. In addition, users can rotate the camera's pointing direction to North, Northeast, East, Southeast, South, Southwest, West or Northwest.



Camera Icons

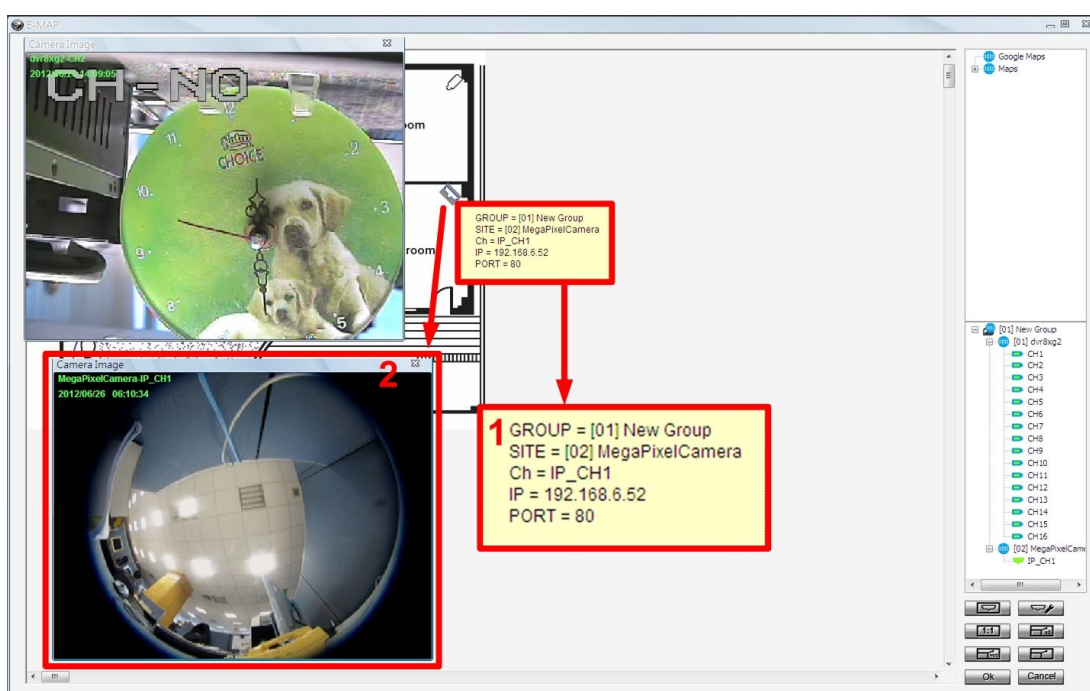
There are four different types of camera icons in Emap, as shown below.

	Dome Camera icon	This shows the camera is a PTZ camera.
	Fisheye Camera icon	It will display when the camera is a fisheye camera.
	Fixed Camera icon	This shows the camera is a fixed camera.
	Alert icon	This will show when an alert is triggered to the camera. It will blink to attract attention.

 **NOTE:** When a within map has alert triggering cameras, its map icon will also blink to attract users' attention.

Display Live Preview of Cameras in the Map


Double click on any camera icon in the map and its Live preview image will be displayed. When the mouse pointer moves over a camera icon in the map, an information dialog box will be displayed as marked #1 in the below picture. When users clicked on a camera icon, its Live preview window will be highlighted, if it's been displayed, as marked #2 in the below picture.

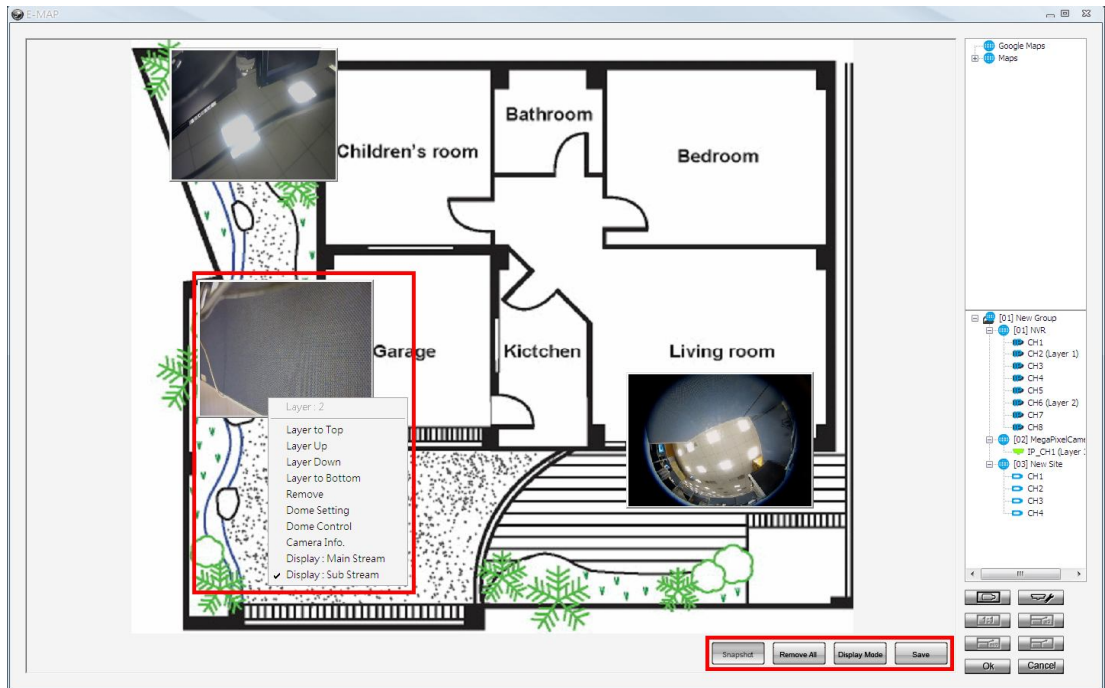


NOTE: The camera Live preview window is limited up to three instances at the same time.

Right click on any Live preview window to see the camera control menu, including: Snapshot, Talk(On/Off), Dome Setting, Dome Control, Sound Notification(On/Off) and Camera Info. Refer to their related sections for more details.

AngelEye Mode

Underneath the site tree, there is an icon shown as on the right.  Click on this icon and the Emap window will be change to AngelEye mode. The AngelEye mode allows users to monitor Live videos of chosen cameras embedded on the self-selected map without window frames and excess info. The following picture is the setting mode under AngelEye mode. Refer to the steps described below to setup AngelEye display.



Step 1. First users can click on the map list to add a new map or select an existed map. The map will be scaled in proportion to fit the window.

Step 2. Click and drag cameras in the site tree to be indicated in the map. Only the connected cameras can be drag in the AngelEye mode, and the Live videos will be directly displayed, with channel and site numbers shown on the top. Users can adjust the camera display size be click on the edge and drag in or out. Click at the center of the camera display and users can drag it to any desired position.


Step 3. The first camera will be layer 1, and so on. The latest layer will be on top, if camera displays overlapped on one another. Level of layer can be changed by right click on the camera display and select Layer to Top, Layer Up, Layer Down or Layer to Bottom.

Step 4. In addition, the pull-down menu also includes Remove, Dome Setting, Dome Control, Camera Info., Display: Main Stream and Display: Sub Stream. Refer to their related sections for more details.

Step 5. The <Remove All> button allows users to clear everything and start it all over.

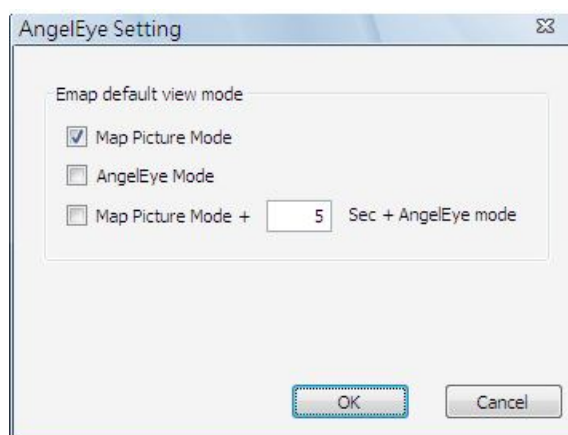
Step 6. When everything is set, click on <Save> at the bottom to save the setting. Then users can click on the <Display Mode> button to switch to the display mode. The button will change to <Setting Mode> for users to switch back if more setting is required.

Step 7. In display mode, the <Snapshot> button will be available for users to capture snapshot pictures. The snapshot files will be stored under “\CMS\Snapshot”.

If users want to switch from AngelEye mode to regular Emap mode, click on the  button.

Setting

Users can click on the setting icon  to setup the initial display mode of the Emap window. The setting window is as below.



1. Check the box in front of <Map Picture Mode> to display regular Emap mode when the Emap window starts up.


2. Check the box in front of <AngelEye Mode> to display AngelEye mode when the Emap window starts up.
3. Check the last item and input duration of time in seconds to display regular Emap mode for the specified time and then switch to AngelEye mode automatically.


Change Emap Size (Regular Emap Mode Only)

Users can adjust the display size of the map by clicking on the icons shown on the right. The descriptions of the icons are as below.




- <Original>: To display the original size of the image.
- <Double>: To double the size of current displayed image.
- <Half>: To reduce current displayed image size by one half.
- <Fill>: To adjust the image to fit display window (refer to figure on the right).

 **NOTE:** If there is no map loaded in the Emap window, an error message will be shown when clicking on any of the four buttons.

 **NOTE:** When the map is very large, or when users cannot see the entire map, click on any camera in the site tree and Emap will automatically move to the location of the selected camera.

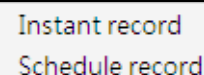
Ok / Cancel

Click on the <Ok> button to save all actions in the Emap window and exit. Alternatively, click on the <Cancel> button to delete actions of this operation and exit.

 **NOTE:** If users try to close the Emap window by clicking on <X> at the top, a hint message will be displayed to confirm if users wish to save the setting.

6.5 Record

Click on the <Record> icon and the pull-down menu are <Instant Record> and <Schedule Record>. Details of the menu items are described in the following subsections.



Instant record
Schedule record

6.5.1 Instant Record

While the videos are usually recorded to the connected DVR, users can also choose to instantly record current “Live” videos to the local computer. Select <Instant record> to start recording. A check will be shown in front of <Instant record>. To end instant recording, select <Instant record> again and the check mark will disappear.

If time difference between CMS and the recording site is more than 1 day, a message will be displayed. Select <Yes> to start recording. Or select <No> to abort recording.



NOTE: Only videos of the displaying channels will be recorded. When the displaying channels changed, the recording video will follow the change as well. The channels not selected to be displayed will not be a part of the instant recorded video.

When the channels are being recorded, the title of the channels will show a capital letter “R” at the end. The recorded files will be saved to the default folder “\CMS\Record\”.

If users want to switch from Live mode to Playback mode while CMS is recording videos, the recording has to be terminated. A message dialog will be displayed for confirmation. However, the recording will be resumed from stopping point once “Playback” mode is ended and returns to “Live” mode.



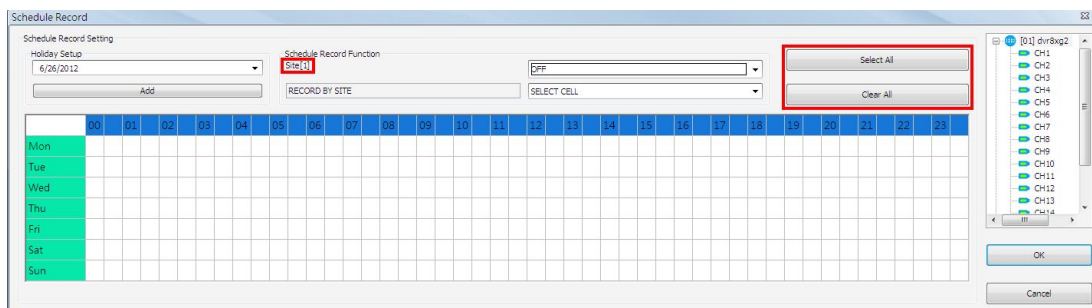
NOTE: If the connection to the recording site is disturbed and then reconnected, the recording will be terminated without resumption.

6.5.2 Schedule Record

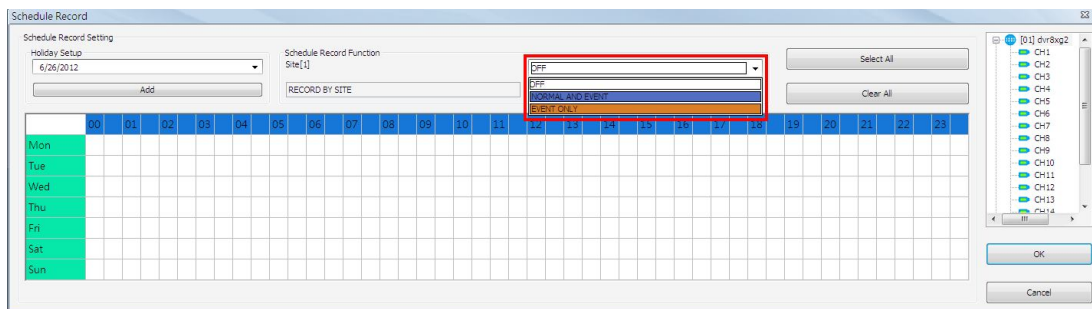
Users can schedule specific time to record videos of current connected sites to the local computer. Select <Schedule Record> and the Schedule Record window will be displayed.

NOTE: Please beware that CMS only supports schedule recording for up to 64 channels at once, despite the number of connecting sites.

The current setting site will be shown on the top of the Schedule Record window, as circled in the picture below. Alternatively, users can click on the <Select All> or <Clear All> buttons to setup all sites to always record or always not record at once.



The scroll-down menu circled below shows the recording types.



<OFF>

Select this to switch off the schedule record function.

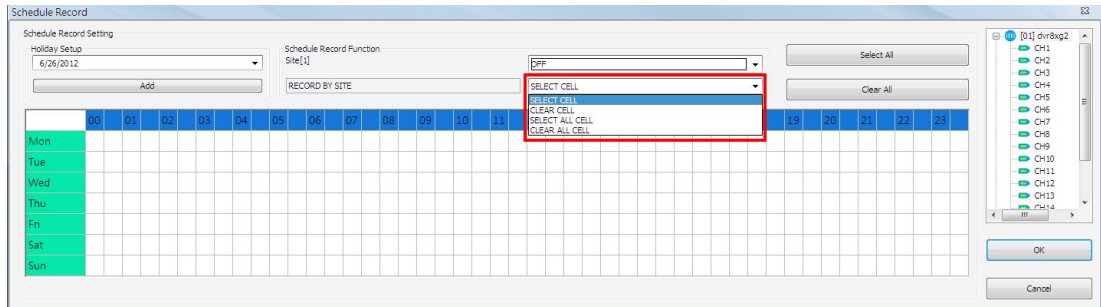
<NORMAL AND EVENT>

Schedule to record both the normal and event videos within the selected time frame.

<EVENT ONLY>

Schedule to record only the event videos within the selected time frame.

The scroll-down menu circled below shows the selecting options.



<SELECT CELL>

Choose this to select any cell from the table.

<CLEAR CELL>

Choose this to clear any cell from the table.

<SELECT ALL CELL>

Choose this to select all cells from the table.

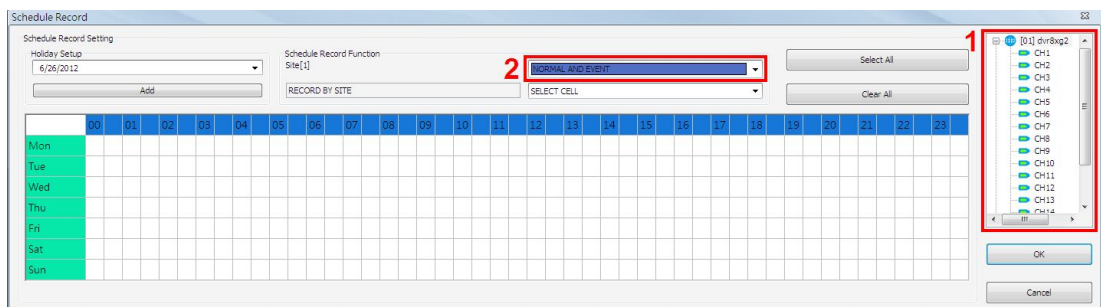
<CLEAR ALL CELL>

Choose this to clear all cells from the table.

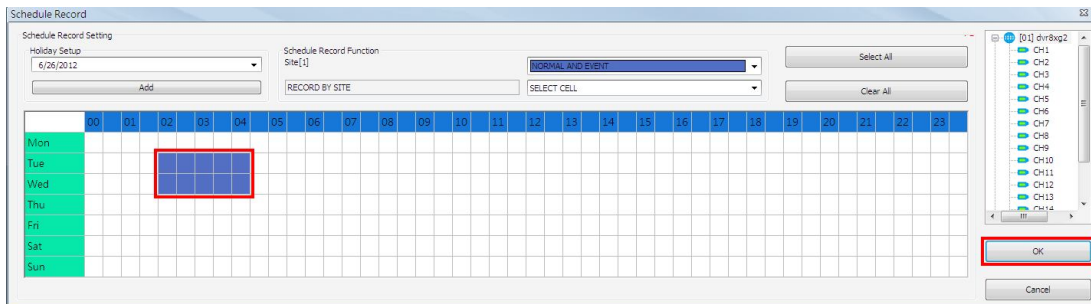
Follow steps below for an example of setting schedule record for CMS.

Schedule Recording Times

Step 1. Select a site or a channel from the box on the right by a single click. When a site is selected, the same setting of schedule record will be applied to all channels. Click on a channel to set unique schedule record for the particular channel. In this example, schedule of a site will be set. Select a site in box 1, and set the recording option to <NORMAL AND EVENT> in box 2.



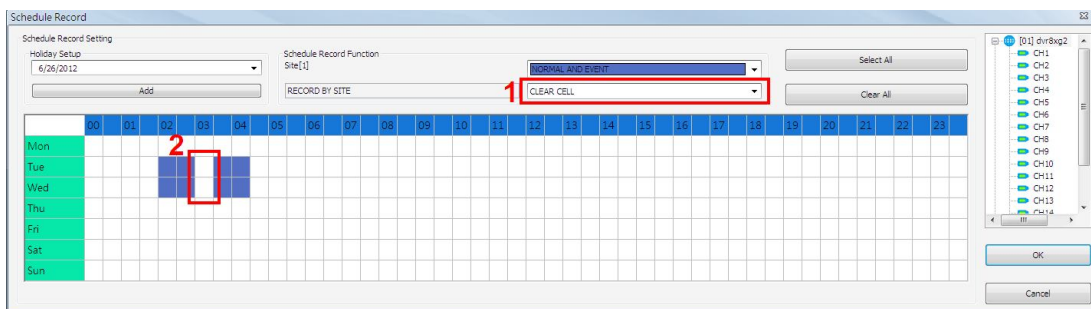
Step 2. Assuming that the site will be scheduled to start recording video from 2:00 to 4:30 on Tuesday and Wednesday. Since the duration of each cell is 30 minutes, click on the cell under 02 for Tuesday and drag to the cell under 04 for Wednesday; and the color of the cells will be changed to purple indicating that both normal and event videos are going to be recorded during the selected times.



Step 3. After the time frames are selected, click <OK> to save and exit the Schedule Record window.

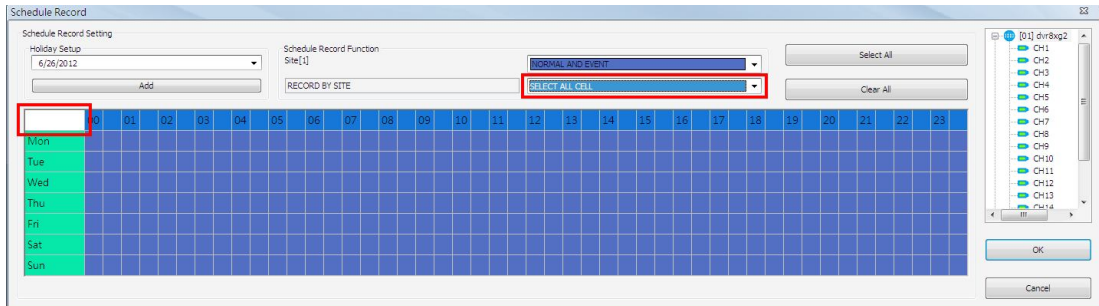
Cancel Scheduled Recording Times

If users want to cancel a time frame from selected schedule, for instance, 3:00~3:30, set the selecting option to <CLEAR CELL> in box 1. Click and drag the cells under 03 from Tuesday to Wednesday. The cells will be blank which indicates that CMS is not going to record anything. Click on <OK> to save and exit the Schedule Record window.



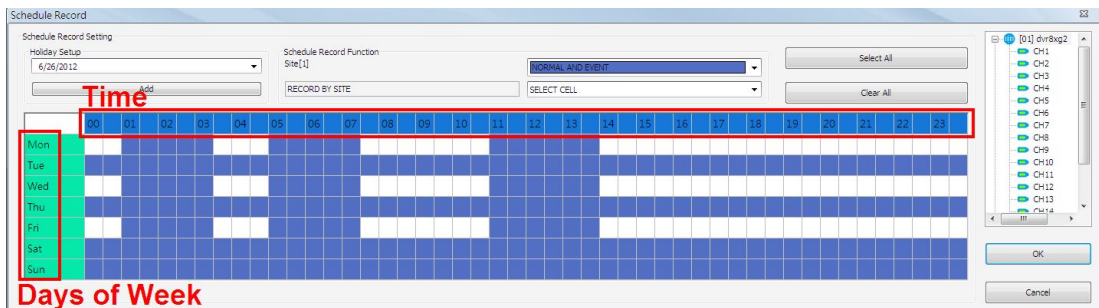
Select/Clear All Cell

If users want to set the schedule to record at all times, click on the circled blank cell located on top left corner of the table or set the selecting option to <SELECT ALL CELL>. If users want to reset the schedule of the site, set the selecting option to <CLEAR ALL CELL>. Click on <OK> to save and exit Schedule Record window.



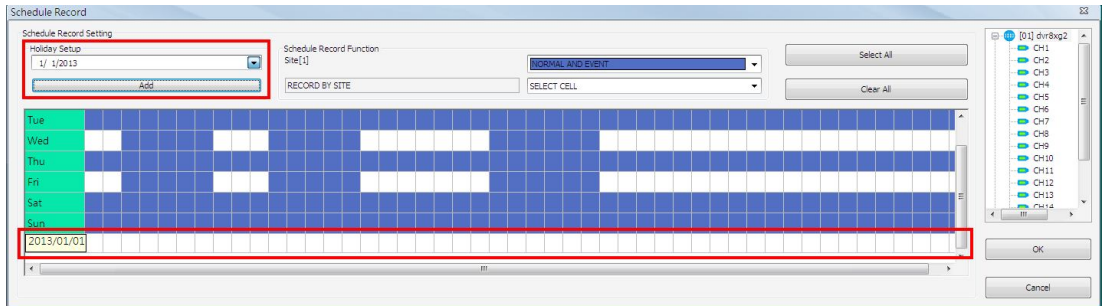
Select/Clear Cell by Date/Time

Another way to select or clear time frame is by clicking on the Day or Time tabs. For example, when users click on <Tue> tab, the color of all Tuesday cells will be changed and the site is scheduled to record normal and event videos every Tuesday. When users click on 5:00~5:30 tab, color of all 5:00~5:30 from Monday to Sunday will be changed. Click on <OK> to save and exit Schedule Record window.



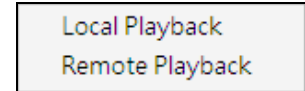
Special Schedule of a Specific Date

If users wish to setup a special schedule for a specific date, simply select a date from the pull-down menu of <Holiday Setup> and click on <Add> button. At the bottom of the <Schedule Record> window, users can find a new row of the added date as shown below. Setup the schedule for that date, and the schedule record will only run once for that special day.



6.6 Playback

Click on the <Playback> icon and the pull-down menu are <Local Playback> and <Remote Playback>. Details of the menu items are described in the following subsections.

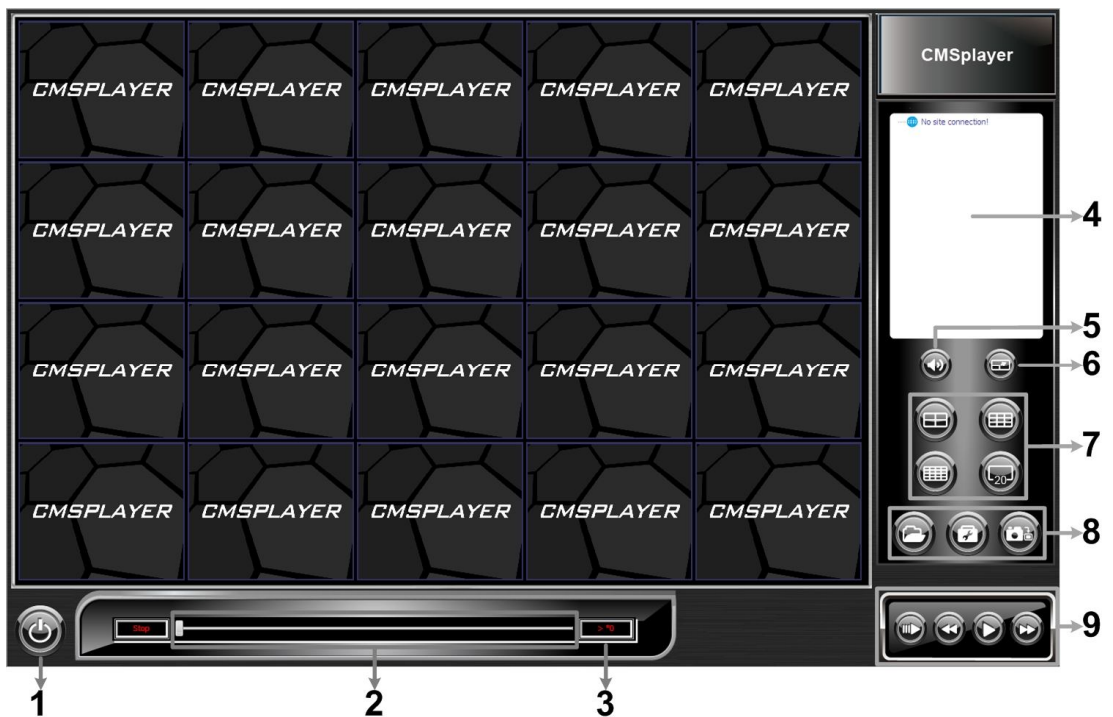


6.6.1 Local Playback (CMS Player)

Select <Local Playback> and CMS Player will be launched. When multiple CMS instances are opened, each CMS can launch 1 CMS Player. The main window of CMS Player is shown as below.



NOTE: When CMS is terminated, CMS Player will also be ended at the same time.



1	Power Button
2	Slider Bar
3	Playback Speed Indicator
4	Site Tree
5	Audio
6	Full Screen
7	Display Modes: 2X2, 3X3, 4X4 and 5X4
8	Open Video File, Frame View Setting, Snapshot
9	Playback Controls

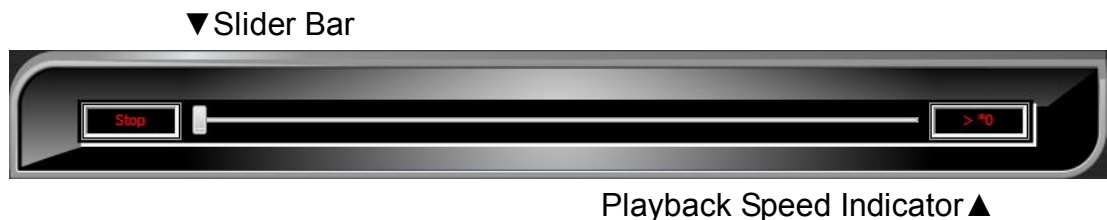
Functions of the buttons will be described in the following paragraphs.

Power Button

Click on the Power button and users can choose to exit or to minimize CMS Player window.

Slider Bar

Click and drag the slider bar to search through the video.



Playback Speed Indicator

The playback speed indicator shows playback speed in forward or backward direction.

- “>” indicates forward playback while “<” indicates backward playback.
- Playback speed can be faster or slower: 1, 2, 4, 8, 16, 32, 1/2, 1/4, 1/8, 1/16 or 1/32.

Site Tree

The site tree shows the channels of the opened DRV file. Double click on a channel to view the selected channel in one screen. Right click on the site tree can choose to expand or collapse site tree.

Audio

Click on the <Audio> icon located underneath the site tree to enable or disable the audio of the opened DRV file.

Full Screen

Click on the <FULL SCREEN> icon will enlarge CMS Player window to fit full screen. Click on the <FULL SCREEN> icon again or press <Esc> key on the keyboard to return to normal screen mode.

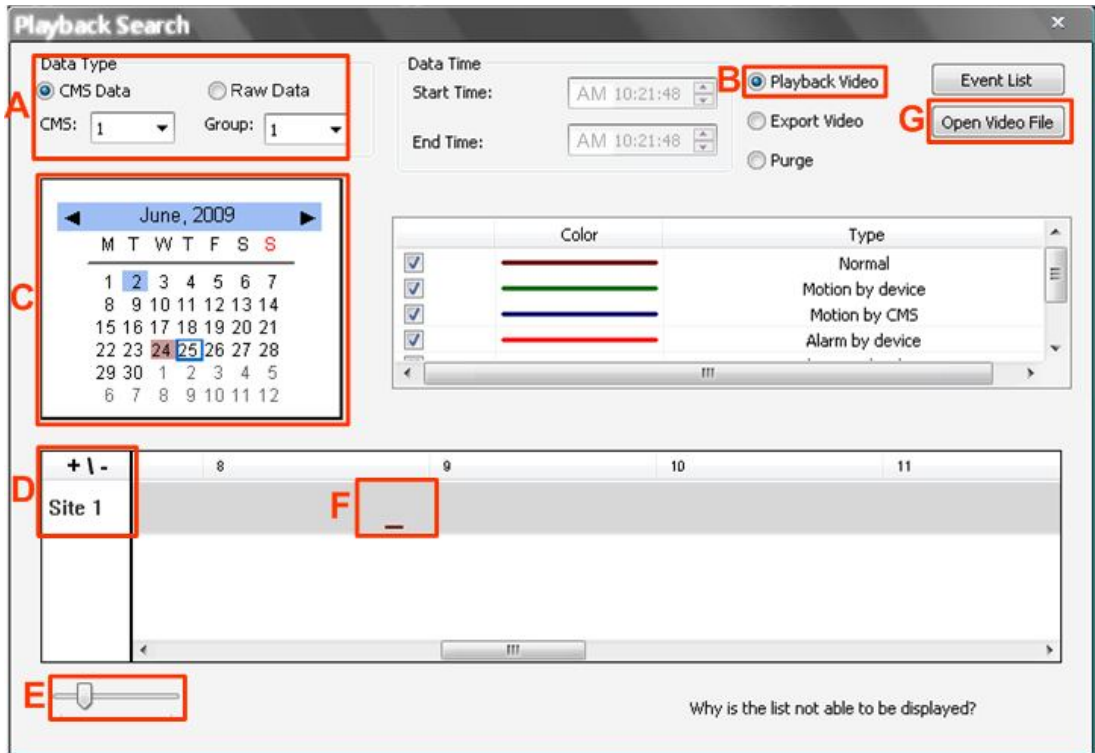
Display Modes

Users can click on <2X2>, <3X3>, <4X4> or <5X4> icons to view in multiple window modes.

Open Video File

Click on the <Open Video File> icon to display the “Playback Search” window. Users are allowed to playback, export, or delete videos.

Playback Video:



Step A. Select <CMS Data> and choose CMS server & group. Alternatively, select <Raw Data> and allocate a folder containing DVR HDD files.

Step B. Select <Playback Video>.


Step C. Select date of designated videos. Today's date is in blue box, the date with video data is highlighted in brown, and the selected date is highlighted in blue.

Step D. For playback of CMS Data, select sites. Click on <+|-> to select or deselect all sites. The selected site will change to gray color. For playback of Raw Data, there is no need to select sites, since it's just the DVR itself.

Step E. Scroll the slider bar to zoom in/out the displaying time.

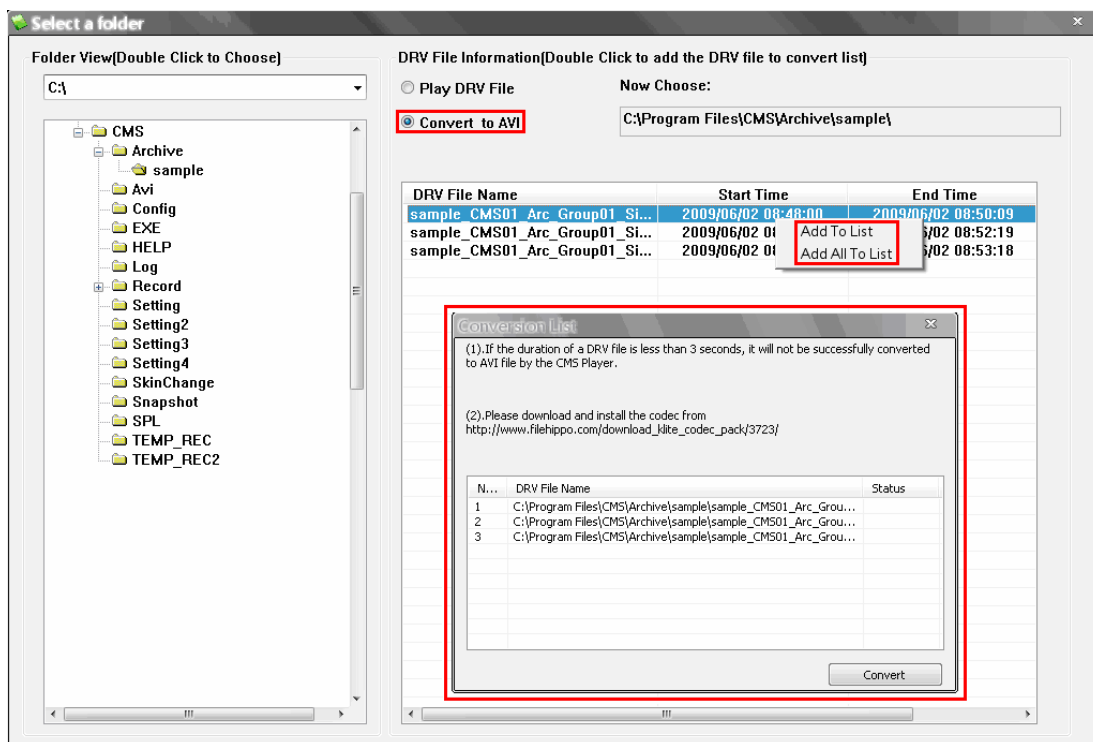
Step F. Point the cursor at designated time and double click to start playback the video.

Step G. Click on the <Open Video File> button to search for videos via file list. Users can also convert DRV files to AVI files here. Refer to the next page for instruction of conversion.

 **NOTE:** The recorded video of IP Camera can only be played back by CMS player. Some errors might occur if playing back with DVRPlayer.

Convert *.drv files to *.avi files:

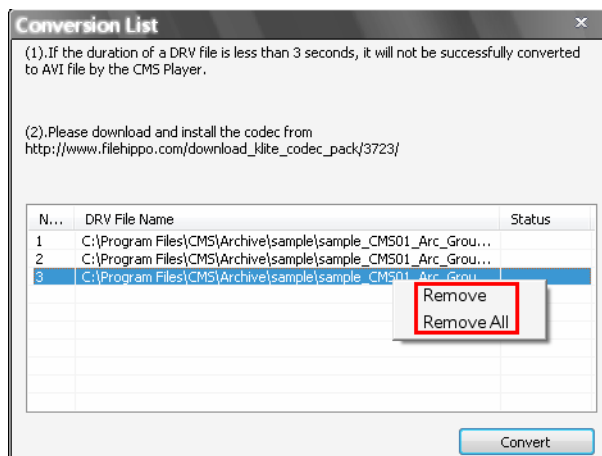
Click on the <Open Video File> button in the “Playback Search” window, then the “Select a folder” window will be displayed. On the top center of this window, select <Convert To AVI> and double click on the file which users wish to convert. A “Conversion List” window will pop up and the file will be added to the list. The other way to add files to the list is to right click on the file and select <Add To List> or <Add All To List>.



 **NOTE:** The list can contain files from different folders.

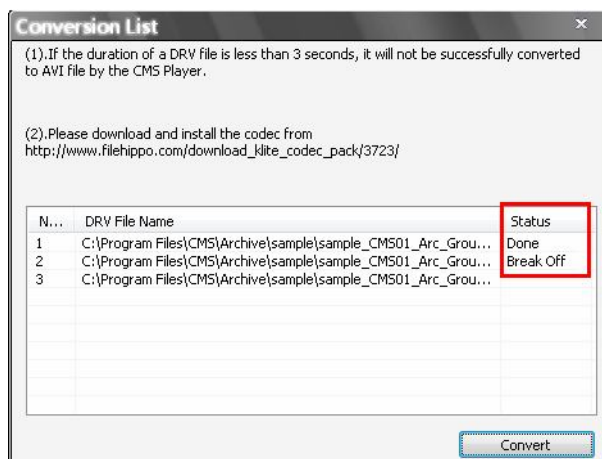
The messages shown on the conversion list windows are very important. If the duration of a DRV file is less than 3 seconds, the file will not be successfully converted. In addition, a link is provided for users to download and install video codec in order to playback the converted AVI files.

If users wish to remove any file from the conversion list, right click on the file and select <Remove> or <Remove All> to delete files from the list. Click <Convert> to start conversion of files on the list.



A progress window will be displayed to show current progress of conversion. If users wish to terminate the conversion, click <STOP> to abort.

If the conversion is aborted, the status column will show "Break Off" for the specific file aborted. If the file failed to be converted, the status column will show "Fail".

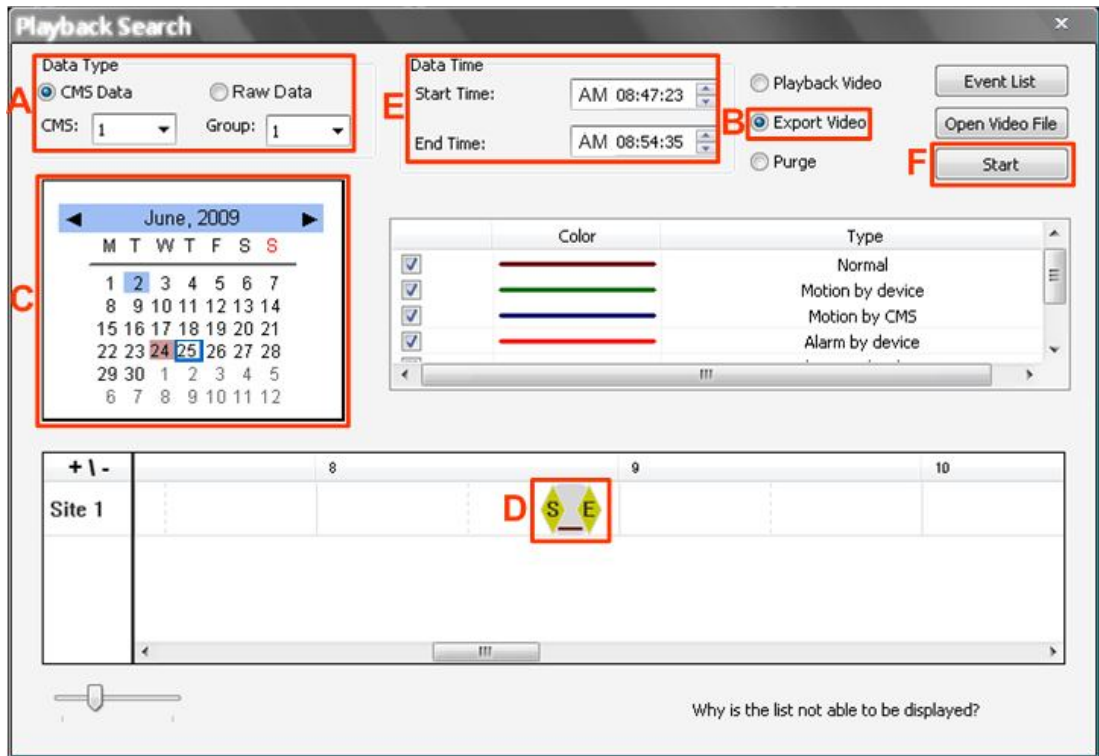


Once the conversion is completed, the converted files will be stored in the folder specified in file path setting of CMS Player.



NOTE: If the converted AVI files cannot be played due to lack of codec, please refer to appendix **Install AVI Codec**.

Export Video:



Step A. Select <CMS Data> and choose CMS server & group. Alternatively, select <Raw Data> and allocate a folder containing DVR HDD files.

Step B. Select <Export Video>.

Step C. Select date of designated videos. Today's date is in blue box, the date with video data is highlighted in brown, and the selected date is highlighted in blue.

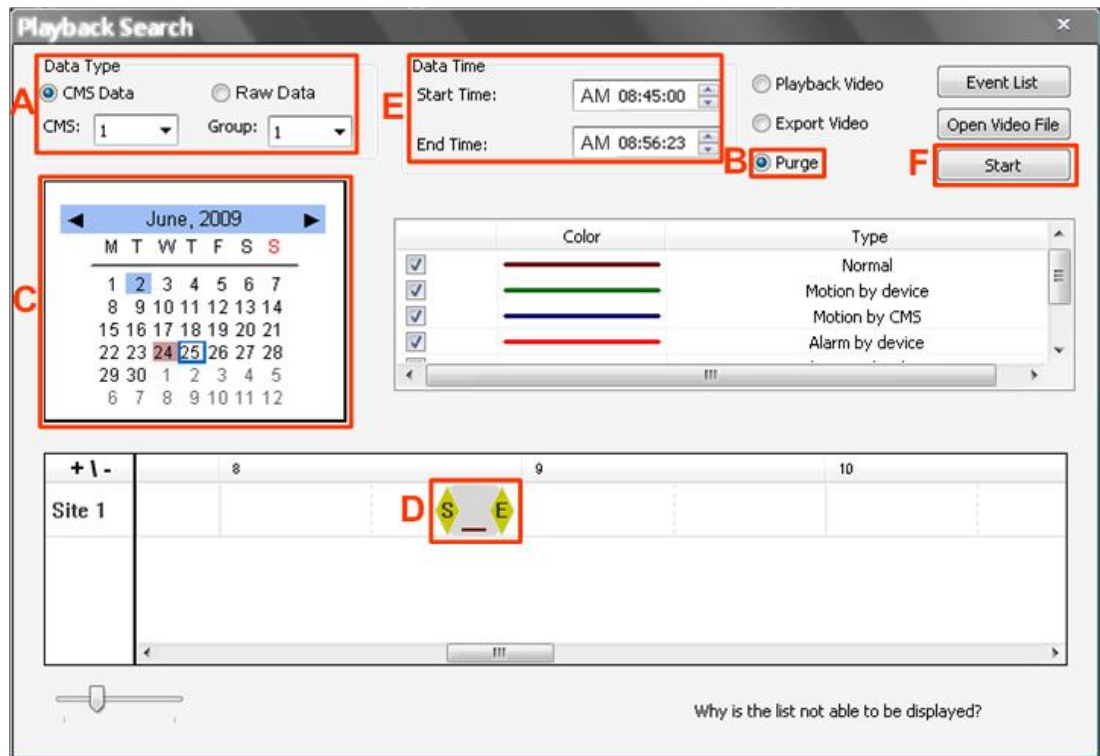
Step D. Click and drag the cursor to select designated videos.

Step E. The start and end time of the selected video will be displayed here.

Step F. Click on the <Start> button. A window will pop up, and users are allowed to enter a filename and select video type (AVI or DRV) through the window. Then click on <Save> to start the exportation.

Delete Video:

Only when the current CMS login account is in the admin group, will the video deletion function be available. Refer to the following for step by step instruction.



Step A. Select <CMS Data> and choose CMS server & group. Note that Raw data does not support purge function.

Step B. Select <Purge>.

Step C. Select date of designated videos. Today's date is in blue box, the date with video data is highlighted in brown, and the selected date is highlighted in blue.

Step D. Click and drag the cursor to select designated videos.

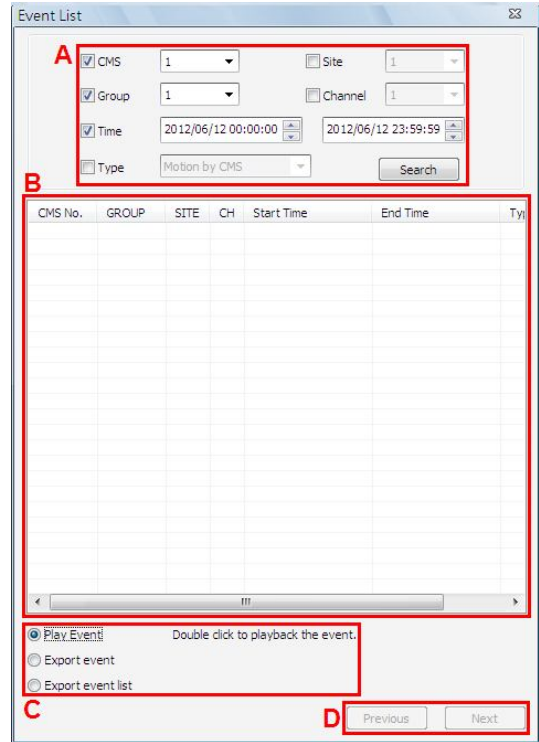
Step E. The start and end time of the selected video will be displayed here.

Step F. Click on the <Start> button and a confirmation dialog will be displayed. Enter correct username and password to start the deletion.

Event List:

Users can also playback and export event videos via searching through the event list. Click on the <Event List> button on the upper right hand corner of the “Playback Search” window. The “Event List” window will be displayed as on the right. Refer to below for the instruction.

First set searching criteria in Box A and click on the <Search> button. The event videos satisfied the searching criteria will be listed in Box B. If the list contains more than 1000 event videos, click on the <Previous> and <Next> buttons in Box D to see more selections.



In Box C, users can choose to playback event video, export event video or export event list. Select <Play Event> and double click on any item in Box B to playback selected event video. Select <Export event> and a <Start> button will appear at the bottom. Press Ctrl key to select multiple files and click on the <Start> button to begin exporting the event video(s). Alternatively, select <Export event list> and click on the <Start> button to export the event list.



NOTE: For event search of Raw data, the <CMS>, <Group> and <Site> in Box A will be inaccessible.

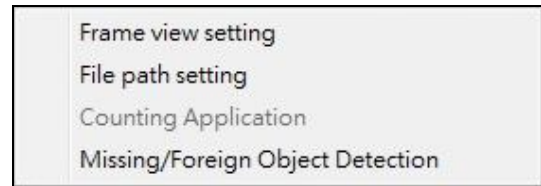
Video Type Display:

The chart in the middle of the “Playback Search” window allows users to assign unique color displays to represent different types of video data. Double click on any cell under the “Color” column and choose a preferred color to represent the corresponding video type.



Frame View Setting

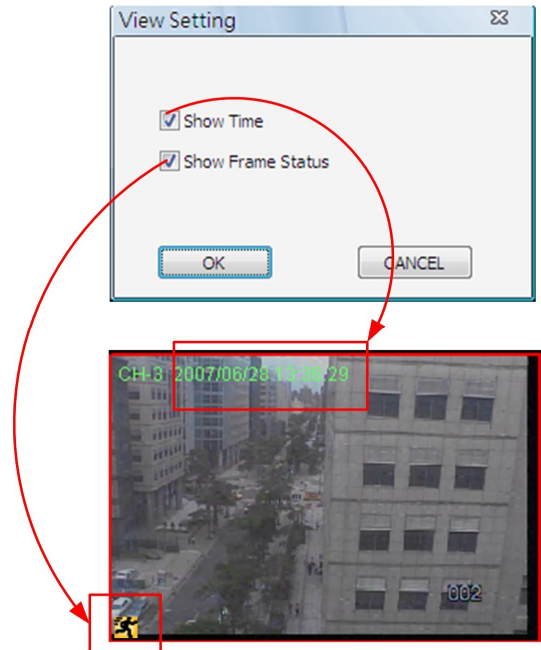
Click on the <Frame View Setting> icon and the pull-down menu will be display as on the right. Refer to the following for introduction of each function.



Frame view setting:

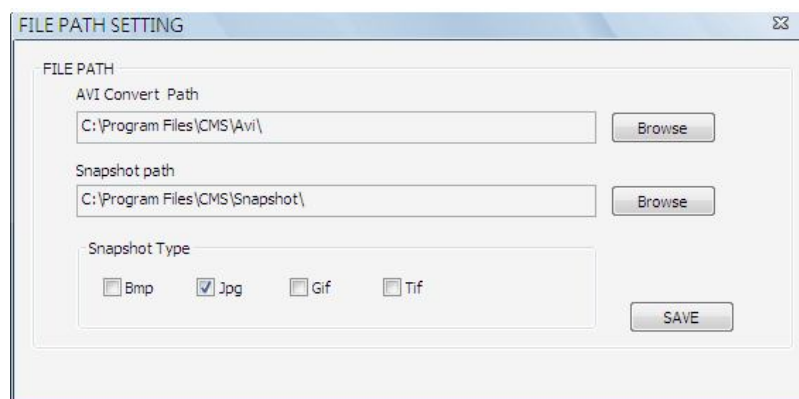
Users can choose to show/hide the time and alert text on the video.

Click on the <Frame View Setting> icon, and the View Setting window will be displayed. Check <Show Time>, and the time will be shown on the screen. Check <Show Frame State>, and the alert icon will be displayed at bottom-left. Uncheck to hide the information.



File Path Setting:

Click on the <File Path Setting> icon to preset file paths for AVI conversion files and snapshot files. Click on <Browse> to select desired folders. In addition, file type of snapshot pictures can also be selected: Bmp, Jpg, Gif or Tif formats. After the settings are selected, click on <Save> to apply the settings.

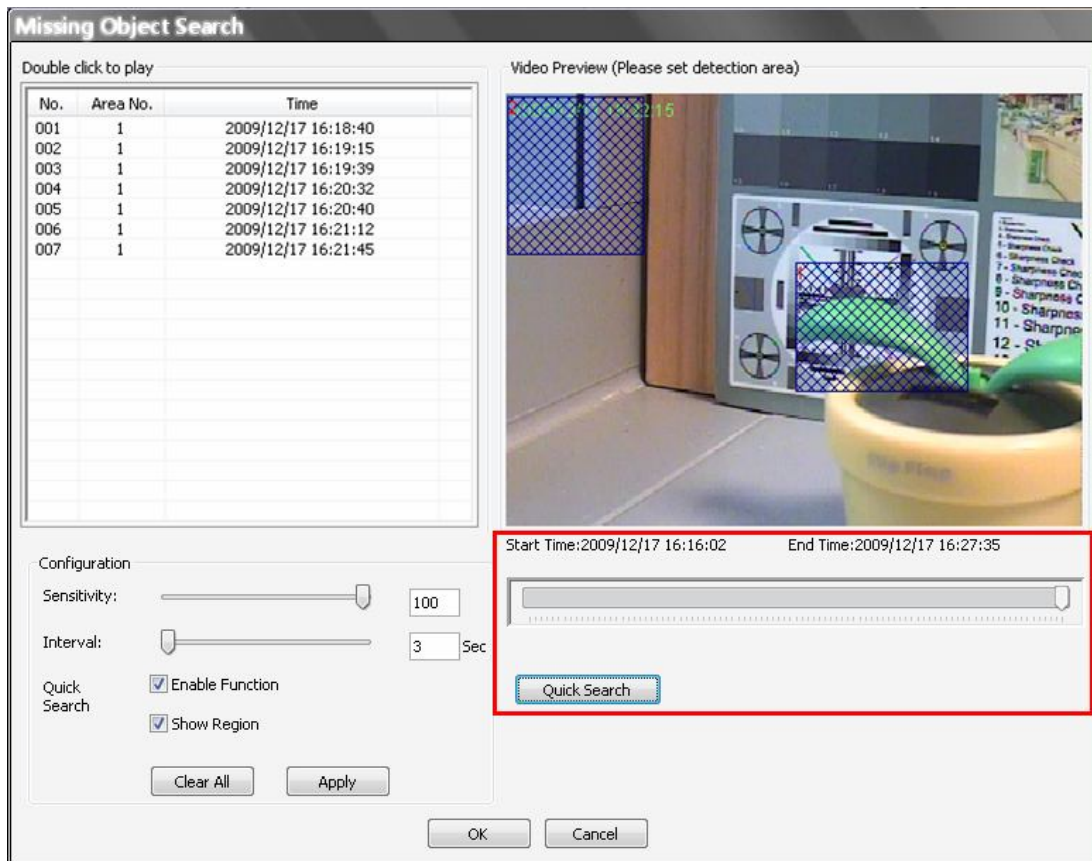


Counting Application (PRO Version Only):

Counting Application function in CMS Player is the same as in CMS. Please refer to section **Counting Application (PRO Version Only)** for more details.

Missing/Foreign Object Detection:

Click on the <Frame View Setting> icon and select <Missing/Foreign Object Detection>. The basic configuration of Missing/Foreign Object Detection function in CMS Player is the same as what is in CMS. Please refer to section **Missing/Foreign Object Detection** for more details. This section will introduce the different part of the Missing/Foreign Object Detection function in CMS Player.



Quick Search: Click on it to quick skim through the video for object search of the selected area(s). The list will be filled when foreign or lost of object alert(s) found.

Stop Quick Search: Click on it to stop quick search.





Snapshot

Click on the <Snapshot> icon to capture a snapshot of the screen. When the snapshot window is opened, users can choose to rename the filename or leave it as it is. Click on <OK> to save the snapshot or <CANCEL> to discard it.






Playback Controls


Slow Down:

Click on  to enable slow speed playback of the video. The icon will be lighted as , and users can click on  or  to change playback speed (1/2, 1/4, 1/8, 1/16 or 1/32).


Play/Pause:

Click on  to start playing back the video. The icon will change to  showing that the video is now playing. Click on  to pause playing back the video.

Fast/Step Backward:

Click on  to play the video fast backward. When the playback of the video is paused, click on this icon to move one step backward.

Fast/Step Forward:

Click on  to play the video fast forward. When the playback of the video is paused, click on this icon to move one step forward.

Assign a Channel to Certain Grid

Similar to CMS, CMS Player also allows users to assign any channel to any grid. Click and drag a channel in the site tree to any preferred grid of CMS Player main window.

Resort / Remove Displaying Grid

Right click on any grid and select <Re-sort> to restore the original layout.

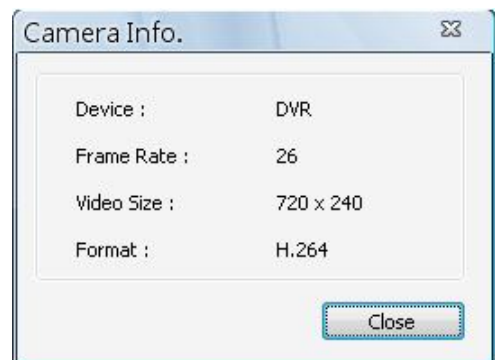
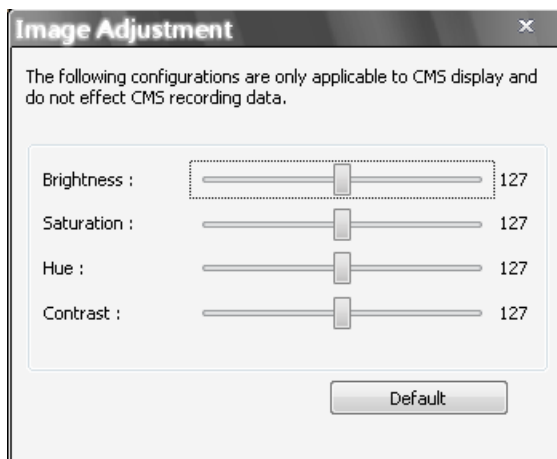
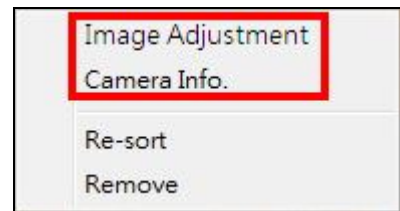
Users can also remove any channel by right clicking on the grid and select <Remove>. Alternatively, users can click on any grid and press <Delete> key on the keyboard to remove it.



NOTE: Selecting <Re-sort> will restore the removed channels.

Image Adjustment

Image adjustment function in CMS Player is the same as in CMS. Refer to section **Image Adjustment** for more details.

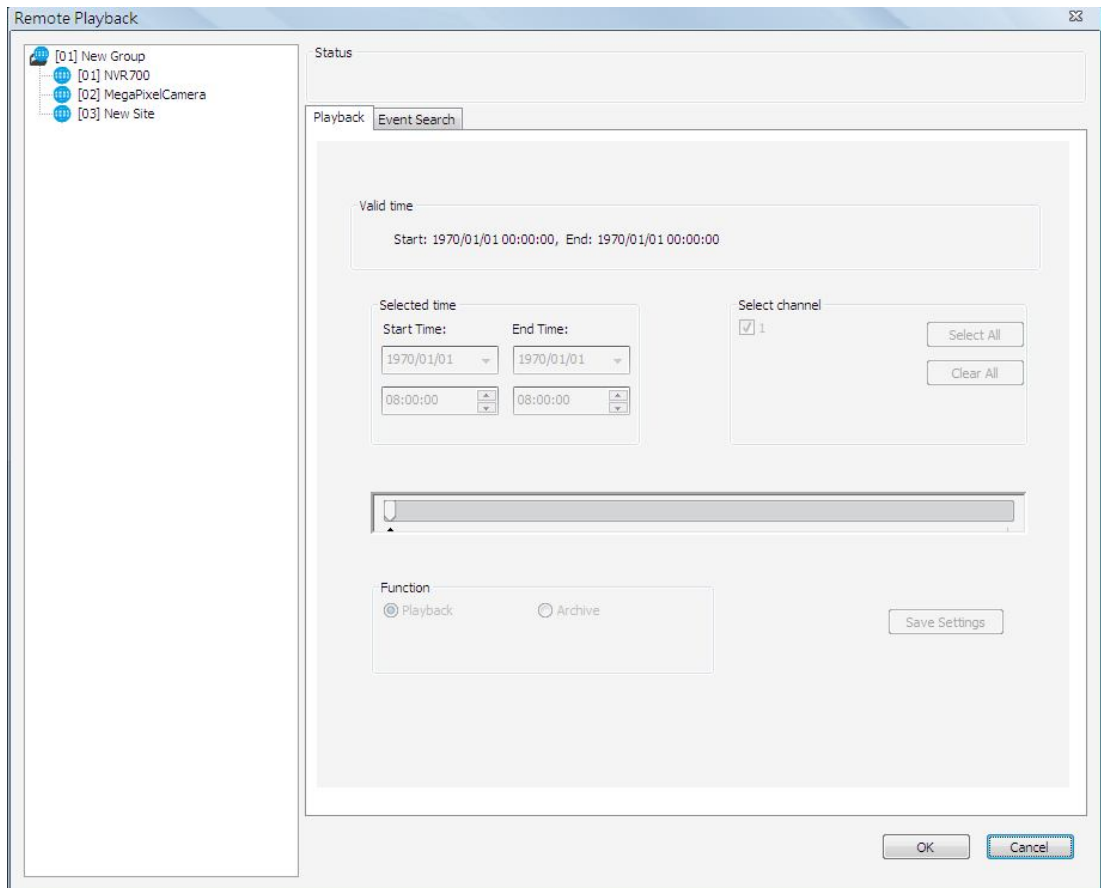


Camera Info.

Camera Info. function in CMS Player is the same as in CMS. Please refer to section **Camera Info.** for more details.

6.6.2 Remote Playback

This function allows CMS users to playback normal and event videos stored in the connected DVR, VSS/NVR, and VDS. Select <Remote Playback>, and the remote playback window will be displayed as below.



First users have to select a connected site from the site list shown on the left. Then users can decide to playback normal recorded videos or event videos by clicking on the tabs on the right.

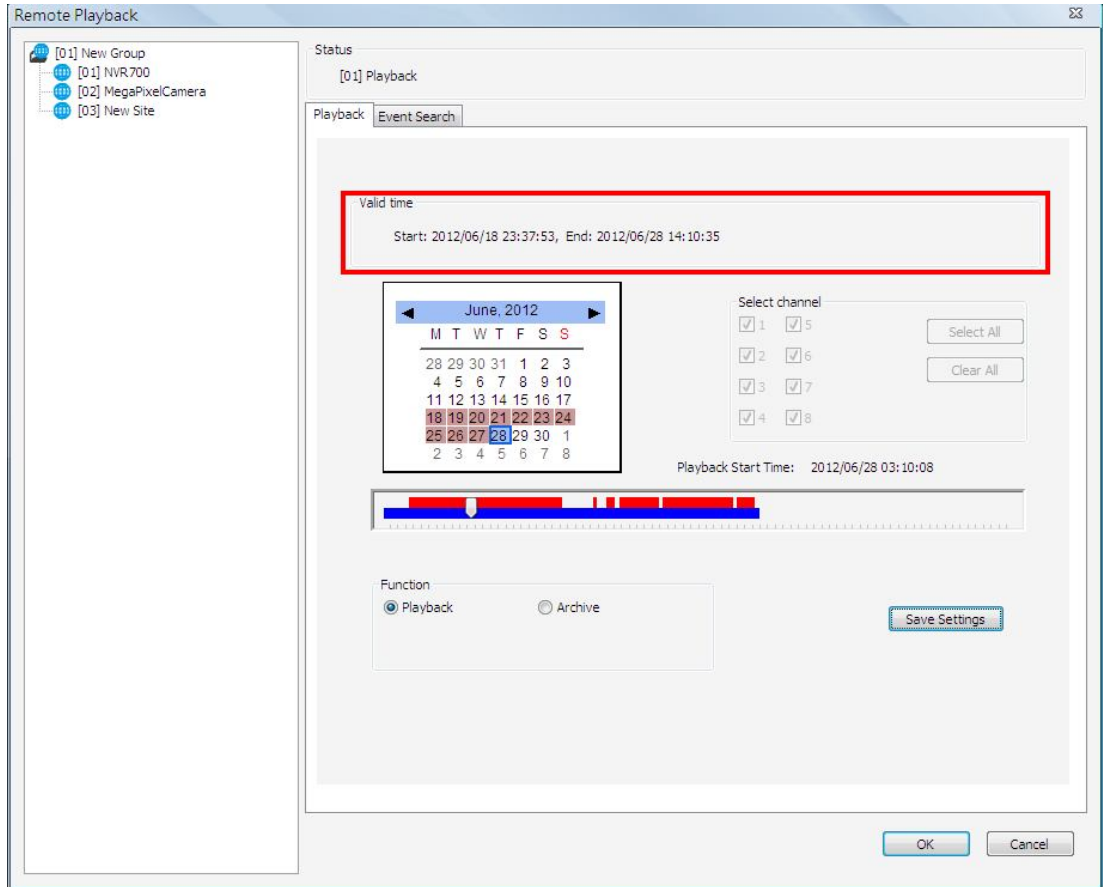
Refer to the following for description of normal video playback and event video playback.



NOTE: The “Selected time” area will become a calendar if the selected site supports Calendar Search function.

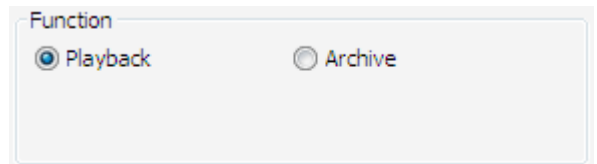
Normal Video Playback

After a site is selected, "Valid Time" area will indicate the start and end time of the available recorded video.

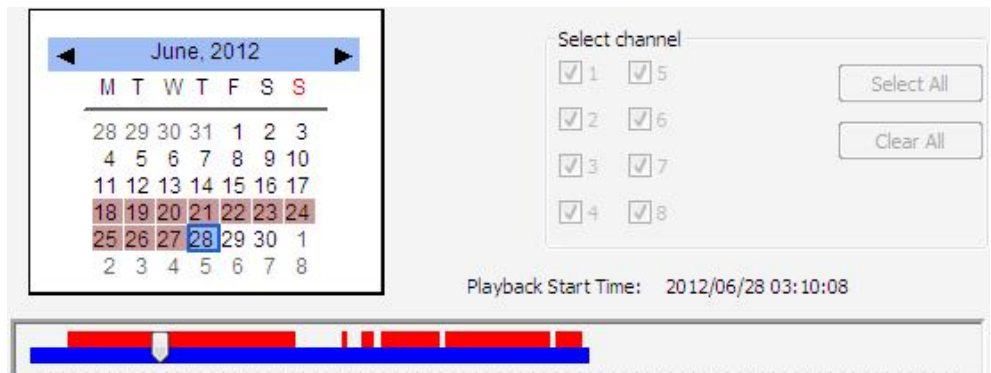


Playback from DVR and VSS/NVR Sites:

Step 1. First select <Playback> in "Function" area.



Step 2. Pick a date in the calendar and select the starting time for playback by moving the arrow of the slider bar. Then click on <Save Settings> to confirm playback of the selected site. The "Status" area at the top will show the site number and "Playback".



Step 3. Playback of multiple sites at the same time is allowed. Users can select another site and setup its playback time following steps 1 and 2 described above.

Step 4. Click on <OK> at the bottom and CMS will begin to playback chosen video time of the selected sites.



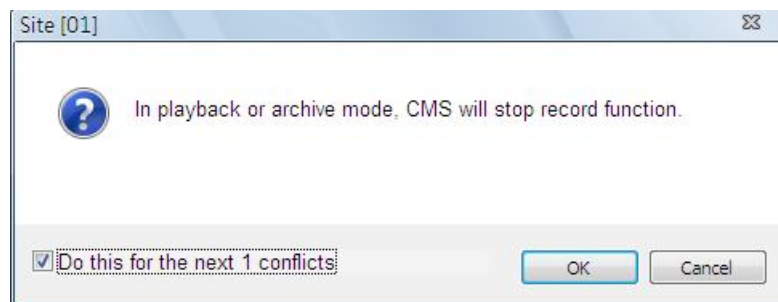
NOTE: Do not forget to click on <Save Settings> to confirm playback, or CMS will not begin the playback even if users clicked on <OK>.

Playback from VDS Sites:

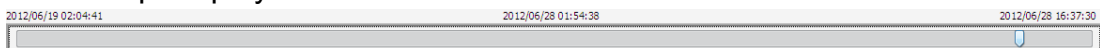
If users selected a VDS sites, two extra options will be displayed as below. Select <DVR> to retrieve data from DVR connected to VDS. Or select <VDS> if VDS is set to record from the connected DVRs. Then follow the same steps described above.



NOTE: Before the playback starts, a message will popup if CMS main window is currently recording video. When multiple playbacks are initiated, users can check the box at the bottom to confirm for all playbacks.



When the playback begins, users can move the mouse to the bottom of the video and a time bar will be displayed as shown below. Users can drag the index to quick playback new selected time of the recorded video.



Archive Normal Videos:

Users can save the recorded video in the selected site to the local computer. The archived videos will be in DRV files, which can only be played in CMs Player. Follow the steps explained below.

Step 1. First select <Archive> in “Function” area. Then “Selected channel” area will be available for users to choose preferred channels. If users wish to export AVI file as well, check the box in front of <Export AVI>.

The screenshot shows the CMS interface for archiving videos. It includes a 'Selected time' section with 'Start Time' (2012/06/20 17:46:22) and 'End Time' (2012/06/28 16:06:21) fields. A 'Select channel' section has checkboxes for channels 1 through 8, all of which are checked. Below this is a slider bar. The 'Function' section has 'Playback' and 'Archive' radio buttons, with 'Archive' selected. There is a 'set start' button below the 'Archive' radio button. To the right, there is an 'Export AVI' checkbox which is checked, and a 'Save Settings' button. Red boxes highlight the 'Select channel' area, the 'Archive' radio button, and the 'Export AVI' checkbox.



NOTE: The exported AVI files will be separated files for each channel.

Step 2. Specify the Start Time in “Selected time” area and click on <set start> in “Function” area. Then specify the End Time and click on <set end>. Alternatively, use the slider bar to select start time and end time. Click <Save Settings> and specify a filename.

Step 3. Archiving from multiple sites at the same time is allowed. Users can select another site and setup its archiving time following steps 1 and 2 described above.

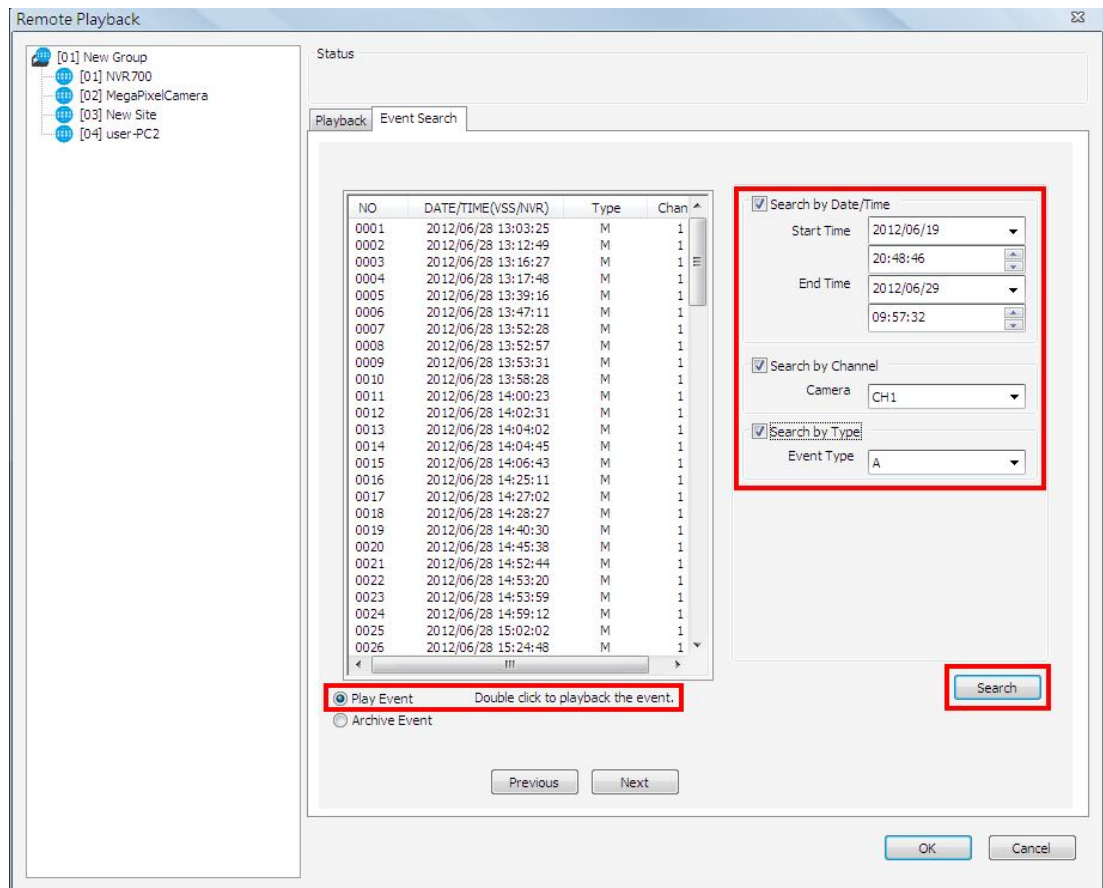
Step 4. Click on <OK> at the bottom and CMS will start to download the video data. After archiving is completed, conversion to AVI files will begin if <Export to AVI> is checked.



NOTE: Do not forget to click on <Save Settings> to confirm archiving, or CMS will not download videos even if users clicked on <OK>.

Event Video Playback

After a site is selected, click on the <Event Search> tab and the event list will be displayed. Users can scroll down the list to look for target event video.



There are three search options on the right for users to filter the event list according to the requirement. After the options are set, click on <Search> at below and the event list will be filtered with the setting constrain.

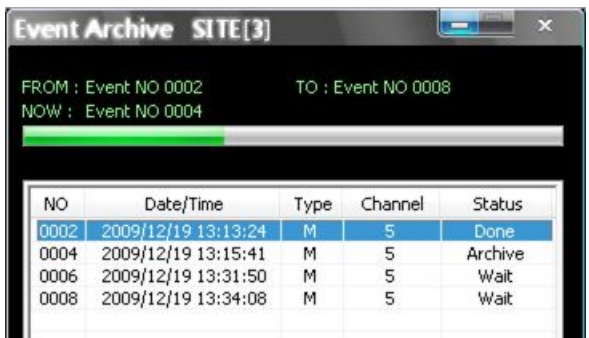
Underneath the event list, select <Play Event> and double click on any item to playback the event video.


Archive Event Videos:

Users can also download event videos to the local computer. Below the event list, select <Archive Event> choose a preferred event to download it. If more than one event is needed, press the "Ctrl" key to select multiple event videos. The maximum items can be selected is 1,000, which is the capacity of the list.



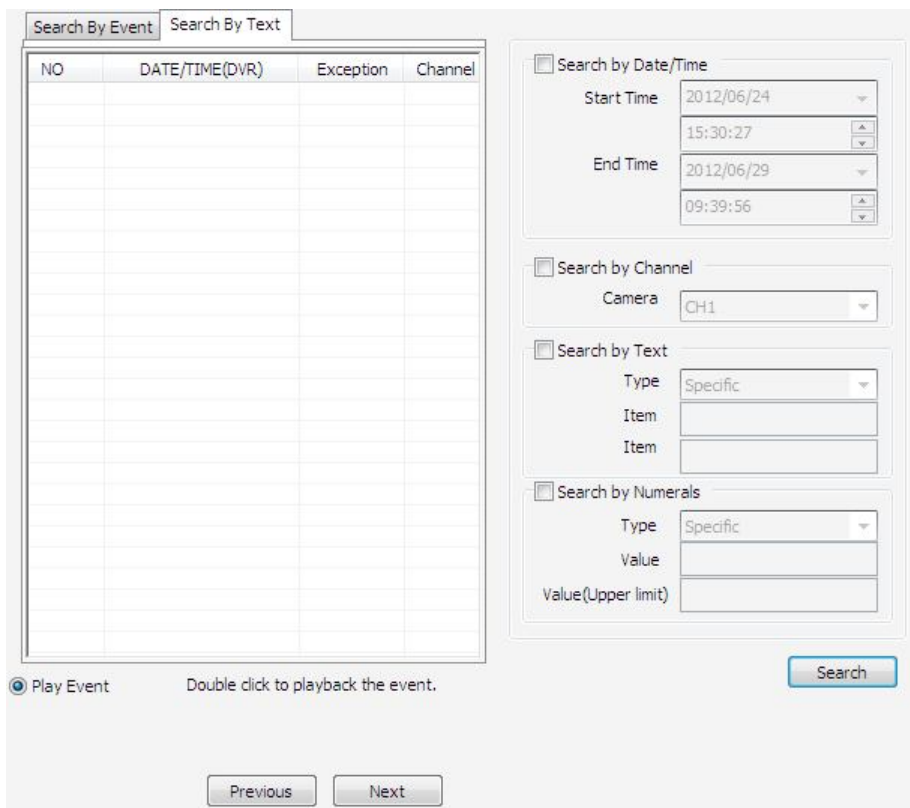
If users need AVI files as well, check the box in front of <Export AVI>. Then click on <Start Archive> and an <Event Archive> window will pop up. The progress bar shows current downloading position. The status column shows the event is under “Archive”, “Wait”, or “Done” condition.



 **NOTE:** The event archive or normal video archive for different sites can be performed simultaneously.

Search by Text:

If the selected site is a DVR with a POS module installed, users can search recorded videos with text inputs. The <Search By Text> tab will be displayed as shown below. Users can specify searching criteria listed on the right and click on <Search> at the bottom to begin video search. Note that the videos in the list cannot be archived.



Playback / Archive Event Video from VDS:

For VDS sites, the event list can be retrieved from VDS or from its connected DVRs. In <Search By Event(DVR)> tab, users can search and playback event videos stored in the DVR connected by VDS. In <Search By Event(VDS)> tab, users can search and playback event videos stored in VDS. The <Search By Text> tab is the same as on the previous page, which retrieve data directly from the DVR connected by VDS.

NO	DATE/TIME(DVR)	Type	Chan
0001	2012/06/29 10:02:11	M	
0002	2012/06/29 10:05:33	M	
0003	2012/06/29 10:06:42	M	
0004	2012/06/29 10:07:32	M	
0005	2012/06/29 10:08:01	M	
0006	2012/06/29 10:08:56	M	
0007	2012/06/29 10:09:24	M	
0008	2012/06/29 10:14:23	M	
0009	2012/06/29 10:14:22	M	
0010	2012/06/29 10:14:22	M	
0011	2012/06/29 10:15:03	M	
0012	2012/06/29 10:15:30	M	
0013	2012/06/29 10:23:37	M	
0014	2012/06/29 10:23:37	M	
0015	2012/06/29 10:23:39	M	
0016	2012/06/29 10:26:37	M	
0017	2012/06/29 10:26:58	M	
0018	2012/06/29 10:27:54	M	

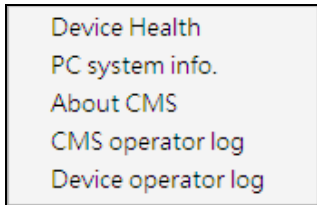
NO	DATE/TIME(DVR)	Type	Chan
0001	2012/06/28 22:19:41	M	4
0002	2012/06/28 22:20:13	M	2
0003	2012/06/28 22:20:13	M	4
0004	2012/06/29 05:56:12	M	4
0005	2012/06/29 05:56:13	M	2
0006	2012/06/29 08:06:37	M	11
0007	2012/06/29 08:06:37	M	9
0008	2012/06/29 09:05:01	M	4
0009	2012/06/29 09:05:01	M	2
0010	2012/06/29 09:05:04	M	12
0011	2012/06/29 09:05:13	M	11
0012	2012/06/29 09:05:13	M	9
0013	2012/06/29 09:05:13	M	5
0014	2012/06/29 09:07:28	M	12
0015	2012/06/29 09:13:03	M	12
0016	2012/06/29 09:37:25	M	12
0017	2012/06/29 09:41:17	M	12
0018	2012/06/29 09:43:27	M	12
0019	2012/06/29 09:52:56	M	11
0020	2012/06/29 09:53:37	M	12
0021	2012/06/29 09:55:29	M	12



NOTE: VDS does not support the <Search By Text> function.

6.7 System Information

Click on the <System Information> icon and the pull-down menu are <Device Health>, <PC system info.>, <About CMS>, <CMS operator log> and <Device operator log>. Details of the menu items are described in the following subsections.



6.7.1 Device Health

This is a function that allows users to verify the HDD health status of currently connected DVR and NVR. Select <Device Health> and a progress bar will be shown to indicate that the information is being retrieving. The following figure is an example. Note that since IP cameras do not have connected HDD, they will not be shown in the chart.

Health Status (Refresh Rate = 5 min)					
Site[01]	Device Name	Internal/External	Total size	Active/NonActive	Temperature
	2:ST3500418AS	Internal	458GB	Active	35
	3:ST3500418AS	Internal	458GB	Active	39
	4:ST3500418AS	Internal	458GB	Active	39
Site[03]	Device Name	Internal/External	Total size	Active/NonActive	Temperature
	1:Hitachi HDS72105	Internal	458GB	Active	38

Device Name

This item shows the model name of the HDD.

Internal/External

This item indicates whether the HDD is an internal or external device.

Total Size

This item indicates the total size of the HDD.

Active/Non Active

This item indicates whether the HDD is active or non-active.

Temperature

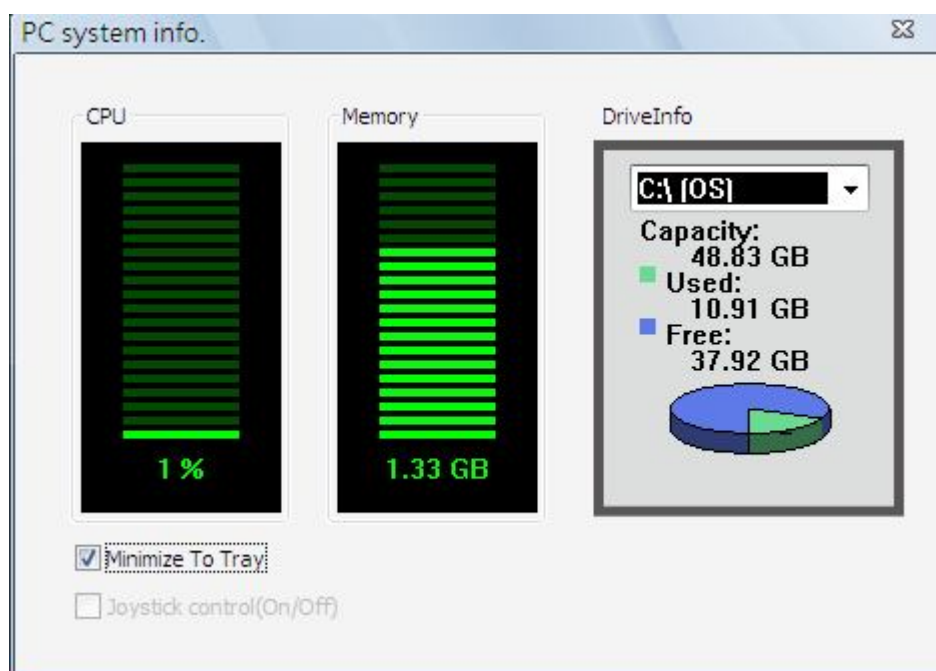
This item indicates the current temperature of the HDD in Celsius degree.



NOTE: Temperature data is not retrievable for some specific models. Under Temperature column, it will show “Not available”.

6.7.2 PC System Info.

Select <PC system info.> and the following window will be displayed. The information provided includes CPU usage, Memory usage and HDD info. In addition, there are two more options at the bottom for users to enable/disable minimization to tray icon and joystick control. Refer to the following for more details.



HDD Info

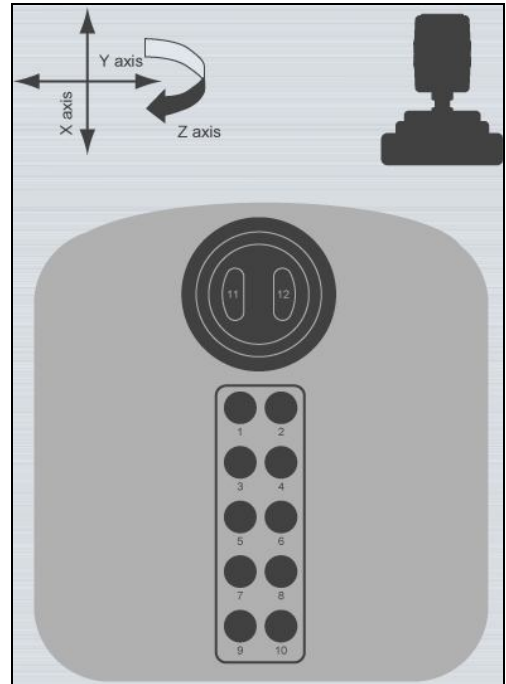
The pie chart displays the HDD information. This is especially useful when users use CMS to record the video to the local computer. Scroll down the menu to see the information of all the HDD(s) installed on the local computer, such as C drive, D drive, etc. The information will be updated every 30 seconds. If file circular is enabled, the circulation will as well be updated every 30 seconds.

Minimize To Tray

If <Minimize To Tray> is checked, CMS window will shrink to CMS icon in the system tray when users click on the Power button and select <Minimize>. The taskbar button will also disappear. To restore CMS window, click on CMS icon and the task button will appear again. Then click on the task button to restore CMS window. Alternatively, if <Minimize To Tray> is not checked, CMS will only minimize to the taskbar button.


Joystick Control

When a joystick is connected, it can work in Mouse Control mode and Dome Camera Control mode. Refer to the picture on the right for a sample of a joystick. The requirement of the joystick is as the following:



1. 12 buttons
2. X, Y, and Z axis

Press the button “8” to change between mouse or dome camera control modes. Note that if the selected camera is not a dome camera, the joystick will only work in mouse control mode.

 **NOTE:** Only the first launched CMS server can use joystick control function.

When CMS detected an available joystick, CMS icon in the system tray icon will change to a joystick icon. In addition, a message will be shown to tell current control mode: mouse control or dome camera control. Click on the <System Information> icon and select <PC system info.>. Then check the box in front of <Joystick control (On/Off)> to switch on joystick control.

Users can click on the Start menu and access <Joystick> to display the quick instruction picture of dome camera or mouse control mode.

Whenever the joystick control mode changes, a message will be shown at the system tray to inform users. Refer to the following tables for the joystick controlling options:

Under Mouse Control Mode

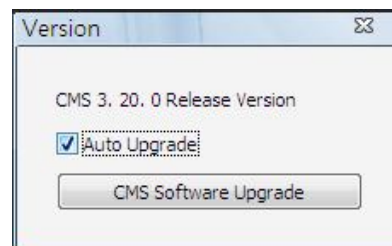
X axis	Left / Right movement
Y axis	Up / Down movement
Z axis	Clockwise to speed up; Counterclockwise to slow down movement
8	Change to Dome Camera Control mode
11	Left clicking key
12	Right clicking key

Under Dome Camera Control Mode

X axis	Move dome / OSD menu selecting left or right
Y axis	Move dome / OSD menu selecting up or down
Z axis	Clockwise to zoom in; Counterclockwise to zoom out
1	Slow down movement
2	Speed up movement
3	Focus Far
4	Focus Near
5	Iris Close
6	Iris Open
7	Auto / Manual Focus
8	Change to Dome Camera Control mode
9	Enter OSD Menu (IP Dome)
10	Function as ENTER key in OSD Menu (IP Dome)
11-12	No function

6.7.3 About CMS

Select <About CMS> and the version window will pop up, showing CMS version info and CMS software upgrade options. CMS software can be upgraded automatically or manually. Check the box in front of <Auto Upgrade> to enable automatic software upgrade. Moreover, the <CMS Software Upgrade> button allows users to immediately upgrade CMS.



Refer to the following for details of automatic and manual software upgrade.

Automatic Software Upgrade

If automatic software upgrade is enabled, CMS will connect to the FTP Server and check for upgrade once a month. If no upgrade is available, CMS will continue normal process. If upgrade is detected, please follow the steps below to proceed.

Step 1. A message box will pop up to inform that there is upgrade available. Click <OK> to download the upgrade software and continue to the next step. Otherwise, click <Cancel> to abort and continue to normal CMS process.

Step 2. Choose a destination folder to save the file. Then a window will pop up and show the downloading status. Click <Abort> to terminate the download and CMS will be started as usual.

Step 3. When the download is completed, the installation of the new version of CMS can be started following the same procedures described in section **Software Installation**.



NOTE: If the upgrade file is not completely downloaded, an error message will be displayed to notify users.



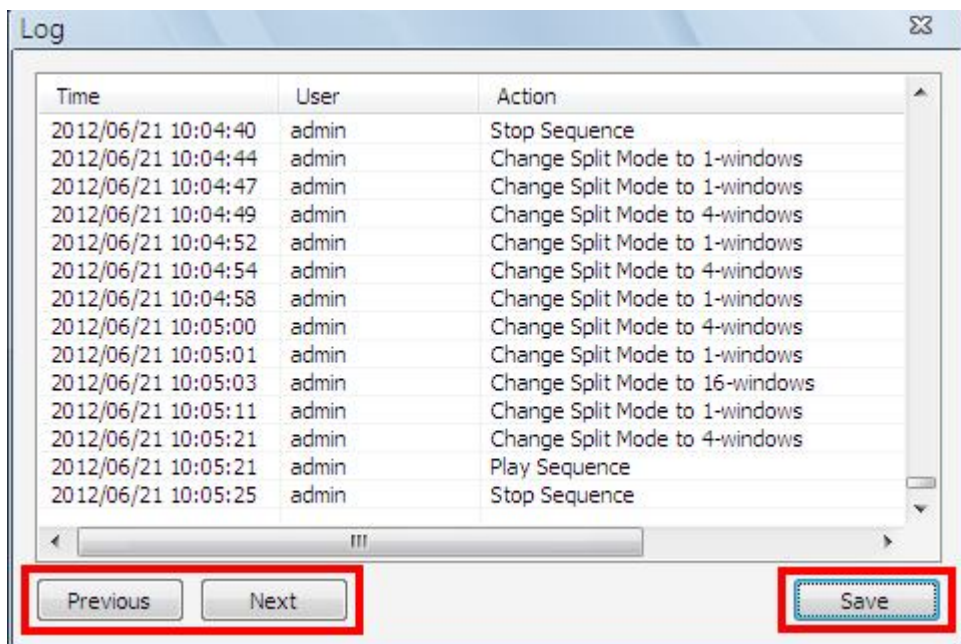
NOTE: A release note will also be downloaded together with the setup file. A popup window will be displayed to show the file path where the release note is saved.

Manual Software Upgrade

To manually upgrade software, click on <CMS Software Upgrade>. Then follow the same steps listed above to complete the download and installation.

6.7.4 CMS Operator Log

The step by step operation of CMS will be recorded by CMS operator log. Select <CMS operator log> and the Log window will be displayed.



The list will display 1,000 items with latest ones showing at the bottom. The list can store up to 10,000 items in circulation, which means the oldest ones will be deleted when the number of items exceeds 10,000.

Previous button

Click this button to show previous 1,000 items.

Next button

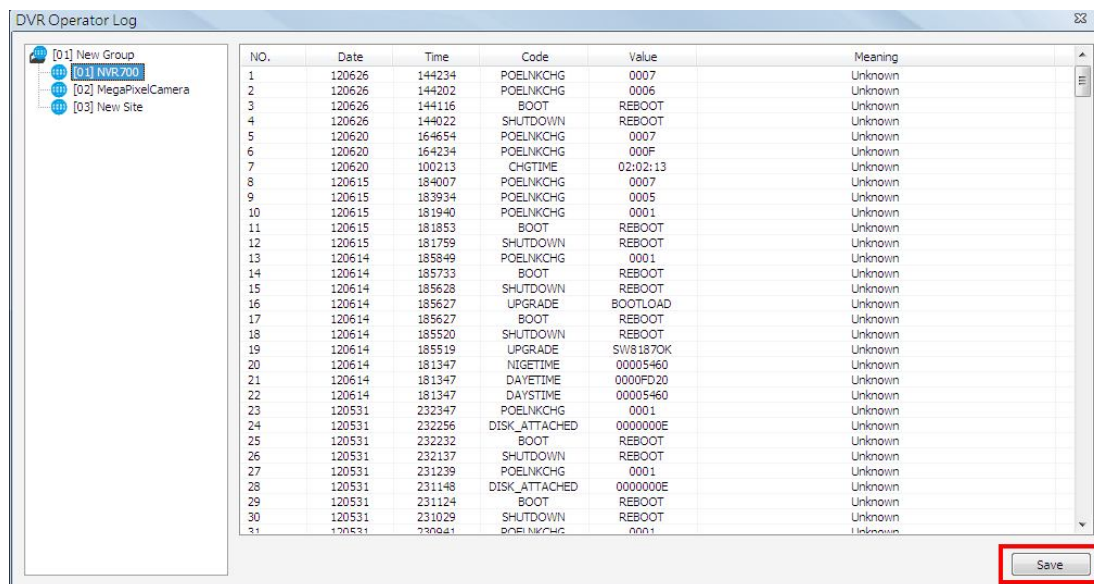
Click this button to show next 1,000 items.

Save button

Click on this button to save CMS operator log as a file.

6.7.5 Device Operator Log

Select <Device operator log> and users can access operator log of DVRs and NVRs. Select a DVR or a NVR site in the site list, and users will be asked to input the administrator account name and password. Note that the login name and password in site setting has to be the administrator account as well. Otherwise an error message will be displayed.



The screenshot shows a window titled "DVR Operator Log" with a tree view on the left and a table of log entries on the right. The tree view shows a hierarchy: [01] New Group, [01] NVR700, [02] MegaPixelCamera, and [03] New Site. The table has columns for NO., Date, Time, Code, Value, and Meaning. A "Save" button is highlighted with a red box at the bottom right of the window.

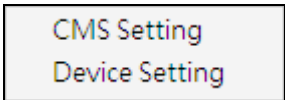
NO.	Date	Time	Code	Value	Meaning
1	120626	144234	POELNKCHG	0007	Unknown
2	120626	144202	POELNKCHG	0006	Unknown
3	120626	144116	BOOT	REBOOT	Unknown
4	120626	144022	SHUTDOWN	REBOOT	Unknown
5	120620	164654	POELNKCHG	0007	Unknown
6	120620	164234	POELNKCHG	000F	Unknown
7	120620	100213	CHGTIME	02:02:13	Unknown
8	120615	184007	POELNKCHG	0007	Unknown
9	120615	183934	POELNKCHG	0005	Unknown
10	120615	181940	POELNKCHG	0001	Unknown
11	120615	181853	BOOT	REBOOT	Unknown
12	120615	181759	SHUTDOWN	REBOOT	Unknown
13	120614	185849	POELNKCHG	0001	Unknown
14	120614	185733	BOOT	REBOOT	Unknown
15	120614	185628	SHUTDOWN	REBOOT	Unknown
16	120614	185627	UPGRADE	BOOTLOAD	Unknown
17	120614	185627	BOOT	REBOOT	Unknown
18	120614	185520	SHUTDOWN	REBOOT	Unknown
19	120614	185519	UPGRADE	SW/81870K	Unknown
20	120614	181347	NIGETIME	00005460	Unknown
21	120614	181347	DAYTIME	0000FD20	Unknown
22	120614	181347	DAYTIME	00005460	Unknown
23	120531	232347	POELNKCHG	0001	Unknown
24	120531	232256	DISK_ATTACHED	0000000E	Unknown
25	120531	232232	BOOT	REBOOT	Unknown
26	120531	232137	SHUTDOWN	REBOOT	Unknown
27	120531	231239	POELNKCHG	0001	Unknown
28	120531	231148	DISK_ATTACHED	0000000E	Unknown
29	120531	231124	BOOT	REBOOT	Unknown
30	120531	231029	SHUTDOWN	REBOOT	Unknown
31	120531	230941	POELNKCHG	0001	Unknown

Save button

Click on the <Save> button to save the device operator log as a file.

6.8 Setting

Click on the <Setting> icon and the pull-down menu are <CMS Setting> and <Device Setting>. Details of the menu items are described in the following subsections.

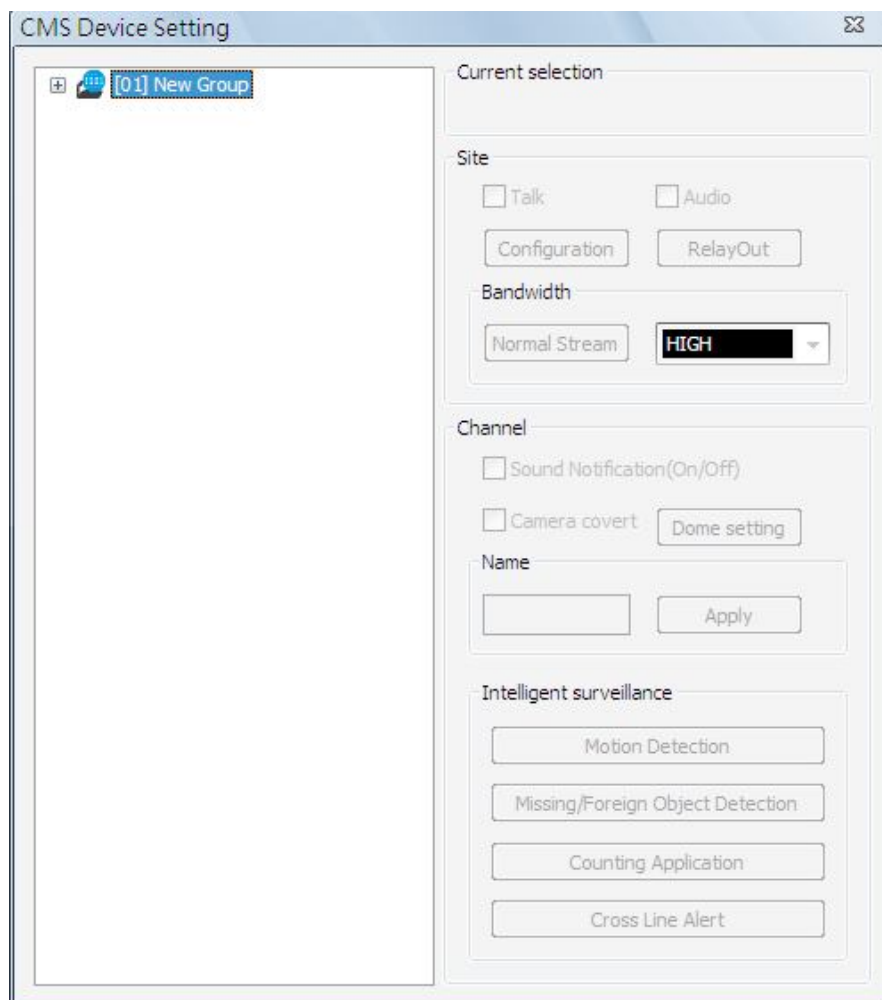


6.8.1 CMS Setting

The instruction of CMS setting is already explained in section **Configure CMS** and its subsections. Please refer to the section for all details.

6.8.2 Device Setting

Select <Device Setting> and the following window will be displayed. The settings are separated as by sites or by channels. First users have to select a site or a channel in the site tree on the left. The selected site or channel will be shown under “Current Selection” area. Note that users can only edit settings of the connected sites.



2-way Audio Talk (IP Cameras Only)

For IP cameras, 2-way audio talk function enables users to communicate with the camera side. All stream types except “RTP OVER RTSP” support 2-way audio. The current supported 2-way audio type is ALaw and uLaw audio type.

Check the box in front of <Talk> to enable the talk function. Display the IP camera in single-channel viewing mode, and users can speak through the microphone now to communicate with the camera side. “Talk” will be shown on button left of the Live video.



NOTE: The communication mode is one to one. Broadcasting function currently is not available.

Audio

Check the box in front of <Audio> to switch on/off the audio.



NOTE: Switching ON/OFF the audio at CMS will not affect the audio setting of the connected sites.

Configuration

Click on the <Configuration> button to open the configuration menu of the site. The configuration menus for different types of sites are different from each other. Refer to the following for examples.

Configuration Menu of an IP Camera:

The Configuration menu of an IP camera is as shown below. The <Stream> tab is the same as in <Advance Streaming Setting> in section **Setup the IP Camera Site Manually.**

Configuration

Stream Property Network Video Setting System

Main Stream

Stream Type : RTP_PLUS_RTSP H264

Record Resolution: 2592 X 1944

Sub Stream

Enable Stream Type : RTP_PLUS_RTSP H264

Record Resolution: 352 X 240

OK Cancel Apply Link to WebPage

Other tabs (Property, Network, Video Setting, and System) allow users to edit the IP camera's corresponding settings. Click on <Apply> at the bottom and users can see effect of the new setting in the Live video. The change of settings will be applied to the webpage of the IP Camera as well.

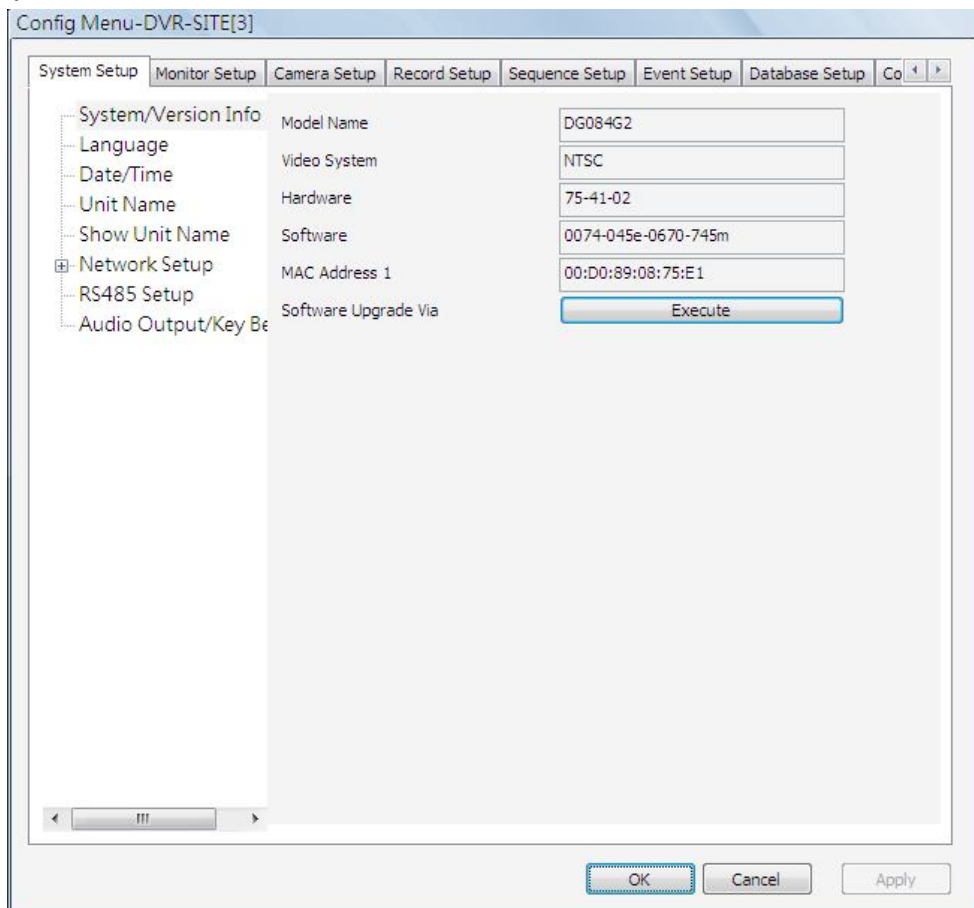
If users wish to connect to the IP camera's webpage via a browser, click on <Link to WebPage> at the bottom. When the setting is completed, click <OK> at the bottom to exit the Configuration menu.



NOTE: Only A5s IP Cameras with software version “**d20110323NS**” or later support the configuration function.

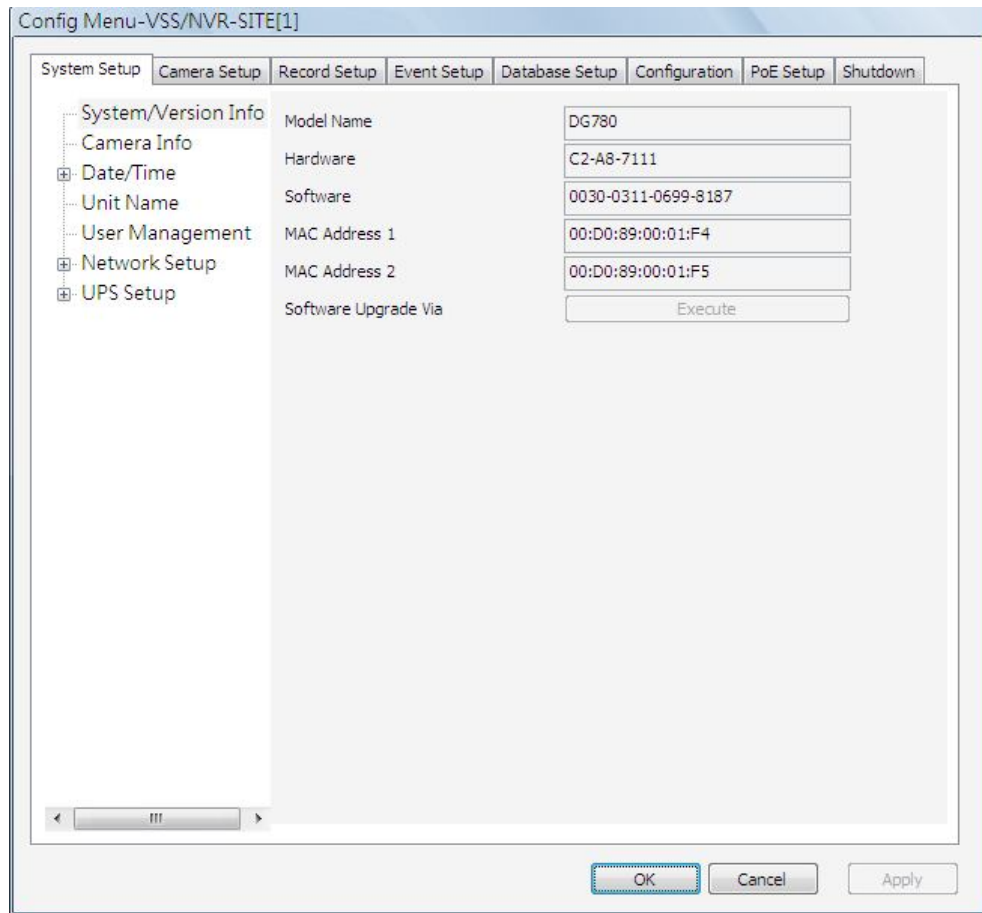
Configuration Menu of a DVR:

The following is the Configuration menu of a DVR. Some items are not available in CMS setting condition. Please refer to User's Manual and OSD Setup Manual of the DVR for detailed instruction.



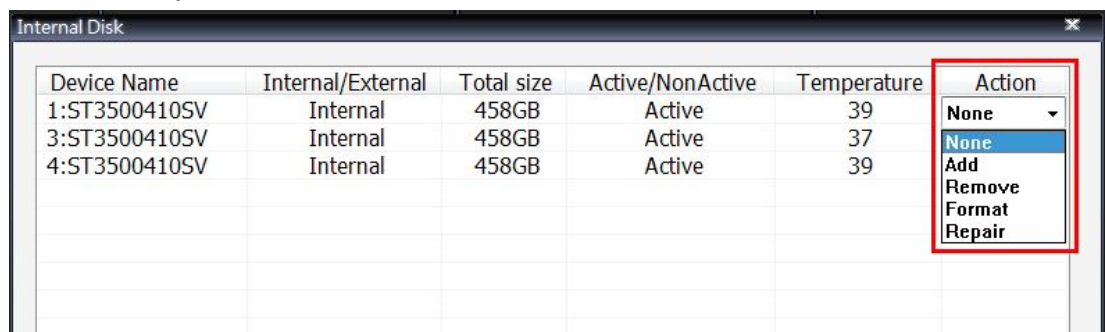
Configuration Menu of a NVR:

The following is the OSD Menu of a NVR. Some items are not available in CMS setting condition. Please refer to User's Manual and OSD Setup Manual of the NVR for detailed instruction.



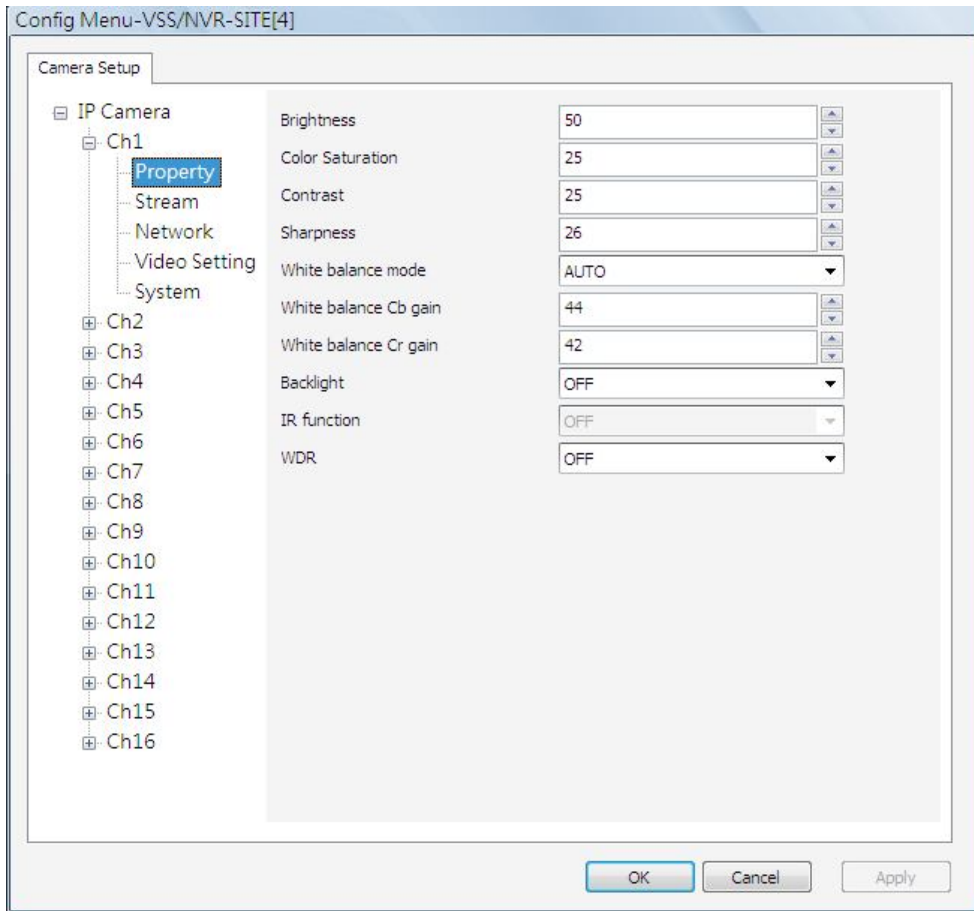
Editing the HDD of Network Video Storage (NVS):

Go to <Database Setup> tab and click on the <Execute> button next to <Internal Disks>, and a list will popup showing all internal HDDs. The list also contains information about total size, state, and temperature of the internal HDDs. <Active> means the HDD is added to the NVS database. Under <Action> column, users can add or remove a HDD to/from the database, and format or repair a HDD.



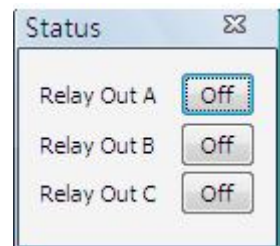
Configuration Menu of an IP Camera via VSS Site:

An example of the configuration window of the VSS site is shown as below. Users can edit the IP camera's configuration settings.



Relay Out (DVR Only)

For DVR sites, users are allowed to manually trigger preset relay out alarms at the DVR side. Click on the <RelayOut> button and a status window will be displayed, as on the right. Click on the button next to any relay out alarm to manually trigger it. Click on the button again to switch it off.



NOTE: Different models of DVR will have different number of relay out alarms.

Bandwidth – Normal/Dual Stream (DVR Only)

For different networks with different bandwidths, two streaming options are provided – Normal Stream and Dual Stream. Users who are using high-speed networks, normal stream will be a recommended choice. Depending on the HDD capacity and network usage, set to high, middle or low bandwidth.

For networks with limited bandwidth, dual stream will be a better choice. It enables coexistence of high quality stream at local DVR side and lower quality stream but faster transmission for CMS side. To select dual stream, click on the bandwidth button to switch to <Dual Stream>. Then users can furthermore choose different bit rates to adjust for the best displaying quality.

The setting will be applied immediately, and is going to be saved for CMS next startup.

Sound Notification Setting

When a channel is selected, <Sound Notification(On/Off)> will be available for setting. Check the box to enable sound notification function for the selected channel. Note a message window will arise if there is no sound file selected yet. Refer to section **Display** for more details about selecting sound files.




NOTE: On the top-left of the grid will show [SN] to indicate sound notification is switched on.

In addition, there are some quick hot keys for setting up sound notification function directly at CMS main window. Refer to the following description.

1. Click a channel grid and press the following keys:
 - Ctrl + n: Sound Notification ON
 - Ctrl + f: Sound Notification OFF
2. Click a channel grid and press the following keys:
 - Ctrl + Alt + n: Sound Notification ON for all sites
 - Ctrl + Alt + f: Sound Notification OFF for all sites
3. Click a site in the Site Tree and press the following keys:
 - Ctrl + Alt + n: Sound Notification ON for the selected sites
 - Ctrl + Alt + f: Sound Notification OFF for the selected sites

Camera Covert

If a camera is set to covert at the DVR side, uncheck the box in front of <Camera Covert> to un-covert at CMS side. Then video stream will come in, and an icon “” will be shown at bottom-left of the grid. The icon represents that the camera is covert at the DVR side.

This function is only available when CMS and DVR side are logged in using accounts with administrator authority.

Dome Setting (Dome Cameras Only)

Click on the <Dome setting> button to setup the Dome ID and Dome Protocol.

Change Camera Name

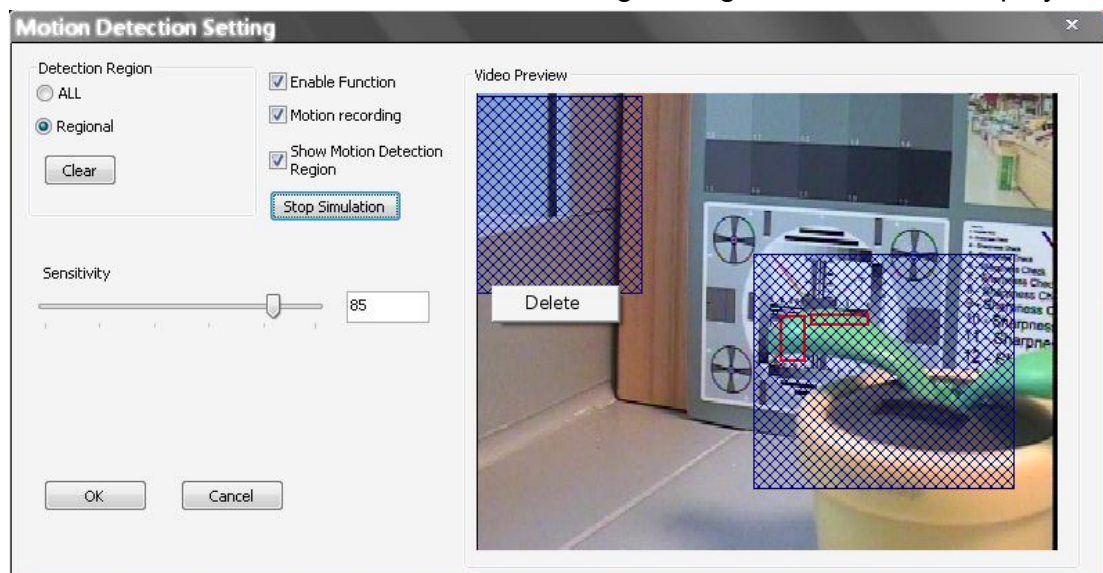
Users can change the display name of the channel here. Input a new name and click on the <Apply> button to change the camera name immediately.

Intelligent Surveillance

There are four intelligent surveillance function provided for users to setup each channel separately. Note that <Counting Application> and <Cross Line Alert> are for PRO versions only.

CMS Motion Detection:

Users can setup motion detection at CMS site independently. Click on the <Motion Detection> button and the following setting window will be displayed.



Users can choose to monitor the complete screen or select up to 8 boxed areas after clicked on <Regional>. Click on <Clear> button to delete all selected areas. Alternatively, right click on any selected area to delete it individually.

Refer to the following for description of motion detection settings.

Enable Function: Check on it to start monitor motion detection.

Motion recording: Check on it and CMS will record event video when motion is detected. The length of event video will follow <Event Recording Duration> specified in Event setting.

Show Motion Detection Region: Check on it to display the detection area visually on the monitoring screen. The boxes will also be captured and displayed on the snapshot images.


Start Simulation: Click on it to start simulating motion detection. As shown above, red boxes will mark the motion areas.

Stop Simulation: Click on it to stop simulation.

Sensitivity: Setup a desired sensitivity level.

Click on <OK> to apply the settings, or click on <Cancel> to disregard and return to Live mode.



NOTE: When motion alert is triggered, an alert icon “” will be displayed at bottom-left of the grid.

Missing/Foreign Object Detection

The purpose of Missing/Foreign Object Detection function is for users to keep an eye on the important objects and areas. Click on the <Missing/Foreign Object Detection> button, and the object detected search window will be shown as below.

No.	Area No.	Time
001	1	2009/12/17 16:18:40
002	1	2009/12/17 16:19:15
003	1	2009/12/17 16:19:39
004	1	2009/12/17 16:20:32
005	1	2009/12/17 16:20:40
006	1	2009/12/17 16:21:12
007	1	2009/12/17 16:21:45

Configuration

Sensitivity:

Interval: Sec

Enable Function

Show Region

Users can setup at most 8 monitoring areas. Click on <Clear All> button to delete all boxes. Alternatively, right click on any single box to delete it individually.

Sensitivity: Setup a desired sensitivity level.

Interval: The time specified here is for determining the lost of objects. If an object is removed from the selected areas for more than the time specified here, lost of object alert will be triggered.

Enable Function: Check on it to enable missing/foreign object detection.

Show Region: Check on it to display the detection area visually on the monitoring screen. The boxes will also be captured and displayed on the snapshot images.

Clear All: Click on it to clear all selected boxes.

Apply: Click on it to save and apply settings in the configuration section.

Start Simulation: Click on it to start simulating object detection. As shown in the previous page, green boxes will mark the lost of objects.

Stop Simulation: Click on it to stop simulation.

Live: Click on it to restore the Video Preview frame to live image.

Lost of Object Alerts

When lost of object alerts are detected, restore the object detected search window and the list on the left-hand side will show area number and time of the lost of object alerts.

If the connected site is a DVR, double click on any item to playback video that is 15 seconds before the alert triggered. However, if the video is not added to the database yet, an error message will be displayed.



NOTE: Only the configuration of area positions, sensitivity, and interval will be permanently saved. The default image will be replaced by the initial image every time when CMS restarts. Therefore, please check the configuration every time CMS starts up.

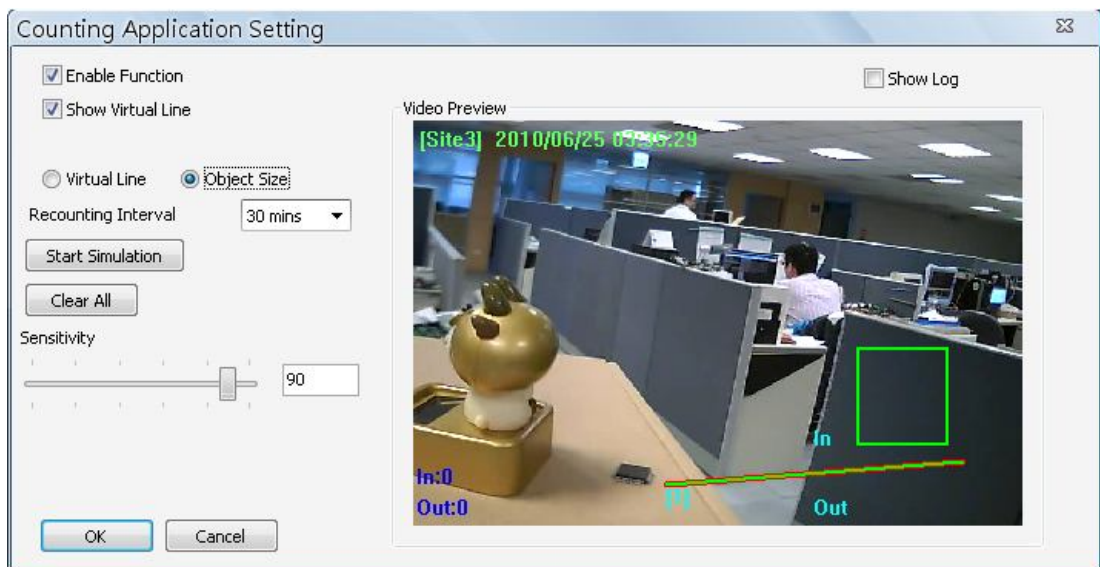
NOTE: CMS Player also has Missing/Foreign Object Detection function, and it is slightly different from what's in CMS. Refer to the appendix A for more details.

Click on <OK> to apply the settings, or click on <Cancel> to disregard and return to Live mode. The selected boxes will not be shown on the live monitoring screen.

NOTE: The “Motion Detection” function and “Missing/Foreign Object Detection” function can be enabled simultaneously.

Counting Application (PRO Version Only)

Counting Application enables users to keep tracks of object entrance/exit at designated positions. Click on the <Counting Application> button and the counting application setting window will be shown as below.

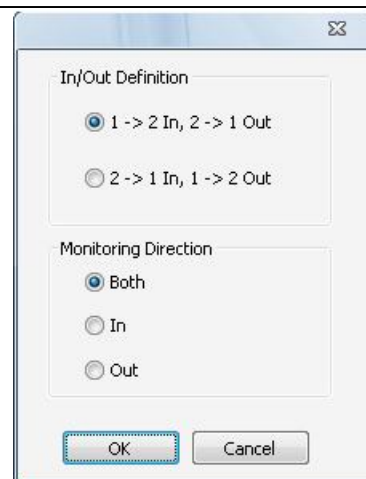


Refer to the following for description of counting application settings.

Enable Function: Check on it to enable counting application.

Show Virtual Line: Check on it to display the virtual line on Live monitoring display.

Virtual Line: Click to select this and users can draw virtual lines at preferred positions. After a virtual line is drawn, a window will pop up as shown on the right. Users have to define In/Out direction and monitoring type. A maximum of 10 virtual lines can be defined for each camera.



Object Size: After the virtual line is drawn, users need to define size of detecting object. Click and drag the mouse to define a preferred object size.

Recounting Interval: Users need to specify duration of time segment. The In/Out counting numbers will be reset for each time segment.

Start Simulation: Click on it to start simulating counting application. The In/Out counter will show numbers of detections.

Stop Simulation: Click on it to stop simulation.


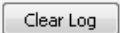
Clear All: Click on it to clear all defined virtual lines and the object size box.


Sensitivity: Setup a preferred sensitivity level.

Show Log: Check on it and the log will be displayed as shown on the right.

Clear Log: Click on it to clear the log.

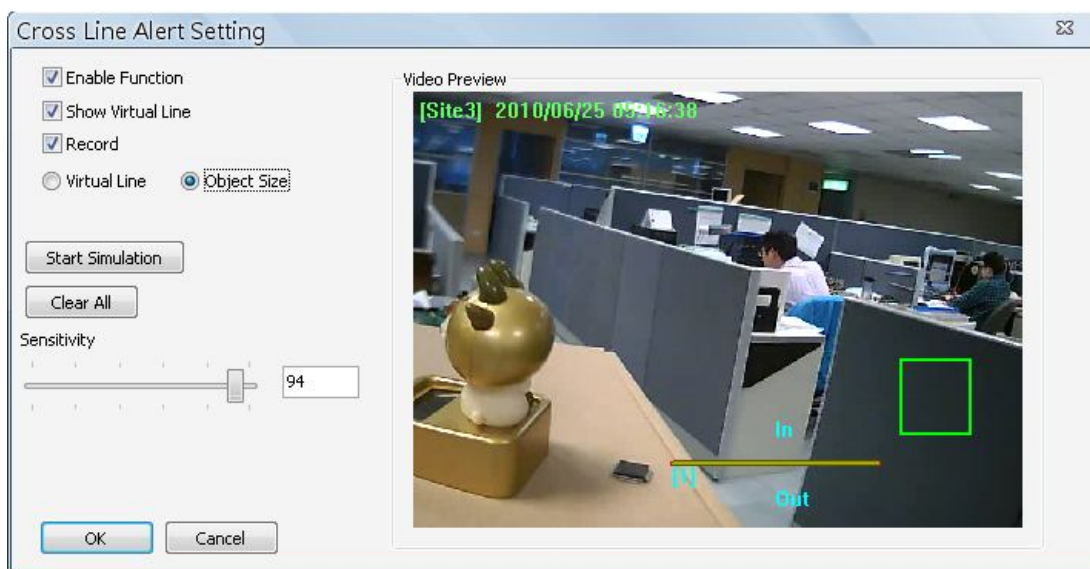
Click on <OK> to apply the settings, or click on <Cancel> to disregard and return to Live mode.

Start Time	End Time	Label	In	Out
2010/01/11...	2010/01/1...	1	1	1
				
				

 **NOTE:** Counting Application function is also available in CMS Player. The setting options are exactly the same as in CMS.

Cross Line Alert (PRO Version Only)

Users can use Cross Line Alert function to monitor prohibited entrance/exit at designated boundary line. Click on the <Intelligent Surveillance> button and the cross line alert setting window will be shown as below.

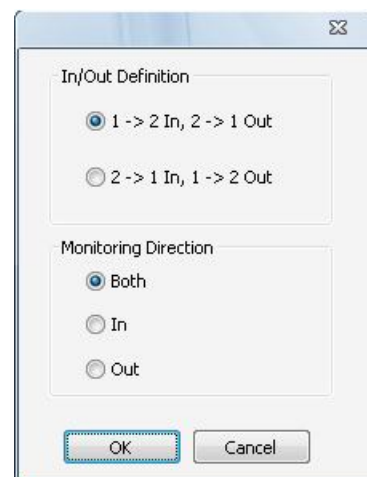


Enable Function: Check on it to enable cross line alert function.

Show Virtual Line: Check on it to display the virtual line on Live monitoring display.

Record: Check on it to trigger event recording whenever cross line alert is detected.

Virtual Line: Click to select this and users can draw virtual lines at preferred positions. After a virtual line is drawn, a window will pop up as shown on the right. Users have to define In/Out direction and monitoring type. A maximum of 10 virtual lines can be defined for each camera.



Object Size: After the virtual line is drawn, users need to define size of detecting object. Click and drag the mouse to define a preferred object size.

Start Simulation: Click on it to start simulating counting application. The In/Out counter will show numbers of detections.


Stop Simulation: Click on it to stop simulation.

Clear All: Click on it to clear all defined virtual lines and the object size box.

Sensitivity: Setup a preferred sensitivity level.

Click on <OK> to apply the settings, or click on <Cancel> to disregard and return to Live mode.



NOTE: When cross line alert is triggered, an alert icon “” will be displayed at bottom-left of the grid.

6.9 Disconnection Log

CMS will automatically detect if any sites connected at the beginning are disconnected for any reason other than manual disconnection in every 3 minutes. The <Disconnection Log> icon will blink to hint users when abnormal disconnection happened.

DATE/TIME(Local)	GROUP	SITE
2010/06/24 11:37:44	[01] New Group	[01] MegaPixel...

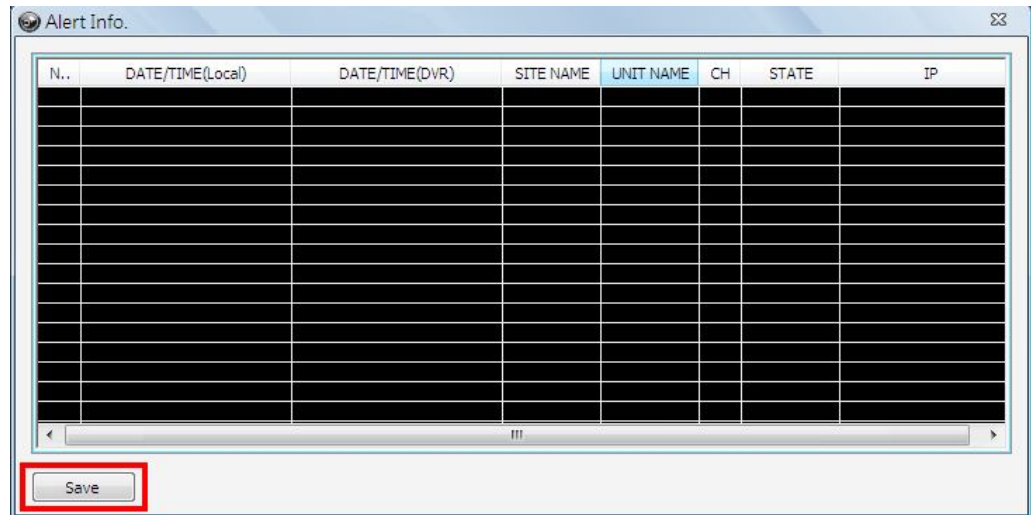
Save

Users can also click on the <Disconnection Log> icon at any time to restore the disconnection list.

The list can be saved as a TXT file by clicking on <Save> at the bottom.

6.10 Alert Log

When an alert is triggered while the alert function is enabled, the <Alert Log> icon will blink to indicate that an alert has been triggered. Click on the <Alert Log> icon to display the Alert Info window. Users can click on the <Save> button to save the alert information list.



NOTE: The maximum number of items that can be kept on the alert list is 1,000. When the list reached 1,000 items, the earliest alert messages will be deleted while the new ones are being saved.

Double click on the Event Messages (Alarm, Motion, or Video Loss) to view the event video in full screen. If the DVR sending the Event Messages is not currently connected to CMS, a message box will be displayed. Connect the DVR and the event video will be available.

Icons of alert types, as listed below, will be displayed at bottom-left of the grid.

	Motion		Alarm
	Cross Line		Video Loss



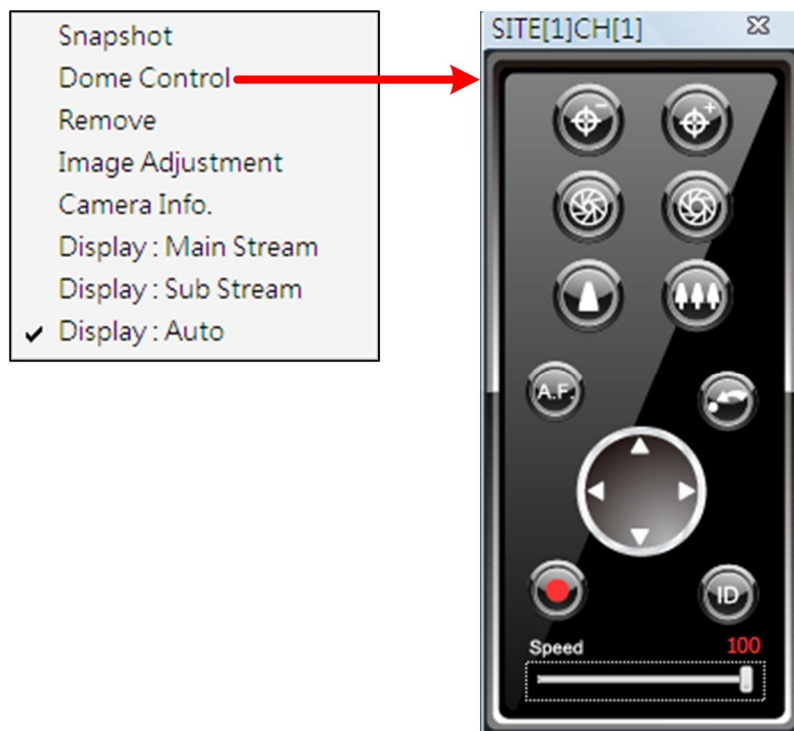
NOTE: If the alert event has not yet been added to the database of the DVR, a warning message will be shown to notify users.

7. Additional Functions

There are more functions available when right clicking on the displaying grids. Refer to the following subsections for more information.

7.1 Dome Control

Users can also control a dome camera in CMS. Right click on a grid where a dome camera is properly installed and select <Dome Control>. The dome control panel will be displayed.



The function of each button on the dome control panel is described below.

Focus

This is used to manually focus on preferred objects. Click on the <Focus Near> / <Focus Far> icons to adjust the focus.

Iris

This is used to adjust iris of then lens. Click on the <Iris Open> icon let in more light. Otherwise, click on the <Iris Close> icon to reduce incoming light.


Zoom

This is used to zoom in / out to preferred objects. Click on the <Zoom In> / <Zoom Out> icons to adjust the lens. It can also be adjusted by moving the scroll wheel of the mouse. Scroll toward users to zoom out and away from users to zoom in. CMS zoom function will be disabled in dome camera control mode.

A.F. (Auto Focus)

Click on  to focus the camera automatically.


Go Preset Point

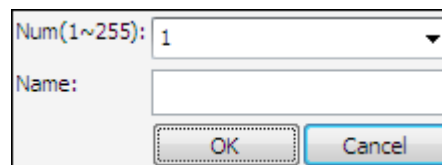
Click on  to go to any preset point.

Direction Button

Click on the arrows to pan/tilt the dome camera.

Set Preset Point

Click on  to set the current position as a present point. As shown on the right, specify the preset point number and give it a name. The setting will apply to the remote site as well.



ID

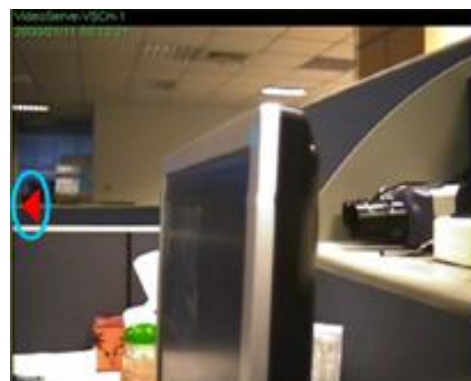
Click on  to setup the Dome ID and Dome Protocol.

Speed Slider Bar

The slider bar is used to adjust the speed of the pan/tilt movement. 0 is the slowest and 100 is the fastest.

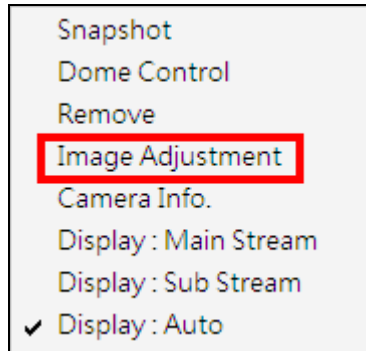
Mouse Control

If the mouse is moved to the top / bottom / left / right edge of the screen, a red triangle as in the picture on the right will show up. At this time left clicking the mouse to move the screen toward the direction where the red triangle points to.



7.2 Image Adjustment

Both CMS and CMS player provide the image adjustment function. Double click on a channel to view in 1x1 mode, then right click on it. Select <Image Adjustment> from the pull-down menu, and the image adjustment window will be displayed. Users can change the brightness, saturation, hue and contrast value of the channel.



NOTE: The <Image Adjustment> option will only be available when viewing in single-channel mode.

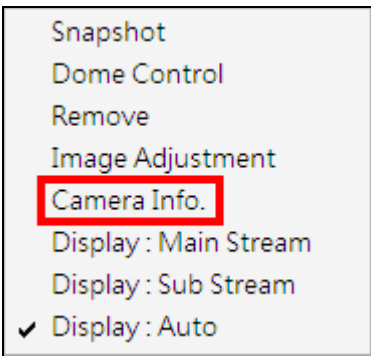
Click the <Default> button to reset the adjustments to the default values.



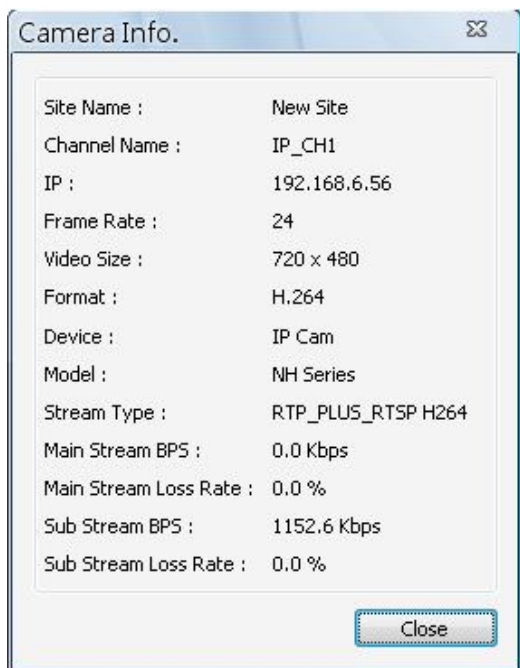
NOTE: The image adjustment function has no effect to the recorded video. Whatever changes made here will not apply to the recorded video.

7.3 Camera Info.

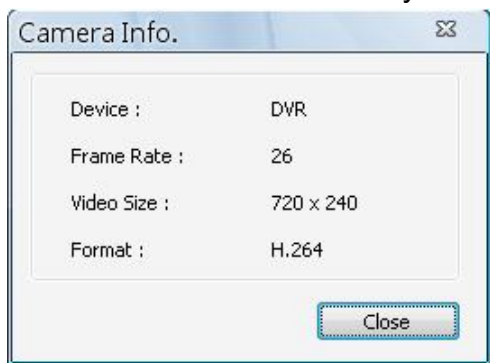
Camera information can be viewed both in CMS and CMS Player. Right click on any channel grid and select <Camera Info.> from the pull-down menu to view its camera information. Refer to the following for examples of Camera Info. window from CMS and CMS Player.



Camera Info of CMS



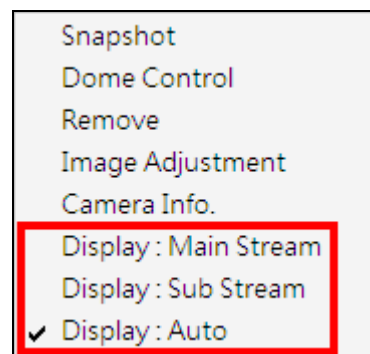
Camera Info of CMS Player



7.4 Dual Streaming Options

When the connected site is an IP Camera or a VSS/NVR device, the display and recording formats will be in dual streaming mode, while three different options are available.

Right click on a grid of an IP Camera or a VSS/NVR site and dual streaming options will be shown at the bottom, including Main Stream, Sub Stream, and Auto. Only one option can be selected out of the three. The preset is Auto.



NOTE: For VSS/NVR sites, the Main/Sub stream types **MUST** be defined beforehand.


Refer to the following table for details of which type of streams will be used under different combinations of display and recording settings for the three different options.

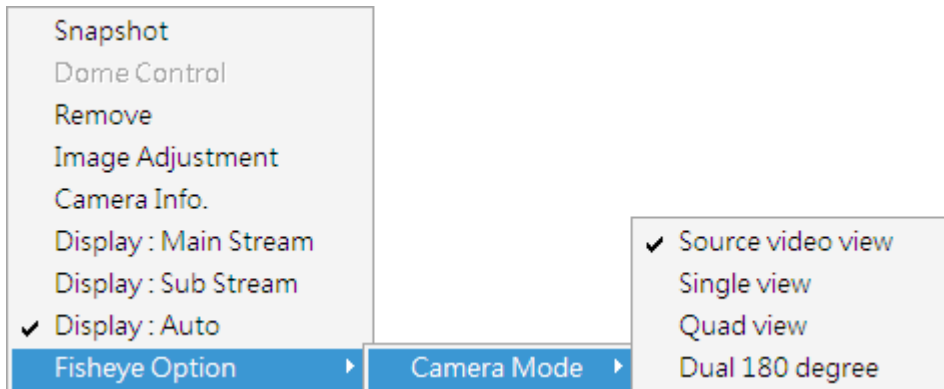
	Dual Streaming Options		
	Auto	Main Stream	Sub Stream
Display Only			
Multi-window Display	Sub Stream	Main Stream	Sub Stream
Single Channel Display	Main Stream	Main Stream	Sub Stream
Display AND Recording			
Multi-window Display / Recording	Sub Stream / Main Stream	Main Stream	Sub Stream / Main Stream
Single Channel Display / Recording	Main Stream	Main Stream	Sub Stream / Main Stream
Recording Only			
Recording Only	Main Stream	Main Stream	Main Stream

Some special cases are:

1. For IP Camera sites, if sub stream is not enabled, the dual streaming option will be preset and fixed as <Display: Main Stream>.
2. For NVR sites, the recording stream will be whatever streams come in. The displaying stream will follow rules of dual streaming option selected.
3. For VSS/NVR sites, the dual streaming options will not be available if the connection type is set to <Sub Stream Only>. Thus both recording and displaying streams will be the sub stream.

7.5 Fisheye Camera Display

When a fisheye camera is connected, there will be a small icon  displayed at the bottom left-hand corner of the grid. Right click on the camera display and the pull-down menu will include <Fisheye Option>, as shown below.

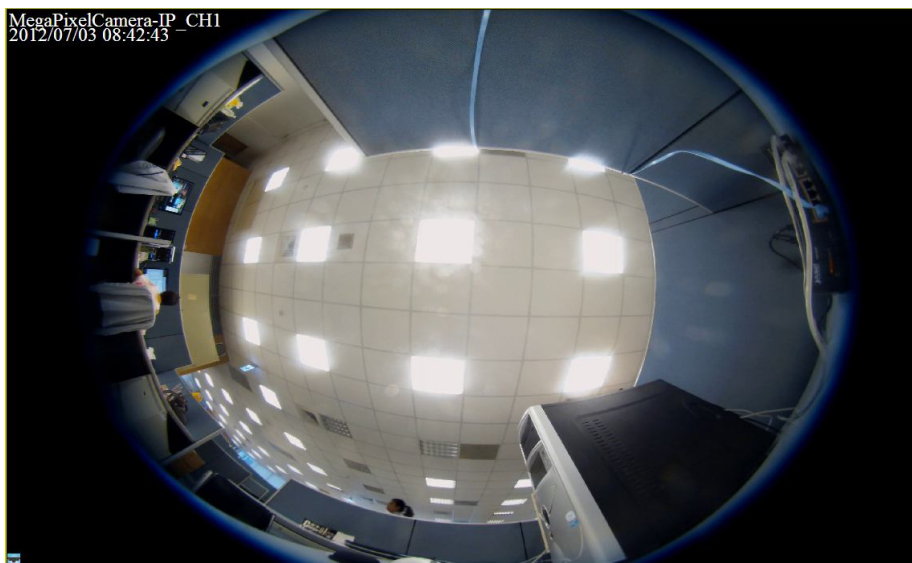


NOTE: Resolution of the main stream **MUST** be set to 1920*1080 or higher, otherwise the pull-down menu will not be available.

When the display is in multi-channel mode and the fisheye camera is set to <Display: Main Stream>, the camera mode selections are Source video view and Single view. If the display is in single channel mode, the camera modes are Source video view, Single view, Quad view and Dual 180 degree.

Source Video View

This is the original video source from the fisheye camera. The image will look like the following.



Single View

This is the expanded picture of the original video source, for the purpose of easier observation by human eyes.



Quad View

Similar to single view, quad view shows the original video source in four expanded pictures. Users will be able to monitor bigger area than single view, but the picture size is one half smaller.



Dual 180 Degree

This camera mode will cut the original video source into half and expand each half into a rectangle picture, as shown below. This allows users to monitor the whole source view, but the pictures may be a little bit distorted.




Change Displaying Area

Under single view, quad view and dual 180 degree modes, users can click on any spot to make the position at the center of the displaying image. This will change to a different displaying area.

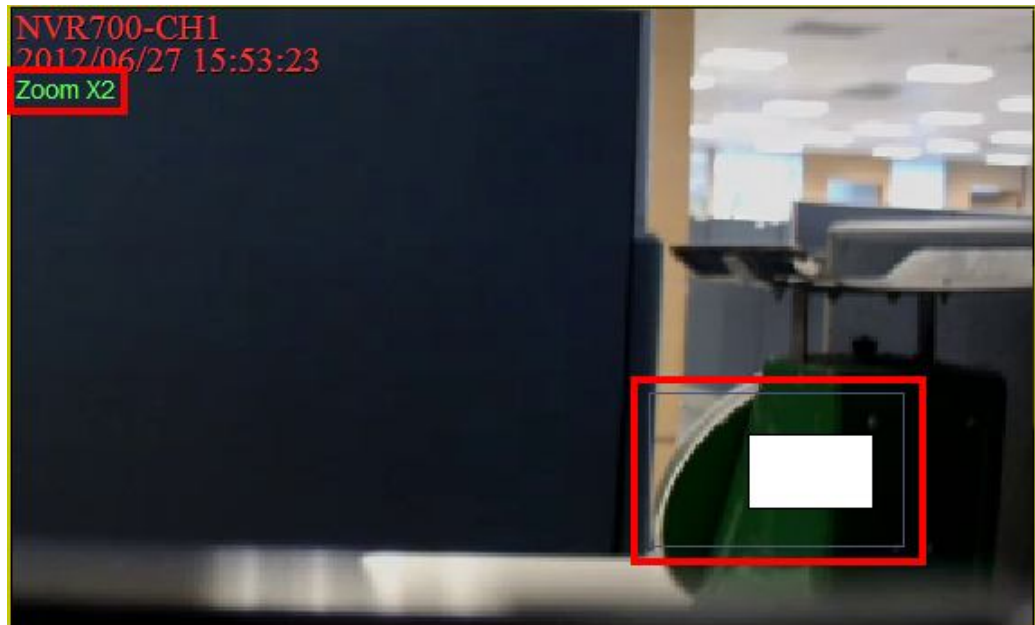
In addition, users can also click and hold the left key of the mouse to drag the camera image to change the displaying area. A red arrow will be displayed on the screen to show the moving direction.



 **NOTE:** Whatever type of camera mode is displayed for monitor purpose, the recorded video will always be in source video view.



7.6 ePTZ Control via Mouse

Both in CMS and CMS Player, zoom in/out can be easily controlled via the scroll wheel of the mouse. Either in CMS or CMS Player, click on any grid that users wish to zoom in viewing area. Move the scroll wheel away from users to zoom in and the screen will show like the following picture.



On the upper left-hand corner will show zoom-in multiple. The maximum multiple is X7. Also on the lower right-hand corner will show the position of current viewing area, shown as an inner white rectangle, comparing with the original screen, shown as an outer rectangle frame.

In addition, the viewing area can be dragged and moved by left clicking and holding the mouse while moving. On a zoomed-in screen, the mouse pointer

will change to  and when the mouse is clicked the pointer will become  to indicate that the image is dragged.



NOTE: This function is not available in Dome Camera Control mode. Scrolling the wheel of the mouse will zoom in/out the camera lens of the dome camera.

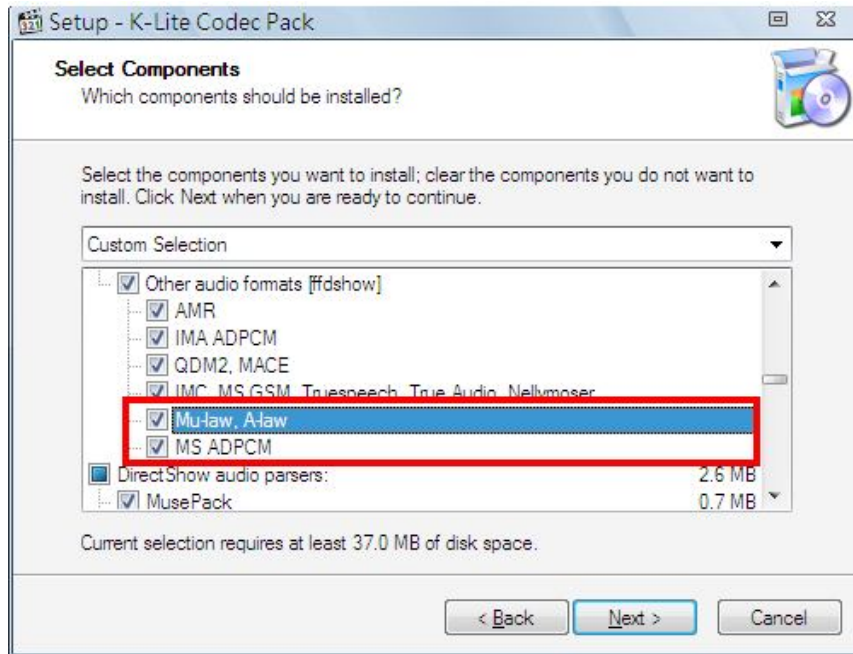


NOTE: This function will use up a lot of CPU resources. It is recommended not to open too many programs at the same time to avoid crash of CPU.

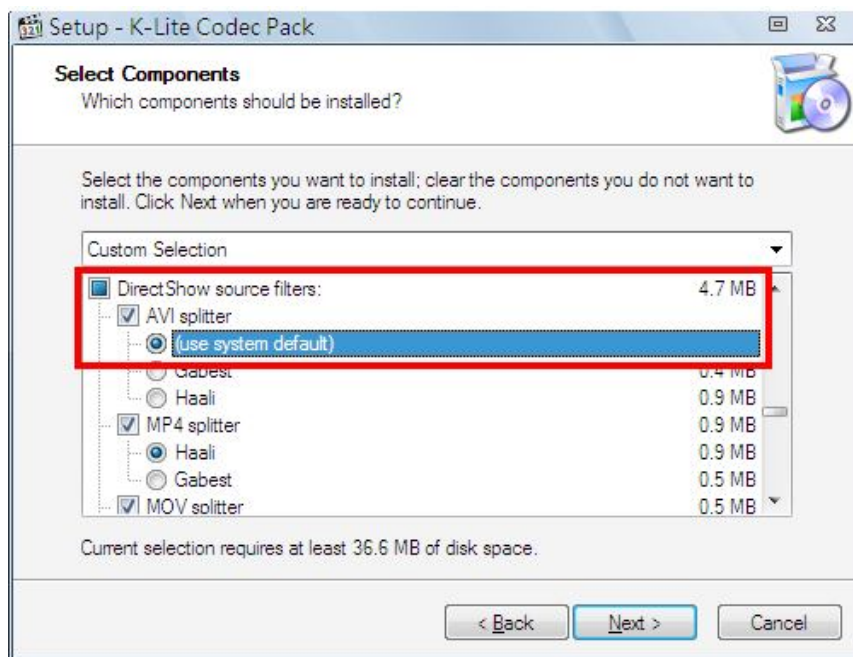
Appendix A: Install AVI Codec

In order to correctly playback converted AVI files, install K-Lite Codec Pack and select codec options during installation, as described below.

1. Check <Mu-law, A-law> & <MS ADPCM> under <Other audio formats [ffdshow]>.

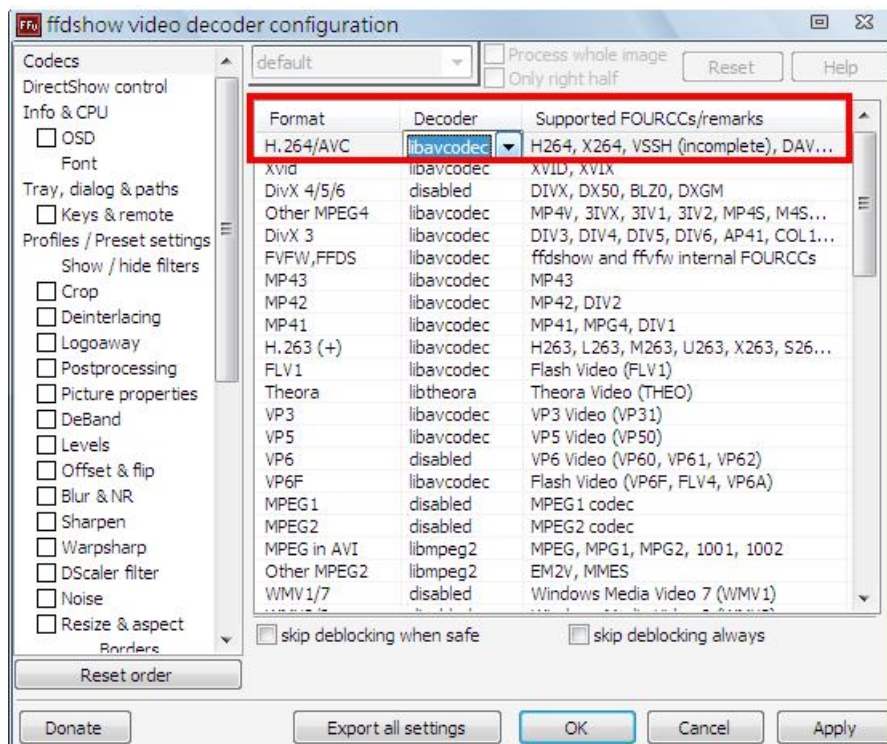


2. Find <DirectShow source filters:> and select <(use system default)> (some versions may show <Microsoft>) for <AVI splitter>.

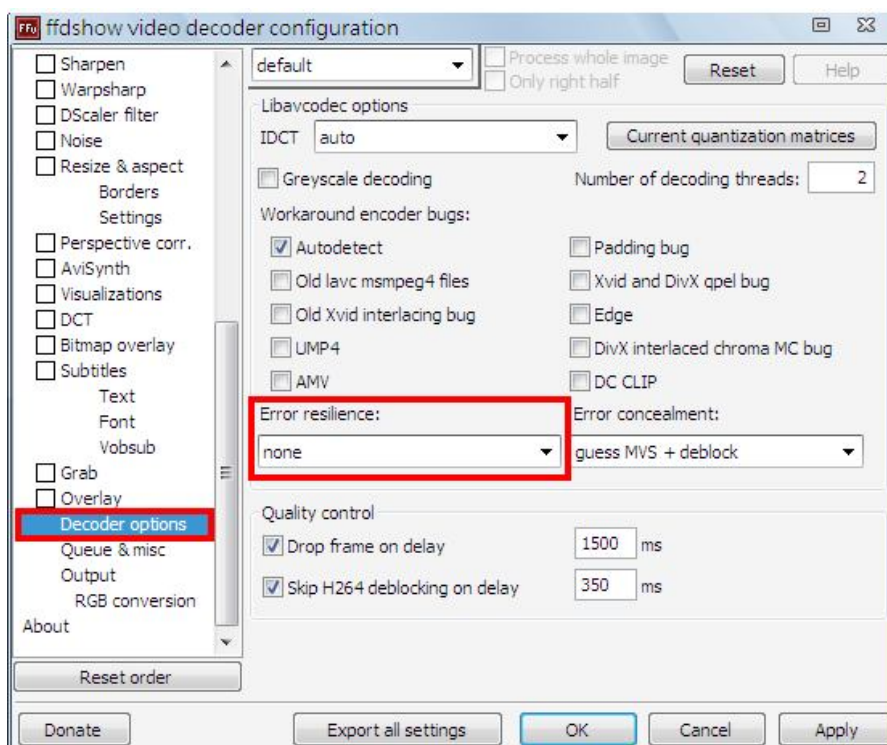


If H.264 AVI files cannot be played or the videos cannot be displayed correctly, please go to Start menu → <K-Lite Codec Pack> → <Configuration> → <ffdshow video decoder>. Then change the following settings

1. Under <Codecs>section, select <libavcodec> for H264/AVC Decoder.



2. Under <Decoder options> section, select <none> for <Error resilience>.



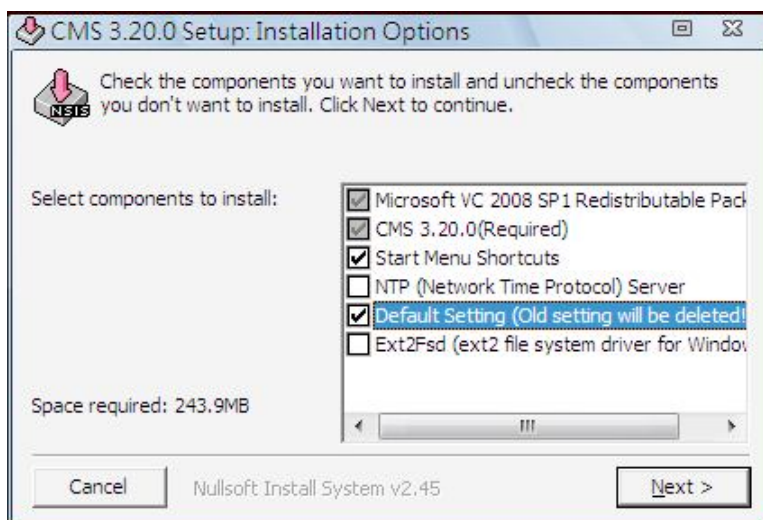
Appendix B: Troubleshooting

The followings are some common situations when users are having difficulty with CMS server.

1. CMS server does not work properly. How can it be recovered or where can I ask for help?

Please try the following ways to recover it first.

- A. Please check if the computer meets the system requirement.
- B. If CMS automatically closes when it's starting up or connecting to sites, please send the files stored in \CMS\Setting\ under improper operation condition. Afterwards, re-install CMS and check to install **Default Setting** during installation. Remember not to import old setting files. This will tell whether if the old setting data are corrupted.



- C. If CMS cannot successfully connect to sites, check the followings.
 - Confirm IP, port, username, and password of the site. Users can connect to the site via IE browser to verify the site exists and is connectable.
 - Close firewall and virus scan software and try to connect again. If the problem is due to firewall or virus scan software, please change their settings.
 - If the connection still failed, please send the IP address to our engineer.

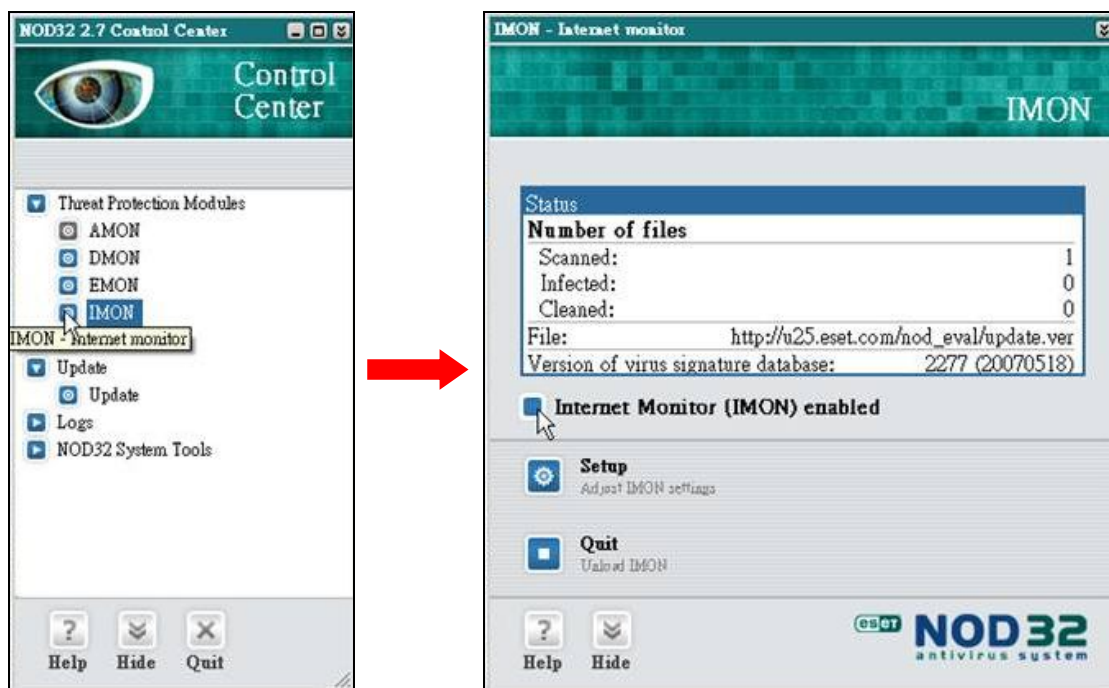


NOTE: When users need to ask for the engineer's help, please send a copy of the files stored in \CMS\Log\ as well.

2. CMS server takes up too many HDD space.

We have found that the preset of the virus scan software “NOD32” will automatically create a temporary file under windows system temporary folder when CMS connects to sites. This temporary file will automatically increase the size which causes the HDD became lack of space.

Please go to the control center of the NOD32 and disable **IMON**. Then the problem should be resolved. The following pictures are examples.



3. The PC crashed while playing back the AVI file exported from DVR or converted by CMS Player.

Click <Start Menu> and select <Run>. Then input “cmd regsvr32 /u shmedia.dll” and click <OK>. Playback the AVI file again and the problem shall be solved.

EZ960

We use



Surveillance HDDs



The EZ960 16 channel DVR range are low in price but big on features. Offering easy to use functions such as the EZ record function users can easily set the amount of days they want the DVR to record for and it will set itself up accordingly. Added to this is the easy backup function which allows for start and end point along with your selection of channel and an avi option for easy playback. With BNC, HDMI & VGA outputs for monitors and real-time recording at 960h resolution the EZ960 DVRs are a fantastic option for most installs. Other fantastic features include built in EZ DDNS eliminating the need for a static IP number, a programmable spot monitor output and audio recording on all channels.

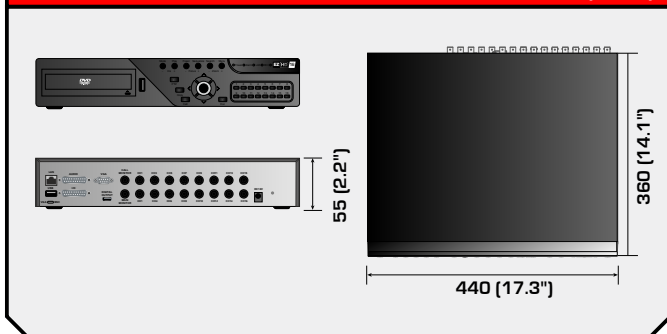
FEATURES:

- Built in USB/DVD for back up with ezBurn technology allowing playback software to be burned onto back up
- Remote viewing via TCP/IP also allowing remote viewing via Gigabit ethernet
- ezRecord allowing you to easily specify the amount of days to record for
- Covert Facility, 5 record settings, auto sequencing
- Smart cell motion detection with selectable areas
- Multiple built in dome protocols for PTZ control
- 16 Channel Quadplex recording
- Alarms In/Out, OSD & Time and Date
- 16 channel audio recording
- HDMI as standard with full 1080P output
- VGA & BNC outputs
- Multi screen display
- Pre alarm recording
- Powerful H264 recording
- Infra Red remote control
- USB mouse control
- Fanless design allowing install into almost any situation
- 960h realtime recording
- BNC Loop through



Dimensions

Unit: mm (inch)



EZ960/16

DISPLAY	
Input	BNCx16, 1.0Vp-p, 75ohm
CALL Monitor	BNC x 1, 1.0Vp-p, 75ohm
HDMI	1024x768, 1280x1024, 1920x1080p
VGA	1024x768, 1280x1024, 1280 x 720, 1920 x 1080
Picture Refresh Rate	25 PPS/per-channel
AUDIO	
Input	D-SUBx16
Output	D-SUB x 1, Line-out
Compression Method	G.711
Data Rate	64 Kbit/s, per CH
RECORDING	
Compression Method	H.264 High profile
Recording Mode	Schedule, Alarm, Motion Detection
Pre-alarm	Yes
Recording Resolution Rate	960 x 576 @25 fps 720 x 576 @25 fps 720 x 288 @25 fps
H.264 WD1	400pps
Recording Quality	8 Levels Presets, Adjustable
Storage Mode	Linear / Circular
Data Lifetime	Yes (Programmable)
STORAGE	
HDD Interface	2x SATA 4TB each
DVD+RW	DVD
Export x	2 USB 2.0 Port, Supports ThumbDrive, 1 DVD rewriter
ALARM	
Alarm Input	x 16, D-SUB, line in
Alarm Relay Output	x 1, D-SUB, line out
Alarm Detection	N.C. / N.O., Programmable
Motion Detection	16 x 12 Grid Array, Sensitivity, Trigger level adjustable
Video Loss Detection	Programmable
COMMUNICATION	
Network Connectivity	RJ45, 10/100/1000 Mbps Ethernet
Remote Control Software	CMS, Internet Explorer
Remote Operation	Monitoring, Playback, Recording, System setup, Dome camera control, Archiving
RS-485	D-SUB
Dome Camera Control Protocol	DSCP, Pelco P, Pelco D, AD422, Fastrax 2, Panasonic, JVC
GENERAL	
Operation System	Embedded (Linux)
Unit Dimension (W x H x D)	440 x 55 x 360 mm (17.3" x 2.1" x 14.1")
Unit Weight	3.5 Kg
Operation Temperature	0 °C ~ 40 °C (32 °F ~ 104 °F)
Relative Humidity	10% ~ 90%, Non-condensing
Power Consumption	DC 12V, 60W, Power adaptor