

IP Camera CMS Manual



1. CMS Overview
2. Installation
3. Main Screen Configuration
4. Registration & Connection of Server
 - 1) Resistration of server
 - 2) Managing server connection using tree view
5. Live Monitoring
 - 1) Screen mode and channel mapping
 - a. Mapping channels and video windows
 - b. Using vaious screen modes
 - c. Active channel
 - d. Display setting
 - e. Managing favourite group
 - 2) Adjusting video input
 - 3) Audio setup and control
 - 4) PTZ control & preset
 - 5) Event and alarm
 - a. Event monitoring
 - b. Event search
 - c. Alarm (relay) control
 - 6) Still-Image capture

6. Recording
 - 1) Overview
 - 2) Storage setup
 - 3) Recording mode and schedule setting
 - 4) Recording control
7. Search and Playback
 - 1) Overview
 - 2) Search Display
 - 3) Search by date and time
 - 4) Search by event
 - 5) Playback control
 - 6) Backup
8. Security
 - 1) Overview
 - 2) User groups and privileges
 - 3) User account management
9. Other Function
 - 1) Saving and loading configuration
 - 2) Setting DDNS server IP address
 - 3) Remote setup of server
 - 4) Statistics

CMS Overview



- ❁ CMS is a program to offer real time A/V monitoring with multiple connections to video servers and IP cameras. It also offers various Recording functions plus Search and Playback.
- ❁ The program consists of two different programs: CMS and True Search. These programs run independently and offer realtime monitoring and playback respectively.
- ❁ The CMS offers not only Video/Audio monitoring but also Recording, Playback, Event monitoring, Alarm & PTZ Control and Remote set-up function-like features which DVRs offer.

INSTALLATION

- ❁ Executing the CMS set-up program, the Icon of CMS will be created on desktop.

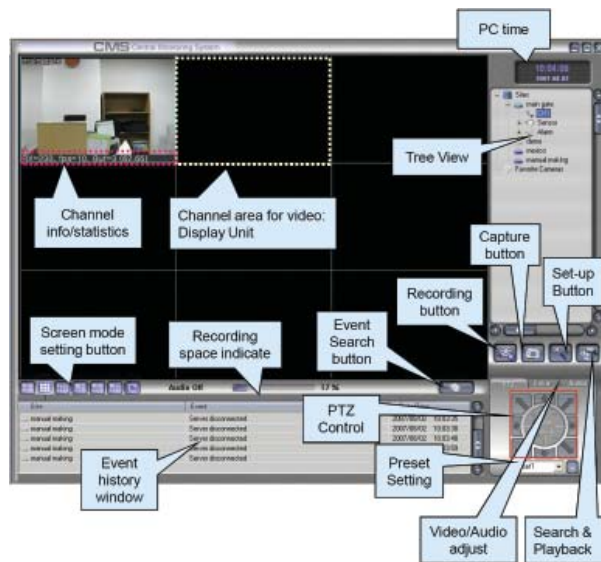


- ❁ CMS is executed by double clicking the icon.

PC Required specification

OS	: Windows XP, Windows 2000
CPU	: 2GHz or higher
Memory	: 512MB or higher
VGA	: 32MB RAM or higher
Hard Disk Capacity	: 20MB or higher

Main Screen Configuration

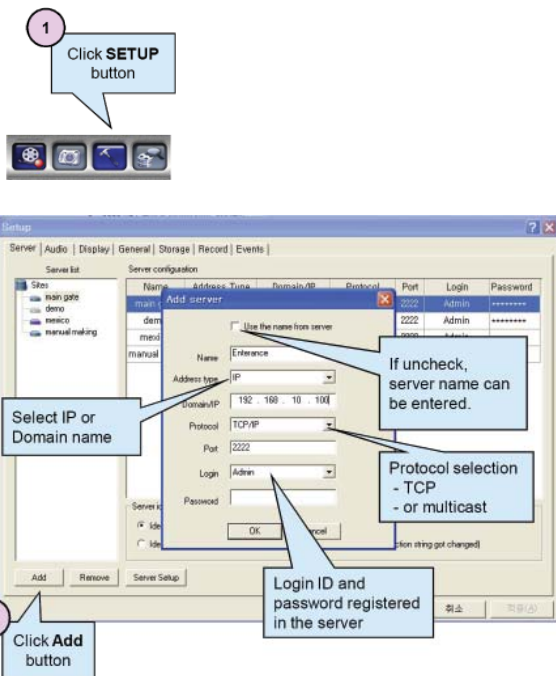


Registration & Connection of Server



1. Registration of server

Server : Video Transmitter such as Video Server, IP Camera... which is connected to CMS.

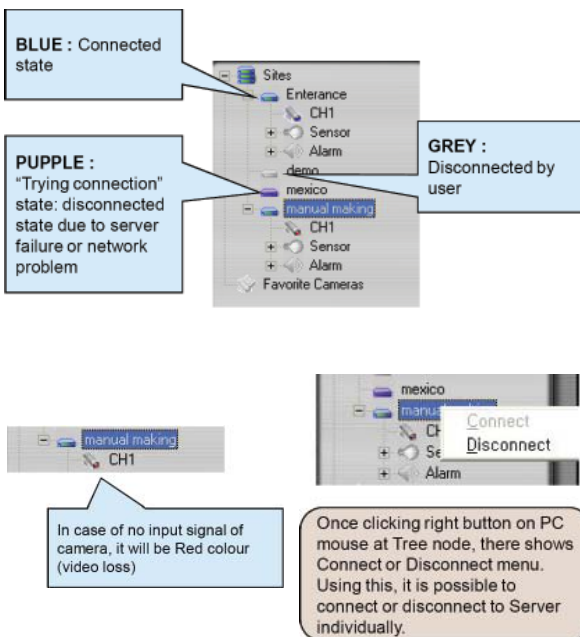


Registration & Connection of Server



2. Managing server connection using Tree View

Servers registered at Server tab of Setup dialog are shown on Tree View. A server's connection state is distinguishable by colour of the tree node.



1. Screen mode and channel mapping

1) Mapping channels and video windows

Mapping between Server channel and Display Window

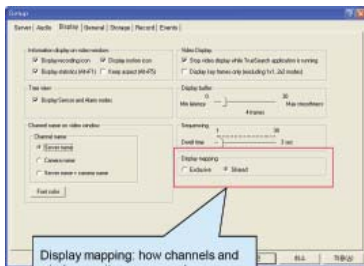
There are two ways to make a mapping between server channel and display window.

1. Exclusive mapping

- Channels of currently selected server are displayed on video windows in orders. Channels of other servers are not displayed.

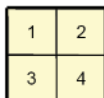
2. Share mapping

- All channels of all servers are displayed in the order in the Tree View.



Numbering of Display Windows

The order numbers of display windows are numbered left-to-right, top-to-bottom starting from the upper-left corner window.



2x2 mode



1+5 mode

2) Using various screen modes

Configuring screen mode

Screen mode can be selected by pressing one of buttons for screen mode configuration. Using Sequence button, it is possible to display channels sequentially in a specified interval.



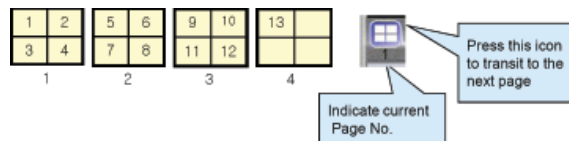
Screen mode buttons

- 2x2, 3x3, 4x4, 1+5, 2+8, 1+12, 6x6

Page transition

If the number of channels are larger than the number of video windows in current screen mode, they are mapped to more than one pages of display windows.

For instance, if the number of total channels is 13 and current display mode is 2x2.



Indicate current Page No.

3) Active channel

Active channel

Currently selected channel is called as 'Active channel'. Active channel is the channel affected by the following operation:

- PTZ control
- Audio Tx/Rx

Identification of active channel

Border line of the active channel is sky-blue coloured.

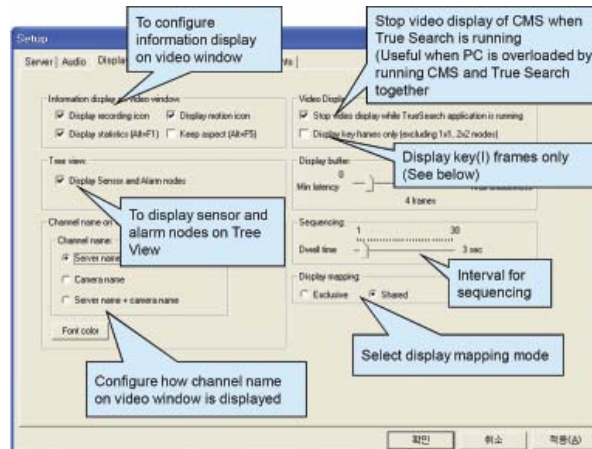
Selecting the active channel (one of the two method)

- Click mouse on Display Window
- or
- Select the camera in the Tree View.



Active channel (Sky-blue colour border)

4) Display setting



Key frame only display mode

This mode is provided to reduce CPU load when large number of servers are connected and screen configuration mode displays more than 4 channels at the same time.

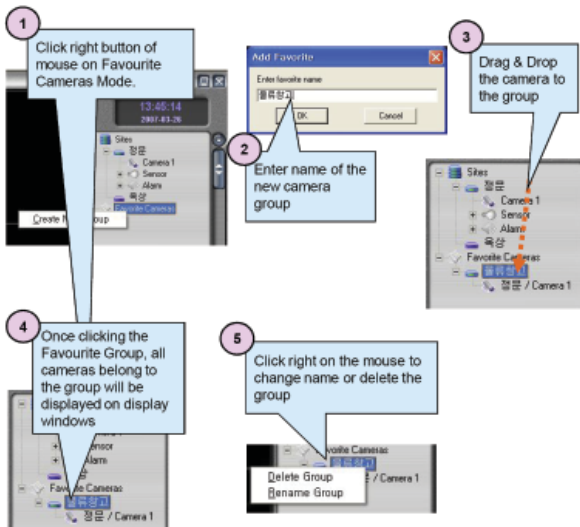
Full frames are displayed in the following cases even when this mode is enabled:

- (1) 1x1 mode, 2x2 mode: because only 4 channels are displayed
- (2) Currently selected(highlighted) channel in any screen mode: to provide interactivity in PTZ control

5) Managing favourite group

Favourite Camera Group

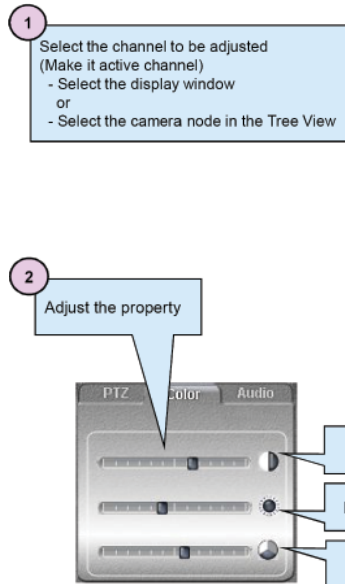
Cameras from different servers can be selected to form a 'Favourite Camera Group', which is convenient for monitoring groups of cameras of special interest.



2. Adjusting video input

Adjustable properties of video input

- Brightness, contrast, saturation

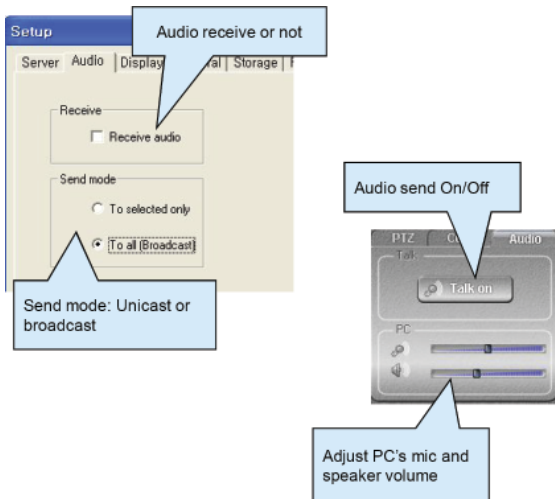


3. Audio setup and control

Audio communication modes

CMS -> Server : 1:1 or 1:N (broadcast) mode selectable

Server -> CMS : (In case of selecting Receive) CMS receives audio data from all servers which enabled audio TX. Only audio from active channel is output to PC speaker.

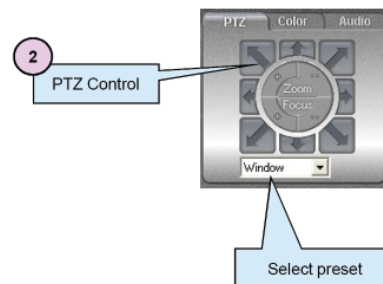


4. PTZ control & preset

PTZ Control

- Support PTZ control for PTZ receivers by major vendors such as Pelco, Samsung
- We welcome the requirements from customer to add additional PTZ protocols

1. Select the Active channel (Refer 5-1-3)
 - Select display window
 - or
 - Select the camera node in the Tree View



5. Event and alarm

1) Event monitoring

Types of events

Server event (Events from video server or IP camera)

- 1) No camera (video loss) 2) Sensor 3) Motion

Local (CMS) event

- Local events are generated by CMS

- 1) Server added/deleted 2) Server connected/disconnected
3) CMS started/terminated 4) Connection failed
5) Audio talk on/off

Events are displayed as soon as they are generated

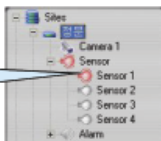
Site	Event	Date/Time
Local event	CMS started	2007/03/26 13:44:27
...	Server connected	2007/03/26 13:44:27
...	Server disconnected	2007/03/26 13:44:33
...	Server deleted	2007/03/26 13:44:33
...	Server added	2007/03/26 13:44:45
...	Sensor 1 on	2007/03/26 15:14:02

Site: server which triggered the event

Event type

Event time

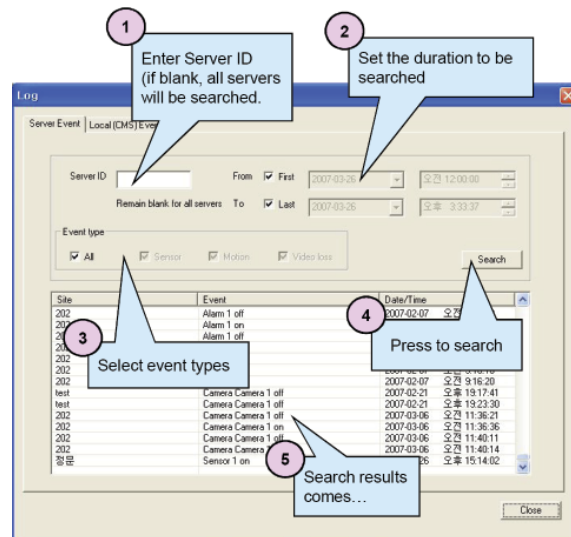
Sensor note in the Tree view reflects the state of the sensor



2) Event Search

Event Search window is invoked by pressing Event Search button

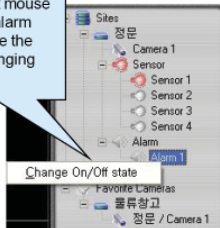
Event Search window consists of two sections: Server event and Local (CMS) event. They can be searched in the same way.



3) Alarm(relay) control

The server's alarm port can be controlled remotely from CMS. An alarm node in the Tree View comes grey when the alarm is off, and comes red when the alarm is on.


Click the right mouse button at an alarm node to invoke the menu for changing alarm state



When the alarm on, colour of the node turns red



6. Still image capture

Press Capture button  to capture a still image. The size of captured image will be same as the input resolution of the server. Captured image is saved as a BMP file.


1. Overview

Features of recording

Video, audio and event data can be recorded into disks with the following features.

- Simultaneous recording of max 36 video channels and max 36 audio channels
- Support of long pre-event and post-event recording time
- Time-lapse recording and event-based recording with various combination of events
- Disk recycling on disk full
- Disk add/drop without affecting existing data recorded

Procedure

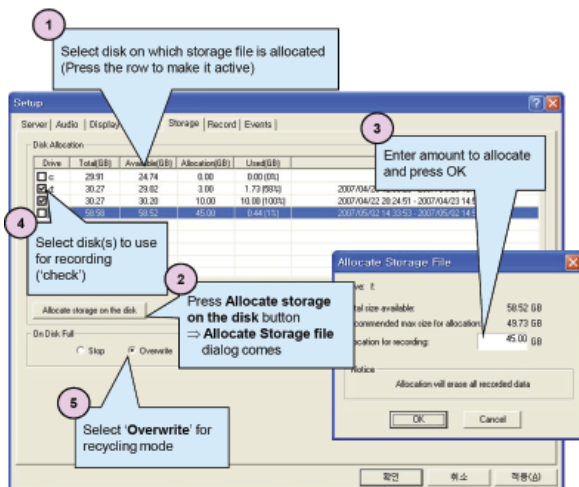
- 1) Configure storage (Storage tab)
- 2) Configure recording mode and schedule for each channel (Record tab)
- 3) Start recording with Record button 

Recording



2. Storage setup

The first step is to allocate storage files on disks. When there are multiple disks, storage file can be allocated in each disk. In such case, they are used in the order of disk order.

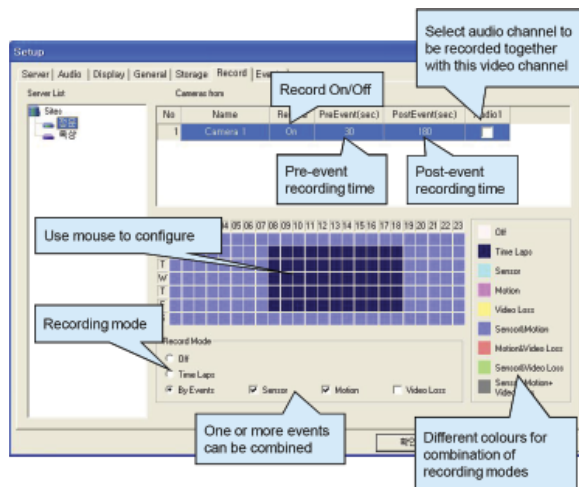


Recording



3. Recording mode and schedule setup

Recording mode(time-lapse mode or combination of various event mode) and schedule can be set for each channel. For event-based recording, pre/post event recording duration can be set.



4. Recording control(On/Off)

Record button is used as the master control of recording



Recording is ON



Recording is OFF

Notice: At least one disk(storage) file should be selected for the recording to proceed.

Disk Allocation:				
Drive	Total(GB)	Available(GB)	Allocations(GB)	Used(GB)
<input type="checkbox"/> C:	19.53	6.38	0.00	0.00 (0%)
<input checked="" type="checkbox"/> D:	95.01	25.46	3.00	0.05 (2%)

C: No storage file allocation on C drive
D: Drive file is allocated, but not selected (checked)

This error comes when Record button is pressed without selecting disk to record

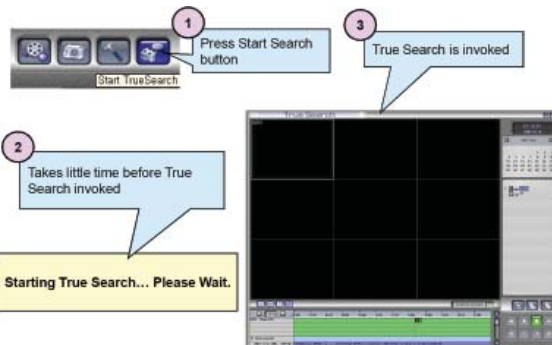
1. Overview

True Search program is for searching and playback of video, audio event data.

True Search can be executed in two ways:

- Invoked independently from CMS
- By pressing 'Start Search' icon in the CMS program

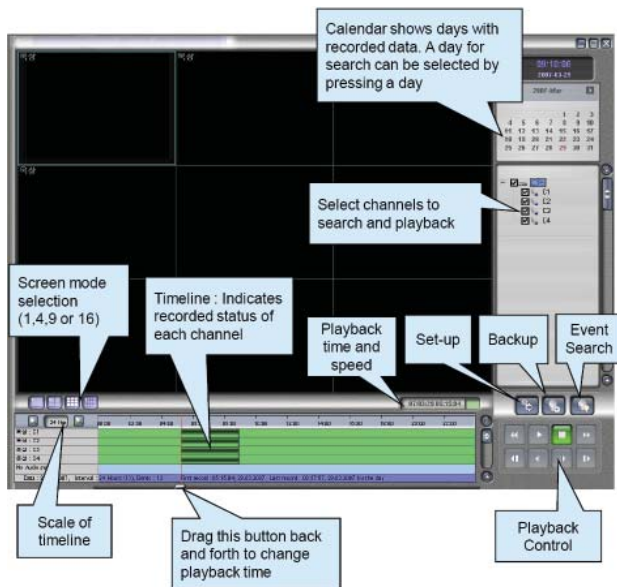
It offers simultaneous playback of up to 16 channels. One audio channel can be played together with video channels.



Search and Playback



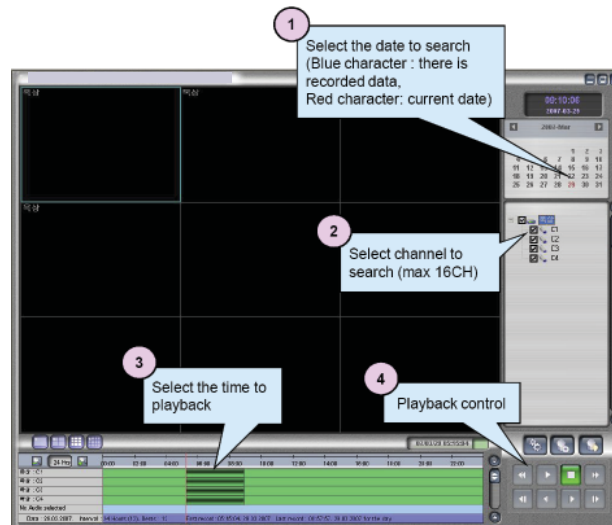
2. Search interface



Search and Playback



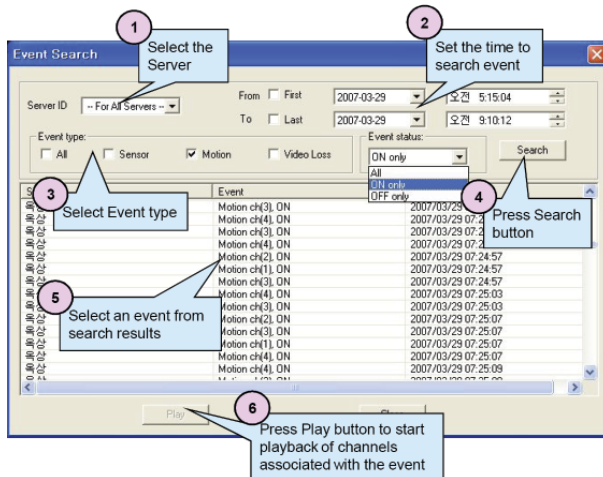
3. Search by date and time



4. Search by event

Once clicking Event Search button , the Event Search window is opened.

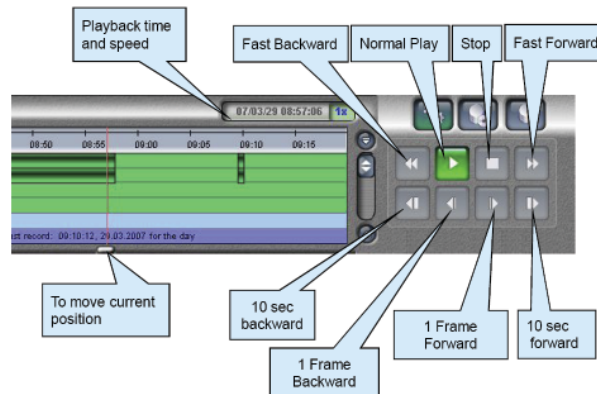
On the Event Search window, various conditions can be combine to find specific events. Then, video channels associated with a specific event can be searched and played.



5. Playback control

While playback is going on, various playback control operations can be performed to find a scene more quickly. It is possible to add and delete channels during playback.

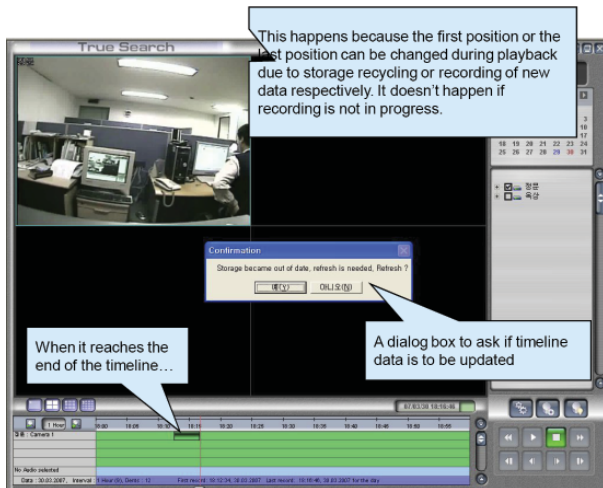
The Fast Forward and Fast Backward support 4, 9, 16 times speed and they show only key frames.



Search and Playback



When the playback reaches the first position or the last position having data in backward or forward playback respectively, CMS may show a dialog box to ask if timeline data is to be updated.



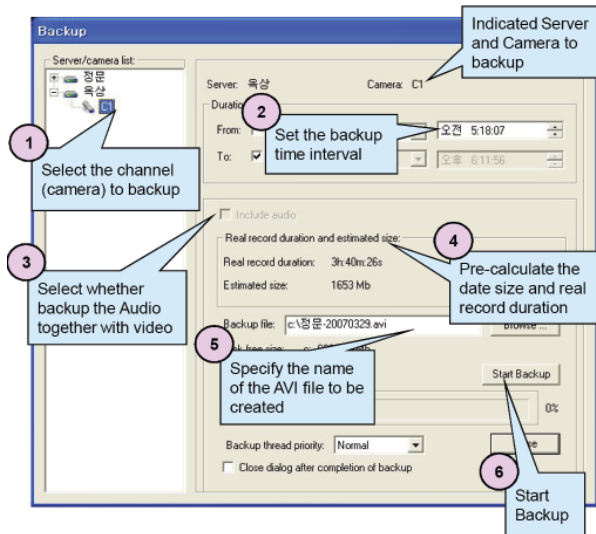
Search and Playback



6. Backup

Backup enables you to take backup of a recorded duration into AVI file.

Pressing Backup button , a dialog for AVI backup is invoked.



1. Overview

User authentication is performed on start up of CMS for security reason. Depending on the privilege group to which a user belongs, some operations are restricted.

Admin user pre-exists as the name 'admin'. Users of other groups can be created only by admin user

User authentication is asked on start up of CMS

Depending on the privilege of a user, some operations are restricted
- eg) Recording Start/Stop and Setup are not allowed to a user of 'user' group



2. User groups and privileges

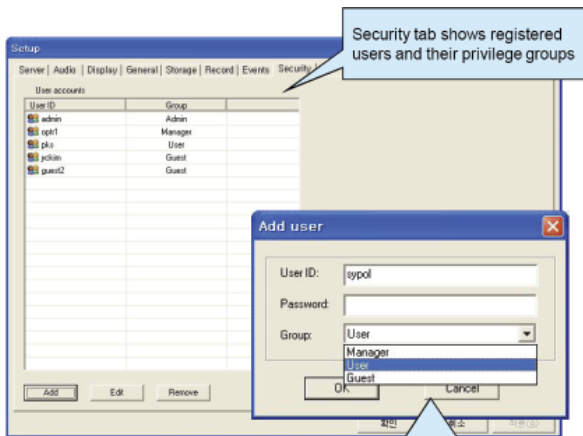
Operations which are not allowed to a user group are restricted in two ways:

- Buttons are disabled
- Pop-up menus don't appear on right button click of the mouse

Privilege \ Group	Admin	Manager	User	Guest
Viewing only	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PTZ control Color control Audio control Server connection/disconnection Event search Still image capture True Search invoke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Setup excluding user account mgmt. Record start/stop Favorite camera group mgmt. Change camera on video windows	<input type="radio"/>	<input type="radio"/>		
User account management	<input type="radio"/>			

3. User account management

Only admin can manage user accounts. In fact, 'Security' tab on Setup dialog is visible only to admin user.

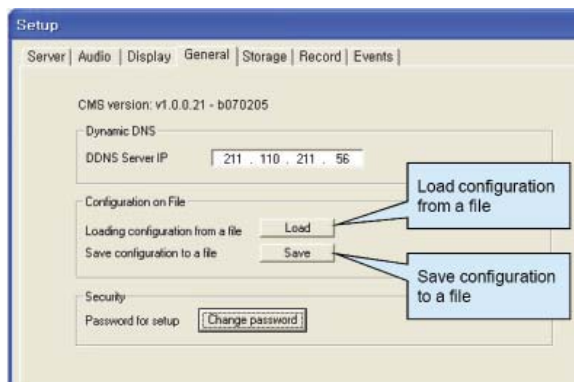


The dialog for adding a user.

Admin user can change other user's password and/or group on the dialog invoked by pressing Edit button

1. Saving and loading configuration

CMS supports the function to export and import its configuration to/from a file. It is useful for taking backup of CMS configuration which is rather complicated due to many registered servers. It is also possible to apply a configuration taken from a PC to another PC to run CMS.



Load configuration from a file

Save configuration to a file

2. Setting DDNS server IP address

For video servers which use old scheme of DDNS service, it is necessary to set the IP address of the DDNS server. It is provided for compatibility with old models.

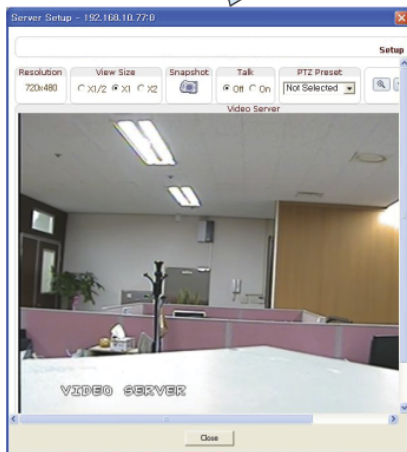
Other Functions



3. Remote setup of server

Pressing Server Setup button on Server tab of Setup dialog invokes Internet Explorer or specific dialog for remote setup of the selected server, depending on the model of IP camera.

Internet Explorer invoked for remote setup of IP camera



Other Functions



4. Statistics

Pressing Alt-F1 enables the statistics of video and audio reception and decoding on each video window. It is disabled by pressing again (toggle).

This can be also configured at Display tab of Setup dialog.



Receiving video bitrate = 317kbps,
Video frame rate(fps) = 29
Frames in video buffer = 2
Audio TX = 0kbps, Audio receiving = 0kbps

