Merit LILIN CMX Software HD 3.6 User Manual

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CMX Software HD 3.6 User Manual

Central Management Software (CMX Software HD 3.6) is a total solution for managing LILIN's network products including IP cameras and DVRs. CMX Software HD 3.6 contains (1) network video recording software, (2) eMap Manager, (3) Database Manager, (4) Web Server, and (5) Remote DVR playback and file download.

Major features including unlimited H.264/JPEG IP cameras and DVR's cameras recording, remote DVR video playback and file download, and camera groupings with user authentication are integrated within one system application.

One important feature of eMap is the central management system for live monitoring, alarm snapshot management, and map management. IP devices installed at different locations can be represented and managed by using maps.

Circular recording, schedule recording, individual HDD recording configurable, and individual camera recording configurable provide the flexibilities in managing recording storages. CMX Software HD 3.6 is designated for hybrid solution for IP camera, video server, IP Fast Dome, and DVRs. It provides total solutions for digital surveillance. Major features are:

CMX Software HD 3.6 Main Features

1. Record and manage unlimited channels of H.264/JPEG HD IP cameras or DVR's cameras.
2. Scheduling, continuous, and motion detection recording supported
3. eMap live video with alarm snapshots
4. Integrated alarm management for alarm output
5. Web server for live video
6. iPhone and Android phones support
7. Retail and transportation business solutions
8. Device grouping and recall
9. IP Fast Dome control
10. Export recorded video to AVI file format
11. Easy-to-use calendar and time selections for video playback
12. User access levels configurable for groupings and features
13. Complete operational event logs
14. Two-way audio and audio recording
15. Digital zoom, device ePTZ and ROI supported
16. Dynamically video channels swapping with mouse drag-and-drop

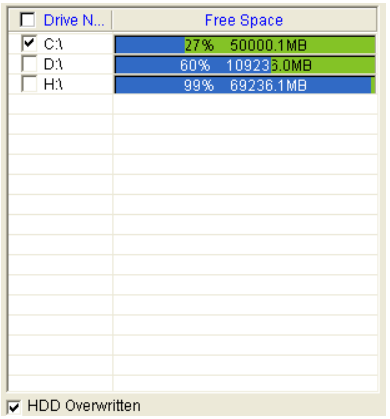
Copyrights

General Notations

The terms of IP-based devices or products used in this document refer to H.264 HD/JPEG IP Fast Domes, Video Servers, or IP Cameras. The terms of DVR devices/products refer to DVR 3 and 5 series.

Before Using CMX Software HD 3.6

CMX Software HD 3.6 contains video recording. CMX Software HD 3.6 supports multiple hard disk drives recording. If overwritten setting is enabled, the oldest recorded video clips get deleted first. If you want logical partitions in your hard disk drive, please setup at least 20 GB for each drive. To setup hard disk setting, please click on “System Setting” button.



Select recording hard drives for CMX Software HD 3.6 recording. To enable HDD overwritten option, please check this option.

Furthermore, each logical HDD drive should contain at least 10% empty space for storing video data. CMX Software HD 3.6 deletes the oldest files first until it reaches 90% of the logical drive, and it proceeds to the next logical hard disk drive for recording.

On-line User Manual

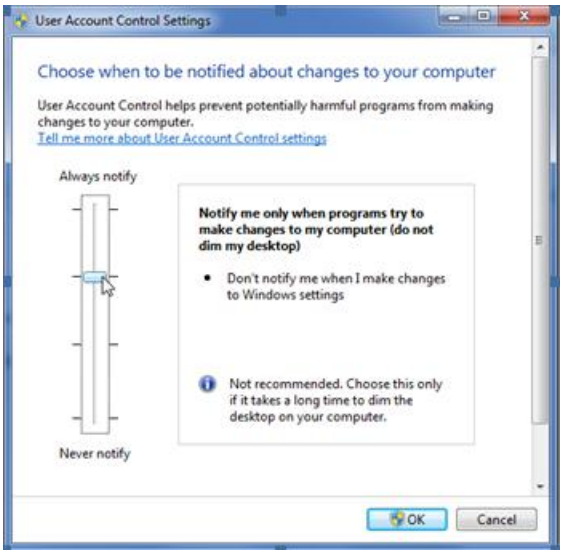
CMX Software HD 3.6 adopts Acrobat Reader for its on-line manual by clicking on “Windows-> Merit LILIN CMX HD 3.6->User Manual”. You must install Acrobat Reader before opening the on-line manual.

Uninstall CMX HD 3.6

To uninstall CMX HD 3.6, please select Start->Program Files->Merit LILIN CMX HD 3.6->Uninstall. A user might want to export the database. Re-import the database after new installation. Please see Database Manager for detail.

Using CMX Software HD 3.6 on Windows Vista and Windows 7 platforms

When you install CMX Software HD 3.6 on Windows Vista and Windows 7 platforms, please go to control panel->User Account Control Setting and low the setting to Default. This can make sure that CMX can login automatically when watch dog performs system reboot.



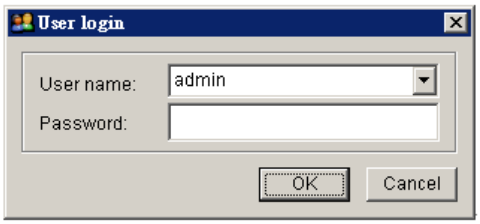
Chapter 1. Using CMX Software HD 3.6

To access CMX Software HD 3.6, follow these steps:

1) Click on CMX Software HD 3.6 via Start->Program Files->Merit LILIN CMX Software HD 3.6->CMX Software HD 3.6.
2) Click on CMX Software HD 3.6 on desktop.

To login CMX Software HD 3.6, please follow these steps:

Step 1. Select a user from User name dropdown list.
Step 2. Type the password or leave it blank if you are first time to use this software.
Step 3. Click on OK button.

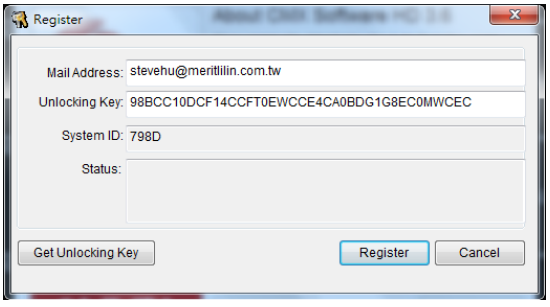


Note: The default passwords for all users are empty.

Chapter 1-1. CMX Registration

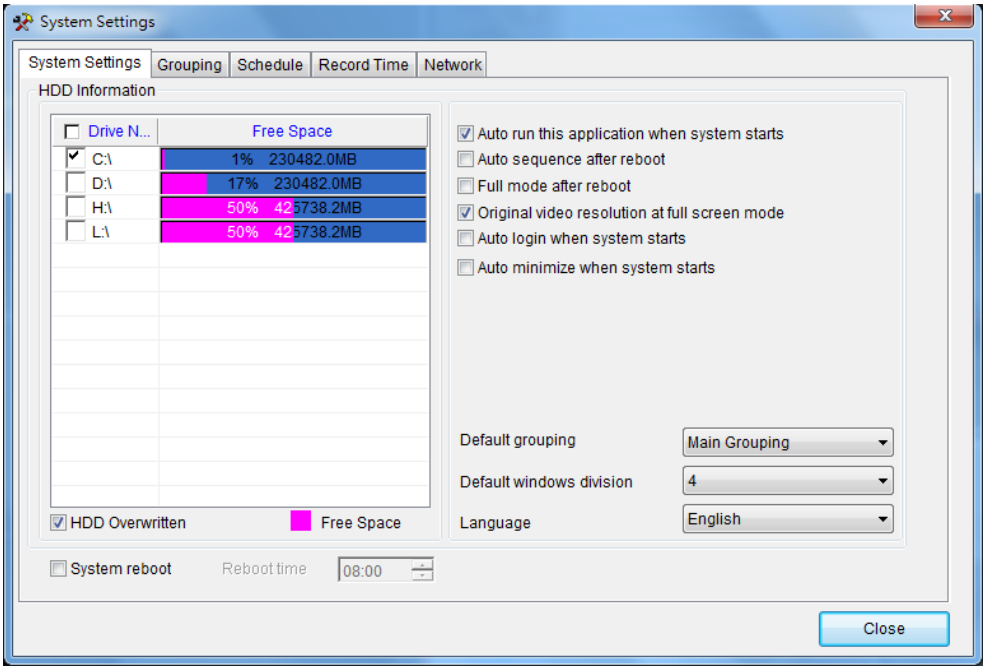
To get full features of CMX and 72 channels support, visit http://www.meritlilin.com/en/support.asp for CMX registration. An unlocking key will be sent to your email account after registration. Click on Help button for registration.

Provide email address and unlocking key to get full features access.



Chapter 1-2. System Settings

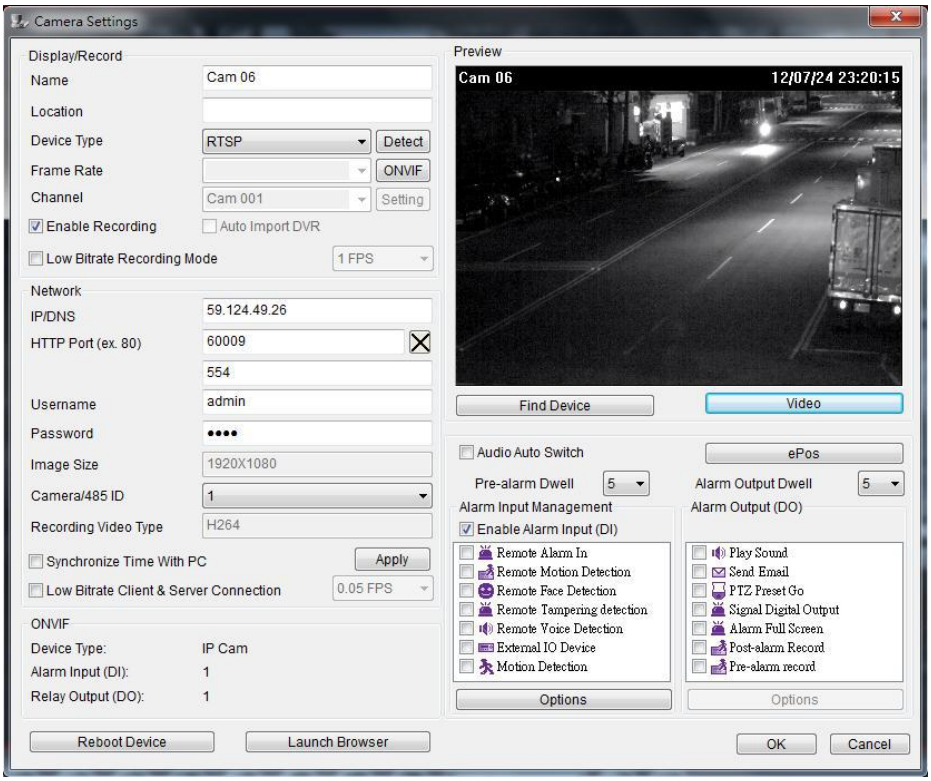
System settings contain HDD settings, device settings, and grouping settings. Please finish System Setting before operating CMX Software HD 3.6.



- **Auto run this application when system starts:**
  CMX Software HD 3.6 auto-run when Windows starts
- **Auto sequence after reboot:**
  Perform grouping sequence after system reboot.
- **Full mode after reboot:**
  Perform full screen mode after system reboot.
- **Original video resolution at full screen mode:**
  Use original resolution at single channel view mode. Do not scale original video.
- **Auto login when system starts:**
  Bypass login when system starts.
- **Default grouping:**
  Set default grouping at start-up.
- **Auto minimized when system starts:**
  CMX runs in the background when system starts.
- **Default grouping:**
  Set default grouping.
- **Default window division:**
  Set default window division at start-up.
- To enable circular recording, please check HDD Overwritten option. To select HDDs for recording, please select HDD(s) for recording in HDD Information list box.
- **System reboot:**
  enable the system to reboot every day at certain time.
- **Language:**
  To choose language setting, please select your language from Language combo box.

Chapter 1-3. Add a New Device

To add a particular device, please first select the channel and click on “Property” button for adding a new device. The “Camera Settings” dialog box shows up. Please type at least, IP/DNS address, port number, username, and password for connecting the live video of the device. You can also click on “Find Device” and selection one device from the IPScan tool. Click on “Detect” button for detecting the device type.



To edit Camera Setting dialog box, please right mouse click on a channel and select Camera Properties menu item.

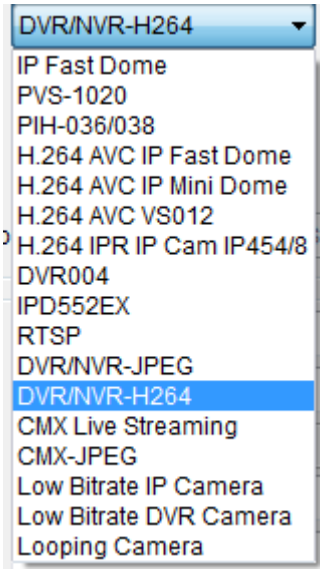
1. Name— camera name which is displayed on top of live video channel
2. Location—indicating the location of the camera installed.
3. Frame rate—frame rate for the device
4. Device type—device type selection box, RTSP is for H.264 D1 or H.264 HD IP cameras.
5. Enable recording—enable or disable recording for the device
6. IP/DNS (required)—the IP address of the device
7. HTTP Port number—the HTTP port number of the device
8. Video Port number—DVR’s video port number/IP camera’s RTSP port number
9. Username—the username which is allowed to login the device
10. Password—the password for the username
11. Image size—the source video size of the device
12. Camera/485 ID—IP Fast Dome RS-485 ID.
13. Synchronize Time with PC—Synchronize time with the remote PC.

Note: 1. RS-485 camera ID (1 to 128) must match the ID setting of the IP Fast Dome. The software may not control PTZ movement if the ID setting is incorrect.

If the above settings are done, you can click on Connect button to test if the device is properly For default username and password information, please see appendix for detail.

Chapter 1-4. Device Type

There are few device type drivers for connecting streaming:

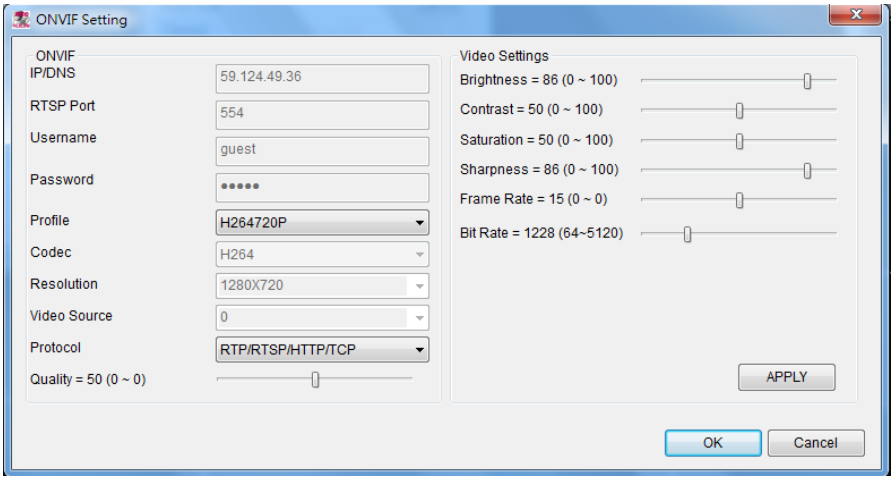


- RTSP—Connect an IP camera with RTSP streaming protocol.
- DVR/NVR-JPEG--Connect a DVR/NVR by MJPEG protocol.
- DVR/NVR-H264—Connect a DVR/NVR by H.264 protocol.
- CMX-JPEG—Connect a CMX by MJPG protocol.
- Low Bitrate IP Camera—Connect an IP camera by low bitrate protocol.
- Low Bitrate DVR Camera--Connect an IP camera by low bitrate protocol.
- Looping Camera—For demonstration purpose, you can choose Looping Camera at Device Type selection box for duplicate video channel without physically connecting to an IP camera or a DVR's camera. It can reduce bandwidth for the network video.

Chapter 1-5. ONVIF Setting

To use RTSP streaming, please first setup ONVIF protocol. The detail setting of ONVIF is described as below:

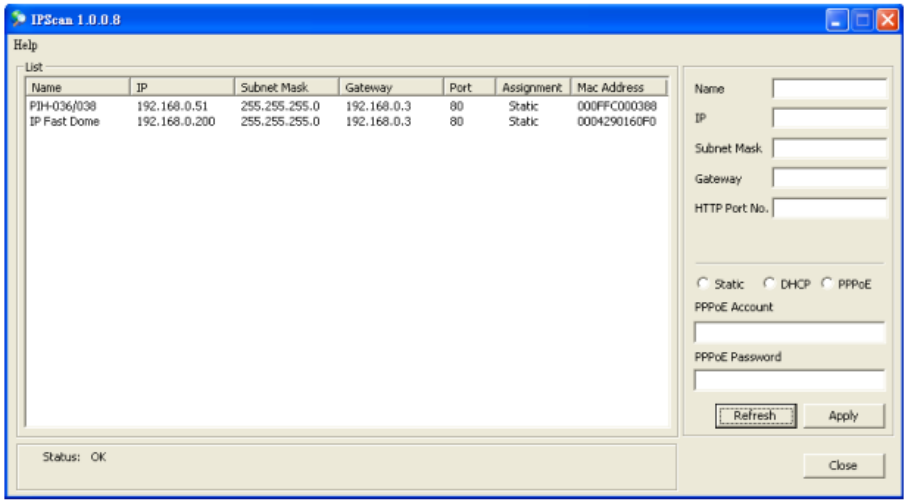
- Profile: a user can select different streaming profile such as H.264 720P or JPEG 720P.
- Protocol: streaming protocol such as RTP/UDP, RTP/TCP, or RTP/TCP/HTTP.
- Quality: compression quality
- Brightness: brightness setting of the video
- Saturation: saturation setting of the video
- Contrast: contrast setting of the video
- Sharpness: sharpness setting of the video
- Frame rate: change frame rate setting of the IP camera.
- Bit Rate: bit rate setting of the video



Note: ONVIF setting can only be supported by LILIN's ONVIF camera.

Chapter 1-6. IPScan Utility

To find out the network devices, IPScan utility can scan through all IP address within LAN.



A user can select a device item in IPScan and click on Close button to setup the device. All the device information such as IP address and port number get automatically carried over CMX Software HD 3.6. Click on Connect button in the device dialog box which can test the connection between the PC and the device.

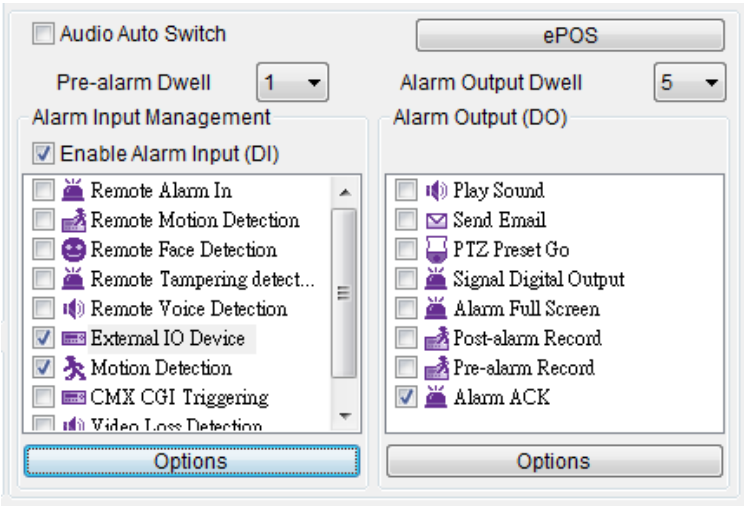
You can also manually add devices information of IP Fast Dome/IP camera/video server/DVR

Note: IPScan can only work under LAN environment, not Internet environment.

Chapter 1-7. Alarm Input Management NEW

There are various alarm inputs that are supported by CMX. The details are explained below:

- Remote Alarm In: Receive a digital input (DI) alarm from a remote IP camera.
- Remote Motion Detection: Receive a motion detection alarm from a remote IP camera or the camera of NVR/DVR. This can further save CPU usage of CMX.
- Remote Face Detection: Receive a face detection alarm from a remote IP camera with face detection feature built-in.
- Remote Tampering Detection: Receive a tampering alarm from a remote IP camera with tampering detection built-in.
- External IO: Receive an alarm from Ethernet APG cash drawer or remote Ethernet IO device.
- Motion detection: CMX's local motion detection.
- Video Loss Detection: If the video loss detection is detected, this can trigger Play Sound and Send Email for alert purpose.

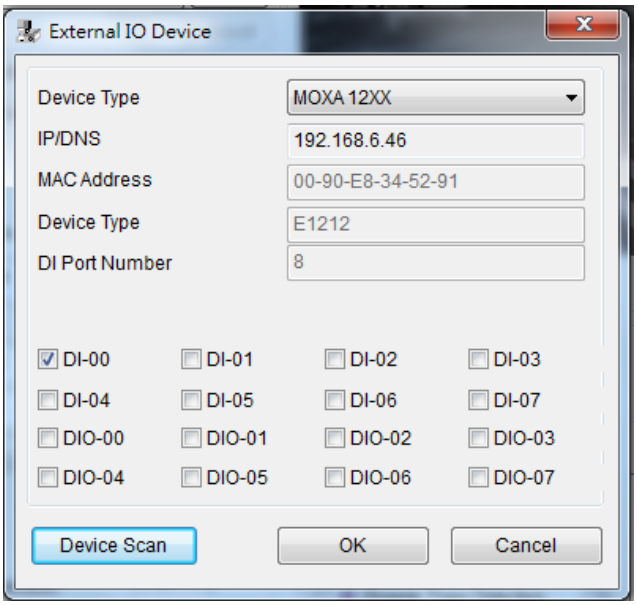


Chapter 1-7-1. Ethernet Digital I/O Device NEW

Ethernet I/O device such as Moxa ioLogik E1212 can be linked to an IP camera for extern alarm input and output device. Ethernet digital I/O device is used, if the camera does not have DI/DO built-in.

Map to the logical digital input and digital output for an IP camera.

Click on device scan which can find Moxa I/O device on the network. Once one the IP address is selected, please map the logical digital input (DI) or logical digital output for an IP camera. To activate digital output (DO), click on Alarm On or OFF button.

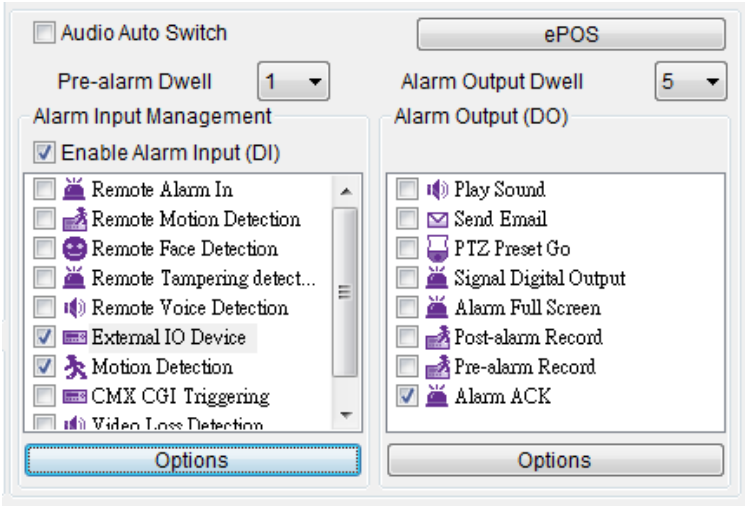


Chapter 1-7-2. Remote IP Camera with Digital I/O

If an IP camera has DI/DO interface, enable Remote Alarm In (DI) in the alarm input list. To enable alarm output, click on Alarm On or OFF to trigger the digital output via the IP camera.

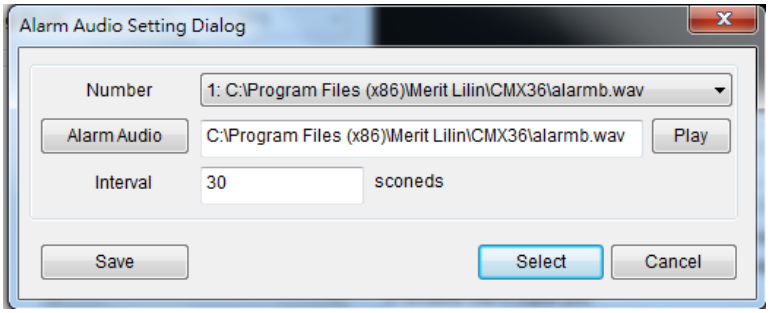
Chapter 1-8. Alarm Output Management

For motion and remote motion alarm detection management, the alarm output feature allows various reactions after receiving an alarm. The alarm output includes (1) PC alarm sound, (2) send JPEG email snapshot, (3) recalling a PTZ preset, (4) triggering a DO output for an IP camera, (5) alarm full screen, (6) pre-alarm and post alarm. Please select the alarm output from the selection list to enable the option.



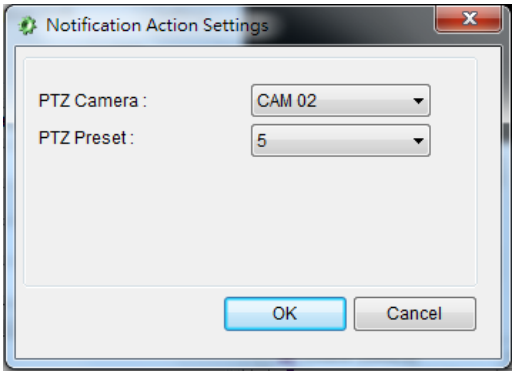
Chapter 1-8-1. Alarm Sound Alert

To select pre-recorded alarm audio, click on Alarm Audio button for choosing the WAV file.



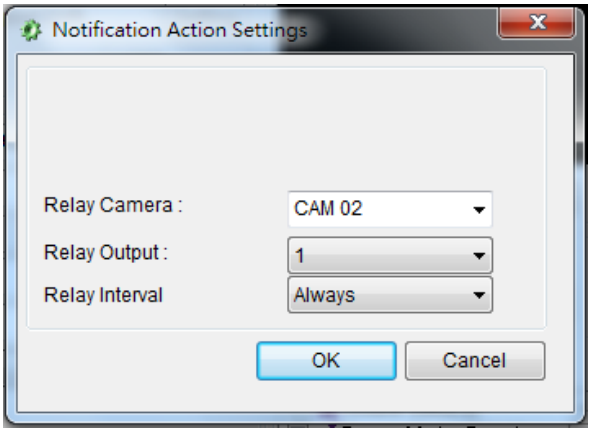
Chapter 1-8-2. Alarm Redirects to a PTZ Preset

If an alarm gets fired, it can redirect another IP camera' preset for a video.



Chapter 1-8-3. Alarm Redirects an IP Camera's Digital Output

Once an alarm gets fired, it can redirect the signal to another IP camera's digital output.



Chapter 1-8-4. Re-alarm & Post-alarm

Re-alarm and post-alarm recordings are triggered by an alarm event. The recording period is based on Pre-alarm and Post-alarm dwell setting. Pre-alarm & post-alarm can further save recording storage. The video get recorded for a period, after an alarm gets fired.

Chapter 2. Recording Settings

CMX Software HD 3.6 is configured as continuous recording after an IP camera is connected. To change recording configuration, please follow the following selections.

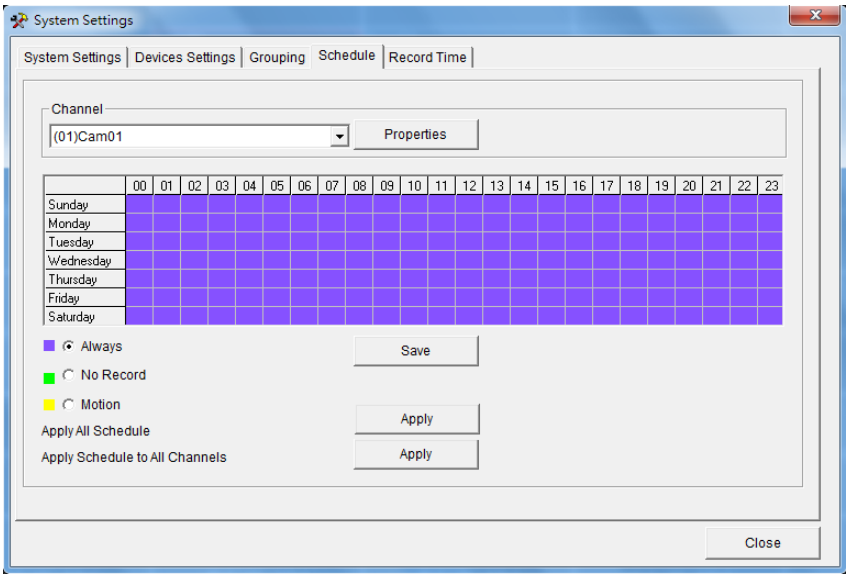
Chapter 2-1. Schedule Recording Settings

CMX Software HD 3.6 can schedule recording based on “Always”, “No Record”, and “Motion recording for a particular hour.

To enable recording for a particular hour, please click on the week control and set the recording option for the hour. Please also specify the recording type by selecting one of the recording types.

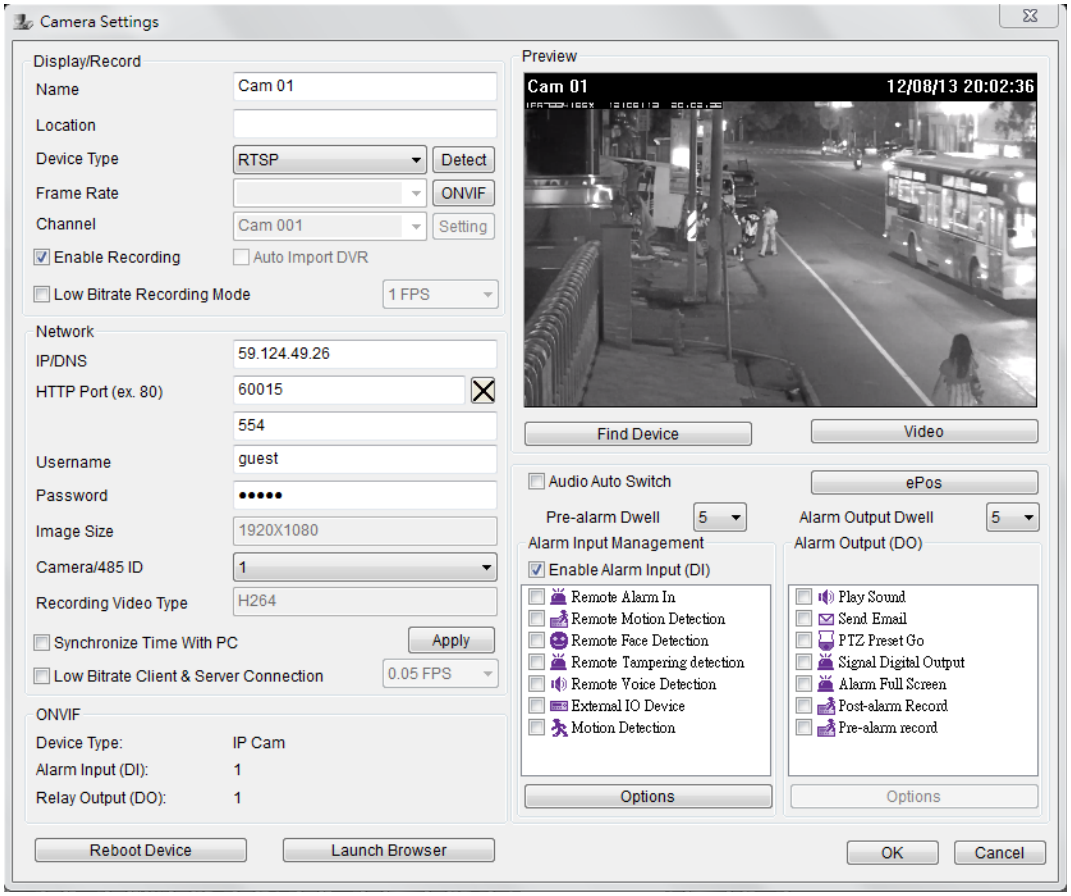
To enable recording schedule for all hours, please click on Apply button for “Apply All Schedule”.

To apply the recording settings for all cameras, please click on Apply button for “Apply Schedule to All Channels”

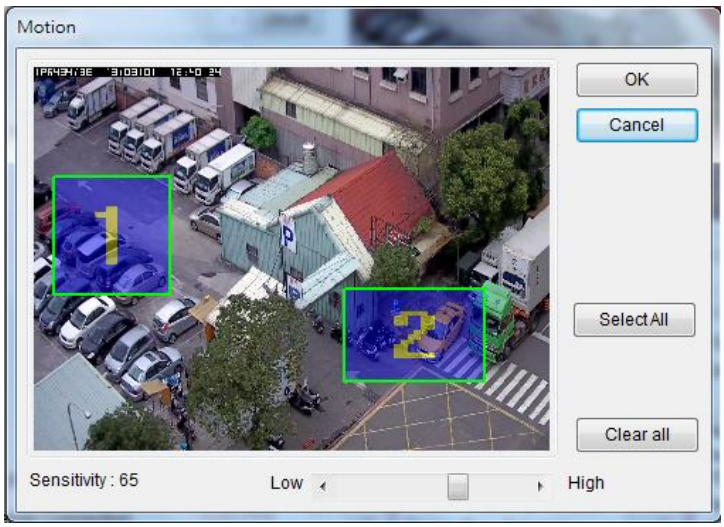


Chapter 2-2. Motion Detection Recording

To enable motion detection recording, please click on camera “Property” button to enable “Camera Settings” dialog box. Once the IP camera is configured properly, please click on “Video” button to test the video streaming.



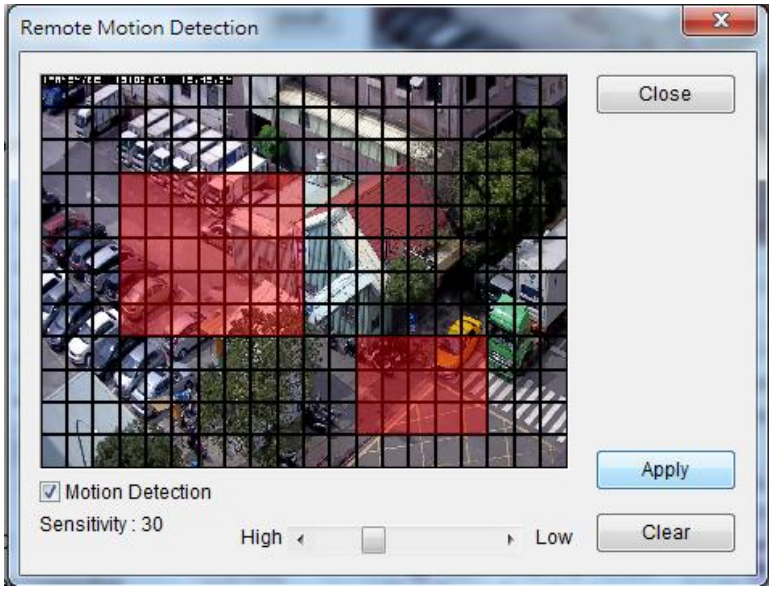
Please click on “Motion” button to setup motion detection. There are up to four motion areas available for a user to configure. Perform mouse-dragging on the video area to define a motion area. Perform right-mouse click can clear a area or clear all areas. To change motion detection sensitivity, please click on the scroll bar for adjust.



At live monitoring mode, if a motion detection is triggered, the camera window shows “little man”

to indicate a motion detection event.

For remote motion detection, please select “Remote Motion Detection” option and “Option” button to configure motion detection zones. Remote Motion Detection dialog box shows up. Click on the motion grid area and perform mouse-drag on the grids to define motion detection zone. Make sure Motion Detection check box is enabled. Click on Apply button that the configuration gets download to an IP cameras.



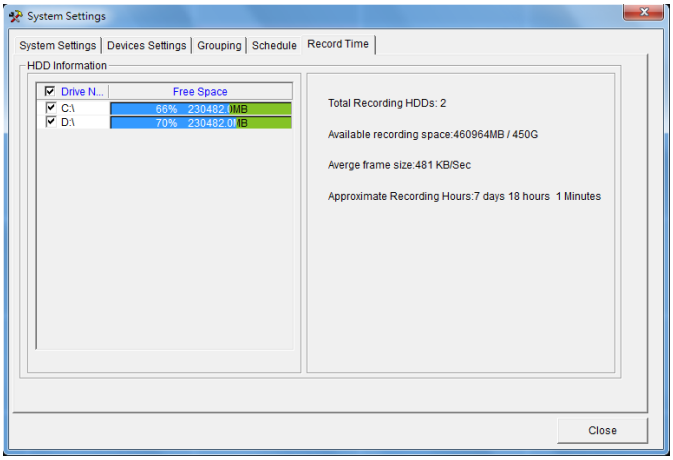
Note: The use of Remote Motion Detection can further reduce the CPU load of a CMX PC, since it utilizes the motion detection engine of an IP camera.

Chapter 2-3. Recording at System Startup

After the restart of CMX Software HD 3.6, CMX Software HD 3.6 starts recording automatically. There is no need to restart recording service. If a schedule is set, CMX Software HD 3.6 records video based on the schedule at startup.

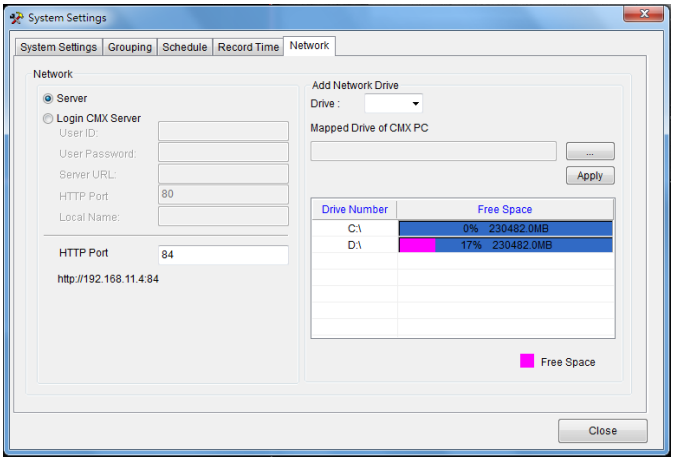
Chapter 2-4. Estimated Recording Days

After system installation, to estimate approximate recording days, a user can click on System setting button to enable system dialog box. Click on “Record time” tab. Estimated recording day and time information gets shown on the dialog box.

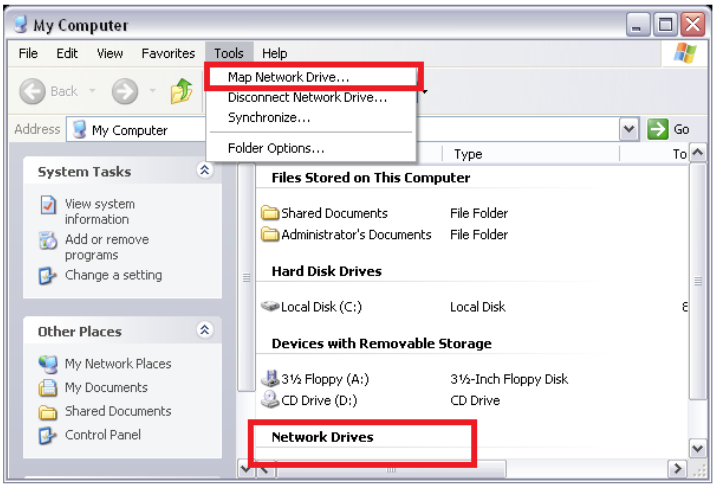


Chapter 2-5. Network Storage

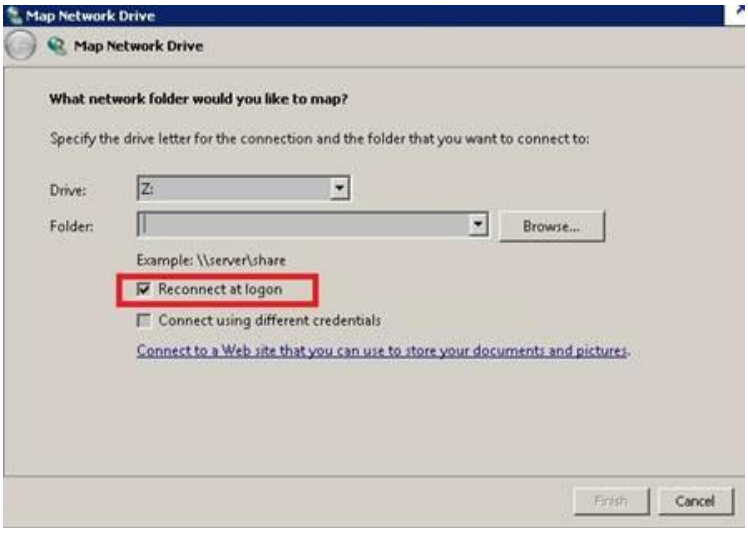
For recording over network storage such as iSCSI or NAS storage, a user can configure CMX Software HD 3.6 to record the video to the network storage, if the network storage supports “Network Neighborhood” protocol.



To do so, please first select a drive at “Add Network Drive” list. Select network storage by click on “Mapped Drive of CMX PC” button. Once the network storage is selected, click on Apply button. At the last, please check the newly added network storage from Drive Number for enabling the storage. CMX Software records video based on the selected drivers at circular recording basis.



For "Map Network Drive", please make sure that "Reconnect at logon" option is checked. This can avoid losing connectivity from CMX due to network driver rebooting.

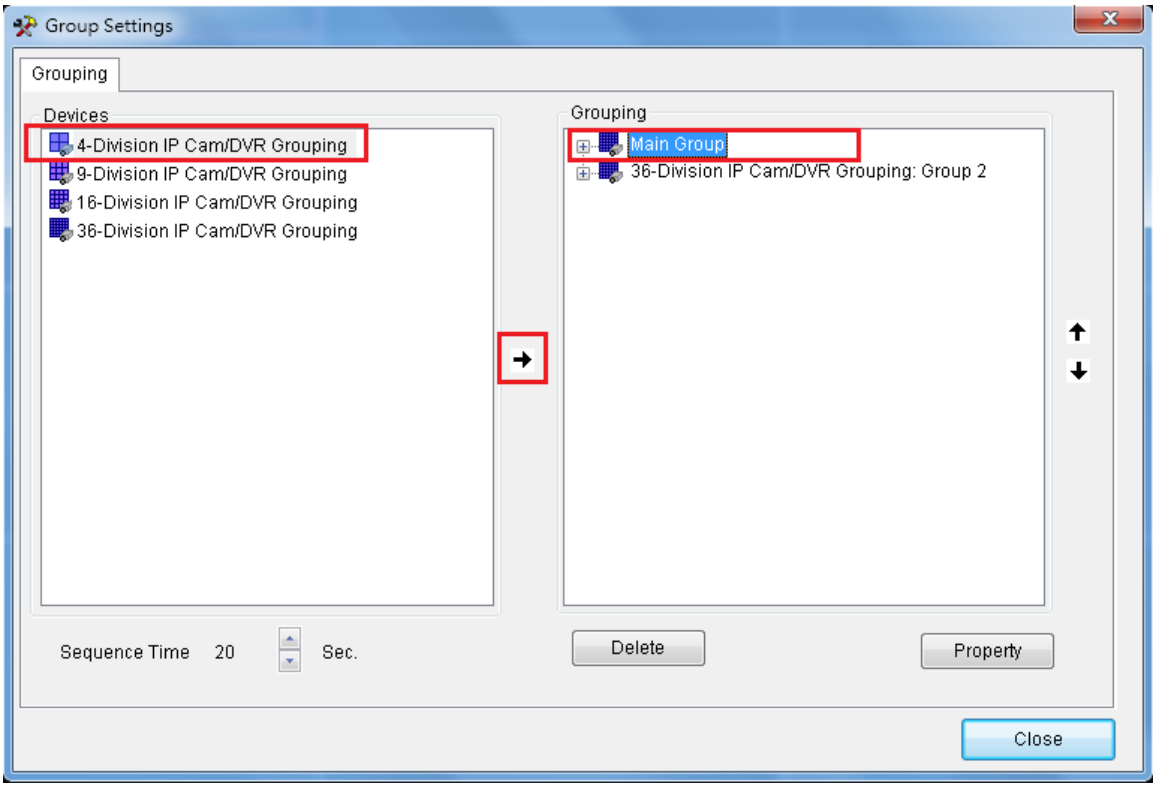


For adding a network driver for CMX, please select one of the PC HDD or network HDD. Perform right mouse click on the HDD. Click on "Map Network Drive." menu item. "Map Network Drive" dialog box shows up. This can add the network storage into the CMX's storage drive.

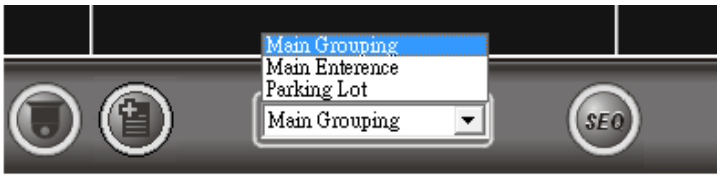
Chapter 3. Grouping Settings

A user may want to manage camera or DVR groupings based on their geographic locations or their functions. The video of the grouping devices can be recalled easily later on. To setup groupings, please click on the Grouping button and follow the followings steps.

1. Select left IP Cam/DVR grouping and select right grouping item. Click on Right button to create a grouping.
2. Click on Up or Down button to change the sequence in Grouping tree view.
3. Click on Apply button for the grouping settings.

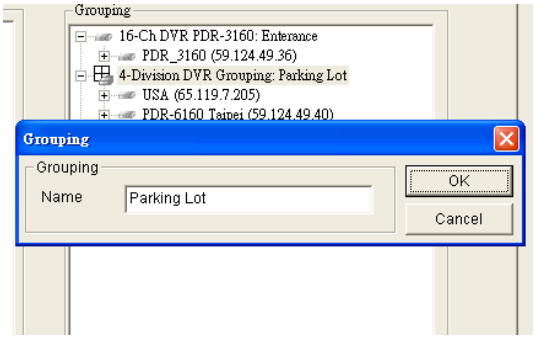


Once the groupings are set, a user can switch to different grouping view quickly.



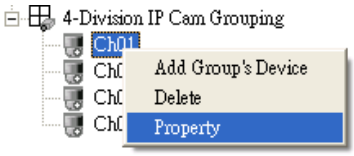
Chapter 3-1. Grouping Name

A user can assign a name for a grouping. To assign grouping name, please right click on a grouping, or select on a grouping and click on Property button for its name. Type the grouping name in Grouping dialog box.



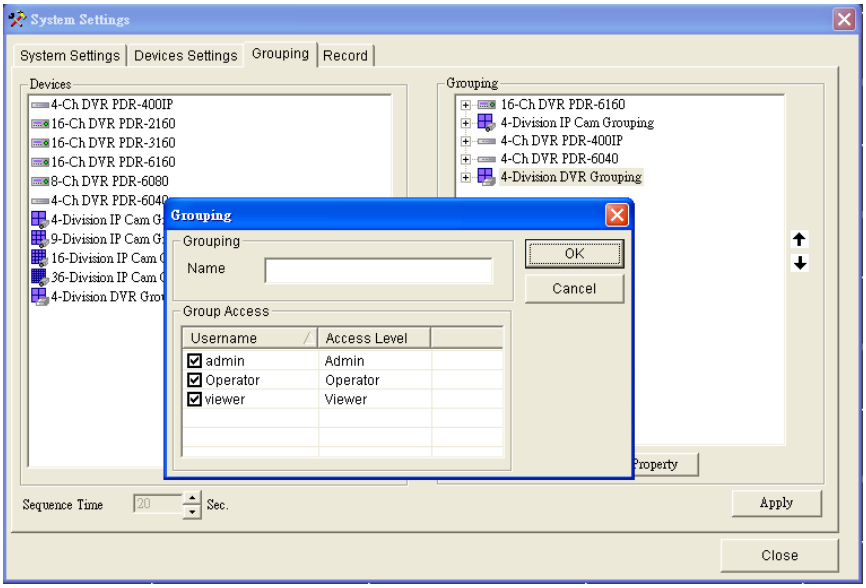
Chapter 3-2. Grouping's Devices

Once a grouping is set, please select the device of the grouping. Right click on the pre-assigned grouping device item. Select on the device item and perform right mouse click for assigning Property.



Chapter 3-3. Grouping Authentication

To assign a grouping access right, please right click on a grouping and select Property menu item. It shows a Grouping Access dialog box. The default setting of a grouping allows every user to access. To disable access right, please uncheck a user access right. Grouping access right also applies to web server. Only groupings assigned to a user can be seen by the user after login to the web server.



Chapter 3-4. Recall a Grouping

To recall a grouping, click on grouping drop down list.

Chapter 3-5. Grouping Sequence

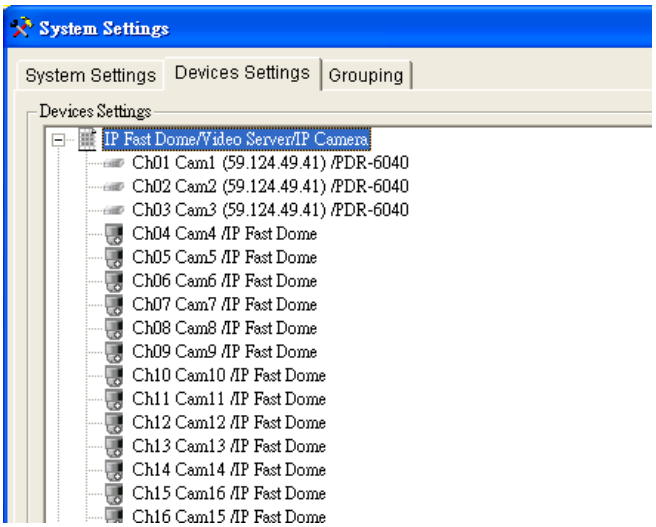
In grouping tab, please specify Sequence Time. In live monitoring mode, please click on SEQ button to perform Sequence Display feature.

Chapter 3-6. Main Grouping

Main Grouping refers to CMX Software HD 3.6's main screen which contains 36 windows-division screen. To add a device for the main grouping, please follow the steps:

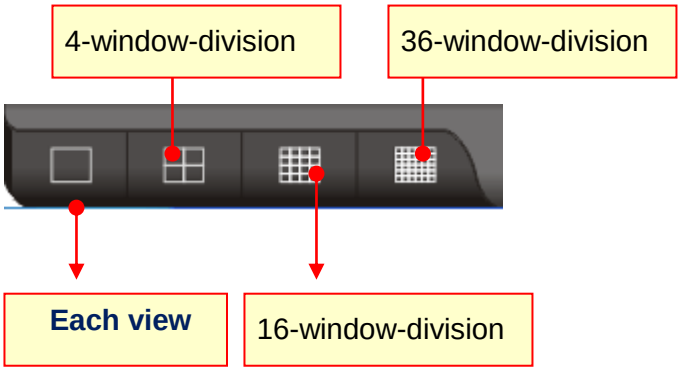
(1) Select Main Grouping in grouping dropdown list.
(2) Right mouse click on one of the cameras.
(3) Select Camera Properties to assign the camera properties.

Alternatively, a user can add devices into Main Grouping at System Settings->Device Settings. Device Settings allows a user to manage up to 36 channels of IP cameras, video servers, and H.264 HD IP' cameras.



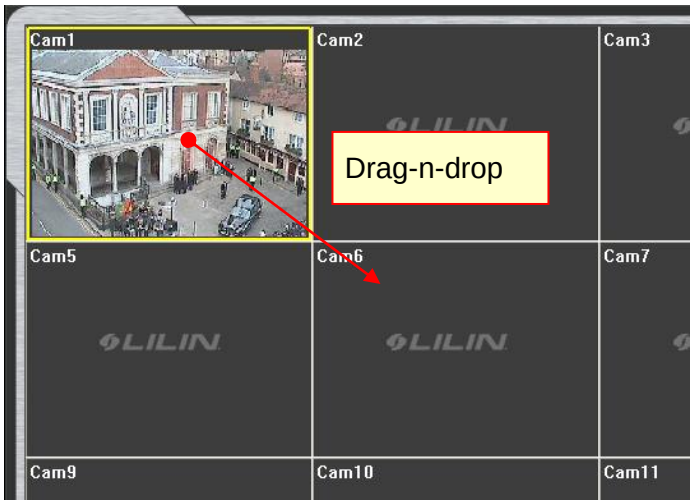
Chapter 3.7. Window-divisions

Currently, CMX Software HD 3.6 supports four types of window-division including maximized window (each view), 4-window-division, 16-window-division, and 36- window-division. To see the maximized camera window, you can select particular camera window and click on Each View button. You can also double-click on the live video for the maximized window. To see 4-, 16-, and 36-window-division, click on the window-division buttons.



Chapter 3.8. Dynamic Video Channel Editing

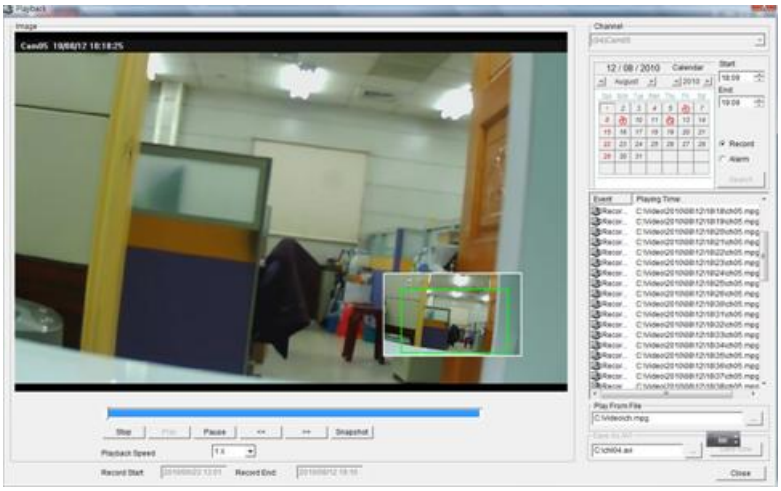
If a user wants to change the arrangement of a camera channel, the user can drag a camera and drop to another video channel. This operation swaps these two cameras' positions dynamically in software. There is no need to re-assign all the IP settings, if the user later changes his/her mind for the camera's display position after installation.



Chapter 3.9. Digital Zoom

To perform digital zoom, please first drag on the window for digital. Once the channel is in digital zoom mode, please select the green area for other region.

To perform digital zoom in playback, please follow above procedure.



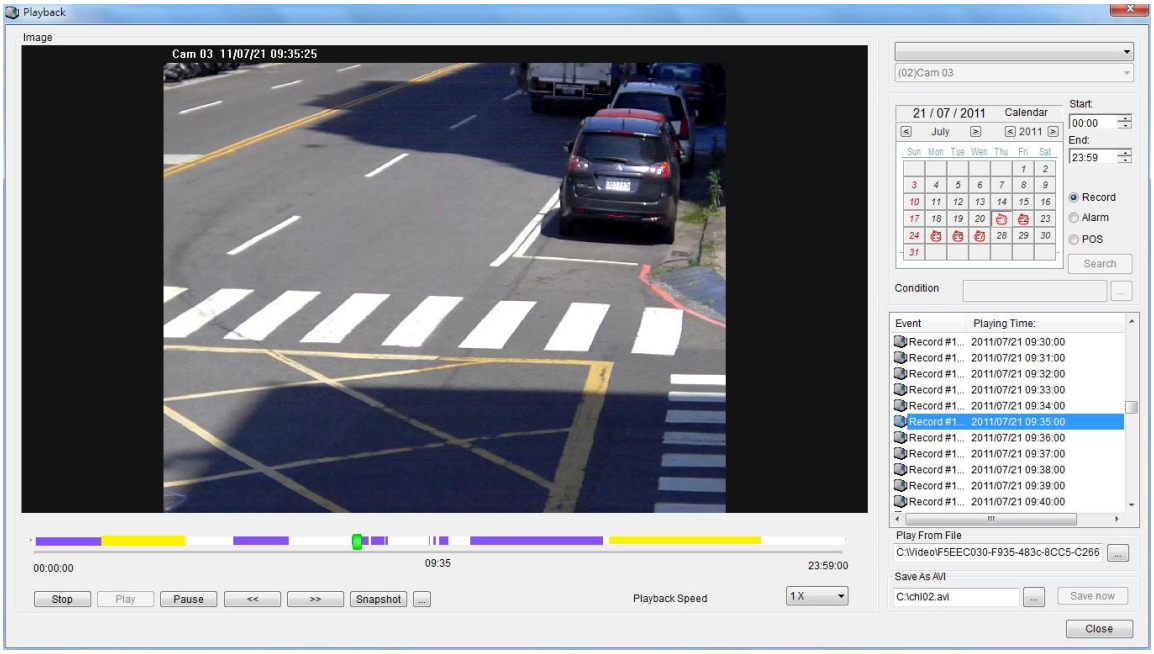
Chapter 4. CMX Software HD 3.6 Video Playback

CMX Software HD 3.6 can perform video playback task for all IP-based products including H.264 HD IP Cameras, full D1 IP Cameras, IP Fast Domes, Video Servers, LAN Cameras, and DVRs. To perform video playback on various IP devices, follow the following sections:

Chapter 4-1. Playback

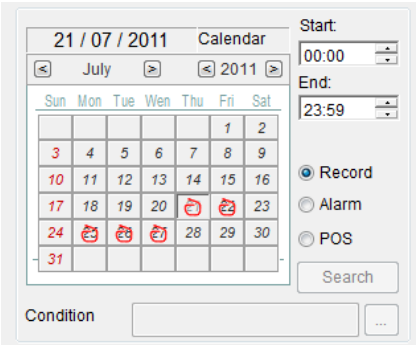
To perform playback operation, you have to select a camera channel or a DVR. By clicking on playback button, the playback dialog box shows up.

Based on a DVR device or an IP camera device, each device of the playback operation is described in the following sections:

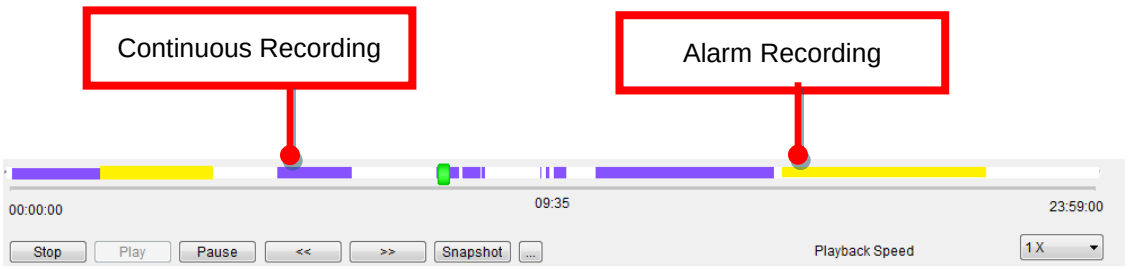


Chapter 4-2. Playback for a IP Camera within the Main Grouping

For the main grouping, the video can be recorded at a local PC. To retrieve stored video clips, playback operation can be performed based on date and time specified. Please follow the following steps to play video clips on the PC:



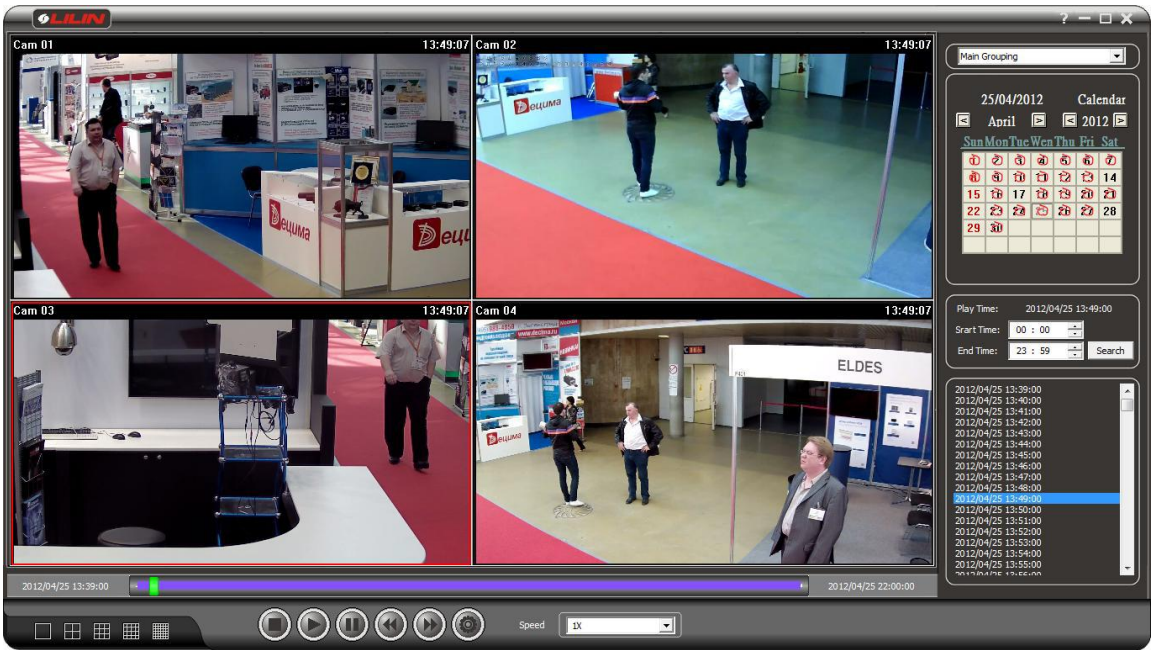
Step 1. Click on the date on the calendar control.
Step 2. Specify starting time and ending time.
Step 3. Click Search button to search the video clips.



Once a video clip is playing, click on Stop, Play, Pause, <<, >>, and snapshot buttons for the video clip. A user can also click on the time-bar for video playback.

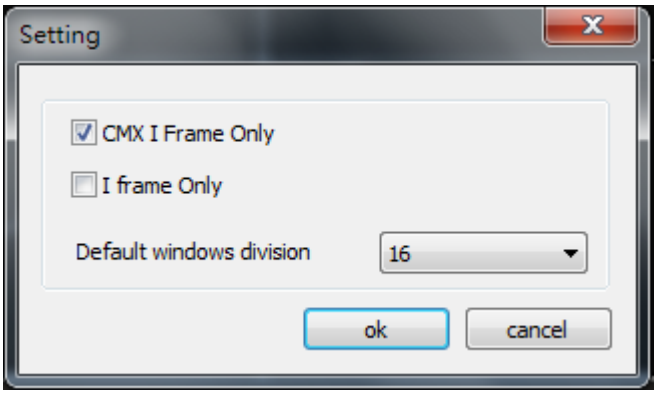
Chapter 4-3. Multiple Channels Playback

A user can select a grouping for multiple channels playback. To do so, please click on multiple channels' playback button. A playback dialog box shows up as below:



There are up to 36-channels playback that is available in the system. Please specify date and time. Perform Search button for playback task.

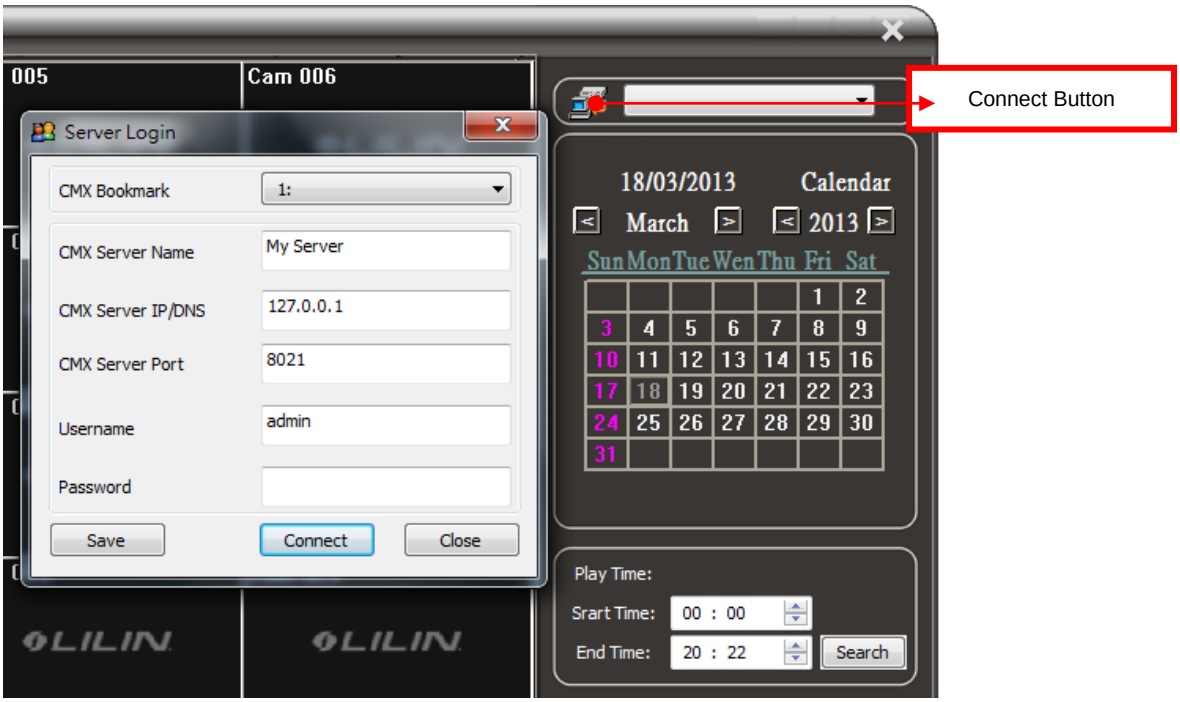
For multiple channels playback, the setting shows (1) CMX I frame only (2) I frame only. CMX I frame only is when multiple channels playback is activated. The background CMX shows 1 frame/sec for reducing CPU load. This setting is recommended to be checked. I frame only is for multiple channels playback showing only 1 frame/sec to avoid CPU usage. This setting is recommend to be unchecked if CPU usage is low.



Note: Uncheck I frame only for higher frame rate display for smooth video while playback.

Chapter 4-4. Remote CMX Multiple Channels Playback NEW

A user can perform playback on a remote CMX for its video recording. To do so, click on "Remote Playback" button. Click on "Connect" button and enter IP/DNS address, port number, username, and password for accessing the CMX. Select a grouping for multiple channels playback.



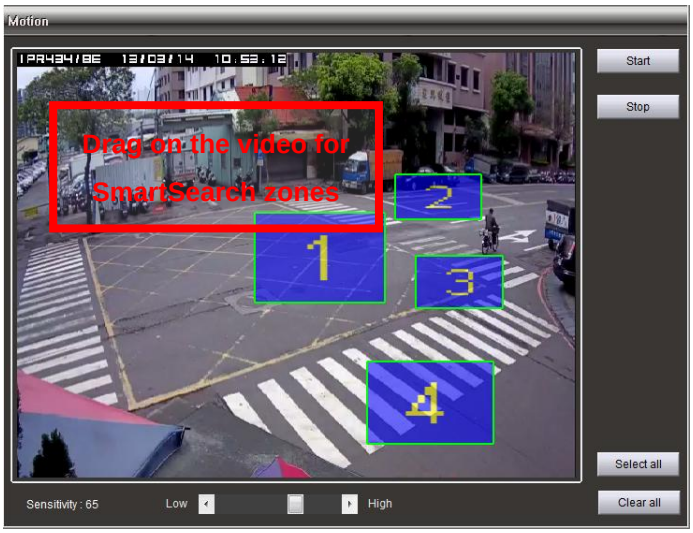
Chapter 4-5. SmartSearch

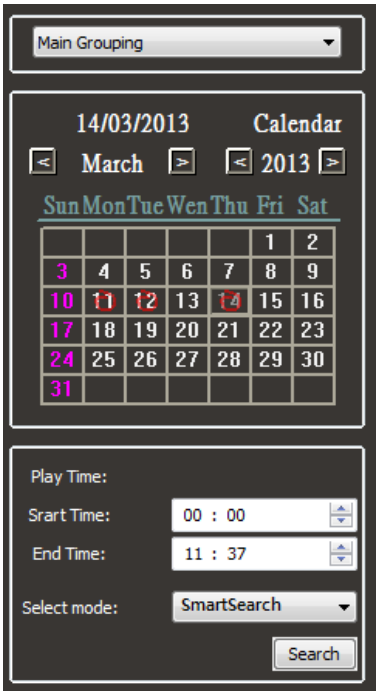
In CMX multiple channels mode, SmartSearch is supported for quick video search in which motion detection zones can be defined for an instance of the recording.

To use this feature, enable full screen mode for a particular camera. Select SmartSearch option from “Select Mode” option. A SmartSearch gets prompted; drag the motion area on the video of the SmartSearch dialog box. Click on Start button can start to quick scan through for

the motion activities of the recordings.

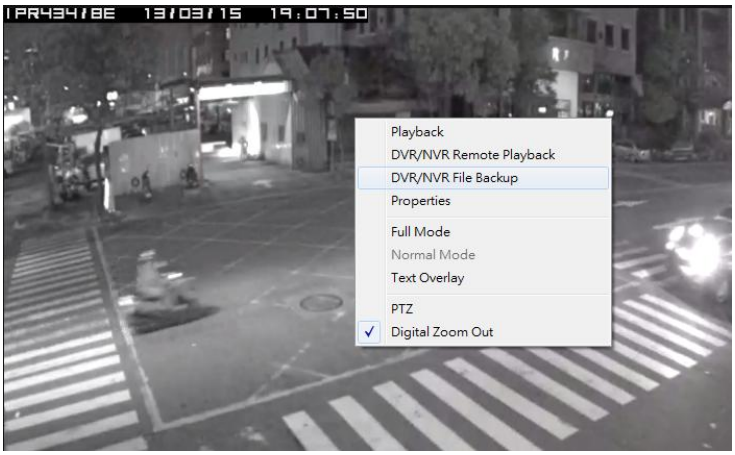
The snapshots of the motion activities get displayed in the event list. Click on the snapshots that can quick play the video for a particular event.





Chapter 4-6. Remote DVR/NVR Playback

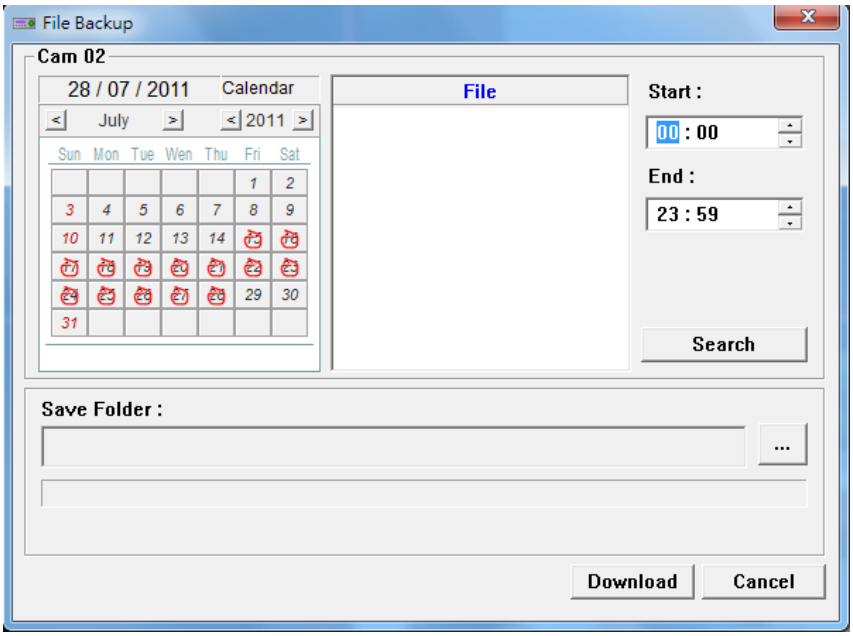
For playback on a remote DVR/NVR, please first perform right-mouse click on a DVR/NVR channel. Select “DVR/NVR Remote Playback” menu item for DVR/NVR video playback.



The DVR/NVR Playback dialog box shows up. Specify date and time information in the dialog box for remote DVR/NVR playback.

Chapter 4-7. Remote DVR/NVR File Download

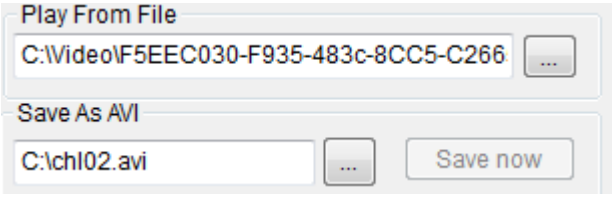
To download remote DVR/NVR's files, please first perform right-mouse click on a DVR/NVR's channel. Select "DVR/NVR File Backup" menu item. A DVR/NVR File Backup dialog box shows up. Specify date, time information, and click on Search button. It can list all the files of the DVR/NVR. For downloading the files, please click on Save Folder button and click on Download button for downloading the files into a specific folder.



Chapter 4-8. AVI File Exporting & Play From a File

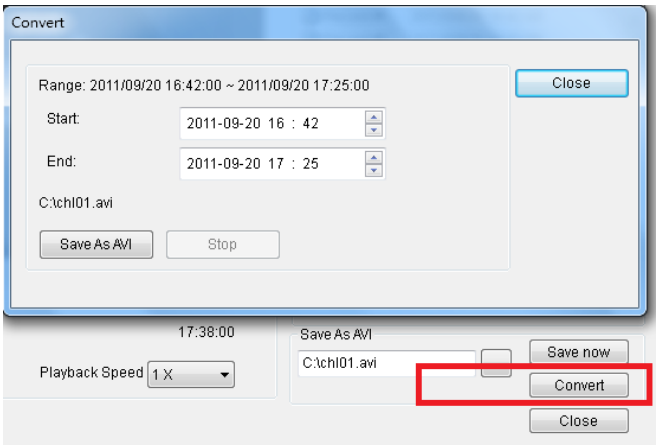
Exporting AVI with OSD

To export an AVI file for main grouping device, please perform playback operation for the device. Once the video clips have been located, specify the file name and click on Save Now button for the AVI file.

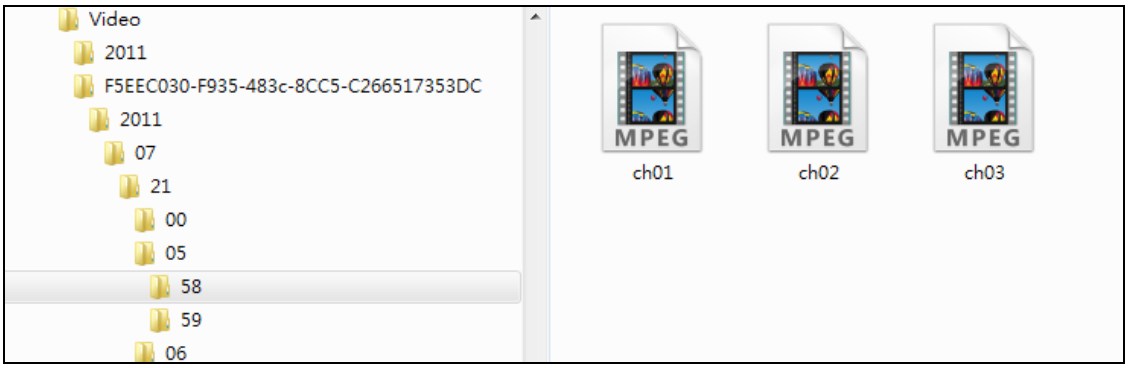


Exporting AVI without OSD

For direct exporting H.264 AVI file without OSD time stamp, this operation performs fast than rendering OSD.



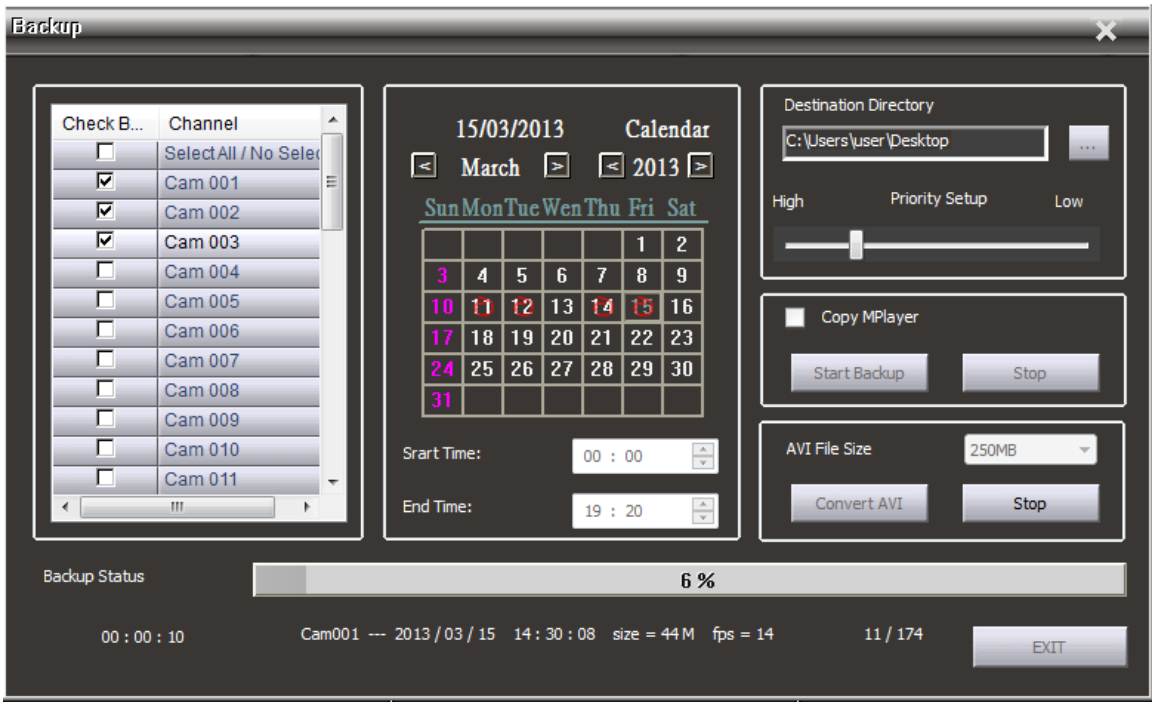
CMX Software HD 3.6 video clips are stored in a hard drive's Video folder followed by a GUID folder. The GUID folder is a 32-digit hex folder. CMX Software HD 3.6's video clips are stored as in the folder under year, month, day, hour, and minute. To retrieve a particular a file, please locate the file by the button of "Play from a File".



Chapter 4-9. Multiple Channels Backup NEW

Multiple channels backup feature can be done for (1) multiple channels playback by the player, MPlayer, (2) multiple AVI files for both local and remote backup.

To do so, click on Backup button and selection channels. Specify date, time, and destination directory. Finally, choose Start Backup or Covert AVI button for multiple channels video backup.

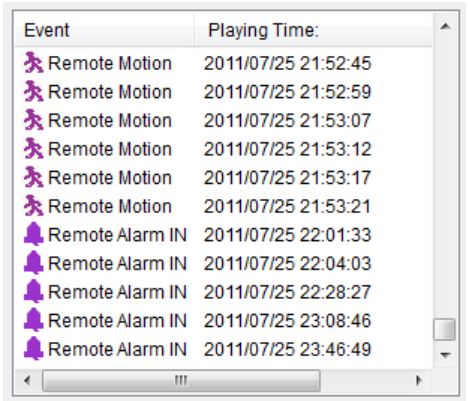


Chapter 4-10. Snapshot

For IP-based devices, you may want to capture a particular video into a picture. You can click on the Snapshot button. The picture is exported to a JPEG file format. For DVR devices, please perform right-mouse-click and select “Save As JPEG” menu item.

Chapter 4-11. Alarm Event Playback

To playback based on motion detection events, please click on the alarm radio button at the Playback dialog box. Click on Search button to list all the motion detection events. Click on a motion event can play associated video.



Chapter 5. Audio

Chapter 5-1. Two-way Audio

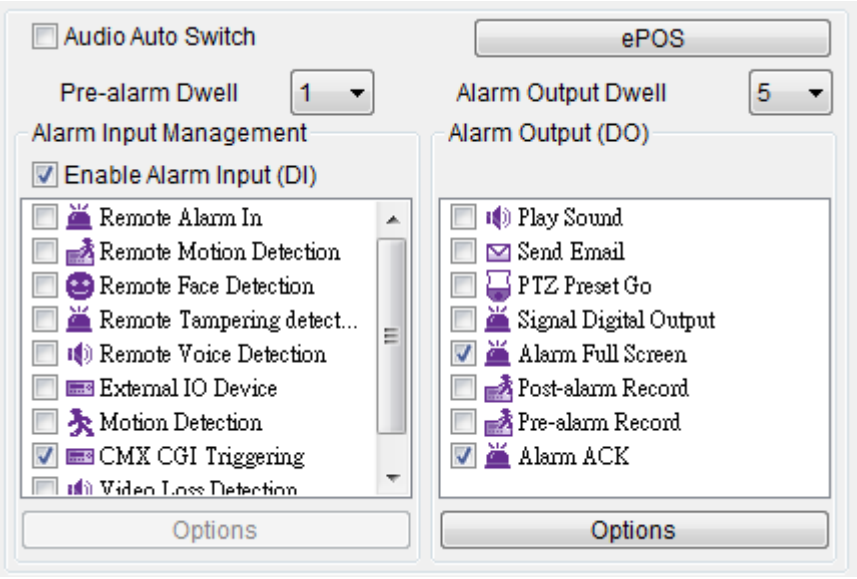
To perform two-way audio, please first select a particular channel for listening to the audio of the channel. Click on Speaker icon to enable audio feature. To change volume, please change volume bar.

To speak to remote site, please click MIC On button.

To enable audio monitoring, please double click on a channel in full screen mode for audio monitoring.

Chapter 5-2. Two-way Audio Auto Switching

CMX Software HD 3.6 supports two-way audio for IP cameras. Enable "Audio Auto Switch" button which allows automatically speaking to remote site and listening to the audio, when the camera is triggered by the remote IP camera's digital input.

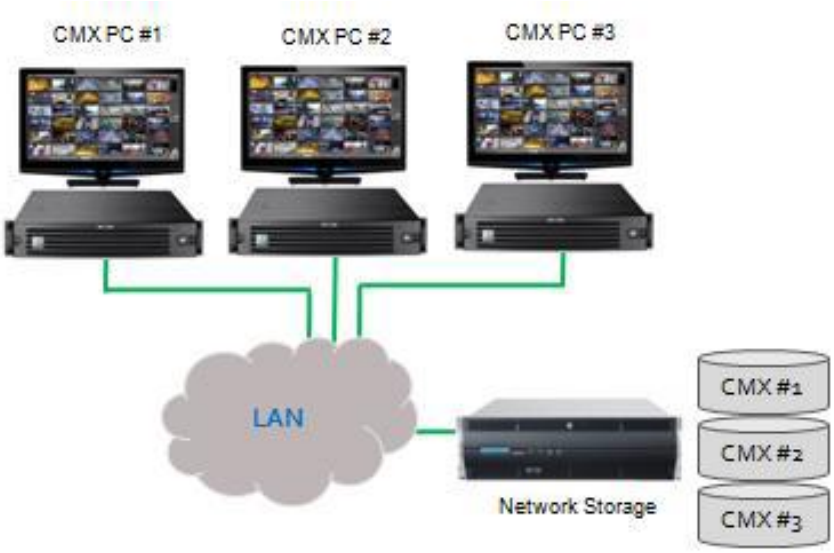


Chapter 5-3. Audio Recording

For IP cameras with audio input models, CMX Software HD 3.6 can record audio with its video. To listen to the audio recording, playback feature can play the audio.

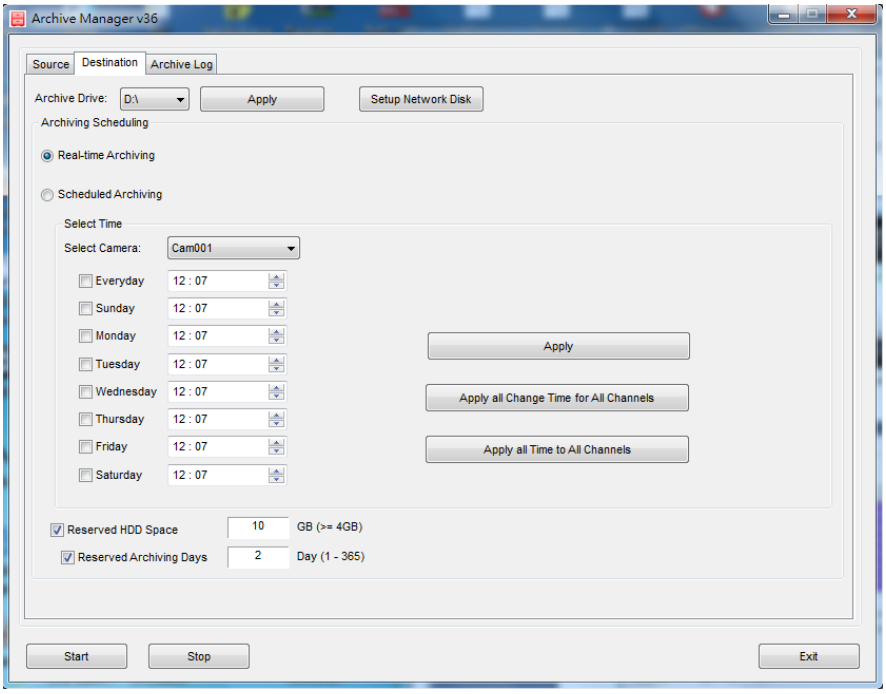
Chapter 6. Archiving Manager NEW

CMX Software HD 3.6 Archive Manager can archive video to a central network storage. Archive Manger is located in each CMX PC. It can perform video clips archiving to the central storage automatically.



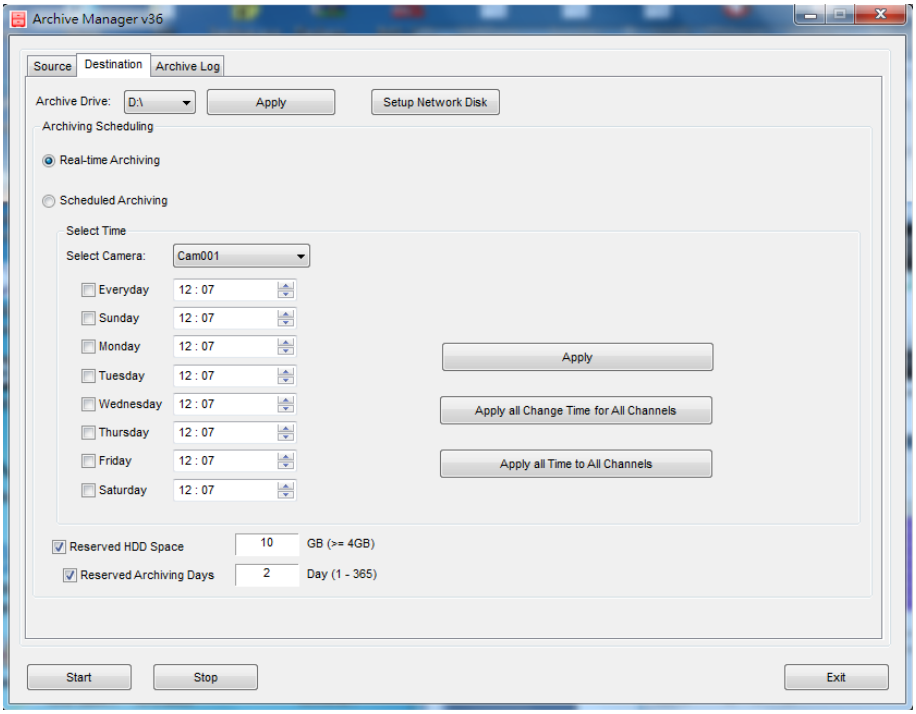
Chapter 6-1. Archiving Source

To perform video archiving, select the cameras for video archiving. You can keep the video clips from the CMX PC (Duplicate Archiving), remove the video clips from the CMX PC, or choose the time not for archiving. After configuring above, you can schedule the archiving task starting at specific hour of the week of the camera or apply all for the schedule to other cameras.



Chapter 6-2. Archiving Destination

A user can choose the Archive Driver for archiving the video clips from a CMX. The Archive Drive could be a network RAID drive or internal SATA RAID for large among data. For a network RAID (NAS), click on "Setup Network Disk" button to attach the drive to the CMX. After setting up the archiving drive, select Real-Time Archiving or Scheduled Archiving. For the Read-Time Archiving, the archiving task is activated in the next minute. After the configurations, a user can click Start button for archiving task.

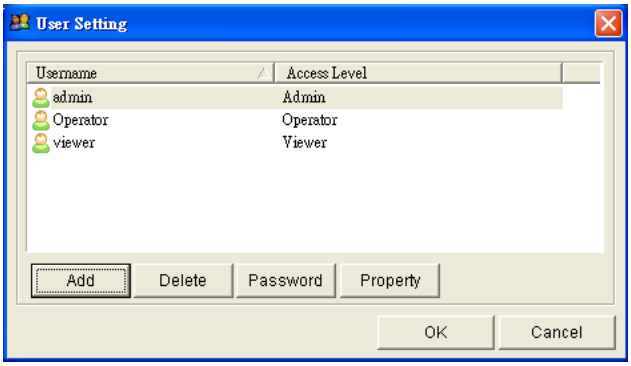


Chapter 7. User Settings

User setting allows add a user, delete a user, change password for a user, and assign feature accessed by a user.

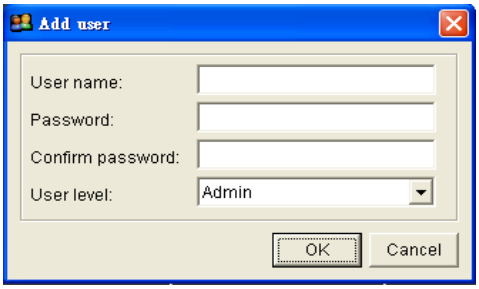
To add, delete, and modify a particular user, click on User button in NVR tool box.

The User Setting dialog box shows up.



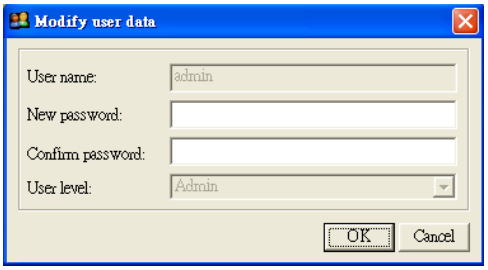
Chapter 7-1. Add a User

To add a user, click on a particular user in the user list and click Add button. Add User window shows up. To add user, specify user name, password, and confirm password. Please also specify the user level and click on OK button.



Chapter 7-2. Modify an Existing User

To modify an existing user, click on a particular user in the user list and click Property button. To modify the user, specify user name, password, and confirm password.

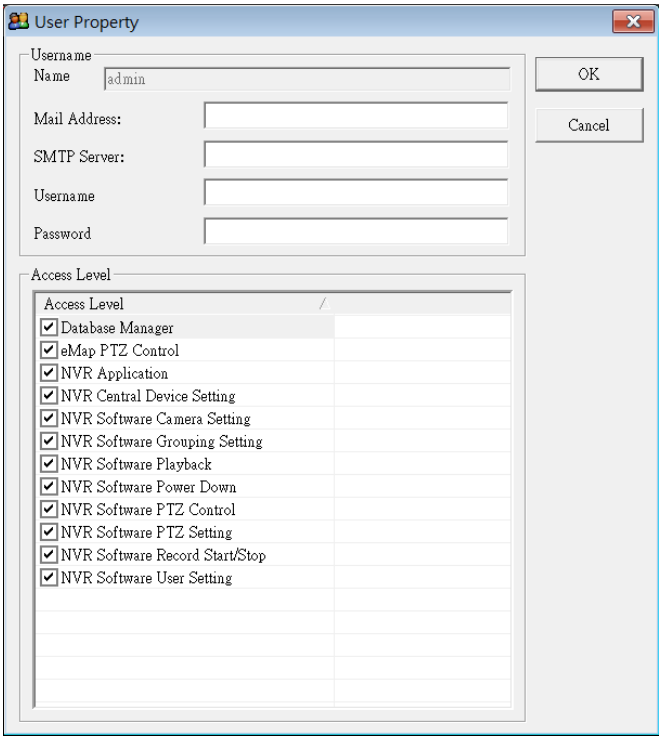


Chapter 7-3. Delete a User

To delete a user, please select the user in user setting window and click on OK button.

Chapter 7-4. User Authorization

Features of CMX Software can be assigned for a user. To enable a feature for the user, please first click on Property button. The User Property dialog box shows up. Click on the check box for the user in Access Level list item.

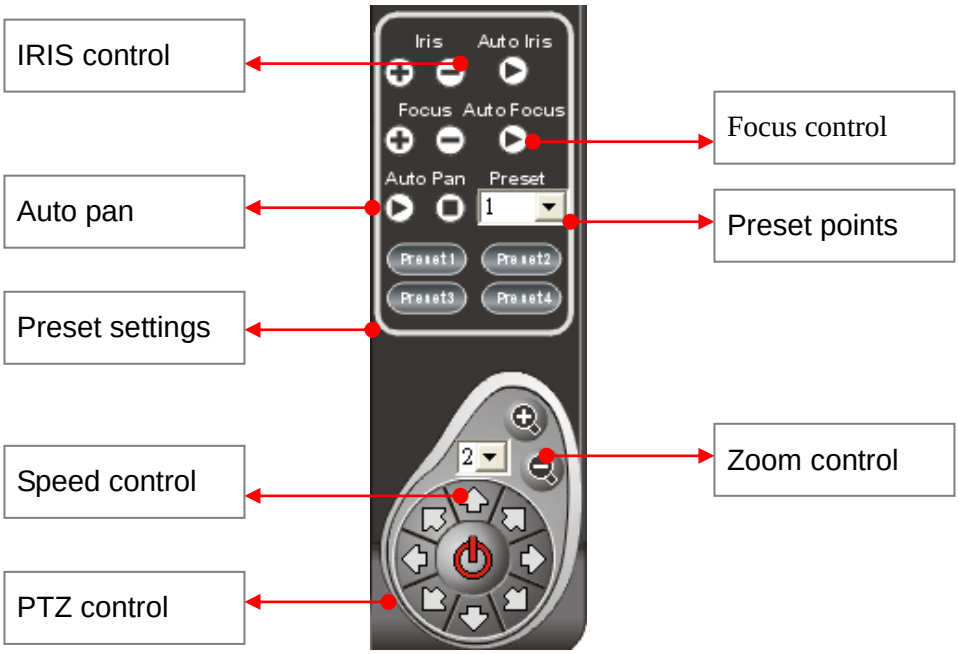


Chapter 7-5. Alarm Email Notifications

For sending alarm email notifications, please configure the email setting in the user. After finishing email setting, please configure Alarm Output Management at Camera Settings.

Chapter 8. PTZ Control Panel

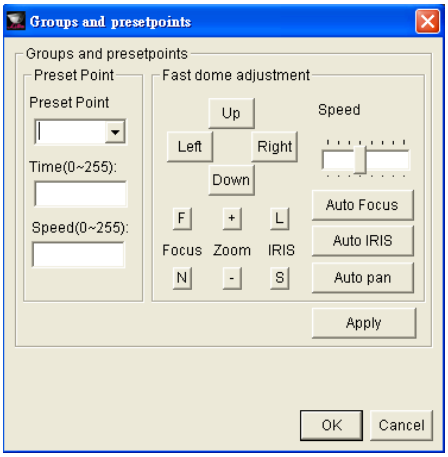
In order to perform PTZ movements, you have to select a particular live channel which contains an IP Fast Dome. Once an IP Fast dome is selected, you can control the movements using PC keyboard and/or PTZ control Panel.



Chapter 8-1. Preset Point Settings

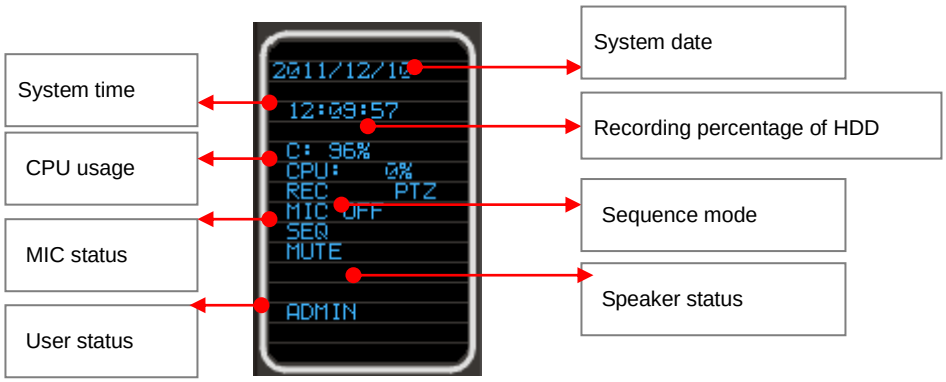
To setup preset points, please invoke Presets dialog box. Follow the following steps:

Step 1. Select preset point dropdown list.
Step 2. Type the time field.
Step 3. Type the speed field.
Step 4. Click up, down, left, or right to move the IP Fast Dome to specific position.
Step 5. Click Apply button to set the position.



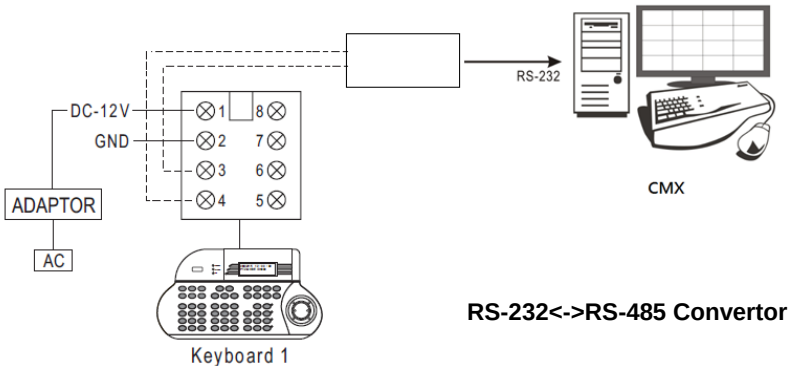
Chapter 8-2. CMX Software HD 3.6 Status Panel

CMX Software HD 3.6 status panel is described as following chart.



Chapter 8-3. Control PTZ via PIH-931D Keyboard

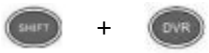
To use PIH-931D keyboard for CMX, please follow the following steps. First, please add a RS-232<->RS-485 convertor for connecting PIH-931D keyboard and a CMX PC.



RS-232<->RS-485 Convertor

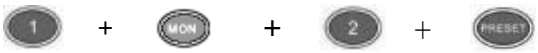
Chapter 8-3-1. DVR Control Mode

Press the SHIFT button and the DVR button to set the keyboard to DVR control mode.



To control a CMX, please first enter the DVR ID (CMX ID) follow by the ENT button.

To recall a grouping, please type 1 + MON and following by grouping ID and the PRESET button.



Chapter 8-3-2. Window-division

To change window-division, please first control a CMX and type the following buttons.

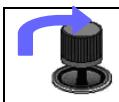
	16-division		8-division	36-division	CMX ID + DVR + ENT
	9-division		4-division		

To recall 36-window-division, please type CMX ID followed by DVR and ENT buttons. The operation is same controlling a CMX.

Chapter 8-3-3. Recall a Camera

For recalling a camera, please select camera number and follow by CAM button.

Example: Call camera #8

	Zoom in		Zoom out
	Tilt up		Tilt down
	Pan left		Pan right
	Zoom in		Zoom out
	Focus near		Focus far
	IRIS small		IRIS large
	Auto Pan		

Chapter 8-4. IP Camera ePTZ or ROI Feature

For some IP cameras, they provide ePTZ or ROI feature. A user can still use the keyboard controller for ePTZ or ROI feature via CMX Software HD 3.6.

Chapter 8-5. Switching in Between CMXs and Virtual Matrix Monitors

Please first gain CMX access by press SHIFT button and DVR button.

To control the CMX, please type CMX ID, DVR button and ENT button.

After a CMX gets controlled, a user can address the monitors of the CMX.

 + 

To control #5 monitor, please click 5 button + MON for controlling #5 CMX monitor. To recall a grouping, please type the monitor ID + MON and following by grouping ID and the PRESET button.

Chapter 8-6. Keyboard Playback

Please press SHIFT and DVR buttons for playback a CMX and press one of the follow buttons for playback.
To control multiple channel playback feature, please click on Stepping Forward button. This invokes multiple channel playback features.

 To control multiple channel playback feature, please click on Stepping Forward button. This invokes multiple channel playback features.

 To control single channel playback feature, please click on Play button.

A date and time dialog box shows up. Please use  for entering date and time. Press ENT button for searching the video. Press ESC to exit the dialog box and press ESC again to exit playback dialog box. For operating playback features, please follow the following:

 Pause: Press PAUSE button during playing video can pause the video in pause mode.

 Play: Replay the video after Pause, Fast Forward, or Fast Rewind.

 Fast Forward: Fast Forward the playback video.

 Fast rewind: Fast Rewind the playback video.

 Stop: Stop the playback video and return to playback menu.

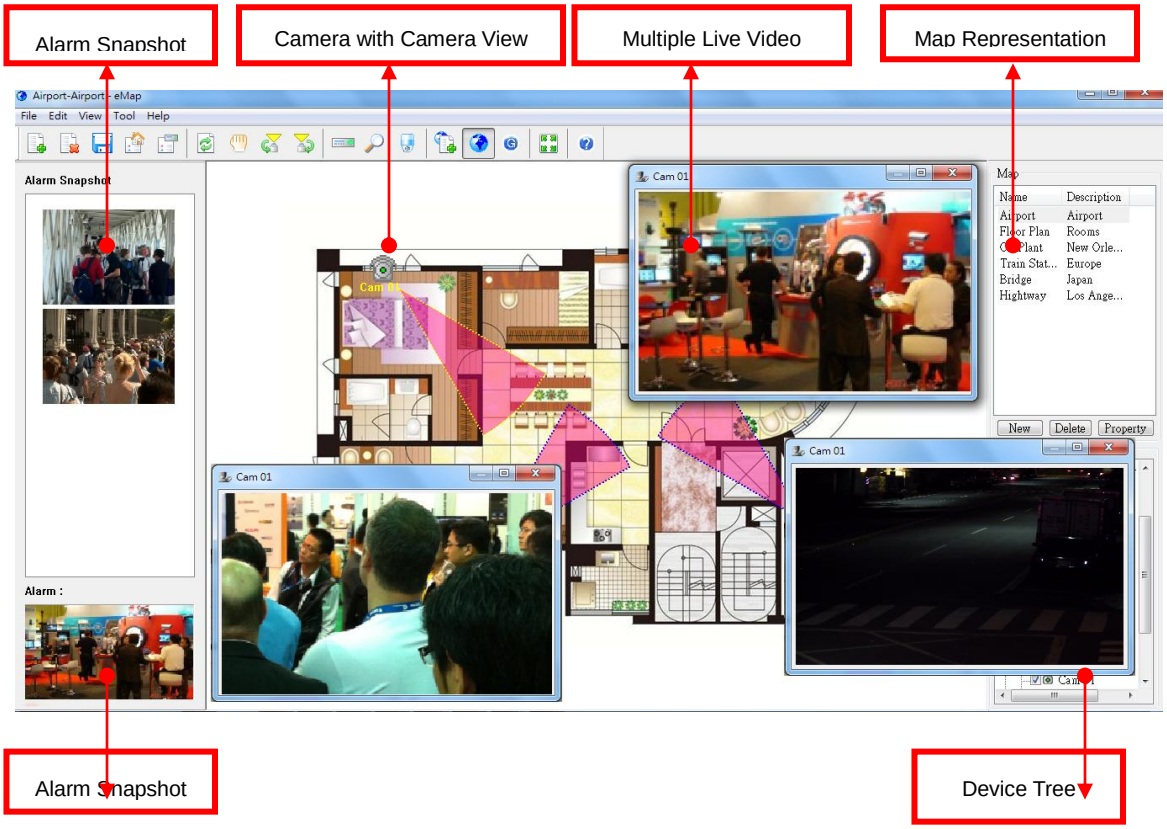
Select various split display modes on live and playback monitoring.

Chapter 9. eMap Manager

eMap is an application which can manage devices such as IP camera, IP Fast Dome, and DVRs/NVR on multiple maps. With eMap, user can easily locate a particular device on a map.

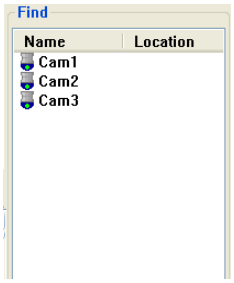
Chapter 9-1. Before Accessing eMap

Before accessing eMap, terms and screen layout are described in the following section:



Find Device Panel

To find a device, please click on Find Device Panel button or View->Device menu. Click on the device in Find Device Panel.



PTZ Control Panel

To control PTZ device, please double click on a PTZ device. Perform PTZ feature on the PTZ control panel.

Chapter 9-2. Tool Bar

The buttons from left to right are described as follows:

New map: Create a new map.

Find device panel: Switch to Find Device panel

PTZ control panel: Switch to PTZ control panel.

Refresh: Refresh eMap map list and device information.

eMap edit mode: Drag a device on a map for its position.

Camera view control: Clockwise and counter-clockwise rotate a camera view.

Device list panel: Switch to device list panel.

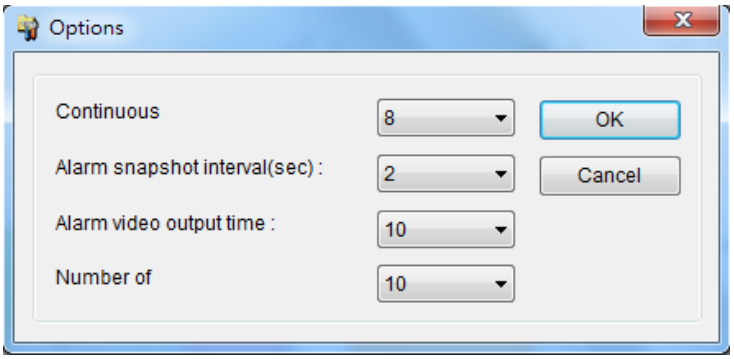
Find alarm panel: Switch to find device panel.

PTZ control panel: Switch to PTZ control panel.

eMap alarm mode: Receive alarm mode.

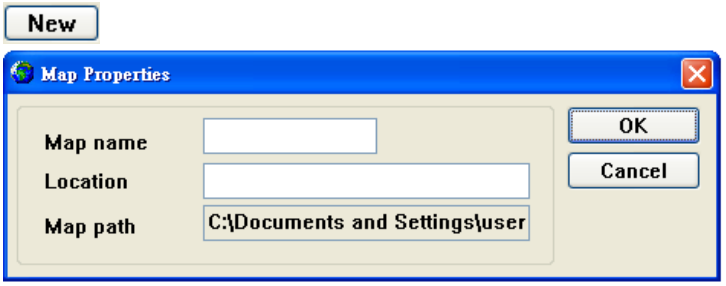
eMap control mode: for PTZ control and live monitoring mode

Chapter 9-3. eMap Alarm Options



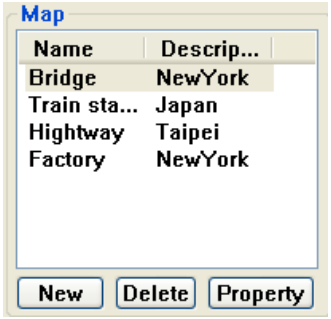
Chapter 9-3-1. Setup a Map

To setup a device map, click on File->New Map or New button at Map list. A file opening dialog box gets displayed. Please select the JPEG map file representing the installation site. Type both map name and location information.



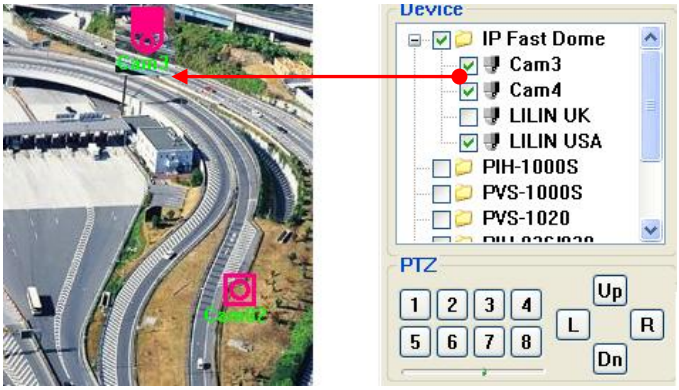
To delete a map, please first select the map in Map List and click on File->Delete Map or click on Delete button.

To access property of the page, click on Property button.



Chapter 9-4. Setup a Device on a Map

To setup devices on a map, drag-and-drop a device from Device List to its associated map. The device item shows checked if the device is setup on the map.



Chapter 9-4-1. Delete a Device on a Map

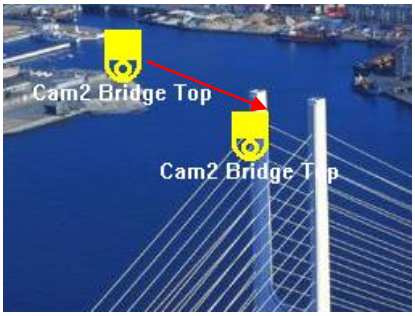
To delete the device on the map, follow the following steps:

1. Select on the device.
2. Right click on the device.
3. Select “Device Delete” menu item.

Or, uncheck the check box of the device item.

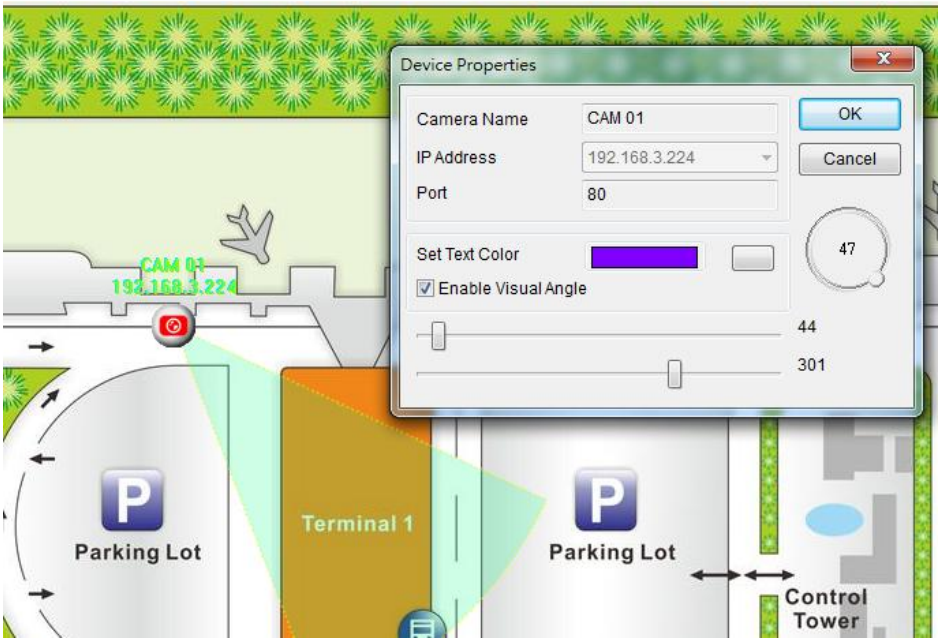
Chapter 9-4-2. Arrange a Device

To arrange the device position on the map, click on Drag Mode tool or menu item to enable device drag mode. Use mouse point drag the device to the destination area.

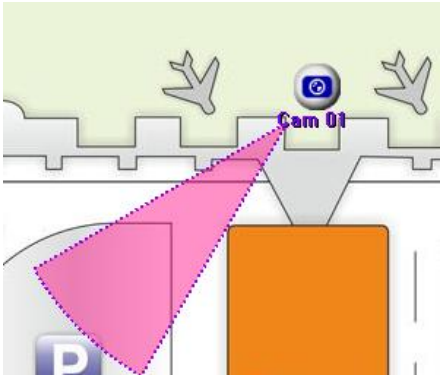


Chapter 9-4-3. Device Property

To show a Device Property, select “Device Property” menu item on the menu. A Device Property dialog box shows up. Device name and device text color can be changed for distinguishing its background image.



A camera view control can indicate a camera's viewing angle. To setup camera view control, please click on the clockwise/counter-clockwise control to rotate camera viewing angle.

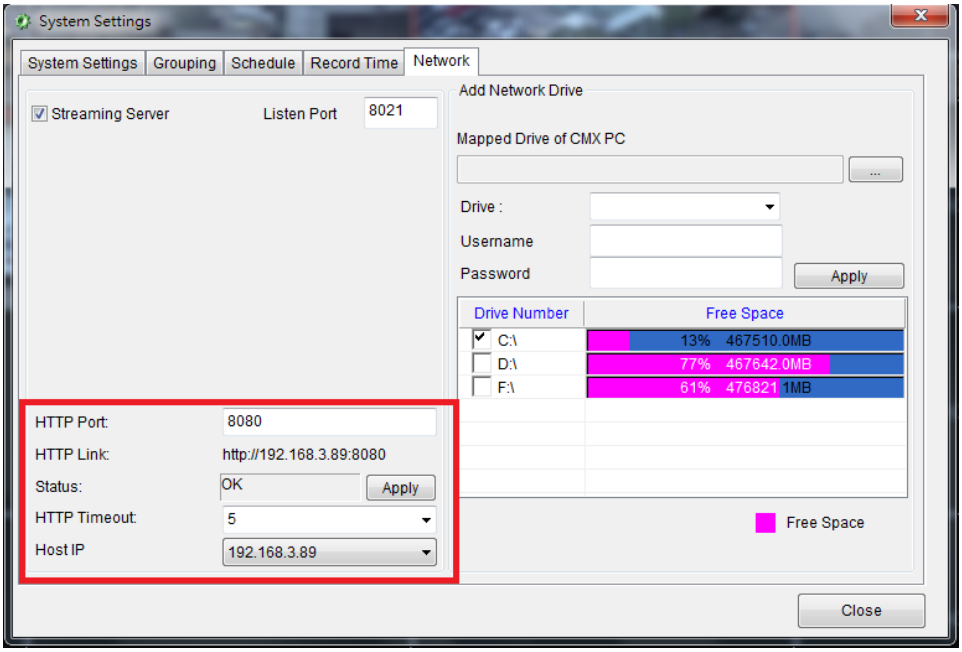


Chapter 9-5. Find a Device on eMap

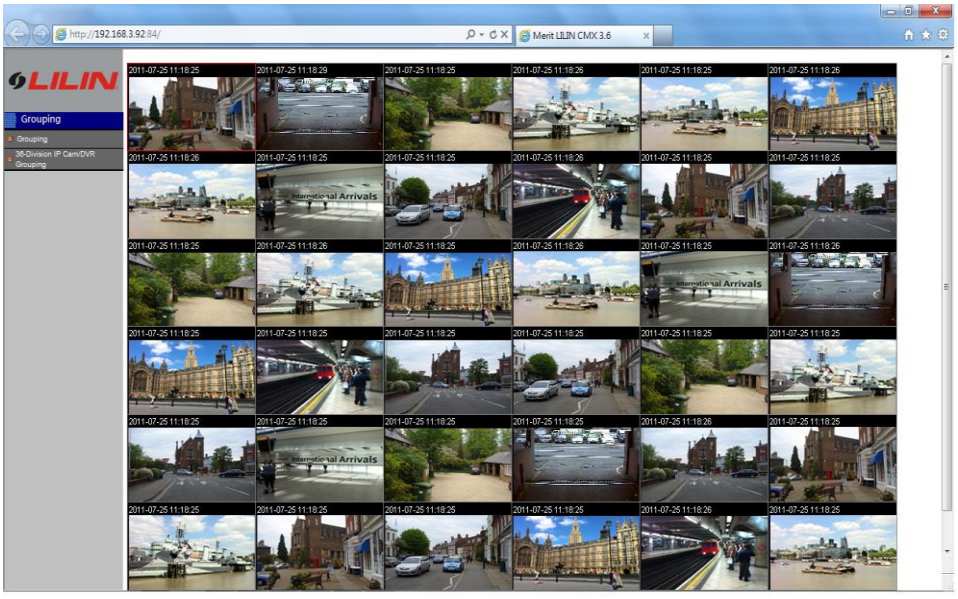
DVR, DVR's camera, or IP-based devices can be setup on different maps. It is very difficult for a user to find the live video of a particular device. To find a device on eMap instantly, a user can click on Find Device Panel button/View->Find menu item. List of all devices in Find Device Panel can be found on a map instantly. The user can click on the device that eMap can automatically switch to the map and show the device and its live video.

Chapter 10. Web Server

Each CMX has one web server for displaying live video. To enable the service, please specify the port number of the PC's IP address.



Once this is done, the user can click on the HTTP Link and launch Internet browser to see the video.



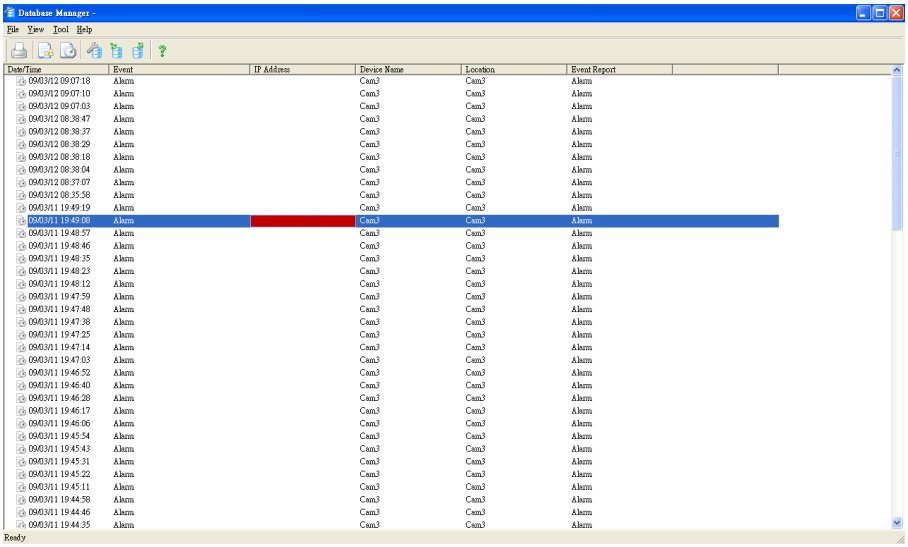
Chapter 10-1. Login Web Server

To login CMX web server, please provide the username and password for the service. The live video is grouped based on grouping as in CMX Software HD 3.6. Once a grouping is managed, the grouping can be assigned for its access right of a user. Please see grouping section for detail.

Chapter 11. Database Manager

Database Manager allows a user to perform operational report printing, event report printing, database importing, database exporting, and database repairing.

To perform above features, please see the following:



Chapter 11-1. User Operational Report

For showing all logon logs, please click on “User Log Report” menu item. To print out the report, please click on “Print/Print Preview” menu item.

Chapter 11-2. Event Report

For showing all alarm event logs, please click on “Event Report” menu item. To print out the report, please click on “Print/Print Preview” menu item.

Chapter 11-3. Database Maintenance

Database maintenance is constantly required. To perform database maintenance, please click on Tool->Compact DB or click on Compact DB tool button.

Chapter 11-4. Import Database

Database configuration can be imported from a XML configuration file. To import database, please click on Import Database button.

Chapter 11-5. Export Database

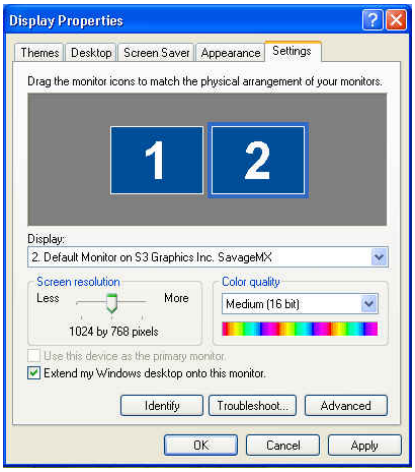
Database configuration can be export to a XML file for later use. To perform exporting, please click on Export Database button.

Chapter 12. Setup Multiple Monitors

Multiple monitors support is a feature in Windows XP or higher. Multiple monitors support allows you to expand the display across for both CMX Software HD 3.6 and eMap.

The benefit of adopting multiple monitors support is to use one mouse/keyboard to control both CMX Software HD 3.6 and eMap. Multiple camera view in CMX Software HD 3.6 and live video in eMap can be operated by an operator on a personal computer.

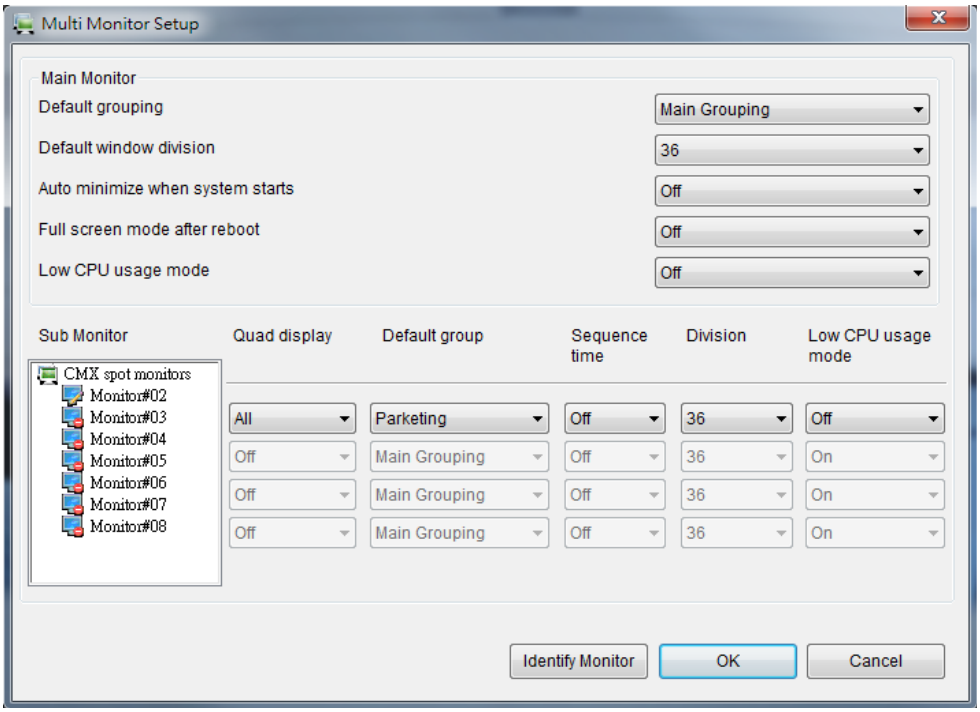
To install additional monitors, you must first install the compatible video adapter hardware into the PC and connect the additional monitor. To setup multiple monitors support, read the instruction manual of Windows XP.



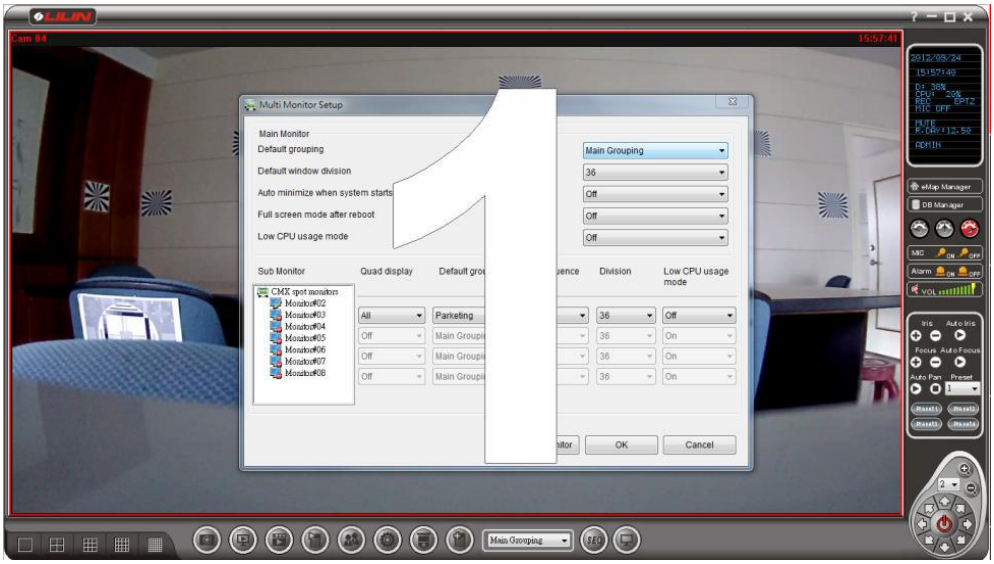
Chapter 12-1. Multiple Monitors Virtual Matrix Output

CMX can up to support 6 monitors, one main monitor + 5 additional monitors. CMX TV wall virtual matrix can be connected as the system described below: To support 6 monitor outputs, please use ASUS 7970-DC2-3GD5 graphics card.

After installing the graphics card, click on Monitor button. It shows all the detected monitors shown below:



Once all the monitors are properly installed, click on "Identify Monitor". All monitors are shown IDs as below:



Few functions for controlling CMX monitors are described below:

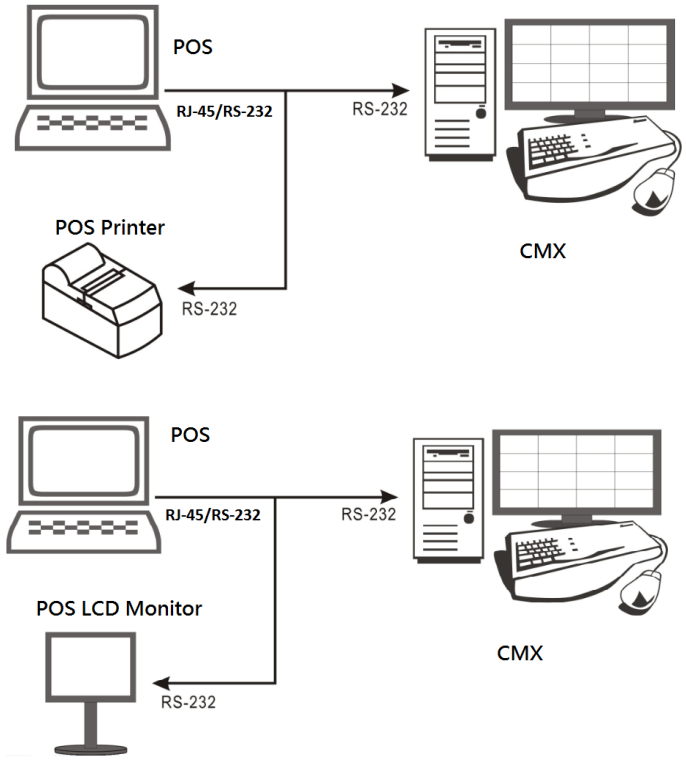
- Quad display: for large LCD panel, CMX can be configured to show 4 CMX monitors on one big LCD monitor. Each monitor can be 36-windows display.
- Default grouping: the default grouping to be shown on the main monitor.
- Sequence time: the monitor can be programmed for sequence display.
- Division: the default camera division of the grouping.
- Low CPU usage mode: this mode can only display I frame for reducing CPU time.

Chapter 13. Retail and Distribution Business Solutions

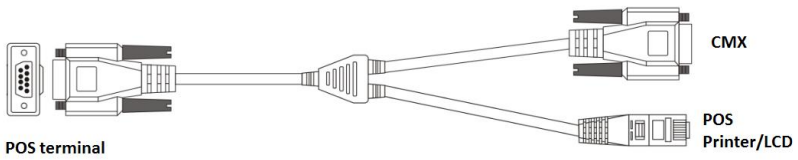
CMX Software HD 3.6 is able to connect to Point of Sale (POS) terminals. POS transaction data can be captured by CMX Software HD 3.6. POS transaction data can be displayed on live video and playback video. CMX Software HD 3.6 also provides smart transaction search for associated video clips. To perform these features, please follow the steps below:

Chapter 13-1. POS Connection Basis for Retail Business

CMX Software HD 3.6 basically listens to the ASCII/COM output of a POS system via RS-232. Please check POS's display output or printer output for ASCII data of your POS system. Please consult your POS provider for more detail.



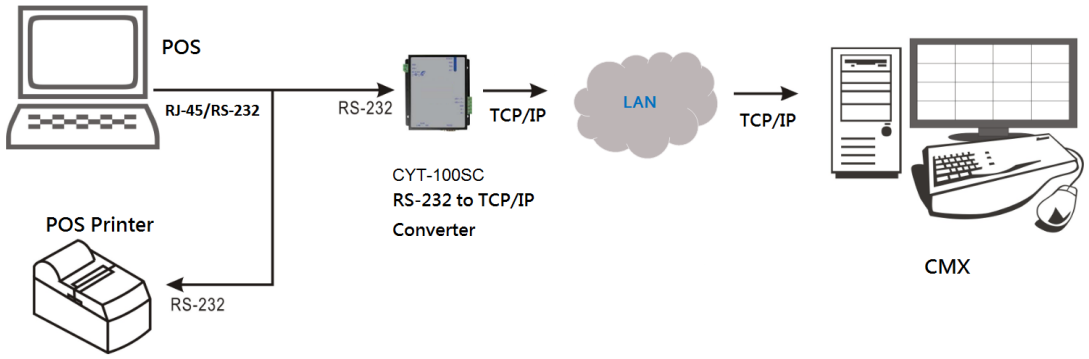
Basically, please connect RX/TX of the RS-232 of a POS register/terminal to CMX PC. Please see wiring diagram below:



To connect more than one POS terminals, add more RS-232/COM port into the CMX PC.

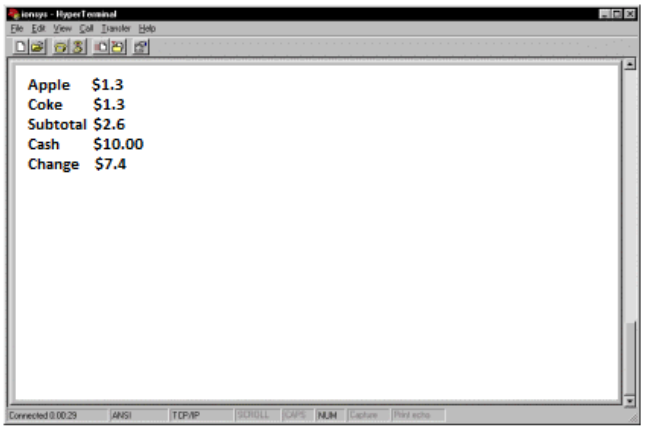
Chapter 13-2. POS Connection via TCP/IP for Retail Business NEW

Using CYT-100SC RS-232 to TCP/IP converter, CMX allows receiving RS-232 of POS transactions via TCP/IP. The product CD of CYT-100SC has one virtual driver which can map the TCP/IP transactions to a virtual COM port. The virtual COM port can been accessed via Windows OS. Once the virtual COM port is setup, follow the following sections for the setup.



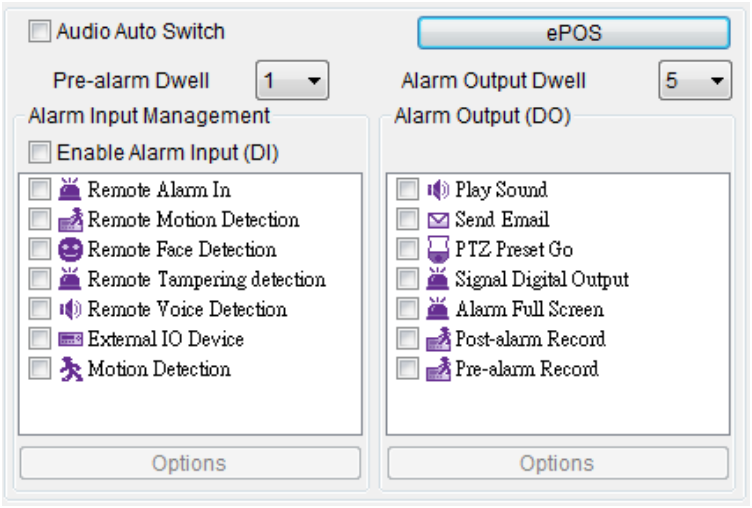
Chapter 13-3. Test POS Communication with a PC

After the POS connects to the CMX PC, please use Hyper Terminal or other RS-232 capturing application to test and to verify POS data that can be captured in the CMX PC.



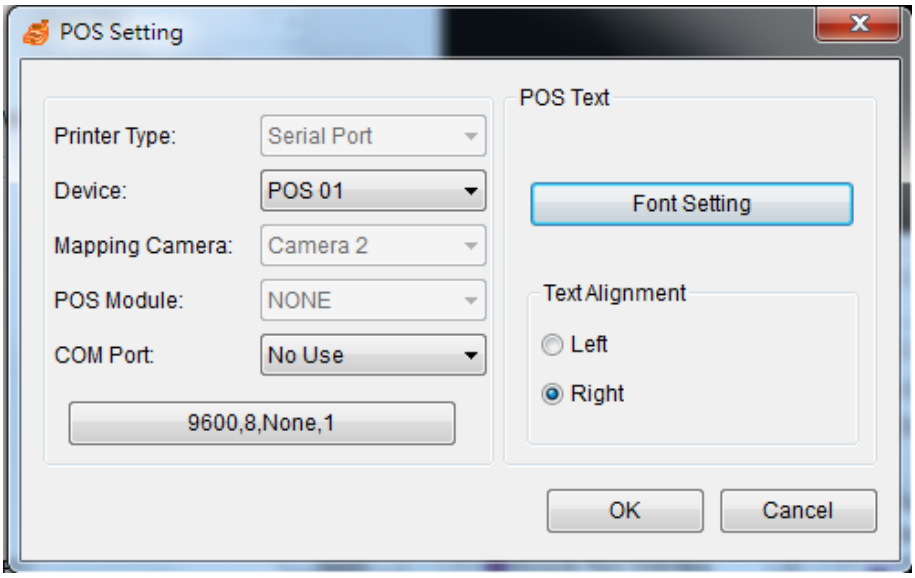
Chapter 13-4. Link POS with a Channel

To link a POS to a camera, please click on “Property” button and “POS” button. The POS Setting dialog box shows up.

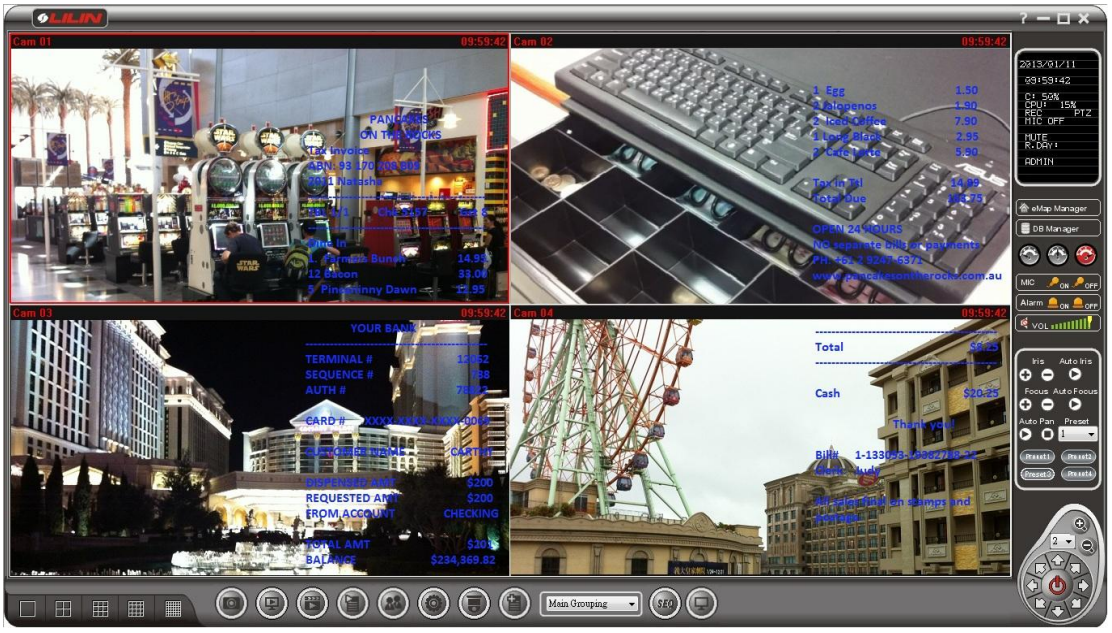


In POS Setting dialog box, please specify the following information for capturing POS transactions.

(1) Device: POS register number.
(2) COM Port: The mapped COM port number for the POS terminal.
(3) Print on Video File: Record POS transaction into video file.
(4) Print on Playback: Display POS transaction during playback.
(5) Print on POS Live: Display POS transaction at live video.
(6) Text Alignment: Alignment of POS transaction.



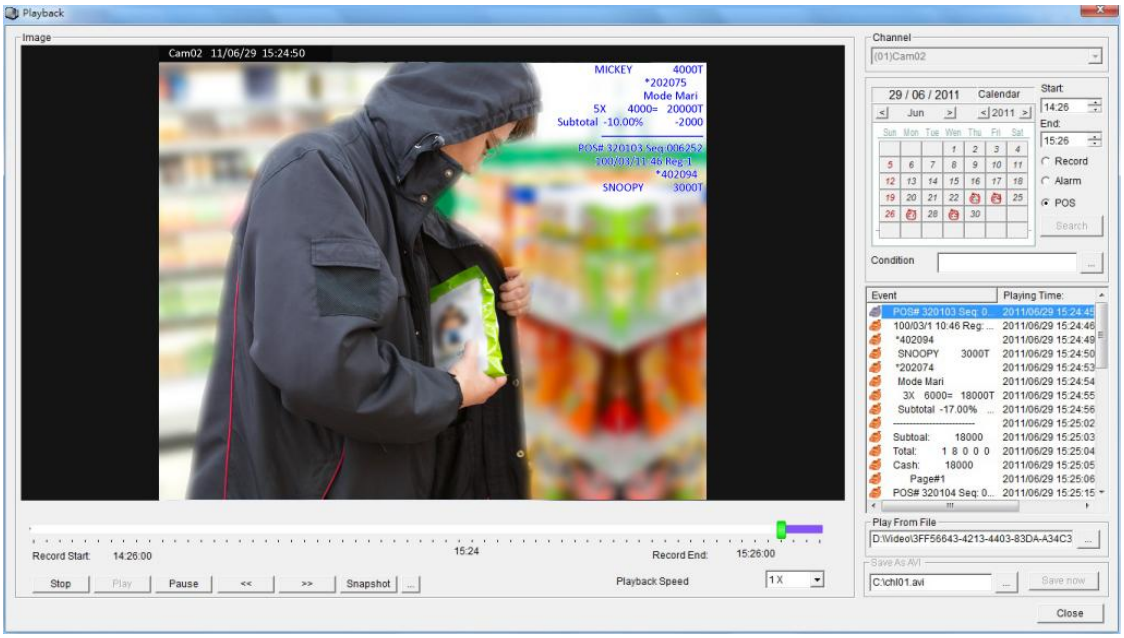
Once above information is setup correctly, CMX Software HD 3.6 starts to capture and to display POS transactions on live video.



Note: For demo purpose, please press F3 to show simulated POS transitions.

Chapter 13-5. Playback with POS Transactions

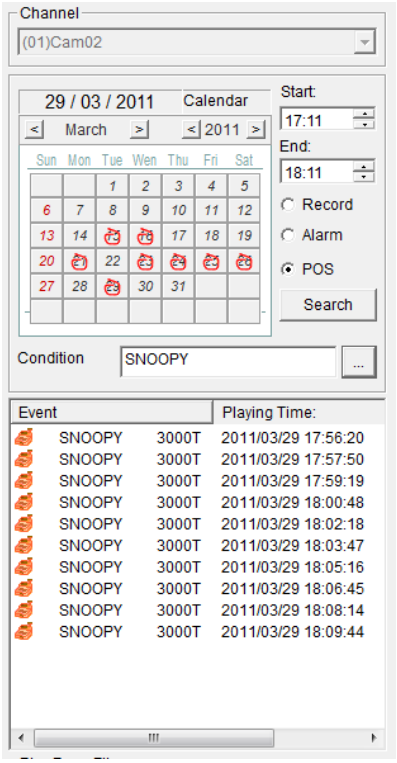
During playback, the recorded POS transactions get shown on the video and displayed on the list box. Click on a POS transaction. The video clip is played associated with the time of the POS transaction.



Chapter 13-6. Search POS Transactions

To search a particular search conditions such as an amount, a product item, subtotal, and total, a user can set the search condition for associated time stamp. Click on the item in the listbox. It

can play the video of the transaction.



Chapter 13-7. Scanner Connection Basis for Transportation Business

For transportation business, a barcode scanner and a keyboard are widely used. The barcode scanner for scanning barcode is connected to a PC via the PS/2 connector of the CMX PC. The barcode scanner acts as a keyboard. In CMX Software HD 3.6, the scanner connection only accepts 0 to 9 for keyboard scanner or the barcode scanner.

To use barcode scanner as transaction device, connect barcode scanner into PS/2 connector. In “Camera Settings” dialog box, enable “barcode scanner” option. For one PC, there is only one video channel that can be set for the barcode scanner.

For search barcode transactions and playback on the barcode transaction, please see “Playback with POS Transactions” and “Search POS Transactions” for detail.

Chapter 14. Mobile phone support

Chapter 14-1. iPhone and iPad support

Please use your iPhone and select AppStore for download Live Cams Pro application developed by Eggman Technologies. Execute Live Cams Pro application. Please click on “Add Camera” button on your phone while using Live Cams Pro. Task bar gets prompted as below:

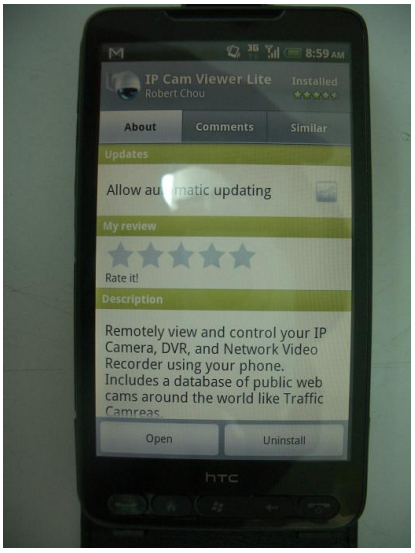
Please select one of the following cameras or DVR/NVRs' type： LILIN NVR: NVR104/108/116/CMX driver. Please provide the following information:

1. Name: IP Camera or DVR/NVR’s camera name
2. Host or IP: IP address or DNS address
3. Port: Port number
4. Provide username and password information. For IP camera, the default username and password are “admin” and “pass”. For DVR/NVR, the default username and password are “admin” and “1111”.

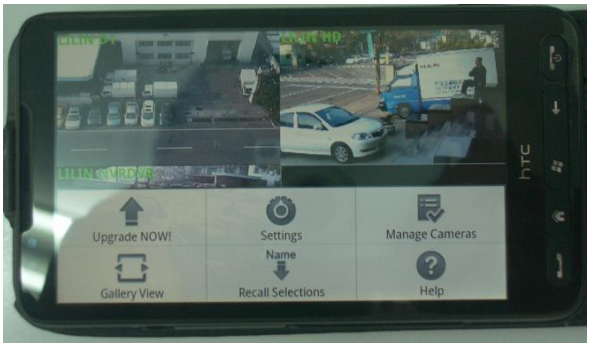
Once above information is entered, please click “Save” button. You are able to see live video of the IP camera or DVR/NVR’s camera.

Chapter 14-2. Android Support

Please use your Android phone and select Android Market for download Live Cam Viewer application developed by Robert Chou.



Execute Live Cam Viewer application. Please click on Setup button on your phone while using Live Cam Viewer. Task bar gets prompted as below:



Please click on Manage Cameras button. A list of camera names shows on the screen. Please select one of the cameras and click on Edit button.

"Add/Edit IP Camera" dialog box gets prompted for editing of an IP camera or a DVR.

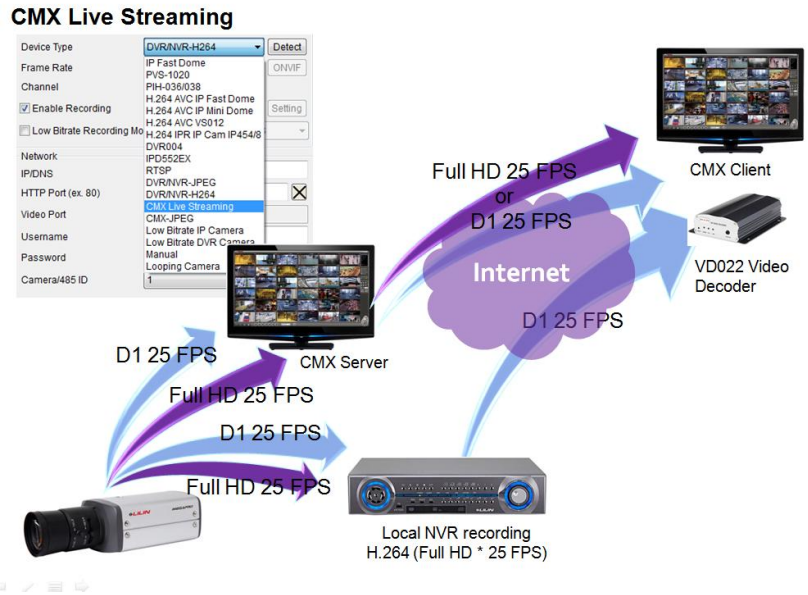
In “Add/Edit IP Camera” dialog box, please enter the following information:

1. Name: Name of the IP camera or DVR’s camera
2. Category: Please select Merit LILIN.
3. Type: Select device type, Merit LILIN D1/Merit LILIN HD/Merit LILIN DVR.
4. IP Address: Please type IP address, for example http://59.124.49.36:60005 where 60005 is the port number.
5. Provide username and password information. For IP camera, the default username and password are “admin” and “pass”. For DVR, the default username and password are “admin” and “1111”.

Once above information is entered, please click “Save” button. You are able to see live video of the IP camera or DVR’s camera.

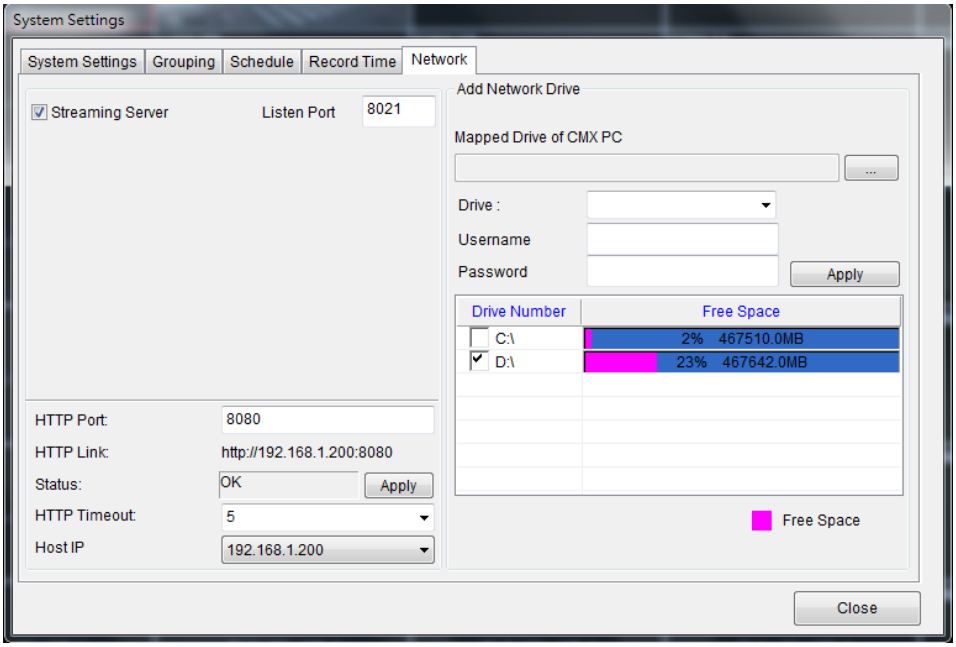
Chapter 15. CMX Streaming Client & Server NEW

CMX provides client and server architecture where a CMX server can stream video to a CMX client. This can further reduce CPU loading from an IP camera. The system architecture is described below:

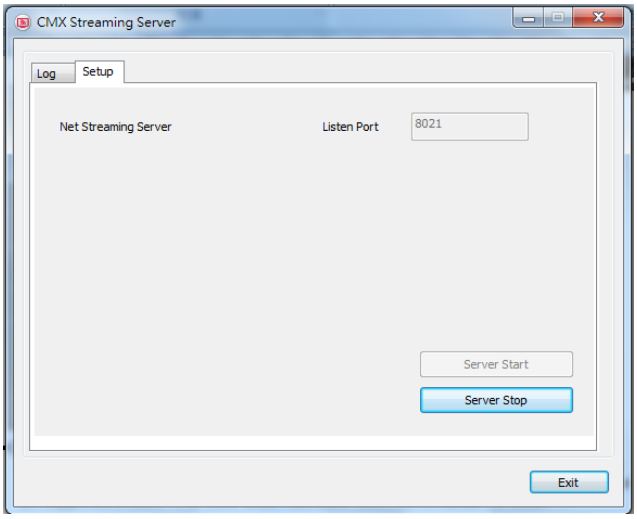


Chapter 15-1. CMX Streaming Server

To enable CMX streaming, click on System Setting button and enable Network tab. Check Streaming Server opton and specify the Listen Port number.



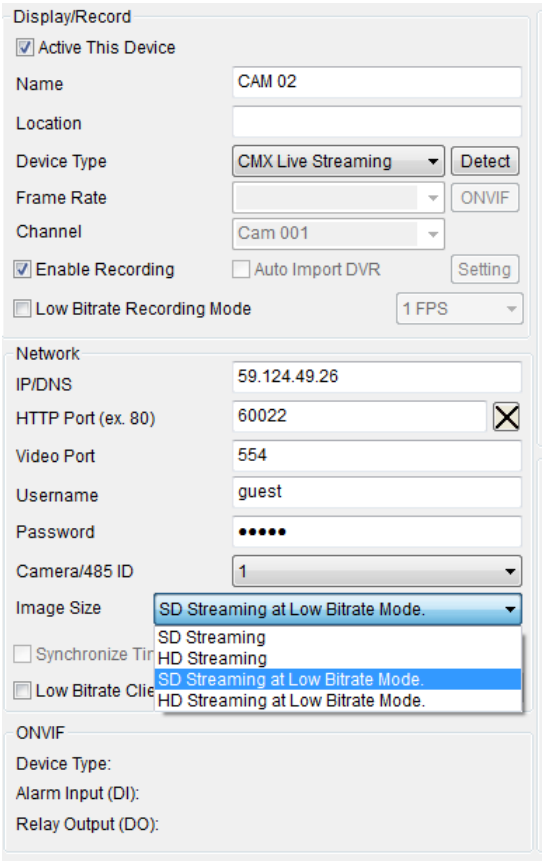
Once the streaming server is enabled, a proxy program is activated if CMX is launched. Please do not close CMX Streaming Server proxy program, if remote live monitoring from CMX server is required.



Chapter 15-2. CMX Streaming Client

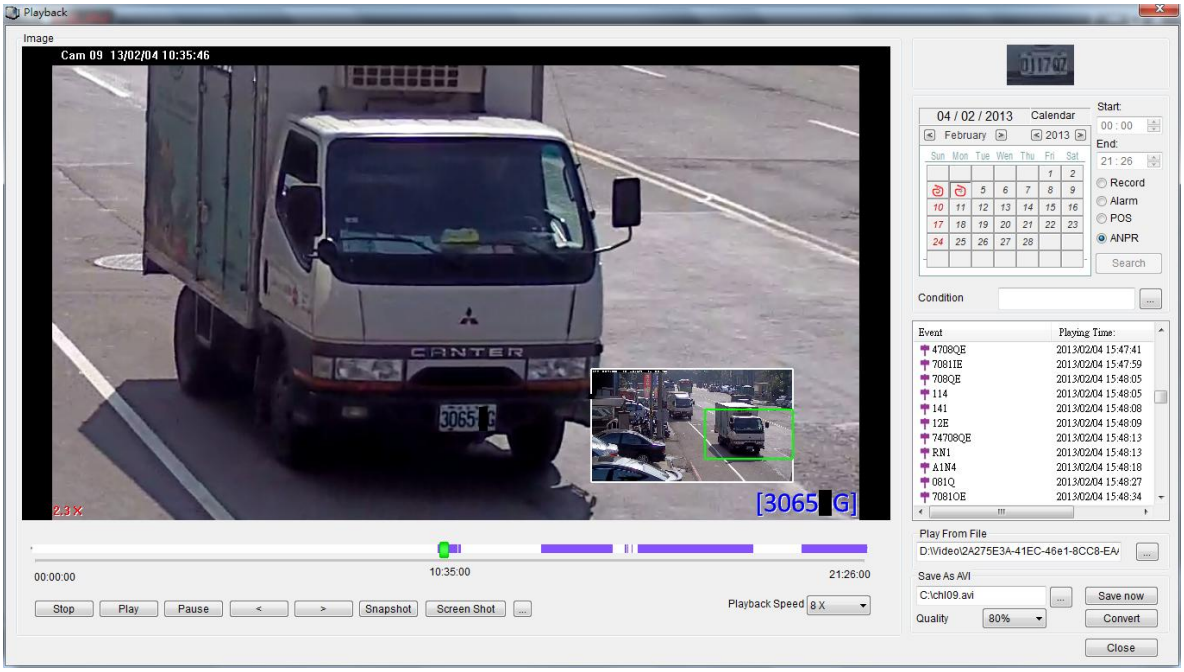
To enable live monitoring from a CMX server, click on Properties button. Select CMX Live Streaming driver. Provide IP address and port number of CMX streaming server.

Due to bandwidth management, SD streaming and HD streaming can be selected. If the bandwidth is very low such as Internet, Low Bitrate mode can be selected.



Chapter 16. CMX ANPR Plug-In NEW

CMX automatic number plate recognition (ANPR) is a plug-in of the USB license dongle which allows CMX to perform ANPR feature. Features such as white list, black list, and exclusion list are supported in CMX. For more detail, read LILIN CMX ANPR manual for detail.

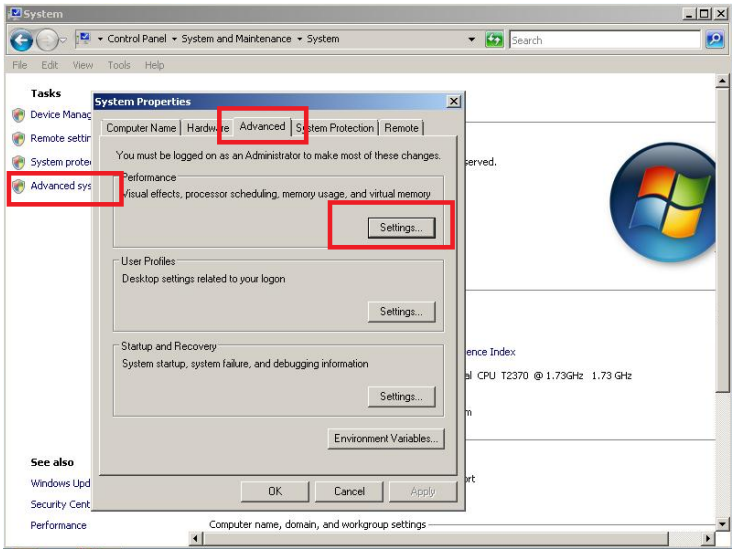


Chapter 17. Trouble Shooting

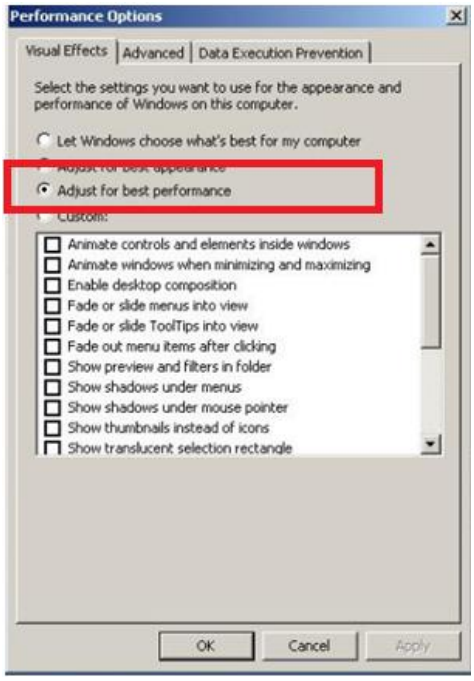
Chapter 17-1. What should I do if I experience video flickering in CMX

If you experience video flickering at CMX of the PC's graphic card, please follow the instruction for solving the problem.

Step 1: Please go to "Control Panel->System and Maintenance->System Properties" at Windows 7.



Step 2: Click on "Performance Setting" button and select "Adjust for best performance" option. It can solve the flickering problem.



APPENDIX

System Requirement

OS:	Windows XP Home, Windows Vista Home, SP3 required, Windows 7 Home
CPU:	Minimum Intel Duo CPU 2.0 GHz or above
RAM:	4 GB DRAM or above
HDD Size:	At least 250 GB for recording storage
Network:	Gigabit network

Product Supported

iMEGAPRO Series: IPR733, IPR434, IPR742, IPR742, IPR722S, IPD320ESX,
IPG1022, IPG1052, IPD2220, IPD2322, IPD6122,IPR6122,
L Series: LB1022, LD2122, LD2222, LD2322, LD6122, LR6122,
LR7022
H.264 D1 IP Camera: IPS203/IPS212, IPS025/030/035, IPS125/130/135, IPR454X
H.264 HD IP Camera: IPR31ESX, IPD112ESX, IPG012ES, IPR414ES, IPR614ES,
IPR712S, IPD012
H.264 1.3 MP IP Camera:IPR31MX, IPR712M,
Video Server: VS012
DVR/NVR: PDR-400IP, DVR304, DVR308, DVR316, DVR508, DVR516, NVR104, NVR109, NVR116, NVR404C

Username and password

Default username and password for various devices are described as in the table:

Device	Admin	Admin pass.	Oper	Oper pass.	Guest	Guest pass.
IP Cameras	admin	pass	None	None	guest	guest
DVR/NVR	admin	1111	None	None	guest	2222
CMX Software	admin	EMPTY	operator	EMPTY	guest	EMPTY

Benchmark Environment:

PC network card—Gigabit network card
Gigabit hub * 1

Hardware Accessory Support List NEW

Graphics Card for Supporting 6 Monitors:

ASUS 7970-DC2-3GD5 is tested and verified for support 6 monitors virtual matrix output.

USB to RS-232/RS-485 for LILIN PIH-931D Keyboard or RS-232 POS

Merit LILIN PMH-RS485/USB

RS-232 to TCP/IP for RS-232 Access Control, PIH-931D Keyboard, and RS-232 POS.

CYT-100SC RS485/RS232 to TCP/IP Converter

Ethernet Digital Remote I/O

ioLogik E1210, E1211, E1212, E1214

Ethernet Cash Drawer

APG-480/APG-490

H.264 benchmark table

Intel Core i7-2630QM 2.00GHz RAM: 8 GB DDR III, OS: Windows 7, 64 bit	
H.264 1080P (1920 * 1080) at 30 FPS	
Channel	CPU Usage
2	25%
4	30%
6	40%
8	50%
10	65%
12	75%
14	Overloading
16	Overloading
18	Overloading
20	Overloading
22	Overloading
24	Overloading
26	Overloading
28	Overloading
30	Overloading
32	Overloading
34	Overloading
36	Overloading

CPU model: Intel i7 Quad-Core 2.93GHZ RAM: 2 GB DDR III, OS: Windows 7, 64 bit, SP1			
H.264 D1 (720X480) at 30 FPS		H.264 720P (1280X768) at 15 FPS	
Channel	CPU Usage	Channel	CPU Usage
2	1%	2	3%
4	2%	4	3%
6	3%	6	9%
8	5%	8	19%
10	9%	10	21%
12	9%	12	26%
14	9%	14	28%
16	9%	16	35%

18	9%	18	50%
20	11%	20	77%
22	12%	22	84%
24	17%	24	85%
26	20%	26	85%
28	24%	28	100%
30	25%	30	Overloading
32	31%	32	Overloading
34	40%	34	Overloading
36	48%	36	Overloading

CPU model: Intel T5750, 2GHZ DuoCore, RAM: 3 GB DDR II 677, OS: Windows XP SP3			
H.264 D1 (720X480) at 30 FPS		H.264 720P (1280X768) at 15 FPS	
Channels	CPU Usage	Channels	CPU Usage
2	22%	2	15%
4	41%	4	34%
6	55%	6	37%
8	63%	8	55%
10	80%	10	64%
12	87%	12	84%
14	94%	14	100%
16	100%	16	Overloading
18	Overloading	18	Overloading
20	Overloading	20	Overloading
22	Overloading	22	Overloading
24	Overloading	24	Overloading
26	Overloading	26	Overloading
28	Overloading	28	Overloading
30	Overloading	30	Overloading
32	Overloading	32	Overloading
34	Overloading	34	Overloading
36	Overloading	36	Overloading

CMX 3.6 HD Software Specification

Recording	Schedule / Motion detection / Manual recording
Live	Up to 72 channel after registration
Speed	Up to 1080P 30 FPS and ROI recording supported
Resolution	Max 5MP 12 FPS, 3MP 15 FPS, 2MP at 30 FPS, and ROI recording supported
Schedule	7 day * 24 hrs time table, recording mode configurable
Alarm recording	Face detection, audio detection, tampering, motion, DI alarm detection
Playback	Time search, event search, date search, POS SmartSearch, and motion SmartSearch
Speed	FR: 2x, 4x, 8x, 16X 32X / FF: 2x, 4x, 8x, 16X, 32X
Compression	H.264 / JPEG
Search	Date, time, event, POS SmartSearch, motion SmartSearch, plate search (optional)
Video Input	LILIN IP camera, LILIN IP speed dome, LIIN DVR/NVR, CMX live server
Camera name	20 characters
Channel editing	Mouse drag-n-drop
Digital zoom	Yes, ePTZ supported
Grouping	User grouping authentication assignable for eMap, and CMX Software HD 3.6
Multiplexer	Sequence
Split screen	4, 9, 16, 36
Alarm	
Alarm management	PC sound, redirect IP camera DO, eMail snapshots, redirect a PTZ preset recall
Event	Various alarm log, video loss, stop recording, schedule, logon, operation log
Digital output	Controllable
Accessories	
P/T/Z protocol	LILIN PTZ controllable via HTTP
Audio	PCM/G.711, two-way audio, audio recording
POS/barcode Scan	RS-232/PS/2
Keyboard	PIH-931D keyboard controllable via RS-485 for PTZ, ePTZ, and ROI features
eMap	
eMap live monitoring	One channel for IP camera/multi-channel for DVR
eMap snapshot	Yes
PTZ control	Yes
DB Manager	
Database	Database configuration import, export, report, and maintenance
Remote Access	
Remote CMX Live video	Multiple channels of HD, SD, and low bitrate modes supported
Remote DVR/NVR video	Multiple channels of DVR/NVR supported
Backup	
CMX/DVR/NVR	DVR remote backup, AVI conversion and JPEG snapshots
Remote backup	Multiple channels remote backup supported
Management	
Access log	Complete access log in database manager
User management	User authentication: three level: admin, operator, and guest, features configurable
Recording calculator	Yes, dynamically calculating available recording days
Video archiving	Yes
Network	
Web interface	Live web interface
Mobile support	iPhone and Android
Protocols	ARP / TCP/IP / HTTP / SMTP / DNS / PPPoE
IPScan	Supported, easy-to-setup for IP address
Other	
DST	Daylight saving time by Windows OS
OS	Windows 7 Home, Windows Vista Home, and Windows XP Home
Language	English, Chinese, Spanish, French, Italian, Japanese, Russian, Portuguese, Simplified Chinese, Czech, Slovene, German, and Hungarian
CPU requirement	Minimum Intel Duo CPU 2.0 GHz or above
RAM requirement	4GB memory