Cloud CMS Server

CMS Server

User's Manual

Models: DP-9199

Before attempting to operate this product,
please read these instructions carefully and save this manual for future use.

HEMS_v1.0.0_20211019

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PRECAUTIONS

- **PRODUCT KEYS: The software requires a key to install it.   You are responsible for the use of keys assigned to you.   You should not share the keys with third parties.**

- **You may make one backup copy of the software.   You may use it only to reinstall the software.**

- Please make a note of your settings and save them.   This will help when you are required to change the system configuration, or when unexpected failure or trouble occurs.

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Table of Contents

1. Product Overview

The CMS Server for Cloud Monitoring, Control, & Management Station, DP-9199, is designed to be installed in a PC for use within a surveillance system. To achieve the highest user-friendliness, this series of software are all based on industry-leading Electronics Map infrastructure - HyperElectronicsMappers. With state-of-the-art Electronics Maps, unlimited levels of maps which support versatile **dynamic map objects**, including camera, alarm input, alarm output, etc., can be custom-made by the installers or users based on different surveillance requirements. **Devices will send data to CMS server, so that only CMS server need public IP or domain name required. All devices that connect to CMS no public IP or domain name required.**

1.1 Features

Monitor/control all front-end devices in PC stations

- Cloud monitoring, control, and management for virtually unlimited number of front-end surveillance devices such as DVRs
- All the configurations of front-end devices can be saved in Cloud CMS
- Bi-directional audio capabilities
- Remote video, audio, and alarm input monitoring
- Remote alarm output control
- Remote PTZ control
- Remote GPS/POS function
- Remote software upgrade and setup for devices
- Remote alarm notification

Backup/playback video/audio in PC stations

- Remote playback of recorded video/audio in front-end devices such as DVRs
- Backup live/recorded video/audio of front-end devices and FTP server in local HDD
- Play video/audio stored in local HDD
- Print/snapshot live or recorded video

User-friendly Hyper Electronics Maps

- Open system architecture
- Custom-made electronics maps for different surveillance requirements
- Unlimited levels of maps with hyper-links
- Support versatile dynamic map objects, such as camera, alarm input, alarm output, action button, front-end device, and map
- Simultaneous monitoring/control of different front-end devices in a single map
- Virtually unlimited number of objects in a map

Ease of use

- Multi-lingual support
- Single device view same as the split window display in Internet Explorer or via hyper electronics map
- Multiple device view via hyper electronics map
- Single mouse click to view any hyper electronics map
- Remote alarm notification to display user-defined hyper electronics map
- Sequential display for user-defined hyper electronics maps and cameras
- System provided default/sample bitmaps and icons for each object
- The bitmaps and icons for each object can be tailored by the users
- Auto-run for user-defined entry map
- Password protection can be enabled/disabled by the user

Safety and Security

- Protection key to access front-end devices
- Password to access front-end devices
- Multi-level password to enter HEM

CMS Server Specific

- **Built in WEB server for devices and the other PCs to logon**
- **No public IP or domain name required for all connected devices**
- **Password protection for the other PCs**

2. Installations

2.1 System Requirements

It is recommended to install the CMS Server software using a PC that meets the following system requirements.   If you use a PC that does not meet the following system requirements, it may cause problems such as slow imaging or the CMS Server software unable to operate.

- **PC**
  IBM PC/AT compatible.

- **CPU**
  Intel$^®$ Pentium$^®$ 4, 1.6 GHz or above.

- **OS**
  MicroSoft$^®$ Windows$^®$ 10/8/7.

- **Monitor**
  1024 x 768 or above.

- **Memory (DRAM)**
  2048MB or above.   The more complicated the HEM maps, the more memory required.

- **Network Interface**
  Ethernet, 10/100/1000 Base-T for LAN, or the other interfaces which can be connected to the internet.

- **DirectX**
  MicroSoft$^®$ DirectX$^®$ 9.0 or above.

Before running **CMS Server** software in your PC, please make sure the followings:

1. **DirectX$^®$ End-User Runtime 9.0** or above has been installed in your PC successfully. If not, please logon to http://www.microsoft.com to get the free download of it.

2. Please go to Start → Setup → Control, select Display → Settings, and set the Screen Resolution to at least 1024x768 and Color to 32-bit.

3. To have better look-&-feel for the dialogs in your PC, please go to Start → Setup → Control, and select Display → Visual Style → Windows XP Style.
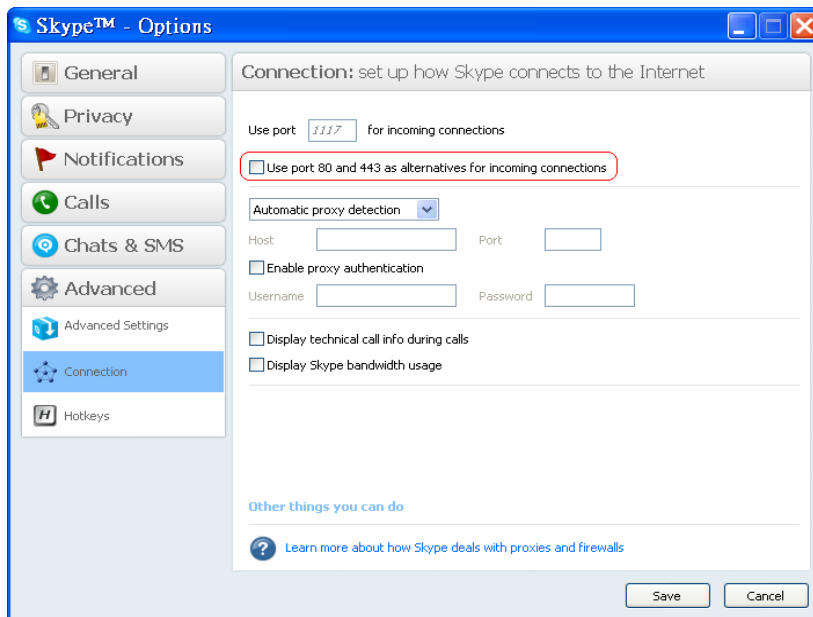
2.2 Installations

Please note that the PC user must have system administrator password for the PC; otherwise, the process will fail, and an error dialog will be shown.

To install the **CMS Server** software on your PC, please unzip the file that gets from your local dealer or contractor, then double-click on **Setup.exe**. Please follow the instructions on the screen to install the software and all the required components step by step.   Please note that the **Product Key** (4 X 6 digits) is shown on the CMS Server CD, the external box, or the file in the CD. Besides, **the Protection Key must be the same as those of all the devices to be accessed by this PC.**   Please refer to the Protection Key in the System Setup of the devices.   If the Protection Keys of the devices are not the same, please make sure to set them to the same value which is appropriate to you.

Note 1: **Different PCs cannot share the same Product Key for CMS Server.**

Note 2: The **Protection Key for remote access is checked for DVR software**.

Note 3: Apache HTTP Server will also be installed.   Please check with your network administrator to set the related parameters correctly.   If you're using Skype or the other software that occupies port 80, please change to another port to avoid conflict with Apache HTTP Server.

The software will be installed in the default directory "Program Files\CMS Server" or the directory entered by the user.   After installation, the following files/directories will be generated:

- ■ **CMS_S.exe**
  CMS Server executable file.

- ■ **Setup.dll**
  Information file for this HEM.

■ **device_list**

Device list for this HEM＆CMS Server. The contents will be updated when the device list is modified.

■ **DEFAULT.hem**

Default entry HEM map file. If the users don't want to build their own HEM maps, they can just configure the device list, and use this file as the entry HEM map to have 1/4/9/16 split window display..

■ **Default**

Directory for all the default HEM map files, icons, and background image files.

■ **System**

Directory for the system information and settings for the connected devices. The contents will be updated when the CMS Server is running. **Please DO NOT save any user's file in this directory.**

■ **Example**

The directory for some useful examples, including some HEM map files, background image files, and icons. **Please note that the filename for the entry HEM map of each example is in capital letters.**

■ **Example1**

This example contains some HEM maps with some Camera objects, Device objects, and Link objects. The background image is a 2-D map. Iconized camera objects are added for updated version of HEM. Please note that **one of the HEM maps (as shown below) contains 3 non-top-level maps, each with 16 Camera objects, 16 Alarm Input objects, 4 Alarm Output objects, and 1 Device object. So, it contains a total of 48 Camera objects, 48 Alarm Input objects, 12 Alarm Output objects, 3 Device objects, and some Link (to top-level map) objects**.
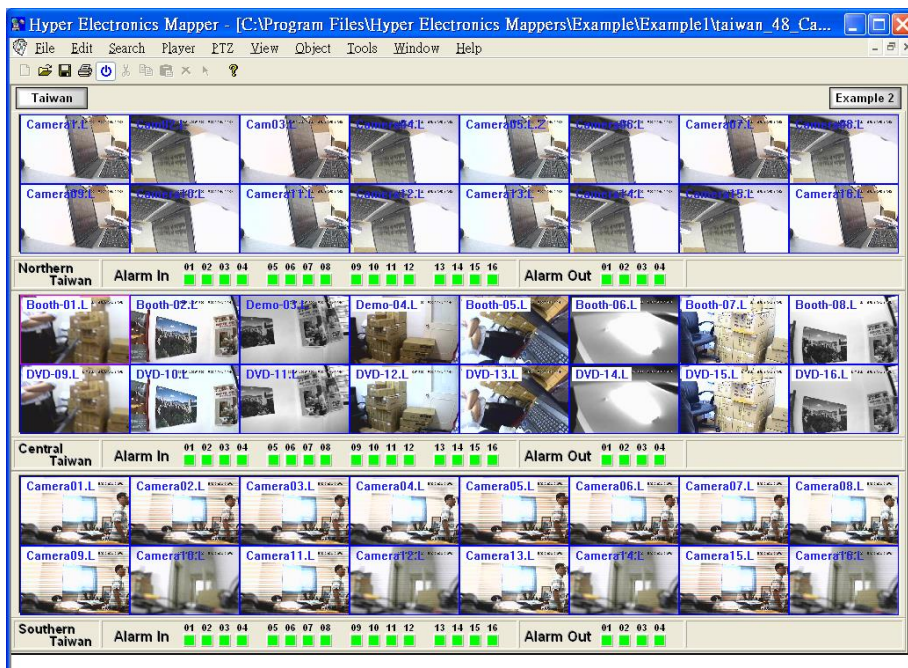
■ **Example2**

This example contains some HEM maps with some Camera objects, Alarm Input objects - Door & Window, Alarm Output objects - light, and Link objects. **The Link to non-top-level map can be moved around in HEM Running Mode by clicking in it (but outside of the video window) and then move the mouse cursor**.   The background image is a 2-D map.

■ **Example3**

This example shows a **structured diagram** and contains some HEM maps with some iconized Camera objects, Alarm Input objects, Action objects, and Link (to top-level map) objects.

■ **Example4**

This example contains some HEM maps with some Alarm Input objects, Action objects, and Link objects.

■ **Example5**

This example contains some HEM maps with some Camera objects, Device objects, and Link objects.   SEQ mode display is added for updated version of HEM. **The available HEM maps are listed in the left side of each HEM map for ease of access.**

■ **Example6 / Example7 / Example8**

New examples with better look-&-feel.

■ **Web pages**

Directory for the web pages of the CMS Server.

■ **Log**

Directory for the log files saved in the CMS Server.

3. HEM Editing Mode

HEM map is an innovative idea and the kernel of the whole HEM application software.   HEM Editing Mode allows the users to build their own HEM maps. For each map, the users can set the background image file which may be an electronics map or a 2D/3D diagram scanned or drawn by the users.   Besides, different types of map objects, including Camera, Alarm input, Alarm output, etc., can be inserted in the maps based on different application requirements.   After building your own maps, you may monitor and control the devices by opening & running those maps for dynamic display.   By building your own HEM maps, you may have the dynamic display screens and the user operations all tailored for your specific applications.

If the users don't want to bother to build their own HEM maps, it's still OK.   The users can just configure the device list, use DEFAULT.hem as the entry map, and have standard 1/4/9/16 split window display.

Note: If the HEM maps are built by the installer, the installer may need to set some files as "Read Only" to avoid those files to be modified by the end users.

To open CMS Server: First click on your "**Start**" button.   Once the menu appears, put your mouse on the word "**Programs**".   From here, look through the list of programs to find your version of CMS Server, and click on it - this will start the CMS Server program.

Once the CMS Server program opens, you will see the screen as shown below.
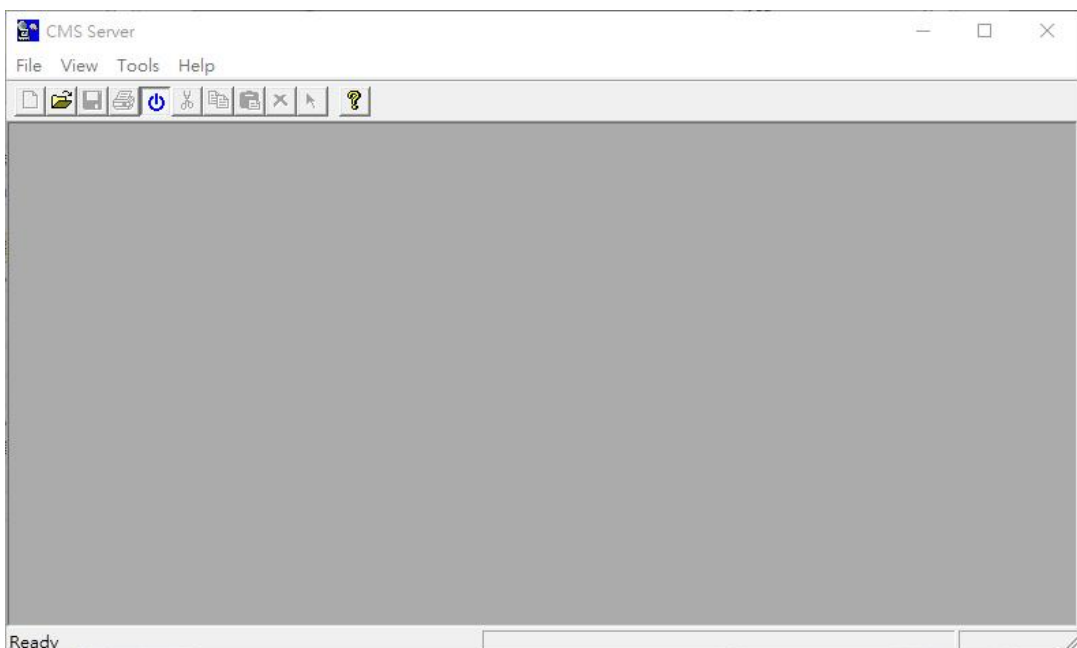
3.1 Configure Device List

Since each object in the HEM maps corresponds to one of the objects of the devices, the user needs to configure the device list first.

Note: The users may just modify the device properties, and then run the HEM map DEFAULT.hem.   Please refer to Chapter 4 for the operations in Running Mode.

In CMS Server program, click on **Tools** menu, and then select **Device → Config**, the **Device List Dialog** for this CMS Server station will be shown as below.
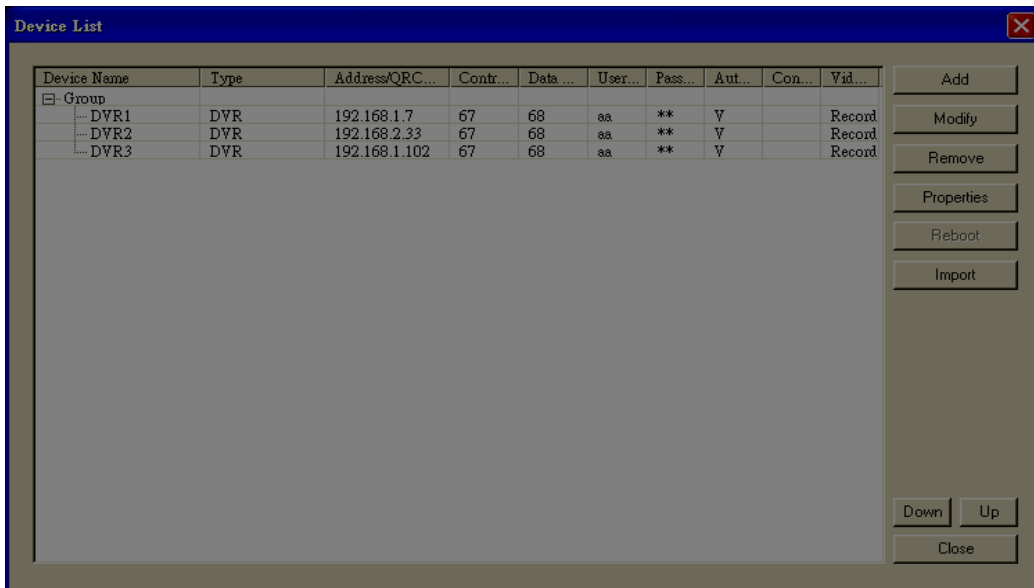
Please note that the devices for all the examples are already built in the device list. **If the PC is connected to some devices, the user may modify the (IP address, Port Number,) Username & Password, and then run the HEM maps (Please refer to Chapter 4 – HEM Running Mode) in the Examples to get a better understanding of CMS Server.**

Following is a brief description for each item:

■ **Device Name** – any meaningful name for the device.   The Device Name is used later for the configurations of all the device related objects.   Please note that the devices can be grouped together, and "Group" can be edited in Device Edit dialog.

■ **Type** – the type of the device.

■ **Address/QR code** – IP address or URL domain name or the QR code for the device.   It should be the same as the IP address (for Static IP) or URL (for PPPoE) or QR code in Network Setup for the device.   Please consult your network administrator, esp. if virtual server is used in your network. If **Address** is not configured, the CMS Server will passively wait for the device to connect to it instead of connecting to the device actively.

- **Control Port** – the control port for the device. The default value is 67. **The user may need to change it if virtual server is used or its setting in the device has been changed.** This item **MUST** be the same as the **Control Port** setting in the device.

- **Data Port** – the data port for the device. The default value is 68. **The user may need to change it if virtual server is used or its setting in the device has been changed.** This item **MUST** be the same as the **Data Port** setting in the device.

- **Video Stream** – "Record" – same as recording stream, or "Extra" – extra network stream if dual streaming is supported for the device. The default value is "Record".

- **User Name** – the login user name for the device. It must be in the list in Password Setup for the device.   Please note that **different levels of users have different available operations in CMS Server.**   Please refer to Password Setup in the manual for the device for the available operations of each level.

- **Password** – the corresponding password for the login user name for the device.

- **Auto Connection** – whether the user wants to connect automatically to this device when the HEM program is in running mode (even if the currently opened HEM maps contain no objects corresponding to this device).

- **Connected** – whether this PC is connected with the device now (only for information in HEM Running Mode).

The operations are as below:

- **Add**

  Add a device to the device list.   Click on the **Add** button, and the **Device Dialog** will be shown as below.

  When check the **QRCODE** checkbox, you can directly enter the code scanned by the QRCODE. Click **Open** to select the QRCODE image file for connection.

  Note: QRCODE image files only support that obtained from the DVR/NVR by **Backup Device** function.

  When setting the **Address** to CMS Server, please check the **CMS Server** checkbox.

  The items are as described above.   The **Default Directory** is used to open/save the properties for this device.   Please enter those items, and click on **OK** button to save those settings, or **Cancel** button to exit without saving.   Please note that
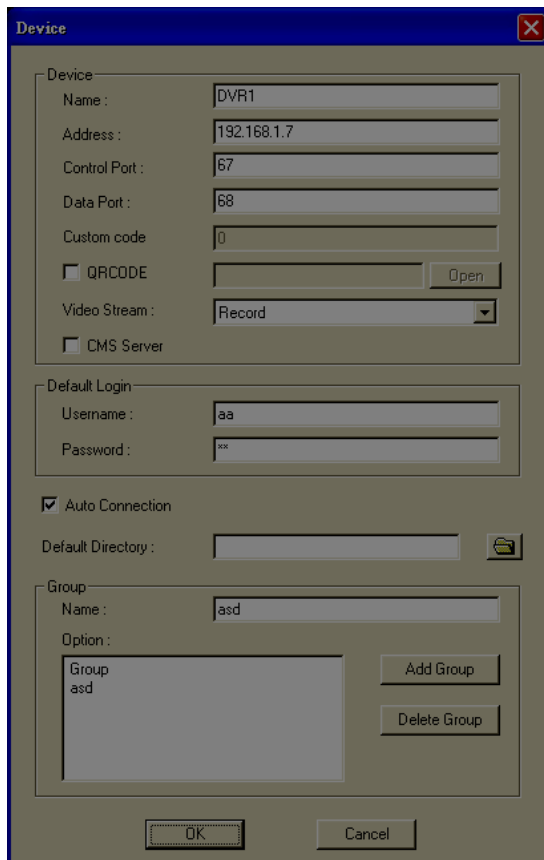
the devices can be grouped together, and users can change the group name, add and delete group.
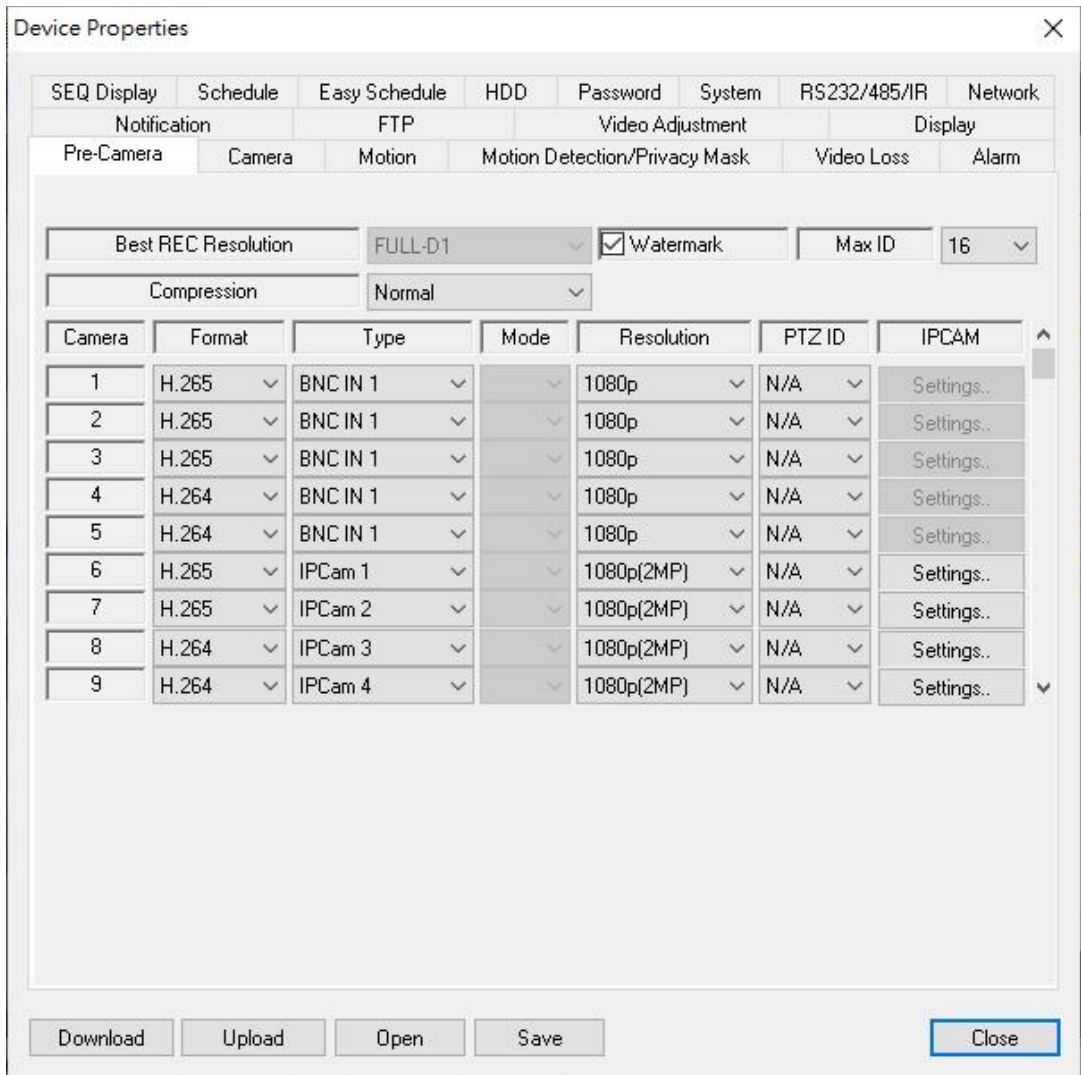
■ **Modify**
Modify the above-mentioned items of the selected device in the device list. Select a device in the device list, and then click on **Modify** button, and the **Device Dialog** will be shown as above with all the contents filled in.

■ **Remove**
Select a device in the device list, and then click on **Remove** button to remove the selected device from the device list.

■ **Properties**
Select a device in the list, and then click on **Properties** button to modify the properties of the selected device.   The **Device Properties Dialog** is shown as below.   All the items in the Tabs are used to setup the device remotely after connection, and will be discussed in HEM Running Mode later.

Device Properties								✕

SEQ Display   Schedule   Easy Schedule   HDD   Password   System   RS232/485/IR   Network
    Notification   FTP   Video Adjustment   Display
Pre-Camera   Camera   Motion   Motion Detection/Privacy Mask   Video Loss   Alarm

Best REC Resolution	FULL-D1 ⌄	☑ Watermark	Max ID	16 ⌄
Compression	Normal ⌄			

Camera	Format		Type		Mode	Resolution		PTZ ID		IPCAM	
1	H.265	⌄	BNC IN 1	⌄	⌄	1080p	⌄	N/A	⌄	Settings..	
2	H.265	⌄	BNC IN 1	⌄	⌄	1080p	⌄	N/A	⌄	Settings..	
3	H.265	⌄	BNC IN 1	⌄	⌄	1080p	⌄	N/A	⌄	Settings..	
4	H.264	⌄	BNC IN 1	⌄	⌄	1080p	⌄	N/A	⌄	Settings..	
5	H.264	⌄	BNC IN 1	⌄	⌄	1080p	⌄	N/A	⌄	Settings..	
6	H.265	⌄	IPCam 1	⌄	⌄	1080p(2MP)	⌄	N/A	⌄	Settings..	
7	H.265	⌄	IPCam 2	⌄	⌄	1080p(2MP)	⌄	N/A	⌄	Settings..	
8	H.264	⌄	IPCam 3	⌄	⌄	1080p(2MP)	⌄	N/A	⌄	Settings..	
9	H.264	⌄	IPCam 4	⌄	⌄	1080p(2MP)	⌄	N/A	⌄	Settings..	

Download	Upload	Open	Save		Close

3.2 File Operations

In CMS Server program, click on **File** menu, and then select **New** to new an HEM map or **Open** to open an existing HEM map.   Once the HEM program opens or news an HEM map, you will see the screen similar to the one (Example1/TAIWAN.hem) shown below.
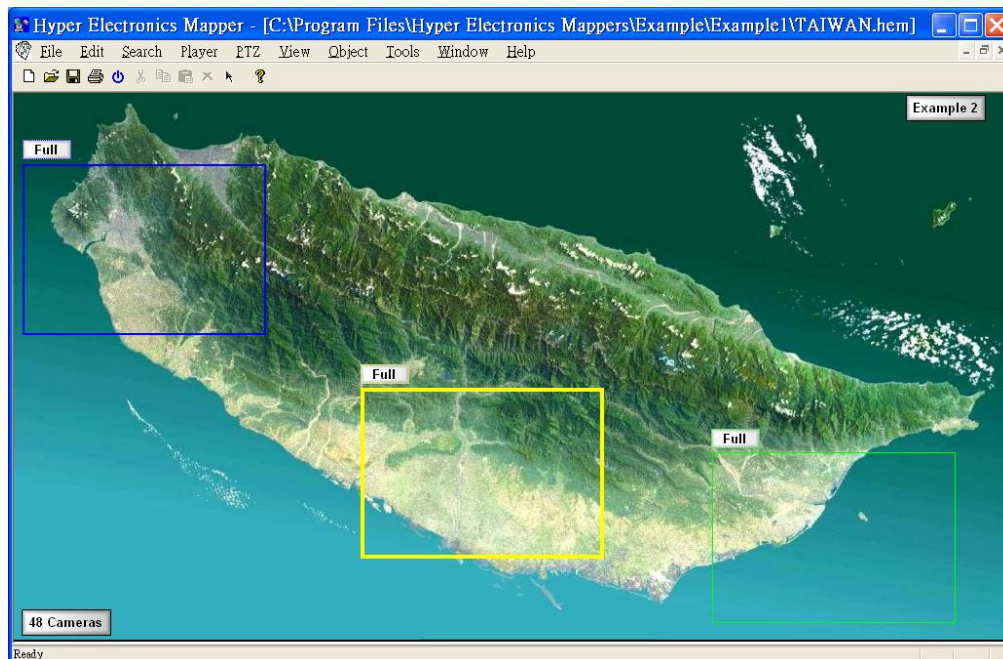
After you finish the editing, you may click on **File** menu, and then select **Close** to close the file, **Save** to save the file, **Save As** to save the updated contents to a different file, or **Print** to print the file.

System map files

There are some default system map files under the subdirectory **Default** of the HEM program.   Please do not delete them or move them to another directory.   The descriptions are as below:

- ■ **1Win.hem, 4Win.hem, 9Win.hem, 16Win.hem, 25Win.hem, 36Win.hem, 49Win.hem, 64Win.hem** – default split-window display map files for all the devices and multi-split-window map files.   These HEM maps are all top-level maps.   After the users are very familiar with the HEM application, they may modify the contents to suit their needs.   However, it would be better to make a backup copy before modification.

- ■ **Player.hem, PTZ.hem** – default player panel HEM map file & PTZ panel HEM map file.   These HEM maps are all non-top-level maps, and therefore can be shown in another map.

3.3 Object Operations

There are six types of map objects in the HEM program, including **Camera**, **Alarm input**, **Alarm output**, **Device**, **Action**, and **Link**. The descriptions are as below: (**Please note that only Link to non-top-level HEM map can be moved around in HEM map in HEM Running Mode.   Please refer to the <u>Examples</u> to get a better understanding of all the objects.**)

■ **Camera**
Corresponding to the camera connected to the device.   In Running Mode, if the object is not iconized, the video of the camera will be shown in the defined rectangle, and the audio, if exists and is enabled and the camera is focus camera, will be output to the HEM station.   If the object is iconized, the (motion) status of the camera will be shown with the selected image files (motion triggered or not).   **Please note that there can be at most 32 "not iconized camera" objects of the same device in one HEM map.**

■ **Alarm input**
Corresponding to the alarm input connected to the device.   In Running Mode, the status of the alarm input will be shown with the selected image files (triggered or not).

■ **Alarm output**
Corresponding to the alarm output connected to the device.   In Running Mode, the status of the alarm output will be shown with the selected image files (triggered or not), and the user can click on the displayed image icon to control the corresponding alarm output from normal to triggered, or from triggered back to normal.

■ **Device**
Corresponding to the device.   In Running Mode, the user can call up the split window display of the device when it's selected.

■ **Action**
Corresponding to the predefined **Action** buttons, including PTZ Up, PTZ Down, Freeze, Play, Stop, etc.   Please refer to <u>Appendix B</u> for the predefined Action buttons.   In Running Mode, the user can trigger the action by clicking on the displayed image icon.

■ **Link (to another HEM map)**
Corresponding to **Link** to HEM map.   In Running Mode, the contents of **a non-top-level HEM map** linked will be displayed and **can be moved around** in its parent map.   For a **top-level map** link (and only link allowed), the user can switch to its map display by clicking on its displayed icon.   (This is similar to the Hyper-link in web page.)   That is to say, the user can use **non-top-level HEM map** as **grouping** purpose, and **top-level map** as **(hyper) link** purpose.

Add An Object

In CMS Server program, click on **Object** menu, and then select **Camera**, **Alarm input**, **Alarm output**, **Device**, **Action**, or **Link**, for the type of objects to be added to the HEM map.   The selected object type will be checked.

After the desired object type is selected, click and drag the cursor in the client area to add an object to the HEM map.   The object is shown as a rectangle with the selected border width and color.   You may repeat this procedure to add as many objects as you want.

Object Properties

To select and highlight an object in the HEM map, click on **Object** menu, and then select "**Select object**".   Now, you may click on any object in the map to select and highlight it.

Once an object is selected, you may click on **Object** menu, and then select **Border** to change its border width and color, or select **Properties** to change its properties other than border.   The dialogs are as shown.
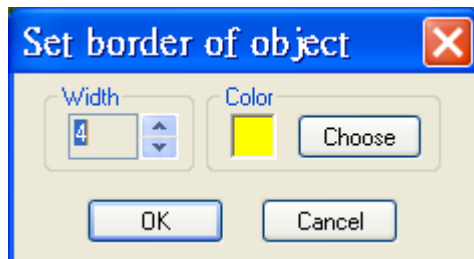
The detailed properties of each object type are described as below:

■ **Object type**
The type of this object.

■ **Top level**
Top level or not.   This is only used for HEM map file.   Please note that non-top-level HEM maps, EX. Player.hem or PTZ.hem, are very useful to group objects together to show/move in another HEM map.

■ **Device**
The device name (EX. DVR1) for this object.   Please refer to Section 3.1 to configure the device list for this station.   **"Auto" means that the object is dynamically linked to the selected device in Running Mode.**
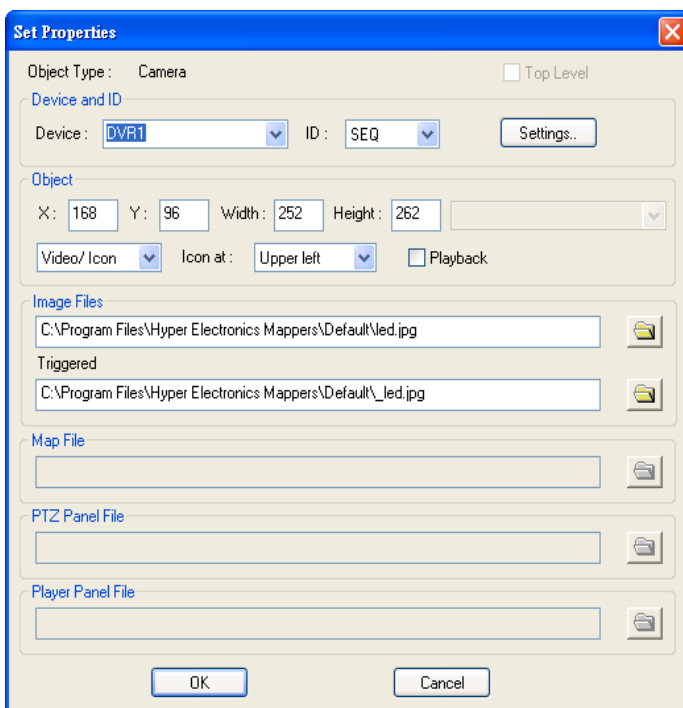
■ **ID**

The ID for this object, EX. the ID for camera 1 is 1 and the ID for alarm input 1 is also 1.   For Camera object, the ID can be set as **SEQ** to make this object capable of SEQ mode display in Running Mode.   If so, the user can click on **Settings** button to call up the SEQ Mode Settings dialog as shown below.

■ **SEQ Mode Settings**

Please select the Camera ID and Dwell Time (5~240 seconds), and then click on **Append** button to append the settings to the list below, **Insert** button to insert the settings right before the highlighted item in the list, **Modify** button to modify the settings of the highlighted item, or **Delete** button to delete the highlighted item.   Please click on **OK** button to exit and save the settings, or **Cancel** button to cancel.

■ **X**

The X-coordinate of this object in the map.

■ **Y**

The Y-coordinate of this object in the map.

■ **Width**

The width of this object in the map, or that of the HEM map file.

■ **Height**

The height of this object in the map, or that of the HEM map file.

■ **Video/Icon**

(Video, Icon, Video/Icon, Icon/Video).   This is only used for Camera object. "Video" means to display the camera video in Running Mode, "Icon" means to display the motion status bitmaps of the camera in Running Mode, "Video/Icon" and "Icon/Video" mean that the user can switch between Video and Icon in Running Mode, with the type before "/" used as default.

■ **Icon at**

(Upper left, Upper right, Lower left, Lower right) – the corner in the rectangle the icon will be displayed in Running Mode.

■ **Playback**

Playback or not.   This is only used for Camera object for live/playback mode of the camera in Running Mode.

■ **Action Type**

One of the predefined **Action** buttons.   This is used for object type of **Action**. The predefined **Action** buttons are divided into several groups.   Please refer to Appendix B for their descriptions.

■ **Toggle – information only**

Toggle or not, used for object type of **Action**.   For non-toggle type of **Action** button, the **Action** button will always return to non-triggered state after the mouse button is released.   For toggle type, the **Action** button will keep at the same state after the mouse button is released.

■ **Image File**

The default image (.BMP or .JPG) file of this object to be shown in the map.   **If no object is selected, this image file is to be shown as the background image of this HEM map.**

■ **Image File - Triggered**

The image (.BMP or .JPG) file of this object to be shown in the map while it's triggered.   This is used for object type of **Camera (Icon)**, **Alarm input**, **Alarm output**, **Action,** and **Link (to top-level map)**.

■ **Map File**

The HEM map file of this object if it's a **Link (to HEM map)**.

■ **PTZ Panel File**

The PTZ panel file to be called up for this HEM map in Running Mode.   Please note that the PTZ panel file can be changed to a different file for each HEM map.

■ **Player Panel File**

The Player panel file to be called up for this HEM map in Running Mode.   Please note that the Player panel file can be changed to a different file for each HEM map.


Edit Menu

The user may click on **Edit** menu to **Cut/Copy** the selected object, **Paste** the cut/copied object, or **Delete** the selected object.

Context Menu

The user may also use the Context Menu by right clicking on the client area of the map.   **If there is an object under the cursor, the Context Menu for that object will be shown, if there is no object under the cursor, the Context Menu for this HEM map file will be shown.**   Please refer to the above-mentioned for the menu items in the Context menu.

3.4 Options

Click on **Tools** menu, and then select **Options**, the **Options Dialog** will be shown as below.   After all the settings are done, please click on **OK** button to exit and save the settings, **Apply** button to save the settings without exit, or **Cancel** button to cancel.
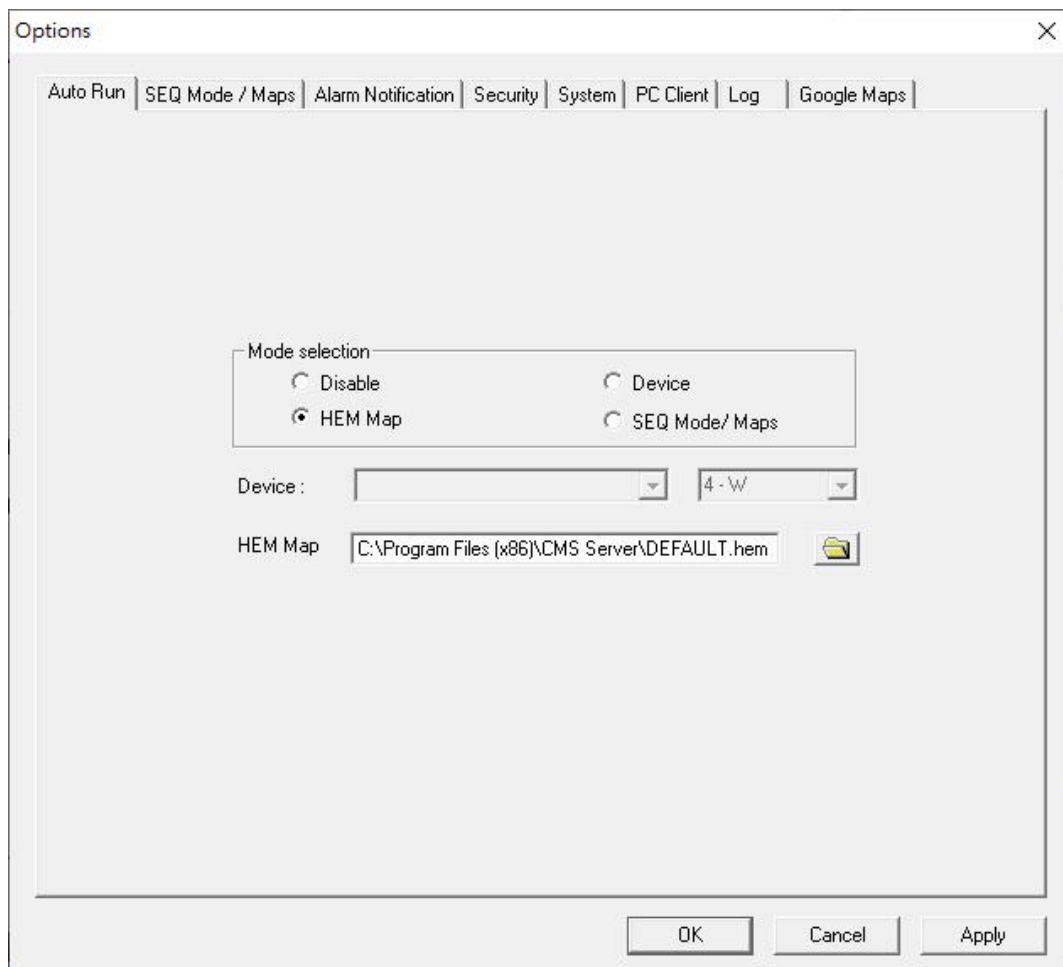
3.4.1 Auto Run

The user may select **Disable** to disable Auto Run, or **Device**, **HEM Map**, or **SEQ Mode / Maps** to enable Auto Run.   If enabled, one of the HEM maps or the devices, or SEQ Mode will be Auto Run every time the program starts.   **This is to be used as the entry point for the user.**   If it's a device, please select the device and its split-window display to be shown after Auto Run.   If it's an HEM map, please select the top-level HEM map file to be shown after Auto Run.   Non-top-level HEM map should not be selected for auto run.   If **SEQ Mode / Maps** is selected, please do the **SEQ Mode / Maps** settings as described below.

3.4.2 SEQ Mode / Maps
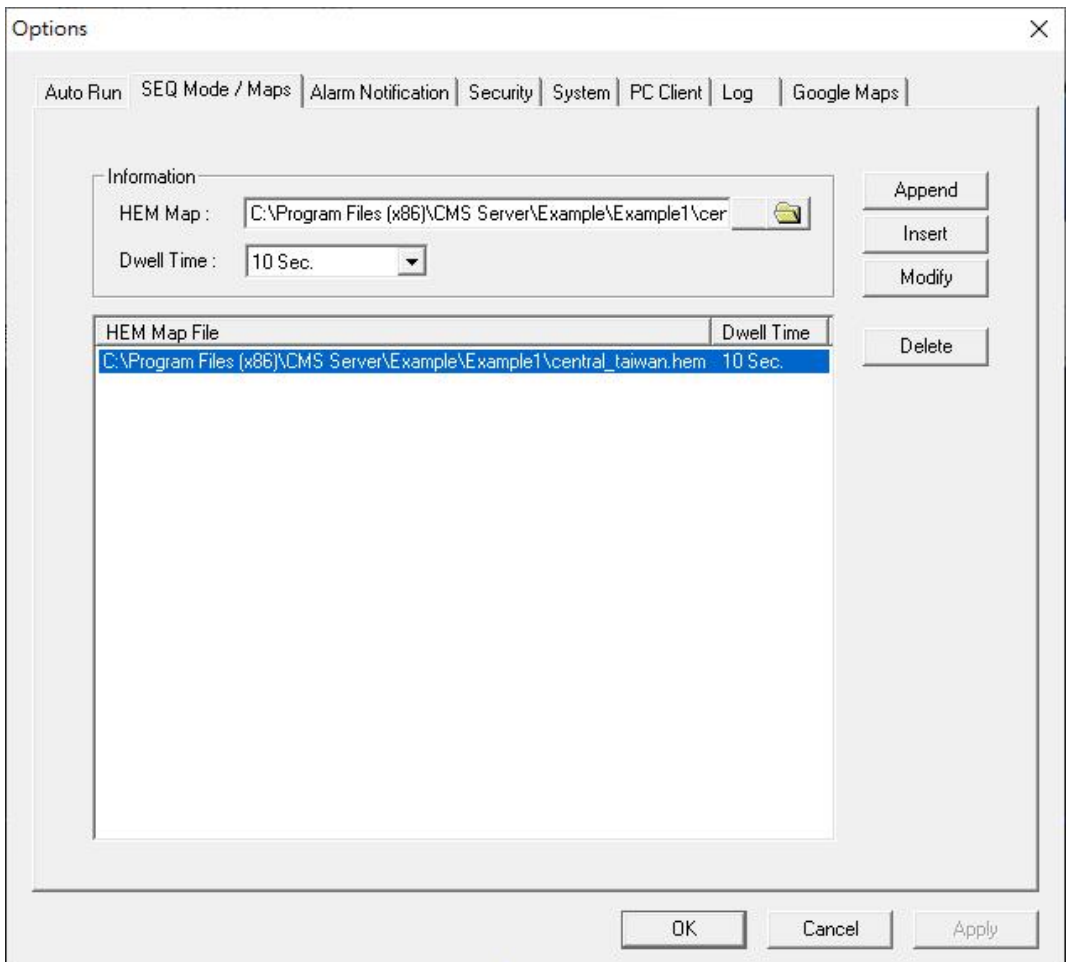
SEQ Mode / Maps is used to display the selected HEM maps in the HEM Map File list at preset dwell time sequentially in Running Mode.

Please select the top-level HEM Map and Dwell Time (5~240 seconds), and then click on **Append** button to append the settings to the list below, **Insert** button to insert the settings right before the highlighted item in the list, **Modify** button to modify the settings of the highlighted item, or **Delete** button to delete the highlighted item.

3.4.3 Alarm Notification

Alarm Notification is used to define how CMS Server responds to the alarms reported from the front-end devices in Running Mode.

Please do the settings in **Event Information**, and then click on **Append** button to append the settings to the list below, **Insert** button to insert the settings right before the highlighted item in the list, **Modify** button to modify the settings of the highlighted item, or **Delete** button to delete the highlighted item.

Following is a brief description for each item:

- **Device, Event Type, Source ID** – to define the source of the alarm to call up the **HEM Map** and **Action** described below.

- **HEM Map** – to define the top-level **HEM Map** to be called up when the defined alarm is detected.

- **Action → Device, Alarm Output** – to define which Alarm Output of which Device will be triggered when the defined alarm is detected.

- **Action → Show Message, Buzzer** – to display the alarm message on the screen of the HEM or not, and to activate the internal Buzzer of the PC or not, when the defined alarm is detected.

- **Action → Interval** – to define the interval for the Buzzer to keep being triggered after the defined alarm is detected.

3.4.4 Security
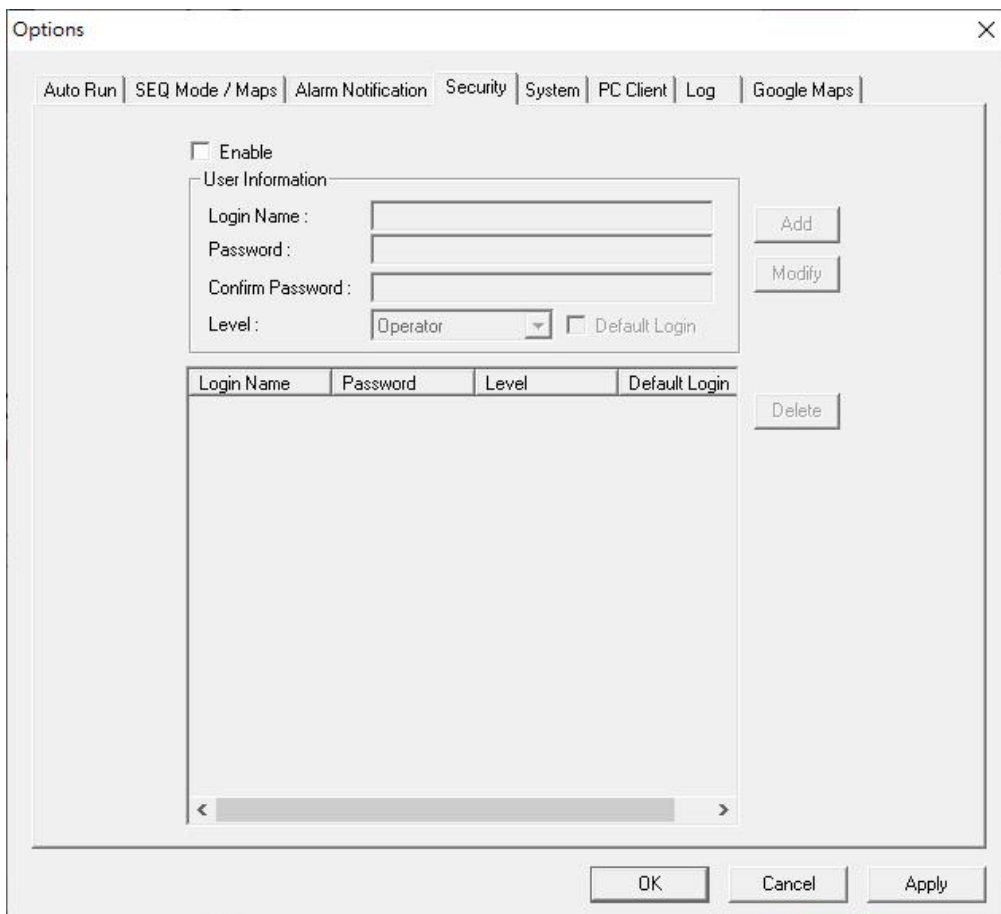
The system allows virtually unlimited number of user accounts. There are two password levels in the system, including **Administrator** (highest) and **Operator** (lowest). The Operator can only operate in Running Mode, but cannot change the configurations. The Administrator can do everything in Editing Mode and Running Mode.

The user (administrator) may enable password protection for the HEM program. If the password protection is enabled, the **Login Dialog** for the HEM program will be shown every time the CMS Server program starts. Please enter the Login Name, Password, Level, and Default Login, and then click on **Add** button to add the settings to the list below, **Modify** button to modify the settings of the highlighted item in the list, or **Delete** button to delete the highlighted item.

If **Default Login** is checked for the login name/password, this login name/password will be the default one each time the login dialog is shown, so the user doesn't bother to enter the login name/password to login the system.

3.4.5 System
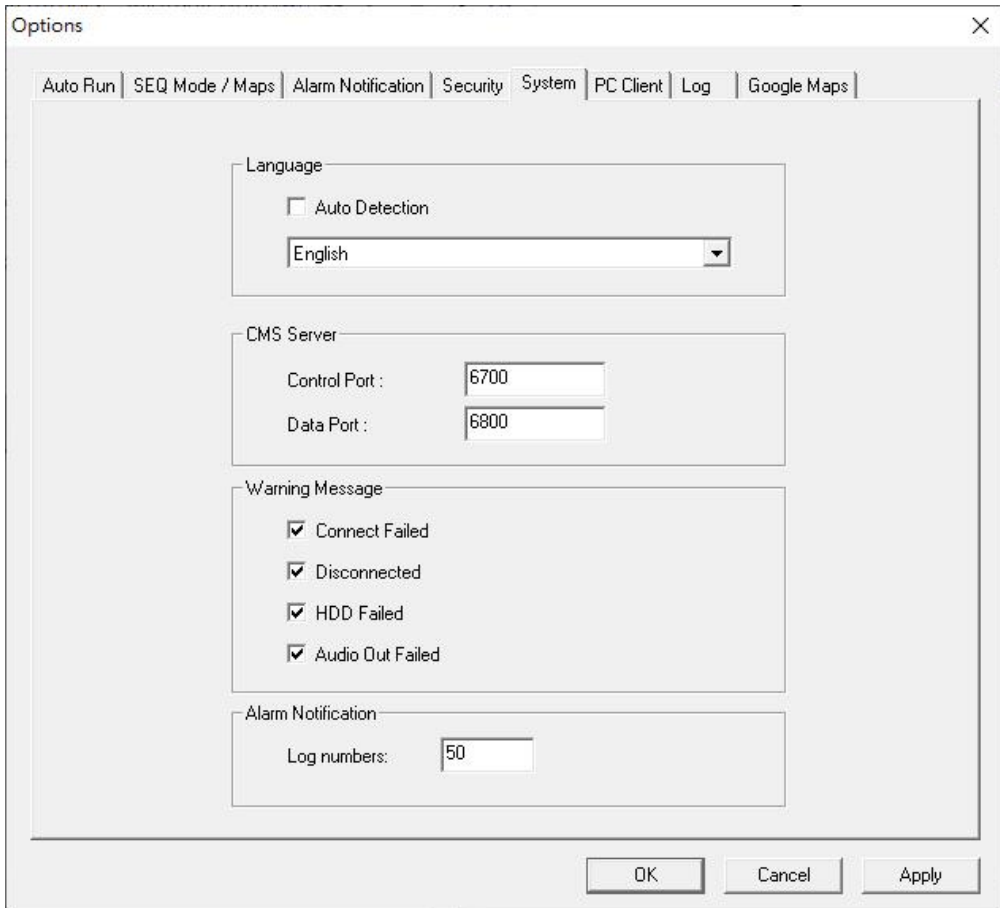
The system will automatically detect the language of the Windows system.   If the user wants to use a different language, please disable "Auto Detection", and select the desired language.

The Control Port and Data Port of the CMS Server are used for the communications between the CMS Server and all the PC Clients logon to it.

3.4.6 PC Client
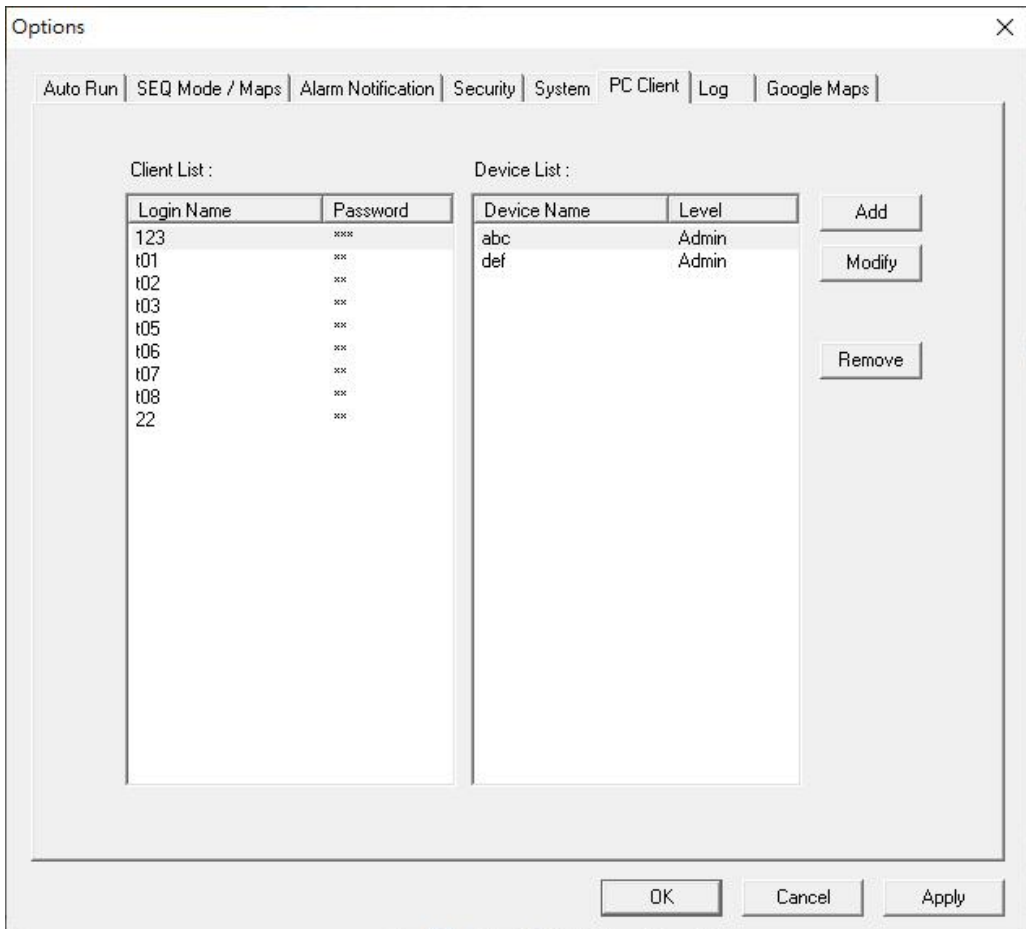
The other PC Clients can login the CMS Server to monitor and control the connected devices of the CMS Server.   The operations of this dialog are as below:

■ **Add**

Add a PC Client to the Client List.   Click on the **Add** button, and the **PC Client Dialog** will be shown as below.

Please enter the **Login Name** and **Password** for this PC Client, and then add the **devices** to be monitored and controlled by the PC Client and its access **level** for each device respectively. Please click on **OK** button to save the settings, or **Cancel** button to exit without saving.

■ **Modify**
Modify the above-mentioned items of the selected PC Client in the Client List. Select a PC Client in the Client List, and then click on **Modify** button, and the **PC Client Dialog** will be shown as above with all the contents filled in.

■ **Remove**
Select a PC Client in the Client List, and then click on **Remove** button to remove the selected PC Client from the Client List.

3.4.7 Log
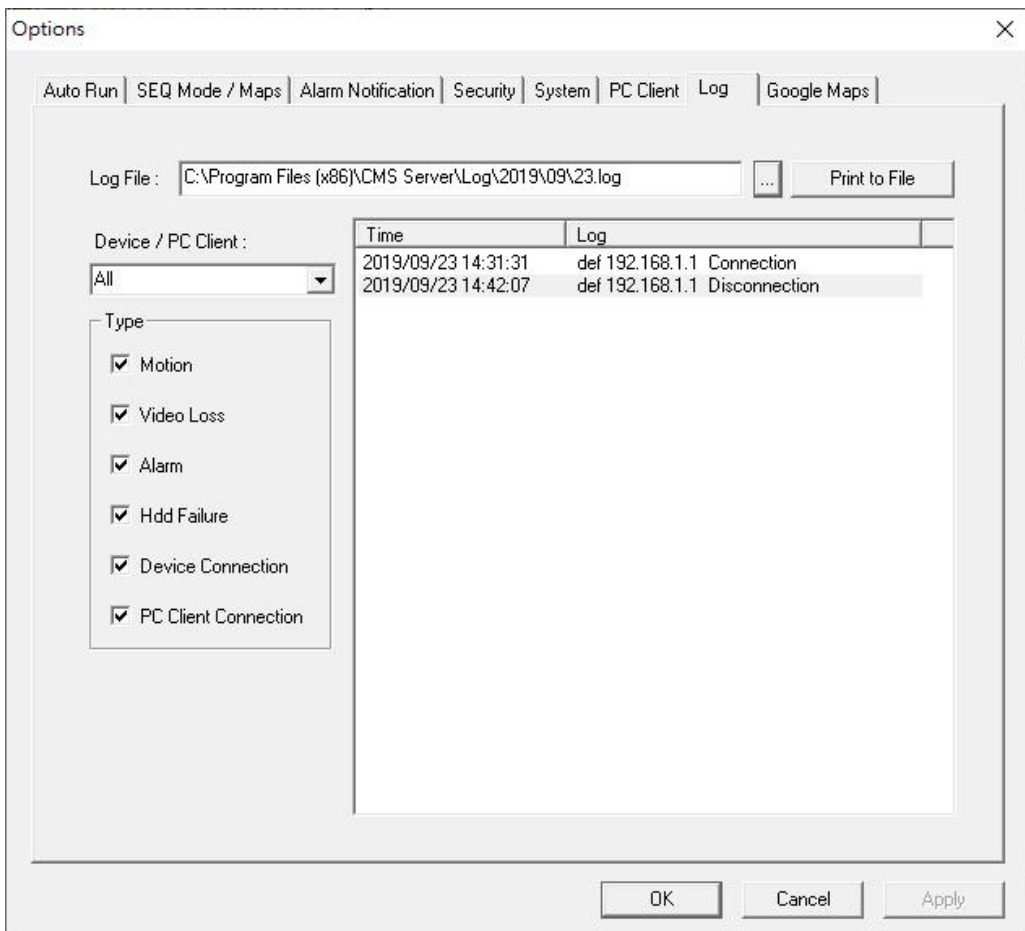
The CMS Server log different type events to log files. The operations of this dialog are as below:

- **…**
  Browse the log file location. Click on the **…** button to select log file. The default log file location is "C:\Program Files (x86)\CMS Server\Log\". It will be put in different folder that named by year and month.

- **Apply**
  After select one log file, click **Apply** button to load the log.

- **Print to File**
  After load the log, click **Print to File** to export log to text file.

3.4.8 Google Maps
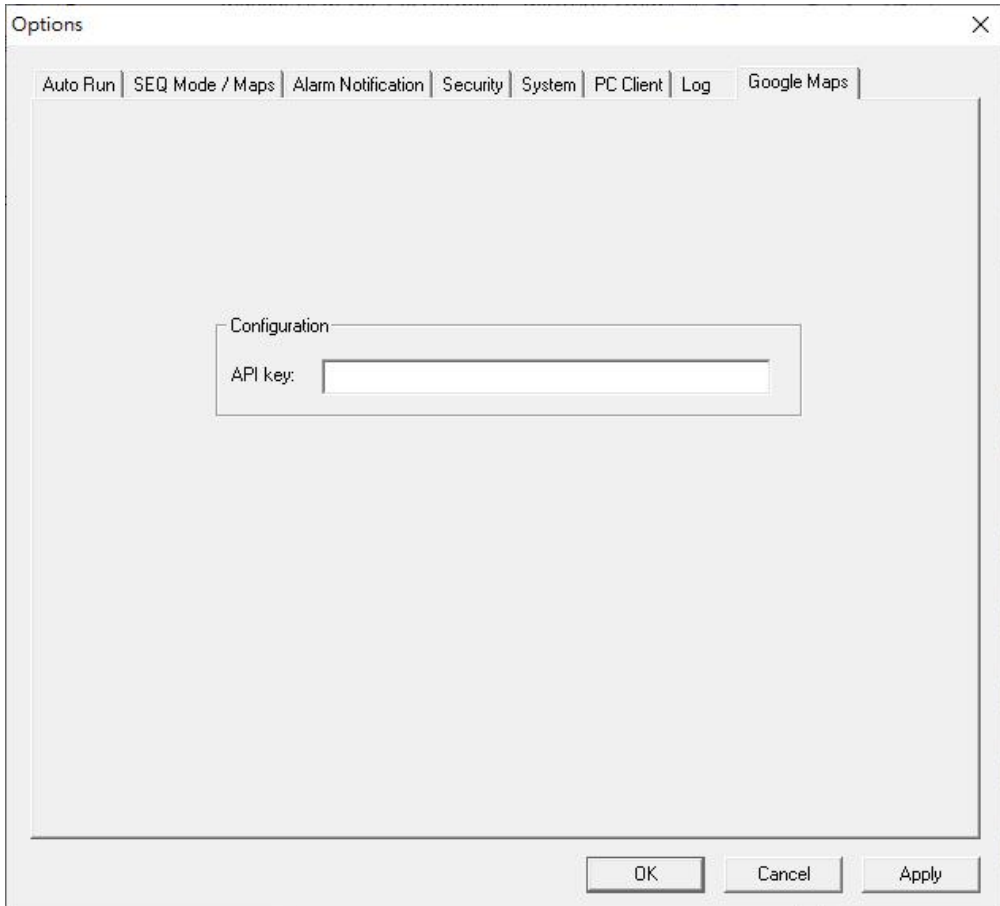
The API key paid for Google Maps can be set here.   If users do not have API key, the query times for address and the load times of map for all users will be limited to 900 times per day totally for the built-in vendor provided API key after Jun. 11, 2018.

If users want to have their own OEM API key, please check the following Google Cloud Platform documents, including
. user guide : https://cloud.google.com/maps-platform/user-guide/ ,
. price sheet : https://cloud.google.com/maps-platform/pricing/sheet/ , and
. pricing changes :
   https://cloud.google.com/maps-platform/user-guide/pricing-changes/ .

If users want to have their own OEM API key, please refer to https://console.cloud.google.com and the following screens to new a project for API key and set the quota.
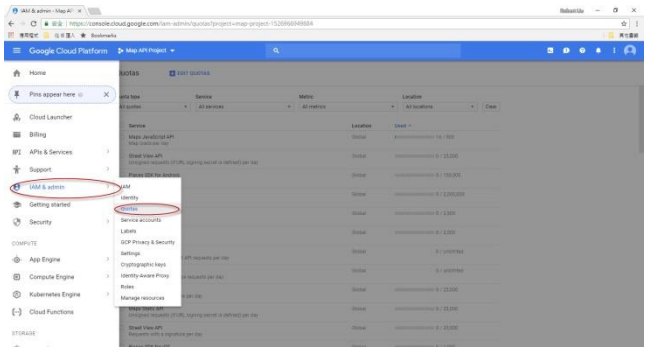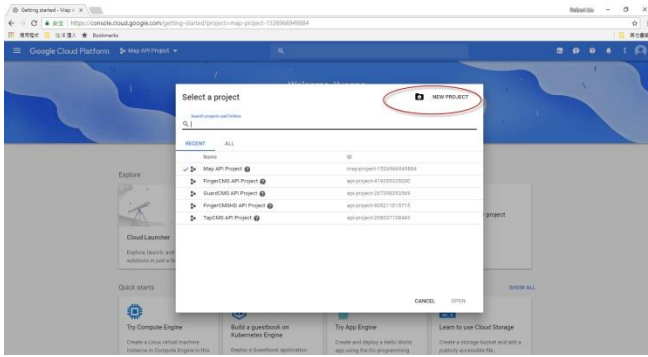
If users have their own OEM API key, the query times will be limited to the daily quota set (please refer to the screen below). Please set the below-mentioned items to 900 times per day so there's still not any fee charged for the OEM API key. Please note that out-of-limit query would fail after Jun. 11, 2018. Besides, if a higher limit is set, there would be charge for the extra access.
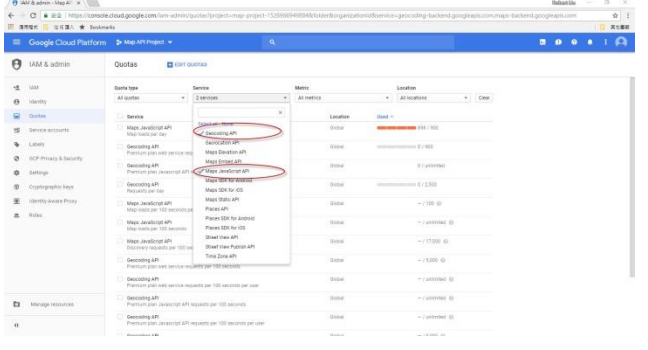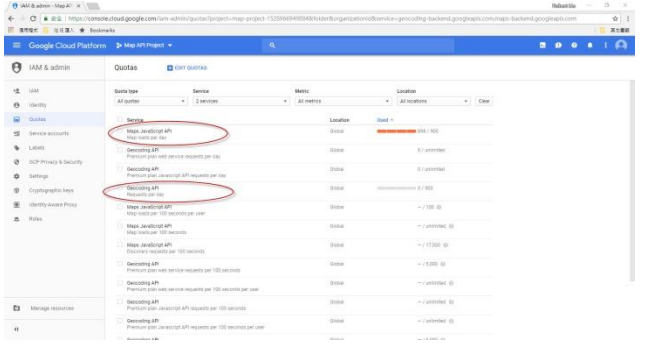
4. HEM Running Mode

The CMS Server software can access the devices remotely if the PC and the devices are connected via network, either internet or intranet.   Besides, it also provides the other PCs to access its connected devices.

Before Running

Before accessing the devices through CMS Server software, please make sure the followings:

1. The devices are connected to the network and the configurations are all setup correctly.   (If the system resources - DRAM, CPU speed, etc. - in the PC are limited, or the network bandwidth is low, please set the record resolution of the devices to Half-D1 or CIF.)

2. **DirectX® End-User Runtime 9.0** or above has been installed in your PC successfully. If not, please logon to http://www.microsoft.com to get the free download of it.

3. Port 67 (control port) or port 68 (data port) for the devices is not blocked out by your router or ISP (Internet Service Provider).

4. Please go to Start → Setup → Control, select Display → Settings, and set the Screen Resolution to at least 1024x768 and Color to 32-bit.

5. To have better look-&-feel for the HEM program in your PC, please go to Start → Setup → Control, and select Display → Visual Style → Windows XP Style.

Run

To run HEM map: Just run the CMS Server program if Auto Run for top-level HEM map or device, or SEQ Mode / Map is set.   Or click on **File** menu, and then select **Run** if the top-level HEM map has been opened already.   The screen will be shown similar to the one (Example2/BILL'S HOME.hem) below.
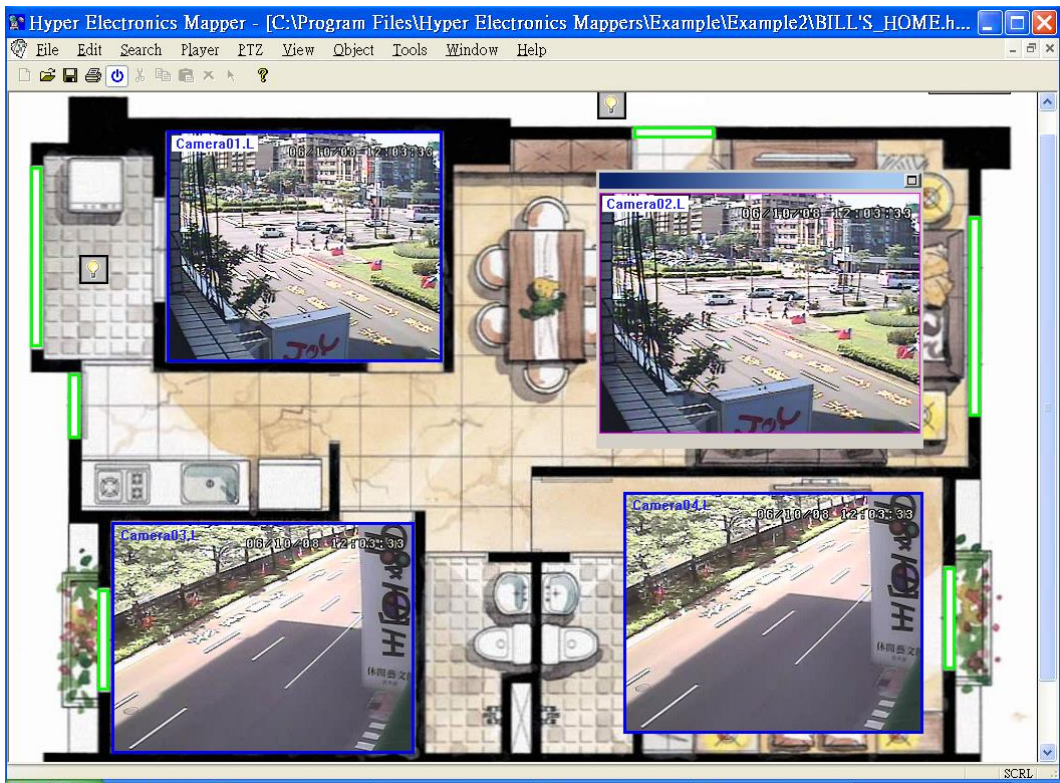
Once the HEM is in Running Mode, the corresponding menu will all be enabled. (Please note that ".L" following the camera title stands for Live display, ".P" for Playback, and the camera title with white background has detected motion.)

Note: The users may use the HEM map DEFAULT.hem as the entry map.   Please click on the device icon to switch to its split-window display.

File Operations

The File Operations are the same as in Editing Mode.   If the HEM map is in Running Mode, you may click on **File** menu, and then select **Run** to stop running and return to Editing Mode, and vice versa.   Please note that the oldest HEM map files may be automatically closed if the CMS Server program consumes too much system memory.

Search Operations

There are different search operations, including Time, Event, and PC Video.   Those operations are the same as in the Remote Access described in the manual come with the device, and are also described below:

■ **Search By Time**

Click on **Search** menu, and then select **Time** to call up **Search-by-time Dialog**. Please select the time (Year, Month, Date, Hour, and Minute) and recorded video/audio type (Alarm, Motion, Video Loss, and Normal) to search for playback. Click on Search button to start the search of the recorded video/audio.   (If it failed, the result will be shown on the title of the dialog.)   Now, you may use the player operations to play the recorded video/audio.   **Please note that the cameras of different devices can be selected for search by time.   If there's not any camera in playback mode, all cameras will be searched and played.   For software V5.45 or above, a playback slider will be shown at playback for "Search By Time".**
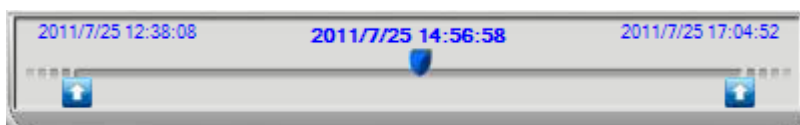
The operations are similar to device's local operations, except that the user may click on the bottom area of the playback slider to drag it to a different location in the HEM map.

■ **Search By Event**

Click on **Search** menu, and then select **Event** to call up **Search-by-event Dialog**. The event logs will be shown on the screen.   Please select the device, event type and source ID to search for the event logs.   Click on Refresh, Up, or Down to update the event logs.   Click on the desired event log to highlight and select it.   Click on the OK button to search the recorded video/audio for the highlighted event log.   Now, you may use the player operations to play the recorded video/audio.

■ **Search PC Video**

Click on **Search** menu, and then select **PC Video** to call up **Search-PC-video Dialog**.   Please select the file, and then click on Open.   Now, you may use the player operations to play the recorded video/audio in the file.

■ **POS Search**

Click on **Search** menu, and then select **POS** to call up **POS-Search Dialog**. Please select the device, camera, key word, and start/end time, and click on "Search", then the matched POS data will be shown.   Please select the desired POS data, and click on "Backup" or "Play" to backup or play the recorded video/audio corresponding to the POS data.

Player Operations

The Player Operations are the same as in the Remote Access described in the

manual come with the device. Those operations include **Fast Backward**, **Fast Forward**, **Single Step**, **Play**, **Pause**, **Stop**, and **Copy**. **Please note that the Copy function can be used to archive both live and playback streams.** The user may use the menu, the toolbar, or call up Player Panel for player operations. Please check/uncheck the cameras to be archived when the **Copy Dialog** is shown, and then click on **OK** or **Apply** button. If the user click on Apply button and select & highlight one of the cameras, the current copying status for that camera will be shown in the dialog.

PTZ Operations

The PTZ Operations are the same as in the Remote Access described in the manual come with the device. The user may use the menu or call up PTZ Panel for PTZ operations.

View Operations

■ **Toolbar**
Show/hide the Toolbar above the client area.

■ **Status Bar**
Show/hide the Status Bar below the client area.

■ **Player Panel**
Show/hide the Player Panel in this HEM map. Please note that the Player panel file is specified in the object properties for this HEM map, and can be changed to a different file for each HEM map. The operations of the default Player Panel are similar to those of the Remote Access described in the manual come with the device. The user can click on the Player Panel (but outside of any object in it) (to call up the **Context menu**) to move it.

■ **PTZ Panel**
Show/hide the PTZ Panel in this HEM map. Please note that the PTZ panel file is specified in the object properties for this HEM map, and can be changed to a different file for each HEM map. The operations of the default PTZ Panel are similar to those of the Remote Access described in the manual come with the device. The user can click on the PTZ Panel (but outside of any object in it) (to call up the **Context menu**) to move it.

■ **1-W, 4-W, 9-W, 16-W**
Switch to 1-W, 4-W, 9-W, or 16-W split window display of the selected Device object. The default split-window display map files in the directory **Default** will be used. The advanced users may edit those default maps to suit their own requirements.

However, it would be better to make a backup copy before modification.

- ■ **Playback, Freeze, Audio In / Out / Broadcast**

These View Operations are similar to the Remote Access described in the manual come with the device except that the operations for Playback/Freeze apply to the whole HEM map.　Please refer to [Appendix B](#) for the detailed descriptions.

- ■ **SEQ Mode / Cameras**

Switch all the camera objects (in this HEM map) with SEQ settings to SEQ mode, or back from SEQ mode.

- ■ **SEQ Mode / Maps**

Switch the HEM program to SEQ mode for HEM maps, or back from SEQ mode.

- ■ **Google Maps**

Call up Google Maps in this HEM map. Left-clicking the marker to display the address, and right-clicking the marker to display the video.
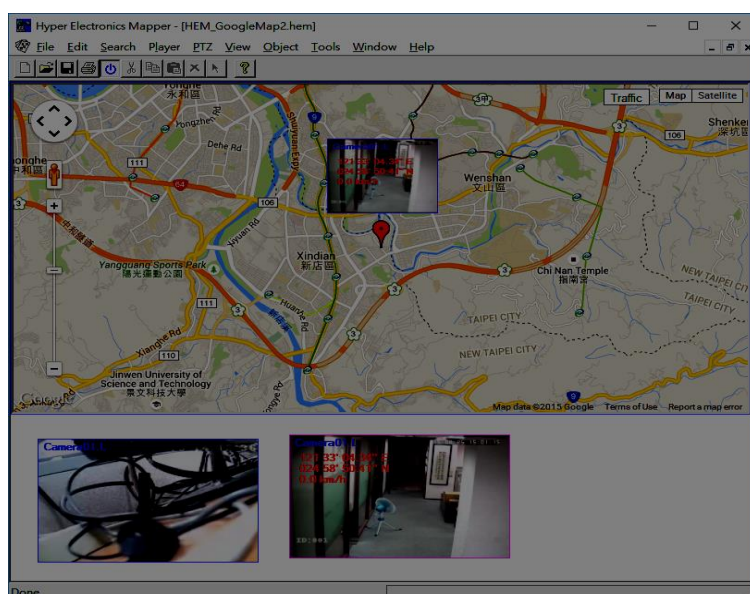
- ■ **GPS Display**

Display the GPS information (if any) for all the connected devices in this HEM map.

- ■ **G Sensor Trend Chart**

Display G sensor trend chart if the selected device is a mobile device.

- ■ **POS Display**

Display the POS information (if any) for all the connected devices in this HEM map.

- ■ **Display Control**

Display this HEM map at Original Map Size, to Fit Window, or to Fit Width/Height.

■ **Transform**
Used to mirror, flip, or rotate 180 degrees for the video.

■ **Digital Zoom**
Used to zoom in the video. While enabled, click in the video for 2X, then 4X, and right click to back to 1X.

Object Operations

The enabled Object Operations are similar to the Remote Access described in the manual come with the device, and **the operation applies to the selected object**. The detailed operations for each object are described below:

■ **Camera**
If the object is not iconized, the video of the camera will be shown in the rectangle, and the audio, if exists and is enabled and the camera is focus camera, will be output to the HEM station.   If the object is iconized, the motion status of the camera will be shown with the selected image files.

If not iconized, left-click the mouse to select it, or right-click the mouse to call up the dialog to change its ID or live/playback status.   The user may also set its Playback mode, (un)Freeze the video, Print the video, Snapshot the video, display GPS information, configure GPS, display POS information, or configure POS   by selecting Object → Playback/Freeze/Print/**Snapshot/GPS Display/GPS Config/POS Display/POS Config**.   If iconized, left-click the mouse to change the ID of the previously selected camera object to the ID of this iconized camera object.

For Dual mode (Video/Icon or Icon/Video) camera object, the user may double click the mouse to switch its display mode back and forth.   For camera object with SEQ settings, the user may switch the camera object to SEQ mode, or back from SEQ mode by selecting Object → SEQ Mode.

■ **Alarm input**
The status of the alarm input will be shown with the selected image files.   It's always iconized, and no operation in Running Mode.

■ **Alarm output**
The status of the alarm output will be shown with the selected image files.   It's always iconized, and the user can left-click on it to control the corresponding alarm output from normal to triggered, or from triggered back to normal.

■ **Device**
Always iconized.   The user can left-click on it to select it.   While it's selected, the user can click on **View** menu, and then select **1-W**, **4-W**, **9-W**, or **16-W** to switch to the split-window display of the device.   The user may also click on the **device**, and then select **1-W**, **4-W**, **9-W**, or **16-W** to switch to the split-window

display of the device.

■ **Action**
Always iconized.   The user can left-click on it to trigger the corresponding action. Please refer to Appendix B for the predefined action buttons and their descriptions.

■ **Link (to another HEM map)**
If it's a (hyper) Link to a top-level HEM map, it will always be iconized, and the user can left-click on it to switch to its map display.   Please note that the oldest HEM map files may be automatically closed if the HEM program consumes too much system memory.   If it's a Link to a non-top-level HEM map, it will always be not iconized, and the user can click on it (but outside of any object in it) (to call up the **Context menu**) to move it.

Backup Operations

Click on **Tools** menu, and then select **Backup** to call up **Backup Dialog**.   Please select the device, cameras, event type, destination directory, execution time, and data range, and then click on "Apply" or "OK" to backup, or "Cancel" to cancel. Please note that Execution of "Now" or "Once" is one-time backup, while "Daily" is daily backup.

Log Operations

Click on **Tools → Options → Log**, and the Log Dialog will be shown as below.
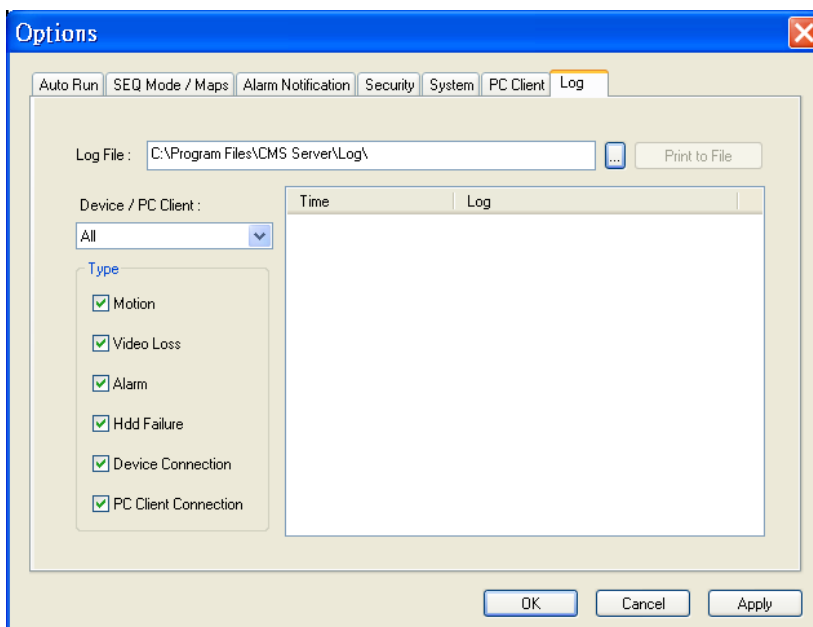
Please select the **Log File**, **Device**, and **Type of Log**, and then click on "**Apply**" to display the corresponding **Log List** in the dialog.

4.1 Device Operations

In HEM program, click on **Tools** menu, and then select **Device**.   The operations are as below:

■ **Connect**
Connect to the devices in the device list.   (The dialog as shown below)   The user may select one (or none) of the split-window displays to be invoked and run at connection.

■ **Disconnect**
Disconnect from the connected devices.   (The dialog similar as shown above)

■ **Config**
Please refer to Section 3.1 for the dialogs and operations to configure the devices.   All the items in the **Device Properties** are used to setup the device remotely after connection.   Please refer to the Remote Access described in the manual come with the device.   Please also refer to the setup of the device in the manual come with the device for the detailed descriptions.   Besides, the user can **download/upload** the configurations from/to the connected device, or **open**/**save** the configurations from/to the designated directory.

■ **Software Upgrade**
Upgrade the devices in the connected device list.   (The dialog as shown below) The user may select one (or all) of the devices to be software upgraded, select the upgrade file in the PC, and then click on **Start** button to start the software upgrade process.   The Upgrade status will be updated according to the progress. When the upgrade file is uploading, the user may click on **Stop/Close** button to stop the upgrade process.

After the software in the device is upgraded, the device will restart immediately and the HEM program will be disconnected from the device.   Please (re-run the HEM program to) connect to the device(s) again.
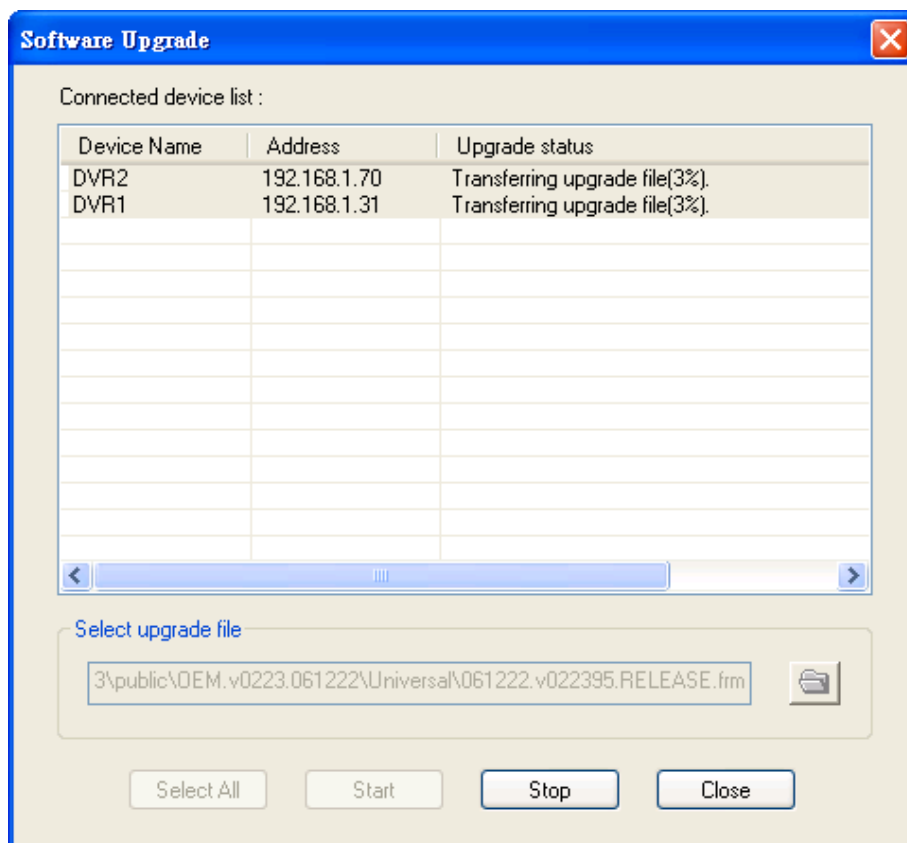
4.2 Default Screen Operations

The video images can be displayed in several types of split-window screens, including 1/4/9/16/25/36/49/64 for DVRs. And the focus window is surrounded by a frame border. In addition to the video windows, there are different icons on the lower corner and the right corner of the screen for status display and control. (The ".L" following the camera title stands for Live display, ".P" for Playback, and the camera title with white background has detected motion.)

Note 1: The frame rate is limited by the bandwidth of the network and the pre-record IPS of the camera.

Note 2: The picture quality depends on the recording resolution and recording quality of the camera.

When the user leaves HEM, he/she may be asked to save changes to files, please enter the directory name (or use default if only one profile is needed), click on OK or Yes to save the changes. The operations and descriptions for these icons are as below:

In video window, right-click the mouse button to call up Camera/Playback/Print Dialog.　(Left) click on Playback or Camera number to change the window to the corresponding camera and live/playback mode.　The user may click on the "Print" button to print the video to the printer, or "Snapshot" the video.　**The user may also double click for 1-Window display.**

Click on these icons for 1/4/9/16/25/36/49/64-Window display.　For 4/9 split

windows, the user can click on the icon, and select a different display page.

Click on this icon to switch to or return from SEQ display mode.

Click on this icon to toggle between live mode and playback mode for all the video windows.

Click on this icon to freeze/unfreeze the video images for all the video windows.

Click on this icon to enable/mute the audio input from the PC, button down for enable, button up for mute. If enabled, the audio input from the PC will be sent to the DVR. The default setting is 'mute'.

Click on this icon to enable/mute the audio output from the camera for the focus window (or DVR), button down for enable, button up for mute.

Click on this icon to show/hide the GPS data for (1) the selected DVR, or (2) the DVR for the focus camera, button down to show, button up to hide.

Click on this icon to show/hide the POS data **(for 9-split-window or larger video window)** for (1) the selected DVR, or (2) the DVR for the focus camera, button down to show, button up to hide.

Click on this icon mirror, flip, or rotate 180 degrees for the video.

Click on this icon to backup video/audio, and the Backup dialog will be shown. Please select the DVR, cameras, event type, destination directory, execution time,

and data range, and then click on "Apply" or "OK" to backup, or "Cancel" to cancel. Please note that Execution of "Now" or "Once" is one-time backup, while "Daily" is daily backup.

Click on this icon for snapshot of the focus camera.

Click on this icon for audio broadcasting to all connected DVRs.

Click on this icon to toggle between full screen display and normal IE display.

Click on this icon for full video display (without any icon).

Click on this icon for Google Map display.

Click on this icon for G Sensor Trend Chart display.

Click on these icons to switch the video aspect ratio between 4:3 and 16:9.

Click on this icon to zoom in the video. While enabled, click in the video for 2X, then 4X, and right click to back to 1X.

The device name of the selected DVR is shown. Click on this icon, and the available DVRs will all be shown. The user may type alphanumeric characters to get the matched DVRs. Click on one of them to select a new DVR. The 1/4/9/16 split-window video display, the camera status, and the alarm input/output will all switch to correspond to the newly selected DVR. There's "Multiple" in the device list, the user can select it to display camera video from different DVRs in 4/9/16 split window display.

Playback panel for playback buttons, including Fast Backward, Fast Forward, Single Step, Play, Pause, Stop, and Copy (from left to right). **Please note that the Copy function can be used to archive both live and playback streams.** Please check/uncheck the cameras to be archived when the Copy Dialog is shown, and then click on OK or Apply button. If the user click on Apply button and select & highlight one of the cameras, the current copying status for that camera will be shown in the dialog.

PTZ control panel. If the camera in the focus window is a PTZ camera, these buttons in the PTZ control panel can be used for PTZ control. The operations include Tilt Up/Down, Pan Left/Right, Zoom In/Out, Focus Near, Focus Far, Iris – (darker), Iris + (brighter).

Camera /

Status indicators for cameras 1-8/4 (GREEN for normal, RED for motion) for the selected DVR. Click on any of these icons to select the corresponding camera of the selected DVR to be displayed in the focus window.

Alarm In /

Status indicators for alarm inputs 1-8 (GREEN for normal, RED for alarm) for the selected DVR.

Alarm Out /

Alarm outputs 1-2 (GREEN for normal state, RED for triggered state) for the selected DVR. For Administrator, click on any of these icons to control the corresponding alarm output from normal to triggered, or from triggered back to normal.

Click on this icon to call up Search-by-time dialog. Please select the time (Year, Month, Date, Hour, and Minute) and recorded video/audio type (Alarm, Motion, Video Loss, and Normal) to search for playback. Click on Search button to start the search of the recorded video/audio. (If it failed, the result will be shown on the title of the dialog.) Now, you may use the playback buttons to play the recorded video/audio. **If there's not any camera in playback mode, all cameras will be**

searched and played.
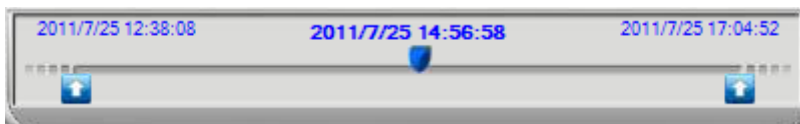
The operations are similar to DVR local operations, except that the user may click on the bottom area of the playback slider to drag it to a different location.

Click on this icon to call up Search-by-event dialog.   The event logs will be shown on the screen.   Please select the DVR device, event type, and source ID to search for the event logs.   Click on Refresh, Up, or Down to update the event logs.   Click on the desired event log to highlight and select it.   Click on the OK button to search the recorded video/audio for the highlighted event log.   Now, you may use the playback buttons to play the recorded video/audio.

Click on this icon to call up search-PC-video dialog.   Please select the **file(s)**, and then click on Open.   Now, you may use the playback buttons to play the recorded video/audio in the file(s).

Click on this icon to call up POS-Search dialog.   Please select the DVR, camera, key word, and start/end time, and click on "Search", then the matched POS data will be shown.   Please select the desired POS data, and click on "Backup" or "Play" to backup or play the recorded video/audio corresponding to the POS data.

Click on this icon to show/hide full PTZ control panel.   The user can click on the PTZ Panel (but outside of any object in it) (to call up the **Context menu**) to move it.

Click on this icon to call up Setup dialog.   **Unlimited number of DVRs can be added to the device list.**

Following is a brief description for each item:

■ **Device Name** – any meaningful name for the (DVR) device.

■ **Address** – IP address or URL domain name for the (DVR) device.   It should be the same as the IP address (for Static IP) or URL (for PPPoE) in Network Setup for the (DVR) device.

- **Control Port** – the control port for the (DVR) device.   The default value is 67.

- **Data Port** – the data port for the (DVR) device.   The default value is 68.

- **Video Stream** – "Record" – live video same as recording stream, or "Extra" – extra network stream if dual streaming is supported for the (DVR) device.   The default value is "Record".

- **User Name** – the login user name for the (DVR) device.   It must be in the list in Password Setup for the (DVR) device.   Please note that **different levels of users have different available operations.**

- **Password** – the corresponding password for the login user name for the (DVR) device.

- **Auto Connection** – whether the user wants to connect automatically to this (DVR) device.

- **Connected** – whether this PC is connected with the (DVR) device now.   If a DVR is connected, the user may select it, and click on "Reboot" to reboot it.

The user can **download/upload** the configurations from/to the connected DVR, or **open**/**save** the configurations from/to the designated directory.

Click on this icon to call up remote Software Upgrade dialog. The current software version of the DVR(s) will be shown in the "status" field. Please select the DVR device and upgrade file in the PC, and then click on Start button to start the software upgrade process. The Upgrade status will be updated according to the progress. When the upgrade file is uploading, the user may click on Stop/Close button to stop the upgrade process. After the software in the DVR is upgraded, the DVR will restart immediately and the PC will be disconnected from the DVR.

Note: There must be at least one formatted HDD in the DVR for the remote upgrade to succeed.

Click on this icon to call up GPS Configuration dialog. Please select the DVR device. Then select **Display attributes** and **Output attributes** for **Live** & **Playback** respectively. The display attributes can set whether Google Map displays GPS information, GPS speed, change the color of GPS text, POS display position... etc. If **Data Exchange File** is enabled, the corresponding GPS data will be output to the file specified. Please note that **Tag** and **Icon** are to be used by GPS software such as Google Earth for display purpose. If the **Route** is checked, the output data exchange file will contain the route information. If **COM Port** is enabled, the corresponding GPS data will be output through the specified COM port of the PC.   The output data

can be used as input by GPS application software such as Google Earth.

Click on this icon to call up POS Configuration dialog.　Please select the DVR device. Then select **Video Window or Pop-up Window** to show the POS data.　All the other attributes are similar to those for the DVR.

Appendix A – Specifications

Feature\Model	HEM (HyperElectronicsMappers)			CMS Server
	DP9010	**DP9050**	**DP9099**	**DP9199**
Monitoring & Control				
Max. # of front-end devices	10	50	Unlimited	Unlimited
Bi-directional audio	Yes	Yes	Yes	Yes
Remote video, audio, alarm input/output monitoring	Yes	Yes	Yes	Yes
Remote alarm output control	Yes	Yes	Yes	Yes
Remote PTZ control	Yes	Yes	Yes	Yes
Remote upgrade	Yes	Yes	Yes	Yes
Remote configuration	Yes	Yes	Yes	Yes
Remote alarm notification	Yes	Yes	Yes	Yes
Remote playback	Yes	Yes	Yes	Yes
Playback search	Date/time, Camera, Alarm, Motion, and POS			
Backup video/audio in HDD	Yes	Yes	Yes	Yes
Play video/audio in HDD	Yes	Yes	Yes	Yes
Print out / snapshot	Yes	Yes	Yes	Yes
Display **GPS** information	Yes	Yes	Yes	Yes
Display **POS** information	Yes	Yes	Yes	Yes
Hyper electronics map	Yes	Yes	Yes	Yes
Display				
Multi-lingual	**Yes**	**Yes**	**Yes**	**Yes**
Single device view	Yes	Yes	Yes	Yes
Split windows	Yes	Yes	Yes	Yes
Multiple device view	Yes	Yes	Yes	Yes
25/36/49/64 split windows	Yes	Yes	Yes	Yes
Security				
Authentication key	Yes	Yes	Yes	Yes
Password protection	Yes	Yes	Yes	Yes
Web server				
Built-in Apache server	--	--	--	**Yes**
Logon from DVR	--	--	--	**Yes**
Logon from the other PC	--	--	--	**Yes**
Ports used	**67, 68**	**67, 68**	**67, 68**	**67, 68, 80**

Appendix B – Predefined Action Buttons

The predefined **Action** buttons are divided into several groups as described below:

■ **Generic buttons**

. **(Blank)** – No action at all, used to display the specified image file at the predefined location.

. **Audio In** – Toggle type (Icon), same as **View → Audio In**, used to enable/mute the audio input (Mic. In & Line In) from the PC.   If enabled, the audio input from the PC will be sent to the connected device containing the focus object.

. **Audio Out** – Toggle type (Icon), same as **View → Audio Out**, used to enable/mute the audio output from the camera for the focus window.

. **Audio Broadcast** – Toggle type (Icon), same as **View → Audio Broadcast**, used to enable/disable audio broadcasting from the PC to all the connected devices.

. **Freeze** – non-Toggle type (Icon), same as **View → Freeze**, used to freeze/unfreeze the video for all the cameras.

. **Mirror** – Toggle type (Icon), same as **View → Mirror**, used to mirror, flip, or rotate 180 degrees for the video.

. **Digital Zoom** – Toggle type (Icon), same as **View → Digital Zoom**, used to zoom in the video. While enabled, click in the video for 2X, then 4X, and right click to back to 1X.

. **Mode** – non-Toggle type (Icon), same as **View → Playback**, used to change the mode, live or playback, for all the cameras.

. **SEQ** – Toggle type (Icon), same as **View → SEQ Mode / Cameras**, used to switch to/from the SEQ mode of all the camera objects with SEQ settings in the HEM map.

. **GPS Display** – Toggle type (Icon), same as **Object → GPS Display**, used to display the GPS information (if any) for the device for the focus camera.

. **Google Maps** – Toggle type (Icon), same as **View → Google Maps**, used to call up Google Maps.

. **Google Maps** – Non-toggle type (Window), the window will display Google Maps directly. In this mode, right-click on the device's location in Google Maps to display the device's video.

. **POS Display** – Toggle type (Icon), same as **Object → POS Display**, used to display the POS information (if any) for the device for the focus camera.

. **Snapshot** – Toggle type (Icon), same as **Object → Snapshot**, used to snapshot the video for the focus camera.

. **Device Information** – Toggle type (Icon), similar to **Tools → Device → Config**, used to display the device information.

■ **Player buttons -** Toggle type (Icon)

   . **Copy** – same as **Player → Copy**, Copy button in Player Panel, used to call up Copy dialog.

   . **Fast Backward** – same as **Player → Fast Backward**, Fast Backward button in Player Panel.

   . **Fast Forward** – same as **Player → Fast Forward**, Fast Forward button in Player Panel.

   . **Pause** – same as **Player → Pause**, Pause button in Player Panel.

   . **Play** – same as **Player → Play**, Play button in Player Panel.

   . **Play/Pause** – Play/Pause button in Player Panel.

   . **Step Forward** – same as **Player → Single Step**, Step Forward button in Player Panel.

   . **Stop** – same as **Player → Stop**, Stop button in Player Panel.

■ **PTZ buttons –** Toggle type (Icon)

   . **PTZ Up / PTZ Down** – to tilt the focus camera up/down if it's a PTZ camera.

   . **PTZ Left / PTZ Right** – to pan the focus camera left/right if it's a PTZ camera.

   . **PTZ Focus + / -** – to set the focus of the focus camera far/near if it's a PTZ camera.

   . **PTZ Iris + / -** – to increase/decrease the iris of the focus camera if it's a PTZ camera.

   . **PTZ Zoom + / -** – to zoom in/out the focus camera if it's a PTZ camera.

   . **PTZ Goto/Set Preset** – same as **PTZ → Goto preset/Set preset**, to goto/set the preset position of the focus camera if it's a PTZ camera.

   . **PTZ AutoPAN.Run / AutoPAN.Stop** – same as **PTZ → Auto PAN → Run/Stop**, to run/stop the AutoPAN mode of the focus camera if it's a PTZ camera.

   . **PTZ AutoPAN.Set Start Position / AutoPAN.Set End Position** – same as **PTZ → Set start/Set end**, to set the Start/End position of the AutoPAN mode of the focus camera if it's a PTZ camera.

   . **PTZ SEQ.Run / SEQ.Stop** – same as **PTZ → SEQ → Run/Stop**, to run/stop the SEQ mode of the focus camera if it's a PTZ camera.

■ **Dialog-Call buttons –** Toggle type (Icon)

   . **Device Config** – same as **Tools → Device → Config**, used to call up Device List dialog.

   . **Software Upgrade** – same as **Tools → Device → Software Upgrade**, used to call up Software Upgrade dialog.

   . **PTZ Panel** – same as **View → PTZ Panel**, used to call up PTZ Panel (default as PTZ.hem).

   . **Search By Event** – same as **Search → Event**, used to call up Search-by-event dialog.

   . **Search By Time** – same as **Search → Time**, used to call up Search-by-time dialog.

. **Search PC Video** – same as **Search → PC video**, used to call up Search-PC-video dialog.

. **POS Search** – same as **Search → POS**, used to call up POS-Search dialog.

. **GPS Config** – same as **Object → GPS Config**, used to call up GPS Configuration dialog.

. **POS Config** – same as **Object → POS Config**, used to call up POS Configuration dialog.

. **Backup** – same as **Tools → Backup**, used to call up Backup dialog.