

# HuperLab HuperVision 4000

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## 1 Document Versions

Version	Date	Name	Change
<b>1.0</b>	2017-07-11	MK	Document Created.

## 2 Referenced Documents

Document	Version	Description
<b>Driver Project Requirements (DDK-PR)</b>	1.0	The HuperLab HuperVision DVR driver must conform to all the requirements detailed in this document.
<b>Driver Connection and Online States Requirements (DDK-DC)</b>	1.0	The HuperLab HuperVision DVR driver must conform to all requirements in this document detailed in the section: <a href="#">Device Connection and Online States</a>
<b>Driver Video Requirements (DDK-VID)</b>	1.0	The HuperLab HuperVision DVR driver must conform to all requirements in this document detailed in the section: <a href="#">Video</a>

### 3 Manufacturer

**Name** HuperLab



**Website** <http://www.huperlab.com/>

**Description** Huper Laboratories (known as huperLab) is a leading provider of intelligent video surveillance solutions, and a technology innovator on 2D 3D video analytics, video/audio codecs and streaming technologies.

### 4 IPSecurityCenter Versions

The driver must be compatible with the following IPSecurityCenter versions:

IPSecurityCenter Version	Supported
4.9	<input checked="" type="checkbox"/>
5.x	<input checked="" type="checkbox"/>

### 5 Operating Systems

#### 5.1 Client Side Functionality

Operating Systems	Supported
Windows 7 64 bit	<input checked="" type="checkbox"/>

#### 5.2 Server Side Functionality

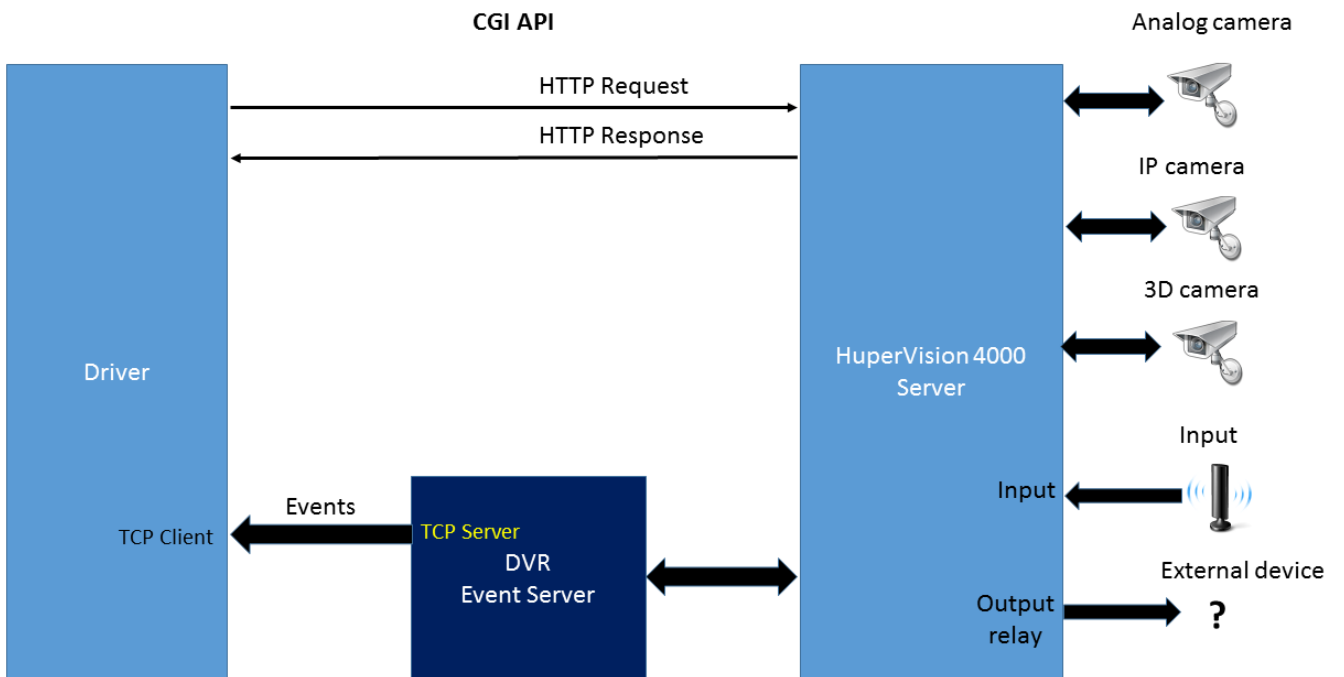
Operating Systems	Supported
Windows Server 2008 R2	<input checked="" type="checkbox"/>
Windows Server 2012	<input checked="" type="checkbox"/>

### 6 Models / Firmware Versions

Model	Versions	SDK
HuperVision 4000		CGI API 1.7



## 7 Hardware Configurations



## 8 Driver Package

The driver package is named:

CNL.IPSecurityCenter.Driver.HuperVision.Version.[BUILD-VERSION].ipscdriver

## 9 Driver Features

### 9.1 HuperVision DVR

#### 9.1.1 Device Connection and Online States

The full requirements for these features can be found in the [Device Connection and Online States Requirements](#)

Feature	
<b>DC1.0 Device Online Status</b>	None
<b>DC2.0 Authentication</b>	Web credentials: separate authentication for RTSP video

#### 9.1.2 Video

This device does not support video.

#### 9.1.3 Properties

General requirements for properties can be found in [Driver Project Requirements](#).

Name	Type	Description	Default Value & Ranges
<b>State Polling Interval</b>	int	Time interval in seconds between adjacent checks of current I/O device states.	Default: 10 Min: 5 Max: None
<b>Keep Alive Interval</b>	int	Time interval in seconds between the DVR availability checks.	Default: 30 Min: 5 Max: None
<b>Request Timeout</b>	int	Maximum time in milliseconds to wait until response from the DVR is received.	Default: 5000 Min: 500 Max: None
<b>Child Devices Custom State Update Delay</b>	int	Time delay in milliseconds before updating the child devices current State.	Default: 1000 Min: 1000 Max: 10000
<b>Event Server Port</b>	int	Port number to connect to DVR Event Server to receive events.	Default: 19900 Min: 1 Max: 65535
<b>RTSP Username</b>	string	Username to access live and playback video streams.	Default: Min: Max:

<b>RTSP Password</b>	string	Password to access live and playback video streams.	Default: Min: Max:
<b>RTSP Port</b>	int	RTSP Port number to access live and playback video streams.	Default: 18554 Min: 1 Max: 65535
<b>Seek Timeout</b>	int	The maximum time in seconds allowed to perform a single Seek operation: if no footage found during this time - Seek operation times out.	Default: 5 Min: 1 Max:
<b>Load Video Timeout</b>	int	The maximum time in seconds to load a new video stream: if no video is loaded during this time - error message is displayed.	Default: 5 Min: 1 Max:
<b>Video Operation Timeout</b>	int	The maximum time in seconds to pause/resume/stop a live video.	Default: 5 Min: 1 Max:
<b>Play Before Pausing</b>	int	Time in milliseconds video plays before pausing (without the pause no video is shown in Paused mode when triggered from Response Plan).	Default: 1500 Min: 0 Max:
<b>Maximum Seek Timespan</b>	int	Maximum seek query time span in minutes, affects timebar population range. Values too large may result in longer seek and seek timeouts.	Default: 180 Min: 30 Max:
<b>Export Format</b>	HuperVision .HuperVisio nVideoForm at	Video format the video footage is exported with.	Default: Min: Max:
<b>Snapshot Folder</b>	string	Folder path where snapshot files are saved as a result of Save Snapshot camera method.	Default: Min: Max:
<b>Snapshot Quality</b>	int	Snapshot quality (1-100).	Default: 50 Min: 1 Max: 100
<b>Child Devices State Update Delay</b>	int	Time delay in milliseconds after the Server device goes Online to ensure the child devices set to a right state.	Default: 2000 Min: 1000 Max:

## 9.1.4 Methods

General requirements for methods can be found in [Driver Project Requirements](#).

### 9.1.4.1 *Get System Time*

Returns a current time of the DVR as a string. The time is also reported in **System Time Received** event.

#### Performance

The method must complete within 2 seconds.

## 9.1.5 Events

General requirements for events can be found in [Driver Project Requirements](#).

### 9.1.5.1 *System Time Received*

Fired after a call to **Get System Time** method.

#### Performance

The driver must be able to handle 4000 events per hour.

#### Event Properties

Name	Type	Description
<b>System Time</b>	string	The current DVR system time

## 9.2 HuperVision Camera

### 9.2.1 Device Connection and Online States

The full requirements for these features can be found in the [Device Connection and Online States Requirements](#)

Feature	
DC1.0 Device Online Status	None
DC2.0 Authentication	None

### 9.2.2 Video

This device does not support video.

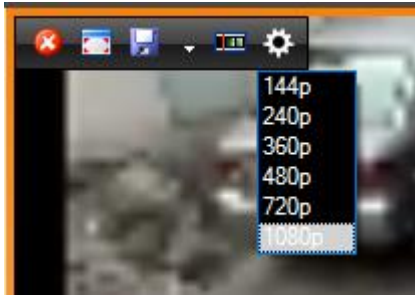
The full requirements for these features can be found in the [Driver Video Requirements](#).

Feature	
VID1.0 Camera Population	<input checked="" type="checkbox"/> None
VID2.0 Live Video	
VID2.1 Display Live Video	<input checked="" type="checkbox"/>
VID2.2 Snapshot	<input checked="" type="checkbox"/>
VID2.3 PTZ	<input checked="" type="checkbox"/>
VID2.4 Set Preset	<input checked="" type="checkbox"/> Not supported by the API
VID2.5 Get Preset	<input checked="" type="checkbox"/> Can only populate the maximum amount of Presets - 32.
VID3.0 Recorded Video	
VID3.1 Display Recorded Video	<input checked="" type="checkbox"/>
VID3.2 Seek	<input checked="" type="checkbox"/>
VID3.3 Pause	<input checked="" type="checkbox"/>
VID3.4 Snapshot	<input checked="" type="checkbox"/>
VID3.5 Fast Forward/Rewind	<input type="checkbox"/>
VID3.6 Slow Motion	<input type="checkbox"/>

VID3.7 Time Bar Population	<input checked="" type="checkbox"/>
VID4.0 Video Export	<input checked="" type="checkbox"/>
VID5.0 Web Client Support	<input checked="" type="checkbox"/>

### 9.2.3 Video Resolution

User can choose a video resolution for each camera by using the drop down menu on the video Tile:



When the camera is displayed in the first time the resolution is defined by the camera property **Default Video Resolution**.

### 9.2.4 Properties

General requirements for properties can be found in [Driver Project Requirements](#).

Name	Type	Description	Default Value & Ranges
<b>ID</b>	int	Camera id.	Default: Min: Max:
<b>Camera Type</b>	CameraType	The type of the DVR camera.	Default: Min: Max:
<b>Default Video Resolution</b>	VideoStreamResolution	The video stream resolution which will be used by default unless set differently in the video tile menu.	Default: Min: Max:
<b>Video Compression *</b>	int	JPEG video compression (1-100) used when streaming MJPEG video.	Default: 50 Min: 1 Max: 100

\* Used for MJPEG streaming, available only on driver Builds on DDK 3.2 or later

## 9.2.5 Methods

General requirements for methods can be found in [Driver Project Requirements](#).

### 9.2.5.1 *Save Snapshot*

Saves a snapshot file to the disk and returns the file path or empty string if the saving failed or no recording found at the time specified.

#### **Performance**

The method must complete within 2 seconds.

#### **Parameters**

Name	Type	Description	Default Value and Ranges
<b>Time</b>	DateTime	Time in UTC to take the snapshot at.	Default: Min: Max:

## 9.2.6 Events

General requirements for events can be found in [Driver Project Requirements](#).

### 9.2.6.1 Motion Detected

Motion detected on camera.

#### Performance

The driver must be able to handle 4000 events per hour.

#### Event Properties

Name	Type	Description
Alarm Status	HuperVisionAlarmStatus	The current status of the alarm (start or end).

### 9.2.6.2 Manual Event

Manual event was triggered.

#### Performance

The driver must be able to handle 4000 events per hour.

#### Event Properties

Name	Type	Description
Alarm Status	HuperVisionAlarmStatus	The current status of the alarm (start or end).

### 9.2.6.3 Missing Or Left

Object detected as missing or left.

#### Performance

The driver must be able to handle 4000 events per hour.

#### Event Properties

Name	Type	Description
Alarm Status	HuperVisionAlarmStatus	The current status of the alarm (start or end).

### 9.2.6.4 Flame Detected

Flame detected.

#### Performance

The driver must be able to handle 4000 events per hour.

#### Event Properties



Name	Type	Description
<b>Alarm Status</b>	HuperVisionAlarmStatus	The current status of the alarm (start or end).

#### 9.2.6.5 *Secure Zone Intrusion*

Intrusion in a forbidden area detected.

##### Performance

The driver must be able to handle 4000 events per hour.

##### Event Properties

Name	Type	Description
<b>Alarm Status</b>	HuperVisionAlarmStatus	The current status of the alarm (start or end).

#### 9.2.6.6 *Virtual Fence Intrusion*

Possible intrusion along a site borderline detected.

##### Performance

The driver must be able to handle 4000 events per hour.

##### Event Properties

Name	Type	Description
<b>Alarm Status</b>	HuperVisionAlarmStatus	The current status of the alarm (start or end).

#### 9.2.6.7 *Loitering Detected*

Object is detected moving around a scene.

##### Performance

The driver must be able to handle 4000 events per hour.

##### Event Properties

Name	Type	Description
<b>Alarm Status</b>	HuperVisionAlarmStatus	The current status of the alarm (start or end).

#### 9.2.6.8 *Smoke Detected*

Smoke detected.

##### Performance

The driver must be able to handle 4000 events per hour.

##### Event Properties

Name	Type	Description
<b>Alarm Status</b>	HuperVisionAlarmStatus	The current status of the alarm (start or end).

#### 9.2.6.9 *Scene Change*

Abnormal scene is detected on camera.

##### Performance

The driver must be able to handle 4000 events per hour.

##### Event Properties

Name	Type	Description
<b>Alarm Status</b>	HuperVisionAlarmStatus	The current status of the alarm (start or end).

#### 9.2.6.10 *Video Loss*

Camera video signal is lost/restored.

##### Performance

The driver must be able to handle 4000 events per hour.

##### Event Properties

Name	Type	Description
<b>Alarm Status</b>	HuperVisionAlarmStatus	The current status of the alarm (start or end).

#### 9.2.6.11 *Sensor Alarm*

Sensor alarm was triggered.

##### Performance

The driver must be able to handle 4000 events per hour.

##### Event Properties

Name	Type	Description
<b>Alarm Status</b>	HuperVisionAlarmStatus	The current status of the alarm (start or end).

### 9.2.7 Built-In Interfaces

This section provides details of built-in interfaces that are implemented on this device. Full details of these interfaces can be found in the DDK documentation.

Interface	Description
<b>IMotionJpegSource</b>	A camera device capable of serving MJPEG frames

## 9.3 HuperVision Input

### 9.3.1 Device Connection and Online States

The full requirements for these features can be found in the [Device Connection and Online States Requirements](#)

Feature	
<b>DC1.0 Device Online Status</b>	None
<b>DC2.0 Authentication</b>	None

### 9.3.2 Video

This device does not support video.

### 9.3.3 Properties

General requirements for properties can be found in [Driver Project Requirements](#).

Name	Type	Description	Default Value & Ranges
<b>ID</b>	int		Default: Min: Max:

### 9.3.4 Methods

General requirements for methods can be found in [Driver Project Requirements](#).

### 9.3.5 Events

General requirements for events can be found in [Driver Project Requirements](#).

#### 9.3.5.1 *Input On*

Input is on.

#### **Performance**

The driver must be able to handle 4000 events per hour.

#### 9.3.5.2 *Input Off*

Input is off.

#### **Performance**

The driver must be able to handle 4000 events per hour.



## 9.4 HuperVision Output

### 9.4.1 Device Connection and Online States

The full requirements for these features can be found in the [Device Connection and Online States Requirements](#)

Feature	
<b>DC1.0 Device Online Status</b>	None
<b>DC2.0 Authentication</b>	None

### 9.4.2 Video

This device does not support video.

### 9.4.3 Properties

General requirements for properties can be found in [Driver Project Requirements](#).

Name	Type	Description	Default Value & Ranges
<b>ID</b>	int		Default: Min: Max:

### 9.4.4 Methods

General requirements for methods can be found in [Driver Project Requirements](#).

#### 9.4.4.1 *On*

Turn Output relay on.

This method is exposed as an operator action.

Returns bool.

#### **Performance**

The method must complete within 2 seconds.

#### 9.4.4.2 *Off*

Turn Output relay off.

This method is exposed as an operator action.

Returns bool.

## **Performance**

The method must complete within 2 seconds.

### **9.4.5 Events**

General requirements for events can be found in [Driver Project Requirements](#).

#### **9.4.5.1 Output On**

Output is on.

## **Performance**

The driver must be able to handle 4000 events per hour.

#### **9.4.5.2 Output Off**

Output is off.

## **Performance**

The driver must be able to handle 4000 events per hour.

## 10 Installation

### 10.1 Prerequisites

Need to register VLC ActiveX on Connection Manager, Client machines, and VideoExport server.

Either install **32-bit VLC 2.2.6**, which registers the VLC ActiveX automatically or

register it manually by running the command: **regsvr32 axvlc.dll** in Windows command prompt.

### 10.2 Driver Installation

- Start the IPSecurityCenter™ client and any supporting services
- Open the Device Driver Manager from the System Configuration
- Click the **Install** button
- Select the HuperLab HuperVision DVR Driver Package in the Open file dialog
- Wait for the driver to be uploaded

The driver packages should be listed in the Device Driver Manager.

#### 10.2.1 Device Configuration

In all the HuperVision DVRs:

- Configure the DVR to push events to DVR Event Server: see **Guide of DVR Event Server.pdf** for details.
- Start DVR Event Server application before connecting:  
C:\huperLab\huperVision\bin\DVREventServer.exe
- Edit **SERVER.ini** file to enable the Set operations (otherwise the driver won't be able to send certain commands to the server)

In IPSecurity Center:

- Right click in a folder (e.g. Devices) in the System Configuration: **New → Device On → Server**
- Click **Next** on the introduction
- Select **HuperLab** in the **Device Manufacturer** list
- Select **HuperVision DVR** in the Available Devices list
- Click **Next** to enter the device details: Enter the HuperLab HuperVision DVR hostname or IP address, the port (use 0 to use the default port), and user name and password if integrated security is not being used.
- Click **Next** and **Finish** to add the device.
- Enable the device to bring it online.



## 11 Known Issues and Limitations

- 1) Only one PTZ speed is supported - API limitation
- 2) Presets cannot be stored via the API, only with the Site Server software
- 3) The driver cannot get the actual list of configured Presets on PTZ cameras, so the driver displays the maximum number of 32 Presets. They should be pre-configured on the PTZ camera.
- 4) Playback speeds (Fast Forward/Rewind or Slow Motion) are not supported - API limitation
- 5) Seek algorithm: the first seek attempt will fail if no recordings are found on DVR around the Seek Time, but if there was at least one successful Seek, the results are cached and if a subsequent seek gets no result - cached results from the previous Seeks are used
- 6) User can choose video resolution only in Live Video mode (the drop down menu will not show up in Playback mode)
- 7) DVR Event Server can occasionally report repeated alarms - these are reported by the driver 'as is' without filtering
- 8) The API can only export up to 5 min. of video at once. Video export behaviour is as follows:
  - a) If less than 5 minutes is requested to export – the driver downloads it in a single file
  - b) If the default of 5 minutes is requested to export – the driver will export the footage of 4:59 in a single file
  - c) If more than 5 minutes is requested to export – the driver will automatically export the footage in several files when each file is 4:49 or less.  
**NOTE:** If any of these file chunks fail to download the whole export Task will fail and the files which have been downloaded so far are deleted.  
**NOTE:** if the export Task is Cancelled, all the files which have been downloaded so far are deleted.
- 9) Digital PTZ is not currently implemented as the API ePTZ command only affects the stream on the native Site Server and does not affect the stream displayed on IPSC
- 10) MJPEG video in Web Client will be supported only by DDK 3.2 or later
- 11) MJPEG solution limitation: must supply End Time when requesting the stream, HuperLab claimed: "Regarding "GetRecordVideo", no, there is no way to keep streaming", so the video will eventually stop streaming.
- 12) Cannot get online camera states for analog and 3D cameras - API design limitation: these cameras will always be in Online state after connecting to the DVR.

- 13) Save Snapshot method on camera devices returns an empty string if there is no recording available in the DVR or the driver failed to get a snapshot for some other reason
- 14) DVR can disconnect (Web requests timeouts) after a certain time, reconnect does not work.  
Need to restart Connectio Manager service.  
The reason: HuperVision server does not close the sockets after the driver closes them which leads to TCP socket starvation. The issue has been reported to HuperLab.
- 15) The following event types were admitted by HuperLab as unavailable to receive:  
Face recognition, License Plate event, Flow Counting, People Counting, Storage Failure
- 16) Due to API limitation, only one IP camera can be checked for its online state at a time.  
as a result, when multiple cameras are dropped to Tile Layout at once, they will displayed sequentially, the time delay depends on the camera ping times.
- 17) Due to API limitation (lack of ActiveX supporting video caching), the driver cannot directly seek and pause when Playback video is displayed via Response Plan: it will have to re-load a stream from a new time and pause only once the video is started streaming.  
The **Play Before Pausing** property controls the time the driver needs to wait before pausing the video.