Merit Lilin Ent. Co., Ltd.

HTTP API/SDK Document for IP Camera and DVR

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Chapter 1. INTRODUCTION

Chapter 1-1. Overview

This document, HTTPAPI, specifies the HTTP-based application-programming interface (API) for Merit LILIN IP Fast Dome camera, Merit LILIN Internet Video Server, Merit LILIN Network Camera, and Merit LILIN DVR. Application developers can use this document to develop applications for Merit LILIN's IP products. The HTTP-based camera interface provides the functionalities, for example, to request video images, to control device outputs (PTZ, output relay etc.), and to get and to set IP devices' information.

Chapter 1.1. Firmware versions

The support for this HTTPAPI document is highly dependent on the product release. Please make sure that the functions, you want, are provided by the release of your product.

Chapter 1.2. Product-specific functionality

Some of the functions described in this specification may not be implemented in every IP-based product, and the set of the Common Gateway Interface (CGI) parameters and actual parameter values may differ among different products. At the end of each API function has product information for developers.

Chapter 1.3. Announcement for H.264 AVC Software Decoder

VLC Download site:
please visit http://www.videolan.org/vlc/download-windows.html.
VLC Source Code:
please visit http://www.videolan.org/vlc/download-sources.html.

VLC Plugin is the software for decoding H.264 AVC streaming.

Chapter 1.4. Product Support List

Fast Dome/Mini Fast Dome

IP Fast Dome: JPEG Series

PIH-7000/7600/7625/7622/7635 IP Series, JPEG

IP Fast Dome: H.264 AVC Series

H.264 AVC IP Fast Dome, 22X, 25X, 30X, 35X

PIH-7622/PIH-7635IP
IPS125X, IPS130X, IPS135X
IPS025X, IPS030X, IPS035X

H.264 AVC IP Mini Dome, 03X, 12X

IPS203
IPS212x

LAN Camera

PIH-1000S, PIH-036/038IP, JPEG Series
IP454X, IR, H.264 Series

Video Server

VS-1000S, JPEG Series
PVS-1020, JPEG Series
VS012, H.264 Series

DVR:

PDR-400IP, JPEG

Chapter 2. HOW TO USE THIS MANUAL

This section contains information about general usages of this document.

Chapter 2.1. General notations

Chapter 2.1.1. General abbreviations

CGI : Common Gateway Interface – a standardized way to communicate between a client (e.g., a web browser) and a server (e.g., a web server).

N/A : Not applicable – a feature/parameter/value is not used in a specific task.

Chapter 2.2. Convention of this document

In URL syntax and in descriptions of CGI parameters, text in italic within angle brackets denotes that is to be replaced with either a value or a string. When replacing the text string, the angle brackets shall also be replaced.

Chapter 2.3 HTTP status returned codes

The built-in Web server uses the standard HTTP status codes. The syntax of returned HTTP status is as following format:

HTTP/1.0 <HTTP code> <HTTP text> \r\n

HTTP code and text meanings are described as the followings:

HTTP Code	HTTP Text	Description
200	OK	The request has succeeded.
204	No Content	Server has received the request but there is no information returned, and the client should stay in the same document view. This is mainly to allow inputting scripts without changing the document at the same time.
400	Bad Request	The request had bad syntax or was inherently impossible to be satisfied.
401	Unauthorized	The parameter to this message gives a specification of authorization schemes that are acceptable. The client should retry the request with a suitable Authorization header.
403	Forbidden	The request is for an action that is forbidden.
404	Not Found	The server has not found anything matching the given URL.

Chapter 3. HTTP API

Chapter 3.1. Image and video request URLs

There are two different ways to request images from Merit LILIN's IP Fast Dome, LAN camera, and video server—snapshot (JPEG) and server-push (MJPEG).

Snapshot:

1. Client connects to server.
2. Client sends snapshot image request to server.
3. Server accepts the request with snapshot content type.
4. Server sends one image to client.
5. Client receives one image.
6. Server actively closes the connection.
7. Go back to step 1 if client needs more video.

Server-push:

1. Client connects to server.
2. Client sends server-push image request to server.
3. Server accepts the request with server-push content type.
4. Server sends one image to client with server-push boundary.
5. Client receives one image.
6. If more video is needed, go back to step 4; if no video is needed, continue step 7,

Client actively closes the connection.

Please note there is no need to make request every time for server-push method, because it reduces network traffic and eliminates socket re-creation. It's more efficient.

Chapter 3.1.1. JPEG image (snapshot)

When a jpeg image is requested, the server either returns the specified JPEG image file or an image with an error image (No Video | Not Permission | Not available).

Syntax:

http://< *serverIP* >/images<*camid*><*image size*>

Parameter	Values	Description
<camid>	1~4	It ranges from 1 to 4 of video source(s).
<image size>	"qsif" "sif" "full"	The returned jpeg image size. 176 by 112 in NTSC and 176 by 144 in PAL. 352 by 240 in NTSC and 352 by 288 in PAL. 704 by 480 in NTSC and 704 by 576 in PAL.

Example: Request JPEG image from video input source 1 with sif size.

http://192.168.0.200/images1sif

Return: Requested JPEG image

```
HTTP/1.0 200 OK\r\n
Content-Type: image/jpeg\r\n
[ Content-Length: <image size>\r\n ]
[Authorization: <authorization information>\r\n ]
\r\n
<JPEG image data>\r\n
```

An optional field “Content-Length” header entry specifying the image size in bytes <image size> may also be included if the camera or video server is configured to it. Another optional field “Content-Auth”,” is followed by authorization specific data <authorization information>, e.g., in which encryption method is used.

Example: Requested JPEG image

```
HTTP/1.0 200 OK\r\n
Content-Type: image/jpeg\r\n
Content-Length: 8567\r\n
Authorization: Basic cG14b3JkoJeyNjA4Nzk3\r\n
\r\n
<JPEG image data which start with 0xffd8 and end with 0xffd9>\r\n
```

Device Supported: PIH-7000/7600/7625 IP, VS-1000S, PIH-1000S, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Syntax:

http://< *serverIP* >/snap<*camid*><*image size*>

Parameter	Values	Description
<camid>	1~4	It ranges from 1 to 4 of video source(s).
	QUAD	QUAD returns to quad display.
<image size>	“qsif” “sif” “full”	The returned jpeg image size. 176 by 112 in NTSC and 176 by 144 in PAL. 352 by 240 in NTSC and 352 by 288 in PAL. 704 by 480 in NTSC and 704 by 576 in PAL.

Example: Request JPEG image from video input with sif size.

http://192.168.0.200/snap1sif

Return: Requested JPEG image of camera number 1 in CIF resolution.

HTTP/1.0 200 OK\r\n Content-Type: image/jpeg\r\n [Content-Length: <image size>\r\n] \r\n <JPEG image data>\r\n

Example: Requested JPEG image

HTTP/1.0 200 OK\r\n
Content-Type: image/jpeg\r\n
Content-Length: 8567\r\n
\r\n
<JPEG image data which start with 0xffd8 and end with 0xffd9>\r\n

Device Supported: PDR-400IP, PVS-1020, PIH-036/038IP

Chapter 3.1.2. MJPEG video (server-push)

When an MJPG video is requested, the server either returns continuous flow of jpeg images or an image with an error image (No Video | Not Permission | Not available) returned. The content type is "multipart/x-mixed-replace" and each image ends with a boundary string <boundary>. The returned image and HTTP data are equal to the request for a single JPEG image.

Syntax:

http://<*serverIP*>/getimage?camera=<*camera id*>&fmt=<*image size*>&delay=<*delay*>&id=<*script ID*>

Parameter	Values	Description
<*camera id*>	1,2,3,4	Select video source; omitted default is 1.
<*iamge size*>	"qsif", "sif", "full"	Specify MJPEG image size; omitted default is SIF. 176 by 112 in NTSC and 176 by 144 in PAL. 352 by 240 in NTSC and 352 by 288 in PAL. 704 by 480 in NTSC and 704 by 576 in PAL.
<*delay*>	0~(2^{32}-1)	Specify delay between frames, unit in 10ms, omitted default is 0. It's useful for network bandwidth control.
<*script ID*>	0~9	Specify http action node identification, and omitted default is to send continuous MJPEG images. If there is any matching id in programming script and the script is started, the MJPEG

		stream will pause until http action node triggered. Please refer to “Event Script Programmers Guide” for detail.

Example: Request JPEG image stream from the 2nd camera with sif resolution

http://192.168.0.200/getimage?camera=2&fmt=sif

Return: Requested Multipart JPEG image

HTTP/1.0 200 OK\r\n
Content-Type: multipart/x-mixed-replace;boundary=--<*boundary*>\r\n
\r\n
--<*boundary*>\n
<image>
--<*boundary*>\n
<image>
…
where the <*boundary*> field in Merit LILIN digital device is
<*myboundary*>\n
and the returned <*image*> field is

Content-Type: image/jpeg\n
Content-Length: <*jpeg image size*> Stamp:<YYYYMMDD 00HHmmss TK SSSSSSSS>\n\n
<*jpeg image data*>

where

Stamp: Time stamp, of which format is with “Date”, “Time”, “Tick”, and “Sequence-number”

	Field	Bits	Example
Date:	Year, A.D.	31-16	07d2=2002 AD
	Month (1~12)	15-8	04=Apr
	Day (1~31)	7-0	01=First
Time:	Hour (0~23)	31-16	0011=17 hr
	Minute (0~59)	15-8	36=54 min
	Second (0~59)	7-0	0e=14 sec
Tick:	Ticks(0~99)	7-0	09=90 ms from last sec.
Seq:	Seq (0~2^{32}-1)	31-0	84b=2123 images since server start

Device Supported: PIH-7000/7600/7625 IP Series, VS-1000S, PIH-1000S, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Example: Requested Multipart JPEG image

HTTP/1.0 200 Okay\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: multipart/x-mixed-replace;boundary=--myboundary\r\n\r\n

\n\n-- myboundary\n
Content-Type: image/jpeg\n
Content-Length: 008376 Stamp:07d20717 00111404 22 00000ec6\n\n
<jpeg image data which starts with 0xffd8 and end with 0xffd9>

\n\n-- myboundary\n
Content-Type: image/jpeg\n
Content-Length: 008376 Stamp:07d20717 00111404 22 00000ec6\n\n
<jpeg image data which starts with 0xffd8 and end with 0xffd9>
…

Device Supported: PIH-7000/7600/7625 IP Series, VS-1000S, PIH-1000S

Example: Requested Multipart JPEG image from a PDR-400IP or PIH-038/038

http://192.168.0.200 /getimage?camera=<camera id>&fmt=<image size>

Return: Requested Multipart JPEG image

HTTP/1.0 200 OK\r\n
Content-Type: multipart/x-mixed-replace;boundary=--<*boundary*>\r\n
\r\n
--<*boundary*>\n
<image>
--<*boundary*>\n
<image>
…
where the <*boundary*> field in Merit LILIN digital device is
<*myboundary*>\n
and the returned <*image*> field is

Content-Type: image/jpeg\n
Content-Length: <*jpeg image size*> Stamp:<YYYYMMDD 00HHmmss TK SSSSSSSS>\n\n
<*jpeg image data*>

where

Stamp: Time stamp, of which format is with “Date”, “Time”, “Tick”, and “Sequence-number”

	Field	Bits	Example
Date:	Year, A.D.	31-16	07d2=2002 AD
	Month (1~12)	15-8	04=Apr
	Day (1~31)	7-0	01=First
Time:	Hour (0~23)	31-16	0011=17 hr
	Minute (0~59)	15-8	36=54 min
	Second (0~59)	7-0	0e=14 sec
Tick:	Ticks(0~99)	7-0	09=90 ms from last sec.

Device Supported: PDR-400IP, PIH-036/PIH-038

Chapter 3.1.3. H.264 AVC video over network

Merit LILIN's H.264 AVC (Advanced Video Coding) streaming can be transmitted by HTTP, UDP unicast, and UDP multicast for a network application. Unlike Merit LILIN's Multipart JPEG images, the H.264 AVC streaming also follows MPEG's standards, TS (Transport Stream)/PS (Program Stream) for transmitting video. To test and to verify Merit LILIN's H.264 AVC streaming for software application, please see appendix for detail.

Chapter 3.1.3.1. H.264 AVC video (server-push) over HTTP

When a H.264 AVC video is requested, the server returns either the specified H.264 AVC streaming or an HTTP error message. The content type is "Application/octet-stream" encapsulated within the HTTP protocol.

Syntax:

http://< *serverIP* >/getstream

Example: Request H.264 AVC server-push video over HTTP.

http://192.168.0.200 /getstream

Device Supported: H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.1.3.2. H.264 AVC video over UDP by unicast

The following CGI command establishes a H.264 AVC streaming sent from H.264 IP cameras, video servers, or PTZ to a client device via UDP.

Syntax:

http://<*serverIP*>/connect?method=<connectMethod>

Example: Request H.264 AVC unicast video stream over UDP

http://192.168.0.200 /connect?method=0

Parameter	Values	Description
< *connectMethod* >	0~1	0: UDP unicast / 1: UDP multicast

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: <*content_length*>\r\n

\r\n
UDPDestIP=<destIP>\n
sessionID=<*sessionID*>\n
sessionPort=<*sessionPort*>\n
timeout=<sessionTimeOut>\n

Parameter	Values	Description
<destIP>	**xxx.xxx.xxx.xxx**	IP address of a client receiver
< *sessionID* >	1~7	Unique session ID
< *sessionPort* >	0~65535	Unique session port
< sessionTimeOut >	3600	Second

Device Supported: H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.1.3.2. Keep H.264 AVC video alive for UDP

The following CGI command keeps H.264 AVC video streaming sent to a client device. During live monitoring, the CGI needs to constantly send to H.264 AVC video server that indicates a session. Merit LILIN's H.264 AVC video transmission is time-out to avoid UDP flood, if a sessionTimeOut is due.

Syntax:

http://<*serverIP*>/keepalive?sessionid=<sessionID>

Parameter	Values	Description
< *sessionID* >	1~7	Unique session ID

Device Supported: H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.1.4. Streaming setting

Get or set H.264 AVC video streaming setting.

Syntax:

Parameters:

Parameter	Values	Description
cmd=<string>	get,set	It is necessary to choose what kind of command. 'get'=request the motion detection settings. 'set'=set the motion detection settings.
vbrcbr=<int>	0,1	0=VBR, 1=CBR.
biterate=<int>	56~3072	Biterate setting
gop=<int>	0~2	
outrate=<int>	0~30	Output frame rate

entropy=<int>	0~1	CABLC/CABAC
deinterlace=<int>	0~7	VLC de-interlace setting

Chapter 3.1.5.1 Audio configuration request

Request audio configuration.

Syntax:

http://<*serverIP*>/getaudio

Example #1: Request the audio configuration

http://192.168.0.200/getaudio

Return: Requested audio configurations

```
HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 244\r\n
\r\n
audio_coding_type=0\n
g711_mode=0\n
g711_block_size=1\n
audio_sample_rate=1\n
audio_bit_rate=96000\n
```

Device Supported: H.264 AVC IP Mini Dome, VS012

Chapter 3.1.5.2 H.264 AVC Audio setting

Set H.264 AVC audio setting.

Syntax:

http://<*serverIP*>/setaudio[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
audio_coding_type=<int>	0,1	0=AAC, 1=G.711.
g711_mode=<int>	0,1	0=a-law, 1=u-law
g711_block_size=<int>	0,1	0=160, 1=240
audio_sample_rate=<int>	0~8	0=44.1k, 1=48k, 2=32k, 5=24k, 6=16k, 8=8k
audio_bit_rate=<int>	16000~96000	Bps

Device Supported: H.264 AVC IP Mini Dome, VS012

Chapter 3.1.5.3 Multipart G.711 audio

Syntax:

http://<*serverIP*>/getaudiostream

HTTP/1.0 200 OK\r\n
Content-Type: multipart/x-mixed-replace;boundary=--<*boundary*>\r\n
\r\n
--<*boundary*>\n
<audio>
--<*boundary*>\n
<audio>
…
where the <*boundary*> field in Merit LILIN digital device is
<*myboundary*>\n
and the returned <*audio*> field is

Content-Type: `audio/G726-`32\n //32 is the sample rate
Content-Length: <*audio size*>

Chapter 3.2. Clock adjustment

Adjust or read the server clock.

Chapter 3.2.1. Clock time request

This function requests time from Merit LILIN IP cameras, video servers, or IP PTZ cameras

Syntax:

http://<*serverIP*>/getclock

Return: requested time

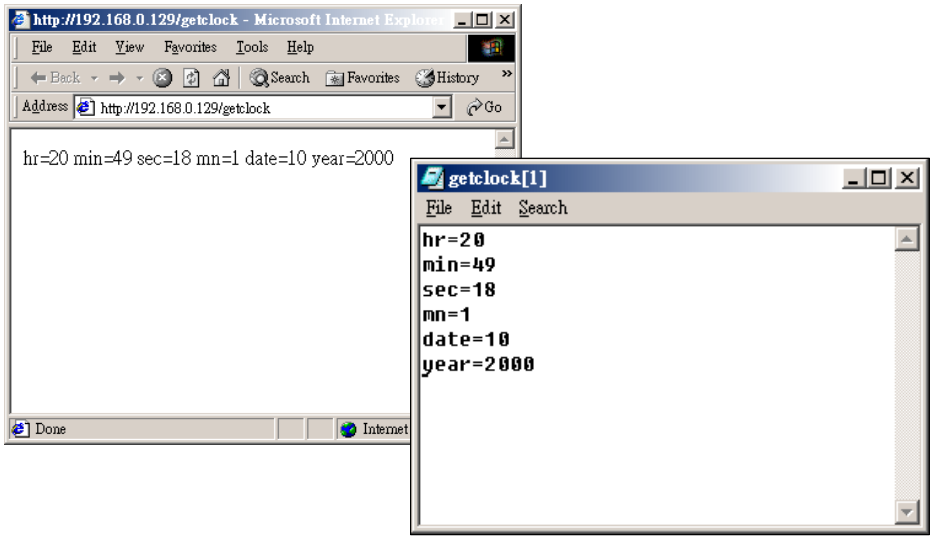
HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: <*content_length*>\r\n
\r\n
hr=<*hour*>\n
min=<*minute*>\n
sec=<*second*>\n
mn=<*month*>\n
date=<*date*>\n
year=<*year*>\n

Example: Request time from the server

http://192.168.0.200/getclock

Return: Requested time from the server

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 42\r\n
\r\n
hr=1\n
min=20\n
sec=38\n
mn=1\n
date=26\n
year=2000\n
You can try the CGI function with the browser.



The source of the HTML page is on the notepad. It's the returned values that you request via the CGI command.

Device Supported: PIH-7000/7600/7625 IP Series, VS-1000S, PDR-400IP, PVS-1020, PIH-036/038IP, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.2.2. Clock time adjust

Syntax:

http://<*serverIP*>
/setclock?Time=<*hour*>:<*minute*>:<*second*>:&Date=<*year*>/<*month*>/<*date*>

Parameter	Values	Description
<*hour*>	1~ 23	Hour

<*min*>	1~59	Minute
<*sec*>	1~59	Second
<*month*>	1~12	Month
<*date*>	1~30	Date
<*year*>	0000~9999	Year

Example: Request time from the server

Device Supported: PIH-7000/7600/7625 IP Series, VS-1000S, PDR-400IP, PVS-1020, PIH-036/038IP, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.2.3. Serial port configuration

Chapter 3.2.3.1. Configuration setup

Set serial port configuration including COM port, baud rate, and data settings.

Syntax:

http://<*serverIP*>/setserial[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
port=<int>	1,2	The COM port is selected with this parameter.
mode=<string>	“RS485” / “RS232”	The serial mode of selected COM port.
usage=<int>	2	Reserved. It must be 2.
baud=<int>	300,600,1200,2400,4800,9600,38400	The baud rate of baud rate.
data=<int>	4~8	Data bits.
parity=<int>	0,1	Set to 1 if Parity check is enabled; otherwise, 0 is disabled..
stop=<int>	1, 2	Stop bits.

Example: Set the COM2 of server.

http://192.168.0.200/setserial?port=2&mode=RS485&usage=2&

baud=9600&data=8&parity=0&stop=1

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, and PIH-1000S

Chapter 3.2.3.2. Configuration query

This feature requests serial port configuration.

Syntax:

http://<*serverIP*>/getserial?port=<*port_id*>

Parameters:

Parameter	Values	Description
< *port_id* >	1,2	COM1 or COM2

Return: Requested serial port configuration

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 124\r\n
\r\n
Port=<*port*>\n
Serial Mode=<*serial mode*>\n
Usage=<*usage*>\n
Baud Rate=<*baud rate*>\n
Data Bits=<*data bits*>\n
Parity=<*parity check*>\n
Stop Bits=<*stop bits*>\n

Example: Request the serial port configuration

http://192.168.0.200/getserial?port=2

Return: Requested serial port configuration

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: <*content_length*>\r\n
\r\n
Port=COM2\n
Serial Mode=RS485\n
Usage=Generic\n
Baud Rate=9600\n
Data Bits=8\n
Parity=None\n
Stop Bits=1\n

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, and PIH-1000S

Chapter 3.3. Serial port transmission

This section describes the serial port data transmission including sending and receiving actions.

Syntax:

http://<*serverIP*>/serial[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
port=<int>	1,2	The COM port is selected with this parameter.
write=<string>	Hex string of ASCII code, e.g. write=414243 as “ABC”	The string going to send through RS232/485 port.
read=<int>	0..128	The string length expected to receive.

Example: Send string “Hello” to com2.

http://192.168.0.200/serial?port=2&write=48656c6c6f

Example: Send string “Hello” and wait for 5 characters from com2.

http://192.168.0.200/serial?port=2&write=48656c6c6f&read=5

Note:

The read function will response as #HexAscII# format, e.g. above example replies #41#42#43#44#45# when receiving “ABCDE” from com2.

The read function expects to receive data within 500ms cycle, if it can not receive specific length of string in this period. An error is responded such as “Error 00000001”.

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.4. Server Device Configuration

Chapter 3.4.1. Server configuration setting

Set server’s configuration.

Syntax:

http://<*serverIP*>/setserver[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
device name=<string>	<characters>	The server name
owner name=<string>	<characters>	The owner name
owner email=<string>	<characters>	The E-mail address of the owner
configuring camera at least once=<int>	0,1	Deprecated
MAC address=<string>	<characters>	The MAC address of the server (read-only)
logoEnable=<int>	0,1	Shows/hides the logo: 0=hide, 1=show.
logo file name=<string>	<characters>	The file name of the logo image
software Version=<string>	<characters>	The firmware version
Revision=<string>	<characters>	Revision date (read-only)
Model=<int>	2, 3	2 PVS1020, 3 PDR-400IP,
Language=<int>	0,1	Select UI language. 0=English, 1=Traditional Chinese.
javamode=<int>	0,1	0=Browsing live video using ActiveX (default). 1=Browsing live video using Java Applet.
framedelay =<int>	0~65535	It's a global frame delay setting. There is also additional option of image to request CGI to achieve individual channel delay control, e.g. http://IP/getimage?camera=1&fmt=sif&framedelay={int}. 0 = No frame delay (default) **Note:** If image request got frame downer email=elay parameter, it would override global setting. Also, if there got frame delay parameter in Event system (HTTP action), it would override image request setting The priority of frame delay is Event>ImageRequest>Global Setting.
DhcpEnable =<int>	0,1	Set the server using DHCP to get dynamic IP Address. 0=Disable, 1=Enable.

Example: Set the server name to webcam1, owner to Merit LILIN, owner E-mail to test@meritlilin.com, enable logo display, set the file name of logo image to abc.gif, and set to use English language.

http://192.168.0.200/setserver?device name=webcam1&owner name=Merit Li-Lin&owner email=service@meritlilin.com&logoEnable=1&logo file name=merit.gif&Language=0

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S

Chapter 3.4.2. Server configuration request

Request server's configuration.

Syntax:

http://<*serverIP*>/server

Example #1: Request the server configuration

http://192.168.0.200/server

Return: Requested server configurations

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 244\r\n
\r\n
device name=webcam1\n
owner name=merit\n
owner email=service@domain.com\n
configuring camera at least once=1\n
MAC address=00-04-29-00-81-e0\n
logoEnable=1\n
logo file name=merit.gif\n
Software Version=1.15\n
Revision=0123.1630\n
Model=0\n
Language=0\n
javamode=0\n
framedelay=0\n
DhcpEnable=0\n

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Example #2:

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 244\r\n
\r\n
device name=webcam1\n
MAC address=00-04-29-00-81-e0\n
logoEnable=1\n
Software Version=1.15\n
Model=0\n
Language=0\n
DhcpEnable=0\n

Parameters:

Parameter	Values	Description

Model	Model=2~25	2: PVS-1020 3: PDR-400IP 4: PIH-036/038IP 5: IPS 0 and 1 Series (H.264) 7: PDR-6040 8: PDR-6080 9: PDR-6160 10: IPS 2 Series (H.264) 11: VS012 (H.264) 13: IPS 3 Series (H.264) 14: MI 0 and 1 Series (H.264) 15: IPR4 Series (H.264) 18: IPD552 EX 23/24/25: DVR004

Device Supported: PDR-400IP, PVS-1020, PIH-036/038IP, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.5. Network configuration

Chapter 3.5.1. Network configuration setting

Syntax:

http://<*serverIP*>/setnetwork[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
save=<int>	0,1	Save the configurations to EEPROM. 0=no, 1=yes.
IP address=<string>	<characters>	IP address of the server.
subnet mask=<string>	<characters>	Subnet mask for the server domain.
web server IP=<string>	<characters>	Deprecated.
web server name=<string>	<characters>	Deprecated.
dns1=<string>	<characters>	The 1st DNS server.
dns2=<string>	<characters>	The 2nd DNS server
dns3=<string>	<characters>	The 3rd DNS server
gateway=<string>	<characters>	The gateway of the domain.
http_port=<int>	1~65535	The Http connection port number.

Example: Set the server IP address to 192.168.0.129, subnet mask to 255.255.255.0, the 1st DNS

server to 192.168.0.1, 2nd DNS server to 0.0.0.0, 3rd DNS server to 0.0.0.0, gateway to 192.168.0.254, and the Http connection port to 3080.

http://192.168.0.200/setnetwork?save=1&IP address=192.168.0.200&subnet mask=255.255.255.0&dns1=192.168.0.1&dns2=0.0.0.0&dns3=0.0.0.0&gateway=192.168.0.254&http_port=3080

Chapter 3.5.2. Network configuration request

Syntax:

http://<*serverIP*>/network

Example #1: request the network configuration

http://192.168.0.200/network

Return: Requested network configurations

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 124\r\n
\r\n
IP address=192.168.0.200\n
subnet mask=255.255.255.0\n
web server IP=236.160.238.0\n
web server name=www.meritlilin.com\n
dns1=192.168.0.1\n
dns2=0.0.0.0\n
dns3=0.0.0.0\n
gateway=192.168.0.254\n
http_port=3080\n

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Example #2:

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 124\r\n
\r\n
IP address=192.168.0.200\n
subnet mask=255.255.255.0\n
dns1=192.168.0.1\n
dns2=0.0.0.0\n

gateway=192.168.0.254\n
http_port=3080\n

Device Supported: PDR-400IP, PVS-1020, PIH-036/038IP, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.6. User configuration

Chapter 3.6.1. User configuration setting

Syntax:

http://<*serverIP*>/setusers[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
tag=<int>	1,2,3,4	Command type: 1=add, 2=modify, 3=delete, 4=who am I.
name=<string>	<characters>	User name
password=<string>	<characters>	Password
priority=<int>	0,..,100	Deprecated
admin checked=<int>	<characters>	Administration permission 0=disable, 1=enable
see image=<int>	0,1	Deprecated
see video=<int>	0,1	Deprecated
change param=<int>	0,1	Permission to change the Image type (Full, SIF, or QSIF) 0=disable, 1=enable
see source1=<int>	0,1	Permission to see video source 1 0=disable, 1=enable
see source2=<int>	0,1	Permission to see Video source 2 0=disable, 1=enable
see source3=<int>	0,1	Permission to see Video source 3 0=disable, 1=enable
see source4=<int>	0,1	Permission to see Video source 4 0=disable, 1=enable
see source_all=<int>	0,1	Permission to see the 4-split Video 0=disable, 1=enable

Example: Add a user with name=admin and password=admin. Set this user with administration permission, change image type permission, see video 1 to 4, and see 4-split video permission.

http://192.168.0.200/setusers?tag=1&name=admin&password=admin&admin checked=1&change param=1&see source1=1&see source2=1&see source3=1&see source4=1&see source_all=1

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, and PIH-1000S

Chapter 3.6.2. User configuration request

Syntax:

http://<*serverIP*>/users

Example: Request the user configuration

http://192.168.0.200/users

Return: Requested user configurations

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 326\r\n
\r\n
amount=2\n
name=admin\n
password=admin\n
priority=0\n
admin checked=1\n
see image=0\n
see video=0\n
change param=1\n
see source1=1\n
see source2=1\n
see source3=1\n
see source4=1\n
see source_all=1\n
name=guest\n
password=guest\n
priority=0\n
admin checked=0\n
see image=0\n
see video=0\n
change param=1\n
see source1=1\n
see source2=1\n
see source3=1\n
see source4=1\n
see source_all=1\n

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.7. Video configuration

Chapter 3.7.1. Video configuration settings

Set video configuration.

Syntax:

http://<*serverIP*>/setvideo[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
save=<int>	0,1	Save the configurations to EEPROM. 0=no, 1=yes
VideoID=<int>	1,..,5	Specify which video channel will be set. 1=video1, 2=video2, 3=video3, 4=video4, 5=all the video channels
JPEG Quality =<int>	1,..,30	Lower value means Higher Quality and smaller size
BitmapEnable=<int>	0,1	Show / hide bitmap display. 0=hide, 1=show
BitmapX=<int>	0,..,703	The X coordinate of the location of bitmap (valid value depends on the image size)
BitmapY=<int>	0,..,479	The Y coordinate of the location of bitmap (valid value depends on the image size)
BitmapTime=<int>	0,1	Show/hide time on bitmap.
BitmapTextEnable=<int>	0,1	Show/hide text on bitmap.
BitmapText=<string>	<characters>	Text to show on the bitmap. If the text = “null”, it will not be shown. <characters>,the characters must in the subset: {{0,..,9},{a,..,z},{A,..,Z}}.
ptz_model=<int>	0,..,5	Specify what kind of ptz camera is connected on the channel. 2=Lilin series

Example: Set the video channel 1 to display time on the bitmap at position (5,5), and the JPEG compression level to 20. The connected camera is Merit LILIN series.

http://192.168.0.200/setvideo?save=1&VideoID=1&BitmapEnable=1&Bitmap Time=1 &BitmapX=0& BitmapY=0&ptz_model=2

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S

Chapter 3.7.2. Video configuration request

Get video configuration.

Syntax:

http://<*serverIP*>/video

Example: Request the user configuration

http://192.168.0.200/video

Return: Requested video configurations

```
HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 326\r\n
\r\n
amount=4\n
JPEG Quality=20\n
BitmapEnable=1\n
BitmapX=5\n
BitmapY=5\n
BitmapTime=1\n
BitmapTextEnable=0\n
BitmapText=null\n
ptz_model=2\n
JPEG Quality=16\n
BitmapEnable=0\n
BitmapX=0\n
BitmapY=0\n
BitmapTime=1\n
BitmapTextEnable=0\n
BitmapText=null\n
ptz_model=0\n
JPEG Quality=16\n
BitmapEnable=0\n
BitmapX=0\n
BitmapY=0\n
BitmapTime=1\n
BitmapTextEnable=0\n
BitmapText=null\n
ptz_model=0\n
JPEG Quality=16\n
BitmapEnable=0\n
BitmapX=0\n
BitmapY=0\n
BitmapTime=1\n
BitmapTextEnable=0\n
BitmapText=null\n
ptz_model=0\n
```

In here, the amount=4 means there are 4 video channels connected on the server. There will be four parts of the video configuration to be continually sent from the server.

Chapter 3.7.2.1. Get video configuration for H264 AVC

Get H.264 AVC video compression configuration.

Syntax:

http://<*serverIP*>/ getstreaming

Example: Request H.264 AVC video comparesion configuration

http://192.168.0.200/getstreaming

Return: Requested video configurations

Chapter 3.7.2.2. Set video configuration setting for H264

Set H.264 AVC video configuration.

Syntax:

http://<*serverIP*>/ setstreaming [?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
vbrcbr =<int>	0/1	Enable CBR mode/Enable VBR mode
bitrate =<int>	(56~1024*3)*0.8	Bit rate of connection.
gop =<int>	0~1	Parameter of successive B frame
Iframeperiod=<int>	5~40	I frame period
outrate =<int>	5~30	Parameter of frame rate.
videoinresolution=<int>	0,2	Video Input Resolution : 0=Full D1,2=CIF
entropy =<int>	0/1	Entropy coding mode: CAVLC/CABAC
deinterlace =<int>	0~6	VLC De-interlace
resolution =<int>	0/1	Client display default resolution:0=Full D1,1=CIF
profile=<int>	0/1	0=Baseline, 1=Main
level=<int>	0~8	0=Level 1, 1=Level 1b, 2=Level 1.1, 3=Level 1.2 4=Level 1.3, 5=Level 2, 6=Level 2.1, 7=Level 2.2, 8=Level 3

Example: Enable CBR mode and 56 Kbps Modem connection.

http://192.168.0.200/setstreaming?vbrcbr=1&bitrate=44

Device Supported: , H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.8. PTZ configuration

Chapter 3.8.1. PTZ commands

Send the PTZ command.

Syntax:

http://<*serverIP*>/control[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
camid=<int>	1~4	Camera channel for pan, tilt, or zoom
panpos=<int>	0~19199	Parameter of pan control to a absolute position
tiltpos=<int>	1120~6560	Parameter of tilt control to a absolute position
zoompos=<int>	25~1197	Parameter of zoom control to a absolute position
rpan=<int>	-7~7	Pan relatively (positive value means pan right)
rtilt=<int>	-7~7	Tilt relatively (positive value means tilt Up)
rzoom=<int>	-7~7	Zoom relatively (positive value means zoom In)
rotate=1	1	Rotate 180
stop	1	Stop relative Pan

Example: Set the camera 1 to pan right with speed 7 without stop.

http://192.168.0.200/control?camid=1&rpan=7

Example: Set the camera 1 to stop.

http://192.168.0.200/control?stop=1

Example: Set the camera 1 to pan right with speed 7 and stop.

http://192.168.0.200/control?camid=1&rpan=7&stop=1

Example: Set the camera 1 to pan to position 33.

http://192.168.0.200/control?camid=1&panpos=1911

Example: Set camera 1 to zoom out relatively.

http://192.168.0.227/control?rzoom=-3

Example: Set camera 1 to zoom out a bit and then stop zooming immediately.

http://192.168.0.227/control?rzoom=3&stop=1

Device Supported: H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, VS012

Chapter 3.8.2. PTZ preset setting

Set the PTZ preset points command.

Syntax:

http://<*serverIP*>/ptzpreset[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
camid=<int>	1~4	Camera number for preset settings
goto_preset=<int>	0,..,19	Goto a preset position according to the preset number.
set_preset=<int>	0,..,19	Assign a preset number to a preset position.
set_presetname=<string>	<characters>	Assign a preset name to a preset position.
rem_preset =<int>	0,..,19	Remove a preset name according the preset number.
autopan	0/1	0: stop auto pan/1: start auto pan

Example: Set camera 1 to go to preset point 3.

http://192.168.0.200/ptzpreset?camid=1&goto_preset=3

Example: Set the name “door” to the preset point 11.

http://192.168.0.200/ptzpreset?camid=1&goto_preset=11

http://192.168.0.200/ptzpreset?camid=1&set_preset=11&set_presetname=door

Example: Remove a preset name according the preset point 5.

http://192.168.0.200/ptzpreset?camid=1&rem_preset=5

Device Supported: H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, VS012

Chapter 3.8.3. PTZ lens setting

Send the PTZ iris/focus command.

Syntax:

http://<*serverIP*>/camera[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
iris=<int>	1,-1	Iris relatively (positive value means Iris large)
autoiris=<int>	1	Set auto iris.
focus=<int>	1,-1	Focus relatively (positive value means Focus far)
autofocus=<int>	1	Set auto focus.

Example: Set camera 1 to iris large

http://192.168.0.200/camera?iris=1

http://192.168.0.200/control?stop=1

Example: Set camera 1 to focus near.

http://192.168.0.200/camera?focus=-1

http://192.168.0.200/control?stop=1

Example: Set camera 1 to auto iris.

http://192.168.0.200/camera?autoiris=1

Chapter 3.8.4. PTZ command set for PIH-7000/7600/7625IP, VS-1000S, and PIH-1000S

Action	Command	Example
Up	v1_TU_01	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_TU_01
Down	v1_TD_01	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_TD_01
Left	v1_PL_01	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_PL_01
Right	v1_PR_01	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_PR_01
Up-Right	v1_TUPR_01	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_TUPR_01
Down-Right	v1_TDPR_01	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_TDPR_01
Up-Left	v1_TUPL_01	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_TUPL_01
Down-Right	v1_TDPL_01	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_TDPL_01
Zoom In	v1_ZI	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_ZI
Zoom Out	v1_ZO	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_ZO
Rotate 180	v1_Flip	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_Flip
Iris (+)	v1_IL	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_IL
Iris (-)	v1_IS	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_IS
Focus(+)	v1_FR	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_FR
Focus(-)	v1_FN	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_FN
Autopan	v1_AUTO_START	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_AUTO_START
AutopanStop	v1_AUTO_STOP	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_AUTO_STOP
Preset1	v1_goPreset_00	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_goPreset_00
Preset2	v1_goPreset_01	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_goPreset_01
Preset3	v1_goPreset_02	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_goPreset_02
Preset4	v1_goPreset_03	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_goPreset_03

Clear Preset	v1_clearAllPre	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_clearAllPre
Set Group 1	v1_setPGroup_1	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_setPGroup_1
Set Group 2	v1_setPGroup_2	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_setPGroup_2
Set Group 3	v1_setPGroup_3	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_setPGroup_3
Set Group 4	v1_setPGroup_4	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_setPGroup_4
SetPreset	Vl_setPreset	http://192.168.0.200/cgi/ptz?camid=1&cmd=v1_setPreset

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S

Chapter 3.8.5. PTZ preset setting request

Request the PTZ preset settings.

Syntax:

http://<*serverIP*>/ptzpreset

Example: Request the PTZ preset settings.

http://192.168.0.200/ptzpreset

Return: Requested PTZ preset settings

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 74\r\n
\r\n
amount=4\n

1=window\n
3=door\n
4=chair\n
8=table\n

Chapter 3.9. System Functions

Chapter 3.9.1. Reboot server

Reboot the server.

Syntax:

http://<*serverIP*>/control?reboot=1

Example: Request the server to reboot.

http://192.168.0.200/reboot

Device Supported: PIH-7000/7600/7625 IP Series, VS-1000S, PIH-1000S, PDR-400IP, PVS-1020, PIH-036/038IP, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, VS012

Chapter 3.9.2. Write configurations permanently

Syntax:

http://<*serverIP*>/eepromsave

Example: Request the server to write configurations to EEPROM.

http://192.168.0.200/eepromsave

Device Supported: PIH-7000/7600/7625 IP Series PVS-1000S, and VS-1000S

Chapter 3.9.3. Factory default

Restore configurations to factory default.

Syntax:

http://<*serverIP*>/factorydefault

Example: Request the server to load factory default.

http://192.168.0.200/factorydefault

Device Supported: PIH-7000/7600/7625 IP Series, VS-1000S, PIH-1000S, PDR-400IP, PVS-1020, PIH-036/038IP, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, VS012

Chapter 3.9.4. Video quality adjustment

Syntax:

http://<*serverIP*>/camctrl[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
cmd=<string>	set,get,camstat	It is necessary to choose what kind of command: 'set'=set the video quality settings. 'get'=get the video quality settings. 'camstat'=return the format of the connected video. (0=No Video, 1=NTSC, 2=SECAM, 3=PAL)

camid=<int>	1~4	Camera source to be adjusted
contrast=<int>	-100~100	Contrast level adjustment which default value is 0
bright=<int>	-100~100	Brightness level adjustment which default value is 0
hue=<int>	-100~100	Hue level adjustment which default value is 0
Saturation=<int>	-100~100	Saturation level adjustment which default value is 0
Sharpness=<int>	0~15	Sharpness level adjustment which default value is 5
framedelay=<int>	0~(2^{32}-1)	Set delay time between frames. The unit is in 10m and the default value is 0.
ptzid=<int>	1~255	Control ID of PTZ device. By default, video-1 will be assigned to ptz-1, video-2 to ptz-2, etc. (not applicable to IP speed dome).

Example: Set the video quality of video channel 1.to default values.

http://192.168.0.200/camctrl?cmd=set&camid=1&contrast=0&bright=0&hue=0&saturation=0

Example: Request the video quality of video channel 1.

http://192.168.0.200/camctrl?cmd=get&camid=1

Return: Requested PTZ preset settings

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 114\r\n
\r\n
contrast=0\n
bright=0\n
hue=0\n
saturation=0\n
sharp=0\n
pan=50\n
tilt=50\n
zoom=50\n
ptzid=1\n

Device Supported: PIH-7000/7600/7625 IP Series, VS-1000S, PIH-1000S, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, VS012

Example: Request the video format.

http://192.168.0.200/camctrl?cmd=camstat

Return: Requested video format

```
HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 68\r\n
\r\n
Cam1=1\n
Cam2=1\n
Cam3=1\n
Cam4=0\n
```

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S

Chapter 3.10. Motion detection configuration

Syntax:

http://<*serverIP*>/motion[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

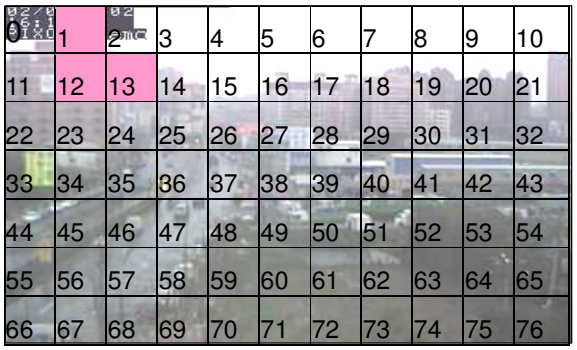
Parameters:

Parameter	Values	Description
cmd=<string>	get,set	It is necessary to choose what kind of command. 'get'=request the motion detection settings. 'set'=set the motion detection settings.
mdEv=<int>	0,1	Motion detection feature enable or disable 0=disable, 1=enable.
mdSen=<int>	1~30	Motion detection sensitivity, larger value means less sensitive. Default value is 5.
mdFreq=<int>	1~100	Polling Frequency in 1/10 second. Default value is 5.
mdX0=<int>	0~10	Left most coordinates of grid number
mdX1=<int>	0~10	Right most coordinates of grid number
mdY0=<int>	0~6	Top coordinates of grid Number
mdY1=<int>	0~6	Bottom coordinates of grid number
MdBlock=<int>[,<int>,..]	0,..,76	Series of blocks for detect motion if using GRID method.

Example: Enable the motion detection function, set the sensitivity to 5, set frequency to 0.5 second for video channel 1, and set the motion detection area to block 1, 12, and 13.

http://192.168.0.200/motion?
cmd=set&camid=1&mdEv=1&mdSen=5&mdFreq=5&mdBlock=1v12v13v

The mdBlock=1v12v13v parameter means the motion detection areas are block 1, block 12, and block 13 as the red areas in the following map.



0	1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43
44	45	46	47	48	49	50	51	52	53	54
55	56	57	58	59	60	61	62	63	64	65
66	67	68	69	70	71	72	73	74	75	76

Parameter	Values	Description
cmd=<string>	get,set	It is necessary to choose what kind of command. 'get'=request the motion detection settings. 'set'=set the motion detection settings.
mdEv=<int>	0,1	Motion detection feature enable or disable 0=disable, 1=enable.
mdSen=<int>	1~30	Motion detection sensitivity, larger value means less sensitive. Default value is 5.
mdFreq=<int>	1~100	Polling Frequency in 1/10 second. Default value is 5.
mdX0=<int>	0~10,(0~14)	Left most coordinates of grid number
mdX1=<int>	0~10,(0~14)	Right most coordinates of grid number
mdY0=<int>	0~6,(0~9)	Top coordinates of grid Number
mdY1=<int>	0~6,(0~9)	Bottom coordinates of grid number
MdBlock=<int>[,<int>,..]	0,..,76,(0,…149)	Series of blocks for detect motion if using GRID method.

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S,

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
75	76	77	78	79	80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
105	106	107	108	109	110	111	112	113	114	115	116	117	118	119
120	121	122	123	124	125	126	127	128	129	130	131	132	133	134
135	136	137	138	139	140	141	142	143	144	145	146	147	148	149

Example: Request the motion detection configuration.

http://192.168.0.200/motion?cmd=get&camid=2

Return: Requested motion detection configuration

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 48\r\n
\r\n
mdEv=1\n
mdSen=5\n
mdFreq=5\n
mdBlock=1:12:13\n

Device Supported: H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.10.1. Motion counter

Syntax:

http://<*serverIP*>/motioncounter[?<*parameter*>=<*value*>

Parameters:

Parameter	Values	Description
cmd=<string>	get,reset	It is necessary to choose what kind of command. 'get'=request the motion detection settings. 'reset'=clear motion counter

Example: Request the motion detection configuration.

http://192.168.0.200/motioncounter?cmd=get

Return: Requested motion counter value

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 48\r\n
\r\n
motion count=0 \n

Device Supported: H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.11. GPIO functions

Firmware version requirement: V0.2.40 or above for H.264 IP camera

Chapter 3.11.1. GPIO input configuration request

Syntax:

http://<*serverIP*>/io?input=check

Example: Request GPIO input configuration.

http://192.168.0.200/io?input=check

Return: Requested motion detection configuration

```
HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 46\r\n
\r\n
Input1=1\n
Input2=1\n
Input3=1\n
Input4=1\n
```

In this example, there are four GPIO inputs on the server. If the GPIO input is low, the GPIO input=1. If the GPIO input is high, the GPIO input=0.

Device Supported: H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.11.2. GPIO relay configuration request

Request GPIO relay configuration.

Syntax:

http://<*serverIP*>/io?relay=check

Example: Request GPIO relay configuration.

http://192.168.0.200/io?relay=check

Return: Requested the GPIO relay configuration

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 32\r\n
\r\n
Relay=0\n

If Relay=0, the GPIO relay is high. Else if the Relay=1, the GPIO relay is low.

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, and PIH-1000S, VS012

Chapter 3.11.3. GPIO relay setting

Set GPIO relay configuration.

Syntax:

http://<*serverIP*>/ setio[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
relay1 =<int>	0/1	0=high, 1=low
relay2 =<int>	0/1	0=high, 1=low
Input=<int>	0/1	0=normal close, 1=normal open

Example: Set GPIO relay configuration.

http://192.168.0.200/setio?relay1=1&relay2=1

Device Supported: VS012

Chapter 3.12. CCD module configuration

Chapter 3.12.1. CCD module setting

Syntax:

http://<*serverIP*>/io[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
aes=<int>	0,1	Activate auto electronic shutter or not. 0=disable, 1=enable.

Blc=<int>	0,1	Activate back light compensation or not. 0=disable, 1=enable.
day=<int>	0,1	Activate day night control or not. 0=disable, 1=enable.

Chapter 3.12.2. CCD module get

Request CCD module configuration.

Syntax:

http://<*serverIP*>/io?ccd=check

Example: Request the CCD module configuration.

http://192.168.0.200/io?ccd=check

Return: Requested CCD module configuration

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 32\r\n
\r\n
ms=0\n
aes=1\n
blc=0\n
day=0\n
DIP Activate, Internal CCD\n

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, and PIH-1000S

Chapter 3.12.3. Set the CCD module

Set the CCD module setting.

Syntax:

http://<*serverIP*>/io?ccdcmd=setbyte&<*parameter*>=<*value*>

Parameters:

Parameter	Values	Description
Ccdval=<int>	0~255	The CCD settings in byte value.

Example: set the CCD module to push mode, no AGC, AE 1/250, and internal video.

http://192.168.0.200/io?ccdcmd=setbyte&ccdval=41

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, and PIH-1000S

Chapter 3.12.4. Get the CCD module status

Get CCD module setting.

Syntax:

http://<*serverIP*>/io?ccdcmd=getbyte

Return: Requested CCD module configuration

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 32\r\n
\r\n
ccdret=41

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, and PIH-1000S

Chapter 3.13. Alarm or motion notification via email or FTP

Chapter 3.13-1. Email notification

Get email notification configuration.

Syntax:

http://<*serverIP*>/setnotification?email=stevehu@yahoo.com

Example

http://192.168.0.200/getification

Parameters:

Parameter	Values	Description
email=<string>	get,set	Get/set
rcvaddress=<string>	characters	Email recipient
sndaddress=<string>	characters	Sender email address
smtpserver=<string>	characters	SMTP server
Authentication=<int>	0/1	0: disable 1: enable
authaccount=<string>	characters	SMTP server's account name

authpassword=<string>	characters	SMTP server's password

Chapter 3.13-2. FTP notification

Get or set FTP notification configuration.

http://<*serverIP*>/setnotification[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Example

http://192.168.0.200/getification

Parameters:

Parameter	Values	Description
FTP	get,set	Get/set
ftpaddress	string	FTP address
ftpaccount	string	FTP account
ftppass	string	FTP password
ftppath	string	FTP path

Chapter 3.13-3. Alarm and Motion status

Get alarm and motion status

http://<serverIP>/getalarmmotion

Example

http://192.168.0.200/getalarmmotion

Return: alarm and motion detect status

HTTP/1.1 200 OK\r\n
Content-Type: multipart/x-mixed-replace;boundary=--myboundary\r\n
\r\n
--myboundary\r\n
Content-Type: text/plain\r\n
CamTime:2009-12-01 19:43:38\r\n
MotionDetect=0\r\n
AlarmInputDetect=0\r\n
\r\n

Device Supported: H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.14. Event script

Event script provides a flexible way for administrator to configure Merit LILIN video server, IP camera, and LAN camera as automatic intelligent devices in applications. A comprehensive set of “trigger conditions” and “action commands” allowed fitting in various applications. Information about the event script, please see the Event Script Programmer’s Guide.

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, and PIH-1000S

Chapter 3.14.1. Get the event script code (text)

Get the event script from Merit LILIN digital device.

Syntax:

http://<*serverIP*>/evscript?getscript

Return: Requested event script

```
HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 440\r\n
\r\n
# Mail Camera    image
# to jameslee@domain.com
# with    size, when
# Motion Detect on channel 1
* * * * * RUN:
motion_init
  -cam 1
  -sensitivity 5;
motion_start
  -cam 1
  -interval 50
  -holdtime 50;
%
* * * * * M1:
relay -toggle;
mail -host 192.168.0.5
  -recipient jameslee@domain.com
  -filename james$h$m$s.jpg
  -msgbody "test"
  -returnaddr jameslee@domain.com
  -subject "test"
  -cam 1
  -fmt sif
  -imagenum 1;
%
```

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, and PIH-1000S

Chapter 3.14.2. Set event script status

Syntax:

http://<*serverIP*>/evscript?<*parameter*>=<*value*>

Parameters:

Parameter	Values	Description
setscript =<string>	<characters>	Send the script text to the server.
runcmd=<string>	“start”, “stop”	Set and get the event script startup type. “start”=start to run the event script. “stop”=stop running the event script.
setboot=<int>	0,1	Set the event script to start up when the system is start-up.

Example: Send the script text to the server with encoded.

http://192.168.0.200/evscript?setscript=%23%20%4d%61%69%6c%20%43%61%6d%65%72%61%20%20%69%6d%61%67%65%0d%0a%23%20%74%6f%20%6a%61%6d%65%73%6c%65%65%0d%0a%20%2d%66%6d%74%20%73%69%66%0d%0a%20%2d%69%6d%61%67%65%6e%75%6d%20%31%3b%0d%0a%25%0d%0a

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, and PIH-1000S

Chapter 3.14.3. Check the event script status

Get the status if the event script is running or not.

Syntax:

http://<*serverIP*>/evscript?runcmd=check

Return: Requested event script

HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 33\r\n
\r\n
Parsing=0
RunStatus=0

BootFlag=0

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S

Chapter 3.15. DDNS CGI

Dynamic Domain Name Service (DDNS) is used when users want to access Merit LILIN IP camera, video server, and LAN camera using domain name instead of IP address. This service could be useful when device is located behind dial-up ADSL or IP sharing devices, which does not have fix IP address. It is impossible to reach Merit LILIN digital device from Internet. The mechanism of Merit LILIN DDNS service is described as below:

When Merit LILIN digital device enables the DDNS service, it "registers" to Merit LILIN DDNS server with its information, such as server name to access, router virtual port number, and updated frequency, etc.
Merit LILIN digital device automatically "updates" to DDNS server by a fix frequency, so even IP of the digital device is changed by ISP, the DDNS server could still get and update internal database.

For PDR-400IP, DDNS server gets updated if IP address is changed or at reboot time.

Chapter 3.15.1. Get DDNS configurations

Get DDNS configuration from digital device.

Syntax:

http://<*serverIP*>/ddns?cmd=get

Example #1: Query DDNS configurations.

http://192.168.0.200/ddns?cmd=get

DDNS Configuration:
enable=0
ddnsaddr=ddns.meritlilin.com
ddnsport=80
routerinport=8000
updatetime=10

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Example #2:

DDNS Configuration:

ddnsaddr=domain.dyndns.org

Device Supported: PDR-400IP, PVS-1020, PIH-036/038IP, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.15.2. Set DDNS configurations

Set DDNS configurations.

Syntax:

http://<*serverIP*>/ddns?cmd=set&<*parameter*>=<*value*>

Parameters:

Parameter	Values	Description
enable=<int>	0,1	0: Disable, 1: Enable DDNS service
Ddnsaddr=<string>	Omit default: "ddns.meritlilin.com"	Specify the DDNS server IP address. You may use domain name.
Ddnsport=<int>	0..65535, Omit default: 80	Specify the DDNS server listen port.
routerinport=<int>	0..65535, Omit default: Same as HTTP port of Merit LILIN's digital device	Specify the IP sharing device's virtual server listen port. For example, the IP sharing device may listen to port 8000 and redirect to Merit LILIN's digital device, then it should set this parameter to 8000.
updatetime=<int>	Unit: second Omit default: 600 seconds (10 minutes)	Specify the automatic update frequency once start the DDNS service.

Example #1:

http://192.168.0.200/ddns?cmd=set&enable=1&ddnsaddr=ddns.meritlilin.com&ddnsport=80&routerinport=8000&updatetime=600

Return: Set the DDNS configurations.

Device Supported: PIH-7000/7600/7625 IP Series VS-1000S, PIH-1000S

Example #2:

http://192.168.0.200/ddns?cmd=set&ddnsaddr=ddns.dyndns.org

Device Supported: PDR-400IP, PVS-1020, PIH-036/038IP, H.264 AVC IP Fast Dome, H.264 AVC IP Mini Dome, IP454X, VS012

If CGI command fails, the following hints may help you to diagnostic:
Confirm your network setting is correct including "Gateway IP" reaching Internet. "DNS1 IP" address should be public and reachable, and "HTTP port" should be configured the same with your IP sharing redirection port. Try to ping above IP address if reachable. The "routerinport" should be the same as the router's (IP Sharing) listen port.

Chapter 3.16. PPPoE CGI

Set PPPoE configurations.

Syntax:

http://<*serverIP*>/pppoe[?<*parameter*>=<*value*>[&<*parameter*>=<*value*>…]]

Parameters:

Parameter	Values	Description
cmd=<string>	Get/set	0: Disable, 1: Enable DDNS service
pppoeaccount=<string>		Specify the PPPoE account string
Pppoepassword=<string>		Specify the PPPoE acount password

Device Supported: H.264 AVC IP Mini Dome, IP454X, VS012

Chapter 3.17. Merit LiLin DVR CGI

Chapter 3.17.1. Call camera

Call DVR's particular camera in full screen.

Syntax:

http://<*serverIP*>/dvr?cmd=<*parameter*>

Example: Call camera number 1.

http://192.168.0.200/ dvr?cmd=call_camera_1

Parameters:

Parameter	Values	Description
call_camera_<n>	1 to 16	Camera number

Device Supported: PDR-400IP

Chapter 3.17.2. DVR playback operations

Invoke DVR operations such as play, FF, FR, pause, and stop

Syntax:

Example: Fast forward playback video.

http://192.168.0.200/dvr?cmd=dvr_ff

Parameters:

Parameter	Description
dvr_ff	Video fast forward
dvr_fr	Video fast reverse
dvr_pause	Video pause
dvr_play	Replay after pause
dvr_stop	Stop playing and return to live

Device Supported: PDR-400IP

Chapter 3.17.3. DVR time search operation

Perform time search operation for DVR.

Syntax:

http://<*serverIP*>/playback?Time=<*parameter*>&Date=<parameter>

Example: Search video by a given time.

http://192.168.0.200/playback?Time=13:31:30&Date=2000/1/26

Parameter	Value	Description
Time=<Value>		HH:MM:SS
HH	1 to 24	Hour
MM	1 to 59	Minute
SS	0 to 59	Second
Date=<Value>		YYYY/MM/DD
YYYY	2000 to present	Year
MM	1 to 12	Month
DD	1 to 31	Day

Return #1: Status of recorded video searching and playback of a given time.

Successful:

HTTP/1.0 200 OK\r\n

Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 32\r\n
\r\n
Play OK\n

Fail:
HTTP/1.0 200 OK\r\n
Date: Thu, 01 Jan 1970 00:00:00 GMT\r\n
Connection: close\r\n
Content-Type: text/html\r\n
Content-Length: 32\r\n
\r\n
Play fail\n

Device Supported: PDR-400IP

Chapter 3.17.4. DVR window division operation

Perform DVR's window division operation

Syntax:

http://<*serverIP*>/ dvr?cmd=window_div_<value>

Example: Calling windows division #1 of the DVR.

http://192.168.0.200/dvr?cmd=window_div_1

Value	Description
Window_div_1	Quad: 1 to 4
Window_div_2	Quad: 5 to 8
Window_div_3	Quad: 9 to 12
Window_div_4	Quad: 13 to 16

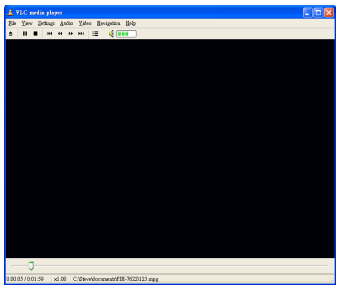
Device Supported: PDR-400IP

Chapter 4. H.264 Streaming

Chapter 4.1-1. Testing and verifying H.264 AVC video for your application

VideoLAN media player, (VLC media player) can be used for testing and verifying Merit LILIN's H.264 AVC IP cameras, video servers, or IP PTZ cameras before integrating Merit LILIN's H.264 AVC video streaming into your product.

Merit LILIN's H.264 AVC streaming technologies supported by VLC Media Player include UDP unicast (UDP/RTP), UDP multicast (UDP/RTP Multicast), and HTTP (HTTP/HTTPS/FTP/MMS). VLC Media Player, version 0.8.61i or above, including VLC ActiveX Plug-in can be found at http://www.meritlilin.com/eng/support02.php. VLC Media Player can be used for playing Merit LILIN's H.264 AVC products. To download VLC Media Player source code, please visit http://www.videolan.org/vlc/.



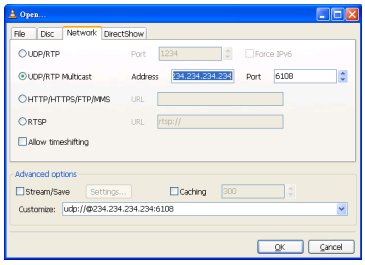
To test and to verified Merit LILIN's H.264 AVC, please click on File->Open Network Stream. Follows the steps below to test the streaming:

- UDP/RTP (unicast)

  VLC: specify port number of the H.264 AVC device sending to.
- UDP/RTP Multicast

  VLC: type IP address (class D) and port number of the H.264 AVC device sending to.
- HTTP (TCP)

  VLC: type a URL address of the H.264 AVC sending to by default is http://xxx.xxx.xxx/getstream.
- Set Caching option to 100ms.



Chapter 4.1-2. Audio packet within H.264 AVC video

Merit LILIN's H.264 AVC IP Cameras incorporate AAC for audio streaming. AAC audio is encapsulated within Program Stream. Audio packages can also be tested and verified by VLC player.

```
0x00000000    Program Pack { SCR =  0:  0:  0: 000 (10), MuxRate = 10 (10) }
0x0000000E    System Header
0x0000003A    PES Packet { stream_id = 0xE0  (video stream)}
0x0000004D    H264 Sequence Parameter Set
0x00000069    H264 Picture Parameter Set
0x00000071    H264 I slice #0
0x0000204D    PES Packet { stream_id = 0xE0  (video stream)}
0x00002C52    PES Packet { stream_id = 0xC0  (audio stream)}
0x00002C60    AAC Frame
0x00002D5A    AAC Frame
0x00002E7B    AAC Frame
0x00002F7B    AAC Frame
0x00003087    Program Pack { SCR =  0:  0:  0: 033 ( 3 013), MuxRate =  3 013 ( 3 013) }
0x00003095    PES Packet { stream_id = 0xE0  (video stream)}
0x000030A8    H264 B slice #1
0x00004430    PES Packet { stream_id = 0xC0  (audio stream)}
0x0000443E    AAC Frame
0x00004551    AAC Frame
0x00004654    AAC Frame
0x00004747    AAC Frame
0x00004849    Program Pack { SCR =  0:  0:  0: 066 ( 6 015), MuxRate =  6 015 ( 6 015) }
0x00004857    PES Packet { stream_id = 0xE0  (video stream)}
0x0000486A    H264 P slice #2
0x00006272    PES Packet { stream_id = 0xC0  (audio stream)}
0x00006280    AAC Frame
0x0000637D    AAC Frame
0x0000647F    AAC Frame
0x00006585    AAC Frame
0x00006698    Program Pack { SCR =  0:  0:  0: 100 ( 9 019), MuxRate =  9 019 ( 9 019) }
0x000066A6    PES Packet { stream_id = 0xE0  (video stream)}
0x000066B9    H264 B slice #3
0x00007B61    Program Pack { SCR =  0:  0:  0: 133 (12 021), MuxRate = 12 021 (12 021) }
0x00007B6F    PES Packet { stream_id = 0xE0  (video stream)}
0x00007B82    H264 P slice #4
```

Chapter 4.1-3. H.264 HTTP Streaming Format

Merit LILIN's IP Camera HTTP streaming server is based on sending H.264 streaming over RTP over HTTP. Communication between Merit LILIN's IP Camera and a client application is as follows:

Step 1: A Client application such as VLC issues http://192.168.0.200/getstream.

Step 2: Merit LILIN's IP Camera receives the client's request and sends HTTP 200 response to the client application.

Step 3: Merit LILIN's IP Camera sends H.264 Network Abstract Layer (NAL) and H.264 Program Stream (PES) to the client application.

Client Application->IP Camera

GET /getstream HTTP/1.1

Host: 59.124.49.45

User-Agent: VLC media player - version 0.9.62 Grishenko - (c) 1996-2008 the VideoLAN team

Range: bytes=0-

Icy-MetaData: 1

IP Camera->Client Application

HTTP/1.0 200 OK

Content-type: application/octet-stream

Cache-Control: no-cache

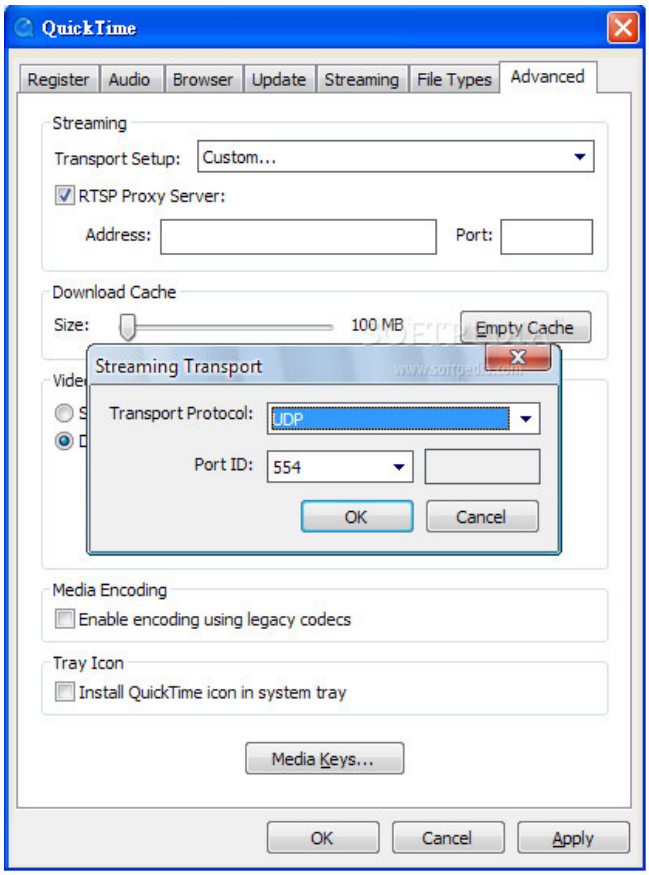
Client Application->IP Camera

H.264 NAL + H.264 PES

Chapter 4.2. H.264 RTSP

To test streamings of H.264 and JPEG of NVT media stramings via RTP/RTSP/HTTP, you can verify the streamings by using QuickTime.

To test RTP/RTSP/HTTP, please click on QuickTime->Edit->Preference. Click on Transport Setup->Custom. Change the protocol to HTTP and make sure port ID is 554.



After setting up above, please click on File->Open URL. Please type the following URLs:

Transport Protocol: HTTP

rtsp://192.168.0.200:554/rtsph264
rtsp://192.168.0.200:554/rtspjpeg

Transport Protocol: UDP

rtsp://192.168.0.200/rtsph264
rtsp://192.168.0.200/rtspjpeg

Click on OK button to connect Merit LILIN's IP camera.

Note: Firmware version 0.3.13d and later can support QuickTime viewing.