IP Device

SDK - HTTP API

Document category: product SDK document

Document #:

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History

Release	Date	Author	Description
1.0.1	06, April, 2011	Frank.lin/Feilong Su	• Defined 1.0 CGI SPEC
1.0.2	21, Nov, 2011	Frank.lin	• Modify/Add CGI SPEC for audio, group & PTZ
1.0.3	24, Nov, 2011	Frank.lin	• Add Zoom, Focus for SpeedDome, Preset for PT Camera
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1.0.8	01.Jan,2014	Mike Chang/Kenny Chiu	• Add Focus & Zoom function for Motor Lens ●Change TimeZone valid value from 0-62 to 0-56
1.0.9	15,Jan,2014	Kenny Chiu	● Modify factorydefault.cgi ● Add SD Card Management

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Part 1: Introduction

Part 1 introduces the scope of the SDK document, the integration level and the structure of the whole document. A brief introduction on IP camera is given as well.

1. Scope of the Document

This document basically covers the IP device protocol in format of CGI XML commands for external HTTP-based application programming interface. The HTTP-based video interface provides the operation on the IP devices, including streaming, configuration, live event update and so on. The CGI-requests are handled by the built-in Web server in IP device.

Part 1 gives the brief introduction of the integration level. The basic method to use the CGI XML commands is introduced in part 1. Part 1 also explains the steps to start streaming, the mass configuration, and the stream format.

Part 2 addresses the XML commands in details. Sample commands and response are given as well.

OCX interface introduction is not a part of this document.

2. Level of Integration

Two levels of integration are available:
The direct usage of IP protocol can be considered as a low level integration, because the developers have to write their own receive/display engine to parse the stream and show it. Also provides an OCX for IP cameras/modules/encoders for developers to have a quick implementation. The OCX component can parse the stream from IP devices and play the received audio/video data.

3. Style Convention

In URL syntax and in descriptions of CGI parameters, text in italics within angle brackets denotes content that should be replaced with either a value or a string. When replacing the text string, the angle brackets must also be replaced. URL syntax is written with the word "Syntax:" shown in bold face, followed by a box with the referred syntax, as shown below.

General CGI URL syntax and parameters

CGI URLs are written in lower-case. CGI parameters are written in lower-case and as one word. When the CGI request includes internal camera or video server parameters, the internal parameters must be written exactly as named in the camera or video server. For the POST method, the parameters must be included in the body of the HTTP request.

4. HTTP status Codes

The built-in Web server uses the standard HTTP status codes.

Return:

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

HTTP Code	HTTP text	Description
200	OK	The request has succeeded, but an application error can still occur, which will be returned as an application error code.
204	No Content	The server has fulfilled the request, but there is no new information to send back.
302	Moved Temporarily	The server redirects the request to the URI given in the Location header.
400	Bad Request	The request had bad syntax or was impossible to fulfill.
401	Unauthorized	The request requires user authentication or the authorization has been refused.
404	Not Found	The server has not found anything matching the request.
409	Conflict	The request could not be completed due to a conflict with the current state of the resource.
500	Internal Error	The server encountered an unexpected condition that prevented it from fulfilling the request.
503	Internal Error	The server is unable to handle the request due to temporary overload.

Example: Request includes invalid file names. The return message will be:

```
HTTP/1.0 404 Not Found\r\n
```

Part 2: CGI XML Commands

1. System

1.1 Get Device information

Syntax:

http://camera_ip:port/cgi/admin/serverreport.cgi

Example:

http://192.168.1.99/cgi/admin/serverreport.cgi

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\ns Server Name:XXXXX IP Address:XXXXXX MAC Address: XXXXXX Model Number:XXXXXX Product Number:XXXXX H/W Version:XXXXXX F/W Version:XXXXXX PT Support:Yes IO Trigger Support:Yes .....\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

1.2 Add, modify and delete users

Syntax:

http:// camera_ip:port /cgi/admin/pwdgrp.cgi?<parameter>=<value>[&<parameter>=<value>...]

with the following parameters and values for reference:

<parameter>=<value>	**Value**	**Description**
action=<string>	add, update, remove , get	**add** = create a new user account. **update** = change the information of specified parameters if the account exists. **remove** = remove an existing account if it exists. **get** = get a list of the users which belong to the specified group.
user=<string>	<string>	The user account name.
pwd=<string>	<string>	The unencrypted password of the account.
grp=<string>	admin, users, guest	An existing primary group name of the account.
<parameter name>=<string>	<string>	An existing primary group name of the account.

Example:

(1) Create a new administrator account.

http:// camera_ip:port /cgi/admin/pwdgrp.cgi?action=add&user=paul&pwd=foo&grp=admin

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n OK\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

(2) **List groups and users**

List the user information.

http:// camera_ip:port /cgi/admin/pwdgrp.cgi?action=get

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n admin=”root,stanley,…”\r\n users=”jack,brian,…”\r\n guest=”angus,becky,…”\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

1.3 System date and time

Get or set the system date and time

Syntax:

http:// camera_ip:port /cgi/admin/date.cgi?action=<value>[&<parameter>=<value>...]

with the following parameters and values for reference:

<parameter>=<value>	**Value**	**Description**
action=<string>	get, set	**get =** get the current date and time. **set =** set the current date and time.
year=<string>	<string>	Current year.
month=<string>	<string>	Current month.
day=<string>	<string>	Current day.
hour=<string>	<string>	Current hour
minute=<string>	<string>	Current minute
second=<string>	<string>	Current second
timezone=<string>	0-56	Specify the time zone for the new date and/or time. The device will translate the time into local time using whichever the time zone has been specified through the web configuration. If omitted the new date and/or time is assumed to be for local time. **Note:** The daylight saving time (DST) must be turned off, In this edition, the time mode doest not support to synchronize with an NTP server and with the computer time. Currently only GMT is considered valid input. The rest of the time zones are subject to future edition.

Examples:

1) Get system date and time

Syntax:

http:// camera_ip:port r/cgi/admin/date.cgi?action=get

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n 2007/1/20 15:20:25\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

2) Set system date and time

Syntax:

http:// camera_ip:port /cgi/admin/date.cgi?action=set&year=2005&month=4&day=3

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n ok\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

2. Maintenance

This section describes system maintenance function such as how to restore the device settings to factory default, upgrade firmware version, and restart the system.

2.1 Factory Default

To restore all the setting to factory default.

Syntax:

http:// camera_ip:port /cgi/admin/factorydefault.cgi?mode=value

Example:

http:// camera_ip:port /cgi/admin/factorydefault.cgi?mode=1

with the following parameter and value for reference

parameter=value	**Value**	**Description**
mode=<string>	1, 2	1 : Reset all parameters to the original factory settings. 2 : Reset all parameters except the IP, time zone and daylight saving to the original factory settings.

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n OK\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

2.2 Firmware upgrade

It allows users to upgrade the firmware of device. It will take a few minutes to complete the process.

Method: POST

Syntax:

http:// camera_ip:port /cgi/admin/firmwareupgrade.cgi

Example:

POST /cgi/admin/firmwareupgrade.cgi HTTP/1.1\r\n Content-Type: multipart/form-data; boundary=AsCg5y\r\n Content-Length: <content length>\r\n \r\n --AsCg5y\r\n Content-Disposition: form-data; name="firmware.bin"; filename="firmware.bin"\r\n Content-Type: application/octet-stream\r\n \r\n <firmware file content> --AsCg5y\r\n

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n OK\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

2.3 Restart the system

Allow users to reboot the system, which takes about one minute to complete. When it is completed, the home page with live video stream will be displayed in the browser again.

Syntax:

http:// camera_ip:port /cgi/admin/restart.cgi

Example:

http:// camera_ip:port /cgi/admin/restart.cgi

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n OK\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

3. Video

3.1 MJPEG

Syntax:

http:// camera_ip:port /cgi/mjpg/mjpeg.cgi

Example:

http:// camera_ip:port /cgi/mjpg/mjpeg.cgi

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: multipart/ mixed;boundary=myboundary\r\n \r\n --myboundary\r\n Content-Length: <content length>\r\n \r\n <Payload Header> <Payload Data> --myboundary\r\n Content-Length: <content length>\r\n \r\n <Payload Header> <Payload Data> ….
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

Payload Header Format:

Offset	Parameter	Size(Byte)	Description
0x00	Counter	4	payload counter.
0x04	Size	4	payload size.
0x08	Type	4	'J' for JPG, 'A' for audio, 0 for I frame, 1-30 for P frame.
0x0c	Second	4	Time stamp
0x10	Microsecond	4	Time stamp
0x14	Format	4	for audio Bit0-3 type 2: PCM 3: uLaw 4: AMR Bit4-5 sample size 0: 8bits 1: 16bits Bit6-8 sample rate 0: 8K 1: 11K 2: 24K 3: 44K 4: 48K Bit9-10 channel 1: 1 channel 2: 2 channels Bit11-31 packet length in minisecs. For Video: Bit0-3 type 0:JPEG 1:MPEG4 5:H.264 Bit4-7 scale 0: VGA 1: QVGA 2: QQVGA 3: Full D1 (NTSC) 4: Full D1 (PAL)

			5: 720P 7: SXGA 8: 4CIF (NTSC) 9: CIF (NTSC) 10: QCIF (NTSC) 11: 4CIF (PAL) 12: CIF (PAL) 13: QCIF (PAL) 15: (reference to Bit26-29) Bit8-13 frame rate (1-30) Bit14-21 IP ratio (1-30) Bit22-25 quality level (0 - 4) Bit26-29 scale (used while Bit4-7 is 15) 0: 960P 1: 1080P 2: UXGA 3: QXGA Bit30-31 reserved
0x18	Status	4	Bits 0 – 7: window1 motion level (0 – 255) Bits 8 – 15: window2 motion level (0 – 255) Bits 16 – 23: window3 motion level (0 – 255) Bit 24: trigger input 1 status (1:high/0:low) Bit 25: trigger input 2 status (1:high/0:low) Bit 26: trigger output 1 status (1:high/0:low) Bits 27 – 31: reserved

3.2 MPEG4/H.264

Syntax:

http:// camera_ip:port /cgi/mpeg/stream1.cgi

Example:

http:// camera_ip:port /cgi/ mpeg/stream1.cgi

Return:

The same as MJPEG except payload data is MPEG4/H264.

OK	HTTP/1.1 200 OK\r\n Content-Type: multipart/ mixed;boundary=myboundary\r\n \r\n --myboundary\r\n Content-Length: <content length>\r\n \r\n <Payload Header> <Payload Data> --myboundary\r\n Content-Length: <content length>\r\n \r\n <Payload Header> <Payload Data> ….
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

4. Motion Detection

Allow users to configure the motion detection. The motion detection feature is used to generate an alarm whenever movement occurs in the defined motion detection area. There are three motion detection windows can be configured.

Syntax:

http:// camera_ip:port /setup.cgi? <parameter>=<value>?<parameter>=<value>[&<parameter>=<value>…]

with the following parameters and values for reference:

parameter	Value	Description
mdname		The ID of motion detect window. [Id1|Id2|Id3]
mdpercent		The ID of motion percentage window. [mdpercent1|mdpercent2|mdpercent3]
motionenable	0, 1	Whether to enable(1)/disable(0) this motion detect window
mddata		enable, top, left, bottom, right, sensitivity [1,0,0,640,480] Full screen is 640x480.
mddatanormailze	fffffffff0	Full screen is divided into 4x3. 3 Bytes(12 digits) explain full Area in one window . fff(Window1)fff(Window2)fff(Window3)0(Reserved)

Example:

1) Add a new Motion Detection window:

Syntax:

http://
camera_ip:port/setup.cgi?mddata=1,0,0,640,480,10|1,0,0,0,0,20|1,0,0,0,0,30&mdpercent=10|50|50&mddatanormailze =fff0000000&motionenable=1

2) Remove a Motion Detection window:

Syntax:

http://
camera_ip:port/setup.cgi?mddata=0,0,0,640,480,10|0,0,0,0,0,20|0,0,0,0,0,30&mdpercent=10|50|50& mddatanormailze =fff0000000&motionenable=0

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n OK mddata OK motionenable OK mdpercent OK mddatanormailze

5. Audio

5.1 Audio query

Query if the audio is available

Syntax:

http://<servername>/cgi/query/query.cgi?<parameter>

parameter	Value	Description
listen	0-2	Query the listening status (Server to PC) 0: free to connect 1: microphone not available 2: device is disable

5.2 Audio (Camera to PC)

Syntax:

http://<servername>/cgi/audio/audio.cgi? **type=uLaw**

Return:

succeed	HTTP/1.1 200 OK\r\n Content-Type: multipart/ mixed;boundary=myboundary\r\n \r\n --myboundary\r\n Content-Length: <content length>\r\n \r\n <Payload Header> <Payload Data> --myboundary\r\n Content-Length: <content length>\r\n \r\n <Payload Header>

	<Payload Data> ….
failed	HTTP/1.1 503 Service Not Available\r\n Content-Length: 0\r\n \r\n

5.3 Audio (Talk:PC to IP video device)

Returns a multipart audio stream. Open a IPPROTO_UDP socket and assign this socket to port 5432.
Audio support u-Law Data only.

Payload Format

Header (12Bytes)	**u-Law Data (1024 Bytes)**

Header Content:

Byte0	**Byte1**	**Byte2**	**Byte3**	**Byte4**	**Byte5**	**Byte6**	**Byte7**	**Byte8**	**Byte9**	**Byte10**	**Byte11**
0x80	0x80	0x10	0x8c	0x00	0x30	0x56	0x9c	0xab	0x45	0xa2	0x07

6. Snapshot

Request a jpeg image.

Syntax:

http:// camera_ip:port /cgi/jpg/image.cgi

Example:

http:// camera_ip:port /cgi/jpg/image.cgi

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n <image data>\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

7. IP filter

Configure IP filter : Add, update, remove, and removeall

Syntax:

http:// camera_ip:port /cgi/admin/ipfilter.cgi?action=<value>[&param=<value>]

List IP Filter Information:

Syntax:

http:// camera_ip:port /cgi/admin/ipfilter.cgi?action=<value>[&param=<value>]

with the following parameters and values for reference:

parameter	**Value**	**Description**
action=<string>	add, remove, removeall, update, list	**add** = Add new IP address (or addresses) to IP filter list **remove** = remove an entry from the IP filter address List **removeall =** Remove all IP addresses. The IP address filtering function will be disabled automatically **update =** Update the settings for the IP address filtering function. **list =** List the settings for the IP address filtering function.
DenyIPRange=<IP range>	<IP addresses range> 192.168.0.1-192.168.0.100, 192.168.1.1-192.168.1.10, . . .	The addresses are denied to pass through the filter.

AcceptIPRange =<IP range>	<IP addresses range> 192.168.0.1-192.168.0.100, 192.168.1.1-192.168.1.10,	The addresses are accepted to pass through the filter.
DenyIPV6=<ipv6>	<IP v6 addresse> xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx . .	The addresses are denied to pass through the filter.
AcceptIPV6 =<ipv6>	<IPv6 addresse> xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx	The addresses are accepted to pass through the filter.
Policy	A String(Disable , Both)	IP Filter Policy

Example:

1) Remove an entry from the IP filter list

http:// camera_ip:port
/cgi/admin/ipfilter.cgi?action=remove&DenyIPRange=10.13.10.12-10.13.10.100

2) Add IP address range : 10.13.10.12 -10.13.10.100 to the list of addresses which will be denied to access the device

http:// camera_ip:port /cgi/admin/ipfilter.cgi?action=add&DenyIPRange=10.13.10.12-10.13.10.100

3) Remove all IP addresses from the IP filter list and IP filter function will be automatically disabled

http:// camera_ip:port /cgi/admin/ipfilter.cgi?action=removeall

4) List all the address in the denied list

http:// camera_ip:port /cgi/admin/ipfilter.cgi?action=list&name=DenyIPRange

5) Update policy of IP filter function

http:// camera_ip:port /cgi/admin/ipfilter.cgi?action=update&Policy=Both

Return:

OK (Add, remove, removeall, or update)	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n OK\r\n
OK (List)	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n 1.1.1.1-1.1.1.2\r\n 2.2.2.2-2.2.2.3\r\n 3.3.3.3-3.3.3.4\r\n 1.1.1.1-1.1.1.2\r\n ….\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

8. PTZ Control

Control the pan, tilt and zoom behavior of a PTZ unit. (Firmware: 1.03 and later.)

Syntax:

http://camera_ip:port/cgi/ptz/ptz.cgi?<argument>=<value>[<argument>=<value>...]

with the following parameters and values for reference:

parameter	Value	Description
move=<string>	home up down left right upleft upright downleft downright	**home** = Moves the image to the home position. **up** = Moves the image up. **down =** Moves the image down. **left =** Moves the image left. **right =** Moves the image right. **upleft =** Moves the image up diagonal to the left. **upright =** Moves the image up diagonal to the right. **downleft =** Moves the image down diagonal to the left. **downright =** Moves the image down diagonal to the right.
speed =<p1>|<t2>|<p3>	1..3	Sets the move speed of patrol ,tilt and pan. p1 = Patrol speed t2 = Tilt speed p3 = Pan speed
calibrate		calibration which resets the components of the camera, pan and tilt if a hardware error occurs.
ptzpreset=<int>	1…8	Move to the position associated with the specified preset position

		number.
ptzpatrol = <string>	start stop	Set camera to patrol through default preset point(s). Start = start patrol. Stop = stop patrol.
ptzsethome		Set camera home position.
ptzpresetupdate = <ID>| <ENABLE>|<DURATION> |<NAME>	ID = 1~8 ENABLE = 0,1 DURATION = 1~30 NAME	Set a camera point of a specific view. (Only for PT500 Series) ID: preset position number. Enable : 0: remove preset 1: set preset Duration: Duration time(second) NAME only accept 16 characters.

Example:

1) Pan to the right.

http:// camera_ip:port /cgi/ptz/ptz.cgi?move=right

2) Set the move speed of patrol,tilt and pan.

http:// camera_ip:port /cgi/ptz/ptz.cgi?speed=1|2|1

3) Set a camera point of a specific view.

http:// camera_ip:port /cgi/ptz/ptz.cgi?ptzpresetupdate=1|1|8|test1

Return:

OK	HTTP/1.1 204 No content \r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n

	Request failed: <error message>\r\n

9. Add, update, remove or list parameters and their corresponding Values

Syntax:

http:// camera_ip:port

/cgi/<group>/param.cgi?action=<value>&group=<value>[&parameter=<value>[&parameter=<value>...]]

with the following parameters and values for reference:

<parameter>=<value>	Value	Description
action=<string>	update, list, alllist, add, remove	Specify the action to take. Depending on the action type, various parameters may be set as described in the following sections. **Add and remove**: Only applicable for dynamic parameter groups such as the event parameters.
group=<string>	<string>	Specify the group, refer to Appendix.
name=<string>	<string>	Specify the parameter name
<parameter name>=<string>	<string>	Specify the parameter value

Example:

(1) Update

http:// camera_ip:port

/cgi/admin/param.cgi?action=update&group=Network&IPAddress=192.168.0.10

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: nnnn\r\n \r\n Network.IPAddress=192.168.0.10\r\n

FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: nnnn\r\n \r\n Request failed: <error message>\r\n

(2) list – list a parameter information

http:// camera_ip:port /cgi/admin/param.cgi?action=list&group=Network&name=IPAddress

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: nnnn\r\n \r\n Network.IPAddress=192.168.0.10\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: nnnn\r\n \r\n Request failed: <error message>\r\n

(3) List :List information of a group of parameters

http:// camera_ip:port /cgi/admin/param.cgi?action=list&group=Network

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n [Network] Network.IPAddress=192.168.0.10\r\n Network.MACAddress= xx:xx:xx:xx:xx:xx \r\n .....\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n

	\r\n Request failed: <error message>\r\n

(4) alllist : List all the parameter

http:// camera_ip:port /cgi/admin/param.cgi?action=alllist

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n [Network] Network.IPAddress=192.168.0.10 Network.MACAddress= xx:xx:xx:xx:xx:xx [System date] ...\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

10. Group Definition

10.1[Hardware]

For example:

http:// camera_ip:port /cgi/admin/param.cgi?action=list&group=Hardware

Parameter name	Valid values	Description
H.264	0/1	H.264stream is available or not.
MPEG4	0/1	Mpeg4 stream is available or not.
MJPEG	0/1	Motion-Jpeg stream is available or not
MicIn	0/1	Audio stream from device to PC.
AudioOut	0/1	Audio from PC to device
PT	0/1	Pan-Tilt model
Zoom	0/1	Zoom Lens available
NightSensor	0/1	Night sensor available
Wireless	0/1	Wireless available
RS485	0/1	RS-485 protocol support
TriggerIn	0-number	Numbers of trigger in
TriggerOut	0-number	Numbers of trigger-out
MotionDetect	0/1	Motion detection is available
USB	0/1	USB slot is available
SDCard	0/1	SD slot is available

10.2[System.Info]

For example:

LIST:

http:// camera_ip:port /cgi/admin/param.cgi?action=list&group=System.Info

Parameter name	**Valid values**	**Description**
ServerName	A string	Server name.
ServerLocation	A string	Server location
MACAddress	xx:xx:xx:xx:xx:xx	MAC address
ModelName	A string	Model name
FWVersion	X.Y.Z (ex:1.0.0)	Firmware version
FWBuild	A number	Firmware build number
CGI	A string	CGI SPEC Version
ModelNumber	A string	Model Number

UPDATE:

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=System.Info[&parameter=<value>[&parameter=<value>..]]

Parameter name	**Valid values**	**Description**
ServerName	A string	Server name.
ServerLocation	A string	Server location

10.3[Time]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Time

Parameter name	Valid values	Description
ServerDate	A date	The date (YYYY-MM-DD) when the device's time was set manually or synchronized with the computer.
ServerTime	A time	The time (hh:mm:ss) when the device's time was set manually or synchronized with the computer.
SyncSource	NTP, manually	The source to synchronize the time with; NTP or manually
TimeZone	0-56 (refer to Appendix B)	Time zone.

10.4[Time.NTP]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Time.NTP

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=Time.NTP

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Server	An IP address or a host name	The NTP server to connect to when synchronizing the time in the device.
Update	A time (06:00:00 12:00:00 24:00:00)	Time interval (hh:mm:ss) between connections to the NTP server.

10.5[ImageSource.IO.Sensor]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=ImageSource.IO.Sensor

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=ImageSource.IO.Sensor

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Brightness	0 ... 255	The image brightness.
Contrast	0 ... 255	The image contrast.
Saturation	0 … 255	The image saturation.
Sharpness	0 ... 255	The image sharpness.
OverlayText	on, off	Put text overlay on the video
IncludeText	on, off	Overlay Text setting
OverlayDate	on, off	Put datetime overlay on the video
OverlayOpaque	on, off	on=overlay text with opaque background off=overlay text with transparent background
Mirror	on, off	Mirror the image.
Flip	on, off	Flip the image.

10.6[Properties.Audio]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Properties.Audio

Parameter name	Valid values	Description
Audio	yes, no	The product has audio support.
Talk	yes, no	
Format	ulaw	The supported formats separated by commas, e.g.ulaw.

10.7[System]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=System

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=System

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
HTTPPort	1..65535	HTTP port number.
RTSPAuth	yes no	RTSP Authentication
RTSPPort	1..65535	RTSP port number.

10.8[Image.MJPEG]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Image.MJPEG

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=Image.MJPEG

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Resolution	0, 1, 3, 5	MJPEG stream resolution 0:640x480 1:320x240 3:720x480 5:1280x720
Framerate	1, 2, 3, 5, 8, 10, 15, 20, 25(, 30)	MJPEG stream frame rate per second

Quality	0-4	MJPEG stream quality, 0 is lowest, 4 is highest

10.9[Image.MPEG4]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Image.MPEG4

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=Image.MPEG4

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Resolution	0, 1, 3, 5, 16, 17	MPEG4 stream resolution 0:640x480 1:320x240 3:720x480 5:1280x720 16: 1280x960 17: 1920x1080
Framerate	1, 2, 3, 5, 8, 10, 15, 20, 25(, 30)	MPEG4 stream frame rate per second. Note: when resolution of MPEG4 is 1920x1080, the maximum of frame rate is down to 25fps.
Ratecontrol	vbr, cbr	MPEG4 stream rate control.
Quality	0-4	MPEG4 stream quality, 0 is lowest, 4 is highest

10.10[Image.H264]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Image.H264

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=Image.H264

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Resolution	0, 1, 3, 5, 16, 17,19	H.264stream resolution 0:640x480 1:320x240 3:720x480 5:1280x720 16: 1280x960 17: 1920x1080 19: 2048x1536
Framerate	1, 2, 3, 5, 8, 10, 15, 20, 25(, 30)	H.264 stream frame rate per second Note: when resolution of H.264 is 2048x1536, the maximum of frame rate is down to 20fps.
Ratecontrol	vbr, cbr	H.264 stream rate control.
Quality	0-4	H.264 stream quality, 0 is lowest, 4 is highest
Bitrate	1000~6000	H.264 stream constant bit rates. (kbps)

10.11[Image.3GPP]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Image.3GPP

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=Image.3GPP

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Enabled	A string (none, video_audio, video)	3GPP option

10.12[Audio]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Audio

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=Audio

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
MicEnabled	yes, no	Enable the Microphone input
SpeakerEnabled	yes, no	Enable the speaker output

10.13[GPIO]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=GPIO

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=GPIO [&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
TriggerOutStatus#	A string (high, low)	Set Trigger Output Status high / low.
TriggerInStatus#	A string (high, low)	Get Trigger Input Status

10.14[IRCUT]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=IRCUT

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=IRCUT

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Usage	auto, on, off, schedule	IRCUT behavior. auto = Cut is allowed to lit by auto detected. on = Cut is always on. off = Cut is always off. schedule = Cut is on in specific interval.
StartHr	00~23	Start hour of time interval
StartMin	00~59	Start minute of time interval
EndHr	00~23	End hour of time interval
EndMin	00~59	End minute of time interval

10.15[RS485]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=RS485

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=RS485

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Enable	A string (yes, no)	RS485 enable / disable message
Protocol	A String(Pelco-D, custom	RS485 protocol setting

	)	
Address	1~255	Device address used in Pelco-D
PanSpeed	0~9	Speed level of panning used in Pelco-D
TiltSpeed	0~9	Speed level of tilting used in Pelco-D
BaudRate	A String(1200 2400 4800 9600 19200 38400 57600)	Baud rate of custom setting
DataBits	7, 8	Data bits of custom setting
Parity	A String(none, odd, even, space }	Parity of custom setting
StopBit	1, 2	Stop bit of custom setting
Home	A Hexadecimal String	Custom Home Command
Up	A Hexadecimal String	Custom Up Command
Down	A Hexadecimal String	Custom Down Command
Left	A Hexadecimal String	Custom Left Command
Right	A Hexadecimal String	Custom Right Command
ExName(1~5)	A String	External Command name (1~5)
ExCommand(1~5)	A Hexadecimal String	External Command (1~5)
Position(1~8)	A String	Name of presets p(1~8)

10.16[Event.Server.General]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Event.Server.General

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=Event.Server.General

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
FileFormat	AVI, JPEG	File Format
EncodeFormat	H264, MPEG4, JPEG	Decided by FileForamt. It is JPEG if FileFormat is JPEG; otherwise, it will be H264 or MPEG4 selected by main stream.
PreEvent	0~5	Duration of PreEvent in seconds.
PostEvent	0~5	Duration of PostEvent in seconds.

10.17[Event.Server.SMTP]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Event.Server.SMTP

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=Event.Server.SMTP

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Enable	yes, no	Enable SMTP Event server
FromEmail	An e-mail address	E-mail address of the individual or device from which the e-mail is sent.
MailServer1	An IP address or a host name	Primary mail server.

SmtpPort	1..65535	Smtp Port.
SSL	yes, no	Smtp over SSL
EmailTo	A string	E-mail address.
EmailTo2	A string	E-mail address.

10.18[Event.Server.Authentication]

http://camera_ip:port/cgi/admin/param.cgi?action=list
&group=Event.Server.SMTP.Authentication

http://camera_ip:port/cgi/admin/param.cgi?action=update &group=Event.Server.SMTP.Authentication
[&parameter=<value>[&parameter=<value>..]]

Parameter name	**Valid values**	**Description**
Enabled	yes, no	Enable/disable authentication.
UserName	A string	The user name for the mail server or the POP server.
Password	A string	The password for the mail server or the POP server.
WeakestMethod	Login	The weakest method allowed for mail server login.

10.19[Event.Server.FTP]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Event.Server.FTP

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=Event.Server.FTP

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Enable	yes, no	Enable FTP Event server.
FTPServer	An IP address or a host name	FTP server address.
Port	1..65535	FTP server port.
UserName	A string	UserName to login the FTP server.
Password	A string	Password to login the FTP server.
Path	A string	Login path.
Passive	yes no	yes: Transfer data in passive mode. no: in active mode

10.20[Event.Server.NetStorage]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Event.Server.NetStorage

http://camera_ip:port/cgi/admin/param.cgi?action=update&group=Event.Server. NetStorage

[&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Enable	yes no	Enable samba server
SambaServer	An IP address or a host name	Samba server address.
Share	A string	Input the path where you want to save file on Samba server

Path	A string	Input the path where you want to save file on Samba server
UserName	A string	UserName to login the Samba server.
Password	A string	Password to login the Samba server.

10.21[Event.Server.External.Storage]

http://camera_ip:port/cgi/admin/param.cgi?action=list&group=Event.Server.External.Storage

Parameter name	Valid values	Description
Mount	yes no	yes: the external storage has already mounted no: external storage is not mounted or is not existed.
TotalSpace	Digits	Total capacity of the external storage (MB).
FreeSpace	Digits	Free capacity for the external storage (MB).
DiskFull	stop recycle	When the external storage is full, set to 'stop' will stop further recording. And set to 'recycle' will delete the oldest folder to restore the capacity of the server.

10.22[Network]

For example:

http:// camera_ip:port /cgi/admin/param.cgi?action=list&group=Network

http:// camera_ip:port /cgi/admin/param.cgi?action=update

&group= Network[&parameter=<value>[&parameter=<value>..]]

Parameter name	**Valid values**	**Description**
BootProto	dhcp_ipv4, dhcp_ipn4_ipn6, static_ipv4_ipv6, pppoe	IP address assignment method.
DefaultRouter	An IP address	Default router/gateway used for connecting devices attached to different networks and network segments.
DNSServer1	An IP address	Primary Domain Name System server.
DNSServer2	An IP address	Secondary Domain Name System server.
InterfaceSelectMode[1]	auto,	Interface select mode. Defines how the device chooses which network interface to use. In auto mode the wireless interface will be used when a wired network connection cannot be detected. In wired mode only the wired interface will be used, regardless of its' status.
IPAddress	An IP address	IP Address. The physical address of the device on the network.
Media	auto,	Media type on the network.
SubnetMask	An IP address	Subnet mask. Divides the network.

10.23[Network.PPPoE]

For example:

http:// camera_ip:port /cgi/admin/param.cgi?action=list&group=Network.PPPoE

http:// camera_ip:port /cgi/admin/param.cgi?action=update

&group= Network.PPPoE [&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
UserName	A string	The user name for the PPPoE server.
Password	A string	The password for the PPPoE server.

10.24[Network.DNSUpdate]

For example:

http://ipcam_ip:port/cgi/admin/param.cgi?action=list&group=Network.DNSUpdate

http:// camera_ip:port /cgi/admin/param.cgi?action=update

&group= Network.DNSUpdate [&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Description
Provider	<ProviderList>	DDNS provider.
DNSName	*<absolute domain name>* or *<domain name relative to root>*	The name entered here will be associated with the product's IP address in the DNS server. An example of a DNS name is product.example.com.
Enabled	yes, no	Enable/disable dynamic DNS service.
UserName	A String	
Password	A String	

ProviderList	A String	List all DDNS Provider. Each provider is separated by a semicolon [format] www.provider1.com; www.provider2.org; www.provider3.net...

10.25[Network.UPnP]

For example:

http://ipcam_ip:port/cgi/admin/param.cgi?action=list&group=Network.UPnP

http:// ipcam_ip:port /cgi/admin/param.cgi?action=update&group= Network.UPnP&Enabled=yes

Parameter name	Valid values	Description
Enabled	yes, no	Enables Universal Plug and Play.
FriendlyName	A string	The name of the UPnP device.

10.26[Network.Advanced.HTTPS]

For example:

http:// ipcam_ip:port /cgi/admin/param.cgi?action=list&group=Network.Advanced.HTTPS

http:// camera_ip:port /cgi/admin/param.cgi?action=update

&group= Network.Advanced.HTTPS [&parameter=<value>[&parameter=<value>..]]

Parameter name	Valid values	Security level (get/set)	Description
Enabled	A string (yes, no)	6/6	HTTPS enable/disable message
HttpsPort	1..65535	6/6	HTTPS port

10.27[Network.Advanced.Bonjour]

For example:

http:// ipcam_ip:port /cgi/admin/param.cgi?action=list&group=Network.Advanced.Bonjour

http:// ipcam_ip:port /cgi/admin/param.cgi?action=update&
group=Network.Advanced.Bonjour&Enabled=yes

Parameter name	Default value	Valid values	Description
Enabled	yes	A string (yes, no)	Bonjour enable/disable message
FriendlyName	cameraXXX	A string (XXX means last tree octets of MAC address.)	Bonjour friendly name

10.28[Network.Advanced.Multicast]

http:// ipcam_ip:port /cgi/admin/param.cgi?action=list&group=Network.Advanced.Multicast

http:// ipcam_ip:port /cgi/admin/param.cgi?
action=update&group=Network.Advanced.Multicast&Enabled=yes

Parameter name	Valid values	Description
Enabled	A string (yes, no)	Multicasting enable/disable message
GroupIP	A string	Multicasting group IP
H264Port	1..65535(even value only)	Multicasting H.264 port
MPEG4Port	1..65535(even value only)	Multicasting mpeg4 port
AUDIOPort	1..65535(even value only)	Multicasting audio port
TTL	1..255	Multicasting TTL

10.29[Network.Advanced.QoS]

http:// ipcam_ip:port /cgi/admin/param.cgi?action=list&group=Network.Advanced.QoS

http:// ipcam_ip:port /cgi/admin/param.cgi?action=update&group=Network.Advanced.QoS&Enabled=no

Parameter name	Valid values	Description
Enabled	A string (yes, no)	QOS enable/disable message
Type	A String(audio, video, both)	QOS processing policy
VideoDSCP	0..63	Video DSCP
AudioDSCP	0..63	Audio DSCP

10.30[NetworkLED]

http:// camera_ip:port/cgi/admin/param.cgi?action=list&group=NetworkLED

http:// camera_ip:port/cgi/admin/param.cgi?action=update&group=NetworkLED&Usage=on

Parameter name	Valid values	Description
Usage	on, off	Network LED behavior. on = LED is allowed to lit. off = LED is not allowed to lit.

10.31[PTZ.PresetList]

http:// ipcam_ip:port /cgi/admin/param.cgi? action=list&group=PTZ.PresetList

Parameter name	Valid values	Description
PresetCount	0 ~ 8	This IP camera supports up to 8 preset points.
Preset1 ~ Preset8	ENABLE|DURATION|NAME	ENABLE 0: disable 1: enable DURATION 1~30 seconds NAME : description for this preset point

10.32[PTZ. Speed]

http:// ipcam_ip:port /cgi/admin/param.cgi? action=list&group=PTZ.Speed

Parameter name	Valid values	Description
PanSpeed	1..3	Pan speed
TiltSpeed	1..3	Tilt speed
PatrolSpeed	1..3	Patrol speed

11. Event schedule setting

Syntax:

http:// camera_ip:port /cgi/
event/schedule.cgi?action=<value>[&parameter=<value>[&parameter=<value>...]]

with the following parameters and values for reference:

<parameter>=<value>	**Value**	**Description**
action=<string>	alllist, add, update, remove, list	Specify the action to take. Depending on the action type, various parameters may be set as described in the following sections.
group=<string>	1~10	Specify the parameter group,list the schedule of item.
Name=<string>	<string>	Specify the parameter name, schedule name maximal length 16
Enable=<string>	0,1	Specify the parameter enable
TriggerMotion =<string>	0,1	Specify the parameter TriggerMotion
TriggerDI1=<string>	0,1	Specify the parameter TriggerDI1
TriggerDI1Type =<string>	0,1	Specify the parameter TriggerDI1Type
TriggerDI2=<string>	0,1	Specify the parameter TriggerDI2
TriggerDI2Type=<string>	0,1	Specify the parameter TriggerDI2Type
ScheduleTimeMode=<string>	0,1	Specify the parameter ScheduleTimeMode
Sunday=<string>	0,1	Specify the parameter Sunday
Monday=<string>	0,1	Specify the parameter Monday
Tuesday=<string>	0,1	Specify the parameter Tuesday

Wednesday=<string>	0,1	Specify the parameter Wednesday
Thursday=<string>	0,1	Specify the parameter Thursday
Friday=<string>	0,1	Specify the parameter Friday
Saturday=<string>	0,1	Specify the parameter Saturday
ScheduleTimeStatus=<string>	0,1	Specify the parameter ScheduleTimeStatus
ScheduleTimeStartHour=<string>	0~23	Specify the parameter ScheduleTimeStartHour
ScheduleTimeStartMin=<string>	0~59	Specify the parameter ScheduleTimeStartMin
ScheduleTimeEndHour=<string>	0~23	Specify the parameter ScheduleTimeEndHour
ScheduleTimeEndMin=<string>	0~59	Specify the parameter ScheduleTimeEndMin
EnableFtp=<string>	0,1	Specify the parameter EnableFtp
EnableEmail=<string>	0,1	Specify the parameter EnableEmail
EnableSamba=<string>	0,1	Specify the parameter EnableSamba
EnableSDCard=<string>	0,1	Specify the parameter EnableSDCard
EnableDigitalOutput=<string>	0,1	Specify the parameter EnableDigitalOutput
DigitalOutputTime=<string>	1~60	Specify the parameter DigitalOutputTime

Example:

(1) alllist : List all the parameter

http:// camera_ip:port /cgi/ event/schedule.cgi?action=alllist

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n [Event.Schedule.1] Enable=1 Name=MV ...\r\n [Event.Schedule.2] Enable=1 Name=MV ...\r\n …
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

(2) add

http:// camera_ip:port /cgi/ event/schedule.cgi?action=add&Name=event_name&Enable=1...

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: nnnn\r\n \r\n [Event.Schedule.3] Enable=1 Name= **event_name** TriggerMotion=0 TriggerDI1=0 …\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: nnnn\r\n

	\r\n Request failed: <error message>\r\n

(3) Update

http:// camera_ip:port /cgi/ event/schedule.cgi?action=update&Name=event_name&Enable=0….

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: nnnn\r\n \r\n [Event.Schedule.3] Enable=**0** Name= **event_name** TriggerMotion=0 TriggerDI1=0 ….\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: nnnn\r\n \r\n Request failed: <error message>\r\n

(4) Remove

http:// camera_ip:port /cgi/ event/schedule.cgi?action=remove&Name=event_name

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: nnnn\r\n \r\n Remove schedule= **event_name** success \r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: nnnn\r\n

	\r\n Request failed: <error message>\r\n

(5) **List :**List information of a group of parameters

http:// camera_ip:port /cgi/ event/schedule.cgi?action=list&group=1

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n [Event.Schedule.1] Enable=1 Name=MV TriggerMotion=1 TriggerDI1=0 \r\n .....\r\n
FAIL	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

12. Event Notify to Http Server

Setup Event Http Notify :

Send event notify settings from Http Server to IP Camera

Syntax:

http://camera_ip:port/EventHttpNotify.cgi?HttpUrl=<value>&Message=<value>

with the following parameters and values for reference:

parameter	Value	Description
HttpUrl =<string>		URL of the server, including name of CGI script to handle the request and http server port if it is not 80. Spaces and & are not allowed Example: "HttpUrl=http://192.168.102.101:8001/event/eventhandler.cgi"
Message =< string >		Spaces and & are not allowed <event> : motion, di<num>_<status> <time>: Setup Event time, UTC time <num>: 1~n, Digital Input Number. <status>: 0: High 1: Low 2: Change Example: "Message=motion,Time=1234567890" "Message=di1_0,Time=1234567890" "Message=di2_1,Time=1234567890"

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n <Result> \r\n
Error	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n <Error description> ...\r\n

"OK" or "Error, <Error description>"

parameter	**Value**	**Description**
Result	string	"OK" : Set Event Notify successfully. "NG" : Set Event Notify failed.
Error description	string	"HttpUrl Not Found" : No HttpUrl parameter "Message Not Found" : No Message parameter "IP Not Found" : No IP value "Port Not Found" : No Port value "CGI Not Found" : No Server CGI value "Event Not Found" : No Event value "Time Not Found" : No Time value

When the event occurs then send event http notify from IP Camera to Http Server.

[Content]

GET <eventcgi>?Message=<event>,Time:<time>
HTTP/1.1\r\n
\r\n

parameter	**Value**	**Description**
eventcgi	string	Get from the value of HttpUrl received from EventHttpNotify.cgi. Example:

		"HttpUrl=http://192.168.102.101:8001/event/eventhandler.cgi" <eventcgi> = /event/eventhandler.cgi
event	string	Get from the value of Message received from EventHttpNotify.cgi. Example: " Message=motion,Time=1234567890" <event> = motion
time	string	<time>: Get from IP Camera System, UTC time

Example:

[Digital In]

1) Server sends setup to IP Camera.

http://192.168.101.102:80/
EventHttpNotify.cgi?HttpUrl=http://192.168.101.101:8001/event/eventhandler.cgi&Message=
input1_0,Time:1234567890

(IP Camera sends message to Server)
While Digital 1 state is high, set a message to Server (ip:192.168.101.101, port:8001).
GET /event/eventhandler.cgi?Message=input1_0,Time:1352460789
HTTP/1.1\r\n
\r\n

2) Server sends setup to IP Camera.

http://192.168.101.102:80/
EventHttpNotify.cgi?HttpUrl=http://192.168.101.101:8001/event/eventhandler.cgi&Message=
input2_2,Time:1234567890

(IP Camera sends message to Server)
While Digital 2 state is changed, set a message to Server (ip:192.168.101.101, port:8001).
GET /event/eventhandler.cgi?Message=input2_2,Time:1352460789
HTTP/1.1\r\n
\r\n

[Motion Detection]

1) Set a camera point of a specific view.

http://192.168.101.102:80/
EventHttpNotify.cgi?HttpUrl=http://192.168.101.101:8001/event/
eventhandler.cgi&Message=motion,Time:1234567890

(IP Camera sends message to Server)
While motion is detected, set a message to Server (ip:192.168.101.101, port:8001).
GET /event/eventhandler.cgi?Message= motion,Time:1352460789
HTTP/1.1\r\n
\r\n

13. Focus & Zoom for Motor Lens

Focus & Zoom for Motor Lens :

Send focus & zoom control command to IP Camera which with Motor-Lens

Syntax:

http://camera_ip:port/cgi/fz/focuszoomctl.cgi?<parameter><=value>

with the following parameters and values for reference:

parameter	**Value**	**Description**
focusminus		Focus motor lens backward 1 step
focusplus		Focus motor lens forward 1 step
movezoom	0 ~ 6	Move zoom motor lens to index: 0-6
smartfocusscan		Do auto focus quickly
fzisbusy		Check the motor lens is busy or not
getmotorcuspos		Get current position both of focus & zoom motor lens

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n <Result> \r\n
Error	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n

Example:

[Focus Step Forward]

Server sends setup to IP Camera.

http://192.168.101.102:80/ cgi/fz/focuszoomctl.cgi?focusplus

[Focus Step backward]

Server sends setup to IP Camera.

http://192.168.101.102:80/ cgi/fz/focuszoomctl.cgi?focusminus

[movezoom]

Server sends setup to IP Camera.

http://192.168.101.102:80/ cgi/fz/focuszoomctl.cgi?movezoom=6

[Smart Focus]

Server sends setup to IP Camera.

http://192.168.101.102:80/ cgi/fz/focuszoomctl.cgi?smartfocusscan

[Check Is Busy]

Server sends setup to IP Camera.

http://192.168.101.102:80/ cgi/fz/focuszoomctl.cgi?fzisbusy

[Get Current Position]

Server sends setup to IP Camera.

http://192.168.101.102:80/ cgi/fz/focuszoomctl.cgi?getmotorcurpos

Return:

[Current Zoom Index Of Position] | [Current Focus Index Of Position]

Ex: 6|55

14. SD Card Management

SD Card Management :

Get SD Card Status and search result list.

Syntax:

http://camera_ip:port/sdcard.cgi?action=<action_parameter>&<parmameter>=<value>&

with the following parameters and values for reference:

action_parameter	**Value**	**Description**
status		Get SD Card Status
space		Get SD Card Space
format		Format SD Card
list		SD Card File List.
download		Download File.
delete		Delete File

parameter	**Value**	**Description**
key	name	List order by key value
order	ascend	List order by order value
dir	record, event	List working folder
ch	1	List channel
page	1, 2, 3, …	List Page Index
sTime	yyyy-mm-dd-hh-mm-ss	List Start Time
eTime	yyyy-mm-dd-hh-mm-ss	List End Time
fname	filename	Download/Delete File name

Return:

OK	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n <Result> \r\n

Error	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n

Example:

[Get SD Card Status]

Get SD Card Status.

http://192.168.101.102:80/sdcard.cgi?action=status&

Return:

[Status]

1 : SD Card is available

0 : SD Card is not available

Ex: 1

[Get SD Card Space]

Get SD Card Space.

http://192.168.101.102:80/sdcard.cgi?action=space&

Return:

[Total Space(KB)] | [Used Space(KB)] | [Free Space(KB)]

Ex: 30729552|30179056|550496

[Format SD Card]

Format SD Card.

http://192.168.101.102:80/sdcard.cgi?action=format&

Return:

[Result]

1 : SD Card Format success

0 : SD Card Format fail

Ex: 1

[SD Card File List]

Get File List.

http://192.168.101.102:80/sdcard.cgi?action=list&key=name&order=ascend&dir=record&ch=1&page=1&sTime=2010-02-22-00-00-00&eTime=2020-03-21-00-00-00

Return:

[Path],[Total File],[Total Page],[List Page],<File name|File Time|File Size(KB)>,…

Ex:

/tmp/mmc_dir/Backup/,2,1,1,SICPT501U-01082014-200248.avi|Thu Jan 9 12:02:48 2014 |10808,SICPT501U-01082014-201533.avi|Thu Jan 9 12:15:33 2014 |10815

[Download File]

Download File.

http://192.168.101.102:80/sdcard.cgi?action=download&dir=record&fname=5MP_IP_BOX-03212012-142806.avi&

Return:

None

[Delete File]

Delete File.

http://192.168.101.102:80/sdcard.cgi?action=delete&dir=record&fname=5MP_IP_BOX-03212012-142806.avi&

Return:

[Result]

1 : File Delete success

0 : File Delete fail

Ex: 1