CGI Command for Network Camera

Ver.1.0.22

26, Aug, 2015

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REVISION HISTORY

Date	Release	Author	Description
07, May, 2012	1.0.1	RS	•Firstly Release
11, July, 2012	1.0.2	Larry	•Modify resolution.cgi(add index of 1080P+VGA)
18, Sept, 2012	1.0.3	Larry	•Modify Parameter Group(Image.MJPEG/ Image.MPEG4/Image.H264)
07, Jan, 2013	1.0.4	Noah	•Add control CGI for Intelligent Video Analytic
18, June, 2013	1.0.5	Larry	
01, Nov, 2013	1.0.6	Larry	•Add airlivenvr.cgi
11, Dec, 2013	1.0.7	Larry	•Add gov.cgi
23, Jan, 2014	1.0.8	Larry	•Add /cgi/record/schedule.cgi
07, Feb, 2014	1.0.9	Dis	•Add sd param.cgi & playlist.cgi & playback.cgi
12, Feb, 2014	1.0.10	Noah	•Add /cgi/admin/va_trigger.cgi
18, Mar, 2014	1.0.11	Larry	•Add /cgi/event/schedule.cgi
31, Mar, 2014	1.0.12	Larry	•Add /cgi/admin/ivs_support.cgi
11,Apr,2014	1.0.13	Noah	•Update va_trigger.cgi
18, Apr, 2014	1.0.14	Larry	•Modify /cgi/event/schedule.cgi
27, May, 2014	1.0.15	Larry	•Add /cgi/admin/pt.cgi(Page. 25) •Add /cgi/admin/remotefocus.cgi •Modify playlist.cgi
29, May, 2014	1.0.16	Noah	•Add /cgi/admin/ivs_status.cgi
11, June, 2014	1.0.17	Larry	•Add /cgi/admin/mobile.cgi
03, July, 2014	1.0.18	Noah	•Add download & check functions to playlist.cgi

3, Nov, 2014	1.0.19	Noah	•Update Intelligent Video Analytic •Modify /axis-cgi/admin/param.cgi? •Modify payload header format table •Modify /cgi/admin/resolution.cgi
7, Nov, 2014	1.0.20	Larry	•Modify /cgi/admin/resolution.cgi
7, May, 2015	1.0.21	Larry	•Modify /cgi/admin/resolution.cgi •Modify /cgi/admin/remotefocus.cgi •Add /cgi/admin/video_stabilization.cgi •Add /cgi/admin/smart_ir.cgi
26, Aug, 2015	1.0.22	Larry	•Modify /cgi/event/schedule.cgi

This CGI Command document specifies the method of communication with the Network Camera for controlling camera functions as well as for getting and setting internal parameter values, which helps the application integrators develop software applications more easily.

1. Add, update, remove and list parameters and their values

Method: GET

Syntax:

http://<servername>/cgi/<group>/param.cgi?action=<value>&group=<value>[&parameter=<value>[&para meter=<value>...]]

with the following parameters and values for the full parameter list please refer to Appendix A

<parameter>=<value>	**Value**	**Description**
action=<string>	update, list, alllist, add, remove	Specifies the action to take. Depending on this parameter, 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>	Specifies the group.
name=<string>	<string>	Specifies the parameter name.
<parameter name>=<string>	<string>	Specifies the parameter value.

Example:

(1) update : Update a parameter

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

return:

succeed	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
failed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: nnnn\r\n

(2) list : List a parameter

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

return:

succeed	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
failed	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 a group parameters

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

return:

succeed	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
failed	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 parameter

http://myserver/cgi/admin/param.cgi?action=alllist

return:

succeed	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
failed	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, modify and delete users

Add a new user with password and group membership, modify the information and remove a user.

Note: This request requires admin access (admin authorization).

Method: GET

Syntax:

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

with the following parameters and values

<parameter>=<value>	**Value**	**Description**
action=<string>	add, update, remove , get	**add** = create a new user account. **update** = change account 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 each group defined.
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://myserver/cgi/admin/pwdgrp.cgi?action=add&user=paul&pwd=foo&grp=admin

return:

succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n OK\r\n
failed	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. http://myserver/cgi/admin/pwdgrp.cgi?action=get

return:

succeed	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
failed	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. Factory default

3.1 Factory default

Reload factory default. All parameters are set to their factory default value.

Note: This requires administrator access (administrator authorization).

Method: GET

Syntax:

http://<servername>/cgi/admin/factorydefault.cgi

Example:

http://<servername>/cgi/admin/factorydefault.cgi return:

succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n OK\r\n
failed	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. Firmware Upgrade

Upgrade the firmware version.

Note: This requires administrator access (administrator authorization).

Method: POST

Syntax:

http://<servername>/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:

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

5. Restart Server

Restart server.

Note: This requires administrator access (administrator authorization).

Method: GET

Syntax:

http://<servername>/cgi/admin/restart.cgi

Example:

http://<servername>/cgi/admin/restart.cgi return:

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

6. Server report

This CGI request generates and returns a server report. This report is useful as an input when requesting support. The report includes product information, parameter settings and system logs.

Note: This requires administrator access (administrator authorization).

Method: GET

Syntax:

http://<servername>/cgi/admin/serverreport.cgi

Example:

http://<servername>/cgi/admin/serverreport.cgi return:

succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n 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
failed	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. System logs

Get system log information.

Note: This requires administrator access (administrator authorization). Note: The response is product/release-dependent.Method: GET

Syntax:

http://<servername>/cgi/admin/systemlog.cgi

Example:

http://<servername>/cgi/admin/systemlog.cgi return:

succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n 2007/1/25 11:43:30 Power ON. 2007/1/25 12:00:40 192.168.3.103 johnson login. .....\r\n
failed	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. System date and time

Get or set the system date and time.

Method: GET

Syntax:

http://<servername>/cgi/admin/date.cgi?action=<value>&mode=<string>[&<parameter>=<value>...]

with the following parameters and values

<parameter>=<value>	**Value**	**Description**
action=<string>	get,set	**get =** get the current date and time. **Set =** set the current date and time.
mode=<string>	<string>	Set the current time mode <**ntp/manual**>
ntpserver=<string>	<string>	Set ntp server
interval=<number>	<number>	Set ntp update interval Note: 0: 6 hours 1: 12 hours 2: 24 hours
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>	0-62 (Appendix B)	Specifies the time zone that the new date and/or time is given in. The camera translates the time into local time using whichever time zone has been specified through the web configuration. If omitted the new date and/or time is assumed to be in local time. **Note:** Requires that daylight saving time (DST) is turned off, and that the time mode of the camera is not to synchronize with an NTP server or with the computer time. Currently only GMT is considered valid input. The rest of the time zones are subject to future expansion.

Example:

1.Get the date. http://myserver/cgi/admin/date.cgi?action=get

return:

succeed	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
failed	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 the date. http://myserver/cgi/admin/date.cgi?action=set&mode=manual&year=2005&month=4&day=3**

return:

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

failed	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. Snapshot

Request a jpeg image.

Method: GET

Syntax:

http://<servername>/cgi/jpg/image.cgi

Example:

http://myserver/cgi/jpg/image.cgi return:

succeed	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
failed	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.MJPEG

Returns a multipart image stream with the default resolution and compression as defined in the system configuration.

Method: GET

Syntax: **http://<servername>/cgi/mjpg/mjpeg.cgi**

Example:

http://myserver/cgi/mjpg/mjpeg.cgi 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/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n Request failed: <error message>\r\n

10.1 Payload Header Format

Parameter	**Size(Byte)**	**Description**
Counter	4	payload counter.
Size	4	payload size.
Type	4	'J' for JPG, 'A' for audio, 0 for I frame, 1-30 for P frame.
Second	4	Time stamp
Microsecond	4	Time stamp
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 6: SVGA(800x600) 7: SXGA(1280x1024) 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 3: QXGA(2048x1536) 5: 2592x1472 6:5M(2592x1920) Bit30-31 reserved

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) Bit 27: trigger output 2 status (1:high/0:low) Bits 28 – 31: reserved

11.MPEG4

Returns a multipart MPEG4 image stream with the default resolution and compression as defined in the system configuration

Method: GET

Syntax: **http://<servername>/cgi/mpeg4/mpeg4.cgi**

Example:

http://myserver/cgi/mpeg4/mpeg4.cgi

return: **T**he same as MJPEG except payload data is MPEG4

12.H.264

Returns a multipart H.264 image stream with the default resolution and compression as defined in the system configuration

Method: GET

Syntax: **http://<servername>/cgi/h264/h264.cgi**

Example:

http://myserver/cgi/h264/h264.cgi

return: **T**he same as MJPEG except payload data is H.264

13.Motion Detection

Method: GET

Syntax: **http://<servername>/cgi/motion/md.cgi?action=<value>?<parameter>=<value>**

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

parameter	**Value**	**Description**
action=<String>	add, remove, update, list, listall	**add** = create a new motion detect window. **update** = change window information of specified parameters if the window exists. **remove** = remove an existing motion detect window **list** = list a window information. **listall =** list all window information
id	0-2	The ID of motion detect window.
enable	yes/no	Whether to enable this motion detect window
top=<int>	0-479	The top value of motion detect window..
bottom=<int>	0-479	The bottom value of motion detect window.
left=<int>	0-639	The left value of motion detect window.
right=<int>	0-639	The right value of motion detect window.
sensitivity=<int>	1-99	The sensitivity level of motion detect window.
percentage=<int>	1-99	The percentage level of motion detect window.

Example:

1. Add a new Motion Detection window:

   http://myserver/cgi/motion//md.cgi?action=add&id=0&enable=yes&top=50&bottom=70

   &left=50&right=85&sensitivity=83&percentage=83

2. Remove a Motion Detection window:

   http://myserver/cgi/motion/md.cgi?action=remove&id=1

3. Update the Motion Detection parameters:

   http://myserver/cgi/motion/md.cgi?action=update&id=2&enable=no&&top=150&bottom=200 return:

succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n OK\r\n
failed	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. List one motion detection window information

http://myserver/cgi/motion/md.cgi?action=list&id=1 return:

succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n id=1\r\n enable=yes\r\n top=0\r\n bottom=100\r\n left=0\r\n bottom=100\r\n sensitivity=100\r\n
failed	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

5. List all Motion Detection windows information

http://myserver/cgi/motion/md.cgi?action=listall return:

succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n id=0 enable=yes top=0 bottom=100 left=0 right=100 sensitivity=100 id=1 ….\r\n
failed	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

14.Audio

Request an audio stream.

14.1 Audio query

Query if the audio is available

Method: GET

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
talking	0-2	Query the PC-talk status (PC to server) 0: free to connect 1: speaker in use , not available 2: device is disable

Example: **GET http://myserver/cgi/query/query.cgi?listen return:**

succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n listen=1\n
failed	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

Example2: **GET http://myserver/cgi/query/query.cgi?talking**

return:

succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n talking=2\n
failed	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

14.2 Audio (Camera to PC)

Returns a multipart audio stream

Method: GET

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

parameter	Value	Description
Type	uLaw	Request linear u-Law audio

Example: **http://myserver/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

14.3 Audio (PC to Camera)

Returns a multipart audio stream

open a IPPROTO_UDP socket and assign this socket to port 5432

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

15. IP filter

The requests specified in the IP filter section are supported by products that support IP address filtering.

Method: Get

add update remove removeall **Syntax:**

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

list **Syntax:**

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

with the following parameters and values

parameter	**Value**	**Description**
action=<string>	add, remove, removeall, update, list	Specifies the action to take. **add** = Add new IP address (or addresses). **remove** = remove an entry in the IP address List. **removeall =** Remove all IP addresses. The IP address filtering function will automatically be disabled. **update =** Update 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 denied passing 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 accepted passing through the filter.
DenyIPV6=<ipv6>	<IP v6 addresse> xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx.	The addresses denied passing through the filter.
AcceptIPV6 =<ipv6>	<IPv6 addresse> xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx.	The addresses accepted passing through the filter.
Policy	A String(Disable , Both)	IP Filter Policy

Example:

1. Remove an entry in the list of addresses.

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

2. Add 10.13.10.12 -10.13.10.100 to the list of addresses which will be denied access to the device.

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

3. Remove all IP addresses and automatically disable the IP address filtering function

   http://myserver/cgi/admin/ipfilter.cgi?action=removeall

4. List the list of denied addresses.
   http://myserver/cgi/admin/ipfilter.cgi?action=list&name=DenyIPRange

5. Update policy by ipfilter used.

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

Return:

A successful 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
A successful 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
Failed	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

16. RS485/PT

Making RS485/PT commands,

Also check the [RS485/PT] in the param.cgi to make additional RS485/PT configuration

Method: Get

Syntax:

http://<servername>/cgi/admin/rs485ctl.cgi?action=<value>&Cmd=<value>(&Set=<value>)

with the following parameters and values

parameter	**Value**	**Description**
action=<string>	move	Specifies the action to take.
Cmd	A String(up down left right)	RS485 basic move command.
	A String(zoomin zoomout focusfar focusnear irisopen itisclose autofocus autoiris autoagc autoawb stop)	RS485 command.
Set	A String(auto on off)	RS485 command. Note: 1. autofocus(auto/on/off) 2. autoiris(auto/on/off) 3. autoagc(auto/on/off) 4. autoawb(on/off) 5. up、down、left、right (continue/step)

parameter	Value	Description
action=<string>	goto, addpreset, delpreset	Specifies the action to take. **goto** = move to the preset. **addpreset** = add/modify a preset. **delpreset** = remove the preset.
Cmd	1-8, 9	Preset number (9 for “home”)

parameter	Value	Description
action=<string>	do	Specifies the action to take.
Cmd	A String(ExCmd1 ExCmd2 ExCmd3 ExCmd4 ExCmd5)	Execute External Command (1~5)

Example:

1. Move up

   http://myserver/cgi/admin/rs485ctl.cgi?action=move&Cmd=up&Set=step

2. Add a new preset as preset 2.

   http://myserver/cgi/admin/rs485ctl.cgi?action=addpreset&Cmd=2

3. Modify preset 2

   http://myserver/cgi/admin/rs485ctl.cgi?action=modpreset&Cmd=2

4. Modify Home position

   http://myserver/cgi/admin/rs485ctl.cgi?action=addpreset&Cmd=9

5. Go to preset 3

   http://myserver/cgi/admin/rs485ctl.cgi?action=goto&Cmd=3

6. Execute External command 1
   http://myserver/cgi/admin/rs485ctl.cgi?action=do&Cmd=ExCmd1

Return:

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

18. IMAGE OVERLAY

Method: GET

Syntax: **http:// <servername>/cgi/imgoverlay/imgoverlay.cgi?action=<value>?<parameter>=<value> [&<parameter>=<value>...]**

parameter	Value	Description
action=<String>	update, listall	**update** = change window information of specified parameters . **listall =** list all window information
enable	yes/no	Whether to enable this image overlay window
x=<int>	0-<width of current resolution>	The x value of image overlay window..
y=<int>	0-<height of current resolution>	The y value of image overlay window.
rcolor=<int>	0-255	The red value of background. color
gcolor=<int>	0-255	The green value of background. color .
bcolor=<int>	0-255	The blue value of background. color
opaque	on/off	on=overlay image with opaque background off=overlay image with transparent background
imgwidth	*	The image width of upload image.(none setting, only for listall)
imgheight	*	The image height of upload image.(none setting, only for listall)

Example:

1. Update image overlay window with specified values:

   http:// <servername>/cgi/imgoverlay/imgoverlay.cgi?action=update&enable=yes &x=50&y=70&opaque=off&rcolor=128&gcolor=128&bcolor=128

2. Disable a Privacy mask window

   http:// <servername>/cgi/imgoverlay/imgoverlay.cgi?action=update&enable=no return:

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

failed	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

5. List all image overlay window information

http:// <servername>/cgi/imgoverlay/imgoverlay.cgi?action=listall return:

succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n enable=yes rcolor=128 gcolor=128 bcolor=128 x=0 y=100 imgwidth=50 imgheight=50 opaque=off\r\n

failed	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

19. IMAGE UPLOAD

Upload the image for image overlay.

Note: This requires administrator access (administrator authorization).

Method: POST

Syntax: **http://<servername>/cgi/imgoverlay/imgupload.cgi?action=<value>**

parameter	Value	Description
action=<string>	upload	**upload =**upload JPEG/BMP image.

Example: Upload:

POST /cgi/imgoverlay/imgupload.cgi?action=upload 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="image"; filename="image.jpg"\r\n

Content-Type: application/octet-stream\r\n

\r\n

<image file content>

--AsCg5y\r\n

return:

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

20. Muti Language

Get muti language by camera

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax: **http://<servername>/cgi/viewer.cgi[?lang=<value>]**

with the following parameters and value

Example:

Get language Traditional Chinese

http:// myserver /cgi/viewer.cgi?lang=1

return:

success	HTTP/1.1 200 OK Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n LanguagePath=/lang_5.jsl\r\n \r\n
failed	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

21. Rate Control

Set rate control

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax: **http://<servername>/cgi/admin/ratecontrol.cgi?action=<value>&mode=<value>[&<parameter>=<value>...]**

with the following parameters and value

parameter	**Value**	**Description**
action=<string>	set, list	**set** = change rate control of specified parameters . **list =** list rate control information
mode=<string>	vbr/cbr	Rate control mode
quality=<int>	0-4 (very high/high/normal/low/very low)	The quality value of VBR
bitrate=<int>	384-6000	The bit rate value of CBR

Example:

1. Set VBR、Normal

   http://myserver/cgi/admin/ratecontrol.cgi?action=set&mode=vbr&quality=2

2. Set CBR、1500kbps.

   http://myserver/cgi/admin/ratecontrol.cgi?action=set&mode=cbr&bitrate=1500

3. Get Rate Control indormation

   http:// myserver /cgi/admin/ratecontrolcgi?action=list

return:

success	HTTP/1.1 200 OK Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n mode: VBR\r\n quality: Normal\r\n \r\n
failed	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

22. Resolution

Set resolution

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax: **http://<servername>/cgi/admin/resolution.cgi?action=<value>&mode=<value>[&<parameter>=<value>...]**

with the following parameters and value

parameter	**Value**	**Description**
action=<string>	set, list	**set** = change resolution of specified parameters . **list =** list resolution information
mode=<string>	h264/mpeg4/mjpeg	Set resolution mode
quality=<int>	0-4 (very high/high/normal/low/very low)	The quality value only for MJPEG
resolution=<int>	0-12 0: 2048x1536(QXGA) 1: 1920x1080(1080P) 2: 1280x1024(SXGA) 3: 1280x960(960P) 4: 1280x720(720P) 5: 720x480(D1) 6: 640x480(VGA) 7: 320x240(QVGA) 8: 176x144(QCIF) ~~9: 1920x1080(1080P),Default~~ 10: 2592x1920 ~~11: 2560x1920~~ 12:1080x1920(Corridor Mode)	Set resolution value Note: 1. MPEG4 maximum resolution is 1080P, and minimize resolution is QVGA 2. When H264 or MPEG4 resolution is above 960P, MJPEG resolution always VGA. ~~3. The index of 9, include main stream resolution is 1080P and second stream resolution is VGA.~~ 4. when IVS enable, only support QXGA/1080P/SXGA/960P/720P 5. Resolution 1080x1920(12) only support H.264/ IVS disable/video stabilization disable
framerate=<int>	0-9 0: 30fps 1: 25fps 2: 20fps 3: 15fps 4: 10fps 5: 8fps 6: 5fps 7: 3fps 8: 2fps 9: 1fps	Set frame rate value Note: 1. QXGA maximum frame rate is 25fps 2. 5M maximum frame rate is 15fps. 3. Other resolution frame rate is 30fps.

Example:

1. Set MPEG4、1080P、25fps

   http://myserver/cgi/admin/resolution.cgi?action=set&mode=mpeg4&resolution=1&framerate=1

2. Set H.264、QXGA、15fps.

   http://myserver/cgi/admin/resolution.cgi?action=set&mode=h264&resolution=0&framerate=3

2. Set MJPEG、QXGA、15fps、normal.

   http://myserver/cgi/admin/resolution.cgi?action=set&mode=mjpeg&quality=2&resolution=0&framerate=3

3. Get Rate Control information

   http://myserver/cgi/admin/resolution.cgi?action=list

return:

success	HTTP/1.1 200 OK Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n [H.264]\r\n resolution: QXGA\r\n frame rate: 15fps\r\n [MJPEG] resolution: QXGA\r\n frame rate: 15fps\r\n quality: Normal\r\n \r\n
failed	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

23. Video Intelligent

Set intelligent video parameters

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax:

```
http://<servername>/cgi/videoanalytics/videointelligent.cgi?mode=<value>&
[&<parameter>=<value>...]
```

with the following parameters and value

Parameter	Value	Description
mode=<String>	fd, imd, oc, tz, td, ivs	ivs = IVS Mode fd = Face Detection imd = iMotion Detection oc = Object Counting tz = Trip Zone td = Tamper Detection
enable	yes no	Whether to enable this video intelligent

mode = ivs

Parameter	Value	Description
enable	yes no	enable/disable IVS mode
act	get_ivs_status	Get current status of IVS functions

mode = fd

Parameter	Value	Description
fd_markup	yes no reverse	yes: mark detected face no: no mark reverse: mark detected face by blank rectangle
server_IP	IP address	
server_PORT	port number	

Example:

1. Enable face detection function
   `http://myserver/cgi/videoanalytics/videointelligent.cgi?mode=fd&enable=yes`
2. Enable object counting function
   `http://myserver/cgi/videoanalytics/videointelligent.cgi?mode=oc&enable=yes`
3. Set detect region of face detection to full frame.
   `http://myserver/cgi/videoanalytics/videointelligent.cgi?mode=fd&view=full`
4. Output one crop of detected face and a full frame, then set the server IP to 192.168.1.99
   `http://myserver/cgi/videoanalytics/videointelligent.cgi?mode=fd&enable=yes&fd_markup=yes&server_ip=192.168.1.99`
5. Enable IVS mode
   `http://myserver/cgi/videoanalytics/videointelligent.cgi?mode=ivs&enable=yes`

return:

success	HTTP/1.1 200 OK\r\n Content-Type: text/html; charset='UTF-8'\r\n Content-Length: 47\r\n\r\n [FACE]\r\n [fd]\r\n enable OK\r\n [markup]\r\n yes OK\r\n\r\n

24. AirLive NVR Type

Set NVR type to IP camera, only for AirLive.

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax:

http://<servername>/cgi/admin/airlivenvr.cgi?mode=<value>

with the following parameters and value

Parameter	Value	Description
mode=<String>	amtk	Set Airlive NVR type to IP camera

Example:

1. Enable face detection function
   http://myserver/cgi/admin/airlivenvr.cgi?mode=amtk

return:

success	HTTP/1.1 200 OK\r\n Content-Type: text/ plain\r\n Content-Length: 13\r\n\r\n [Mode]:amtk\r\n\r\n

25. GOV

Set GOV

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax: **http://<servername>/cgi/admin/gov.cgi?action=<value>&gov=<value>**
[&<parameter>=<value>...]

with the following parameters and value

parameter	**Value**	**Description**
action=<string>	set, list	**set** = change GOV of specified parameters . **list =** list resolution information
gov=<int>	1-100	Set gov value

Example:

1. Set GOV

   http://myserver/cgi/admin/gov.cgi?action=set&gov=30

2. Get GOV information

   http://myserver/cgi/admin/gov.cgi?action=list

26. Recording Schedule

Add recording schedule.

Note: This requires administrator access (administrator authorization). Method: Get

Syntax: **http://<servername>/ cgi/record/schedule.cgi?action=<value> [&<parameter>=<value>...]**

with the following parameters and value

<parameter>=<value>	**Value**	**Description**
action=<string>	list, modify	**list** = list a recording schedule information. **modify** = modify recording schedule.
enable	yes/no	whether to enable recording.
storage	sd/usb	external storage device(sd card/usb)
size	10 ~ 50	maximum size of each file
sch_time_mode	0: recording always. 1: recording by time.	recording schedule time mode.
sch_time_sun	yes/no	recording schedule day-Sunday.
sch_time_mon	yes/no	recording schedule day-Monday.
sch_time_tue	yes/no	recording schedule day-Tuesday.
sch_time_wed	yes/no	recording schedule day-Wednesday.
sch_time_thu	yes/no	recording schedule day-Thursday.
sch_time_fri	yes/no	recording schedule day-Friday.
sch_time_sat	yes/no	recording schedule day-Saturday.
sch_time_begin_h	0 ~ 23	recording schedule begin hour.
sch_time_begin_m	0 ~ 59	recording schedule begin minute.
sch_time_end_h	0 ~ 23	recording schedule end hour.
sch_time_end_m	0 ~ 59	recording schedule end minute.

Example:

(1) Enable recording.

http://myserver/cgi/record/schedule.cgi?enable=yes&storage=sd&size=10

return:

Succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n OK\r\n
Failed	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 recording information.

http://myserver/cgi/record/schedule.cgi?action=list

return:

Succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n [Recording Schedule] enable=”yes”\r\n storage=”sd card”\r\n size=”10 MB”\r\n …
Failed	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

27.SD parameter

Add playback video streaming CGI

Note: This requires administrator access (administrator authorization). Method: Get

Syntax: **http://<servername>/ param.cgi?action=<value> &group=<value>**

with the following parameters and value

<parameter>=<value>	**Value**	**Description**
action=<string>	list	**list** = list a SD information **note :** 1. need enable storage recording to sd card
group=<value>	Playback.Enabled Playback.SD.Usage	**Playback.Enable** = check SD exist or not **Playback.SD.Usage** = check SD used space

Example:

(1) Check SD exist

http://myserver/param.cgi?action=list&group=Playback.Enabled

return:

Succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n \r\n playback.Enable=1\r\n
Failed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n \r\n playback.Enable=0\r\n

(2) List SD space information.

http://myserver/param.cgi?action=list&group=Playback.SD.Usage

return:

Succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n \r\n Playback.SD.Usage=58%\r\n
Failed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n \r\n Playback.SD.Usage=0%\r\n

28.SD Playlist CGI

Add playback video streaming CGI

Note: This requires administrator access (administrator authorization). Method: Get

Syntax: **http://<servername>/ playlist.cgi?action=<value> &group=<value> [&<parameter>=<value>...]**

with the following parameters and value

<parameter>=<value>	**Value**	**Description**
action=<string>	list download check	**list** = list storage file information **download** = download file **check** = check device status
listtype=<int>	0: event list. 1: recording list. 2: IVS daily report(Auto). 3: IVS daily report(Manual).	Change list type **Note** 1. IVS daily report only support IVS series
devicetype=<int>	0: usb. 1: sd card.	Change list device type **Note** 2. IVS daily report only support SD card
page=<int>	1~65536	50 files in one page to show
filename	string	filename to download

Example:

(1) List event SD files

http://myserver/playlist.cgi?action=list&listtype=0&devicetype=1&page=1

return:

Succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n \r\n Count:50\r\n IP2125P-01272014-111017.avi\r\n IP2125P-01272014-173818.avi\r\n IP2125P-01272014-173833.avi\r\n IP2125P-01272014-173849.avi\r\n IP2125P-01272014-173904.avi\r\n …… …… ……
Failed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n \r\n Count:0 \r\n

(2) download file from USB device

http://myserver/playlist.cgi?action=download&devicetype=0&listtype=1&filename=xxxxxx x.avi

return:

Succeed	start downloading file…
Failed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n \r\n File not exist or no filename \r\n

(3) check device status

http://myserver/playlist.cgi?action=check&devicetype=0

return:

Succeed	USB exist
Failed	USB not exist

29.SD Playback CGI

Add playback video streaming CGI

Note: This requires administrator access (administrator authorization). Method: Get

Syntax: **http://<servername>/ playback.cgi?action=<value> &file=<filename>**

with the following parameters and value

<parameter>=<value>	**Value**	**Description**
action=<string>	get	**get** = download the file
file=<filename>	filename.avi	The file name in the sd card

Example:

(1) Download file from SD

http://myserver/ playback.cgi?action=get&file=IP2125P-01272014-202022.avi

return:

Succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n \r\n RIFF y..AVI LIST....hdrlavih8...5.....8.....LISTt...strlstrh8...vidsH264..... .....@B.....strf(...(.....8.....H264..^.....LISTL...INFOISFT@... .....
Failed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n \r\n File:<IP2125P-01272014-2020222.avi>, no exist\r\n

30. Statistics Record

Export statistics records.

Note: This requires administrator access (administrator authorization). Method: Get

Syntax: http://<servername>/cgi/admin/va_trigger.cgi?action=<value> [&<parameter>=<value>...]

with the following parameters and value

<parameter>=<value>	**Value**	**Description**
action=<string>	inquire	Get current status, return in json format. 'period' must be set to 0, 'begin' and 'end' are not needed.
	export	Export statistic records as csv file.
	reset	Delete all records of specified period, return numbers of deleted records in json format. 'period' must not be set to 0, 'begin' and 'end' are not needed.
mode	fd oc tz imd	Which records of IVS function will be exported. fd = Face Detection oc = Object Counting tz = Tripzone imd = iMotion Detection
period	0 ~ 3	Which records of period will be selected. 0 = Current Status 1 = Minutely 2 = Daily 3 = Hourly
begin	month-day%20hour:minute	search time begins, %20 is the html character code of space, ex: 10-21%2012:31
end	month-day%20hour:minute	search time ends, %20 is the html character code of space, ex: 10-21%2012:31

Example:

1. **Inquire current face detection status.**
   http://myserver/cgi/admin/va_trigger.cgi?action=inquire&mode=fd&period=0
   return:

Succeed	HTTP/1.1 200 OK
	Content-Type: application/json; charset=UTF-8
	Content-Length: 74
	
	{
	"records": [
	{
	"datetime": "2014-04-11 15:13:01",
	"count": "8",
	"face_id": "0"
	}
	]
	}

2. **Export daily face detection statistics records from Jan. 1 to Dec. 31**
   http://myserver/cgi/admin/va_trigger.cgi?action=export&mode=fd&period=2&begin=1-1%200:0&end=12-31%2023:59
   return:

Succeed	HTTP/1.1 200 OK Content-Type: text/csv Content-Length: 40 Connection: keep-alive Content-Disposition: attachment; filename=fd_event_log.csv Set-Cookie: fileDownload=true; path=/ 2014-02-12 13:58,3 2014-02-123:59,3

3. **Reset minutely face detection statistics records**
   http://myserver/cgi/admin/va_trigger.cgi?action=reset&mode=fd&period=1
   return:

Succeed	HTTP/1.1 200 OK
	Content-Type: application/json; charset=UTF-8
	Content-Length: 21
	
	{
	"rec_deleted": "559"
	}

31. Event Schedule

Add a new event schedule, modify the information and remove a event schedule.

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax: **http://<servername>/ cgi/event/schedule.cgi?action=<value> [&<parameter>=<value>...]**

with the following parameters and value

<parameter>=<value>	**Value**	**Description**
action=<string>	add, update, remove , list, listall	**add** = create a new event schedule. **update** = change the event schedule information of specified parameters if the event schedule exists. **remove** = remove an existing event schedule. **list** = list a event schedule information.. **listall =** list all event schedule information.
enable	yes/no	Whether to enable this event schedule.
name	<string> (max length: 20 characters)	The name of this event schedule.
enable_md	yes/no	enable motion detection event trigger.
motion_window_id	1-3	The ID of motion detect window.
enable_fd	yes/no	enable face detection event trigger. Note: support IVS series
enable_td	yes/no	enable tamper detection event trigger. Note: support IVS series
enable_imd	yes/no	enable i-motion detection event trigger. Note: support IVS series
enable_tz	yes/no	enable trip zone event trigger. Note: support IVS series
enable_oc	yes/no	enable object counting event trigger. Note: support IVS series
enable_di1	yes/no	enable digital input 1 event trigger.
enable_di2	yes/no	enable digital input 2 event trigger.
di1_type	low/high	digital input 1 event trigger type.

di2_type	low/high	digital input 2 event trigger type.
sdfail_notif	yes/no	enable SD card Fail Notification.
sdfail_notif_time	1~10 minutes	event SD card Fail Notification time.
enable_sch_time	yes/no	enable schedule time.
sch_time_mode	0: event trigger always. 1: event trigger by time.	event trigger time mode.
sch_time_sun	yes/no	event schedule day-Sunday.
sch_time_mon	yes/no	event schedule day-Monday.
sch_time_tue	yes/no	event schedule day-Tuesday.
sch_time_wed	yes/no	event schedule day-Wednesday.
sch_time_thu	yes/no	event schedule day-Thursday.
sch_time_fri	yes/no	event schedule day-Friday.
sch_time_sat	yes/no	event schedule day-Saturday.
sch_time_begin_h	0 ~ 23	event trigger begin hour.
sch_time_begin_m	0 ~ 59	event trigger begin minute.
sch_time_end_h	0 ~ 23	event trigger end hour.
sch_time_end_m	0 ~ 59	event trigger end minute.
enable_trigger_do	yes/no	enable digital output when event trigger
trigger_do_sec	1 ~ 60	digital output sec when event trigger.
enable_audio_file_playback	yes/no	enable audio file playback

Example:

(1) Create a new event schedule.

http://myserver/cgi/event/schedule.cgi?action=add&name= test

return:

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

Failed	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 a event schedule.

http://myserver/cgi/event/schedule.cgi?action=list&name=test

return:

Succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n [test] enable=”yes”\r\n enable_md=”no”\r\n enable_di1=”yes”\r\n …
Failed	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

32. IVS Support

get IVS support status

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax: **http://<servername>/cgi/admin/ivs_support.cgi?action=<value>**

with the following parameters and value

parameter	**Value**	**Description**
action=<string>	get	**get =** get IVS support status

Example:

1. get IVS support status

   http://myserver/cgi/admin/ivs_support.cgi?action=get

return:

Succeed	HTTP/1.1 200 OK\r\n Content-Type: text/plain\r\n Content-Length: <content length>\r\n \r\n IVS Support : YES\r\n
Failed	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

33. Remote Focus

set lens motor position

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax: **http://<servername>/cgi/admin/remotefocus.cgi?<parameter>=<value>**

with the following parameters and value

parameter	**Value**	**Description**
zoomtele/zoomwide	1 ~ 250	**Motor's moving steps**

Example:

1. set motor position

   http://myserver/cgi/admin/ motolenscontrol.cgi?zoomtele=1

return:

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

34. IVS Event Status

Check IVS events status.

Note: This requires administrator access (administrator authorization). Method: Get

Syntax: http://<servername>/cgi/admin/ivs_status.cgi

Example:

1. **Inquire current event status.**
   http://myserver/cgi/admin/ ivs_status.cgi
   return:

Succeed	HTTP/1.1 200 OK Content-Type: text/html; charset='UTF-8' Content-Length: 36 fd=0,ctd=1,imd=0,tz=0,oc=1,fr=0,ef=0

Remark:
fd: Face Detection
ctd: Tamper Detection
imd: iMotion Detection
tz: Trip Zone
oc: Object Counting
fr: Face Recogzize
ef: Electric Fence
If the value is 1, the corresponding event was triggered since last query.

35. Mobile Stream

set mobile stream

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax: **http://<servername>/cgi/admin/59?<parameter>=<value>**

with the following parameters and value

parameter	**Value**	**Description**
action=<string>	list, set	**list =** list mobile stream infomation **set =** set mobile stream
mode=<int>	0, 1	**0 =** disable **1 =** enable
resolution=<int>	0, 1, 2	**0 =** 176x144 (QCIF) **1 =** 320x240 (QVGA) **2 =** 640x480 (VGA) Note : when IVS disable, resolution always QCIF

Example:

1. enable mobile stream and set resolution to VGA

   http://myserver/cgi/admin/ mobile.cgi?action=set&mode=1&resolution=2

return:

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

36. Privacy Mask

set privacy mask

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax: **http://<servername>/cgi-bin/admin/privacymask.cgi?<parameter>=<value>**

with the following parameters and value

parameter	**Value**	**Description**
action=<string>	list, set	**list =** list privacy mask information **set =** set privacy mask
enableprivacywin1=<string>	enable, disable	enable/disable privacy mask windows 1
enableprivacywin2=<string>	enable, disable	enable/disable privacy mask windows 2
enableprivacywin3=<string>	enable, disable	enable/disable privacy mask windows 3
enableprivacywin4=<string>	enable, disable	enable/disable privacy mask windows 4
privacyrectwin1=<int,int,int,int>	left,top,right,bottom	left : The left value of privacy mask window. top : The top value of privacy mask window. right : The right value of privacy mask window. bottom : The bottom value of privacy mask window.
privacyrectwin2=<int,int,int,int>	left,top,right,bottom	left : The left value of privacy mask window. top : The top value of privacy mask window. right : The right value of privacy mask window. bottom : The bottom value of privacy mask window.
privacyrectwin3=<int,int,int,int>	left,top,right,bottom	left : The left value of privacy mask window. top : The top value of privacy mask window. right : The right value of privacy mask window. bottom : The bottom value of privacy mask window.
privacyrectwin4=<int,int,int,int>	left,top,right,bottom	left : The left value of privacy mask window. top : The top value of privacy mask window. right : The right value of privacy mask window. bottom : The bottom value of privacy mask window.

Example:

1. enable privacy mask windows1 and set mask windows1 coordinate

http://myserver/cgi-bin/admin/privacymask.cgi?action=set&enableprivacywin1=enable&privacyrectwin1=10,10,100,100

return:

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

37. Video Stabilization

set video stabilization

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax: **http://<servername>/cgi-bin/admin/video_stabilization.cgi?<parameter>=<value>**

with the following parameters and value

parameter	**Value**	**Description**
action=<string>	list, set	**list =** list video stabilization information **set =** set video stabilization
mode=<string>	enable, disable	enable/disable video stabilization Note 1. Only support H.264、IVS disable and corridor mode disable 2. Video resolution change to 1280x720(720P)

Example:

1. enable video stabilization

http://myserver/cgi-bin/admin/video_stabilization.cgi?action=set&mode=enable

return:

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

38. Smart IR

set smart IR

Note: This requires administrator access (administrator authorization).

Method: Get

Syntax: **http://<servername>/cgi-bin/admin/smart_ir.cgi?<parameter>=<value>**

with the following parameters and value

parameter	**Value**	**Description**
action=<string>	list, set	**list =** list smart IR information **set =** set smart IR
mode=<string>	enable, disable	enable/disable smart IR Note 1. Only support IR-Cut Auto/Night Mode/Schedule

Example:

2. enable smart IR

http://myserver/cgi-bin/admin/smart_ir.cgi?action=set&mode=enable

return:

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

39. HTTP code and meanings

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	Service Unavailable	The server is unable to handle the request due to temporary overload.

Appendix A

A1. Security level

Security level	Description
0	Unprotected, but it is not possible to access the camera from outside without at least view rights.
1	View access right needed to access the parameter.
4	Operator access right needed to access the parameter.
6	Administrator access right needed to access the parameter.
7	Internal parameters that can only be changed by firmware applications or by root, editing the configuration files directly.

A2. Parameter Group

[General]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Brand	*	A string (Auto generated)	0/7	The brand of the product.
ProdFullName	*	A string (Auto generated)	0/7	The full name of the product.
ProdNbr	*	A string (Auto generated)	0/7	The product number.
ProdType	*	Video Server, Network Camera, Network Video Recorder (Auto generated)	0/7	The product type.
ProdBuild	*	A number	0/7	The product build

* The default value for these parameters is product specific.

ProdType: 0-> Video Server 1-> Network Camera 2->Network Video Recorder

[Hardware]

Parameter name	Default value	Valid values	Security level (get/set)	Description
H.264	*	0/1	0/7	H.264stream is available or not.
MPEG4	*	0/1	0/7	Mpeg4 stream is available or not.
MJPEG	*	0/1	0/7	Motion-Jpeg stream is available or not

MicIn	*	0/1	0/7	Audio stream from device to PC.
AudioOut	*	0/1	0/7	Audio from PC to device
PT	*	0/1	0/7	Pan-Tilt model
Zoom	*	0/1	0/7	Zoom Lens available
NightSensor	*	0/1	0/7	Night sensor available
Wireless	*	0/1	0/7	Wireless available
RS485	*	0/1	0/7	RS-485 protocol support
TriggerIn	*	0-number	0/7	Numbers of trigger in
TriggerOut	*	0-number	0/7	Numbers of trigger-out
MotionDetect	*	0/1	0/7	Motion detection is available
USB	*	0/1	0/7	USB slot is available
SDCard	*	0/1	0/7	SD slot is available

* The default value for these parameters is product specific.

[System.Info]

Parameter name	**Default value**	**Valid values**	**Security level (get/set)**	**Description**
ServerName	*	A string	0/6	Server name.
ServerLocation	*	A string	0/6	Server location

MACAddress	*	xx:xx:xx:xx:xx:xx	0/7	MAC address
ModelName	*	A string	0/7	Model name
FWVersion	*	X.Y.Z (ex:1.0.0)	0/7	Firmware version
FWBuild	*	A number	0/7	Firmware build number
CGI	*	A string	0/7	CGI SPEC Version
ModelNumber	*	A string	0/7	Model Number
PlatformType	*	A string	0/7	PlatformType=2 specifies the platform of the TIDSP series camera

[Network]

Parameter name	**Default value**	**Valid values**	**Security level (get/set)**	**Description**
BootProto	dhcp_ipn4_ipn6	dhcp_ipv4, dhcp_ipn4_ipn6, static_ipv4_ipv6, pppoe	6/6	IP address assignment method.

DefaultRouter	192.168.1.254	An IP address	6/6	Default router/gateway used for connecting devices attached to different networks and network segments.
DNSServer1	192.168.1.254	An IP address	6/6	Primary Domain Name System server.
DNSServer2	0.0.0.0	An IP address	6/6	Secondary

				Domain Name System server.
InterfaceSelectMode[1]	auto	auto,	6/7	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	192.168.1.100	An IP address	6/6	IP Address. The physical address of the device on the network.
Media	auto	auto,	6/7	Media type on the network.
SubnetMask	255.255.255.0	An IP address	6/6	Subnet mask. Divides the network.

[Network.PPPoE]

Parameter name	Default value	Valid values	Security level (get/set)	Description
UserName		A string	6/6	The user name for the PPPoE server.
Password		A string	6/6	The password for the PPPoE server.

[Network.DNSUpdate]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Provider	DynDNS.com	<ProviderList>	6/6	DDNS provider.
DNSName		<absolute domain name> or <domain name relative to root>	6/6	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	no	yes, no	6/6	Enable/disable dynamic DNS service.
UserName		A String	6/6	
Password		A String	6/6	
ProviderList	DynDNS.com,	A String	6/7	List all DDNS Provider. Each

	TZO.com, 3322.Com, Freedns.org			provider is separated by a semicolon [format] www.provider1.com; www.provider2.org; www.provider3.net...

[Network.UPnP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	yes	yes, no	6/6	Enables Universal Plug and Play.

[Network.Advanced.HTTPS]

Parameter name	**Default value**	**Valid values**	**Security level (get/set)**	**Description**
Enabled	no	A string (yes, no)	6/6	HTTPS enable/disable message
HttpsPort	443	1..65535	6/6	HTTPS port

[Network.Advanced.Bonjour]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	yes	A string (yes, no)	6/6	Bonjour enable/disable message
FriendlyName	Camera Name XXXXXXXXXXXX	A string (XXX means last tree octets	6/7	Bonjour friendly name

[Network.Advanced.Multicast]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	A string (yes, no)	6/6	Multicasting enable/disable message
GroupIP	239.128.1.99	A string	6/6	Multicasting group IP
H264Port	5560	1..65535(even value only)	6/6	Multicasting H.264 port
MPEG4Port	5560	1..65535(even value only)	6/6	Multicasting mpeg4 port
AUDIOPort	5562	1..65535(even value only)	6/6	Multicasting audio port
TTL	15	1..255	6/6	Multicasting TTL

[Network.Advanced.QoS]

Parameter name	**Default value**	**Valid values**	**Security level (get/set)**	**Description**
Enabled	no	A string (yes, no)	6/6	QOS enable/disable message
Type	audio	A String(audio, video, both)	6/6	QOS processing policy
VideoDSCP	0	0..63	6/6	Video DSCP
AudioDSCP	0	0..63	6/6	Audio DSCP

[NetworkLED]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Usage	on	on, off	6/6	Network LED behavior. on = LED is allowed to lit. off = LED is not allowed to lit.

[IRCUT]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Usage	auto	auto, on, off, schedule	6/6	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	00~23	6/6	Start hour of time interval
StartMin	00	00~59	6/6	Start minute of time interval
EndHr	23	00~23	6/6	End hour of time interval
EndMin	59	00~59	6/6	End minute of time interval

[Event.Server.General]

Parameter name	Default value	Valid values	Security level (get/set)	Description
FileFormat	AVI	AVI, JPEG	6/6	File Format
EncodeFormat	H264	H264, MPEG4, JPEG	6/7	Decided by FileForamt. It is JPEG if FileFormat is JPEG; otherwise, it will be H264 or MPEG4 selected by main stream.
PreEvent	0	0~5	6/6	Duration of PreEvent in seconds.
PreEvent	5	0~5	6/6	Duration of PostEvent in seconds.

[Event.Server.SMTP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enable	no	yes, no	6/6	Enable SMTP Event server
FromEmail		An e-mail address	6/6	E-mail address of the individual or device from which the e-mail is sent.

MailServer1		An IP address or a host name	6/6	Primary mail server.
SmtpPort	25	1..65535	6/6	Smtp Port.
SSL	no	yes, no	6/6	Smtp over SSL
EmailTo		A string	6/6	E-mail address.
EmailTo2		A string	6/6	E-mail address.

[Event.Server.Authentication]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes, no	6/6	Enable/disable authentication.
UserName		A string	6/6	The user name for the mail server or the POP server.
Password		A string	6/6	The password for the mail server or the POP server.
WeakestMethod	Login	Login	6/7	The weakest method allowed for mail server login.

[Event.Server.FTP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enable	no	yes, no	6/6	Enable FTP Event server.
FTPServer		An IP address or a host name	6/6	FTP server address.
Port	21	1..65535	6/6	FTP server port.
UserName		A string	6/6	UserName to login the FTP server.
Password		A string	6/6	Password to login the FTP server.
Path		A string	6/6	Login path.
Passive	no	yes no	6/6	yes: Transfer data in passive mode. no: in active mode

[Event.Server.NetStorage]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enable	no	yes, no	6/6	Enable Samba Event server
SambaServer		An IP address or a host name	6/6	Samba server address.

Share		A string	6/6	Samba share folder name
Path		A string	6/6	Login path.
UserName		A string	6/6	UserName to login the samba server.
Password		A string	6/6	Password to login the samba server.

[Event.Server.External.Storage]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Mount	no	yes no	6/7	yes: the external storage has already mounted no: external storage is not mounted or is not existed.
TotalSpace		Digits	6/7	Total capacity of the external storage (MB).
FreeSpace		Digits	6/7	Free capacity for the external storage (MB).
DiskFull	stop	stop recycle	6/7	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

[Time]

Parameter name	Default value	Valid values	Security level (get/set)	Description
ServerDate		A date	6/6	The date (YYYY-MM-DD) when the device's time was set manually or synchronized with the computer.
ServerTime		A time	6/6	The time (hh:mm:ss) when the device's time was set manually or synchronized with the computer.
SyncSource	Product dependent	NTP, manually	6/6	The source to synchronize the time with; NTP or manually
TimeZone	22	0-62 (refer to Appendix B)	6/6	Time zone.

[Time.NTP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Server	0.0.0.0	An IP address or a host name	6/6	The NTP server to connect to when synchronizing the time in the device.
Update	06:00:00	A time (06:00:00 12:00:00 24:00:00)	6/6	Time interval (hh:mm:ss) between connections to the NTP server.

[ImageSource.IO.Sensor]

Parameter name	Default value	Valid values	Security level (get /set)	Description
Brightness	128	0 ... 255	6/6	The image brightness.
Contrast	128	0 ... 255	6/6	The image contrast.
Saturation	128	0 ... 255	6/6	The image saturation.
Sharpness	128	0 ... 255	6/6	The image sharpness.
Mirror	off	on,	4/4	Mirror the image

		off		horizontally
Flip	off	on, off	4/4	Mirror the image vertical
OverlayText	off	on, off	6/6	Put text overlay on the video
IncludeText	off	on, off	6/6	Overlay Text setting
OverlayDate	off	on, off	6/6	Put datetime overlay on the video
OverlayOpaque	off	on, off	6/6	on=overlay text with opaque background off=overlay text with transparent background

[Properties.Audio]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Audio	yes	yes, no	0/7	The product has audio support.
Talk		yes, no	0/7	
Format	ulaw	ulaw	0/7	The supported formats separated by commas, e.g.ulaw.

[System]

Parameter name	Default value	Valid values	Security level (get/set)	Description
HTTPPort	80	1..65535	6/6	HTTP port number.
RTSPPort	554	1..65535	6/6	RTSP port number.

[Image.MJPEG]

Parameter name	Default value	Valid values	Security level (get /set)	Description
Resolution	Product	0, 1, ~~3, 5~~, 7, 13, 16, 17, 19, 22,	4/4	MJPEG stream resolution 0:640x480 1:320x240 ~~3:720x480~~ ~~5:1280x720~~ 7:1280x1024 13: 176x144 16: 1280x960 17: 1920x1080 19: 2048x1536 22: 2592x1920
Framerate	30	1, 2, 3, 5, 8, 10, 15, 20, 25(, 30)	4/4	MJPEG stream frame rate per second
Quality	Product	0-4	4/4	MJPEG stream quality, 0 is lowest, 4 is highest

[Image.MPEG4]

Parameter name	Default value	Valid values	Security level (get /set)	Description
Resolution	Product	0, 1, 3, 5, 7, ~~13,~~ 16,	4/4	MPEG4 stream resolution 0:640x480 1:320x240 3:720x480 5:1280x720 7:1280x1024 ~~13: 176x144~~ 16: 1280x960
Framerate	30	1, 2, 3, 5, 8, 10, 15, 20, 25(, 30)	4/4	MPEG4 stream frame rate per second.
Ratecontrol	vbr	vbr, cbr	4/4	MPEG4 stream rate control.
Quality	Product	0-4	4/4	MPEG4 stream quality, 0 is lowest, 4 is highest
Bitrate	1500	384~6000	4/4	MPEG4 stream constant bit rates. (kbps)

[Image.H264]

Parameter name	Default value	Valid values	Security level (get /set)	Description
Resolution	Product	0, 1, 3, 5, 7, 13, 16, 17, 19, 22, ~~25,~~	4/4	H.264stream resolution 0:640x480 1:320x240 3:720x480 5:1280x720 7:1280x1024 13: 176x144 16: 1280x960 17: 1920x1080 19: 2048x1536 22: 2592x1920 ~~25: 2560x1920~~
Framerate	30	1, 2, 3, 5, 8, 10, 15, 20, 25(, 30)	4/4	H.264 stream frame rate per second
Ratecontrol	vbr	vbr, cbr	4/4	H.264 stream rate control.
Quality	Product	0-4	4/4	H.264 stream quality, 0 is lowest, 4 is highest
Bitrate	1500	384~6000	4/4	H.264 stream constant bit rates. (kbps)

[Image.3GPP]

Parameter name	Default value	Valid values	Security level (get /set)	Description
Enabled	none	A string (none, video_audio, video)	6/6	3GPP option

[Audio]

Parameter name	Default value	Valid values	Security level (get/set)	Description
MicEnabled	yes	yes, no	6/6	Enable the Microphone input
SpeakerEnabled	yes	yes, no	6/6	Enable the speaker output
SpeakerVolume	Product	0..99		Speaker volume

[GPIO]

Parameter name	Default value	Valid values	Security level (get/set)	Description
TriggerIn#	on	A string (on, off)	#/6	Set Trigger Input on / off
TriggerOut#	low	A string (high, low)	#/6	Set Trigger Output Status high / low.
TriggerInStatus#	on	A string (on, off)	6/#	Get Trigger Input on / off Status
TriggerOutStatus#	low	A string (high, low)	6/#	Get Trigger Output Status

Note: The # is replaced with a number which based on the numbers of input/output pings starting from zero. e.g. TriggerIn0 , TriggerIn1 , TriggerIn2.

[RS485]

Parameter name	Default value	Valid values	Security level (get /set)	Description
Enable	no	A string (yes,no)	6/6	RS485 enable / disable message
Protocol	Pelco-D	A String(Pelco-D, Pelco-P, custom)	6/6	RS485 protocol setting
Address	1	0~254/1~32	6/6	Device address used in Pelco-D(0~254)/Pelco-P(1~32)

PanSpeed	0	0~9	6/6	Speed level of panning used in Pelco-D
TiltSpeed	0	0~9	6/6	Speed level of tilting used in Pelco-D
BaudRate	2400	A String(1200 2400 4800 9600 19200 38400 57600)	6/6	Baud rate of custom setting
DataBits	8	7, 8	6/6	Data bits of custom setting
Parity	none	A String(n one, odd, even, space	6/6	Parity of custom setting
StopBit	1	1, 2	6/6	Stop bit of custom setting
Home	(*)	A Hexadecimal String	6/6	Custom Home Command
Up	(*)	A Hexadecimal String	6/6	Custom Up Command
Down	(*)	A Hexadecimal String	6/6	Custom Down Command
Left	(*)	A Hexadecimal String	6/6	Custom Left Command
Right	(*)	A Hexadecimal String	6/6	Custom Right Command

ExName(1~5)	(*)	A String	6/6	External Command name (1~5)
ExCommand(1~5)	(*)	A Hexadecimal String	6/6	External Command (1~5)
Position(1~8)	(*)	A String	6/6	Name of presets p(1~8)

Appendix B TimeZone List

Index	Zone
0	(GMT-12:00) Eniwetok, Kwajalein
1	(GMT-11:00) Midway Island, Samoa
2	(GMT-10:00) Hawaii
3	(GMT-09:00) Alaska
4	(GMT-08:00) Pacific Time(US & Canada); Tijuana
5	(GMT-07:00) Arizona
6	(GMT-07:00) Mountain Time(US & Canada)
7	(GMT-06:00) Central Time(US & Canada)
8	(GMT-06:00) Mexico City, Tegucigalpa
9	(GMT-06:00) Saskatchewan
10	(GMT-05:00) Bogota, Lima, Quito
11	(GMT-05:00) Eastern Time(US & Canada)
12	(GMT-05:00) Indiana(East)
13	(GMT-04:00) Atlantic Time(Canada)
14	(GMT-04:00) Caracas, La Paz
15	(GMT-04:00) Santiago
16	(GMT-03:30) Newfoundland
17	(GMT-03:00) Brasilia
18	(GMT-03:00) Buenos Aires, Georgetown
19	(GMT-02:00) Mid-Atlantic
20	(GMT-01:00) Azores, Cape Verde Is.
21	(GMT) Casablanca, Monrovia
22	(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London
23	(GMT+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
24	(GMT+01:00) Belgrade, Bratislava, Budapest, Ljubljana, Prague
25	(GMT+01:00) Brussels, Copenhagen, Madrid, Paris, Vilnius
26	(GMT+01:00) Sarajevo, Skopje, Sofija, Warsaw, Zagreb
27	(GMT+02:00) Athens, Istanbul, Minsk
28	(GMT+02:00) Bucharest
29	(GMT+02:00) Cairo
30	(GMT+02:00) Harare, Pretoria
31	(GMT+02:00) Helsinki, Riga, Tallinn
32	(GMT+02:00) Israel
33	(GMT+03:00) Baghdad, Kuwait, Riyadh

34	(GMT+03:00) Moscow, St. Petersburg, Volgograd
35	(GMT+03:00) Nairobi
36	(GMT+03:30) Tehran
37	(GMT+04:00) Abu Dhabi, Muscat
38	(GMT+04:00) Baku, Tbilisi
39	(GMT+04:30) Kabul
40	(GMT+05:00) Eekaterinburg
41	(GMT+05:00) Islamabad, Karachi, Tashkent
42	(GMT+05:30) Bombay, Calcutta, Madras, New Delhi
43	(GMT+06:00) Almaty, Dhaka
44	(GMT+06:00) Colombo
45	(GMT+07:00) Bangkok, Hanoi, Jakarta
46	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi
47	(GMT+08:00) Perth
48	(GMT+08:00) Singapore
49	(GMT+08:00) Taipei
50	(GMT+09:00) Osaka, Sapporo, Tokyo
51	(GMT+09:00) Seoul
52	(GMT+09:00) Yakutsk
53	(GMT+09:30) Adelaide
54	(GMT+09:30) Darwin
55	(GMT+10:00) Brisbane
56	(GMT+10:00) Canberra, Melbourne, Sydney
57	(GMT+10:00) Guam, Port Moresby
58	(GMT+10:00) Hobart
59	(GMT+10:00) Vladivostok
60	(GMT+11:00) Magadan, Solomon Is., New Caledonia
61	(GMT+12:00) Auckland, Wellington
62	(GMT+12:00) Fiji, Kamchatka, Marshall Is.

Appendix C (Part of AXIS)

Streaming

1. JPEG SnapShot

axis-cgi/jpg/image.cgi?[camera=<int>&]resolution=<string>

Camera:1~4, specify the channel index of the video servers with more than one video input. Please allow snapshot for specified resolution. (please refer to axis document for other parameters)

2. MJPEG via Server Push

/mjpg[/<camera>]/video.mjpg

<camera> (optinal): 1~4, for video server with more than one video input. Return:
HTTP/1.0 200 OK\r\n
Content-Type: multipart/x-mixed-replace;boundary=--myboundary\r\n \r\n
--myboundary\r\n Content-Type: image/jpeg\r\n
Content-Length: 15656\r\n \r\n<*JPEG image data*>\r\n --myboundary\r\n Content-Type: image/jpeg\r\n Content-Length: 14978\r\n \r\n
<*JPEG image data*>\r\n --myboundary\r\n

3. Audio via Server Push

3.1 Single part

/axis-cgi/audio/receive.cgi?httptype=singlepart

Return:
HTTP/1.0 200 OK\r\n Content-Type: audio/basic\r\n \r\n
<Audio data> <Audio data>
<Audio data>

3.2 Multi-part (optinal)

/axis-cgi/audio/receive.cgi?httptype=multipart

Return:
HTTP/1.0 200 OK\r\n
Content-Type: multipart/x-mixed-replace;boundary=--myboundary\r\n

\r\n --myboundary\r\n

Content-Type: audio/basic\r\n \r\n

<Audio data>\r\n --

myboundary\r\n

.

3.3 Audio codec type

For axis, the Content-Type of audio:

audio/basic which is G.711 μ -law

~~audio/32KADPCM which is G.726 32kbit/s~~

~~audio/G723 which is G.726 24kbit/s~~

p.s. If the codec type conflict with axis's (for example: audio/32KADPCM is 32k adpcm rather than G726), please mention it in your document.

4 MPEG4/H.264 via RTSP(please refer to axis document RTSP API and RTSP protocol Real Time Streaming Protocol - RFC 2326, SDP protocol Session Description Protocol - RFC 2327, HTTP protocol Hypertext Transfer Protocol -- HTTP/1.0)

4.1 Support RTP embedded RTSP mode (must) and HTTP tunnel mode (optional).

4.2 RTSP URL:

4.2.1 MPEG4:

4.2.1.1 One channel: **rtsp://<host>/mpeg4/media.amp**

4.2.1.2 Multi-channel: **rtsp://<host>/mpeg4/<n>/media.amp**
(n: channel number, 1~n)

4.2.2 H.264:

4.2.2.1 One channel:
rtsp://<host>/axis-media/media.amp?videocodec=h264

4.2.2.2 Multi-channel:

rtsp://<host>/axis-media/media.amp?videocodec=h264&camera=<n>
(n: channel number, 1~n)

4.3 Keep-alive mechanism

4.3.1 Response from RTSP SETUP command contains timeout parameter (in seconds)

RTSP/1.0 200 OK

CSeq: 2

Session: 2059134171;timeout=60

Transport: RTP/AVP/TCP;unicast;interleaved=52-53;mode="PLAY"

4.3.2 The RTSP OPTIONS command is sent from client every 30 seconds to keep the session alive (<timeout>/2)

4.4 Media Sync. Mechanism

4.4.1 Response for RTSP PLAY command contains first audio/video RTP sequence number and synchronized audio/video RTP timestamp. **RTSP/1.0 200 OK**

CSeq: 25

Session: 07

RTP-Info: url=trackID=1;seq=40480;rtptime=501713931,

url=trackID=2;seq=53177;rtptime=2042136984

4.4.2 Please notice the correction of RTP timestamp. We refer this value to generate the audio/video synchronization information and recording timestamp.

4.5 Video Key header

4.5.1 Mpeg4: Please add VOS related header before every I-frame (at the same RTP packet) for storage issue.

4.5.2 H.264:

4.5.2.1 Axis doesn't add SPS and PPS header before every I-slice. And Axis doesn't add "start code prefix"(0x000001) before every header.

4.5.2.2 Please add SPS and PPS header before every I-slice and add "start code prefix" before every header. (behind RT P NAL uint)

5 Audio Post

5.1 Single part (Content-Type: pleas see 3.3 audio codec type)

POST /axis-cgi/audio/transmit.cgi HTTP/1.0\r\n Content-Type: audio/basic\r\n
Content-Length: 9999999\r\n Connection: Keep-Alive\r\n
Cache-Control: no-cache\r\n \r\n
<Audio data> <Audio data>
<Audio data>

5.2 Multi-part (optinal)

POST /axis-cgi/audio/transmit.cgi HTTP/1.0\r\n
Content-Type: multipart/x-mixed-replace; boundary=--myboundary\r\n Content-Length: 9999999\r\n
Connection: Keep-Alive\r\n Cache-Control: no-cache\r\n \r\n
--myboundary\r\n Content-Type: audio/basic\r\n \r\n

<Audio data>\r\n --myboundary\r\n
Content-Type: audio/basic\r\n \r\n
<Audio data> --myboundary\r\n Content-Type: audio/basic\r\n \r\n

<Audio data> --myboundary\r\n Content-Type: audio/basic\r\n \r\n

CGI

Video (param.cgi)

1. Get supported video codec /axis-cgi/admin/param.cgi?action=list&group=Properties.Image.Format
2. Get supported resolution list /axis-cgi/admin/param.cgi?action=list&group=Properties.Image.Resolution

Item	<g>group name	<p> parameter name	Read/Writ
Resolution	Image.I#	Appearance.Resolution	R/W
Quality	Image.I#	Apperance.Compression	R/W
Rate control	Image.I#	RateControl.Mode	R/W
Frame rate	Image.I#	Stream.FPS	R/W
Bit rate	Image.I#	RateControl.TargetBitrate	R/W

I#: # is the channel index of video servers with more than one input, the value starts from 0.

For example, for cameras (with only one video source), you only need to configure Image.I0. for the video server has 4 channels, you can configure Image.I0, Image.I1, Image.I2 and Image.I3. Note that in the URL of server push and rtsp streaming, the channel number starts from 1.

Audio (param.cgi)

1. **Get supported audio codec**
   /axis-cgi/admin/param.cgi?action=list&group=Properties.Audio.Format
2. **Get/Set current audio codec**
   /axis-cgi/admin/param.cgi?action=list&group=<g>
   /axis-cgi/admin/param.cgi?action=update&<g>.<p>=<v>

Item	<g>group name	<p> parameter name	Read/Write
Codec	AudioSource.A0	AudioEncoding	R/W

Event Trigger Notification

1. Motion Setting

1.1. add http server

/axis-cgi/admin/param.cgi?action=add&group=EventServers.HTTP&template=h ttp_config&EventServers.HTTP.H.Address=http://<http server ip>/<cgi>?Message=<message>

Return:

H# OK, where # is the index of the http server For example: H3 OK

1.2. add a window

/axis-cgi/admin/param.cgi?action=add&group=Motion&template=motion&Motion.M.Na me=FullWindow&Motion.M.Left=0&Motion.M.Right=9999&MotionM.T op=0&Motion.M.Bottom=9999

Return:

M# OK, # is the index of the window

1.3. add an event

/axis-cgi/admin/param.cgi?action=add&group=Event&template=event&Event.E.Type=

T&Event.E.SWInput=M#:

Where M# is the motion index gotten from 1.2. Return:

E# OK

1.4. add an action to the event

/axis-cgi/admin/param.cgi?action=add&group=Event.E#.Actions&template=http

action&Event.E#.Actions.A.Type=N&Event.E#.Actions.A.Server=H#&Event.E#.Actions. A.Message=<message>

Where E#, H# are gotten from the response of adding an event(1.3), http server(1.1).

Return:

A# OK