

HTTP/CGI Command Programing Guide

Revision Log

Date	Version	Description / Major change
2008/11/03	V2.0	Create document

1 HTTP/CGI COMMAND INDEX

Please refer to document:

1. ipcam_http_api.pdf
2. ipcam_http_param.pdf

2 SAMPLE COMMAND

2.1 System Category

2.1.1 Get brand Info

Example:

http://<servername>/cgi-bin/view/param?action=list&group=General.Brand

Return:

Parameter name	value	Security level (get/set)	Description
<i>Brand</i>	<i>String</i>	<i>0/7</i>	<i>The brand of the product.</i>
<i>ProdFullName</i>	<i>String</i>	<i>0/7</i>	<i>The full name of the product.</i>
<i>ProdNbr</i>	<i>String</i>	<i>0/7</i>	<i>The product number.</i>
<i>ProdShortName</i>	<i>String</i>	<i>0/7</i>	<i>The short name of the product.</i>
<i>ProdType</i>	<i>String</i>	<i>0/7</i>	<i>The product type.</i>
<i>WebURL</i>	<i>String</i>	<i>0/7</i>	<i>The URL to visit for support and information about the product.</i>

root.General.Brand.Brand=XXXX

root.General.Brand.ProdFullName=XXXX CMOS Network Camera

root.General.Brand.ProdNbr=F12345

root.General.Brand.ProdShortName=F12345 CMOS Network Camera

root.General.Brand.ProdType=Network Camera

root.General.Brand.WebURL=www.xxxxx.com

2.1.2 Get/Set account Info

Example: Get account information

http://<servername>/cgi-bin/view/param?action=list&group=General.UserID

Return:

Parameter name	value	Security level (get/set)	Description
<i>ViewerAuthen</i>	<i>on/off</i>	<i>6/6</i>	<i>Enable/disable viewer authentication.</i>
<i>ViewerModeDefault</i>	<i>000007ff, 0000063f, 0000003f</i>	<i>6/6</i>	<i>Security level. 000007ff for administrator, 0000063f for operator, 0000003f for viewer.</i>

Version	string	1/0	Hardware version
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root.Properties.Hardware.Version=00

2.1.5 Get video support format

Example:

http://<servername>/cgi-bin/view/param?action=list&group=Properties.Image.Format

Return:

Parameter name	value	Security level (get/set)	Description
Format	string	1/0	Board support video format. (separated by “,”)

root.Properties.Image.Format=mpeg4,mjpeg

2.1.6 Get video support resolution

Example:

http://<servername>/cgi-bin/view/param?action=list&group=Properties.Image.Resolution

Return:

Parameter name	value	Security level (get/set)	Description
Resolution	string	1/0	Board support video resolution. (separated by “,”)

root.Properties.Image.Resolution = 176x120,352x240,720x480

2.1.7 Get PTZ support info

Example:

http://<servername>/cgi-bin/view/param?action=list&group=Properties.PTZ.PTZ

Return:

Parameter name	value	Security level (get/set)	Description
PTZ	yes, no	1/0	Board support PTZ capability

root.Properties.PTZ.PTZ=yes

2.1.8 Get DIDO support info

Example:

http://<servername>/cgi-bin/view/param?action=list&group=Properties.DIDO

Return:

Parameter name	value	Security level (get/set)	Description
DI.DI	yes, no	1/0	Board support DI capability
DI.Type	virtual, physical	1/0	Board support DI type
DO.DO	yes, no	1/0	Board support DO capability

<i>DO.Type</i>	<i>virtual, physical</i>	<i>1/0</i>	<i>Board support DO type</i>
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root.Properties.DIDO.DI.DI=no

root.Properties.DIDO.DI.Type=virtual

root.Properties.DIDO.DO.DO=no

root.Properties.DIDO.DO.Type=virtual

2.1.9 Get Motion Detection support info

Example:

<http://<servername>/cgi-bin/view/param?action=list&group=Properties.Motion.Motion>

Return:

Parameter name	value	Security level (get/set)	Description
<i>Motion</i>	<i>yes, no</i>	<i>1/0</i>	<i>Board support Motion Detection capability</i>

root.Properties.Motion.Motion=yes

2.1.10 Get audio support info

Example:

<http://<servername>/cgi-bin/view/param?action=list&group=Properties.Audio>

Return:

Parameter name	value	Security level (get/set)	Description
<i>Audio</i>	<i>yes, no</i>	<i>1/0</i>	<i>Board support Audio capability</i>
<i>Format</i>	<i>string</i>	<i>1/0</i>	<i>Board support Audio format</i>

root.Properties.Audio.Audio=176x120,352x240,720x480

root.Properties.Audio.Format=g711

2.1.11 Get/Set Network Interface info

Example: Get Network interface information

<http://<servername>/cgi-bin/view/param?action=list&group=General.Network.eth0>

Return:

Parameter name	value	Security level (get/set)	Description
<i>Broadcast</i>	<i>IP address</i>	<i>6/6</i>	<i>Broadcast address. (read only)</i>
<i>DNSAuto</i>	<i>on, off</i>	<i>6/6</i>	<i>Specifies if the DNS server should be obtained from a DHCP server.</i>
<i>DNSServer1</i>	<i>IP address</i>	<i>6/6</i>	<i>Primary Domain Name System server.</i>
<i>DNSServer2</i>	<i>IP address</i>	<i>6/6</i>	<i>Secondary Domain Name System server.</i>
<i>BootProto</i>	<i>dhcp,</i>	<i>6/6</i>	<i>Enable/disable dynamic IP address</i>

	<i>none</i>		<i>assignment.</i>
<i>IPAddress</i>	<i>IP address</i>	<i>6/6</i>	<i>IP address. The physical address of the device on the network.</i>
<i>MACAddress</i>	<i>00:xx:xx:xx:xx:xx</i>	<i>6/4</i>	<i>MAC address. The unique identity of the device. (read only)</i>
<i>SubnetMask</i>	<i>IP address</i>	<i>6/6</i>	<i>Subnet mask. Divides the network</i>
<i>DefaultRouter</i>	<i>IP address</i>	<i>6/6</i>	<i>Default gateway address</i>
<i>IPAddressRange</i>	<i>string</i>	<i>6/6</i>	<i>Auto assign range when DHCP fail. Ex: 192.168.0.99-192.168.0.254</i>

root.General.Network.eth0.Broadcast=192.168.1.255

root.General.Network.eth0.DNSAuto=192.168.1.255

root.General.Network.eth0.DNSServer1=192.168.1.255

root.General.Network.eth0.DNSServer2=192.168.1.255

root.General.Network.eth0.BootProto=192.168.1.255

root.General.Network.eth0.IPAddress=192.168.1.255

root.General.Network.eth0.MACAddress=192.168.1.255

root.General.Network.eth0.SubnetMask=192.168.1.255

root.General.Network.eth0.DefaultRouter=192.168.1.255

root.General.Network.eth0.IPAddressRange=192.168.1.255

Example: Set Network interface information

http://<servername>/cgi-bin/admin/param?action=update&General.Network.eth0.BootProto=off&General.Network.eth0.IPAddress=192.168.1.99

Return:

OK

2.1.12 Get/Set UPNP info

Example: Get UPnP information

http://<servername>/cgi-bin/view/param?action=list&group=General.Network.UPnP

Return:

Parameter name	value	Security level (get/set)	Description
<i>Enabled</i>	<i>yes, no</i>	<i>6/6</i>	<i>Enables Universal Plug and Play.</i>
<i>NATTraversal.Enabled</i>	<i>yes, no</i>	<i>6/6</i>	<i>Enables/disables NAT traversal.</i>
<i>NATTraversal.Enabled</i>	<i>number</i>	<i>6/6</i>	<i>Number of HTTP port for NAT traversal.</i>
<i>NATTraversal.Enabled</i>	<i>number</i>	<i>6/6</i>	<i>Number of MPEG4 port for NAT traversal.</i>

<i>NATTraversal.Enabled</i>	<i>number</i>	<i>6/6</i>	<i>Number of MJPEG port for NAT traversal.</i>
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root.General.Network.UPnP.Enabled=yes

root.General.Network.UPnP.NATTraversal.Enabled=no

root.General.Network.UPnP.NATTraversal.HTTPPort=80

root.General.Network.UPnP.NATTraversal.HTTPViewerPort=8090

root.General.Network.UPnP.NATTraversal.HTTPViewerPort2=8070

Example: Set UPnP information

http://<servername>/cgi-bin/admin/param?action=update&General.Network.UPnP.Enabled=yes&General.Network.UPnP.NATTraversal.Enabled=no

Return:

OK

2.1.13 Get/Set PPPoE info

Example: Get PPPoE information

http://<servername>/cgi-bin/view/param?action=list&group=General.Network.PPPoE

Return:

Parameter name	value	Security level (get/set)	Description
<i>Enabled</i>	<i>yes, no</i>	<i>6/6</i>	<i>Enables/disables PPPoE service.</i>
<i>IPAddress</i>	<i>IP address</i>	<i>6/6</i>	<i>IP address. The physical address of the device on the network. (read only)</i>
<i>UserID</i>	<i>none, string</i>	<i>6/6</i>	<i>PPPoE login user id.</i>
<i>Password</i>	<i>none, string</i>	<i>6/6</i>	<i>PPPoE login password.</i>
<i>DNSAuto</i>	<i>on, off</i>	<i>6/6</i>	<i>Specifies if the DNS server should be obtained from a DHCP server.</i>
<i>DNSServer1</i>	<i>IP address</i>	<i>6/6</i>	<i>Primary Domain Name System server.</i>
<i>DNSServer</i>	<i>IP address</i>	<i>6/6</i>	<i>Secondary Domain Name System server.</i>

root.General.Network.PPPoE.Enabled=no

root.General.Network.PPPoE.IPAddress =67.34.251.69

root.General.Network.PPPoE.UserID=none

root.General.Network.PPPoE.Password=none

root.General.Network.PPPoE.DNSAuto=on

root.General.Network.PPPoE.DNSServer1=0.0.0.0

root.General.Network.PPPoE.DNSServer2=0.0.0.0

Example: Set PPPoE information

http://<servername>/cgi-bin/admin/param?action=update&General.Network.PPPoE.Enabled=yes&General.Network.PPPoE.UserID=example@hinet.net&General.Network.PPPoE.Password=12345678&General.Network.PPPoE.DNSAuto=on

Return:

OK

2.1.14 Get/Set DDNS info

Example: Get DDNS information

http://<servername>/cgi-bin/view/param?action=list&group=General.Network.DDNS

Return:

Parameter name	value	Security level (get/set)	Description
<i>Enabled</i>	<i>yes, no</i>	<i>6/6</i>	<i>Enables/disables DDNS service.</i>
<i>DDNSServer</i>	<i>none, IP address, host name</i>	<i>6/6</i>	<i>The server that support DDNS service.</i>
<i>UserName</i>	<i>none, string</i>	<i>6/6</i>	<i>DDNS login user id.</i>
<i>Password</i>	<i>none, string</i>	<i>6/6</i>	<i>DDNS login password.</i>
<i>HostName</i>	<i>none, string</i>	<i>6/6</i>	<i>The name entered here will be associated with the product's IP address in the DDNS server.</i>

root.General.Network.DDNS.Enabled=no

root.General.Network.DDNS.DDNSServer=www.dyndns.org

root.General.Network.DDNS.UserName=none

root.General.Network.DDNS.Password=none

root.General.Network.DDNS.HostName=none

Example: Set DDNS information

http://<servername>/cgi-bin/admin/param?action=update&General.Network.DDNS.Enable=yes&General.Network.DDNS.DDNSServer=www.dyndns.org&General.Network.DDNS.UserName=example&General.Network.DDNS.Password=12345678&General.Network.DDNS.HostName=www.example.dyndns.org

Return:

OK

2.1.15 Get/Set Time info

Example: Get Time information

http://<servername>/cgi-bin/view/param?action=list&group=General.Time

Return:

Parameter name	value	Security level (get/set)	Description
<i>ObtainFromDHCP</i>	<i>yes, no</i>	6/6	<i>DHCP servers may provide names/IP addresses for local/remote NTP servers. Enable this feature by setting this parameter to yes.</i>
<i>ServerDate</i>	<i>yyyy-mm-dd</i>	6/6	<i>The date (yyyy-mm-dd) when the device's time was set manually or synchronized with the computer.</i>
<i>ServerTime</i>	<i>hh:mm:ss</i>	6/6	<i>The time (hh:mm:ss) when the device's time was set manually or synchronized with the computer.</i>
<i>DateFormat</i>	<i>ymd, mdy, dmy</i>	6/6	<i>Date format.</i>
<i>SyncSource</i>	<i>None, PC, NTP</i>	6/6	<i>The source to synchronize the time with; PC, NTP or None (manually).</i>
<i>TimeZone</i>	<i>GMT-12:00/Etc/GMT-12</i> <i>GMT-11:00/Pacific/Apia</i> <i>GMT-10:00/Pacific/Honolulu</i> <i>GMT-09:00/America/Anchorage</i> <i>GMT-08:00/America/Los_Angeles</i> <i>GMT-07:00/America/Denver</i> <i>GMT-07:00/America/Tegucigalpa</i> <i>GMT-07:00/America/Phoenix</i> <i>GMT-06:00/America/Winnipeg</i> <i>GMT-06:00/America/Mexico_City</i> <i>GMT-06:00/America/Chicago</i> <i>GMT-06:00/America/Costa_Rica</i> <i>GMT-05:00/America/Indianapolis</i> <i>GMT-05:00/America/New_York</i> <i>GMT-05:00/America/Bogota</i> <i>GMT-04:00/America/Santiago</i> <i>GMT-04:00/America/Caracas</i> <i>GMT-04:00/America/Montreal</i> <i>GMT-03:30/America/St_Johns</i> <i>GMT-03:00/America/Thule</i> <i>GMT-03:00/America/Buenos_Aires</i> <i>GMT-03:00/America/Sao_Paulo</i>	6/6	<i>Time zone.</i>

GMT-02:00/Atlantic/South_Georgia GMT-01:00/Atlantic/Cape_Verde GMT-01:00/Atlantic/Azores GMT 00:00/Europe/Dublin GMT 00:00/Africa/Casablanca GMT 01:00/Europe/Amsterdam GMT 01:00/Europe/Belgrade GMT 01:00/Europe/Brussels GMT 01:00/Europe/Warsaw GMT 01:00/Africa/Lagos GMT 02:00/Europe/Athens GMT 02:00/Europe/Bucharest GMT 02:00/Africa/Cairo GMT 02:00/Africa/Harare GMT 02:00/Europe/Helsinki GMT 02:00/Asia/Jerusalem GMT 03:00/Asia/Baghdad GMT 03:00/Asia/Kuwait GMT 03:00/Europe/Moscow GMT 03:00/Africa/Nairobi GMT 03:30/Asia/Tehran GMT 04:00/Asia/Dubai GMT 04:00/Asia/Baku GMT 04:30/Asia/Kabul GMT 05:00/Asia/Yekaterinburg GMT 05:00/Asia/Karachi GMT 05:30/Asia/Calcutta GMT 05:45/Asia/Katmandu GMT 06:00/Asia/Almaty GMT 06:00/Asia/Dhaka GMT 06:00/Asia/Colombo GMT 06:30/Asia/Rangoon GMT 07:00/Asia/Bangkok GMT 07:00/Asia/Krasnoyarsk GMT 08:00/Asia/Hong_Kong GMT 08:00/Asia/Irkutsk GMT 08:00/Asia/Kuala_Lumpur GMT 08:00/Australia/Perth		
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	GMT 08:00/Asia/Taipei GMT 09:00/Asia/Tokyo GMT 09:00/Asia/Seoul GMT 09:00/Asia/Yakutsk GMT 09:30/Australia/Adelaide GMT 10:00/Australia/Brisbane GMT 10:00/Australia/Sydney GMT 10:00/Pacific/Guam GMT 10:00/Australia/Hobart GMT 10:00/Asia/Vladivostok GMT 11:00/Asia/Magadan GMT 12:00/Pacific/Auckland GMT 12:00/Pacific/Fiji GMT 13:00/Pacific/Tongatapu		
UTCOffset	00:00:00	6/6	Time difference (hh:mm:ss) between the time zone and Coordinated Universal Time (UTC). -01:00:00 = -1 hour, i.e. 1 hour after UTC. 00:00:00 = 0 hour, 01:00:00 = 1 hour, i.e. before UTC.

root.General.Time.ServerDate=1970-01-01
root.General.Time.ServerTime=02:30:14
root.General.Time.DateFormat=ymd
root.General.Time.SyncSource=NTP
root.General.Time.TimeZone=GMT 08:00/Asia/Taipei
root.General.Time.UTCOffset=00:00:00

Example: Set Time information

<http://<servername>/cgi-bin/admin/param?action=update&General.Time.ObtainFromDHCP=no&General.Time.ServerDate=2007-09-18&General.Time.ServerTime=18:20:24&General.Time.DateFormat=ymd&General.Time.SyncSource=NTP&General.Time.TimeZone=GMT 08:00/Asia/Taipei&General.Time.UTCOffset=00:00:00>

Return:

OK

2.1.16 Get/Set NTP info

Example: Get NTP information

<http://<servername>/cgi-bin/view/param?action=list&group=General.Time.NTP>

Return:

Parameter name	value	Security level (get/set)	Description
Server	IP address, host name	6/6	The NTP server to connect to when synchronizing the time in the device.
Update	01:00:00 [time]	6/6	Time interval (hh:mm:ss) between connections to the NTP server.
VolatileServer	IP address, host name	6/6	The name/IP address of the NTP server, received from the DHCP server. Only one NTP server is currently supported. The NTP server name/IP address will be valid only until the next DHCP renewal or reboot.

root.General.Time.NTP.Server=pool.ntp.org

root.General.Time.NTP.Update=01:00:00

root.General.Time.NTP.VolatileServer=0.0.0.0

Example: Set NTP information

http://<servername>/cgi-bin/admin/param?action=update&General.Time.NTP.Server=pool.ntp.org&General.Time.NTP.Update=01:00:00

Return:

OK

2.2 Image/Video/Audio Category

2.2.1 Get/Set http port number

Example: Get http port number

http://<servername>/cgi-bin/view/param?action=list&group=General.System

http://<servername>/cgi-bin/view/param?action=list&group=General.System.HTTPPort

Return:

Parameter name	value	Security level (get/set)	Description
HTTPPort	number	1/6	Http port number

root.System.HTTPPort=80

Example: Set http port number

http://<servername>/cgi-bin/admin/param?action=update&General.System.HTTPPort=80

Return:

OK

2.2.2 Get/Set video port number

Example: Get video port number

http://<servername>/cgi-bin/view/param?action=list&group=General.System

http://<servername>/cgi-bin/view/param?action=list&group=General.System.HTTPViewerPort

http://<servername>/cgi-bin/view/param?action=list&group=General.System.HTTPViewerPort2

Return:

Parameter name	value	Security level (get/set)	Description
<i>HTTPViewerPort</i>	<i>number</i>	<i>1/6</i>	<i>MPEG4 viewer port number</i>
<i>HTTPViewerPort2</i>	<i>number</i>	<i>1/6</i>	<i>MJPEG viewer port number</i>

root.System.HTTPViewerPort=8090

root.System.HTTPViewerPort2=8070

Example: Set http port number

http://<servername>/cgi-bin/admin/param?action=update&General.System.HTTPViewerPort=8090&

General.System.HTTPViewerPort2=8070

Return:

OK

2.2.3 Get/Set video resolution

Example: Get MPEG4 video resolution

http://<servername>/cgi-bin/view/param?action=list&group=Image.I0.Appearance.Resolution

Return:

Parameter name	value	Security level (get/set)	Description
<i>Resolution</i>	<i>string</i>	<i>1/6</i>	<i>MPEG4 video resolution.</i>

root.Image.I0.Appearance.Resolution=704x480

Example: Get MJPEG video resolution

http://<servername>/cgi-bin/view/param?action=list&group=Image.I0.MJPEG.Resolution

Return:

Parameter name	value	Security level (get/set)	Description
<i>Resolution</i>	<i>string</i>	<i>1/6</i>	<i>MJPEG video resolution.</i>

root.Image.I0.MJPEG.Resolution=704x480

Example: Set MPEG4 video resolution

http://<servername>/cgi-bin/admin/param?action=update&Image.I0.Appearance.Resolution=352x240

Return:

OK

Example: Set MJPEG video resolution

http://<servername>/cgi-bin/admin/param?action=update&Image.I0.MJPEG.Resolution=352x240

Return:

OK

2.2.4 Get video sensor type

Example:

<http://<servername>/cgi-bin/view/param?action=list&group=ImageSource.I0.SourceType>

Return:

Parameter name	value	Security level (get/set)	Description
SourceType	NTSC, PAL, CMOS	1/6	Image source type. (read-only)

root.ImageSource.I0.SourceType=NTSC

2.2.5 Get/Set video parameters (Brightness, Contrast, Saturation, Hue)

Example: Get video parameters

<http://<servername>/cgi-bin/view/param?action=list&group=ImageSource.I0.Sensor>

Example: Set video parameters

<http://<servername>/cgi-bin/admin/param?action=update&ImageSource.I0.Sensor.Brightness=50&ImageSource.I0.Sensor.Brightness=50&ImageSource.I0.Sensor.Contrast=50&ImageSource.I0.Sensor.Saturation=50&ImageSource.I0.Sensor.Hue=50>

Return:

Parameter name	value	Security level (get/set)	Description
Brightness	0~100	1/6	Image brightness
Contrast	0~100	1/6	Image Contrast
Saturation	0~100	1/6	Image Saturation
Hue	0~100	1/6	Image Hue

root.ImageSource.I0.Sensor.Brightness=50

root.ImageSource.I0.Sensor.Contrast=50

root.ImageSource.I0.Sensor.Saturation=50

root.ImageSource.I0.Sensor.Hue=50

2.2.6 Get/Set video quality

Example: Get MPEG4 video quality

<http://<servername>/cgi-bin/view/param?action=list&group=Image.I0.RateControl>

Return:

Parameter name	value	Security level (get/set)	Description
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<i>MaxCompression</i>	1~31	1/6	<i>The rate controller will not produce streams with compression higher than this value.</i>
<i>MinCompression</i>	1~31	1/6	<i>The rate controller will not produce streams with compression lower than this value.</i>
<i>TargetBitrate</i>	2048, 1536, 1280, 1024, 768, 512, 384, 256, 128, 64	1/6	<i>The target bit rate, in kbit/s, for CBR mode.</i>
<i>Mode</i>	auto, cbr, vbr	1/6	<i>Specifies whether the rate controller operates in Variable Bit Rate (VBR) or constant bit rate (CBR) mode.</i>

root.Image.I0.RateControl.Mode=vbr

root.Image.I0.RateControl.TargetBitrate=2048

root.Image.I0.RateControl.MaxCompression=6

root.Image.I0.RateControl.MinCompression=6

Example: Set MPEG4 video quality (auto rate control)

*http://<servername>/cgi-bin/admin/param?action=update&Image.I0.RateControl.MaxCompression=6
&Image.I0.RateControl.MinCompression=6&Image.I0.RateControl.Mode=auto*

Return:

OK

Example: Set MPEG4 video quality (fixed quality)

*http://<servername>/cgi-bin/admin/param?action=update&Image.I0.RateControl.MaxCompression=1
&Image.I0.RateControl.MinCompression=31&Image.I0.RateControl.Mode=vbr*

Return:

OK

Example: Set MPEG4 video quality (constant bit rate)

*http://<servername>/cgi-bin/admin/param?action=update&Image.I0.RateControl.MaxCompression=1
&Image.I0.RateControl.MinCompression=31&Image.I0.RateControl.TargetBitrate=1024&Image.I0.RateControl.Mode=cbr*

Return:

OK

Example: Get MJPEG video quality

http://<servername>/cgi-bin/view/param?action=list&group=Image.I0.Appearance.Compression

Return:

Parameter name	value	Security level (get/set)	Description
<i>Compression</i>	0~100	1/6	The level of image compression. High compression reduces the file size. Low

			compression produces optimum picture quality, but larger file sizes. <i>0: for auto rate control.</i>
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root.Image.I0.Appearance.Compression=75

Example: Set MJPEG video quality (auto rate control)

http://<servername>/cgi-bin/admin/param?action=update& Image.I0.Appearance.Compression=0

Return:

OK

Example: Set MJPEG video quality (fix quality)

http://<servername>/cgi-bin/admin/param?action=update&Image.I0.Appearance.Compression=75

Return:

OK

Example: Set MJPEG video quality (fix bit rate)

Not support in MJPEG mode.

2.2.7 Get/Set video frame rate

Example: Get MPEG4 video frame rate

http://<servername>/cgi-bin/view/param?action=list&group=Image.I0.Stream.FPS

Return:

Parameter name	value	Security level (get/set)	Description
<i>FPS</i>	<i>1~30</i>	<i>1/6</i>	<i>Frame rate. Max value: 30 for NTSC/CMOS 25 for PAL.</i>

root.Image.I0.Stream.FPS=30

Example: Set MPEG4 video frame rate

http://<servername>/cgi-bin/admin/param?action=update&Image.I0.Stream.FPS=25

Return:

OK

Example: Get MJPEG video frame rate

http://<servername>/cgi-bin/view/param?action=list&group=Image.I0.MJPEG.FPS

Return:

Parameter name	value	Security level (get/set)	Description
<i>FPS</i>	<i>1~30</i>	<i>1/6</i>	<i>Frame rate.</i>

			Max value: 30 for NTSC/CMOS 25 for PAL.
--	--	--	--

root.Image.I0.MJPEG.FPS=30

Example: Set MJPEG video frame rate

http://<servername>/cgi-bin/admin/param?action=update&Image.I0.MJPEG.FPS=25

Return:

OK

2.2.8 Get/Set video flip state

Example: Get video flip state

http://<servername>/cgi-bin/view/param?action=list&group=Image.I0.Appearance.Flip

Return:

Parameter name	value	Security level (get/set)	Description
<i>Flip</i>	<i>on, off</i>	<i>1/6</i>	<i>Enables/disables video Flip mode</i>

root.Image.I0.Appearance.Flip=off

Example: Set video flip state

http://<servername>/cgi-bin/admin/param?action=update&Image.I0.Appearance.Flip=yes

Return:

OK

2.2.9 Get/Set video mirror state

Example: Get video flip state

http://<servername>/cgi-bin/view/param?action=list&group=Image.I0.Appearance.Mirror

Return:

Parameter name	value	Security level (get/set)	Description
<i>Mirror</i>	<i>on, off</i>	<i>1/6</i>	<i>Enables/disables video Mirror mode</i>

root.Image.I0.Appearance.Mirror=off

Example: Set video flip state

http://<servername>/cgi-bin/admin/param?action=update&Image.I0.Appearance.Mirror=yes

Return:

OK

2.2.10 Get/Set video night mode state (CMOS support only)

Example: Get video night mode

<http://<servername>/cgi-bin/view/param?action=list&group=Image.I0.Appearance.NightMode>

Return:

Parameter name	value	Security level (get/set)	Description
<i>NightMode</i>	<i>auto, off</i>	<i>1/6</i>	<i>Enables/disables video Night mode</i>

root.Image.I0.Appearance.NightMode=off

Example: Set video night mode

<http://<servername>/cgi-bin/admin/param?action=update&Image.I0.Appearance.NightMode=auto>

Return:

OK

2.2.11 Get/Set video light frequency (CMOS support only)

Example: Get video light frequency

<http://<servername>/cgi-bin/view/param?action=list&group=Image.I0.Appearance.Lighting>

Return:

Parameter name	value	Security level (get/set)	Description
<i>Lighting</i>	<i>50, 60</i>	<i>1/6</i>	<i>Select video light frequency.</i>

root.Image.I0.Appearance.Lighting=off

Example: Set video frequency

<http://<servername>/cgi-bin/admin/param?action=update&Image.I0.Appearance.Lighting=50>

Return:

OK

2.2.12 Get/Set video white balance mode (CMOS support only)

Example: Get video white balance mode

<http://<servername>/cgi-bin/view/param?action=list&group=Image.I0.Appearance.WhiteBalance>

Return:

Parameter name	value	Security level (get/set)	Description
<i>WhiteBalance</i>	<i>auto, fluorescent, incandescent, sunny, cloudy, blackwhite</i>	<i>1/6</i>	<i>Select video White Balance mode</i>

root.Image.I0.Appearance.WhiteBalance=auto

Example: Set video white balance mode

http://<servername>/cgi-bin/admin/param?action=update&Image.I0.Appearance.WhiteBalance=fluorescent

Return:

OK

2.2.13 Get/Set video OSD

Example: Get http port number

http://<servername>/cgi-bin/view/param?action=list&group=Image.OSD

Return:

Parameter name	value	Security level (get/set)	Description
<i>Enabled</i>	<i>on, off</i>	<i>1/6</i>	<i>Enables/disables OSD.</i>
<i>Date</i>	<i>on, off</i>	<i>1/6</i>	<i>Enables/disables Date/Time OSD.</i>
<i>TextColor</i>	<i>white, black</i>	<i>1/6</i>	<i>OSD text color.</i>
<i>BkColor</i>	<i>white, black, transparent</i>	<i>1/6</i>	<i>OSD background color.</i>
<i>Position</i>	<i>Top, bottom</i>	<i>1/6</i>	<i>OSD position.</i>
<i>Alias</i>	<i>None, string</i>	<i>1/6</i>	<i>Alias for camera display on OSD. (must less than 6 characters)</i>

root.Image.OSD.Enabled=off

root.Image.OSD.Date=off

root.Image.OSD.TextColor=white

root.Image.OSD.BkColor=transparent

root.Image.OSD.Position=top

root.Image.OSD.Alias=None

Example: Set http port number

http://<servername>/cgi-bin/admin/param?action=update&Image.OSD.Enabled=on&Image.OSD.Date=on&Image.OSD.TextColor=black&Image.OSD.BkColor=transparent&Image.OSD.Position=top&Image.OSD.Alias=CAM1

Return:

Ok

2.2.14 Get/Set video Mask

Example: Get http port number

http://<servername>/cgi-bin/view/param?action=list&group=Image.Mask

Return:

Parameter name	value	Security level (get/set)	Description
<i>Enabled</i>	<i>on, off</i>	1/6	<i>Enables/disables private mask.</i>
<i>XPos</i>	<i>number</i>	1/6	<i>The overlays upper left corner is positioned at this horizontal position (0=to the left).</i> <i>NTSC: 1~690</i> <i>PAL : 1~690</i> <i>COMS: 0~627</i>
<i>YPos</i>	<i>number</i>	1/6	<i>The overlays upper left corner is positioned at this vertical position (0=to the top).</i> <i>NTSC: 1~234</i> <i>PAL : 1~234</i> <i>COMS: 0~471</i>
<i>Width</i>	<i>number</i>	1/6	<i>Width of the specified mask.</i> <i>NTSC: 0~57</i> <i>PAL : 0~57</i> <i>COMS: 0~52</i>
<i>Height</i>	<i>number</i>	1/6	<i>Height of the specified mask.</i> <i>NTSC: 0~29</i> <i>PAL : 0~35</i> <i>COMS: 0~59</i>
<i>Color</i>	<i>black</i>	1/6	<i>The private mask color.</i>

root.Image.Mask.Enabled=off

root.Image.Mask.Date=off

root.Image.Mask.TextColor=white

root.Image.Mask.Width=transparent

root.Image.Mask.Height=top

root.Image.Mask.Color=None

Example: Set http port number

http://<servername>/cgi-bin/admin/param?action=update&Image.Mask.Enabled=on&Image.Mask.XPos=1&Image.Mask.YPos=1&Image.Mask.Width=20&Image.Mask.Height=10&Image.Mask.Color=black

Return:

Ok

2.2.15 Get JPEG still image

Example:

http://<servername>/jpg/image

Return:

Ok

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

Return:

HTTP/1.0 200 OK\r\n

Content-Type: image/jpeg\r\n

Content-Length: <image size>\r\n

\r\n

<JPEG image data>\r\n

2.2.16 Get video/audio stream

Example: Get MPEG4 video/audio stream (Only MPEG4 support audio frames)

<http://<servername>/video.mp4>

Return: MPEG4 video frames

HTTP/1.0 200 OK\r\n

Content-Type: multipart/x-mixed-replace;boundary=<boundary>\r\n

\r\n

--<boundary>\r\n

<image>

where the proposed <boundary> is

myboundary

and the returned <image> field is

Content-Type: [video/mpeg](#)\r\n

Content-Length: <image size>\r\n

\r\n

<MPEG4 image data>\r\n

--<boundary>\r\n

<image>

Return: Mpeg4 audio frames

HTTP/1.0 200 OK\r\n

Content-Type: multipart/x-mixed-replace;boundary=<boundary>\r\n

\r\n

--<boundary>\r\n

<image>

where the proposed <boundary> is

myboundary

and the returned <image> field is

Content-Type: **audio/basic**\r\n
Content-Length: <image size>\r\n
\r\n
<MPEG4 audio data>\r\n
--<boundary>\r\n
<image>

Example: Get MJPEG video stream

http://<servername>/video.mjpg

Return:

*HTTP/1.0 200 OK\r\n
Content-Type: multipart/x-mixed-replace;boundary=<boundary>\r\n
\r\n
--<boundary>\r\n
<image>
where the proposed <boundary> is
myboundary
and the returned <image> field is
Content-Type: **image/jpeg**\r\n
Content-Length: <image size>\r\n
\r\n
<JPEG image data>\r\n
--<boundary>\r\n
<image>*

2.2.17 Transmit audio stream data

Example:

http://<servername>/in/view/transmit

3 SAMPLE VIDEO/AUDIO STREAM GET FLOW

A. Decide video streaming format

MPEG4 or MJPEG.

Only MEPEG4 support audio stream.

B. Decide device IP address and HTTP port number

Remote device IP address or host name.

Ex: "192.168.1.99" or "example.dyndns.org"

http port: 80

C. Decide device access username and password

Use base64 encryption to encode username and password

Ex: "admin:admin" to "YWRtaW46YWRtaW4=".

D. Get viewer port corresponding to video format.

Ex:

for MPEG4 video port

http://<servername>/cgi-bin/view/param?action=list&group=General.System.HTTPViewerPort

for MJPEG video port

http://<servername>/cgi-bin/view/param?action=list&group=General.System.HTTPViewerPort2

E. Open socket (device IP: viewer port) to send video request command and receive video frames.

Ex: http://<servername>:<videoport>/video.mp4

http://<servername>:<videoport>/video.mjpg

Only MPEG4 support audio streaming. Use content type to distinguish between audio and video frames.

4 VC++ SAMPLE CODE for VIDEO/AUDIO STREAM

Following sample code is only for demonstrating how to get video/audio streaming.

a. Get Video/audio stream

```
Mpeg4ThreadProc()
{
    //Open socket
    CSocketHelper::Open(m_sIPAddr, m_Port);
    if (!CSocketHelper::IsOk())
        return FALSE;

    //Send video request command
    CString fmt, response="";
    char uri[32];
    if (m_CompressType==COMPRESS_MJPEG)
        strcpy(uri, "/video.mjpg");
    else
        strcpy(uri, "/video.mp4");

    //Add authentication
    if (strlen(m_sBase64Auth) == 0)
        fmt.Format("GET %s HTTP/1.0\r\n\r\n", uri);
    else
        fmt.Format("GET %s HTTP/1.0\r\nAuthorization: Basic %s\r\n\r\n", uri, m_sBase64Auth);

    try {
        SendStr(fmt);
        ReadUntil(response, "\r\n\r\n");

        //Main frames receive thread
        while(1)
        {

```

```

CString content_type = "";
do {
    response = "";
    //ReadUntil(response, "\r\n\r\n");
    ReadUntilLFLF(response);
    GetOptionAsString(response, "Content-Type:", content_type);
} while(strcmp(content_type, "image/jpeg")!=0 &&
        strcmp(content_type, "video/mpeg")!=0 &&
        strcmp(content_type, "audio/basic")!=0);

int recv_len;
GetOptionAsInt(response, "Content-Length:", recv_len);
Recv(m_ImageBuffer, recv_len);

BOOL isAudio = FALSE;
if(strcmp(content_type, "audio/basic")==0)
    isAudio = TRUE;

if(m_VideoRecvFunc!=NULL)
    (*m_VideoRecvFunc)(m_ImageBuffer, recv_len, isAudio, m_VideoContext);
}
} catch (...) {
    return 0;
}
return 0;
}

```

b. Transmit audio data

```

AudioDataTransmit(BYTE *pAudioBuf, DWORD size)
{
    BYTE* pEncodeBuf = new BYTE[size];
    int encodeSize = 0;
    m_G711Encoder.encode(pAudioBuf, size, pEncodeBuf, encodeSize);

    CSocketHelper socket;
    socket.Open(m_hostIP, m_httpPort);
    if (socket.IsOk())
    {
        NuString str, str1, str2;
        str1.Format("--myboundary\r\nContent-Type: audio/wav\r\n");
        str2.Format("\r\n--myboundary\r\n");
        str.Format("POST /cgi-bin/view/transmit HTTP/1.0\r\nContent-Type: multipart/form-data;\r\nboundary=--myboundary\r\nContent-Length: %d\r\nAuthorization: Basic %s\r\n\r\n",
            str1.length()+encodeSize+str2.length(), g_Base64Auth);
        socket.SendStr(str);
        socket.SendStr(str1);
        socket.Send(pEncodeBuf, encodeSize);
        socket.SendStr(str2);
    }
    socket.Close();

    delete pEncodeBuf;
}

```