

HTTP/CGI Command Programing Guide

Revision Log

Date	Version	Description / Major change
2013/03/8	V3.0.2	Create document
2013/12/25	V3.0.3	Modify transmit
2014/3/12	V3.0.4	Modify limits to authority and CGI parameters.

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
Brand	String	1/7	The brand of the product.
ProdFullName	String	1/7	The full name of the product.
ProdNbr	String	1/7	The product number.
ProdShortName	String	6/7	The short name of the product.
ProdType	String	1/7	The product type.
WebURL	String	1/7	The URL to visit for support and information about the product.

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/Add/Remove account Info

Example: Get account information

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

Return:

Parameter name	value	Security level (get/set)	Description
ViewerAuthen	on/off	4/6	Enable/disable viewer authentication.
PTZAuthen	on/off	4/6	Enable/disable viewer PTZ control.
MaxCnt	9	4/7	Maximum of UserID lists.

<i>Prefix</i>	<i>U</i>	<i>4/7</i>	<i>The prefix of dynamic child groups.</i>
<i>Admin</i>	<i>string</i>	<i>4/6</i>	<i>Based 64 encrypted account for Administrator.</i>
<i>U0.User~ U8.User</i>	<i>String</i>	<i>4/4</i>	<i>Based 64 encrypted account and security level for user .</i>

root.General.UserID.ViewerAuthen=on

root.General.UserID.PTZAuthen=on

root.General.UserID.MaxCnt=9

root.General.UserID.Prefix=U

root.General.UserID.Admin=YWRtaW46YWRtaW4=

root.General.UserID.U0.User=dHQ6dHQ=,00010000

Example: Set account information

http://<servername>/cgi-bin/admin/param?action=update&General.UserID.ViewerAuthen=off&General.UserID.U0.User=MzMzMzozMzMz,000007ff

Return:

OK

Example: Add account information

http://<servername>/cgi-bin/admin/param?action=add&group=General.UserID&template=UserID&General.UserID.U.User=MzMzMzozMzMz,000007ff

Return:

OK

Example: Remove account information

http://<servername>/cgi-bin/admin/param?action=remove&group=General.UserID.U0

Return:

OK

2.1.3 Get Firmware info

Example:

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

Return:

Parameter name	value	Security level (get/set)	Description
<i>BuildDate</i>	<i>string</i>	<i>4/7</i>	<i>Firmware build date.</i>
<i>Version</i>	<i>string</i>	<i>4/7</i>	<i>Firmware version</i>

root.Properties.Firmware.BuildDate=Tue Mar 20 22:26:10 CST 2007

root.Properties.Firmware.Version=LM.0.3.14

2.1.4 Get hardware version

Example:

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

Return:

Parameter name	value	Security level (get/set)	Description
Version	string	6/7	Hardware version

root.Properties.Hardware.Version=00

2.1.5 Get video support format

Example:

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

Return:

Parameter name	value	Security level (get/set)	Description
CodecFormat	string	1/7	Board support video format. (separated by “,”)

root.Properties.Image.Format=H264,MJPEG

2.1.6 Get video support resolution

Example:

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

Return:

Parameter name	value	Security level (get/set)	Description
List	string	1/7	Board support video resolution. (separated by “,”)
I0.TotalMax	string	1/7	The max numbers of the resolution, which choosen from I0.ResolutionList, used in I0 rule
I0 Max	string	1/7	Single resolution in i0 rule.
I0.ResolutionList.	string	1/7	The resolution list for i0 rule.

root.Properties.Image.ResolutionFormat.List = 320x240,640x480,1280x720

root.Properties.Image.ResolutionFormat.I0.TotalMax=2

root.Properties.Image.ResolutionFormat.I0.ResolutionList.I0=1280x800

root.Properties.Image.ResolutionFormat.I0.ResolutionList.I1=1280x720

root.Properties.Image.ResolutionFormat.I0.ResolutionList.I2=640x480

root.Properties.Image.ResolutionFormat.I1.Max=3

root.Properties.Image.ResolutionFormat.I1.ResolutionList.I0=320x240

2.1.7 Get video support quality

Example:

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

Return:

Parameter name	value	Security level (get/set)	Description
H264	string	1/7	Board support video fixquality. (separated by “,”)
MJPEG	string	1/7	Board support video fixquality. (separated by “,”)

root.Properties.Image.FixQualityFormat.H264=0,64,55,50,46,41

root.Properties.Image.FixQualityFormat.MJPEG=0,90,70,50,35,25

2.1.8 Get video support bitrate

Example:

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

Return:

Parameter name	value	Security level (get/set)	Description
BitRateFormat	string	1/7	Board support video bitrate. (separated by “,”)

root.Properties.Image.BitRateFormat=32k,64k,128k,256k,512k,1M,1.5M,2M,3M,4M

2.1.9 Get PTZ support info

Example:

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

Return:

Parameter name	value	Security level (get/set)	Description
PTZ	yes, no	6/7	Board support PTZ capability

root.Properties.PTZ.PTZ=yes

2.1.10 Get DIDO support info

Example:

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

Return:

Parameter name	value	Security level (get/set)	Description
DI.DI	yes, no	6/7	Board support DI capability
DI.Type	virtual, physical	6/7	Board support DI type
DO.DO	yes, no	6/7	Board support DO capability
DO.Type	virtual,	6/7	Board support DO type

	<i>physical</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

2.1.11 Get Motion Detection support info

Example:

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

Return:

Parameter name	value	Security level (get/set)	Description
<i>Motion</i>	<i>yes, no</i>	<i>6/7</i>	<i>Board support Motion Detection capability</i>

root.Properties.Motion.Motion=yes

2.1.12 Get audio support info

Example:

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

Return:

Parameter name	value	Security level (get/set)	Description
<i>Audio</i>	<i>yes, no</i>	<i>4/7</i>	<i>Board support Audio capability</i>
<i>OutputType</i>	<i>none, lineout, speaker, both</i>	<i>4/7</i>	<i>Board support Audio output type</i>
<i>InputType</i>	<i>none, micin, linein, both</i>	<i>4/7</i>	<i>Board support Audio input type</i>

root.Properties.Audio.Audio=yes

2.1.13 Get/Set Network Interface info

Example: Get Network interface information

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

Return:

Parameter name	value	Security level (get/set)	Description
<i>DNSAuto</i>	<i>on, off</i>	<i>4/6</i>	<i>Specifies if the DNS server should be obtained from a DHCP server.</i>

<i>DNSServer1</i>	<i>IP address</i>	<i>4/6</i>	<i>Primary Domain Name System server.</i>
<i>DNSServer2</i>	<i>IP address</i>	<i>4/6</i>	<i>Secondary Domain Name System server.</i>
<i>BootProto</i>	<i>dhcp, none</i>	<i>4/6</i>	<i>Enable/disable dynamic IP address assignment.</i>
<i>IPAddress</i>	<i>IP address</i>	<i>1/6</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>1/6</i>	<i>MAC address. The unique identity of the device. (read only)</i>
<i>SubnetMask</i>	<i>IP address</i>	<i>4/6</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>4/7</i>	<i>Auto assign range when DHCP fail. Ex: 192.168.0.99-192.168.0.254</i>

root.General.Network.eth0.DNSAuto=on

root.General.Network.eth0.DNSServer1=192.168.1.253

root.General.Network.eth0.DNSServer2=192.168.1.254

root.General.Network.eth0.BootProto=dhcp

root.General.Network.eth0.IPAddress=192.168.110.

root.General.Network.eth0.MACAddress=00:1B:FE:00:11:22

root.General.Network.eth0.SubnetMask=255.255.255.0

root.General.Network.eth0.DefaultRouter=192.168.1.1

root.General.Network.eth0.IPAddressRange=192.168.1.2-192.168.1.254

Example: Set Network interface information

http://<servername>/cgi-bin/admin/param?action=update&General.Network.eth0.IPAddress=192.168.1.99&General.Network.eth0.BootProto=none

Return:

OK

2.1.14 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>1/6</i>	<i>Enables Universal Plug and Play.</i>
<i>NATTraversal.Enabled</i>	<i>yes, no</i>	<i>1/6</i>	<i>Enables/disables NAT traversal.</i>
<i>NATTraversal.HTTPPort</i>	<i>number</i>	<i>1/6</i>	<i>Number of HTTP port for NAT traversal.</i>

<i>NATTraversal.HTTPSPort</i>	<i>number</i>	<i>1/6</i>	<i>Number of HTTPS port for NAT traversal.</i>
<i>NATTraversal.RTSPPort</i>	<i>number</i>	<i>1/6</i>	<i>Number of RTSP port for NAT traversal.</i>

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.HTTPSPort=443

root.General.Network.UPnP.NATTraversal.RTSPPort=554

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

2.1.15 Get/Set PPPoE info

Example: Get PPPoE information

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

Return:

Parameter name	value	Security level (get/set)	Description
<i>Enabled</i>	<i>yes, no</i>	<i>1/6</i>	<i>Enables/disables PPPoE service.</i>
<i>IPAddress</i>	<i>IP address</i>	<i>4/6</i>	<i>IP address. The physical address of the device on the network. (read only)</i>
<i>UserID</i>	<i>none, string</i>	<i>4/6</i>	<i>PPPoE login user id.</i>
<i>Password</i>	<i>none, string</i>	<i>4/6</i>	<i>PPPoE login password.</i>
<i>DNSAuto</i>	<i>on, off</i>	<i>4/6</i>	<i>Specifies if the DNS server should be obtained from a DHCP server.</i>
<i>DNSServer1</i>	<i>IP address</i>	<i>4/6</i>	<i>Primary Domain Name System server.</i>
<i>DNSServer</i>	<i>IP address</i>	<i>4/6</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

2.1.16 Get/Set DDNS info

Example: Get DDNS information

http://<servername>/cgi-bin/admin/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.Enabled=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

2.1.17 Get/Set Time info

Example: Get Time information

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

Return:

Parameter name	value	Security level (get/set)	Description
ServerDate	yyyy-mm-dd	4/6	The date (yyyy-mm-dd) when the device's time was set manually or synchronized with the computer.
ServerTime	hh:mm:ss	4/6	The time (hh:mm:ss) when the device's time was set manually or synchronized with the computer.
DateFormat	ymd, mdy, dmy	1/4	Date format.
SyncSource	None, PC, NTP	4/6	The source to synchronize the time with; PC, NTP or None (manually).
TimeZone	GMT-12:00/Etc/GMT-12 GMT-11:00/Pacific/Apia GMT-10:00/Pacific/Honolulu GMT-09:00/America/Anchorage GMT-08:00/America/Los_Angeles GMT-07:00/America/Denver GMT-07:00/America/Tegucigalpa GMT-07:00/America/Phoenix GMT-06:00/America/Winnipeg GMT-06:00/America/Mexico_City GMT-06:00/America/Chicago GMT-06:00/America/Costa_Rica GMT-05:00/America/Indianapolis GMT-05:00/America/New_York GMT-05:00/America/Bogota GMT-04:00/America/Santiago GMT-04:00/America/Caracas GMT-04:00/America/Montreal GMT-03:30/America/St_Johns GMT-03:00/America/Thule GMT-03:00/America/Buenos_Aires GMT-03:00/America/Sao_Paulo GMT-02:00/Atlantic/South_Georgia GMT-01:00/Atlantic/Cape_Verde	4/6	Time zone.

	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 GMT 08:00/Asia/Taipei GMT 09:00/Asia/Tokyo		
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	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	4/6	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

2.1.18 Get/Set Day Light Saving

Example: Get Day Light Saving information

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

Return:

Parameter name	value	Security level	Description
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		(get/set)	
<i>DayLightSaving.Enabled</i>	<i>on/off</i>	4/6	<i>Enables/disables Day Light Saving service</i>
<i>Start.Type</i>	<i>Date/Week</i>	4/6	<i>Day Light Saving Type</i>
<i>Start.Month</i>	1,...12	4/6	<i>Start Date for Day Light Saving (If type is 'date', 'Month', 'Date', 'Hour', and 'Min' need to be assigned. If type is 'week', 'Month', 'Week', 'Day', 'Hour', and 'Min' need to be assigned.)</i>
<i>Start.Week</i>	1,...5	4/6	
<i>Start.Day</i>	1,...7	4/6	
<i>Start.Date</i>	1,...31	4/6	
<i>Start.Hour</i>	1,...23	4/6	
<i>Start.Min</i>	0,15,30,45	4/6	
<i>Stop.Type</i>	<i>Date/Week</i>	4/6	<i>Day Light Saving Type</i>
<i>Stop.Month</i>	1,...12	4/6	<i>End Date for Day Light Saving (If type is 'date', 'Month', 'Date', 'Hour', and 'Min' need to be assigned. If type is 'week', 'Month', 'Week', 'Day', 'Hour', and 'Min' need to be assigned.)</i>
<i>Stop.Week</i>	1,...5	4/6	
<i>Stop.Day</i>	1,...7	4/6	
<i>Stop.Date</i>	1,...31	4/6	
<i>Stop.Hour</i>	1,...23	4/6	
<i>Stop.Min</i>	0,15,30,45	4/6	

root.General.Time.DayLightSaving.Enabled=off

root.General.Time.DayLightSaving.Start.Type=date

root.General.Time.DayLightSaving.Start.Month=1

root.General.Time.DayLightSaving.Start.Week=1

root.General.Time.DayLightSaving.Start.Day=1

root.General.Time.DayLightSaving.Start.Date=1

root.General.Time.DayLightSaving.Start.Hour=0

root.General.Time.DayLightSaving.Start.Min=0

root.General.Time.DayLightSaving.Stop.Type=date

root.General.Time.DayLightSaving.Stop.Month=1

root.General.Time.DayLightSaving.Stop.Week=1

root.General.Time.DayLightSaving.Stop.Day=1

root.General.Time.DayLightSaving.Stop.Date=1

root.General.Time.DayLightSaving.Stop.Hour=0

root.General.Time.DayLightSaving.Stop.Min=0

Example: Set Day Light Saving

<http://<servername>/cgi-bin/admin/param?action=update&General.Time.DayLightSaving.Enabled=on>

Return:

OK

2.1.19 Get/Set NTP info

Example: Get NTP information

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

Return:

Parameter name	value	Security level (get/set)	Description
Server	IP address, host name	4/6	The NTP server to connect to when synchronizing the time in the device.
DHCP	on / off	4/6	DHCP servers may provide names/IP addresses for local/remote NTP servers. Enable this feature by setting this parameter to on.
Update	01:00:00 [time]	4/6	Time interval (hh:mm:ss) between connections to the NTP server.
VolatileServer	IP address, host name	4/6	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.DHCP=off

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

2.1.20 Get/Set IPFilter info

Example:

<http://<servername>/cgi-bin/admin/param?action=list&group=Security.IPFilter.Enabled>

Return:

Parameter name	value	Security level (get/set)	Description
IPFilter.Enabled	On,off	4/4	Allow or deny IP

root.Security.IPFilter.Enabled=off

Example: Get IPFilter information

http://<servername>/cgi-bin/admin/param?action=list&group=Security.IPFilter

Return:

OK

Example: Add IPFilter information

http://<servername>/cgi-bin/admin/param?action=add&group=Security.IPFilter&template=IPFilter&Security.IPFilter.F0.Rule=single&Security.IPFilter.F0.SingleAddress=10.0.0.11

Return:

OK

Example: Remove IPFilter information

http://<servername>/cgi-bin/admin/param?action=remove&group=Security.IPFilter.F0

Return:

OK

2.1.21 Hard factory default

Example:

http://<servername>/cgi-bin/admin/restoreddevconf

2.1.22 Backup

Example:

http://<servername>/cgi-bin/admin/backup

2.1.23 Restore

Method:POST

Example:

http://<servername>/cgi-bin/admin/restore

2.1.24 Firmware upgrade

Method:POST

Example:

http://<servername>/cgi-bin/admin/firmwareupgrade

Method:GET

Parameter name	value	Description
action=<value>	preset	Pre-process for firmware upgrade.
action=<value>	default	Upgrade and reset all settings.
action=<value>	progress	report current upgrade status.

Example:

<http://<servername>/cgi-bin/admin/firmwareupgrade?action=preset&action=default>

2.1.25 Reboot server

Example:

<http://<servername>/cgi-bin/admin/reboot>

2.1.26 Language pack upload

Method:POST

Example:

<http://<servername>/cgi-bin/admin/language>

2.1.27 PTZ

2.1.27.1 PTZ set

Example:

<http://<servername>/cgi-bin/admin/ptzset?<parameter>=<value>&<parameter>=<value>...>

Parameter name	Value	Description
move	home, up, down, left, right, upleft, upright, downleft, downright, repeat, stop, reset	Absolute: Moves the device 5 degrees in the specified direction. If add move=repeat to URL, it will continue move in the specified direction until receive move=stop URL. Relative: Move the device approx. 50-90 degrees ² in the specified direction.
zoom	0,1,out, in	Zoom the device for one second in the specified direction. '0' means zoom-out. '1' means zoom-in.
focus	0,1,near, far	Move focus lens for one second. '0' means move toward near. '1' means move toward far.
gotoserverpresetname	string	Move to the position associated with the "string."
gotoserverpresetno	0,...,31	Move to the position associated with the specified preset position number.
runservertourno	0~3	Start a patrol associated with the specified tour number.
stopservertourno	0~3	Stop a patrol associated with the specified tour number.
stream	index of view area	Used to control EPTZ, for control physical PTZ is no need this parameter.

2.1.27.2 PTZ configuration

Example:

<http://<servername>/cgi-bin/operator/ptzconfig?<parameter>=<value>&<parameter>=<value>...>

Parameter name	Value	Description
setserverpresetname	string	Associates the current position to "string" as a preset position in the server.
setserverpresetno	0,...,31	Saves the current position as a preset position number in the server.
home	yes,no	Makes the current position the home position for the camera. Used with <i>setserverpresetname</i> or <i>setserverpresetno</i> .
removeserverpresetname	string	Remove the specified preset position associated with "string."
removeserverpresetno	0,...,31	Remove the specified preset position.
removeallpreset		Remove all preset.
stream	index of view area	Used to control EPTZ, for control physical PTZ is no need this parameter.

2.1.28 Motion/Audio Detection Level

Example:

<http://<servername>/cgi-bin/operator/detection?<parameter>=<value>&<parameter>=<value>...>

Parameter name	Value	Description
mode	single	If specified to single, data only sent once. (This parameter must be add to cgi first)
type	motion, audio	Specify the detection type.
group	group number	Specify the motion/audio detection windows that are of interest. Excluding the group argument will return all motion detection level information from all motion detection windows Exclude window are ignored.

2.1.29 DIDO

2.1.29.1 Input

Example:

http://<servername>/cgi-bin/admin/input? <parameter>=<value>&<parameter>=<value>...

Parameter name	Value	Description
check	number	Returns the status (1 or 0) of one or more inputs numbered
monitor	number	Returns a multipart stream of "check" inputs (see return description below).

2.1.29.2 Output

Example:

http://<servername>/cgi-bin/admin/output? <parameter>=<value>&<parameter>=<value>...

Parameter name	Value	Description
check	id	Returns the status (1 or 0) of one or more outputs numbered
monitor	id	Returns a multipart stream of "check" outputs (see return description below).
action	<i>id:<a><wait> <a> ...</i>	<p>Sets the output relay “<i>id</i>” active or inactive and waits <i><wait></i> milliseconds. Note that only one output relay can be activated/deactivated per request.</p> <p><i>id</i> = Output number. If omitted, output 1 is selected.</p> <p><i><a></i> = Action character: / or \ / = active, \ = inactive.</p> <p><i><wait></i> = Delay in milliseconds.</p>

Example: Set two 300 ms pulses with 500 ms delay between the pulses on output 1.

http://<servername>/cgi-bin/admin/output?action=1:/300\500/300

2.1.30 HTTP server

Example:

http://<servername>/cgi-bin/admin/servertest? <parameter>=<value>&<parameter>=<value>...

Parameter name	Value	Description
cmd	http	Returns the status (1 or 0) of one or more inputs numbered
ServerName	string	Returns a multipart stream of "check" inputs (see return description below).
ServerPort	1~65535	Event server port.
UserName	string	User name.
Password	string	User password.

ProxyAddr	1~66535	Proxy address.
ProxyPort	1~66535	Proxy port.
ProxyUser	1~66535	User name of proxy server.
ProxyPass	string	Password of proxy server.

2.1.31 Network storage

Example:

http://<servername>/cgi-bin/admin/servertest? <parameter>=<value>&<parameter>=<value>...

Parameter name	Value	Description
fstype	cifs, nfs	Type of network storage
ServerName	string	IP and directory of server.
UserName	string	User name.
Password	string	Password.
Workgroup	string	Workgroup.

2.1.32 Server test

2.1.32.1 Test for SMTP

Example:

http://<servername>/cgi-bin/admin/servertest? <parameter>=<value>&<parameter>=<value>...

Parameter name	Value	Description
cmd	smtp, clearsmtp	smtp: Test SMTP setting. clearsmtp: Abort current test.
ServerName	string	Server name.
ServerPort		Server port.
ServerSSL	string	Specify if connect with SSL protocol.
UserName	string	User name.
Password	string	User password.
RcptToAddr	string	Receiver mail address.
AdminAddr	string	Transmitter mail address.

2.1.32.2 Test for FTP

Example:

http://<servername>/cgi-bin/admin/servertest? <parameter>=<value>&<parameter>=<value>...

Parameter name	Value	Description
cmd	ftp, clearftp	ftp: Test FTP setting. clearftp: Abort current test.
ServerName	string	Server name.
UserName	string	User name.
Password	string	User password.
Passive	on, off	Passive mode.
SourceName	string	Path and filename of file to be transmitted.
TargetName	string	File name on FTP server.

2.1.33 File read

Example:

http://<servername>/cgi-bin/admin/fileread?<parameter>=<value>

Parameter name	Value	Description
READ.filePath	string	File name and path to be read.

2.1.34 File write

Example:

http://<servername>/cgi-bin/admin/filewrite?<parameter>=<value>

Parameter name	Value	Description
SAVE.filePath	string	File name and path to be write to.
SAVE.fileDate	string	File data to be write to.

2.1.35 Secure socket level

2.1.35.1 Create self-signed certificate

Example:

http://<servername>/cgi-bin/admin/sslselfsign?<parameter>=<value>...

Parameter name	Value	Description
CNTR	string	2-letter country code of subject that conforms to ISO-3166.
STAT	string	State or province of subject.
LOCA	string	Locality of subject.

ORGA	string	Organization of subject.
ORUN	string	Organizational unit of subject.
CMNM	1,...1000	Common name of subject (The URL of product).
VALI	1,...1000	Validity period of certification.

2.1.35.2 Read certificate information

Example:

<http://<servername>/cgi-bin/admin/sslcinfo>

2.1.36 Wireless server

Example:

<http://<servername>/cgi-bin/admin/sitesurvey>

Return:

HTTP/1.1 200 OK

Content-type: text/plain

<Channel> <SSID> <Signal Strength> <Mode> <Authentication> <Security> ...

<Bit Rate>

Parameter name	Value	Description
<Channel>	integer	Specify the AP channel.
<SSID>	string	Specifies the Service Set ID.
<Signal Strength>	integer	Specify the AP signal strength.
<Mode>	Infra, AdHoc	Enable\disable security 'Infra' = 'Managed' 'AdHoc' = 'AdHoc'
<Authentication>	WPA-PSK, Open, ShareKey	Specifies the authentication mode 'WPA-PSK' = 'Open' 'Open' = 'Open' 'SharedKey' = 'SharedKey'
<Security>	NONE, TKIP, WEP	Specifies the security mode 'NONE' = 'NoSecurity' 'TKIP' = 'WPA-PSK' 'WEP' = 'WEP'
<Bit Rate>	integer	Specify the AP transmit bit rate.

2.1.37 SD Card

2.1.37.1 SD State

Example:

http://<servername>/cgi-bin/admin/sdstate?<parameter>=<value>...

Parameter name	Value	Description
Action	cardsize, filelist, format, delete, savetonfs	cardsize: Get card total size and available size. filelist: List file of card. format: Format the card. delete: Delete the file. savetonfs: Save file to network storage.
Directory	string	Directory to be list.
Filename	string	File to be delete or save to network storage.

2.1.37.2 Download file of SD card

Example:

http://<servername>/sd/IPCamera001BFE02706B/Period/20110215/09/20110215091005.avi

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 RTSP port number

Example: Get RTSP port number

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

Return:

Parameter name	value	Security level (get/set)	Description
----------------	-------	--------------------------	-------------

<i>RTSPPort</i>	<i>number</i>	<i>1/6</i>	<i>RTSP viewer port number</i>
-----------------	---------------	------------	--------------------------------

root.System.RTSPPort=554

Example: Set RTSP port number

http://<servername>/cgi-bin/admin/param?action=update&General.Network.RTSP.Port=554

Return:

OK

2.2.3 Get/Set Capture Mode

Some models support capture mode switch. Capture mode standard format is "MaxWidth"x"MaxHeight"@ "MaxFPS". For example, 2560x1920@15, 2048x1536@20, 1920x1080@30. IP camera will reboot by itself after capture mode change.

Example: Get Capture Mode Support List

http://<servername>/cgi-bin/admin/param?action=list&group=ImageSource.I0.Config.CaptureModeFormatList

Parameter name	value	Security level (get/set)	Description
<i>CaptureModeFormatList</i>	<i>string</i>	<i>4/7</i>	<i>Capture mode support list</i>

root.ImageSource.I0.Config.CaptureModeFormatList=2048x1536@20,1920x1080@30

Example: Get Capture Mode

http://<servername>/cgi-bin/admin/param?action=list&group=ImageSource.I0.Config.CaptureMode

Parameter name	value	Security level (get/set)	Description
<i>CaptureMode</i>	<i>string</i>	<i>4/4</i>	<i>Capture mode</i>

root.ImageSource.I0.Config.CaptureMode=2048x1536@20

Example: Set Capture Mode

http://<servername>/cgi-bin/admin/param?action=update&ImageSource.I0.Config.CaptureMode=1920x1080@30

Return:

OK

2.2.4 Profile

You can add new profile or remove unneeded profile. Besides, you should add the new RTP configuration for this profile after you add new profile. You could connect to

this profile using the new added RTP configuration. If you remove a profile, please also remove corresponding RTP configuration.

Example: Add New Profile

*http://<servername>/cgi-bin/admin/param?action=add&group=StreamProfile&template=StreamProfile
&StreamProfile.I3.Video.Name=p6&StreamProfile.I3.Video.Description=p6&StreamProfile.I3.Video.C
odec=H264&StreamProfile.I3.Video.Source=0&StreamProfile.I3.Video.Resolution=1280x720&Strea
mProfile.I3.Video.FPS=30&StreamProfile.I3.Video.Quality.Mode=auto&StreamProfile.I3.Video.Quality
.Quant=10&StreamProfile.I3.Video.Quality.BitRate=8M&StreamProfile.I3.OSD.Enabled=on&StreamP
rofile.I3.Audio.Enabled=on*

Return:

OK

Example: Remove Profile

http://<servername>/cgi-bin/admin/param?action=remove&group=StreamProfile.I3

Return:

OK

2.2.5 Get/Set video resolution

Example: Get Profile-1 video resolution

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

Return:

Parameter name	value	Security level (get/set)	Description
Resolution	string	1/4	Video resolution.

root.StreamProfile.I0.Video.Resolution=1920x1080

Example: Set Profile-1 video resolution

*http://<servername>/cgi-bin/admin/param?action=update&StreamProfile.I0.Video.Resolution=1920x1
080*

Return:

OK

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

Example: Get video parameters

http://<servername>/cgi-bin/operator/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.Contrast=50&ImageSource.I0.Sensor.Saturation=50&ImageSource.I0.Sens*

or.Hue=50&ImageSource.I0.Sensor.Sharpness=20

Return:

Parameter name	value	Security level (get/set)	Description
Brightness	0~100	4/4	Image brightness
Contrast	0~100	4/4	Image Contrast
Saturation	0~100	4/4	Image Saturation
Hue	0~100	4/4	Image Hue
Sharpness	0~100	4/4	Image Sharpness

root.ImageSource.I0.Sensor.Brightness=50

root.ImageSource.I0.Sensor.Contrast=50

root.ImageSource.I0.Sensor.Saturation=50

root.ImageSource.I0.Sensor.Hue=50

root.ImageSource.I0.Sensor.Sharpness=20

2.2.7 Get/Set video quality

Example: Get Profile-1 video quality

http://<servername>/cgi-bin/operator/param?action=list&group=StreamProfile.I0.Video.Quality

Return:

Parameter name	value	Security level (get/set)	Description
Quant	0-100 (H264) 0-100(MJPEG)	4/4	The Quality Quant of the Codec
Bitrate	64K – 10M	4/4	The target bit rate for CBR mode. (K: kbps, M: Mbps)
Mode	cbr, vbr	4/4	Specifies whether the rate controller operates in Variable Bit Rate (VBR) or constant bit rate (CBR) mode.

root.StreamProfile.I0.Quality.Mode=vbr

root.StreamProfile.I0.Quality.Bitrate=2048

root.StreamProfile.I0.Quality.Quant=6

Example: Set Profile-1 video quality (fixed quality)

http://<servername>/cgi-bin/admin/param?action=update&StreamProfile.I0.Video.Quality.Quant=50&StreamProfile.I0.Quality.Mode=vbr

Return:

OK

Example: Set Profile-1 video quality (constant bit rate)

<http://<servername>/cgi-bin/admin/param?action=update&StreamProfile.I0.Video.Quality.BitRate=6M&StreamProfile.I0.Video.Quality.Mode=cbr>

Return:

OK

2.2.8 Get/Set video frame rate

Example: Get Profile-1 video frame rate

<http://<servername>/cgi-bin/operator/param?action=list&group=StreamProfile.I0.Video.FPS>

Return:

Parameter name	value	Security level (get/set)	Description
<i>FPS</i>	<i>1~30</i>	<i>4/4</i>	<i>Frame rate. Max value: 30 for NTSC/CMOS 25 for PAL.</i>

root.StreamProfile.I0.Video.FPS=30

Example: Set Profile-1 video frame rate

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

Return:

OK

2.2.9 Get/Set video flip state

Example: Get video flip state

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

Return:

Parameter name	value	Security level (get/set)	Description
<i>Flip</i>	<i>on, off</i>	<i>4/4</i>	<i>Enables/disables video Flip mode</i>

root.ImageSource.I0.Sensor.Flip=off

Example: Set video flip state

<http://<servername>/cgi-bin/admin/param?action=update&ImageSource.I0.Sensor.Flip=on>

Return:

OK

2.2.10 Get/Set video mirror state

Example: Get video flip state

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

Return:

Parameter name	value	Security level (get/set)	Description
<i>Mirror</i>	<i>on, off</i>	<i>4/4</i>	<i>Enables/disables video Mirror mode</i>

root.ImageSource.I0.Sensor.Mirror=off

Example: Set video flip state

http://<servername>/cgi-bin/admin/param?action=update&ImageSource.I0.Sensor.Mirror=on

Return:

OK

2.2.11 Get/Set video power frequency

Example: Get video light frequency

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

Return:

Parameter name	value	Security level (get/set)	Description
<i>PowerFrequency</i>	<i>auto, hold, 50, 60</i>	<i>4/4</i>	<i>Select video light frequency.</i>

root.ImageSource.I0.Sensor.PowerFrequency=60

Example: Set video frequency

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

Return:

OK

2.2.12 Get/Set video white balance mode

Example: Get video white balance mode

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

Return:

Parameter name	value	Security level (get/set)	Description
<i>WhiteBalance</i>	<i>auto, fluorescent, incandescent, sunny, cloudy, sun_shade</i>	<i>4/4</i>	<i>Select video White Balance mode</i>

root.ImageSource.I0.Sensor.WhiteBalance=auto

Example: Set video white balance mode

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

Return:

OK

2.2.13 Get/Set video OSD

Example: Get http port number

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

Return:

Parameter name	value	Security level (get/set)	Description
Date	on, off	4/4	Enables/disables Date/Time OSD.
Title	on, off	4/4	Enables/Disables Title OSD
Alias	None, string	4/4	Alias for camera display on OSD. (must less than 6 characters)

root.Image.OSD.Date=off

root.Image.OSD.Title=off

root.Image.OSD.Alias=None

Example: Set OSD

*http://<servername>/cgi-bin/admin/param?action=update&Image.OSD.Date=on
&Image.OSD.Title=on&Image.OSD.Alias=CAM1*

Return:

OK

2.2.14 Get/Set video Mask

Example: Add new Privacy Mask

http://<servername>/cgi-bin/opertor/param?action=add&group=Image.Mask&template=PrivacyMask&Image.Mask.M0.Name=p2&Image.Mask.M0.XPos=46&Image.Mask.M0.YPos=30&Image.Mask.M0.Width=86&Image.Mask.M0.Height=70&Image.Mask.M0.Color=black&Image.Mask.M0.Enabled=on

Return:

OK

Example: Remove Privacy Mask

http://<servername>/cgi-bin/operator/param?action=remove&group=Image.Mask.M0

Return:

OK

2.2.15 Get JPEG still image

http://<servername>/cgi-bin/view/image?index=<View Area Index>

Example: *http://<servername>/cgi-bin/view/image?index=0*

Return:

OK

http://<servername>/cgi-bin/view/image?index=0

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 video/audio stream

http://<servername>/video.pro1

Return: video frames

3 SAMPLE VIDEO/AUDIO STREAM GET FLOW

A. Decide video streaming format

H264, MJPEG.

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:

video port

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

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

Ex: `http://<servername>:<videoport>/video.pro1`

`http://<servername>:<videoport>/video.pro2`

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

```
CSocketHelper socket;
```

```

bool Connect()
{
    socket.Open(m_hostIP, m_httpPort);
    NuString str;
    if (socket.IsOk())
    {
        str.Format("POST /audio_in HTTP/1.0\r\nContent-Type: multipart/form-data;\r\nboundary=--myboundary\r\nContent-Length: 1053\r\nAuthorization: Basic\r\n%s\r\n\r\n", m_Base64Auth);
        socket.SendStr(str);
        return true;
    }
    return false;
}

```

```
AudioDataTransmit(BYTE *pAudioBuf, DWORD size)
```

```

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

    if (socket.IsOk())
    {
        NuString str, str1, str2;
        str1.Format("--myboundary\r\nContent-Type: audio/wav\r\nContent-Length: %d\r\n\r\n",
            size);
        str2.Format("--myboundary\r\n");
        socket.SendStr(str1);
        socket.Send(pEncodeBuf, size);
        socket.SendStr(str2);
    }
    else
    {
        socket.Close();
        Connect();
    }
    delete pEncodeBuf;
}

```