HTTP/CGI Command Programing Guide

Revision Log

Date	Version	Description / Major change
2007/09/18	V1.0	Create document
2008/10/16	V1.1	Add motion detection

1 HTTP/CGI COMMAND INDEX

Please refert 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	7/0	The brand of the product.
ProdFullName	String	7/0	The full name of the product.
ProdNbr	String	7/0	The product number.
ProdShortName	String	7/0	The short name of the product.
ProdType	String	7/0	The product type.
WebURL	String	7/0	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 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
ViewerAuthen	on/off	1/6	Enable/disable viewer authentication.
ViewerModeDefault	000007ff, 0000063f, 0000003f	1/6	Security level. 000007ff for administrator, 0000063f for operator,

			0000003f for viewer.
Admin	string	1/6	Based 64 encrypted account for Administrator.
User1~ User9	String	1/6	Based 64 encrypted account and security level for user .

root.General.UserID.ViewerAuthen=on

root.General.UserID.ViewerModeDefault=000007ff

root.General.UserID.Admin=YWRtaW46YWRtaW4=

root.General.UserID.User1=MTExMToxMTEx,0000003f

root.General.UserID.User2=MjIyMjoyMjIy,0000063f

root.General.UserID.User3=MzMzMzozMzMz,000007ff

root.General.UserID.User4=Og==,000007ff

root.General.UserID.User5=Og==,000007ff

root.General.UserID.User6=Og==,000007ff

root.General.UserID.User7=Og==,000007ff

root.General.UserID.User8=Og==,000007ff

root.General.UserID.User9=Og==,000007ff

Example: Set account information

http://<servername>/cgi-bin/admin/param?action=update&General.UserID.ViewerAuthen=off&General.UserID.User1= MzMzMzozMzMz,000007ff

Return:

OK

2.1.3   Get Firmware info
Example:

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

Return:

Parameter name	value	Security level (get/set)	Description
BuildDate	string	1/0	Firmware build date.
Version	string	1/0	Firmware version

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/view/param?action=list&group=Properties.Hardware

Return:

Parameter name	value	Security level (get/set)	Description
Version	string	1/0	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.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
DO.Type	virtual, physical	1/0	Board support DO type

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
Motion	yes, no	1/0	Board support Motion Detection capability

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
Audio	yes, no	1/0	Board support Audio capability
Format	string	1/0	Board support Audio format

root.Properties.Audio.Audio=yes

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
Broadcast	IP address	6/6	Broadcast address. (read only)
DNSAuto	on, off	6/6	Specifies if the DNS server should be obtained from a DHCP server.
DNSServer1	IP address	6/6	Primary Domain Name System server.
DNSServer2	IP address	6/6	Secondary Domain Name System server.

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

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
Enabled	yes, no	6/6	Enables Universal Plug and Play.
NATTraversal.Enabled	yes, no	6/6	Enables/disables NAT traversal.
NATTraversal.HTTPPort	number	6/6	HTTP port number for NAT traversal.
NATTraversal.HTTPSPort	number	6/6	SSL port number for NAT traversal.

NATTraversal.HTTPViewerPort	*number*	*6/6*	*MPEG4 port number for NAT traversal.*
NATTraversal.HTTPViewerPort SSL	*number*	*6/6*	*MPEG4 over SSL port number for NAT traversal*
NATTraversal.HTTPViewerPort2	*number*	*6/6*	*MJPEG port number for NAT traversal*
NATTraversal.HTTPViewerPort2 SSL	*number*	*6/6*	*MJPEG over SSL port number for NAT traversal*
NATTraversal.HTTPViewerPort3	*number*	*6/6*	*RTSP – computer view port number for NAT traversal*
NATTraversal.HTTPViewerPort4	*number*	*6/6*	*RTSP – mobile view port number for NAT traversal*

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.HTTPViewerPort=8090

root.General.Network.UPnP.NATTraversal.HTTPViewerPortSSL=8091

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

root.General.Network.UPnP.NATTraversal.HTTPViewerPort2SSL=8071

root.General.Network.UPnP.NATTraversal.HTTPViewerPort3=8050

root.General.Network.UPnP.NATTraversal.HTTPViewerPort4=8030

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
Enabled	*yes, no*	*6/6*	*Enables/disables PPPoE service.*
IPAddress	*IP address*	*6/6*	*IP address. The physical address of the device on the network. (read only)*
UserID	*none, string*	*6/6*	*PPPoE login user id.*
Password	*none, string*	*6/6*	*PPPoE login password.*

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DNSAuto	on, off	*6/6*	Specifies if the DNS server should be obtained from a DHCP server.
DNSServer1	IP address	*6/6*	Primary Domain Name System server.
DNSServer	IP address	*6/6*	Secondary Domain Name System server.

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
Enabled	yes, no	6/6	Enables/disables DDNS service.
DDNSServer	none, IP address, host name	6/6	The server that support DDNS service.
UserName	none, string	6/6	DDNS login user id.
Password	none, string	*6/6*	DDNS login password.
HostName	none, string	*6/6*	The name entered here will be associated with the product's IP address in the DDNS server.

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
ObtainFromDHCP	*yes, no*	*6/6*	*DHCP servers may provide names/IP addresses for local/remote NTP servers. Enable this feature by setting this parameter to yes.*
ServerDate	*yyyy-mm-dd*	*6/6*	*The date (yyyy-mm-dd) when the device's time was set manually or synchronized with the computer.*
ServerTime	*hh:mm:ss*	*6/6*	*The time (hh:mm:ss) when the device's time was set manually or synchronized with the computer.*
DateFormat	*ymd, mdy, dmy*	*6/6*	*Date format.*
SyncSource	*None, PC, NTP*	*6/6*	*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*	*6/6*	*Time zone.*

	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		
	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		
	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.Dat

eFormat=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&G

eneral.Time.NTP.Update=01:00:00

Return:

OK

2.1.17   Get/Set Bonjour Info

Example: Get Bonjour information

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

Return:

Parameter name	value	Security level (get/set)	Description
Enabled	*yes, no*	*6/6*	*Enables/disables Bonjour service.*
DeviceName	*none or a string*	*6/6*	*The device name will be showed on the bonjour browser. If it uses the default value, this name will like the format below: [Brand]-[MacAddress].*

root.General.Network.Bonjour.Enabled=yes

Example: Set Bonjour information

http://<servername>/cgi-bin/admin/param?action=update&General.Network.Bonjour.Enabled=yes&G

eneral.Network.Bonjour.DeviceName=ipcam

Return:

OK

2.1.18 Get/Set Messenger Info

Example: Get Messenger information

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

Return:

Parameter name	value	Security level (get/set)	Description
Enabled	*yes, no*	*6/6*	*Enables/disables Messenger.*
StartPort	*Number*	*6/6*	*Lower bound port number for video tcp connection*
EndPort	*Number*	*6/6*	*Upper bound port number for video connection*
NotifyIP	*yes, no*	*6/6*	*Enables/disables notify IP while ipcamera account and users in AllowList are online.*
Protocol	*msn*	*6/6*	*Protocol type*
Username	*none or string*	*6/6*	*Messenger account*
Password	*none or string*	*6/6*	*Password*
Nickname	*none or string*	*6/6*	*Nickname shown in messenger*
AllowList.User0	*none or string*	*6/6*	*User that is allowed to communicate with this Messenger account*
AllowList.User1	*none or string*	*6/6*	*Same as above*
AllowList.User2	*none or string*	*6/6*	*Same as above*
AllowList.User3	*none or string*	*6/6*	*Same as above*

| AllowList.User4 | none or string | 6/6 | Same as above |

root.General.Network.Messenger.Enabled=on

root.General.Network.Messenger.StartPort=20000

root.General.Network.Messenger.EndPort=21000

root.General.Network.Messenger.NotifyIP=yes

root.General.Network.Messenger.Protocol=msn

root.General.Network.Messenger.Username=test8@hotmail.com

root.General.Network.Messenger.Password=ipcameratest

root.General.Network.Messenger.Nickname=ipcamera

root.General.Network.Messenger.AllowList.Enabled=yes

root.General.Network.Messenger.AllowList.User0=test-msn@hotmail.com

root.General.Network.Messenger.AllowList.User1=none

root.General.Network.Messenger.AllowList.User2=none

root.General.Network.Messenger.AllowList.User3=none

root.General.Network.Messenger.AllowList.User4=none

Example: Set Messenger information

http://<servername>/cgi-bin/admin/param?action=update&General.Network.Messenger.Enabled=yes

&General.Network.Messenger.Username=test@hotmail.com&General.Network.Messenger.Password

=ipcameratest

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
HTTPViewerPort	*number*	*1/6*	*MPEG4 viewer port number*
HTTPViewerPort2	*number*	*1/6*	*MJPEG viewer port number*

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
Resolution	*string*	*1/6*	*MPEG4 video resolution.*

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
Resolution	*string*	*1/6*	*MJPEG video resolution.*

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

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

Compression	*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. *0: for auto rate control.*

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
FPS	*1~30*	*1/6*	*Frame rate.* *Max value: 30 for NTSC/CMOS* *25 for PAL.*

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
FPS	1~30	1/6	Frame rate. 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
Flip	on, off	1/6	Enables/disables video Flip mode

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
Mirror	on, off	1/6	Enables/disables video Mirror mode

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
NightMode	auto, off	1/6	Enables/disables video Night mode

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
Lighting	50, 60	1/6	Select video light frequency.

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
WhiteBalance	auto, fluorescent, incandescent, sunny, cloudy, blackwhite	1/6	Select video White Balance mode

root.Image.I0.Appearance.WhiteBalance=auto

Example: Set video white balance mode

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

Return:

OK

2.2.13 Get/Set video OSD

Example: Get http port number

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

Return:

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

root.Image.I0.OSD.Enabled=off

root.Image.I0.OSD.Date=off

root.Image.I0.OSD.TextColor=white

root.Image.I0.OSD.BkColor=transparent

root.Image.I0.OSD.Position=top

root.Image.I0.OSD.Alias=None

Example: Set http port number

http://<servername>/cgi-bin/admin/param?action=update&Image.I0.OSD.Enabled=on&Image.I0.OSD .Date=on&Image.I0.OSD.TextColor=black&Image.I0.OSD.BkColor=transparent&Image.I0.OSD.Positi on=top&Image.I0.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.I0.Mask

Return:

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

root.Image.I0.Mask.Enabled=off

root.Image.I0.Mask.Date=off

root.Image.I0.Mask.TextColor=white

root.Image.I0.Mask.Width=transparent

root.Image.I0.Mask.Height=top

root.Image.I0.Mask.Color=None

Example: Set http port number

http://<servername>/cgi-bin/admin/param?action=update&Image.I0.Mask.Enabled=on&Image.I0.Mask.XPos=1&Image.I0.Mask.YPos=1&Image.I0.Mask.Width=20&Image.I0.Mask.Height=10&Image.I0.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

where the proposed <boundary> is

myboundary

and the returned <image> field is below and please note that

<sequence> is the sequence number of audio packets.

Content-Type: video/mpeg\r\n

Sequence: <sequence>\r\n

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

\r\n

<MPEG4 image data>\r\n

--<boundary>\r\n

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

where the proposed <boundary> is

myboundary

and the returned <image> field is below and please note that

<sequence> is the sequence number of audio packets.

Content-Type: audio/basic\r\n

Sequence: <sequence>\r\n

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

\r\n

<MPEG4 audio data>\r\n

--<boundary>\r\n

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

2.3   Motion Detection Category

2.3.1 Get/Set motion parameters

Example: Get motion parameters

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

Return:

Parameter name	value	Security level (get/set)	Description
Enable	*yes,*no	6/6	*Enable/disable this detection window.*
Sensitivity	*0-512*	*6/6*	*This tunes the "object difference from the background"-sensitivity, i.e. difference in terms of color and/or structure. A high value detects even very small changes and can e.g. trigger on image noise if set too high. A very low value requires on the other hand a very dramatic change with e.g. a dark object appearing in an almost white scene (or vice versa).*
Threshold	*0-1000*	*6/6*	*This adjusts the motion detection to be more or less sensitive for very fast motion. With a very low value the motion is detected only when a scene has changed but adapts to this changed scene as the new normal scene rapidly. A large value is more conservative and will detect the motion for a larger number of pictures before it consider this as being a normal object in the scene.*
Left	*0-9999*	*6/6*	*The coordinate for the left boundary of the rectangular motion detection window. The full value range is related to the full image width and 0 is counted from the left hand side of the image.*
Top	*0-9999*	*6/6*	*The coordinate for the upper boundary of the rectangular motion detection window. The full value range is related to the full image height and 0 is counted from the upper side of the image.*
Right	*0-9999*	*6/6*	*The coordinate for the right boundary of the rectangular motion detection window. The full value range is related to the full image width and 0 is counted from the left hand side of the image.*
Bottom	*0-9999*	*6/6*	*The coordinate for the bottom boundary of the rectangular motion detection window. The full value range is related to the full image height and 0 is counted from the upper side of the image.*

- **Note:** The # is replaced with a group number starting from zero, e.g. Motion.M0.

root.Motion.M0.Enabled=no

root.Motion.M0.Sensitivity=90

root.Motion.M0.Threshold=700

root.Motion.M0.Left=0

root.Motion.M0.Top=0

root.Motion.M0.Right=720

root.Motion.M0.Bottom=480

Example: Set http port number

http://<servername>/cgi-bin/admin/param?action=update&Motion.M0.Enabled=yes&IMotion.M0.Sensitivity=90&Motion.M0.Threshold=700&Motion.M0.Left=0&Motion.M0.Top=0&Motion.M0.Right=720&Motion.M0.Bottom=480

Return:

Ok

2.3.2 Get motion strength

Example:

http://<servername>:19999

Return:

Parameter name	value	Security level (get/set)	Description
R1	*0~1000*	6/6	*The strength of motion region 1*
R2	*0~1000*	6/6	*The strength of motion region 2*
R3	*0~1000*	6/6	*The strength of motion region 3*

R1=0,R2=0,R3=0   R1=0,R2=0,R3=0   R1=0,R2=0,R3=0 ...

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;
        boundary=--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;
}
```