API CGI

1 Global

1.1 ABBREVIATIONS

The following abbreviations are used throughout this document.

CGI	Common Gateway Interface - a standardized method of communication between a client (e.g. a web browser) and a server (e.g. a web server).
URL	RFC 1738 describes the syntax and semantics for a compact string representation for a resource available via the Internet. These strings are called "Uniform Resource Locators" (URLs).
URI	A Uniform Resource Identifier (URI) is a compact string of characters for identifying an abstract or physical resource. RFC 2396 describes the generic syntax of URI.

1.2 TRANSACTION

The HTTP API Transaction starts from a request from a client Application, usually a web browser. The request is processed by the web server on the IP Camera. Then send the response back to the client application. The HTTP APP is taken in GET form. If the request is successful, the IP Camera will return a HTTP header contains 200 OK. The HTTP Body will contain actual data or error message if an error occurs.

For describe convenience, we use some short words to instead the long expressions. The follows are several regulations:

1. The italics and bold will be replaced by the value behind the symbol “=”.
2. The URL must follow the standard way of writing a URL.(RFC_3986:Uniform Resource Identifiers (URI) Generic Syntax);that is ,spaces and other reserved characters (“;”, “/”, “?”, “:”, “@”, “=”, “+”, “,” and “$”) within a <paramName> or a <paramValue> must be replaced with %<ASCII hex>.For example ,the blank must be instead with %20.
3. To describe the range of the parameter, we use some symbols such as “[]”, “{}” and so on. For example :”[0-100]”denotes a integer not less than 0 and not larger than 100. “{0,1,2,3}”denotes the valid value of a integer among 0,1,2 and 3.
4. In the request and response, we use “[]” to denote an array. The index is usually a integer and start form 0.
5. The parameter value has several types: string, integer, bool and float.Integer is 32 bits.The range of bool is “true” and “false”.

2AUTHENTICATION

The IP Camera supplies two authentication ways: basic authentication and digest authentication. The basic authentication is encrypted with base64 and the digest authentication is encrypted with MD5. When client sent the information without authorized or other conditions make the session can not build, the servers will return HTTP Code to give client some information. The description of HTTP Code is in the below table.

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

Example: Request includesuauthorized.

```
HTTP/1.1 401 Unauthorized
WWW-Authenticate: Basic realm="Device_CGI"
CONNECTION: close
CONTENT-LENGTH: 0
```

1. When basic authentication, the IP camera response:

401 Unauthorized(说明是未认证的)

WWW-Authenticate: Basic realm=”XXXXXX”

Then the client encode the username and password with base64, send the following request:

Authorization: Basic VXZVXZ.

2. When digest authentication, the IP camera response:

WWW-Authenticate: Digest realm=″ZENO_00408CA5EA04″,

nonce=″000562fdY631973ef04f77a3ede7c1832ff48720ef95ad″,

stale=FALSE,

qop="auth";

The client calculates the digest using username, password, nonce, realm and URI with MD5, then send the following request:

Authorization:Digestusername="admin",realm="ZENO_00408CA5EA04",nc=00000001,cnonce="0a4f113b",qop="auth"nonce="000562fdY631973ef04f77a3ede7c1832ff48720ef95ad",uri="/cgi-bin/system.cgi?action=getMaxExtraStream",response="65002de02df697e946b750590b44f8bf"

3 VIDEO ENCODE

3.1. Stream

3.1.1 Get Max Extra Stream Counts

Get the max counts of extra stram.

Method:GET

Syntax:

http://<ip>/cgi-bin/system.cgi?action=getMaxExtraStream

Response:

table.MaxExtraStream=1

comment:

The range of table.MaxExtraStream is {1,2,3}

3.1.2 Get MJPG Stream

Get MJPG stream
Method: GET

Syntax:

http://<ip>/cgi-bin/mjpg/video.cgi?channel=<channelNo>&subtype=<typeNo>

With the following parameter and value type:

paramName	paramValue type	Description
ip		Device ip address
channelNo		Channel number, since this is not used now, the value is written as 0 by default.
typeNo		Flow type, 0: primary stream, 1: secondary stream 1, 2: secondary stream 2

Response:

OK or ERROR If OK

Content-Type: multipart/x-mixed-replace; boundary=firstboundary;

--firstboundary
Content-Type: image/jpeg
Content-Length: <mjpg octec stream length>

<mjpg octet stream>

comment:

Get a mjpg stream from a device

3.2 Video Color

3.2.1 Set Parameter

Set the parameter of video color.

Method:GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<***paramName***>=<***paramValue***>[&<***paramName***>=<***paramValue***>...]

With the following parameter and value type:

paramName	**ParamValue type**	**Description**
head.Brightness	Integer	Brightness, range is [0-100]
head.Contrast	Integer	Contrast, range is [0-100]
head.Hue	Integer	Hue, range is [0-100]
head.Saturation	Integer	Saturation, range is [0-100]
head.TimeSection	String	Effective time for this video color param. Format is: ***mask starttimeendtime*** **Mask** range is {0, 1}. Mask 0 – this video param is not effective Mask 1 - this param is effective ***Starttime/Endtime*** format like 11:00:00. Example:

		0 01:00:00-02:00:00, means this param is not effective. 1 01:00:00-02:00:00, means this param is effective between 01:00:00 and 02:00:00

comment:

In above table, ***head***=VideoColor[*ChannelNo*][*ColorParamNo*] *ChannelNo* = video channel index, *ColorParamNo* = color Param index, 0 = Color Param 1 1 = Color Param 2 ...

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&VideoColor[0][0].Brightness=2

3.2.2 Get Parameter

Get the parameter of video color.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**VideoColor**

Response:

head.Brightness=50 ***head***.Contrast=50 ***head***.Hue=50 ***head***.Saturation=50 ***head***.TimeSection=1 00:00:00-24:00:00

comment:

In above table, ***head***=table.VideoColor[*ChannelNo*][*ColorParamNo*] *ChannelNo* = video channel index, *ColorParamNo* = color param index. 0 = Color Param 1 1 = Color Param 2

...

3.3 Video In Options

3.3.1 Get Capabilities

Get video input capabilities.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/videoInput.cgi?action=**getCaps**&channel=<***channelNo***>

Response:

```
caps.Backlight=true
caps.ChipID=0
caps.CoverCount=0
caps.CoverType=0
caps.CustomManualExposure=true
caps.DayNightColor=true
caps.DownScaling=true
caps.Exposure=9
caps.ExternalSyncInput=true
caps.FlashAdjust=true
caps.Flip=true
caps.Gain=true
caps.GainAuto=true
caps.HorizontalBinning=1
caps.InfraRed=false
caps.Iris=false
caps.IrisAuto=false
caps.LadenBitrate=4096
caps.LimitedAutoExposure=true
caps.MaxHeight=960
caps.MaxWidth=1280
caps.Mirror=false
caps.NightOptions=false
caps.ReferenceLevel=false
caps.Rotate90=false
caps.SetColor=true
caps.SignalFormats=BT656
```

caps.SyncChipChannels=false
caps.TitleCount=0
caps.UpScaling=false
caps.VerticalBinning=0
caps.WhiteBalance=3

With the following parameter and value type:

Field In Respons	**ParamValue type**	**Description**
Backlight	bool	True: support backlight
ChipID	String	ID of chips in this channel
CoverCount	integer	The maximum cover region count.
CoverType	integer	0: don't support cover 1: support realtime cover 2: support non-realtime cover
CustomManualExposure	bool,	true: support use defined manual exposure time
DayNightColor	bool	true: support color alternate between day and night.
DownScaling	bool	true: support down scaling, binning mode not included.
Exposure	integer	Exposure grade. 0 –don't support exposure control.
ExternalSyncInput	bool	true: support HD signal external synchronization.
FlashAdjust	bool	true: support flash adjust
Flip	bool	true: support picture flip.
Gain	bool	true: support gain control.
GainAuto	bool	true: support auto gain.
HorizontalBinning	integer	Horizontal/Vertical pixel binning mask, 1 – support 2 pixel binning, 2 – support 3 pixel binning 4 - support 4 pixel binning … 2^n – support n+2 pixel binning
VerticalBinning	integer	
InfraRed	bool	true: support Infra compensation
Iris	bool	true: support Iris adjust
IrisAuto	bool	true: support auto Iris adjust
LadenBitrate	integer	Unit is Kbps. Maximum value of video stream bitrate, 16bpp, not in binning mode.
LimitedAutoExposure	bool	true: support auto exposure with time limit.
MaxHeight	integer	Maximum video height
MaxWidth	integer	Maximum video width

Mirror	bool	true: support picture mirror.
NightOptions	bool	true: support night options.
ReferenceLevel	bool	true: support reference level.
Rotate90	bool	true: support clockwise/anticlockwise 90 ° rotate
SetColor	bool	true: support color set.
SignalFormats	string	It's a string contains supported video input signal formatsfor this channel. Signal formats are separated by comma. Range is {Inside, BT656, 720p,1080p, 1080i, 1080sF, 1_3M} Inside – inside input. 1_3M - 1280*960
SyncChipChannels	bool	True: channels in same chip should be synchronized. Synchronized means video resolution of these channels should be the same.
TitleCount	integer	Maximum count of blending titles.
UpScaling	bool	true: support up scaling.
WhiteBalance	integer	Range is {0, 1, 2, 3} 0 – don't support white balance. 1 – support auto white balance 2 - support auto and pre defined white balance. 3 - support auto, pre defined and user defined white balance

Example:

/cgi-bin/videoInput.cgi?action=getCaps&channel=0

3.3.2 Set Parameter

Set the parameter of video in options.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<***paramName***>=<***paramValue***>[&<***paramName***>=<***paramValue***>...]

With the following parameter and value type:

paramName	**ParamValue type**	**Description**

head.Backlight	integer	Range is [0-n] n depends on capability in**3.3.1 GetCapabilities (Video In Options)** 0 – backlight closed. 1 – backlight grade 1 … n – backlight grade n
head.DayNightColor	integer	Range is {0,1,3} 0: always multicolor 1:autoswitch along with brightness， 3:always monochrome
head.ExposureSpeed	integer	Range is [0-n+1], n depends on capability in**3.3.1 GetCapabilities (Video In Options)** 0: AutoExposure 1-n-1:manual Exposure grade n: AutoExposure with time limit. n+1:manualExposure with user-defined time (n issupportedmaximum exposuregrade)
head.ExposureValue1	float	Range is [0.1-80], unit is millisecond If ExposureSpeed is 0(AutoExposure enable), it's lower limit of AutoExposure time, otherwise it's time of manualExposure
head.ExposureValue2	float	Range is[0.1-80], unit is millisecond Upper limit of AutoExposure time, should be bigger than ExposureValue1
head.ExternalSync	integer	Range is {0,1} External Synchronous 0:Internal Synchronization 1: External Synchronous
head.ExternalSyncPhase	integer	Range is [0°-360°] External Synchronous Signal Phase
head.FlashControl.Mode	integer	Range is {0,1,2} 0:forbid flash 1:always flash 2:auto flash
head.FlashControl.Pole	integer	Range is {0,1, 2, 3} Trigger mode: 0:low level 1:high level 2:rising-edge 3:falling-edge
head.FlashControl.Value	integer	Range is [0-15] Flashlight time-unit: 0-0us,

		1-64us, 2-128us, 3–192us ... 15-960us
head.FlashControl.PreValue	integer	Range is [0-100] It's threshold of brightness value, if brightness is less than this value, flash light begin to work.
head.Flip	bool	true: enablevideo flip function false: disable video flip function
head.Gain	integer	Range is [0,1,2,3,4] IfGainAuto is true, it's upper limit of auto gain, else it's the fixed as five level with {Low,Lower, Medium, Higher, High}.
head.GainBlue	integer	Range is [0-100] Gain for blue value, Value is effective when WhiteBalance is "Custom."
head.GainRed	integer	Range is [0-100] Gain for red value, Value is effective when WhiteBalance is "Custom."
head.GainGreen	integer	Range is [0-100] Gain for green value, Value is effective when WhiteBalance is "Custom."
head.GainAuto	bool	true: GainAuto false: No GainAuto
head.IrisAuto	bool	true: IrisAuto false: No IrisAuto
head.Mirror	bool	true: enablevideo mirror function false: disable video mirror function
head.WhiteBalance	String	Range is {Disable, Auto, Custom, Sunny, Cloudy, Home, Office, Night} White balance Mode
head.ReferenceLevel	integer	Range is [0-100] The expected average brightness levelofvideo frames.
head.Rotate90	integer	Range is {0,1,2} Video rotation: 0: No rotate 1: clockwise rotate 90° 2: anticlockwise rotate 90°
head.SignalFormat	String	Range is {Inside, BT656, 720p, 1080p, 1080i, 1080sF}

		Input Signal Mode
head.NightOptions.BrightnessThreshold	integer	**NightOptions**contain a set of parameters used when brightness is not enough. Range is [0-100] when brightness is lessthan the BrightnessThreshold, parameters change to **Nightoptions.**
head.NightOptions.IrisAuto	bool	true: IrisAuto false: No IrisAuto
head.NightOptions.SunriseHour	integer	Range is [00-23] Sunrise hour.
head.NightOptions.SunriseMinute	integer	Range is [00-59] Sunrise minute
head.NightOptions.SunriseSecond	integer	Range is [00-59] Sunrise second
head.NightOptions.SunsetHour	integer	Sunset time. Its range is same with sunrise time, and it should be after sunrise time. **NightOptions** are used if time is after sunset time and before sunrise time.
head.NightOptions.SunsetMinute	integer	
head.NightOptions.SunsetSecond	integer	
head.NightOptions.SwitchMode	integer	Range is {0,1,2} 0:NoSwitch； 1:Switch depends on brightness； 2: Switch depends on time, switch to NightOptions when time is after sunset time and before sunrise.
head.NightOptions.ExposureSpeed	integer	Range is same as relevant items of normal options in this table. Example: Value rangeof***head***.NightOptions.ExposureSpeed is the same with ***head***.ExposureSpeed
head.NightOptions.ExposureValue1	float	
head.NightOptions.ExposureValue2	float	
head.NightOptions.Gain	integer	
head.NightOptions.GainAuto	bool	
head.NightOptions.GainBlue	integer	
head.NightOptions.GainGreen	integer	
head.NightOptions.GainRed	integer	

head.NightOptions.White Balance	String	
head.NightOptions. ReferenceLevel	integer	
head.NightOptions. ExternalSyncPhase	integer	

comment:

In above table, ***head***=VideoInOptions[*ChannelNo*] *ChannelNo* = video channel index.

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&VideoInOptions[0].Backlight=0

3.3.3 Get Parameter

Video in options contain Backlight, ExposureSpeed, DayNightColor, NightOptionsand so on.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**VideoInOptions**

Response:

head.Backlight=0 ***head***.DayNightColor=false ***head***.ExposureSpeed=0 ***head***.ExposureValue1=0.100000 ***head***.ExposureValue2=80.000000 ***head***.ExternalSync=0 ***head***.ExternalSyncPhase=0 ***head***.FlashControl.Mode=0 ***head***.FlashControl.Pole=0 ***head***.FlashControl.Value=0 ***head***.FlashControl.PreValue=0 ***head***.Flip=false ***head***.Gain=50

head.GainAuto=true
head.IrisAuto=false
head.Mirror=false
head.NightOptions.BrightnessThreshold=50
head.NightOptions.ExposureSpeed=0
head.NightOptions.ExposureValue1=0.100000
head.NightOptions.ExposureValue2=80
head.NightOptions.Gain=50
head.NightOptions.GainAuto=true
head.NightOptions.GainBlue=50
head.NightOptions.GainGreen=50
head.NightOptions.GainRed=50
head.NightOptions.IrisAuto=false
head.NightOptions.SunriseHour=0
head.NightOptions.SunriseMinute=0
head.NightOptions.SunriseSecond=0
head.NightOptions.SunsetHour=0
head.NightOptions.SunsetMinute=0
head.NightOptions.SunsetSecond=0
head.NightOptions.SwitchMode=0
head.NightOptions.WhiteBalance=Disable
head.ReferenceLevel=50
head.ReferenceLevelEnable=false
head.Rotate90=0
head.SignalFormat=BT656
head.WhiteBalance=Disable

comment:

In above table, ***head***=table.VideoInOptions[*ChannelNo*]
ChannelNo = video channel index.

3.4 Video Encode

3.4.1 Get Capabilities

Get video configcapibilities.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/encode.cgi?action=**getParamCaps**

Response:

headMain.Video.BitRateOptions=2048,12288
headMain.Video.CompressionTypes=H.264
headMain.Video.FPSMax=25
headMain.Video.ResolutionTypes= 1280 x 960,720,D1
headExtra.Video.BitRateOptions=768,4096
headExtra.Video.CompressionTypes=H.264
headExtra.Video.FPSMax=25
headExtra.Video.ResolutionTypes=D1,CIF
headSnap.Video.CompressionTypes=H.264
headSnap.Video.ResolutionTypes=1280 x 960,720,D1,CIF

With the following parameter and value type:

Field In Respons	**ParamValue type**	**Description**
BitRateOptions	string	Before comma is minimum bit rate. (kbps), after comma is maximum bit rate.(kbps) BitRateOptions=80,448 80 is minimum bitrate, 448 is maximum.
CompressionTypes	string	It contains all supported video compression types separated by comma. Range is {MPEG4, MPEG2, MPEG1, MJPG, H.263, H.264}
FPSMax	integer	Maximum FPS.
ResolutionTypes	string	It contains all supported video resolutions. Range is in **3.4.2 Resolution**.

comment:

In above table:
Channel: video channel index
RecordType:
0 = regular record
1 = motion detection record
2 = alarm record
ExtraStream:
0 = extra stream 1
1 = extra stream 2
2 = extra stream 3
SnapType:
0 = regular snapshot
1 = motion detection snapshot
2 = alarm snapshot

Abbreviations in above table:

headMain= caps[*Channel*].MainFormat[*RecordType*] ***headExtra*** = caps[*Channel*].ExtraFormat[*ExtraStream*] ***headSnap*** = caps[*Channel*].SnapFormat[*SnapType*]

3.4.2 Resolution

Fixed Resolution Name	**Size in PAL**	**Size in NTSC**
"D1"	704 x 576	704 x 480
"HD1"	352 x 576	352 x 480
"BCIF"	704 x 288	704 x 240
"CIF"	352 x 288	352 x 240
"QCIF"	176 x 144	176 x 120
"VGA"	640 x 480	
"QVGA"	320 x 240	
"SVCD"	480 x 480	
"QQVGA"	160 x 128	
"SVGA"	800 x 592	
"XVGA"	1024 x 768	
"WXGA"	1280 x 800	
"SXGA"	1280 x 1024	
"WSXGA"	1600 x 1024	
"UXGA"	1600 x 1200	
"WUXGA"	1920 x 1200	
"ND1"	240 x 192	
"720"	1280 x 720	
"1080"	1920 x 1080	
"1280x960"	1280 x 960 (1.3 Mega Pixels)	
"1872x1408"	1872 x 1408 (2.5 Mega Pixels)	
"3744x1408"	3744 x 1408 (5 Mega Pixels)	
"2048x1536"	2048 x 1536 (3 Mega Pixels)	
"2432x2048"	2432 x 2048 (5 Mega Pixels)	
"1216x1024"	1216 x 1024 (1.2 Mega Pixels)	
"1408x1024"	1408 x 1024 (1.5 Mega Pixels)	
"3296x2472"	3296 x 2472 (8 Mega Pixels)	
"2560x1920"	2560 x 1920 (5 Mega Pixels)	
"960H",	960 x 576	960 x 480
"DV720P"	960 x 720	

3.4.3 Set Parameter

Set the parameter of the video encoder.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
head.Video.BitRate	integer	Unit is Kbps Range depends on capability in **3.4.1 GetCapabilites (Video Encode)**
head.Video.BitRateControl	string	Range is {CBR,VBR} CBR:constant bitrate VBR:variable bitrate
head.Video.Compression	String	Range is {MPEG4,MPEG2,MPEG1,MJPG,H.263,H.264} Depends on capacity in**3.4.1 GetCapabilites (Video Encode)**
head.Video.FPS	float	Range is [1-30]. Frames per second. < 1.0: several seconds/frame, FPS=0.3333: 3 seconds per frame. >1.0: several frames/second. FPS=3: 3 frames per second.
head.Video.GOP	integer	Range is [1-150]. Group of picture, it's the interval of IFrame, Example: GOP=50, means there is one I frame every 49 P or B frames
head.Video.Height	integer	Video height
head.Video.Width	integer	Video Width
head.Video.Profile	String	Range is { Baseline, Main , Extended , High } Only when video compression is H.264, it's effective.
head.Video.Quality	integer	Range is [1-6]. Image Quality, available when Video.BitRateControl= VBR 1: worst quality

		6: best quality
head.VideoEnable	bool	True: enable video

comment:

Channel: video channel index
RecordType:
0 = regular record
1 = motion detection record
2 = alarm record
ExtraStream:
0 = extra stream 1
1 = extra stream 2
2 = extra stream 3

Abbreviation in above table:
head=Encode[*Channel*].MainFormat[*RecordType*] (or)
Encode[*Channel*].ExtraFormat[*ExtraStream*]

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&Encode[0].ExtraFormat[1].Video.GOP=50

3.4.4 Get Parameter

Get the video encode parameter.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**Encode**

Response:

headMain.Video.BitRate=8192
headMain.Video.BitRateControl=CBR
headMain.Video.Compression=H.264
headMain.Video.FPS=25
headMain.Video.GOP=50
headMain.Video.Height=1200
headMain.Video.Profile=Main

headMain.Video.Quality=4
headMain.Video.Width=1600
headMain.VideoEnable=true
headExtra.Video.BitRate=8192
headExtra.Video.BitRateControl=CBR
headExtra.Video.Compression=H.264
headExtra.Video.FPS=25
headExtra.Video.GOP=50
headExtra.Video.Height=1200
headExtra.Video.Profile=Main
headExtra.Video.Quality=4
headExtra.Video.Width=1600
headExtra.VideoEnable=true

comment:

Channel: video channel index
RecordType:
0 = regular record
1 = motion detection record
2 = alarm record
ExtraStream:
0 = extra stream 1
1 = extra stream 2
2 = extra stream 3

Abbreviations in above table:
headMain= table.Encode[*Channel*].MainFormat[*RecordType*]
headExtra =table.Encode[*Channel*].ExtraFormat[*ExtraStream*]s

3.5 Audio Encode

3.5.1 Get Capabilities

Get audioconfigcapibilities.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/encode.cgi?action=**getParamCaps**

Response:

caps[0].ExtraFormat[0].Audio.CompressionTypes=PCM,G.711A,G.711Mu
caps[0].ExtraFormat[1]….
…
caps[0].MainFormat[0].Audio.CompressionTypes=PCM,G.711A,G.711Mu
caps[0].MainFormat[1]…
…

With the following parameter and value type:

Field In Respons	ParamValue type	Description
CompressionTypes	string	It contains all supported audio compression types, separated by comma. Range is {PCM,ADPCM,G.711A,G.711Mu, G.726, G.729, MPEG2,AMR}

comment:

The angle brackets above denotes a array

3.5.2 Set Parameter

Set the audio encode parameter.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	paramValue type	Description
head.Audio.Bitrate	integer	Unit is kbps Range depends on capacity in **3.5.1 GetCapabilites (Audio Encode)**
head.Audio.Compression	string	Range depends on capacity in **3.5.1 GetCapabilites (Audio Encode)**
head.Audio.Depth	integer	Audio sampling depth
head.Audio.Frequency	integer	Audio sampling frequency
head.Audio.Mode	integer	Range is {0,1,2,3,4,5,6,7} Audio encode mode. 0: 4.75kbps, 1: 5.15 kbps, 2: 5.9 kbps,

		3: 6.7 kbps, 4: 7.4 kbps, 5: 7.95 kbps, 6: 10.2 kbps, 7: 12.2 kbps,
head.AudioEnable	bool	Enable/Disableaudio

comment:

Channel: video channel index
RecordType:
0 = regular record
1 = motion detection record
2 = alarm record
ExtraStream:
0 = extra stream 1
1 = extra stream 2
2 = extra stream 3

Abbreviations in above table:
head=Encode[*Channel*].MainFormat[*RecordType*] (or)
Encode[*Channel*].ExtraFormat[*ExtraStream*]

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&Encode[0].ExtraFormat[1].Audio.Bitrate=64

3.5.3 Get Parameter

Get the audio encode parameter.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**Encode**

Response:

headMain.Audio.Bitrate=64
headMain.Audio.Compression=G.711A

headMain.Audio.Depth=16
headMain.Audio.Frequency=44000
headMain.Audio.Mode=0
headMain.AudioEnable=false
headExtra.Audio.Bitrate=64
headExtra.Audio.Compression=G.711A
headExtra.Audio.Depth=16
headExtra.Audio.Frequency=44000
headExtra.Audio.Mode=0
headExtra.AudioEnable=false

comment:

Channel: video channel index
RecordType:
0 = regular record
1 = motion detection record
2 = alarm record
ExtraStream:
0 = extra stream 1
1 = extra stream 2
2 = extra stream 3

Abbreviations in above table:
headMain=table.Encode[*Channel*].MainFormat[*RecordType*]
headExtra=table.Encode[*Channel*].ExtraFormat[*ExtraStream*]

3.6 Snap Encode

3.6.1 Get Capabilities

Get snap configcapibilities.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/encode.cgi?action=**getParamCaps**

Response:

caps[***Channel***].SnapFormat[***SnapType***].Video.CompressionTypes=H.264

caps[***Channel***].SnapFormat[***SnapType***].Video.ResolutionTypes=1280x960,720,D1,CIF

With the following parameter and value type:

Field In Respons	**Param Value type**	**Description**
Compression Types	string	It contains all supported video compression types separated by comma. Range is {MPEG4, MPEG2, MPEG1, MJPG, H.263, H.264}
Resolution Types	string	It contains all supported video resolutions, separated by comma. Range is {D1,HD1,BCIF,CIF,QCIF,VGA,QVGA,SVGA,XVGA,WXGA,SXGA,WSXGA,UXGA,WUXGA,ND1,720,1080,1_3M,2_5M,3M,5M}.

comment:

Channel: video channel index ***SnapType***: 0 = regular snapshot 1 = motion detection snapshot 2 = alarm snapshot

3.6.2 Set Parameter

Set the snap encode parameter.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
head.Video.BitRate	integer	Unit is Kbps Range depends on capability in **3.3.1 GetCapabilities (Video In Options)**
head.Video.BitRateControl	string	Range is {CBR,VBR} CBR:constant bitrate

		VBR:variable bitrate
head.Video.Compression	String	Range is {MPEG4,MPEG2, MPEG1,MJPG,H.263,H.264} Depends on capacity in **3.3.1 GetCapabilities(Video In Options)**
head.Video.FPS	float	Range is [0.2-30]. Frames per second. < 1.0: several seconds/frame, FPS=0.3333: 3 seconds per frame. >1.0: several frames/second. FPS=3: 3 frames per second.
head.Video.GOP	integer	Range is [1-100]. Group of picture, it's the interval of IFrame, Example: GOP=50, means there is one I frame every 49 P or B frames
head.Video.Height	integer	Video height
head.Video.Width	integer	Video Width
head.Video.Quality	integer	Range is [1-6]. Image Quality, available when Video.BitRateControl=VBR 1: worst quality 6: best quality
head.VideoEnable	bool	True: enable video

comment:

Channel: video channel index

SnapType:

0 = regular snapshot

1 = motion detection snapshot

2 = alarm snapshot

Abbreviation in above table:

head= Encode[***Channel***].SnapFormat[***SnapType***]

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&Encode[0].SnapFormat[0].AudioEnable=False

3.6.3 Get Parameter

Get the snap encode parameter.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=Encode [***Channel***].SnapFormat

Response:

headSnap.Video.BitRate=384 ***headSnap***.Video.BitRateControl=VBR ***headSnap***.Video.Compression=H.264 ***headSnap***.Video.FPS=1 ***headSnap***.Video.GOP=50 ***headSnap***.Video.Height=576 ***headSnap***.Video.Quality=4 ***headSnap***.Video.Width=704 ***headSnap***.VideoEnable=true

comment:

Channel: video channel index ***SnapType***: 0 = regular snapshot 1 = motion detection snapshot 2 = alarm snapshot Abbreviations in above table: ***headSnap*** = table.Encode[***Channel***].SnapFormat[***SnapType***]

Example:

/cgi-bin/paramManager.cgi?action=getParam&name=Encode[0].SnapFormat

3.7 Channel Title

3.7.1 Set Parameter

Set the channel title parameter.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>

With the following parameter and value type:

paramName	**paramValue type**	**Description**
ChannelTitle[***Channel***].Name	String	Channel Name

comment:

Set the title of the channel. If VideoWidget[***Channel***].ChannelTitle.EncodeBlend is true, this title is blended to the video frames. Please refer to **3.9.1 SetParam (Video Widget)** In above table, ***Channel***: video channel index

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&ChannelTitle[0].Name=ABC1

3.7.2 Get Parameter

Get the channel title parameter.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**ChannelTitle**

Response:

table.ChannelTitle[***Channel***].Name=CAM1

comment:

Get the title of the channel. In above table, ***Channel***= video channel index

3.8 Video Standard

3.8.1 Get Parameter

Get the standard parameter in this IPC.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**VideoStandard**

Response:

table.VideoStandard=PAL

comment:

The standard of video in {PAL,NTSC}

3.9 Video Widget

3.9.1 Set Parameter

Set the video widget parameter.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	paramValue type	Description
headCover.BackColor[0] ***headCover***.BackColor[1] ***headCover***.BackColor[2] ***headCover***.BackColor[3]	integer	Range is [0-255]. BackColor[0]:red value BackColor[1]:green value BackColor[2]:blue value BackColor[3]: alpha value
headCover.EncodeBlend	bool	false - widget blend is disabled.
headCover.FrontColor[0] ***headCover***.FrontColor[1] ***headCover***.FrontColor[2] ***headCover***.FrontColor[3]	integer	Range is [0-255]. FrontColor[0]:red value FrontColor[1]:green value FrontColor[2]:blue value FrontColor[3]: alpha value
headCover.Rect[0] ***headCover***.Rect[1] ***headCover***.Rect[2] ***headCover***.Rect[3]	integer	Range is [0-8191]. Rect[0]：top left corner x coordinate (left) Rect[1]：top left corner y coordinate (top) Rect[2]：bottom right x coordinate (right) Rect[3]： bottom right y coordinate (bottom)
headChannelTitle.BackColor[0] ***headChannelTitle***.BackColor[1] ***headChannelTitle***.BackColor[2] ***headChannelTitle***.BackColor[3]	integer	Range is the same with ***headCover***
headChannelTitle.EncodeBlend	Bool	
headChannelTitle.FrontColor[0] ***headChannelTitle***.FrontColor[1] ***headChannelTitle***.FrontColor[2] ***headChannelTitle***.FrontColor[3]	Integer	
headChannelTitle.Rect[0] ***headChannelTitle***.Rect[1] ***headChannelTitle***.Rect[2] ***headChannelTitle***.Rect[3]	integer	Only use the value of (left,top),the value of (right,bottom) is the same as (left,top) Rect[0], Rect[1] are used, and Rect[2] must be same with Rect[0], Rect[3] must be same with Rect[1].
headTimeTitle.BackColor[0] ***headTimeTitle***.BackColor[1] ***headTimeTitle***.BackColor[2] ***headTimeTitle***.BackColor[3]	integer	Range is the same with ***headChannelTitle*** These are params about time title**.**
headTimeTitle.EncodeBlend	bool	
headTimeTitle.FrontColor[0] ***headTimeTitle***.FrontColor[1] ***headTimeTitle***.FrontColor[2] ***headTimeTitle***.FrontColor[3]	integer	
headTimeTitle.Rect[0] ***headTimeTitle***.Rect[1]	integer	

headTimeTitle.Rect[2] ***headTimeTitle***.Rect[3]		
headTimeTitle.ShowWeek	bool	True: Display week within the time title.

comment:

Channel: video channel index
CoReg :Cover region index
Covers is an array which contains multiple cover regions
0 = region 1
1 = region 2
2 = region 3
3 = region 4
headChannelTitle=VideoWidget[*Channel*].ChannelTitle
headCover = VideoWidget[*Channel*].Covers[*CoReg*]
headTimeTitle = VideoWidget[*Channel*].TimeTitle

VideoWidgetparam contains cover region settings, channel title settings and time title settings.
The italics above will be replaced by the above abbreviations.

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&VideoWidget[0].ChannelTitle.BackColor[0]=0&VideoWidget[0].ChannelTitle.BackColor[1]=0&VideoWidget[0].ChannelTitle.BackColor[2]=0&VideoWidget[0].ChannelTitle.BackColor[3]=128

3.9.2 Get Parameter

VideoWidgetparam contains ChannelTitle, Covers and TimeTitle parameters, defines the background color, front color and positions of channel title and time title, and defines the regions which are not visible (cover).

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**VideoWidget**

Response:

head.BackColor[0]=0

head.BackColor[1]=0
head.BackColor[2]=0
head.BackColor[3]=128
head.EncodeBlend=true
head.FrontColor[0]=255
head.FrontColor[1]=255
head.FrontColor[2]=255
head.FrontColor[3]=0
head.PreviewBlend=true
head.Rect[0]=0
head.Rect[1]=8191
head.Rect[2]=0
head.Rect[3]=8191
...
...

comment:

Channel: video channel index
CoReg: Cover Region
Covers is an array which sustains multi- Cover regions
0 = region 1
1 = region 2
2 = region 3
3 = region 4
head=table.VideoWidget[*Channel*].ChannelTitle (or)
table.VideoWidget[*Channel*].Covers[*CoReg*](or)
table.VideoWidget[*Channel*].TimeTitle

4 VIDEO RECORD

4.1 Record

4.1.1 Set Parameter

Set the channel number or the timesection in record parameters.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
Record[***ch***].PreRecord	integer	Range is [0-300]. Prerecord seconds, 0 means no prerecord. ch (Channel number) starts form 0
Record[***ch***].TimeSection[***wd***][***ts***]	string	***wd*** (week day) range is [0-6] (Sunday -Staurday) ***ts*** (time section) range is [0-23], timesection table index. Format: mask hh:mm:ss-hh:mm:ss Mask: [0-65535], hh: [0-24], mm: [0-59], ss: [0-59] Mask indicates record type by bits: Bit0: regular record Bit1: motion detection record Bit2: alarm record Bit3: card record

comment:

In above table: ***ch*** = channel index, ***wd*** = week day index, ***ts*** = time section index

Response:

OK or ERROR

Example:

Set record time to every Sunday all day. Record type is motion detection and alarm. URL should be: http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&name=Record[0].TimeSection[0][0]&table=6 00:00:00-24:00:00 In this example, "6 00:00:00-24:00:00" means motion detection and alarm record all day (6 = 4 & 2, alarm is 4, motion detection is 2.).

4.1.2 Get Parameter

Get the parameter of record.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**Record**

Response:

table.Record[***channel***].PreRecord=6 table.Record[***channel***].TimeSection[***weekday***][0]=1 00:00:00-24:00:00 table.Record[***channel***].TimeSection[***weekday***][1]=0 02:00:00-24:00:00 table.Record[***channel***].TimeSection[***weekday***][2]=0 03:00:00-24:00:00 table.Record[***channel***].TimeSection[***weekday***][3]=0 04:00:00-24:00:00 table.Record[***channel***].TimeSection[***weekday***][4]=0 05:00:00-24:00:00 table.Record[***channel***].TimeSection[***weekday***][5]=0 06:00:00-24:00:00

comment:

Channel in above table is video channel number,***weekday*** range is [0-6] (Sunday - Saturday). Record param contains pre record time and record time sections of every day.

4.1.3 Set Mode Parameter

Set the mode of record parameter.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
RecordMode[***channel***].Mode	Integer	Range is {0, 1, 2}. 0: automatically record 1: manually record 2: stop record.

comment:

channel in above table is video channel index, start form 0.

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&RecordMode[0].Mode=1

4.1.4 Get Mode Parameter

Get the parameter of record mode.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**RecordMode**

Response:

table.RecordMode[***channel***].Mode=0

comment:

Get record mode for video channels. ***channel*** in above table is video channel number.

4.2 Snap

4.2.1 Set Parameter

Set the snap parameter.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
Record[***ch***].TimeSection[***wd***][***ts***]	string	**wd** (week day) range is [0-6] (Sunday-Staurday) **ts** (time section) range is [0-23], it's timesection table index. Format: mask hh:mm:ss-hh:mm:ss Mask: [0-65535], hh: [0-24], mm: [0-59], ss: [0-59] Mask indicates record type by bits: Bit0: regular snapshot Bit1: motion detection snapshot Bit2: alarm snapshot Bit3: card snapshot

comment:

In above table: ***ch*** = channel index, ***wd*** = week day index, ***ts*** = time section index

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&Snap[0].TimeSection[0][0]=6 00:00:00-23:59:59

4.2.2 Get parameter

Get the parameter of snap.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**Snap**

Response:

table.Snap[***channel***].TimeSection[***weekday***][0]=1 00:00:00-24:00:00
table.Snap[***channel***].TimeSection[***weekday***][1]=0 02:00:00-24:00:00
table.Snap[***channel***].TimeSection[***weekday***][2]=0 03:00:00-24:00:00
table.Snap[***channel***].TimeSection[***weekday***][3]=0 04:00:00-24:00:00
table.Snap[***channel***].TimeSection[***weekday***][4]=0 05:00:00-24:00:00
table.Snap[***channel***].TimeSection[***weekday***][5]=0 06:00:00-24:00:00

comment:

Channel in above table is video channel number,***weekday*** range is [0-6] (Sunday - Saturday).

4.2.3 Snap Picture

Get one snap picture.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/snapshot.cgi?action=Enable

Response:

With one snap picture.

5 NETWORK

5.1 Net Interface

5.1.1 Get Interface

Get the net interface infomations.

Method: GET

Syntax:

http://<ip>/cgi-bin/net.cgi?action=getInterfaces

Response:

netInterface[0].Name=eth0 netInterface[0].Type=Normal netInterface[0].Valid=true netInterface[1]…. …

comment:

Get all of the system network interfaces. Description for items In above table Name: network interface name. “eth0” - wired network interface “eth2” - wireless network interface “3G” - 3G network interface Type: “Normal”– wired network “Wireless”– wireless network "Auto", "TD-SCDMA", "WCDMA", "CDMA1x", "EDGE", "EVDO"– 3G network types. Valid: network interface is valid if netInterface[n].Valid is true.

5.2 Basic Parameter

5.2.1 Set Parameter

Set the basic parameter of network.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
NetWork.DefaultInterface	string	Set default network interface when multiple interfaces exist. Range of interfaces is depends on **5.1.1 GetInterfaces (Net Interface)**
NetWork.Domain	string	Domain name.
NetWork.Hostname	string	Hostname and Domain compose a network address.
Network.***interface***.DefaultGateway	string	IP address
Network.***interface***.DhcpEnable	bool	Enable/Disable DHCP.
Network.***interface***.DnsServers[0]	string	IP address of first DNS server.
Network.***interface***.DnsServers[1]	string	IP address of second DNS server.
Network.***interface***.IPAddress	string	Interface IP address.
Network.***interface***.MTU	integer	Interface MTU.
Network.***interface***.PhysicalAddress	string	MAC address of interface. HEX string in the form of: xx:xx:xx:xx:xx:xx. Range of x is [0-9,a-f,A-F] Example: 00:10:5c:f2:1c:b4 00:10:5C:F2:1C:B5
Network.***interface***.SubnetMask	string	Network mask string: In the form of x.x.x.x, range of x is [0-255] Example: 255.255.255.0

comment:

interface in above table is network interface name, such as eth0, eth1…

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&Network.Hostname=IPC

5.2.2 Get Parameter

Get the basic parameter of network.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**Network**

Response:

table.Network.DefaultInterface=eth0
table.Network.Domain=ya
table.Network.Hostname=badak
table.Network.***interface***.DefaultGateway=10.7.0.1
table.Network.***interface***.DhcpEnable=false
table.Network.***interface***.DnsServers[0]=221.123.33.228
table.Network.***interface***.DnsServers[1]=221.12.1.228
table.Network.***interface***.IPAddress=10.7.2.3
table.Network.***interface***.MTU=1500
table.Network.***interface***.PhysicalAddress=00:10:5c:f2:1c:b4
table.Network.***interface***.SubnetMask=255.255.0.0

comment:

BasicParam contains basic network parameters (Default interface, domain name, host name), and configuration of each network interface. ***interface*** in above table is network interface name, such as eth0, eth2…

5.3 PPPoE

5.3.1 Set Parameter

Set the parameter of PPPoE.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
PPPoE.Enable	bool	Enable/Disable PPPoE.
PPPoE.UserName	string	PPPoE user name.
PPPoE.Password	string	PPPoE user password.

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&PPPoE.UserName=admin

5.3.2 Get Parameter

Get the parameter of PPPoE.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**PPPoE**

Response:

table.PPPoE.Enable=false table.PPPoE.Password=123456 table.PPPoE.UserName=123456

5.4 DDNS

5.4.1 Set Parameter

Set the parameter of DDNS.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
DDNS[***index***].Address	string	DDNS server IP address or name.
DDNS[***index***].Enable	bool	Multiple DDNS hostname can be set, but Only one hostname can be enabled, others should be disabled.
DDNS[***index***].HostName	String	Host name of this device.
DDNS[***index***].KeepAlive	integer	Range is [1-65535]. Unit is minutes.
DDNS[***index***].Password	string	DDNS user password
DDNS[***index***].Port	integer	Range is [1-65535]. Port of DDSN server
DDNS[***index***].Protocol	string	Range is {NO-IP DDNS, Dyndns DDNS, ZENO}. DDSN protocol type
DDNS[***index***].UserName	string	DDNS user name

comment:

Indexabove is the DDNS protocol table index, start from 0.

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&DDNS[0].Address=dynupdate.no-ip.com

5.4.2 Get Parameter

Get the DDNS parameters.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**Email**

Response:

table.Email.Address=www.google.com
table.Email.Anonymous=true
table.Email.AttachEnable=true
table.Email.AttachmentEnable=true
table.Email.Enable=true
table.Email.HealthReport.Enable=false
table.Email.HealthReport.Interval=61
table.Email.Password=123456
table.Email.Port=26
table.Email.Receivers[0]=x@inesa-e.com
table.Email.Receivers[1]=y@inesa-e.com
table.Email.Receivers[2]=z@inesa-e.com
table.Email.SendAddress=x@inesa-e.com
table.Email.SslEnable=false
table.Email.Title=DVRMessage
table.Email.UserName=anonymitty

5.5 UPNP

5.5.1 Set Parameter

Set the parameter of UPNP.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
UPnP.Enable	bool	Enable/Disable UPNP feature.
UPnP.MapTable[***index***].Enable	bool	Enable/Disable this UPNP map.
UPnP.MapTable[***index***].InnerPort	integer	Range is [1-65535]. Inner port number
UPnP.MapTable[***index***].OuterPort	integer	Range is [1-65535]. Outer port number.
UPnP.MapTable[***index***].Protocol	string	Range is {TCP, UDP]
UPnP.MapTable[***index***].ServiceName	string	User defined UPnP service name.

comment:

Indexin above table is UPnP map table index, range is [0-255]

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&UPnP.MapTable[1].InnerPort=8000

5.5.2 Get Parameter

Get the parameter of UPNP.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**UPnP**

Response:

table.UPnP.Enable=true table.UPnP.MapTable[***index***].Enable=true table.UPnP.MapTable[***index***].InnerPort=80 table.UPnP.MapTable[***index***].OuterPort=8080 table.UPnP.MapTable[***index***].Protocol=TCP table.UPnP.MapTable[***index***].ServiceName=HTTP

comment:

Index in above is the UPNP map table index, start from 0.s

5.5.3 Get State

Get the state of UPNP.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/net.cgi?action=getUPnPStatus

Response:

result=1

comment:

Get UPNP mapping result: result=1: mapping succeed. result=0: mapping failed.

5.6 NTP

5.6.1 Set Parameter

Set the parameter of NTP.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
NTP.Address	string	NTP server IP address or name.
NTP.Enable	bool	Enable/Disable NTP server.
NTP.Port	integer	Range is [1-65535]. Port of NTP server.
NTP.TimeZone	integer	Range is [0-32]. 0: "GMT+00:00" 1: "GMT+01:00" 2: "GMT+02:00"

		3: "GMT+03:00" 4: "GMT+03:30" 5: "GMT+04:00" 6: "GMT+04:30" 7: "GMT+05:00" 8: "GMT+05:30" 9: "GMT+05:45" 10: "GMT+06:00" 11: "GMT+06:30" 12: "GMT+07:00" 13: "GMT+08:00" 14: "GMT+09:00" 15: "GMT+09:30" 16: "GMT+10:00" 17: "GMT+11:00" 18: "GMT+12:00" 19: "GMT+13:00" 20: "GMT-01:00" 21: "GMT-02:00" 22: "GMT-03:00" 23: "GMT-03:30" 24: "GMT-04:00" 25: "GMT-05:00" 26: "GMT-06:00" 27: "GMT-07:00" 28: "GMT-08:00" 29: "GMT-09:00" 30: "GMT-10:00" 31: "GMT-11:00" 32: "GMT-12:00"
NTP.UpdatePeriod	integer	Range is [0-65535], unit is minutes

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&NTP.Port=123

5.6.2 Get Parameter

Get the parameter of NTP.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**NTP**

Response:

table.NTP.Address=clock.isc.org table.NTP.Enable=false table.NTP.Port=38 table.NTP.TimeZone=9 table.NTP.UpdatePeriod=31

5.7 Alarm Server

5.7.1 Set Parameter

Set the parameter of alarm server.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
AlarmServer.Address	string	Alarm server IP address or name.
AlarmServer.Enable	bool	Enable/Disable Alarm server.
AlarmServer.Port	integer	Range is [1-65535]. Port of Alarm server.

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&AlarmServer.Port=8888

5.7.2 Get Parameter

Get the parameter of alarm server.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**AlarmServer**

Response:

table.AlarmServer.Address=0.0.0.0
table.AlarmServer.Enable=true
table.AlarmServer.Port=37777

6 EVENT

6.1 Event Handler

6.1.1 Set Parameter

Set the parameter of EnventHandler.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
handlerName.EventHandler.AlarmOutChannels[***ch***]	integer	Range is {0, 1}, ***ch*** is alarm out channel index. 0 – do not output alarm at alarm out channel ***ch*** 1 – output alarm at alarm out channel ***ch***
handlerName.EventHandler.AlarmOutEnable	bool	Enable/Disable alarm out function.
handlerName.EventHandler.AlarmOutLatch	Integer	Range is [10-300]. Unit is seconds, indicates the time to output alarm after input alarm is cleared.
handlerName.EventHandler.BeepEnable	bool	Enable/Disable beep.
handlerName.EventHandler.Dejitter	integer	Range is [0-255]. Alarm signal dejitter seconds. Alarm signal change during this period is ignored.
handlerName.EventHandler.Delay	integer	Range is [0-300]. Delay seconds before setting take effect.
handlerName.EventHandler.LogEnable	bool	Enable/Disable log for

		alarm.
handlerName.EventHandler.MailEnable	bool	Enable/Disable mail send for alarm.
handlerName.EventHandler.PtzLink[***ch***][0]	string	Range is {None, Preset, Tour,Pattern} This is PTZ action linked with events. ***ch*** is PTZ channel index.
handlerName.EventHandler.PtzLink[***ch***][1]	integer	This is the parameter of PtzLink[***ch***][0], If PtzLink[***ch***]][0] is Preset: this is preset point. Tour: this is tour path number. Pattern: this is pattern number.
handlerName.EventHandler.PtzLinkEnable	Bool	Enable/Disable PTZ link.
handlerName.EventHandler.RecordChannels[***ch***]	Integer	Range is {0, 1} 0 – do not record on video channel ***ch*** 1 – record. on video channel ***ch***
handlerName.EventHandler.RecordEnable	bool	Enable/Disable record function.
handlerName.EventHandler.RecordLatch	integer	Range is [10-300]. Unit is seconds, indicates the time to record after input alarm is cleared..
handlerName.EventHandler.SnapshotChannels[***ch***]	integer	Range is {0, 1} 0 – do not snapshot on video channel ***ch*** 1 – snapshot on video channel ***ch***
handlerName.EventHandler.SnapshotEnable	bool	Enable/Disable snapshot function.
handlerName.EventHandler.SnapshotPeriod	integer	Range is [0-255]. Frames between snapshot. 0 means continuously snapshot for every frame.
handlerName.EventHandler.SnapshotTimes	integer	Range is [0-65535] Snapshot times before stop, 0 means don’t stop snapshot.

handlerName.EventHandler.TimeSection[***wd***][***ts***]	String	It'stable contains effective time periodfor eventHanldereveryday. ***wd*** (week day) range is [0-6] (Sunday-Staurday) ***ts***(time section) range is [0-23], it's index of timesection table. Format: mask hh:mm:ss-hh:mm:ss Mask: {0,1}, hh: [0-24], mm: [00-59], ss: [00-59] Mask 0: this time section is not used. Mask 1: this time section is used. Example: TimeSection[1][0]=1 12:00:00-18:00:00 Means EventHandler is effective between 12:00:00 and 18:00:00 at Monday.
handlerName.EventHandler.TipEnable	bool	Enable/Disable local message box tip.

comment:

In above table,meaning of ***handlerName*** is the same with **6.1.2 Get Parameter(EventHandler)**

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&MotionDetect[0].Enable=true

6.1.2 Get Parameter

Get the parameter of EventHandler.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=<***handlerName***>

comment:

<***handlerName***> can be one of below four formats Alarm[***alarm channel***].EventHandler MotionDetect[***video channel]***.EventHandler BlindDetect[***video channel***].EventHandler LossDetect[***video channel***].EventHandler Example URL: http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=Alarm[0].EventHandler can get EventHandler settings of alarm channel 0.

Response:

handlerName.EventHandler.AlarmOut=1 ***handlerName***.EventHandler.AlarmOutChannels[0]=1 ***handlerName***.EventHandler.AlarmOutChannels[1]=1 … ***handlerName***.EventHandler.AlarmOutEnable=false ***handlerName***.EventHandler.AlarmOutLatch=10 ***handlerName***.EventHandler.BeepEnable=true ***handlerName***.EventHandler.Dejitter=0 ***handlerName***.EventHandler.Delay=30 ***handlerName***.EventHandler.LogEnable=true ***handlerName***.EventHandler.MailEnable=true ***handlerName***.EventHandler.PtzLink[0][0]=None ***handlerName***.EventHandler.PtzLink[0][1]=0 ***handlerName***.EventHandler.PtzLink[1][0]=None ***handlerName***.EventHandler.PtzLink[1][1]=0 … ***handlerName***.EventHandler.PtzLinkEnable=false ***handlerName***.EventHandler.Record=1 ***handlerName***.EventHandler.RecordChannels[0]=1 ***handlerName***.EventHandler.RecordChannels[1]=1 … ***handlerName***.EventHandler.RecordEnable=true ***handlerName***.EventHandler.RecordLatch=10 ***handlerName***.EventHandler.Snapshot=1 ***handlerName***.EventHandler.SnapshotChannels[0]=1 ***handlerName***.EventHandler.SnapshotChannels[1]=1 …

handlerName.EventHandler.SnapshotEnable=false ***handlerName***.EventHandler.SnapshotPeriod=3 ***handlerName***.EventHandler.SnapshotTimes=0 ***handlerName***.EventHandler.TimeSection[0][0]=1 01:00:00-24:00:00 ***handlerName***.EventHandler.TimeSection[0][1]=1 01:00:00-24:00:00 … … ***handlerName***.EventHandler.TimeSection[6][5]=1 01:00:00-24:00:00 ***handlerName***.EventHandler.TipEnable=true

Example:

/cgi-bin/paramManager.cgi?action=getParam&name=MotionDetect[0].EventHandler

6.2 Alarm

6.2.1 Set Alarm Parameter

Set parameter of alarm.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
Alarm[*input*].Enable	bool	Enable/Disable alarm from a input channel
Alarm[*input*].EventHandler		Setting of EventHandler is described in**6.1.1Set Parameter (EventHandler)**
Alarm[*input*].Name	string	Name of alarm input channel.
Alarm[*input*].SensorType	string	Range is {NC, NO]. NC: normal close NO: normal open

comment:

In above table, **input** is external alarm input channel, ***ch*** is channel number, ***wd*** is weekday index

ts is timesection index. EventHandler defines parameter of relevant actions when alarm or event happens.

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&Alarm[0].EventHandler.AlarmOutEnable=true

6.2.2 Get Alarm Parameter

Get parameter of alarm.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**Alarm**

Response:

table.Alarm[0].Enable=false table.Alarm[0].EventHandler….(output of EventHandler is described in**6.1.2 Get Parameter (EventHandler))** table.Alarm[0].Name=Door1 table.Alarm[0].SensorType=NC table.Alarm[1]…. …

6.2.3 Set Alarm Out Parameter

Set alarm out parameter in parameter tree.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**

AlarmOut[***port***].Mode	Integer	Range is {0, 1, 2} 0: automatically alarm 1: force alarm 2: close alarm
AlarmOut[***port***].Name	String	Alarm out port name.

comment:

Port in above table is alarm out port index, start form 0.

Response:

OK or ERROR

6.2.4 Get Alarm Out Parameter

Get the Alarm out parameter in parameter tree.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**AlarmOut**

Response:

table.AlarmOut[***alarmOutChannel***].Mode=0 table.AlarmOut[***alarmOutChannel***].Name=Beep

comment:

alarmOutChannelabove is the alarm out channel index.

6.2.5 Get In Slots

Get the solts of alarm input.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/alarm.cgi?action=**getInSlots**

Response:

result=2

comment:

Get alarm input channel number. Above response means there are 2 alarm input channels.

6.2.6 Get Out Slots

Get the alarm Solts number.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/alarm.cgi?action=**getOutSlots**

Response:

result=1

comment:

Get alarm output channel number.

6.2.7 Get In State

Get alarm input state for all channels.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/alarm.cgi?action=**getInState**

comment:

Response:

result=3

comment:

Get alarm input state for all channels. A bit in the response result indicates a channel alarm states, above result 3 means alarm channel 1

and channel 2 have alarm now.

6.2.8 Get Out State

Get alarm output state for all channels.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/alarm.cgi?action=**getOutState**

Response:

result=0

comment:

Get alarm output state for all channels. A bit in the response result indicates a channel. 1 means alarm is present.

6.3 MotionDetect

6.3.1 Set Parameter

Get the parameter of motion detect event.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
head.Enable	bool	Enable/Disable motion detect feature in a channel.
head.EventHandler		Setting of EventHandler is described in**6.1.1Set Parameter (EventHandler)**
head.Level	integer	Range is [1-6]. Sensitivity of motion detection.

		1: lowest sensitivity. 6: highest sensitivity.
head.Region[***LineNum***]	integer	Currently, region is divided into 18 lines and 22 blocks/line. A bit describes a block in the line. Bit = 1: motion in this block is monitored.. Example: MotionDetect[0].Region[0] = 4194303 (0x3FFFFF):: motion in channel 0 line 0's 22 blocks is monitored. MotionDetect[0].Region[1] =0: motion in line 1's 22 blocks is not monitored. MotionDetect[0].Region[17] = 3: in the last line of channel 0, motion in the left two blocks is monitored.

comment:

Channel: video channel index

LineNum

Index of region, region is divided into lines and each line has several blocks, a line is described by a 32 bit integer, a bit for a block..

0=Line 1

1=Line 2

…

…

Head=MotionDetect[*Channel*]

The italics above will be replaced by the above abbreviations.

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&MotionDetect[0].EventHandler.AlarmOutChannels[0]=0

6.3.2 Get Parameter

Get the parameter of motion detect events.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**MotionDetect**

Response:

table.MotionDetect[0].Enable=false table.MotionDetect[0].EventHandler… (output of EventHandler is described in**6.1.2 Get Parameter (EventHandler)**) table.MotionDetect[0].Level=3 table.MotionDetect[0].Region[0]=4194303 table.MotionDetect[0].Region[1]=4194303 … … table.MotionDetect[1]… …

comment:

MotionDetectparamof a video channel contains Enable, Level, Region and EventHandler.

6.4 Blind Detect

6.4.1 Set Parameter

Set the parameter of blind detect.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
head.Enable	bool	Enable/Disable blind detect feature.
head.EventHandler		Setting of EventHandler is described in**6.1.1Set Parameter (EventHandler)**
head.Level	integer	Range is [1-6]. Sensitivity of blind detection. 1: lowest sensitivity. 6: highest sensitivity.

comment:

Channel: video channel number ***head***=BlindDetect[*Channel*]

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&BlindDetect[0].Enable=true

6.4.2 Get Parameter

Get the information of blind detect events.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**BlindDetect**

Response:

head.Enable=false ***head***.EventHandler= (output of EventHandler is described in**6.1.2 Get Parameter (EventHandler)**) ***head***.Level=3

comment:

Channel: video channel number ***head***=table.BlindDetect[*Channel*]

6.5 Loss Detect

6.5.1 Set Parameter

Set the parameter of loss detect event.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=setParam&<**paramName**>=<**paramValue**>[&<**paramName**>=<**paramValue**>...]

With the following parameter and value type:

paramName	**paramValue type**	**Description**
head.Enable	bool	Enable/Disable loss detect feature.
head.EventHandler		Setting of EventHandler is described in**6.1.1Set Parameter (EventHandler)**

comment:

Channel: video channel number ***Head***=LossDetect[*Channel*]

Response:

OK or ERROR

Example:

/cgi-bin/paramManager.cgi?action=setParam&LossDetect[0].Enable=true

6.5.2 Get Parameter

Get the parameter of loss detect.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/paramManager.cgi?action=getParam&name=**LossDetect**

Response:

head.Enable=false ***head***.EventHandler= (output of EventHandler is described in**6.1.2 Get Parameter (EventHandler)**)

comment:

Channel: video channel number ***head***=table.LossDetect[*Channel*]

6.6 Get Events Indexes

Get indexes of events.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/eventManager.cgi?action=getEventIndexes&code=<***eventCode***>

comment:

Get channels indexes that event of code eventCode happens. eventCode includes: VideoMotion: motion detection event VideoLoss: video loss detection event VideoBlind: video blind detection event.

Response:

channels[0]=0 channels[1]=2 channels[2]=3 … (This response means event happened on channel 0, channel 2, and channel 3.)

6.7 Alarm Subscribe

Method: GET

Syntax:

http://<ip>/cgi-bin/eventManager.cgi?action=attach&codes=[AlarmName1, AlarmName2]

With the following parameter and value type:
paramName paramValue type Description
AlarmName String CrossRegionDetection, CrossLineDetection,
TakenAwayDetection, CrossFenceDetection,
NumberStat, WanderDetection, RetrogradeDetection
DensityDetection , Blind,Detect, AlarmLocal
FaceDetection LeftDetection, MotionDetect

comment:

Subscribe to alarm information

Response:

If the alarm is CrossLineDetection, TakenAwayDetection CrossFenceDetection, LeftDetection WanderDetection, RetrogradeDetection FaceDetection DensityDetection, the result is “text = -- myboundary Content-Type: text/plain Content-Length:36 Code=CrossLineDetection;action=Start/Stop” the code = Alarm Name

If the alarm is CrossRegionDetection, the result is “text = -- myboundary
Content-Type: text/plain
Content-Length:36
Code= CrossRegionDetection; data_Direction= leave; data_Action=cross; action=Start/Stop”

If the alarm isNumberStat, the result is “text = -- myboundary
Content-Type: text/plain
Content-Length:36
Code=%s;EnteredNumber=%d;ExitedNumber=%d;action=%s
Code=NumberStat; EnteredNumber=1; ExitedNumber =2;action=Start/Stop”

Example:

cgi-bin/eventManager.cgi?action=attach&codes=[CrossRegionDetection,AlarmLocal]

7 System Operation

7.1 Reboot

Reboot the device.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/ system.cgi?action=**reboot**

comment:

Reboot the device. If successful, response OK. If fail, response ERROR.

Response:

OK or ERROR

Example:

/cgi-bin/ system.cgi?action=**reboot**

7.2 GetDeviceType

Get the device type.

Method: GET

Syntax:

http://<*ip*>/cgi-bin/ system.cgi?action=**getDeviceType**

Response:

OK or ERROR If OK then type=IPC，continue to add other values

comment:

Get the device type.