DON-video

HTTP API

Видеокамеры производства ООО «Дон-видео» серий

BG-x92x, BG-x94x.

Оглавление

1 Введение.

Данный документ содержит описание интерфейса программирования видеокамер серии BG-x92xx бренда «ДОН-видео», основанного на HTTP запросах.

1.1 Аббревиатуры.

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).* Метод коммуникации с WEB сервером видеокамеры.
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).* Унифицированный указатель ресурса.

1.2 Описание передачи.

HTTP API транзакция начинается с запроса клиента-приложения, например WEB браузера. WEB сервер видеокамеры обрабатывает входящий запрос в форме GET, при корректном запросе IP камера возвращает ответ с HTTP заголовком 200 OK. Результат запроса и информация об ошибках выводится в теле HTTP ответа.

Для упрощения записи команд в данном документе используются следующие правила:

1. Курсив и жирный текст после знака "=" необходимо заменить на значение параметра.
2. URL указывается в соответствии с принятым стандартом (RFC_3986:Uniform Resource Identifiers (URI) Generic Syntax); пробелы и специальные сивмолы (";", "/", "?", ":", "@", "=", "+", "," и "$") для записи <paramName> и <paramValue> должны быть заменены на %<ASCII hex>. К примеру для записи пробела [Space] необходимо использовать вид %20.
3. Для указания диапазона допустимых значений используются символы "[ ]" и "{ }". Пример: "[0-100]" описывает диапазон целых значений от 0 до 100 включучительно. "{0,1,2,4}" - допустимые значения 0,1,2 и 4.
4. В ответах и запросах символы "[ ]" означают массив.
5. Используемые типы переменных: string, integer, bool, float.Integer 32 битные. Значения для типа bool "true" и "false".

2 Авторизация

IP камеры используют два метода авторизации: **basic authentication** и **digest authentication**. Метод basic authentication кодируется в base64, а метод digest authentication кодируется в MD5. Описание ответов.

HTTP Code	HTTP Text	Description
200	OK	Запрос выполнен. (тело ответа может содержать информацию о возникших ошибках)
204	No Content	Запрос выполнен, но новой информации для ответа нет.
302	Moved Temporarily	Перенаправление на другой URI
400	Bad Request	Запрос имеет неверный синтаксис или не может быть выполнен.
401	Unauthorized	Запрос требует аутентификации пользователя или авторизация была отклонена.
404	Not Found	Сервер не нашел ничего соответствующего запросу.
409	Conflict	Запрос не может быть выполнен из-за конфликта с текущим состоянием ресурса.
500	Internal Error	Сервер столкнулся с непредвиденным состоянием, которое не позволило ему выполнить запрос.
503	Service Unavailable	Сервер не может обработать запрос из-за временной перегрузки.

Пример: Запрос без авторизации.

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

1. Метод basic authentication:

```
    401 Unauthorized
WWW-Authenticate: Basic realm=" XXXXXX"
```

Для авторизации необходимо закодировать в Base64 имя пользователя и пароль.

```
    Authorization: Basic VXZVXZ.
```

2. Метод digest authentication:

```
    WWW-Authenticate: Digest realm="ZENO_00408CA5EA04",
    nonce="000562fdY631973ef04f77a3ede7c1832ff48720ef95ad",
    stale=FALSE,
    qop="auth";
```

Для авторизации необходимо закодировать имя пользователя, пароль, одноразовый ключ nonce, метод авторизации realm и URI с помощью MD5:

```
Authorization:Digestusername="admin",realm="ZENO_00408CA5EA04",nc=00000001,cnonc
e="0a4f113b",qop="auth"nonce="000562fdY631973ef04f77a3ede7c1832ff48720ef95ad",ur
i="/cgi-bin/system.cgi?action=getMaxExtraStream",response="65002de02df697e946b75
0590b44f8bf"
```

3 Видеокодек.

3.1. Поток.

3.1.1 Получить количество дополнительных потоков.

Get the max counts of extra stream.

Method:GET

Syntax:

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

Response:

table.MaxExtraStream=1

comment:

Диапазон значений table.MaxExtraStream {1,2,3}

3.1.2 Получить MJPG поток

Get MJPG stream
Method: GET

Syntax:

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

paramName	paramValue type	Description
ip		IP-адрес устройства
channelNo		Номер канала, для видеокамеры всегда "0"
typeNo		Поток: 0：основной; 1：Второй поток，2：Дополнительный поток

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:

Получение MJPG потока по HTTP

3.1.3 Получить RTSP ссылки

Get RTSP streams link
Method: GET

Syntax:

http://<*ip*>//rtsp

paramName	paramValue type	Description
ip		IP-адрес устройства

Example:

curl http://192.168.1.86/rtsp

Response:

HTTP/1.1 200 OK
< CONNECTION: close
< Date: Sat, 01 Jan 2000 16:40:10 GMT
< Last-Modified: Fri, 14 Feb 2020 14:59:03 GMT
< Etag: "1581663543:242"
< CONTENT-LENGTH: 242
< CACHE-CONTROL: no-cache
< CONTENT-TYPE: application/octet-stream

```
{
"streams" : {
"stream1" : "rtsp://$user:$password@$IP:$PORT/H264?ch=1&subtype=0",
"stream2" : "rtsp://$user:$password@$IP:$PORT/H264?ch=1&subtype=1",
"stream3" : "rtsp://$user:$password@$IP:$PORT/H264?ch=1&subtype=2"
        }
}
```

comment:

Получение ссылок RTSP потоков

3.2 Настройки изображения

3.2.1 Установка параметров

Set the parameter of video color.

Method:GET

Syntax:

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

paramName	ParamValue type	Description
head.Brightness	Integer	Яркость [0-100]
head.Contrast	Integer	Контрастность [0-100]
head.Hue	Integer	Оттенок [0-100]
head.Saturation	Integer	Насыщенность [0-100]
head.TimeSection	String	Расписание для параметра. Формат: *mask starttimeendtime* **Mask** range is {0, 1}. Mask 0 – не активно Mask 1 - активно *Starttime/Endtime* формат11:00:00. Пример 0 01:00:00-02:00:00 – не используется 1 01:00:00-02:00:00, используется между 01:00:00 and 02:00:00

comment:

```
 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 Получение параметров

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 Настройки видеосенсора

3.3.1 Получение параметров

Get video input capabilities.

Method: GET

Syntax:

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

Response:

caps.Backlight=true
caps.WideDynamicRange=1
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
WideDynamicRange	integer	0: not support WDR; 1: support WDR
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 Установка параметров

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.WideDynamicRange	integer	Range is {0,1 } 0: off 1:on
head.NormalOptions.WideDynamicRange	integer	Range is [0-256]
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.Sunrise Second	integer	Range is [00-59] Sunrise second
head.NightOptions.Sunset Hour	integer	Sunset time. Its range is same with sunrise time, and it should be after sunrise time.
head.NightOptions.Sunset Minute	integer	**NightOptions** are used if time is after sunset time and before sunrise time.
head.NightOptions.Sunset Second	integer	
head.NightOptions.Switch Mode	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.Exposu reSpeed	integer	Range is same as relevant items of normal options in this table.
head.NightOptions.Exposu reValue1	float	Example: Value rangeof**head**.NightOptions.ExposureSpeed is the same with **head**.ExposureSpeed
head.NightOptions.Exposu reValue2	float	
head.NightOptions.Gain	integer	
head.NightOptions.GainA uto	bool	
head.NightOptions.GainBl ue	integer	
head.NightOptions.GainGr een	integer	
head.NightOptions.GainR ed	integer	
head.NightOptions.White Balance	String	
head.NightOptions. ReferenceLevel	integer	
head.NightOptions. ExternalSyncPhase	integer	
head2. NightOptions. NFMode	integer	2DNR, 0: Автоматический режим. [1-255] : Уровень.
head2. NightOptions. TridimDenoise	bool	true: 3DNR on false: 3DNR off
head2. NightOptions. TridimEstimation	integer	[1,2,3,4,5] 1:Lowest, 5:Higest

comment:

In above table, **head**=VideoInOptions[*ChannelNo*]   *ChannelNo* = video channel index.   In above table, **head2**= VideoInPreviewOptions [*ChannelNo*]   *ChannelNo* = video channel index

Response:

OK or ERROR

Example:

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

3.3.3 Получение параметров

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.WideDynamicRange=1
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.

Syntax:

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

Response:

```
head.NightOptions.DayOptions.NFMode=74
head.NightOptions. TridimDenoise=false
head.NightOptions. TridimEstimation=0
```

comment:

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

3.4 Видеокодек

3.4.1 Список параметров

Get video config capibilities.

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 Разрешение

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 Установка параметров

Set the parameter of the video encoder.

Method: GET

Syntax:

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

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 Аудио кодек

3.5.1 Список параметров

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 Установка

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 Получение параметров

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 Кодек снимка

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 s	Param Value type	Description
Compr ession Types	string	It contains all supported video compression types separated by comma. Range is {MPEG4, MPEG2, MPEG1, MJPG, H.263, H.264}
Resolut ion 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 Установка

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 Получение

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 Титр, имя канала

3.7.1 Установка

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 Получение

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 Стандарт видео

3.8.1 Получение

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 Виджеты

Настройки титров и маскировки кадра.

3.9.1 Установка

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]	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

headChannelTitle.Rect[3]		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] *headTimeTitle*.Rect[2] *headTimeTitle*.Rect[3]	integer	
*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 Получение параметров

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 Запись

4.1 Запись

4.1.1 Установка

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 Получение параметров

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 Установка режима

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 Запрос текущего режима

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 Захват кадра

4.2.1 Установка

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 Получение

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 Запрос скриншота

Get one snap picture.

Method: GET

Syntax:

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

Response:

With one snap picture.

5 Сеть

5.1 Сетевой интерфейс

5.1.1 Получение

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 Основные настройки

5.2.1 Установка

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 Получение

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=ZENO
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 Установка

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:

5.3.2 Получение

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 Установка

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}. DDSN protocol type
DDNS[*index*].UserName	string	DDNS user name

comment:

Index above 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 Получение

Get the DDNS parameters.

Method: GET

Syntax:

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

Response:

table.Email.Address=smtp.yandex.ru 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]=tsygankov.d@don-video.ru 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=IPC_Message table.Email.UserName=anonymitty

5.5 UPNP

5.5.1 Установка

Set the parameter of UPNP.

Method: GET

Syntax:

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

*Index*in 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 Получение

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 Запрос статуса

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 Установка

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 Получить параметры

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

5.7 Сервер тревоги

5.7.1 Установка

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 Получить параметры

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 События

6.1 Обработчик

6.1.1 Установка

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 Получить параметры

Get the parameter of EnventHandler.

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 Тревожный вход/выход

6.2.1 Установить параметры входа

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 Получить параметры входа

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 Установить параметры выхода

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 Получить параметры выхода

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 Запрос количества входов

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 Запрос количества выходов

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 Запрос состояния входа

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 Запрос состояния выхода

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 Детектор движения

6.3.1 Установить

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 Получить параметры

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 Закрытие камеры

6.4.1 Установить

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 Получить параметры

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 Потеря видео

6.5.1 Установить

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 Получить парметры

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 Флаг события

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.)

7 Управление пользователями

7.1 Сброс пароля

Для сброса пароля администратора необходимо получить хэш ключ камеры и отправить его в службу технической поддержки производителя. Служба ТП на основании хэша сгенерирует код сброса. Код сброса нужно ввести в той же сессии, в которой получен хэш.

7.1.1 Запрос на сброс пароля

Method: GET

Syntax:

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

With the following parameter and value type:

paramName	paramValue type	Description
head.Username	Char[64]	Имя пользователя, чей пароль нужно сбросить

comment:

head= Account

Response:

head.pk= (хэш ключ камеры) или ERROR

Example:

/cgi-bin/paramManager.cgi?action=resetPasswd&Account.username=admin

7.1.2 revert password

Ввод ключа сброса

Method: GET

Syntax:

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

With the following parameter and value type:

paramName	paramValue type	Description
head.Username	Char[64]	Имя пользователя, чей пароль нужно сбросить
head.Id	Char[64]	Ключ полученный от ТП

comment:

head= Account

Response:

OK or ERROR or INVALID   Invalid при вводе недействительного или просроченного ключа

Example:

/cgi-bin/paramManager.cgi?action=   revertPasswd&Account.username=admin&Acount.Id=<***ключ*** >

8 Система

8.8.1 Перезагрузка

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**

8.8.2 Код типа устройства

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.

8.8.3 Версия прошивки

Get the software version.

Method: GET

Syntax:

http://<*ip*>/web_caps/version

Example:

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

Response:

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

comment:

Get the device type.

8.8.3 Обновление ПО (прошивки) видеокамеры

Авторизация 1
Method: POST
Syntax:

http://<*ip*>/*RPC2_Login*

Тело запроса:

{"method":"global.login","params":{"userName":" admin","password":"","clientType":"Web3.0"},"id":1
0000}:

Response:

{"error":{"code":401,"message":"unauthorized"},"id":10000,"params":{"encryption":"Default","random":
"1559968103","realm":"Login to 0311580077173135200"},"result":false,"session":1008001463}

Используемые переменные:

paramName	paramValue type	Description
random	string	Одноразовый ключ
realm	string	Идентификатор соединения
session	string	Идентификатор сессии

comment:

Попытка авторизации для получения идентификаторов и одноразового ключа

Авторизация 2
Method: POST
Syntax:

http://*<ip>*/*RPC2_Login*

Тело запроса:

{"method":"global.login","session":"***session***","params":{"userName":"***user***","password":"***pass_hash***","
clientType":"Web3.0"},"id":10000}

Cookies:

ZnWebClientSessionID= ***session***

Используемые переменные:

paramName	Description
user	Имя пользователя
user	Пароль пользователя
pass_hash	MD5 (*user:random:*MD5 (*user*:*realm*:*password*))
session	Идентификатор сессии

Response:

{"id":10000,"params":null,"result":true,"session": *session* }

comment:

Авторизация с созданием авторизованной сессии

Уведомление о старте обновления

Method: POST
Syntax:

http://*<ip>*/RPC2

Тело запроса:
{"method":"eventManager.attach","params":{"codes":["Upgrade"]},"session":*session*,"id":*id*}:
Cookies:
ZnWebClientSessionID= *session*

Используемые переменные:

paramName	Description
session	Идентификатор сессии
id	Идентификатор запроса (порядковый номер запроса)

Response:

{"id":*id*,"params":{"SID":1},"result":true,"session":1522375679}

comment:

Уведомление ПО камеры о начале процедуры обновления.

Загрузка файла и старт обновления

Method: POST
Syntax:

http://*<ip>*/RPC2_Upgrade

Тело запроса:

Тело должно содержать форму с файлом обновления, отправка Multipart:

Cookies:

ZnWebClientSessionID= *session*

Пример для cURL

curl -b ZnWebClientSessionID= *session* -X POST --form "fileupload=@updatepacket.bin" http:// *<ip>*/RPC2_Upgrade

Используемые переменные:

paramName	Description
session	Идентификатор сессии
updatepacket.bin	Файл обновления

Response:

<script>parent.downSucceed();</script>