

Samsung Network Device

API Reference for SNO-5080R

HTTP, RTP, RTSP Protocol

STW_NETWORK_DEVICE_HTTP.RTP.RTSP_v2.3.0_en

v2.3.0

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Restricted

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SAMSUNG TECHWIN

Preface

Purpose

This document is the API reference manual of Samsung Techwin's camera and encoder, developed by Samsung Techwin.

Organization

- Chapter 1. HTTP: provides description of HTTP GET methods.
- Chapter 2. RTP, RTSP: provides description of RTP, RTSP

Audience

This document is prepared for developers of CMS (Camera Management Software), viewer, streaming and web casting applications.

Scope

This document provides an overview of interfaces that you can use to perform the followings using the HTTP GET method from a remote site.

- Device Management
- Realtime streaming using JPEG images
- Event monitoring and handling
- PTZ control
- Image adjustment

And this document provides how to interface with Samsung Techwin network camera using RTP, RTSP protocol.

About the document of old firmware version

This document is based on latest firmware version. If you want to get the document of old firmware version, please feel free to contact us (tech.support.cctv@samsung.com)

Revision History

The revision history of this document is below:

Version	Date	Description
2.3.0	2077-07-15	<p>[Added]</p> <ul style="list-style-type: none">SNP-3302 모델
2.2.3	2011-07-14	<p>[Added]</p> <ul style="list-style-type: none">Caution sentences of 'Set Smart Codec' function <p>[Modified]</p> <ul style="list-style-type: none">Example of 'Set Smart Codec' function'Supported Models' information of 'Request Video Analysis Status' functionExample of 'Request Video Analysis Status' function'Supported Models' information of 'Set Video Analysis' functionSupported models of parameters at 'Set Video Analysis' functionExample of 'Set Video Analysis' function
2.2.2	2011-07-11	<p>[Modified]</p> <ul style="list-style-type: none">Parameter of 'Set IP Filtering' function'Set SNMP' Parameters of SNB-1001, SND-1011, SND-1080, SNV-1080, SNO-1080R, SNB-7000, SND-7080, SNV-7080 models
2.2.1	2011-07-06	<p>[Added]</p> <ul style="list-style-type: none">Parameters of 'Set Video/Audio' function (SNP-3430H)
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2.1.3	2011-06-21	<p>[Modified]</p> <ul style="list-style-type: none">Parameters and examples of SNP-3371/H/TH model
2.1.2	2011-06-13	<p>[Modified]</p> <ul style="list-style-type: none">'Set Motion Detection' example of SNB-1001, SND-1011, SND-1080, SNV-1080, SNO-1080R modelsExample of 'Set Network Event' function
2.1.1	2011-06-09	<p>[Added]</p> <ul style="list-style-type: none">Parameter of 'Set QoS' function

		<ul style="list-style-type: none"> • Parameter of 'Request Motion Detection' function • Parameter of 'Request Alarm Input Detection' function • Parameter of 'Video Analysis Status' function • Caution sentences of 'Set SNMP' function • Example of 'Set SNMP' function • 'Set SNMP' parameters of SND-1011, SND-1080, SNV-1080, SNO-1080R models <p>[Modified]</p> <ul style="list-style-type: none"> • Parameter of SNB-2000, SNB-3000, SND-3080/F, SNV-3080, SNV-3120, SNP-3120/V/VH models • Parameter of 'Set 802.1x' function • Parameter of 'Set Multicast' function
2.1.0	2011-05-26	<p>[Added]</p> <ul style="list-style-type: none"> • SNB-1001, SND-1011, SND-1080, SNV-1080, SNO-1080R models. • Function of 'Set QoS' <p>[Modified]</p> <ul style="list-style-type: none"> • Parameter of SNB-2000, SNB-3000, SND-3080/F, SNV-3080, SNB-5000, SNV-5080R, SND-5080/F, SNV-5080, SNP-5200/H, SNZ-5200, SNB-7000, SND-7080, SNV-7080, SNO-5080R, SNV-5010, SNP-3371/H/TH models.
2.0.1	2011/05/25	<p>[Modified]</p> <ul style="list-style-type: none"> • 'Set Alarm Input' example of SNB-2000, SND-3080/F, SNB-3000 and SNV-3080 models.
2.0.0	2011/01/01	<p>[Modified]</p> <ul style="list-style-type: none"> • RTP, RTSP contents <p>[Deleted]</p> <ul style="list-style-type: none"> • Discontinued lines

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CHAPTER 1

HTTP

Contents

This chapter provides the following topics:

- SYSTEM
- VIDEO/AUDIO
- NETWORK
- EVENT

SYSTEM

Request Device Information

Description

Requests the information on the device.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/about.cgi?msubmenu=about&<Parameter>=<Value>
```

Request Parameters

Parameter	Value	Description
action	view2	Request information of the current product.

Response Parameters

Parameter	Value	Description
description	<string>	Detailed information.
model	<string>	Model name.
version	<string>	Firmware version.
build	<string>	Last firmware built date.
serial	<string>	Product serial number.

Request Device Specifications

Description

Requests the device's specifications.

Syntax

[Type1] http://<Device IP>/cgi-bin/about.cgi?msubmenu=capability&<Parameter>=<Value>
--

Request Parameters

Parameter	Value	Description
action	view	Request information of the current product.

Response Parameters

Parameter	Value	Description
ModelName	<string>	Model name.
Video.Number	<integer>	No. of video channels.
Video.Format	NTSC, PAL	TV standard.
Video.Resolution	<array of string>	Video resolution.
Video.TargetBitrate	<string> <array of integer>	Video bit rate.
Video.Compression	<array of index>	Video compression.
Video.Framerate	<array of index>	Video frame rate.
Video.GOP	<array of index>	No. of GOP (Group of Picture).
Video.Numprofile	<integer>	No. of video profiles.
Video.<ch#>.Pantilt	true, false	Pan/tilt is supported or not.
Video.<ch#>.Pantilt.MaxSpeed	<integer>	Max speed of pan/tilt.
Video.<ch#>.Zoom	true, false	Zoom is supported or not.
Video.<ch#>.Zoom.MaxSpeed	<integer>	Max zooming speed.
Video.<ch#>.MaxPreset	<integer>	Max no. of presets.
Video.<ch#>.AutoFocus	true, false	Auto Focus is supported or not.
Video.<ch#>.Iris	true, false	IRIS control is supported or not.
Video.<ch#>.IV	true, false	IV is supported or not.

Note

Meanings of available types of : <string> and <array of integer> are:

- '<string>' : 512-5120': allows to enter values from 512 to 5120.
- '<array of integer>: 512.1024.2046...': only the specified values of '512, 1024, 2046' are allowed.

Note

'<ch#>' indicates the number of channels.

Set User Information

Description

Sets the user ID, password and user authentication method.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/basic.cgi?msubmenu=user&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description
action	view, chgpwd, modify, delete, apply	This will execute the followings: <ul style="list-style-type: none">• view: Request information of the current product.• chgpwd: Change the password without an index parameter. Required parameter – command, name, pass• modify: Edit a user account. Required parameter – command, index, pass, cpass• delete: Delete a user account. Required parameter – command, index• apply: Enable/disable the guest access permission. Required parameter – guest (only)
command	ok	Save your changes. Caution This is a sub-parameter of 'delete', 'chgpwd' and 'modify' value, which is one of the 'action' parameter values.
enabled	0, 1	Activate/deactivate the user account. <ul style="list-style-type: none">• 0: Deactivate• 1: Activate
guest	0, 1	Activate/deactivate the guest account. <ul style="list-style-type: none">• 0: Deactivate

		<ul style="list-style-type: none"> • 1: Activate <p>Caution The guest ID and password are fixed to 'guest', which can not be changed.</p>
index	0 ... 5	<p>Index number of the registered user.</p> <p>Caution This is a sub-parameter of 'modify' and 'delete' value, which is one of the 'action' parameter values.</p> <p>Caution The index number 0 is for the admin account, which can not be deleted. You can change its password.</p> <p>Note You can add up to 5 users excluding the admin account.</p>
name	<string>	<p>User ID.</p> <p>Caution The maximum number of characters is 8.</p>
pass	<string>	<p>User password.</p> <p>Caution The maximum number of characters is 8.</p>
cpass	<string>	<p>Confirm the password. Enter the same password as the user password.</p>
userRightCtrl	0, 1	<p>Activate/deactivate the relay control permissions (control ratings).</p> <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate
userRightVideo	0, 1	<p>Activate/deactivate the video control permissions (control ratings).</p> <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate

Example | Getting the user information

REQUEST

```
http://<Device IP>/cgi-bin/basic.cgi?msubmenu=user&action=view
```

RESPONSE

HTTP/1.0 200 OK

```
Content-type: text/plain
```

```
<Body>
```

```
0:admin:4321:admin:1:1:1  
1:user1:user1:user:0:0:1  
2:user2:user2:user:0:0:0  
3:user3:user3:user:0:0:0  
4:user4:user4:user:0:0:0  
5:user5:user5:user:0:0:0
```

Example | Editing a registered user

REQUEST

```
http://<Device IP>/cgi-bin/basic.cgi?msubmenu=user&action=modify&command=ok&index=1&name=samsung&pass=1111&cpass=1111&userRightVideo=1&userRightCtrl=0&enabled=0
```

Example | Deleting a registered user

REQUEST

```
http://<Device IP>/cgi-bin/basic.cgi?msubmenu=user&action=delete&command=ok&index=3
```

Example | Changing the password without the user index number

REQUEST

```
http://<Device IP>/cgi-bin/basic.cgi?msubmenu=user&action=chgpwd&command=ok&name=admin&pass=1111
```

Set Date/Time

Description

Sets the system date/time and local time zone.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/system.cgi?msubmenu=date&<parameter>=<value>...
```

Request Parameter

Parameter	Value	Description
action	view, apply, view_timezone	This will execute the followings: <ul style="list-style-type: none">• view: Request information of the current product.• apply: Apply new settings.• view_timezone: Request the time zone list.
ntpurl1 ... ntpurl5	<IP Address>	IP address of NTP (Network Time Protocol) server. Note You can use parameters from 'ntpurl1' to 'ntpurl5'.
sync_type	0, 2	Time synchronization of network devices <ul style="list-style-type: none">• 0: Time sync using NTP. Required parameter - ntpurl• 2: Manual time sync. Required parameter - year, mon, day, hour, min, sec. If you specify the time manually, provide the full time format of GMT (Greenwich Mean Time) including year, month, day, hour, minute, and second.
year	2000 ... 2037	Year of the system time.
mon	1 ... 12	Month of the system time.
day	1 ... 31	Day of the system time.
hour	0 ... 23	Hour of the system time.
min	0 ... 59	Minute of the system time.
sec	0 ... 59	Second of the system time.
timezone	0 ... 96	Index number of the time zone list items.
dst_enable	0, 1	Enable/disable DST (Daylight Saving Time). <ul style="list-style-type: none">• 0: Deactivate• 1: Activate

Example | Getting date/time information

REQUEST

```
http://<Device IP>/cgi-bin/system.cgi?msubmenu=date&action=view
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
Current System Time:2008-02-19 05:06:09 UTC
ntpurl1:pool.ntp.org
ntpurl2:asia.pool.ntp.org
ntpurl3:europe.pool.ntp.org
ntpurl4:north-america.pool.ntp.org
ntpurl5:time.nist.gov
sync_type:0
dst_enable:0
timezone:33[March.last.Sun/01:00:00,October.last.Sun/02:00:00]
```

Example | Getting the time zone list

REQUEST

```
http://<Device IP>/cgi-bin/system.cgi?msubmenu=date&action=view_timezone
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
00:(GMT-12:00) International Date Line West
01:(GMT-11:00) Samoa[September.last.Sun/00:00:00,April.1st.Sun/00:00:00]
02:(GMT-11:00) Coordinated Universal Time-11
...
95:(GMT+12:00) Coordinated Universal Time+12
96:(GMT+13:00) Nuku'alofa
```

Example | Changing the system time/date

REQUEST

```
http://<Device IP>/cgi-
bin/system.cgi?msubmenu=date&action=apply&sync_type=0&ntpurl1=203.248.240.103&ntpurl
2=20.248.240.10&ntpurl3=203.28.20.103&dst_enable=1&timezone=33
```

Example | Changing the system date/time manually

REQUEST

```
http://<Device IP>/cgi-
bin/system.cgi?msubmenu=date&action=apply&sync_type=2&year=2008&mon=1&day=1&ho
```

```
ur=0&min=10&sec=31
```

Reset System

Description

Restores the system to default settings.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/system.cgi?msubmenu= reset&<parameter>=<value> ...
```

Request Parameter

Parameter	Value	Description
action	reset	Restore the network device settings to the factory defaults and restart the system.
status	ok, on, off	System reset mode. <ul style="list-style-type: none">• ok: Restart the system without any change.• on: Restore the factory default.• off: Restore the factory default except the network settings.

Check System Log

Description

Checks the system log. The system log consists of:

- Date
- Time
- Description

Syntax

```
[Type1] http://<Device IP>/cgi-bin/system.cgi?msubmenu=log&action =view
```

Example

REQUEST

```
http://<Device IP>/cgi-bin/system.cgi?msubmenu=log&action=view
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
[2000-01-01 05:40:18 UTC] System Firmware Update Complete  
[2000-01-01 05:32:16 UTC] IPv4 IP: 192.168.1.100 => 192.168.1.194  
[2000-01-01 05:32:16 UTC] IPv4 Connection Type: DHCP => Manual  
[2000-01-01 05:31:12 UTC] Camera System Power On
```

Check Video Analysis Event Log

Description

Checks the video analysis (VA) event log. The event log consists of:

- Date
- Time
- Description

Syntax

```
[Type1] http://<Device IP>/cgi-bin/system.cgi?msubmenu=ivlog&<parameter>=<value> ...
```

Request Parameters

Parameter	Value	Description
action	view, filter	This will execute the followings: <ul style="list-style-type: none">• view: Request the current VA event log.• filter: VA event log filtering.
passing	0, 1	Enable/disable the filtering condition of 'passing'. <ul style="list-style-type: none">• 0: Deactivate. Default value.• 1: Activate <p>Caution This is a sub-parameter of the 'filter' value, which is one of the 'action' parameter values.</p>
entering	0, 1	Enable/disable the filtering condition of 'entering'. <ul style="list-style-type: none">• 0: Deactivate. Default value.• 1: Activate <p>Caution</p>

		This is a sub-parameter of the 'filter' value, which is one of the 'action' parameter values.
exiting	0, 1	<p>Enable/disable the filtering condition of 'exiting'.</p> <ul style="list-style-type: none"> • 0: Deactivate. Default value. • 1: Activate <p>Caution</p> <p>This is a sub-parameter of the 'filter' value, which is one of the 'action' parameter values.</p>
appearing	0, 1	<p>Enable/disable the filtering condition of 'appearing'.</p> <ul style="list-style-type: none"> • 0: Deactivate. Default value. • 1: Activate <p>Caution</p> <p>This is a sub-parameter of the 'filter' value, which is one of the 'action' parameter values.</p>
disappearing	0, 1	<p>Enable/disable the filtering condition of 'disappearing'.</p> <ul style="list-style-type: none"> • 0: Deactivate. Default value. • 1: Activate <p>Caution</p> <p>This is a sub-parameter of the 'filter' value, which is one of the 'action' parameter values.</p>
scene_change	0, 1	<p>Enable/disable the filtering condition of 'scene change'.</p> <ul style="list-style-type: none"> • 0: Deactivate. Default value. • 1: Activate <p>Caution</p> <p>This is a sub-parameter of the 'filter' value, which is one of the 'action' parameter values.</p>
date_from	<YYYY-MM-DD>	<p>Start date of your search.</p> <p>Caution</p> <p>This is a sub-parameter of the 'filter' value, which is one of the 'action' parameter values.</p>
date_to	<YYYY-MM-DD>	<p>End date of your search.</p> <p>Caution</p> <p>This is a sub-parameter of the 'filter' value, which is one of the 'action' parameter values.</p>

Example | Checking the VA event log

REQUEST

```
http://<Device IP>/cgi-bin/system.cgi?msubmenu=ivlog&action=view
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
[2009-05-16 08:11:40 UTC] Exiting  
[2009-05-16 09:58:08 UTC] Passing  
[2009-05-16 10:08:19 UTC] Scene Change  
[2009-05-16 11:06:33 UTC] Appearing/Disappearing
```

Example | Using the filtering criteria**REQUEST**

```
http://<Device IP>/cgi-bin/system.cgi?msubmenu=ivlog&action=filter&passing=1&exiting=1&date_from=2000-1-1&date_to=2000-1-2
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
[2000-01-01 08:11:40 UTC] Exiting  
[2000-01-01 09:58:08 UTC] Passing  
[2009-01-01 10:08:19 UTC] Passing  
[2009-01-02 11:06:33 UTC] Exiting
```

VIDEO/AUDIO

Request JPEG/MJPEG Image

Description

Requests one JPEG image.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/video.cgi?msubmenu=jpg
```

Example

REQUEST

```
[Type1] http://<Device IP>/cgi-bin/video.cgi?msubmenu=jpg
```

RESPONSE

HTTP/1.0 200 OK

Content-type: image/jpeg

Content-length: <image size>

```
<Body>
```

```
<JPEG image data>
```

Request MJPEG Video

Description

Requests a JPEG image stream consisting of multiple parts.

Caution

On a web browser, this feature is recommended only for test purposes. It's supported only in the web browsers of Firefox, Google Chrome and Safari.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/video.cgi?msubmenu=mjpg  
[Type2] http://<Device IP>/cgi-bin/video.cgi?msubmenu=mjpg&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description
profile	1, 4 ... 10	<p>MJPEG profile number.</p> <ul style="list-style-type: none">• 1: Default value• 4 ~ 10 <p>An input value from 4 to 10 will be processed as follows:</p> <ul style="list-style-type: none">• If no profile exists, create a new MJPEG profile.• If the profile already exists or the CODEC of the profile is not for MJPEG, change the existing profile to the MJPEG profile.
resolution	0 ... 5	Video resolution. <ul style="list-style-type: none">• 0: 1280 x 1024• 1: 1280 x 720• 2: 800 x 600• 3: 640 x 480• 4: 320 x 240• 5: 1024 x 768
frate	1 ... 30, 1 ... 25	Video encoding frame rate. <ul style="list-style-type: none">• NTSC: 1 ~ 30• PAL: 1 ~ 25 <p>Caution 'Resolution' parameter, as is required.</p>
compression	1 ... 20	Level of video encoding compression. <p>Note The higher the level, the quality is low.</p>

Example

REQUEST

```
[Type1] http://<Device IP>/cgi-bin/video.cgi?msubmenu=mjpg  
[Type2] http://<Device IP>/cgi-bin/video.cgi?msubmenu=mjpg&profile=4&resolution=2&frate=20&compression=1
```

RESPONSE

HTTP/1.0 200 OK

Server: STW Server

Content-type: multipart/x-mixed-replace;boundary=SamsungTechwin

<Body>

```
--SamsungTechwin
```

Content-type: image/jpeg

Content-length: <image size>

```
<JPEG image data>
```

```
--SamsungTechwin
```

Content-type: image/jpeg

Content-length: <image size>

```
<JPEG image data>
```

```
--SamsungTechwin
```

Content-type: image/jpeg

Content-length: <image size>

```
<JPEG image data>
```

Set Video/Audio

Description

Sets the detailed settings of the video/audio.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/basic.cgi?msubmenu=video&<parameter>=<value> ...
```

Request Parameters

Note

Prefixes of the parameter are as below:

- m4_: MPEG-4 Codec
- mp_: MJPEG Codec
- h4_: H.264 Codec

Parameter	Value	Description
action	view2, apply, delete	<p>This will execute the followings:</p> <ul style="list-style-type: none"> • view2: Request information of the current product. <p>If using only this value, you can get the information of basic profile (MJPEG, H.264, MPEG-4).</p> <p>If using this value with 'profile_no' parameter, you can get the information of the profile.</p> <ul style="list-style-type: none"> • apply: Apply new settings. <p>If there is no exiting profile when you are using this value with 'profile_no' parameter, 'encoding_type' and 'profile_name' parameters are required.</p> <ul style="list-style-type: none"> • delete: Delete the profile. <p>Required parameter - profile_no (only)</p>
profile_no	1 ... 10	Profile number.
encoding_type	0, 1, 2	<p>Encoding type.</p> <ul style="list-style-type: none"> • 0: MJPEG • 1: MPEG-4 • 2: H.264
profile_name	<string>	<p>Profile name.</p> <p>Caution</p> <p>The maximum number of characters is 15.</p> <p>Caution</p> <p>It has to input three parameters (profile_no, encoding_type, and profile_name) at the same time for adding the profile.</p>
m4_resolution	0 ... 5	<p>MPEG-4 CODEC video resolution.</p> <ul style="list-style-type: none"> • 0: 1280 x 1024 • 1: 1280 x 720 • 2: 800 x 600 • 3: 640 x 480 • 4: 320 x 240 • 5: 1024 x 768
mp_resolution	0 ... 5	<p>MJPEG CODEC video resolution.</p> <ul style="list-style-type: none"> • 0: 1280 x 1024 • 1: 1280 x 720 • 2: 800 x 600

		<ul style="list-style-type: none"> • 3: 640 x 480 • 4: 320 x 240 • 5: 1024 x 768 																						
h4_resolution	0 ... 5	<p>H.264 CODEC video resolution.</p> <ul style="list-style-type: none"> • 0: 1280 x 1024 • 1: 1280 x 720 • 2: 800 x 600 • 3: 640 x 480 • 4: 320 x 240 • 5: 1024 x 768 																						
m4_bitrate	64 ... 2048, 512 ... 5120, 1024 ... 10240	<p>MPEG-4 video bit rate.</p> <table border="1"> <thead> <tr> <th>Resolution</th><th>Range</th></tr> </thead> <tbody> <tr> <td>1280 x 1024</td><td>1024 ~ 10240</td></tr> <tr> <td>1280 x 720</td><td></td></tr> <tr> <td>1024 x 768</td><td></td></tr> <tr> <td>800 x 600</td><td>512 ~ 5120</td></tr> <tr> <td>704 x 576</td><td></td></tr> <tr> <td>704 x 480</td><td></td></tr> <tr> <td>640 x 480</td><td></td></tr> <tr> <td>352 x 288</td><td>64 ~ 2048</td></tr> <tr> <td>352 x 240</td><td></td></tr> <tr> <td>320 x 240</td><td></td></tr> </tbody> </table>	Resolution	Range	1280 x 1024	1024 ~ 10240	1280 x 720		1024 x 768		800 x 600	512 ~ 5120	704 x 576		704 x 480		640 x 480		352 x 288	64 ~ 2048	352 x 240		320 x 240	
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h4_bitrate(h264_bitrate)	64 ... 2048, 512 ... 5120, 1024 ... 10240	<p>H.264 video bit rate.</p> <table border="1"> <thead> <tr> <th>Resolution</th><th>Range</th></tr> </thead> <tbody> <tr> <td>1280 x 1024</td><td>1024 ~ 10240</td></tr> <tr> <td>1280 x 720</td><td></td></tr> <tr> <td>1024 x 768</td><td></td></tr> <tr> <td>800 x 600</td><td>512 ~ 5120</td></tr> <tr> <td>704 x 576</td><td></td></tr> <tr> <td>704 x 480</td><td></td></tr> <tr> <td>640 x 480</td><td></td></tr> <tr> <td>352 x 288</td><td>64 ~ 2048</td></tr> <tr> <td>352 x 240</td><td></td></tr> <tr> <td>320 x 240</td><td></td></tr> </tbody> </table>	Resolution	Range	1280 x 1024	1024 ~ 10240	1280 x 720		1024 x 768		800 x 600	512 ~ 5120	704 x 576		704 x 480		640 x 480		352 x 288	64 ~ 2048	352 x 240		320 x 240	
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320 x 240																								
m4_frate	1 ... 30, 1 ... 25	<p>MPEG-4 video encoding frame rate.</p> <ul style="list-style-type: none"> • NTSC: 1 ~ 30 • PAL: 1 ~ 25 <p>Note</p>																						

		The 'frate' parameter value of a mega-pixel camera is normally between 1 and 30. However, if the video resolution is '1280x1024', the 'frate' parameter of the camera should be between 1 and 25.
mp_frate	1 ... 30, 1 ... 25	<p>MJPEG video encoding frame rate.</p> <ul style="list-style-type: none"> • NTSC: 1 ~ 30 • PAL: 1 ~ 25 <p>Note</p> <p>The 'frate' parameter value of a mega-pixel camera is normally between 1 and 30. However, if the video resolution is '1280x1024', the 'frate' parameter of the camera should be between 1 and 25.</p>
h4_frate	1 ... 30, 1 ... 25	<p>H.264 video encoding frame rate.</p> <ul style="list-style-type: none"> • NTSC: 1 ~ 30 • PAL: 1 ~ 25 <p>Note</p> <p>The 'frate' parameter value of a mega-pixel camera is normally between 1 and 30. However, if the video resolution is '1280x1024', the 'frate' parameter of the camera should be between 1 and 25.</p>
m4_bit_control	0, 1	<p>MPEG-4 video bit rate.</p> <ul style="list-style-type: none"> • 0: CBR (Constant Bit Rate) • 1: VBR (Variable Bit Rate)
h4_bit_control	0, 1	<p>H.264 video bit rate.</p> <ul style="list-style-type: none"> • 0: CBR (Constant Bit Rate) • 1: VBR (Variable Bit Rate)
m4_compression	1 ... 20	<p>Level of MPEG-4 video compression.</p> <p>Note</p> <p>The higher the level, the quality is low.</p>
mp_compression	1 ... 20	<p>Level of MJPEG video compression.</p> <p>Note</p> <p>The higher the level, the quality is low.</p>
h4_compression	1 ... 20	<p>Level of H.264 video compression.</p> <p>Note</p> <p>The higher the level, the quality is low.</p>

m4_priority	0, 1	MPEG-4 video encoding priority. <ul style="list-style-type: none"> • 0: Frame rate • 1: Compression
h4_priority	0, 1	H.264 video encoding priority. <ul style="list-style-type: none"> • 0: Frame rate • 1: Compression
m4_gopsize	1 ... 15	MPEG-4 encoding GOP (Group of Pictures) size.
h4_gopsize	1 ... 15	H.264 encoding GOP (Group of Pictures) size.
h4_entropy_coding	0, 1	H.264 video entropy encoding. <ul style="list-style-type: none"> • 0: CAVLC • 1: CABAC

Adjust Camera

Description

Controls and adjusts the camera in details.

Syntax

[Type1] http://<Device IP>/cgi-bin/system.cgi?msubmenu=camera&<parameter>=<value>...

Request Parameters

Parameter	Value	Description
action	view, apply	This will execute the followings: <ul style="list-style-type: none"> • view: Request information of the current product. • apply: Apply new settings.
brightness	1 ... 100	Brightness.
blc	0, 1	BLC (Back Light Compensation). <ul style="list-style-type: none"> • 0: Off • 1: Manual
wb	0, 1	White balance mode. <ul style="list-style-type: none"> • 0: Auto • 1: Manual
sharpness	0, 1	Sharpness. <ul style="list-style-type: none"> • 0: Off • 1: On
gamma	0 ... 16	Gamma.

saturation	1 ... 100	Saturation.
shutter	0, 1, 2	Shutter mode. <ul style="list-style-type: none">• 0: ESC• 1: Manual• 2: A.FLK
shutter_speed	0 ... 35	Shutter speed. <ul style="list-style-type: none">• 0: x60• 1: x48• 2: x40• 3: x32• 4: x24• 5: x20• 6: x16• 7: x14• 8: x12• 9: x10• 10: x8• 11: x6• 12: x4• 13: x2• 14: 1/30• 15: 1/50• 16: 1/60• 17: 1/100• 18: 1/120• 19: 1/150• 20: 1/180• 21: 1/200• 22: 1/240• 23: 1/250• 24: 1/300• 25: 1/360• 26: 1/480• 27: 1/500• 28: 1/600• 29: 1/700• 30: 1/1000• 31: 1/1500• 32: 1/2500• 33: 1/5000• 34: 1/10000• 35: 1/12000

		<p>Caution</p> <p>To use this parameter, the value of 'shutter' parameter should be manual.</p>
		<p>Caution</p> <p>If the value of 'lens' is DC(Auto), you should set the this value from 13 to 35.</p>
lens	0, 1	<p>Lens mode.</p> <ul style="list-style-type: none"> • 0: DC(Auto) • 1: Manual
hflip	0, 1	<p>Vertical flip of image.</p> <ul style="list-style-type: none"> • 0: Off • 1: On
vflip	0, 1	<p>Horizontal flip of image.</p> <ul style="list-style-type: none"> • 0: Off • 1: On

NETWORK

Set Network

Description

Sets the details of the network configuration.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/basic.cgi?msubmenu=ip&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description								
action	view, apply	This will execute the followings: <ul style="list-style-type: none">view: Request information of the current product.apply: Apply new settings.								
ip_type	0, 1, 2	IP address type. <ul style="list-style-type: none">0: Static IP1: Dynamic IP (DHCP Mode)2: PPPoE IP or xDSL								
		Caution If this parameter is set to PPPoE mode, the parameters of 'mcastaddr', 'mcastport', 'ttl', 'rtp_mcast_addr', 'rtp_mcast_port' and 'rtp_mcast_ttl' will not be available. 'In PPPoE' mode, you must set the parameters of 'adslid' and 'adslpasswd' accordingly. Otherwise, ADSL connection may not be made properly.								
MAC	<string>	MAC Address of the connected device (Read-only).								
ip	<IP Address>	IP address of the device.								
sm	0 ... 32	Subnet mask. <table><thead><tr><th>Value</th><th>Subnet Mask</th><th>Value</th><th>Subnet Mask</th></tr></thead><tbody><tr><td>0</td><td>0.0.0.0</td><td>17</td><td>255.255.128.0</td></tr></tbody></table>	Value	Subnet Mask	Value	Subnet Mask	0	0.0.0.0	17	255.255.128.0
Value	Subnet Mask	Value	Subnet Mask							
0	0.0.0.0	17	255.255.128.0							

		1	128.0.0.0	18	255.255.192.0
		2	192.0.0.0	19	255.255.224.0
		3	224.0.0.0	20	255.255.240.0
		4	240.0.0.0	21	255.255.248.0
		5	248.0.0.0	22	255.255.252.0
		6	252.0.0.0	23	255.255.254.0
		7	254.0.0.0	24	255.255.255.0
		8	255.0.0.0	25	255.255.255.128
		9	255.128.0.0	26	255.255.255.192
		10	255.192.0.0	27	255.255.255.224
		11	255.224.0.0	28	255.255.255.240
		12	255.240.0.0	29	255.255.255.248
		13	255.248.0.0	30	255.255.255.252
		14	255.252.0.0	31	255.255.255.254
		15	255.254.0.0	32	255.255.255.255
		16	255.255.0.0		
gw	<IP Address>	IP address of the gateway.			
dns<no>	<IP Address>	IP Address of the DNS.			
tcpport	10000 ... 60000	SVNP TCP streaming port number. The default value is 60002.			
udpport	10000 ... 60000	SVNP UDP streaming port number. The default value is 60003.			
uploadport	10000 ... 60000	Firmware upgrade port number. The default value is 60004. Caution This port is available only for SVNP.			
mcast_addr	<IP Address>	SVNP multicast IP address.			
mcastport	10000 ... 60000	SVNP multicast port number. The default value is 60001.			
ttl	0 ... 255	SVNP multicast TTL.			
adslid	<string>	PPPoE Access ID. Caution If the value of 'ip_type' is 2, you should set the two parameters;'adslid' and 'adslpasswd'. Otherwise ADSL connection is failed.			
adslpasswd	<string>	PPPoE Access Password.			

		<p>Caution</p> <p>If the value of 'ip_type' is 2, you should set the two parameters; 'adslid' and 'adslpasswd'. Otherwise ADSL connection is failed.</p>
ipv6_enable	0, 1	<p>Enable/disable IPv6 address.</p> <ul style="list-style-type: none"> • 0: Off • 1: On <p>Caution</p> <p>Enabling the IPv6 address restarts the network camera and gets the IPv6 address from the IPv6 router. If the value of this parameter is 1, 'pv6_mode' parameter is required.</p>
ipv6_mode	0, 3	<p>IPv6 mode.</p> <ul style="list-style-type: none"> • 0: Auto • 3: Fix <p>Caution</p> <p>If the value of 'ipv6_mode' is static, 'ipv6_addr' and 'ipv6_prefix' parameters are required.</p>
ipv6_addr	<IP Address>	<p>IPv6 address.</p> <p>Caution</p> <p>If using the IPv6 address in fixed IPv6 mode, you can set this parameter.</p>
ipv6_prefix	0 ... 127	<p>IPv6 prefix.</p> <p>Caution</p> <p>If using the IPv6 address in fixed IPv6 mode, you can set this parameter.</p>

Set IP Filtering

Description

Sets the details of the IP filtering.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/system.cgi?msubmenu=ipfilter&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description
-----------	-------	-------------

action	view, modify, delete, apply	<p>This will execute the followings:</p> <ul style="list-style-type: none"> • view: Request information of the current product. • modify: Edit a IP/MASK. Required parameter – index, ip, mask, protocol • delete: Delete a IP/MASK. Required parameter – index, protocol • apply: Apply the policy of permission granted/denied. Required parameter – base_policy (only)
base_policy	0, 1	<p>IP filtering type.</p> <ul style="list-style-type: none"> • 0: Granted. Accesses to only registered IP addresses are permitted. • 1: Denied. Accesses to the filtered IP addresses will be restricted. <p>Caution</p> <p>This is a sub parameter of the 'apply' value, which is one of the 'action' parameter values.</p>
index	0 ... 9	<p>Index number of registered IP/Mask.</p> <p>Caution</p> <p>Up to 10 IPs/Masks are allowed to enter.</p> <p>Caution</p> <p>This is a sub-parameter of the 'modify' and 'delete' value, which is one of the 'action' parameter values.</p>
ip	<IP Address>	Filtering IP address.
mask	1 ... 32, 1 ... 128	<p>Mask.</p> <ul style="list-style-type: none"> • IPv4: 1 ~ 32 • IPv6: 1 ~ 128
protocol	0, 1	<p>Network protocol.</p> <ul style="list-style-type: none"> • 0: IPv4 • 1: IPv6
enabled	0, 1	<p>Enable/disable filtering on registered IPv4 or IPv6.</p> <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate

Example | Fetching the current settings

REQUEST

```
http://<Device IP>/cgi-bin/system.cgi?msubmenu=ipfilter&action=view
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
base_policy:0
protocol:0
0:192.168.152.35/32/1
1:192.168.120.88/24/1
2:192.168.142.100/16/1
...
protocol:1
0:FFFF::22/32/1
1:FFFF::23/32/1
2:FFFF::24/32/1
3:FFFF::25/32/1
```

Example | Setting the IP filtering type (allow/deny)

REQUEST

```
http://<Device IP>/cgi-bin/system.cgi?msubmenu=ipfilter&action=apply&base_policy=0
```

Example | Changing the IP/mask

REQUEST

```
http://<Device IP>/cgi-
bin/system.cgi?msubmenu=ipfilter&action=modify&index=1&protocol=1&ip=FFFF:2f3d:44ee::3
33a&mask=32&enabled=1
```

Example | Deleting the IP address

REQUEST

```
http://<Device IP>/cgi-
bin/system.cgi?msubmenu=ipfilter&action=delete&base_policy=0&index=2&protocol=0
```

Set HTTPS

Description

Sets the HTTPS settings to enable a secure mode such as SSL (Secure Socket Layer) or to check the public certificate.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/system.cgi?msubmenu=https&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description
action	view, apply	This will execute the followings: <ul style="list-style-type: none">• view: Request information of the current product.• apply: Apply new settings.
connection_policy	0, 1, 2	Secure Socket Layer. <ul style="list-style-type: none">• 0: HTTP. No secure connection.• 1: HTTPS. Enable connection with proprietary certificate.• 2: HTTPS. Enable secure connection using the public certificate. This setting is not available.
installed_certificate	0, 1	Certificate installation. <ul style="list-style-type: none">• 0: Not installed• 1: Installed <p>Caution Do not change this parameter. If a certificate is installed, the certificate name will be displayed.</p>
installed_certificate_name	<string>	Certificate name. <p>Caution Do not change this parameter. If a certificate is installed, the certificate name will be displayed.</p>

Set Video Streaming

Description

Sets the video streaming settings to enable adjusting the baud rate according to the video transfer method and network environment.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/network.cgi?msubmenu=stream&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description
action	view, apply	This will execute the followings: <ul style="list-style-type: none">• view: Request information of the current product.• apply: Apply new settings.
rtsp_timeout	0, 1	Enable/disable RTSP timeout. <ul style="list-style-type: none">• 0: Deactivate• 1: Activate

EVENT

Request Alarm Input Detection

Description

Requests the alarm input status (active/inactive). The number of alarm input ports of the device is:

- 1

Syntax

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=input&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description
action	check, monitor	This will execute the followings: <ul style="list-style-type: none">• check: Output the current state once.• monitor: Continually output the state.

Example | Checking the alarm input status

REQUEST

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=input&action=check
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
IO00:<char>
```

```
IO01:<char>
```

Note

If the alarm input is active, the letter 'H' will be displayed; if inactive, 'L' will be displayed in <char>.

Example | Monitoring alarm input status continuously

REQUEST

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=input&action=monitor&format=time
```

RESPONSE

HTTP/1.0 200 OK

Content-type: multipart/x-mixed-replace;boundary=SamsungTechwin

<Body>

```
--SamsungTechwin
```

Content-Type: text/plain

IO01:<char>

```
--SamsungTechwin
```

Content-Type: text/plain

IO01:<char>

Request Motion Detection

Description

Requests the motion detection (MD) status (active/inactive).

Syntax

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=motion&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description
action	check, monitor	This will execute the followings: <ul style="list-style-type: none">check: Output the current state once.monitor: Continually output the state.

Example | Checking MD status

REQUEST

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=motion&action=check
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
motion:<char>
```

Note

If the MD is active, the letter 'H' will be displayed; if inactive, 'L' will be displayed in <char>.

Example | Monitoring MD status continuosly

REQUEST

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=motion&action=monitor
```

RESPONSE

HTTP/1.0 200 OK

Content-type: multipart/x-mixed-replace;boundary=SamsungTechwin

<Body>

```
--SamsungTechwin
```

Content-type: text/plain

motion:<char>

```
--SamsungTechwin
```

Content-type: text/plain

motion:<char>

```
--SamsungTechwin
```

Content-type: text/plain

motion:<char>

Request Video Analysis Status

Description

Requests the Video Analysis (VA) status (active/inactive).

Syntax

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=analysis&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description
action	check, monitor	This will execute the followings: <ul style="list-style-type: none">• check: Output the current state once.• monitor: Continually output the state.

Example | Checking VA status

REQUEST

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=analysis&action=check
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
IV[Passing]:<char>
IV[Entering/Exiting]:<char>
IV[Appearing/Disappearing]:<char>
IV[Scene Change]:<char>
```

Note

If the VA is active, the letter 'H' will be displayed; if inactive, 'L' will be displayed in <char>.

Example | Monitoring VA status continuously

REQUEST

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=analysis&action=monitor
```

RESPONSE

HTTP/1.0 200 OK

Content-type: multipart/x-mixed-replace;boundary= SamsungTechwin

```
<Body>

--SamsungTechwin
Content-type: text/plain

IV[Passing]:<char>
IV[Entering/Exiting]:<char>
IV[Appearing/Disappearing]:<char>
IV[Scene Change]:<char>

--SamsungTechwin
Content-type: text/plain

IV[Passing]:<char>
IV[Entering/Exiting]:<char>
IV[Appearing/Disappearing]:<char>
IV[Scene Change]:<char>

--SamsungTechwin
Content-type: text/plain

IV[Passing]:<char>
IV[Entering/Exiting]:<char>
IV[Appearing/Disappearing]:<char>
IV[Scene Change]:<char>
```

Control Relay Output

Description

Controls the relay output (active/inactive). The number of relay output ports of the device is:

- 1

Syntax

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=output&<parameter>=<value> ...
```

Request Parameters

The format of request parameter is as below:

```
action=<id>:<a>[<duration>]
```

The detailed explanation is as below:

Element	Value	Description
id	1	Alarm output number.
a	/, W, H, L	Active/inactive. <ul style="list-style-type: none">• /: Activate• W: Deactivate• H: Activate• L: Deactivate
		Note You must use Firefox for the web browser if performing the inactive output test. Other browsers do not support '/'.

Example | Activating alarm output #1 continuously

REQUEST

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=output&action=1:/
```

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=output&action=1:H
```

Example | Deactivating alarm output #1 continuously

REQUEST

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=output&action=1:W
```

```
[Type1] http://<Device IP>/cgi-bin/control.cgi?msubmenu=output&action=1:L
```

Set FTP/SMTP

Description

Sets the FTP (File Transfer Protocol) and SMTP (Simple Mail Transfer Protocol) settings so that the alarm image recorded by the camera is transferred on an alarm event.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/event.cgi?msubmenu=transfer&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description
-----------	-------	-------------

action	view, apply	This will execute the followings: <ul style="list-style-type: none">• view: Request information of the current product.• apply: Apply new settings.
FTP_mode	0, 1	FTP transfer mode. <ul style="list-style-type: none">• 0: Active• 1: Passive
FTP_Addr	<IP Address>	FTP server IP address.
FTP_Path	<string>	FTP server directory path for transferring the alarm image. ex)/alarm/image. Caution The maximum number of characters is 60.
FTP_port	1 ... 65535	FTP server port number. The default value is 21.
FTP_id	<string>	User ID. Caution The maximum number of characters is 30.
FTP_pass	<string>	User password. Caution The maximum number of characters is 30.
SMTP_Addr	<string>	SMTP server domain address. ex)smtp.samsung.com Caution The maximum number of characters is 60.
SMTP_id	<string>	User ID. Caution The maximum number of characters is 30.
SMTP_pass	<string>	User password. Caution The maximum number of characters is 30.
SMTP_sender	<string>	Email address of the sender. Caution The maximum number of characters is 60.
SMTP_Dest	<string>	Email address of the recipient to receive an email with the alarm image attached. Caution The maximum number of characters is 60
SMTP_Title	<string>	Email title.

		Caution The maximum number of characters is 60.
SMTP_Msg	<string>	Email text. Caution The maximum number of characters is 120.
SMTP_port	1 ... 65535	SMTP port number. The default value is 25.

Example | Requesting FTP/SMTP new settings

REQUEST

```
http://<Device IP>/cgi-bin/event.cgi?msubmenu=transfer&action=apply&FTP_mode=0&FTP_Addr=10.240.56.72&FTP_Path=/test&FTP_port=21&FTP_id=userid&FTP_pass=userpass&SMTP_Addr=smtp.yahoo.com&SMTP_port=25&SMTP_id=userid&SMTP_pass=userpass&SMTP_sender=sender@yahoo.com&SMTP_Dest=receiver@yahoo.com&SMTP_Title=alarm message&SMTP_Msg=alarm_event_is_occurred
```

Set Motion Detection

Description

Sets the details of the MD (motion detection) event.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/event.cgi?msubmenu=motion&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description
action	view, apply	This will execute the followings: <ul style="list-style-type: none">• view: Request information of the current product.• apply: Apply new settings.
device	0, 1	Activate/deactivate motion detection. <ul style="list-style-type: none">• 0: Deactivate• 1: Activate
active	always, schedule	Motion detection mode. <ul style="list-style-type: none">• always: Activated all the time. It always checks if an alarm occurs. If an MD event is detected, a specified operation will

		<p>be performed.</p> <ul style="list-style-type: none"> • schedule: Activated on specified day/hour. It checks as scheduled if an alarm occurs. If an MD event is detected, a specified operation will be performed.
SUN MON TUE WED THU FRI SAT	0, 1	<p>Activate/deactivate motion detection for weekdays.</p> <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate
output_dur	0, -1, 5, 10, 15	<p>Output device activation time.</p> <ul style="list-style-type: none"> • 0: None • -1: Always • 5: 5 seconds • 10: 10 seconds • 15: 15 seconds
sens	1 ... 5	<p>Motion detection sensitivity.</p> <ul style="list-style-type: none"> • 1: Very Low • 5: Very high
smtp_sending	0, 1	<p>Email transfer of alarm image.</p> <ul style="list-style-type: none"> • 0: Off • 1: On
SUN0 ~ SUN23 MON0 ~ MON23 TUE0 ~ TUE23 WED0 ~ WED23 THU0 ~ THU23 FRI0 ~ FRI23 SAT0 ~ SAT23	0, 1	<p>Enable/disable MD operation day (hour).</p> <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate <p>Caution 'SUN', 'MON', 'TUE', 'WED', 'THU', 'FRI', 'SAT' parameters, as is required.</p> <p>Note 'SUN1' indicates 1 o'clock Sunday; 'MON2' indicates 2 o'clock Monday.</p>
area1 ... area4	<string>	<p>Top left from X coordinate. You must set this parameter before you can add an area. The string format is '(left,top,right,bottom)'. User input allowed is as below:</p> <ul style="list-style-type: none"> • left: 0 ~ 1278 • top: 32 ~ 991 • right: 1 ~ 1279 • bottom: 33 ~ 992

delete_area	All, 1 ... 4	Delete all of the configured motion area.
-------------	-----------------	---

Example | Getting the detailed settings

REQUEST

```
http://<Device IP>/cgi-bin/event.cgi?msubmenu=motion&action=view
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
device:1
sens:4
active:always
SUN : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
MON : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TUE : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
WED : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
THU : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
FRI : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
SAT : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
output_dur:0
smtp_sending:1
ftp_sending:1
record:1
area1: 40,100,400,340
area2: 140,200,700,840
```

Example | New settings

REQUEST

```
http://<Device IP>/cgi-bin/event.cgi?msubmenu=motion&action=apply&device=1&sens=4&
active=schedule&SUN=1&SUN1=1&THU=1&THU20=1&smtp_sending=1&record=1&output_d
ur=-1&area1=100,40,400,340
```

Set Time Schedule

Description

Sets to generate a periodic event on scheduled time regardless of actual event input.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/event.cgi?msubmenu=schedule&<parameter>=<value> ...
```

Request Parameters

Parameter	Value	Description
action	view, apply	This will execute the followings: <ul style="list-style-type: none">• view: Request information of the current product.• apply: Apply new settings.
active	always, schedule	Scheduled transfer mode. <ul style="list-style-type: none">• always: Always activated. Alaways transfer the alarm image at a specific time interval.• schedule: Activated on specified day/time. Transfer the alarm image on every specific time/day of the week.
device	0, 1	Enable/disable scheduled transfer. <ul style="list-style-type: none">• 0: Deactivate• 1: Activate
ftp_sending	0, 1	FTP transfer of alarm image. <ul style="list-style-type: none">• 0: Off• 1: On
sched_interval	5, 10, 15, 30, 45, 60	Transfer interval.
sched_unit	0, 1	Interval unit. <ul style="list-style-type: none">• 0: Second• 1: Minute
SUN MON TUE WED THU	0, 1	Enable/disable scheduled transfer for weekdays. <ul style="list-style-type: none">• 0: Deactivate• 1: Activate

FRI		
SAT		
SUN0 ~ SUN23	0,	Hour of the day.
MON0 ~ MON23	1	<ul style="list-style-type: none">• 0: Deactivate• 1: Activate
TUE0 ~ TUE23		
WED0 ~ WED23		
THU0 ~ THU23		
FRI0 ~ FRI23		
SAT0 ~ SAT23		
		<p>Caution</p> <p>'SUN', 'MON', 'TUE', 'WED', 'THU', 'FRI', 'SAT' parameters, as is required.</p>
		<p>Note</p> <p>'SUN1' indicates 1 o'clock Sunday; 'MON2' indicates 2 o'clock Monday.</p>

Example | Getting the setting details

REQUEST

<http://<Device IP>/cgi-bin/event.cgi?msubmenu=schedule&action=view>

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

Example | Setting scheduled event

REQUEST

```
http://<Device IP>/cgi-bin/event.cgi?msubmenu=schedule&action=apply&device=1&sched_interval=5&sched_unit=1&active=schedule&SUN=1&SUN1=1&THU=1&THU20=1&ftp_sending=1
```

Set Video Analysis

Description

Sets the details of the video analysis (VA).

Syntax

```
[Type1] http://<Device IP>/cgi-bin/event.cgi?msubmenu=analysis&<parameter>=<value>...
```

Request Parameters

Parameter	Value	Description
action	view, apply	This will execute the followings: <ul style="list-style-type: none"> view: Request information of the current product. apply: Apply new settings.
active	always, schedule	VA detection mode. <ul style="list-style-type: none"> always: Always activated. Check the occurrence of any alarm at all times and perform a specific operation if the VA event occurs. schedule: Activated on specified day/time. Check the occurrence of any alarm on a specific day/time and perform a specific operation if the VA event occurs.
area_appearing	0, 1	Enable/disable the virtual area rule (specified area rule) of 'appearing'. <ul style="list-style-type: none"> 0: Deactivate 1: Activate Caution This parameter has to set same value with 'area_disappearing'.
area_disappearing	0, 1	Enable/disable the virtual area rule (specified area rule) of 'disappearing'. <ul style="list-style-type: none"> 0: Deactivate 1: Activate Caution This parameter has to set same value with

		'area_appearing'.
area_entering	0, 1	Enable/disable the virtual area rule (specified area rule) of 'entering'. <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate
area_exiting	0, 1	Enable/disable the virtual area rule (specified area rule) of 'exiting'. <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate
area_x	0 ... 1279	X coordinate in the virtual area. The unit is pixel. <ul style="list-style-type: none"> • area_x : 10,100,150,220 <p>Note You can enter up to 4 coordinates where the number of X coordinates should be the same as that of Y coordinates. Besides, you should enter at least 3 coordinates for setting the virtual line.</p>
area_y	32 ... 992	Y coordinate in the virtual area. The unit is pixel. <ul style="list-style-type: none"> • area_y : 90,30,200,100 <p>Note You can enter up to 4 coordinates where the number of Y coordinates should be the same as that of X coordinates. Besides, you should enter at least 3 coordinates for setting the virtual line.</p>
areadata	0, 1, 2	Virtual area rules. <ul style="list-style-type: none"> • 0: First area • 1: Second area • 2: Third area <p>Note With setting the rules, you should enter the number in sequence. Enter 0, for instance, for the very first rule, the next rule will be 1 when adding a rule after then.</p>
delete_area	0, 1, 2	Delete virtual area. <ul style="list-style-type: none"> • 0: First area • 1: Second area • 2: Third area
detection	0, 1	Enable/disable VA detection. <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate

entire_appearing	0, 1	Enable/disable the whole area rule of 'appearing'. <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate <p>Caution This parameter can not be used with 'entire_disappearing'.</p>
entire_disappearing	0, 1	Enable/disable the whole area rule of 'disappering'. <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate <p>Caution This parameter can not be used with 'entire_appearing'.</p>
entire_scene_change	0, 1	Enable/disable the whole area rule of 'scene change'. <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate
line_rule	0, 1, 2	Virtual line rule. <ul style="list-style-type: none"> • 0: To the right. Event occurs when a crossing movement from left of the virtual line to right. • 1: To the left. Event occurs when a crossing movement from right of the virtual line to left. • 2: Both. Activated when a crossing movement from either direction of the virtual line occurs.
line_x	0 ... 1279	X coordinate of the virtual line. The unit is pixel. <ul style="list-style-type: none"> • line_x : 100,150 <p>Note You can enter up to 2 coordinates where the number of X coordinates should be the same as that of Y coordinates. Besides, you should enter at least 2 coordinates for setting the virtual line.</p>
line_y	32 ... 992	Y coordinate of the virtual line. The unit is pixel. <ul style="list-style-type: none"> • line_y : 90,100 <p>Note You can enter up to 2 coordinates where the number of Y coordinates should be the same as that of X coordinates. Besides, you should enter at least 2 coordinates for setting the virtual line.</p>
linedata	0, 1, 2	Virtual line rules setting. <ul style="list-style-type: none"> • 0: First line • 1: Second line • 2: Third line <p>Note</p>

		With setting the rules, you should enter the number in sequence. Enter 0, for instance, for the very first rule, the next rule will be 1 when adding a rule after then.
object_size	0 ... 4	<p>Detectable size of an object.</p> <ul style="list-style-type: none"> • 0: Small • 1: Small-Medium • 2: Medium • 3: Medium-Large • 4: Large
overlay	0, 1	<p>Enable/disable overlay.</p> <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate
sens	1 ... 5	<p>VA detection sensitivity.</p> <ul style="list-style-type: none"> • 1: Very low • 2: Low • 3: Normal • 4: High • 5: Very high
smtp_sending	0, 1	<p>Email transfer of alarm image.</p> <ul style="list-style-type: none"> • 0: Off • 1: On
SUN MON TUE WED THU FRI SAT	0, 1	<p>Enable/disable VA detection for weekdays.</p> <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate
SUN0 ~ SUN23 MON0 ~ MON23 TUE0 ~ TUE23 WED0 ~ WED23 THU0 ~ THU23 FRI0 ~ FRI23 SAT0 ~ SAT23	0, 1	<p>Hour of the day.</p> <ul style="list-style-type: none"> • 0: Deactivate • 1: Activate <p>Caution 'SUN', 'MON', 'TUE', 'WED', 'THU', 'FRI', 'SAT' parameters, as is requirited.</p> <p>Note 'SUN1' indicates 1 o'clock Sunday; 'MON2' indicates 2 o'clock Monday.</p>
trans_mode	0,	Transfer alarm image when an alarm occurs.

	1	<ul style="list-style-type: none"> • 0: Off • 1: On
vabox_display	0, 1	Display alarm area. <ul style="list-style-type: none"> • 0: Off • 1: On

Example | Getting the setting details

REQUEST

```
http://<Device IP>/cgi-bin/event.cgi?msubmenu=analysis&action=view
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
detection:1
overlay:1
sens:5
active:always
SUN : 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
MON : 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TUE : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
WED : 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
THU : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
FRI : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
SAT : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
output_dev:1
output_dur:1
trans_mode:1
line_count :0
area_count :0
entire[appearing]:1
entire[disappearing]:0
entire[scene_change]:1
object_size :3
output_dur :15
smtp_sending :1
```

Example | Setting the parameters

REQUEST

```
http://<Device IP>/cgi-bin/event.cgi?msubmenu=analysis&action=apply&detection=1&overlay=1&sens=5&active=schedule&SUN=1&SUN1=1&THU=1&THU20=1&smtp_sending=1&vabox_display=1&output_dur=15
```

Set Network Event

Description

Sets the network event settings so that an alarm will be transferred to the user if a network event occurs due to a disconnection of the network.

Syntax

```
[Type1] http://<Device IP>/cgi-bin/event.cgi?msubmenu=network_event&<parameter>=<value> ...
```

Request Parameters

Parameter	Value	Description
action	view, apply	This will execute the followings: <ul style="list-style-type: none">view: Request information of the current product.apply: Apply new settings.
device	0, 1, 2	Enable/disable network event detection <ul style="list-style-type: none">0: Deactivate1: Activate
active	always, schedule	Network event detection mode. <ul style="list-style-type: none">always: Always activated. Check the occurrence of any alarm at all times and perform a specific operation if a network event occurs.schedule: Activated on specified day/time. Check the occurrence of any alarm on a specific day/time and perform a specific operation if a network event occurs.
SUN MON TUE WED THU	0, 1	Enable/disable network event detection for weekdays. <ul style="list-style-type: none">0: Deactivate1: Activate

FRI		
SAT		
SUN0 ... SUN23	0,	Hour of the day.
MON0 ... MON23	1	<ul style="list-style-type: none"> • 0: Deactivate • 1: Activate
TUE0 ... TUE23		Caution
WED0 ... WED23		'SUN', 'MON', 'TUE', 'WED', 'THU', 'FRI', 'SAT' parameters, as is required.
THU0 ... THU23		
FRI0 ... FRI23		
SAT0 ... SAT23		
		Note
'SUN1' indicates 1 o'clock Sunday; 'MON2' indicates 2 o'clock Monday.		
output_dur	0, -1, 5, 10, 15	Alarm output duration. <ul style="list-style-type: none"> • 0: None • -1: Always • 5: 5 seconds • 10: 10 seconds • 15: 15 seconds
record	0, 1	Save alarm image in SD memory. <ul style="list-style-type: none"> • 0: Off • 1: On

Example | Getting the setting details

REQUEST

```
http://<Device IP>/cgi-bin/event.cgi?msubmenu=network_event&action=view
```

RESPONSE

HTTP/1.0 200 OK

Content-type: text/plain

<Body>

```
device:1
active:schedule
SUN : 0 0 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 1 0
MON : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TUE : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
WED : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
THU : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
```

```
FRI : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
SAT : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0  
output _dur:10  
record:1
```

Example | Setting the parameters

REQUEST

```
http://<Device IP>/cgi-bin/event.cgi?msubmenu=network_event&action=apply&device=1&active=schedule&MON=1&MON19=1&FRI=1&FRI11=1&output_dur=10&record=1
```

CHAPTER 2

RTP, RTSP

Contents

This chapter provides the following topics:

- RTSP URL/AUTHENTICATION
- RTSP METHODS
- RTSP LIVENESS

RTSP URL/AUTHENTICATION

URL

URLs of RTSP (Real Time Streaming Protocol) are as below:

[Type1] rtsp://<Device IP>/<encoding>/media.smp

[Type2] rtsp://<Device IP>/profile<no>/media.smp

- <Device IP>: host name or IP address of network camera
- <encoding>: Video encoding type (MJPEG/H.264/MPEG-4)
- profile<no>: Number of video profile

Caution

[Type1] is supported by SNB-2000, SNB-3000, SND-3080/F and SNV-3080.

[Type2] is supported by SNB-5000, SNV-5080R, SND-5080, SNV-5080, SNO-5080R, SNV-5010, SNB-1000, SND-1010, SNV-3120, SNP-3120/V/VH, SNP-3430H, SPE-100, SPE-400, SPE-1600R, SNB-7000, SND-7080, SNV-7080, SNO-5080R, SNP-3371/H/TH.

Note

The default port number of RTSP is 554. You can change the port number using HTTP/CGI commands if necessary.

Authentication

RTSP complies with the RFC 2326. RTSP uses the RFC 2096 (Digest method) for user authentication.

RTSP communication procedure can be summarized as:

Procedure

- Step 1. The application (client) transfers the DESCRIBE method without the authentication header.
- Step 2. The network camera (server) responds as 401 (unauthorized) code. At the moment, the response includes the WWW-Authenticate response header indicating MD5 authentication

information.

- Step 3.** The application use MD5 information to create an authorization request header before passing the DESCRIBE method including the authorization request header.
-

RTSP METHODS

The table below shows a list of RTSP methods.

Methods	Description
OPTIONS	Informs the methods that are supported by the server.
GET_PARAMETER	GET_PARAMETER with no entity body may be used to test client or server liveness ('ping').
DESCRIBE	Searches for media objects identified by the specification or request URL of presentation.
SETUP	Set the transfer system of media streaming.
PLAY	Start/restart one or all media streams.
PAUSE	Stop transferring the media streams temporarily.
TEARDOWN	Stop transferring media streams and release all resources related to the session.

RTSP LIVENESS

If rtsp_timeout of device is activated (see Set Video Streaming section), device periodically verifies the receipt of RTSP command. If device does not receive any command within 1 minute, session of RTP/RTSP is disconnected automatically.

Therefore, if you activate the rtsp_timeout of device, RTSP client should send the GET_PARAMETER or OPTIONS command to device within 1 minute for maintaining the session of RTP/RTSP.