F-161-100-**12** (1)

SONY

Color Video Camera

CGI Command List

Software Version 1.20

SRG-XP1
SRG-XB25

Table of Contents

Use of control software based upon this command list may cause malfunction or damage to hardware and software. We are not liable for any such damage.

Overview

About This Document

This document describes the CGI command specifications and RTSP streaming specifications of SRG-XB25 and SRG-XP1 Sony color video cameras. In this document, the product is referred as “the cameras” or “this device.”

Advance Preparation

This document provides information about how to control this device remotely via network and stream video/audio by using CGI commands supported by this device and RTSP function. To use CGI commands and RTSP streaming function, some pre-configurations are required. These pre-configurations are described below.

IP Address Settings by RM-IP Setup Tool

To enable the device to communicate with the camera appropriately, IP address settings is required. Set IP address based on your network environment using RM-IP Setup Tool. This is in order to set IP address. For details, refer to the “RM-IP Setup Tool Guide.”

Notes

- IP address is set to 192.168.0.100 as default.
- You cannot enable DHCP setting from RM-IP Setup Tool.
- To set IP address via the Admin menu in a web browser, refer to “[Network] tab” in “[Network] menu” in the Operating Instructions.

Changing Initial Password

Access the cameras using a web browser. To access, enter the IP address of the cameras in the address bar in the web browser, then press Enter.

You will be required to enter username and password, then enter Admin’s username and password. Admin’s username and password of default are below:

Admin username: admin
Password: Admin_1234

At the initial access (with default admin password not changed), you need to change the admin password. Set the admin password on user setting window displayed. To change the password, you need to enter the default password in Current password field.

When you press “OK,” the user setting will be changed. Once the setting is changed, you will be requested to enter admin username and password again. Enter the admin username and password you changed in the previous step.

Changing the Setting of Referer Check

As default, HTTP CGI command delivery checks the requests by checking Referer field in HTTP header to make sure that they are available only via Web page built in the cameras. You can change the setting to prevent CGI requests from being denied by this Referer check function.

For more information on how to change the setting of Referer check function via Admin setting menu on Web browser, refer to “Referer check tab” under “Security menu” in the Operating Instructions.

If you use CGI commands with Referer check enabled, you can do so by adding Referer header like below when you create CGI request.

```
Referer: http://<camera_address>/\r\n
```

Where <camera_address> is the IP address of the cameras (when HTTP port number is 80).

About Authentication

This device supports HTTP/RTSP Digest authentication defined by IETF RFC 2617.
To use CGI commands on this unit, authentication at the necessary level is required. When you build software to achieve CGI command communication with the camera, build HTTP header to authenticate appropriately for HTTP 401 Unauthorized response as the response of command request.

To use RTSP streaming function supported by the device, authentication at the necessary level should be performed based on the RTSP authentication setting. When you build software to achieve RTSP streaming function between the cameras build RTSP header to authenticate appropriately for RTSP 401 Unauthorized response as the response of command request. For more information about changing RTSP authentication function settings via the Admin settings menu using a web browser, refer to “[User] tab” in “[Security] Menu” in the Operating Instructions.

Note

If authentication errors are repeated from the same computer, the subsequent request may be regarded as Brute-force attack. Build the software to add credential information with appropriate user/password in case of HTTP 401 response reception. For more information on how to change the setting of Brute-force attack protection function via Admin setting menu on Web browser, refer to “Brute-force attack protection tab” under “Security menu” in the Operating Instructions.

Setting/Inquiring by CGI Commands

Setting by Commands

Set the camera by describing the CGI commands following the syntax below. It is possible to transmit several parameters at one time if the parameter the same CGI name (part of <cgi> of Syntax). In this case, it is necessary to insert "&" between each <*parameter*>=<*value*>.

Method

GET/POST

Syntax

```
http://<camera_address>/command/
<cgi>?<parameter>=
<value>[&<parameter>=<value>...]
or
http://<camera_address>/command/
<cgi>?<parameter>=
<value1,value2,...,valueN>
```

Parameters

Refer to "CGI Commands" for details.
Note that angle brackets in the table "CGI Commands," "<" and ">," mean that a string between one pair of angle brackets is just a symbol for numbers, but parameter name itself. For example, if a parameter name is described as SampleParam<n>, for actual usage, SampleParam1, SampleParam2, ... are valid expressions.

Inquiring by Commands

The following Inquiry command is used current status of the camera. The item which has an inquiry parameter in "CGI Commands" can be inquired as its current settings.

Method

GET/POST

Syntax

```
http://<camera_address>/command/
inquiry.cgi?inqjs=<Inquiry>[&inqjs=<Inquiry>...]
```

The response is as follows.

```
HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <len>\r\n
\r\n
var <parameter>="<value>"\r\n
var <parameter>="<value>"\r\n
var <parameter>="<value>"\r\n
:
:
```

Command List

camera.cgi

Setting (Set): command/camera.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=camera

Parameter	Set Inq	Value	Description
AFFrame	Set Inq	center full **auto**	Sets Auto Focus area. (SRG-XB25 only) center : Adjust focus at the center full : Adjust focus for the full range auto : Switch the focus area automatically
AFSensitivity	Set Inq	low **normal** high	Sets Auto Focus sensitivity. (SRG-XB25 only) low : Focus becomes stable. normal : Focus sensitivity between high and low high : Tracking speed of focus becomes faster.
AudInCodec	Set Inq	aac44.1_128 aac44.1_256 **aac48_128** aac48_256	Sets the audio codec mode and bitrate for the audio input. aac44.1_128 : AAC 44.1 kHz (128 kbps) aac44.1_256 : AAC 44.1 kHz (256 kbps) aac48_128 : AAC 48 kHz (128 kbps) aac48_256 : AAC 48 kHz (256 kbps)
AudioIn	Set Inq	on **off**	Sets whether to enable or disable the audio input. on : Enable off : Disable
AudioInVolume	Set Inq	–5 to **1** to 5	Sets the volume of the audio input.
BitRate1	Set Inq	2000 to **15000** to 30000	Sets the bit rate of Image 1. (Unit: kbps) When CBR1 is set to on, the constant bit rate is set to the configured value. When set to off, the target value is half the configured value, and the bit rate is controlled so that the configured value is not exceeded.
BitRate2	Set Inq	2000 to **7500** to 30000	Sets the bit rate of Image 2. (Unit: kbps) When CBR2 is set to on, the constant bit rate is set to the configured value. When set to off, the target value is half the configured value, and the bit rate is controlled so that the configured value is not exceeded.
BitRate3	Set Inq	512 to **1000** to 5000	Sets the bit rate of Image 3. (Unit: kbps) When CBR3 is set to on, the constant bit rate is set to the configured value. When set to off, the target value is half the configured value, and the bit rate is controlled so that the configured value is not exceeded.
CBR1	Set Inq	**on** off	Sets the bit rate control mode of Image 1. on : Bit rate control with CBR off : Bit rate control with VBR
CBR2	Set Inq	**on** off	Sets the bit rate control mode of Image 2. on : Bit rate control with CBR off : Bit rate control with VBR
CBR3	Set Inq	**on** off	Sets the bit rate control mode of Image 3. on : Bit rate control with CBR off : Bit rate control with VBR
Eflip	Set Inq	on **off**	Sets whether to enable or disable the flip image function. on : On (for hanging the camera from a ceiling) off : Off (for installing the camera on a rack, etc)
FocusMode	Set Inq	**auto** manual	Sets the focus control mode. (SRG-XB25 only) auto : Automatically controlled by the camera manual : Manually controlled by the user

Parameter	Set Inq	Value	Description
FocusNearLimit	Set Inq	1000 to **9000** to F000	Sets the focus near limit. (SRG-XB25 only) * Refer to the item "FOCUS" of CGI Command Setting Values.
FrameRate1	Inq	59.94 **29.97** 50 25	Sets the frame rate (frames per second) of video stream corresponding to Image 1.
FrameRate2	Set Inq	59.94 **29.97** 50 25	Sets the frame rate (frames per second) of video steam corresponding to Image 2. 59.94fps and 29.97fps can be configured when the HDMI output is 59.94fps. 50fps and 25fps can be configured when the HDMI output is 50fps. Cannot be configured when the HDMI output is 29.97fps or 25fps.
FrameRate3	Inq	**29.97** 25	Sets the frame rate (frames per second) of video stream corresponding to Image 3. 29.97fps is configured when the HDMI output is 59.94fps or 29.97fps. 25fps is configured when the HDMI output is 50fps or 25fps.
HdmiColor	Set Inq	yuv420 **yuv422** rgb	Sets the Color Space for output image via HDMI OUT. yuv420 : YUV420 yuv422 : YUV422 rgb : RGB
IFrameInterval1	Inq	0	Sets IPicture interval of Image 1. (Unit: second) * When the value is 0, IFrameRatio1 setting is enabled.
IFrameInterval2	Inq	0	Sets IPicture interval of Image 2. (Unit: second) * When the value is 0, IFrameRatio2 setting is enabled.
IFrameInterval3	Inq	0	Sets IPicture interval of Image 3. (Unit: second) * When the value is 0, IFrameRatio3 setting is enabled.
IFrameRatio1	Set Inq	60 30 **15** 10 50 25 23 12	Sets the interval to insert IPicture of Image 1. (unit: frame) 60, 30, 15, and 10 can be configured when the HDMI output is 59.94fps. 30, 15, and 10 can be configured when the HDMI output is 29.97fps. 50, and 25 can be configured when the HDMI output is 50fps. 25, 23, and 12 can be configured when the HDMI output is 25fps.
IFrameRatio2	Set Inq	60 30 **15** 10 50 25 23 12	Sets the interval to insert IPicture of Image 2. (unit: frame) 60, 30, 15, and 10 can be configured when the HDMI output is 59.94fps. 30, 15, and 10 can be configured when the HDMI output is 29.97fps. 50, and 25 can be configured when the HDMI output is 50fps. 25, 23, and 12 can be configured when the HDMI output is 25fps.
IFrameRatio3	Set Inq	30 **15** 10 25 23 12	Sets the interval to insert IPicture of Image 3. (unit: frame) 30, 15, and 10 can be configured when the HDMI output is 59.94fps or 29.97fps. 25, 23, and 12 can be configured when the HDMI output is 50fps or 25fps.
ImageCodec1	Set Inq	off **h265**	Sets the video code of Image 1. off : Off h265 : H.265
ImageCodec2	Set Inq	off **h264**	Sets the video code of Image 2. off : Off h264 : H.264
ImageCodec3	Set Inq	off **h264**	Sets the video code of Image 3. off : Off h264 : H.264

Parameter	Set Inq	Value	Description
ImageSize1	Inq	1280,720 1920,1080 **3840,2160**	Sets the image size of video stream corresponding to Image 1. Same picture size as the HDMI output (cannot be modified).
ImageSize2	Set Inq	640,360 1280,720 **1920,1080**	Sets the image size of video stream corresponding to Image 2. 1920×1080 and 1280×720 can be configured when the HDMI output is 3840×2160. (On the SRG-XP1, only 640×360 can be selected when streaming, selected by OutputSource, at 3840×2160 59.94p/50p.) 1920×1080 and 1280×720 can be configured when the HDMI output is 1920×1080. 1280×720 can be configured when the HDMI output is 1280×720.
ImageSize3	Inq	**640,360**	Sets the image size of video stream corresponding to Image 3.
JPEGImageSize	Set Inq	3840,2160 1920,1080 **1280,720** 640,360	Sets the image size of video stream corresponding to JPEG. 3840×2160, 1920×1080, 1280×720, and 640×360 can be configured when the HDMI output is 3840×2160fps. 1920×1080, 1280×720, and 640×360 can be configured when the HDMI output is 1920×1080fps. 1280×720 and 640×360 can be configured when the HDMI output is 1280×720.
MicLineSelect	Set Inq	mic **line**	Sets the audio input signal level. mic : MIC input line : LINE input
Multicast	Set Inq	on **off**	Sets whether to allow RTSP multicast streaming. on : Allowed off : Not allowed
OutputSource	Set Inq	hdmi **hdmi+stream** stream hdmi+uvc (SRG-XP1 only)	Sets the image output destination. hdmi : HDMI output hdmi+stream : HDMI and stream output stream : Stream output only hdmi+uvc : HDMI and USB output (SRG-XP1 only)
PtzfMode	Set Inq	normal step	Sets the parameter used for panning and tilting from the camera operation panel of the live viewer. normal : Use Move step : Use Relative
RelZoom	Set Inq	**1** to 10	Sets the transition level for zooming when step is set for PtzfMode.
Resolution	Set Inq	2160p_5994 2160p_50 **2160p_2997** 2160p_25 1080p_5994 1080p_50 1080i_5994 1080i_50 1080p_2997 1080p_25 720p_5994 720p_50 720p_2997 720p_25 480p_5994	Sets the HDMI video output format.
RTSPMcAudioPort<n>	Set Inq	1024 to 65534 (Default n=1:**6006** n=2:**6034** n=3:**6014**)	n=1 to 3 Setting of port number used for RTSP multicast audio stream. * Cannot overlap with other setting ports.

Parameter	Set Inq	Value	Description
RTSPMcVideoPort<n>	Set Inq	1024 to 65534 (Default n=1:**6004** n=2:**6032** n=3:**6012**)	n=1 to 3 Setting of port number used for RTSP multicast video stream. * Cannot overlap with other setting ports.
UVCFrameRate	Set Inq	59.94 29.97 50 25	Sets the frame rate (frames per second) of UVC video steam 59.94fps and 29.97fps can be configured when the HDMI output is 59.94fps. 50fps and 25fps can be configured when the HDMI output is 50fps. Cannot be configured when the HDMI output is 29.97fps or 25fps.
ZoomMode	Set Inq	On the SRG-XB25: **optical** pixel full On the SRG-XP1: pixel **full**	Sets the operation range of zoom function. optical : Optical zoom (SRG-XB25 only) pixel : Optical zoom (SRG-XB25 only) and pixel zoom full : Optical zoom (SRG-XB25 only), pixel zoom, and digital zoom optical and full can be selected when the HDMI output is 3840×2160 or 720×480. optical, pixel, and full can be selected when the HDMI output is 1920×1080 or 1280×720.

imaging.cgi

Setting (Set): command/imaging.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=imaging

Parameter	Set Inq	Value	Description
BacklightCompensationMode	Set Inq	on **off**	Sets the Backlight Compensation function to on or off. The Backlight Compensation function operates when ExposureMode is set to auto, shutter, or iris.
ColorHue	Set Inq	0 to **7** to 15	Adjusts the color phase (color difference, color shade) of output images. Can be configured when ColorMatrixEnable is set to on.
ColorMatrixEnable	Set Inq	on **off**	on : Enable color matrix settings off : Disable color matrix settings
ColorSaturation	Set Inq	0 to **7** to 15	Sets the value of the output image. Can be configured when ColorMatrixEnable is set to on.
DetailLevel	Set Inq	0 to **7** to 14	Sets the levels for contour emphasis. 0 : Small contour emphasis 14 : Large contour emphasis
DigitalBrightLevel	Set Inq	0 to **7** to 15	Sets the brightness.
ExposureCompensation	Set Inq	0 to **5** to 10	Sets the target brightness level of the exposure when ExposureMode is set to auto, shutter, or iris.

Parameter	Set Inq	Value	Description
ExposureExposureTime	Set Inq	0 to **5** to 21	Sets the shutter speed when ExposureMode is set to manual. 0 : 1/1 1 : 1/2 2 : 1/4 (When HDMI output is 59.94p/59.94i/29.97p) 1/3 (When HDMI output is 50p/50i/25p) 3 : 1/8 (When HDMI output is 59.94p/59.94i/29.97p) 1/3 (When HDMI output is 50p/50i/25p) 4 : 1/15 (When HDMI output is 59.94p/59.94i/29.97p) 1/12 (When HDMI output is 50p/50i/25p) 5 : 1/30 (When HDMI output is 59.94p/59.94i/29.97p) 1/25 (When HDMI output is 50p/50i/25p) 6 : 1/60 (When HDMI output is 59.94p/59.94i/29.97p) 1/50 (When HDMI output is 50p/50i/25p) 7 : 1/90 (When HDMI output is 59.94p/59.94i/29.97p) 1/75 (When HDMI output is 50p/50i/25p) 8 : 1/100 9 : 1/120 10 : 1/180 (When HDMI output is 59.94p/59.94i/29.97p) 1/150 (When HDMI output is 50p/50i/25p) 11 : 1/250 (When HDMI output is 59.94p/59.94i/29.97p) 1/215 (When HDMI output is 50p/50i/25p) 12 : 1/350 (When HDMI output is 59.94p/59.94i/29.97p) 1/300 (When HDMI output is 50p/50i/25p) 13 : 1/500 (When HDMI output is 59.94p/59.94i/29.97p) 1/425 (When HDMI output is 50p/50i/25p) 14 : 1/725 (When HDMI output is 59.94p/59.94i/29.97p) 1/600 (When HDMI output is 50p/50i/25p) 15 : 1/1000 16 : 1/1500 (When HDMI output is 59.94p/59.94i/29.97p) 1/1250 (When HDMI output is 50p/50i/25p) 17 : 1/2000 (When HDMI output is 59.94p/59.94i/29.97p) 1/1750 (When HDMI output is 50p/50i/25p) 18 : 1/2500 19 : 1/3000 20 : 1/5000 21 : 1/10000

Parameter	Set Inq	Value	Description
ExposureExposureTimePri	Inq	0 to **5** to 21	Sets the shutter speed when ExposureMode is set to shutter. 0 : 1/1 1 : 1/2 2 : 1/4 (When HDMI output is 59.94p/59.94i/29.97p) 1/3 (When HDMI output is 50p/50i/25p) 3 : 1/8 (When HDMI output is 59.94p/59.94i/29.97p) 1/3 (When HDMI output is 50p/50i/25p) 4 : 1/15 (When HDMI output is 59.94p/59.94i/29.97p) 1/12 (When HDMI output is 50p/50i/25p) 5 : 1/30 (When HDMI output is 59.94p/59.94i/29.97p) 1/25 (When HDMI output is 50p/50i/25p) 6 : 1/60 (When HDMI output is 59.94p/59.94i/29.97p) 1/50 (When HDMI output is 50p/50i/25p) 7 : 1/90 (When HDMI output is 59.94p/59.94i/29.97p) 1/75 (When HDMI output is 50p/50i/25p) 8 : 1/100 9 : 1/120 10 : 1/180 (When HDMI output is 59.94p/59.94i/29.97p) 1/150 (When HDMI output is 50p/50i/25p) 11 : 1/250 (When HDMI output is 59.94p/59.94i/29.97p) 1/215 (When HDMI output is 50p/50i/25p) 12 : 1/350 (When HDMI output is 59.94p/59.94i/29.97p) 1/300 (When HDMI output is 50p/50i/25p) 13 : 1/500 (When HDMI output is 59.94p/59.94i/29.97p) 1/425 (When HDMI output is 50p/50i/25p) 14 : 1/725 (When HDMI output is 59.94p/59.94i/29.97p) 1/600 (When HDMI output is 50p/50i/25p) 15 : 1/1000 16 : 1/1500 (When HDMI output is 59.94p/59.94i/29.97p) 1/1250 (When HDMI output is 50p/50i/25p) 17 : 1/2000 (When HDMI output is 59.94p/59.94i/29.97p) 1/1750 (When HDMI output is 50p/50i/25p) 18 : 1/2500 19 : 1/3000 20 : 1/5000 21 : 1/10000
ExposureGain	Set Inq	**1** to 16	Sets the gain value when ExposureMode is set to manual. 1 : 0db 2 : 3db 3 : 6db 4 : 9db 5 : 12db 6 : 15db 7 : 18db 8 : 21db 9 : 24db 10 : 27db 11 : 30db 12 : 33db 13 : 36db 14 : 39db 15 : 42db 16 : 45db

Parameter	Set Inq	Value	Description
ExposureIris	Set Inq	0 to **11** to 15	Sets the iris when ExposureMode is set to manual. (SRG-XB25 only) 0 : close 1 : F18 2 : F16 3 : F13 4 : F11 5 : F9 6 : F7.8 7 : F6.3 8 : F5.4 9 : F4.5 10 : F3.8 11 : F3.2 12 : F2.7 13 : F2.2 14 : F2.0 15 : F1.6
ExposureIrisPri	Inq	0 to **11** to 15	Sets the iris when ExposureMode is set to iris. (SRG-XB25 only) 0 : close 1 : F18 2 : F16 3 : F13 4 : F11 5 : F9 6 : F7.8 7 : F6.3 8 : F5.4 9 : F4.5 10 : F3.8 11 : F3.2 12 : F2.7 13 : F2.2 14 : F2.0 15 : F1.6

Parameter	Set Inq	Value	Description
ExposureMaxExposureTime	Set Inq	5 to **17** to 21	Sets the limit for slow shutter speed when ExposureMode is set to auto or iris. * Bigger the number, faster the shutter speed. 5 : 1/30 (When HDMI output is 59.94p/59.94i/29.97p) 1/25 (When HDMI output is 50p/50i/25p) 6 : 1/60 (When HDMI output is 59.94p/59.94i/29.97p) 1/50 (When HDMI output is 50p/50i/25p) 7 : 1/90 (When HDMI output is 59.94p/59.94i/29.97p) 1/75 (When HDMI output is 50p/50i/25p) 8 : 1/100 9 : 1/120 10 : 1/180 (When HDMI output is 59.94p/59.94i/29.97p) 1/150 (When HDMI output is 50p/50i/25p) 11 : 1/250 (When HDMI output is 59.94p/59.94i/29.97p) 1/215 (When HDMI output is 50p/50i/25p) 12 : 1/350 (When HDMI output is 59.94p/59.94i/29.97p) 1/300 (When HDMI output is 50p/50i/25p) 13 : 1/500 (When HDMI output is 59.94p/59.94i/29.97p) 1/425 (When HDMI output is 50p/50i/25p) 14 : 1/725 (When HDMI output is 59.94p/59.94i/29.97p) 1/600 (When HDMI output is 50p/50i/25p) 15 : 1/1000 16 : 1/1500 (When HDMI output is 59.94p/59.94i/29.97p) 1/1250 (When HDMI output is 50p/50i/25p) 17 : 1/2000 (When HDMI output is 59.94p/59.94i/29.97p) 1/1750 (When HDMI output is 50p/50i/25p) 18 : 1/2500 19 : 1/3000 20 : 1/5000 21 : 1/10000
ExposureMaxGain	Set Inq	4 to **10** to 16	Sets the maximum gain value automatically adjusted when ExposureMode is set to auto, shutter, or iris. 4 : 9db 5 : 12db 6 : 15db 7 : 18db 8 : 21db 9 : 24db 10 : 27db 11 : 30db 12 : 33db 13 : 36db 14 : 39db 15 : 42db 16 : 45db

Parameter	Set Inq	Value	Description
ExposureMinExposureTime	Set Inq	**5** to 17	Sets the limit for fast shutter speed when ExposureMode is set to auto or iris. * Bigger the number, faster the shutter speed. 5 : 1/30 (When HDMI output is 59.94p/59.94i/29.97p) 1/25 (When HDMI output is 50p/50i/25p) 6 : 1/60 (When HDMI output is 59.94p/59.94i/29.97p) 1/50 (When HDMI output is 50p/50i/25p) 7 : 1/90 (When HDMI output is 59.94p/59.94i/29.97p) 1/75 (When HDMI output is 50p/50i/25p) 8 : 1/100 9 : 1/120 10 : 1/180 (When HDMI output is 59.94p/59.94i/29.97p) 1/150 (When HDMI output is 50p/50i/25p) 11 : 1/250 (When HDMI output is 59.94p/59.94i/29.97p) 1/215 (When HDMI output is 50p/50i/25p) 12 : 1/350 (When HDMI output is 59.94p/59.94i/29.97p) 1/300 (When HDMI output is 50p/50i/25p) 13 : 1/500 (When HDMI output is 59.94p/59.94i/29.97p) 1/425 (When HDMI output is 50p/50i/25p) 14 : 1/725 (When HDMI output is 59.94p/59.94i/29.97p) 1/600 (When HDMI output is 50p/50i/25p) 15 : 1/1000 16 : 1/1500 (When HDMI output is 59.94p/59.94i/29.97p) 1/1250 (When HDMI output is 50p/50i/25p) 17 : 1/2000 (When HDMI output is 59.94p/59.94i/29.97p) 1/1750 (When HDMI output is 50p/50i/25p)
ExposureMode	Set Inq	**auto** shutter iris (SRG-XB25 only) manual	Sets the exposure control mode. auto : Automatically adjust iris, gain, and shutter speed. shutter : Automatically adjust gain and iris according to set shutter speed. iris : Automatically adjust gain and shutter speed according to set iris (SRG-XB25 only). manual : Sets iris, gain, and shutter speed independently.
FlickerReduction	Set Inq	**off** 50hz 60hz	Sets the Flicker cancel function.
GammaLevel	Set Inq	0 to **3**	Sets the basic curve for gamma correction. Select the basic curve for gamma correction from types [0] to [3].
NoiseReduction2DLevel	Set Inq	0 **1** 2 3	Sets 2D NR.
NoiseReduction3DLevel	Set Inq	0 1 **2** 3	Sets 3D NR.
SpotlightCompensationMode	Set Inq	on **off**	Sets the Spotlight compensation function to on or off. The Spotlight Compensation function operates when ExposureMode is set to auto, shutter, or iris.
WhiteBalanceCbGain	Set Inq	0 to **64** to 128	Sets the B gain when WhiteBalanceMode is set to manual.
WhiteBalanceCrGain	Set Inq	0 to **64** to 128	Sets the R gain when WhiteBalanceMode is set to manual.

Parameter	Set Inq	Value	Description
WhiteBalanceMode	Set Inq	**auto** atw indoor outdoor onepushwb sodiumlamp manual	Sets the White Balance mode. auto : Automatically adjusts the color to be closest to the image you are viewing (approx. 2500K to 7500K). atw : Adjusts the white balance automatically to reproduce original colors of the objects (approx. 2000K to 10000K) while eliminating the influences caused by environmental illumination or lights. indoor : Adjusts the white balance for shooting indoors (approx. 3200K). outdoor : Adjusts the white balance for shooting outdoors (approx. 5800K). onepushwb : Adjusts the white balance when the white balance one push trigger command is received. Keep the white balance after adjusting. sodiumlamp : Adjusts the white balance for shooting when illuminated using sodium lamps. manual : Adjusts the white balance by specifying R gain (WhiteBalanceCrGain) and B gain (WhiteBalanceCbGain).
WhiteBalanceOnePushTrg	Set	on	Start adjusting the white balance when WhiteBalanceMode is set to onepushwb.
VisibilityEnhancer	Set Inq	on **off**	Sets the Visibility Enhancer function to on or off. Operates when ExposureMode is set to auto.
VisibilityEnhancerLevel	Set Inq	**1** 2 3	Sets the VisibilityEnhancer level.

ptzf.cgi

Setting (Set): command/ptzf.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=ptzf

Parameter	Set Inq	Value	Description
AbsolutePTZF	Inq	[value1] 0000 [value2] 0000 [value3] 0000 to 7AC0 Zoom position [value4] 0000 to 047A Focus position	Returns the current coordinates of the zoom and focus positions.
AbsoluteZoom	Set	0000 to 7AC0	Move the zoom with specifying the absolute position. On the SRG-XB25: • When the HDMI output is 3840×2160 or 720×480 0000 to 4000 : Optical zoom 4000 to 7AC0 :Digital zoom • When the HDMI output is 1920×1080 or 1280×720 0000 to 4000 : Optical zoom 4000 to 6000 : Pixel zoom 6000 to 7AC0 : Digital zoom On the SRG-XP1: • 4000 to 7AC0 : Digital zoom

Parameter	Set Inq	Value	Description
Move	Set	tele,0 to tele,7 wide,0 to wide,7 stop,zoom far,0 to far,7 near,0 to near,7 stop,focus onepush,0	Sets the moving for Zoom by specifying direction. tele,[speed] : Move at [speed] in the tele direction. wide,[speed]: Move at [speed] in the wide direction. stop,zoom : Stop zoom movement. Sets the moving for Focus by specifying direction. (SRG-XB25 only) far,[speed] : Move at [speed] in the far direction. near,[speed]: Move at [speed] in the near direction. stop,focus : Stop focus movement. onepush,0 : Execute one-push auto focus.
OpticalZoomMaxMagnification	Inq	25 (SRG-XB25) 1 (SRG-XP1)	Returns the maximum optical zoom ratio.
Relative	Set	[AA] 10 11 [BB] 01 to 10	Executes the zoom position movement by specifying relative position from the current position. Sets the [AA] direction. 10 : Wide zoom 11 : Tele zoom Sets the [BB] displacement. 01 : Minimum displacement 10 : Maximum displacement
ZoomMovementRange	Inq	"0000,4000,6000,7ac0"	Returns the possible movement range of zoom. 0000 : Wide end 4000 : Optical tele end 6000 : Pixel Zoom tele end 7AC0 : Digital Zoom tele end *1

presetposition.cgi

Setting (Set): command/presetposition.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=presetposition

Parameter	Set Inq	Value	Description
PresetCall	Set	1 to 256	Recalls a registered preset.
PresetClear	Set	1 to 256	Clears the preset corresponding to the specified number.
PresetName	Set Inq	[Value1] 1 to 256 [Value2] 0 to 32 characters	Sets the name of registered preset. Specifies one of the registered preset number on setting. PresetName=Value1,Value2 Returns all the registered preset name to the inquiry. PresetName=Value11,Value21[,Value12,Value22, ...] [Value1n] Preset number [Value2n] Preset name Up to 32 alphanumerical characters can be set.
PresetNum	Inq	256	Returns the maximum number of preset that can be registered.
PresetSet	Set	[Value1] 1 to 256 [Value2] 0 to 32 characters	Registers the current pan/tilt/focus/zoom position and camera settings as a preset position. PresetSet=Value1,Value2 [Value1] Preset number to register [Value2] Preset name to register Up to 32 alphanumerical characters can be set.

tally.cgi

Setting (Set): command/tally.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=tally

Parameter	Set Inq	Value	Description
TallyControl	Set Inq	on **off**	Turns on/off the Tally Lamp. on : Turn on off : Turn off
TallyLevel	Set Inq	off **low** high	Sets the lighting level for the Tally Lamp. off : Always turned off regardless whether TallyControl turns on or off setting. low : Dark high: Bright

ircf.cgi (SRG-XB25 only)

Setting (Set): command/ircf.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=ircf

Parameter	Set Inq	Value	Description
IrCutFilterManual	Set Inq	on **off**	Sets Day/Night mode. When IrCutFilterMode is set to auto, IrCutFilterManual cannot be on. on : Night mode off : Day mode
IrCutFilterMode	Set Inq	**manual** auto	Sets whether to change the day/night mode automatically or not. manual: Sets the mode by IrCutFilterManual auto : Sets the mode automatically

system.cgi

Setting (Set): command/system.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=system

Parameter	Set Inq	Value	Description
DateFormat	Set Inq	**ymd** mdy dmy	Setting of date and time format. ymd : YY-MM-DD mdy : MM-DD-YY dmy : DD-MM-YY
DstMode	Set Inq	**on** off	Enables/disables daylight-saving time. on : Enable off : Disable
IRReceive	Set Inq	**on** off	Sets whether to accept the signal from the IR remote commander or not. (SRG-XP1 only) on : Accept off : Do not accept
LDC	Set Inq	**on** off	Sets the lens distortion compensation function to on or off. (SRG-XP1 only) LDC is enabled only at the Wide end.
ModelName	Inq	"SRG-XB25" "SRG-XP1"	Returns the model name of the camera.

Parameter	Set Inq	Value	Description
NtpAuto	Set Inq	on **off**	The setting to determine whether the IP address of NTP (Network Time Protocol) server will be acquired from the DHCP (Dynamic Host Configuration Protocol) server. on : Acquire off : Do not acquire
NtpInterval	Set Inq	100 to **3600** to 86400	Sets the synchronous period with NTP server. (Unit: second)
NtpServer	Set Inq	0 to 63 characters	Setting NTP server in IPv4 address or host name style. Up to 63 alphanumerical characters can be set.
NtpService	Set Inq	on **off**	Setting to determine whether to synchronize with NTP server. on : Synchronize off : Do not synchronize
OsdMenu	Set Inq	on **off**	on : Open OSD menu off : Close OSD menu
Power	Inq	on standby	Returns the status of the camera power. on : Starting status standby : Standby status
Serial	Inq	9 characters	Returns the serial number of the camera.
SoftVersion	Inq	8 characters	Returns the software version.
SsdpDiscovery	Set Inq	**on** off	Sets UPnP function on or off.
Time	Set Inq	YYMMDDhhmmssW format	Sets the Local time. YYMMDD: Year, month, day [000101 - 380119] (actually defined by DateFormat) hhmmss : Hour, minute, second (24-hour format) W : Weekday (Sun=1, Mon=2, ..., Sat=7) If wrong value is set for W, it is corrected automatically.
TimeZone	Set Inq	* Refer to “TIME ZONE” in “CGI Command Setting Values”.	Setting of timezone.
ViscaRate	Set Inq	**9600** 38400	Sets the VISCA baud rate. (SRG-XB25 only)

main.cgi

Setting (Set): command/main.cgi?<*Parameter*>=<*Value*>

Parameter	Set Inq	Value	Description
FactoryDefault	Set	hard soft	Resets the camera to the default settings. hard : Hard reset (returns all settings to the factory default) soft : Soft reset (retain the network and security settings)
System	Set	on reboot standby	Sets the camera power status. on : sets to the starting status reboot : reboots the camera standby : sets to the standby status * The status can be acquired on “Power” of system.cgi.

logconfig.cgi

Setting (Set): command/logconfig.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=logconfig

Parameter	Set Inq	Value	Description
AccessLogLevel	Set Inq	**info** warning critical	Setting of the log level of the access log. info : Save logs of all error levels. warning : Save logs of Critical and Warning levels. critical : Save only logs of Critical level.
AccessLogSize	Set Inq	200 to 1024	Setting of maximum log size of the access log. (Unit: line)
ErrorLog	Set	clean	Removes the error logs. (For service personnel use)
ErrorLog<n>	Inq	5-byte Hex	n=0 to 4 Error log data (For service personnel use)

user.cgi

Setting (Set): command/user.cgi?<Parameter>=<Value>
Inquiry (Inq): command/inquiry.cgi?inqjs=user

<n> of the parameter suffix is a number in the range 1 to 9.

Parameter	Set Inq	Value	Description
AdminInfo	Inq	admin	Returns the administrator name.
Administrator	Set	–	Use from Admin menu. Do not use directly.
AuthenRTSP	Set Inq	**on** off	Setting to turn on/off the RTSP authentication.
User<n>	Set	–	Use from Admin menu. Do not use directly.
UserInfo<n>	Inq	[value1] [value2]	[value1] User name [value2] Viewer mode ffffffff : Administrator 00000fff : Full 0000083f : Light
UserNum	Inq	9	Returns the maximum number of registered users.

network.cgi

Setting (Set): command/network.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=network

Parameter	Set Inq	Value	Description
CameraName	Set Inq	1 to 8 characters (Default: **CAM1**)	Setting of the camera name. Up to 8 alphanumerical characters can be set.
CurrentGateway	Inq	IPv4 IP address	Returns the current IPv4 address of the default gateway.
CurrentIp	Inq	IPv4 IP address	Returns the current IPv4 address.
CurrentPrimaryDns	Inq	IPv4 IP address	Returns the current IP address of the primary DNS server.
CurrentSecondaryDns	Inq	IPv4 IP address	Returns the current IP address of the secondary DNS server.
CurrentSubnetmask	Inq	IPv4 IP address	Returns the current IPv4 subnet mask.
Dhcp	Set Inq	on **off**	Sets the DHCP client function on/off.

Parameter	Set Inq	Value	Description
DnsAuto	Set Inq	**on** off	Enables/disables the function that acquires the IP address of DNS server from the DHCP server. on : Enable off : Disable
Gateway	Set Inq	IPv4 IP address (Default: **192.168.0.254**)	Setting of the IPv4 address of the default Gateway.
HttpPort	Set Inq	**80** or 1024 to 65534	Setting of the port number to use in HTTP protocol. * Cannot overlap with other setting ports.
Ip	Set Inq	IPv4 IP address (Default: **192.168.0.100**)	Setting of IPv4 address.
MacAddress	Inq	MAC address	Returns MAC Address of the camera.
PhyStat	Inq	10half 10full 100half 100full 1000half 1000full	Returns the connection status of the Ethernet. 10half : 10Mbps, half-duplex communication 10full : 10Mbps, full-duplex communication 100half : 100Mbps, half-duplex communication 100full : 100Mbps, full-duplex communication 1000half : 1000Mbps, half-duplex communication 1000full : 1000Mbps, full-duplex communication
PrimaryDns	Set Inq	IPv4 IP address	Setting of the static IP address of Primary DNS server.
RTSPPort<n>	Set Inq	1024 to 65534 (Default n=1:**8554** n=2:**8557** n=3:**8556**)	n=1 to 3 Setting of port number used for RTSP unicast. * Cannot overlap with other setting ports.
SecondaryDns	Set Inq	IPv4 IP address	Setting of the static IP address of Secondary DNS server.
Subnetmask	Set Inq	IPv4 IP address (Default: **255.255.255.0**)	Setting of the IPv4 subnet mask.

rtmp.cgi

Setting (Set): command/rtmp.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=rtmp

Parameter	Set Inq	Value	Description
RTMPAudioInfo	Inq	ex. AAC(44.1Khz)	RTMP audio stream information
RTMPChunkSize	Inq	1412	RTMP chunk size (bytes)
RTMPEnable	Set Inq	on **off**	Sets whether to allow RTMP multicast streaming. on : Allowed off : Not allowed
RTMPStatus	Inq	RTMP disable RTMP enable Connection timeout Disconnect with server Connection success	RTMP streaming status
RTMPURL	Set Inq		Sets the RTMP server URL.
RTMPVideoInfo	Inq	ex. H.264@7500Kbps	RTMP video stream information
RTMPVideoResolution	Inq	ex. 1080p(59.94fps)	RTMP video stream resolution information

mpeg2ts.cgi

Setting (Set): command/mpeg2ts.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=mpeg2ts

Parameter	Set Inq	Value	Description
MPEG2TSEnable	Set Inq	**on** off	Sets whether to allow MPEG-TS streaming. on : Allowed off : Not allowed
MPEG2TSIP	Set Inq	IPv4 IP address	Setting of MPEG-TS stream destination IP address
MPEG2TSPort	Set Inq	**1024** to 65534	Setting of MPEG-TS stream destination port number

srt.cgi

Setting (Set): command/srt.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=srt

Parameter	Set Inq	Value	Description
SRTEnable	Set Inq	on **off**	Sets whether to allow SRT streaming. on : Allowed off : Not allowed
SRTEncryption	Set Inq	**none** aes-128 aes-256	Sets the encryption method for SRT streaming. none : Not set aes-128 : AES-128 aes-256 : AES-256
SRTIP	Set Inq	IPv4 IP address	Setting of SRT stream destination IP address
SRTLatency	Set Inq	20 to **120** to 8000	Setting of SRT stream latency (ms)
SRTPassphrase	Set Inq	10 to 79 characters	Sets the encryption key for SRT streaming.
SRTPort	Set Inq	**1024** to 65534	Setting of SRT stream destination port number

auth.cgi

Setting (Set): command/auth.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=auth

<n> of the parameter suffix is a number in the range 1 to 10. Supports exceptions 1 to 10 of the Referer check which can be registered in the camera.

Parameter	Set Inq	Value	Description
BruteForceAttackCount	Set Inq	3 to **8** to 100	Setting of number of authentication failure to judge as brute-force attack.
BruteForceAttackProtection	Set Inq	**on** off	On/Off setting of brute-force attack protection function.
BruteForceAttackReleaseTimer	Set Inq	30 to **60** to 86400	Setting of time period to release judgment as attacker. (Unit: second)
RcExceptionHostname<n>	Set Inq	0 to 63 characters	Setting of exception host name or IP address which will be excluded from Referer check to register as number set in <n>.

Parameter	Set Inq	Value	Description
RcExceptionNum	Inq	10	Returns the maximum number of registrable hosts that are not targeted for the Referrer check.
RcExceptionPort<n>	Set Inq	1 to **80** to 65535	Setting of exception port number which will be excluded from Referer check to register as number set in <n>.
RefererCheck	Set Inq	**on** off	Setting of Referer check function on or off.

iplimit.cgi

Setting (Set): command/iplimit.cgi?<*Parameter*>=<*Value*>
Inquiry (Inq): command/inquiry.cgi?inqjs=iplimit

<n> of the parameter suffix is a number in the range 1 to 10. Supports IP Limit 1 to 10 which can be registered in the camera.
The admin can access from even IP address whose access is denied by IP Limit.

Parameter (<n>: 1 to 10)	Set Inq	Value	Description
IpLimit<n>	Set Inq	[Value1] IPv4 address [Value2] **8** to 32 [Value3] allow **deny**	Setting that to be registered on numbers specified in <n>. IpLimit<n>=Value1,Value2,Value3 [Value1] Setting of IP address [Value2] Setting of subnet mask [Value3] Policy Setting of access policy allow : Client with IP address specified in Value1 and Value2 will be allowed to access to the cameras deny : Client with IP address specified in Value1 and Value2 will be denied access to the cameras
IpLimitFunc	Set Inq	on **off**	On/Off setting of IP Limit function.
IpLimitNum	Inq	10	IP Limit function returns the maximum numbers of IP addresses that can be registered.
IpLimitPolicy	Set Inq	**allow** deny	Setting of IP Limit function policy. allow : All the other accesses whose settings are not specified by IpLimit<n> parameter will be allowed. deny : All the other accesses whose settings are not specified by IpLimit<n> parameter will be denied.

Supported Codecs

The following codecs are supported with the RTSP streaming function of the cameras.

Video	Audio
H.264 H.265	AAC LC

RTSP Request URL

RTSP request URLs of the cameras to achieve live streams are as follows.

Request URL	Description
rtsp://<camera_address>:<RTSPPort1>/hevc RTSPPort1 default value: 8554	Requests bitstreams from codecs corresponding to the CGI parameter “ImageCodec1”* and its related parameters. * ImageCodec1 corresponds to Codec 1 setting of Image 1 in the administrator setting menu of the cameras.
rtsp://<camera_address>:<RTSPPort2>/h264 RTSPPort2 default value: 8557	Requests bitstreams from codecs corresponding to the CGI parameter “ImageCodec2”* and its related parameters. * ImageCodec2 corresponds to Codec 2 setting of Image 2 in the administrator setting menu of the cameras.
rtsp://<camera_address>:<RTSPPort3>/h264 RTSPPort3 default value: 8556	Requests bitstreams from codecs corresponding to the CGI parameter “ImageCodec3”* and its related CGI parameters. * ImageCodec3 corresponds to Codec 3 setting of Image 3 in the administrator setting menu of the cameras.

RTSP port of the camera (RTSP server) can be changed using the “RTSPPort<n>” CGI parameter issued with the “network.cgi” CGI command.

RTSP Methods

Supported Methods

The cameras support the following RTSP methods.

Supported Method
OPTIONS
DESCRIBE
SETUP
PLAY
TEARDOWN
GET_PARAMETER
SET_PARAMETER

For details about the RTSP methods listed above, refer to IETF RFC 2326.

Stream Acquisition

<Transfer Protocols>

The RTSP function of the cameras supports the following transfer protocols to stream video and/or audio from the camera to client(s).

a) TCP bitstream
b) UDP unicast bitstream
c) UDP multicast bitstream

Details of each case above are described in the following sections.

<Number of Media Streams>

The cameras support multiple codec simultaneously as mentioned in the previous “RTSP Request URL” (page 23). The number of media streams in an RTSP session of the camera is up to 5.

<RTSP Session Timeout>

Timeout of the RTSP session of the camera is 65 (unit: seconds).

The RTSP session timeout value of the camera is indicated to a client as a “timeout” parameter (in seconds) in RTSP response to the “SETUP” request.

To keep an RTSP stream alive, examples in this document use the RTSP “GET_PARAMETER” method before the camera automatically closes the RTSP session in accordance with the timeout parameter.

<Closing RTSP Session>

To close UDP port linked to RTSP session and this session safely, use RTSP method “TEARDOWN.”

UDP Unicast Bitstream

As for the UDP port numbers to be used for sending RTP/RTCP packets, “Client_port” parameter value which is added to RTSP SETUP request will be used for the client port. The server port (port number on the camera side) is configured automatically, and the value of “server_port” added to the RTSP SETUP response is used.

UDP Multicast Bitstream

CGI parameters related to UDP multicast bitstream acquisition are listed in the table below.
For more information about changing these settings from the Admin menu via a web browser, refer to [Multicast streaming] in “[Streaming] tab” in “[Streaming] menu” in the Operating Instructions.

CGI Parameter	Corresponding to
RTSPMcVideoPort1	Multicast port for “ImageCodec1” live streaming
RTSPMcVideoPort2	Multicast port for “ImageCodec2” live streaming
RTSPMcVideoPort3	Multicast port for “ImageCodec3” live streaming
RTSPMcAudioPort1	Multicast port for “ImageCodec1” audio streaming
RTSPMcAudioPort2	Multicast port for “ImageCodec2” audio streaming
RTSPMcAudioPort3	Multicast port for “ImageCodec3” audio streaming

Notes

- Even if you specify the port number with “port” parameter for RTSP SETUP request, that value will not be reflected on the cameras side. Instead, the streaming port number will be decided by referring to CGI parameter settings listed in the table above.
- To acquire video and/or audio bitstream over a UDP multicast, the cameras require you to enable the multicast streaming function by activating the CGI parameter “Multicast.”

Acquiring Both Video and Audio Bitstreams

In case AudioIn is on and a client requests a video stream, the camera simultaneously transmits the video stream and an audio stream in an RTSP session.

rtpmap Attribute

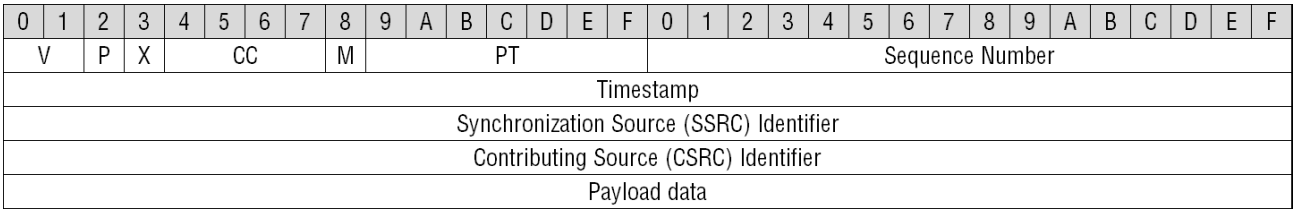
Values of “rtpmap” attributes in RTSP response to “DESCRIBE” request vary depending on the codec of media streams. Here are some examples.

Codec	rtpmap Attribute Value
H.265	a=rtpmap:96 H265/90000
H.264	a=rtpmap:96 H264/90000
AAC128 kbps/48 kHz sample	a=rtpmap:96 MPEG4-GENERIC/48000/2
AAC256 kbps/48 kHz sample	a=rtpmap:96 MPEG4-GENERIC/48000/2

RTP/RTCP

RTP Header Fields

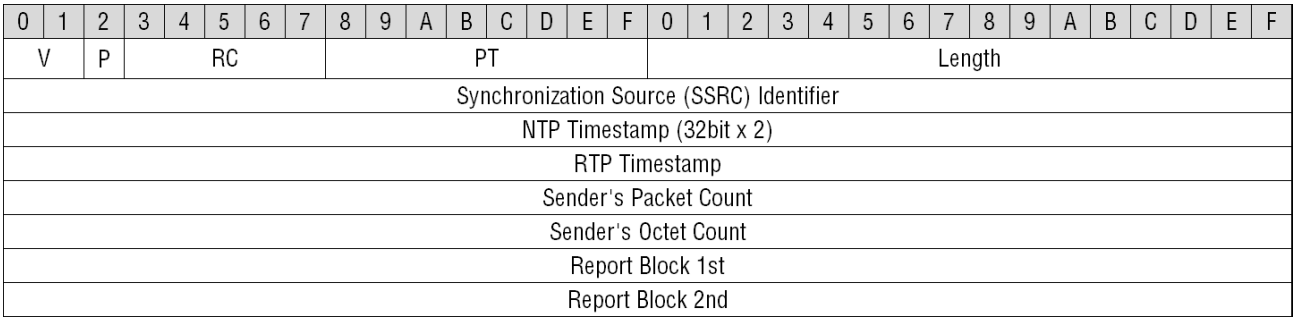
The RTP header has the following format.



Field	Bit Length	Description
Version	2	This field identifies the version of RTP. The version defined by this specification is two (2).
Padding	1	If the padding bit is set, the packet contains one or more additional padding octets at the end which are not part of the payload. The last octet of the padding contains a count of how many padding octets should be ignored.
Extension	1	If the extension bit is set, the fixed header is followed by exactly one header extension.
CSRC Count	4	The CSRC count contains the number of CSRC identifiers that follow the fixed header.
Marker	1	The interpretation of the marker is defined by a profile. It is intended to allow significant events such as frame boundaries to be marked in the packet stream.
Payload Type	7	This field identifies the format of the RTP payload and determines its interpretation by the application.
Sequence Number	16	The sequence number increments by one for each RTP data packet sent, and may be used by the receiver to detect packet loss and to restore packet sequence.
Timestamp	32	The timestamp reflects the sampling instant of the first octet in the RTP data packet. The sampling instant must be derived from a clock that increments monotonically and linearly in time to allow synchronization and jitter calculations.
Synchronization Source (SSRC) Identifier	32	The SSRC field identifies the synchronization source. This identifier is chosen randomly, with the intent that no two synchronization sources within the same RTP session will have the same SSRC identifier.
Contributing Source (CSRC) Identifier	32	The CSRC list identifies the contributing sources for the payload contained in this packet. The number of identifiers is given by the CC field.

SR: Sender Report RTCP Packet

The RTCP Sender report's header has the following format.



Field	Bit Length	Description
Version	2	Identifies the version of RTP, which is the same in RTCP packets as in RTP data packets. The version defined by this specification is two (2).
Padding	1	If the padding bit is set, the packet contains one or more additional padding octets at the end which are not part of the payload. The last octet of the padding contains a count of how many padding octets should be ignored.
Reception Report Count	5	The number of reception report blocks contained in this packet. A value of zero is valid.
Packet Type	8	Contains the constant 200 to identify this as an RTCP SR packet.
Length	16	The length of this RTCP packet in 32-bit words minus one, including the header and any padding.
Synchronization Source (SSRC) Identifier	32	The synchronization source identifier for the originator of this SR packet.
NTP Timestamp	64	Indicates the time when this report was sent so that it may be used in combination with timestamps returned in reception reports from other receivers to measure round-trip propagation to those receivers.
RTP Timestamp	32	Corresponds to the same time as the NTP timestamp (above), but in the same units and with the same random offset as the RTP timestamps in data packets.
Sender's Packet Count	32	The total number of RTP data packets transmitted by the sender since starting transmission up until the time this SR packet was generated.
Sender's Octet Count	32	The total number of payload octets (i.e., not including header or padding) transmitted in RTP data packets by the sender since starting transmission up until the time this SR packet was generated. The count is reset if the sender changes its SSRC identifier.

Supplemental Remarks

RTSP Digest Authentication

Authentication at RTSP level is required where RTSP authentication setting is enabled. In this case, add an appropriate authentication header.

CGI Command Setting Values

FOCUS (Reference values)

Value of focus is hexadecimal.

Value	Focus distance
1000	Inf
2000	50 m
3000	20 m
4000	10 m
5000	5 m
6000	4 m
7000	3 m
8000	2 m
9000	1.5 m
A000	1.2 m
B000	1 m
C000	0.8 m
D000	0.6 m
E000	0.35 m
F000	0.1 m

ZOOM POSITION (Reference values) (SRG-XB25)

Value of zoom position is hexadecimal.

Value	Zoom ratio
0000h	×1
167Fh	×2
20ACh	×3
26DAh	×4
2B28h	×5
2E5Ch	×6
30DFh	×7
32E8h	×8
3499h	×9
3603h	×10
373Dh	×11
384Bh	×12
393Bh	×13
3A0Eh	×14
3ACEh	×15
3B7Ch	×16
3C1Eh	×17
3CB2h	×18
3D3Bh	×19
3DC0h	×20
3E3Ah	×21
3EB0h	×22
3F23h	×23
3F92h	×24
4000h	×25
6000h	×50 (When both HDMI video output format is 1920×1080 and ZoomMode is pixel) ×75 (When both HDMI video output format is 1280×720 and ZoomMode is pixel)
7AC0h	×50 (When both HDMI video output format is 3840×2160 or 720×480 and ZoomMode is full) ×100 (When both HDMI video output format is 1920×1080 and ZoomMode is full) ×150 (When both HDMI video output format is 1280×720 and ZoomMode is full)

ZOOM POSITION (Reference values) (SRG-XP1)

Value of zoom position is hexadecimal.

Value	Zoom ratio
4000h	×1
6000h	×2 (When both HDMI video output format is 1920×1080 and ZoomMode is pixel) ×3 (When both HDMI video output format is 1280×720 and ZoomMode is pixel)
7AC0h	×2 (When both HDMI video output format is 3840×2160 or 720×480 and ZoomMode is full) ×4 (When both HDMI video output format is 1920×1080 and ZoomMode is full) ×6 (When both HDMI video output format is 1280×720 and ZoomMode is full)

TIME ZONE

Value	Time Zone
Etc/GMT+12	(UTC-12:00) International Date Line West
Etc/GMT+11	(UTC-11:00) Co-ordinated Universal Time-11
America/Adak	(UTC-10:00) Aleutian Islands
Pacific/Honolulu	(UTC-10:00) Hawaii
America/Anchorage	(UTC-09:00) Alaska
Etc/GMT+9	(UTC-09:00) Co-ordinated Universal Time-09
America/Tijuana	(UTC-08:00) Baja California
Etc/GMT+8	(UTC-08:00) Co-ordinated Universal Time-08
US/Pacific	(UTC-08:00) Pacific Time (US & Canada)
America/Phoenix	(UTC-07:00) Arizona
America/Chihuahua	(UTC-07:00) Chihuahua, La Paz, Mazatlan
US/Mountain	(UTC-07:00) Mountain Time (US & Canada)
Pacific/Easter	(UTC-06:00) Easter Island
America/Mexico_City	(UTC-06:00) Guadalajara, Mexico City, Monterrey
America/Regina	(UTC-06:00) Saskatchewan
America/Guatemala	(UTC-06:00) Central America
US/Central	(UTC-06:00) Central Time (US & Canada)
US/East-Indiana	(UTC-05:00) Indiana (East)
America/Grand_Turk	(UTC-05:00) Turks and Caicos
America/Cancun	(UTC-05:00) Chetumal
America/Port-au-Prince	(UTC-05:00) Haiti
America/Havana	(UTC-05:00) Havana
America/Bogota	(UTC-05:00) Bogota, Lima, Quito, Rio Branco
US/Eastern	(UTC-05:00) Eastern Time (US & Canada)
America/Asuncion	(UTC-04:00) Asuncion
America/Caracas	(UTC-04:00) Caracas
America/Cuiaba	(UTC-04:00) Cuiaba
America/Santiago	(UTC-04:00) Santiago
America/La_Paz	(UTC-04:00) Georgetown, La Paz, Manaus, San Juan
Canada/Atlantic	(UTC-04:00) Atlantic Time (Canada)
America/Araguaina	(UTC-03:00) Araguaina
America/Cayenne	(UTC-03:00) Cayenne, Fortaleza
America/Godthab	(UTC-03:00) Greenland
America/Bahia	(UTC-03:00) Salvador
America/Miquelon	(UTC-03:00) Saint Pierre and Miquelon
America/Argentina/Buenos_Aires	(UTC-03:00) City of Buenos Aires
America/Sao_Paulo	(UTC-03:00) Brasilia
America/Punta_Arenas	(UTC-03:00) Punta Arenas
America/Montevideo	(UTC-03:00) Montevideo
Etc/GMT+2	(UTC-02:00) Co-ordinated Universal Time-02
Atlantic/Azores	(UTC-01:00) Azores

Value	Time Zone
Atlantic/Cape_Verde	(UTC-01:00) Cabo Verde Is.
Etc/GMT	(UTC) Co-ordinated Universal Time
Europe/London	(UTC+00:00) Dublin, Edinburgh, Lisbon, London
Africa/Monrovia	(UTC+00:00) Monrovia, Reykjavik
Africa/Casablanca	(UTC+01:00) Casablanca
Europe/Berlin	(UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
Europe/Warsaw	(UTC+01:00) Sarajevo, Skopje, Warsaw, Zagreb
Europe/Paris	(UTC+01:00) Brussels, Copenhagen, Madrid, Paris
Europe/Belgrade	(UTC+01:00) Belgrade, Bratislava, Budapest, Ljubljana, Prague
Africa/Lagos	(UTC+01:00) West Central Africa
Europe/Athens	(UTC+02:00) Athens, Bucharest
Asia/Amman	(UTC+02:00) Amman
Africa/Windhoek	(UTC+02:00) Windhoek
Asia/Jerusalem	(UTC+02:00) Jerusalem
Africa/Cairo	(UTC+02:00) Cairo
Asia/Gaza	(UTC+02:00) Gaza, Hebron
Europe/Kaliningrad	(UTC+02:00) Kaliningrad
Europe/Chisinau	(UTC+02:00) Chisinau
Asia/Damascus	(UTC+02:00) Damascus
Africa/Tripoli	(UTC+02:00) Tripoli
Africa/Harare	(UTC+02:00) Harare, Pretoria
Africa/Khartoum	(UTC+02:00) Khartoum
Asia/Beirut	(UTC+02:00) Beirut
Europe/Helsinki	(UTC+02:00) Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius
Europe/Istanbul	(UTC+03:00) Istanbul
Asia/Kuwait	(UTC+03:00) Kuwait, Riyadh
Africa/Nairobi	(UTC+03:00) Nairobi
Asia/Baghdad	(UTC+03:00) Baghdad
Europe/Minsk	(UTC+03:00) Minsk
Europe/Moscow	(UTC+03:00) Moscow, St. Petersburg
Europe/Volgograd	(UTC+04:00) Volgograd
Europe/Astrakhan	(UTC+04:00) Astrakhan, Ulyanovsk
Asia/Muscat	(UTC+04:00) Abu Dhabi, Muscat
Europe/Samara	(UTC+04:00) Izhevsk, Samara
Asia/Yerevan	(UTC+04:00) Yerevan
Europe/Saratov	(UTC+04:00) Saratov
Asia/Tbilisi	(UTC+04:00) Tbilisi
Asia/Baku	(UTC+04:00) Baku
Indian/Mauritius	(UTC+04:00) Port Louis
Asia/Tashkent	(UTC+05:00) Ashgabat, Tashkent
Asia/Karachi	(UTC+05:00) Islamabad, Karachi
Asia/Yekaterinburg	(UTC+05:00) Ekaterinburg

Value	Time Zone
Asia/Almaty	(UTC+06:00) Astana
Asia/Omsk	(UTC+06:00) Omsk
Asia/Dhaka	(UTC+06:00) Dhaka
Asia/Krasnoyarsk	(UTC+07:00) Krasnoyarsk
Asia/Tomsk	(UTC+07:00) Tomsk
Asia/Novosibirsk	(UTC+07:00) Novosibirsk
Asia/Barnaul	(UTC+07:00) Barnaul, Gorno-Altaysk
Asia/Bangkok	(UTC+07:00) Bangkok, Hanoi, Jakarta
Asia/Hovd	(UTC+07:00) Hovd
Asia/Irkutsk	(UTC+08:00) Irkutsk
Asia/Ulaanbaatar	(UTC+08:00) Ulaanbaatar
Asia/Kuala_Lumpur	(UTC+08:00) Kuala Lumpur, Singapore
Australia/Perth	(UTC+08:00) Perth
Asia/Taipei	(UTC+08:00) Taipei
Asia/Shanghai	(UTC+08:00) Beijing, Chongqing, Hong Kong SAR, Urumqi
Asia/Pyongyang	(UTC+09:00) Pyongyang
Asia/Seoul	(UTC+09:00) Seoul
Asia/Chita	(UTC+09:00) Chita
Asia/Yakutsk	(UTC+09:00) Yakutsk
Asia/Tokyo	(UTC+09:00) Osaka, Sapporo, Tokyo
Asia/Vladivostok	(UTC+10:00) Vladivostok
Australia/Canberra	(UTC+10:00) Canberra, Melbourne, Sydney
Australia/Brisbane	(UTC+10:00) Brisbane
Pacific/Guam	(UTC+10:00) Guam, Port Moresby
Australia/Hobart	(UTC+10:00) Hobart
Asia/Sakhalin	(UTC+11:00) Sakhalin
Pacific/Guadalcanal	(UTC+11:00) Solomon Is., New Caledonia
Asia/Srednekolymsk	(UTC+11:00) Chokurdakh
Pacific/Norfolk	(UTC+11:00) Norfolk Island
Pacific/Bougainville	(UTC+11:00) Bougainville Island
Asia/Magadan	(UTC+11:00) Magadan
Asia/Kamchatka	(UTC+12:00) Anadyr, Petropavlovsk-Kamchatsky
Pacific/Auckland	(UTC+12:00) Auckland, Wellington
Pacific/Fiji	(UTC+12:00) Fiji
Etc/GMT-12	(UTC+12:00) Co-ordinated Universal Time+12
Pacific/Apia	(UTC+13:00) Samoa
Pacific/Tongatapu	(UTC+13:00) Nuku'alofa
Etc/GMT-13	(UTC+13:00) Co-ordinated Universal Time+13
Pacific/Kiritimati	(UTC+14:00) Kiritimati Island