

CX350/CX4000 Control Using PTZ Control Protocol

Rev.3.00

January 25, 2022

Panasonic Corporation
MEBD(Professional AV Category)

Revision History

Date	Revision	Description
2020/05/01	Rev.1.00	1 st Release
2021/05/27	Rev.2.00	Added the corresponding command
2022/01/25	Rev.3.00	Added the corresponding command · QSE:77, view.cgi, get_state, set_rtmp_param, set_srt_info Corrected the response value of the QID command

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1 Scope

This document describes CX series cameras control using PTZ Control Protocol over HTTP from external terminal such as PC and PDA.

2 Conformance Notation

The keywords "shall" and "shall not" indicate requirements strictly to be followed in order to conform to the document and from which no deviation is permitted

The keywords, "should" and "should not" indicate that, among several possibilities, one is recommended as particularly suitable, without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required; or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited.

The keywords "may" and "need not" indicate courses of action permissible within the limits of the document.

The keywords "optional" indicates that implementation is not necessarily required.

3 Introduction

Applicable models

- AG-CX350 Ver6.00 ~
- AJ-UPX360 Ver6.00 ~
- AG-CX200 Ver6.00 ~
- AJ-CX4000 Ver5.00 ~
- AJ-UPX900 Ver5.00 ~

CX series cameras can be controlled using PTZ Control Protocol if **NDI HX mode** is on, or IP REMOTE is **ENABLE(HOLD)**. Also, for the AG-CX350/AJ-UPX360/AG-CX200, set the Auto/Manual switch on the camera body to **Auto**. PTZ Control Protocol use port 80. All commands return 404 responses, unless in NDI|HX mode or IP REMOTE is ENABLE(HOLD). Commands related to non-supported functions in CX series camera will respond with 404 Error.

Please also refer to the documents below for PTZ Camera Control Protocol.

https://www.pass.panasonic.co.jp/pro-av/support/content/guide/DEF/HE50_120_IP/HDIntegratedCamera_InterfaceSpecifications-E.pdf

https://www.pass.panasonic.co.jp/pro-av/support/content/guide/DEF/UE150_CGI/Supplement_for_Web_Control-UE150E.pdf

4 Command details

This chapter presents the following details.

① Pan-tilt head control

This interface controls the zoom, the focus and so on. These commands are called “pan-tilt head control commands” following HD/4K Integrated Camera Interface Specifications.

② Camera control

This interface is concerned with the camera’s lens control and image adjustments. These commands are called “camera control commands” following HD/4K Integrated Camera Interface Specifications.

③ Video transmission and network application control

This interface controls the start/stop of streaming, the start/stop of video recording and so on. These commands are called “Video transmission and network application control”.

4.1 Pan-tilt head control

The pan-tilt head control commands are in compliance with the HTTP1.1 communication specifications. Their format is given below.

【Command format】

[Send]

`http://[IP Address]/cgi-bin/aw_ptz?cmd=[Command]&res=[Type]`

where

※IP Address..... IP address of camera at connection destination

※Command..... Details given in “Command” column in the command tables below

※Type..... Fixed at “1”

[Receive] 200 OK “Command”

※Command..... Response value of each command; set in the HTTP message body

Example: Zoom (Stop)

[Send]

`http://192.168.0.10/cgi-bin/aw_ptz?cmd=#Z50&res=1`

[Receive]

200 OK “zS50”

※Depending on the browser or middleware used, “#” may have to be converted to “%23” by ASCII conversion.

`http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23Z50&res=1`

Given below is the communication sequence which accords with the command format presented on the previous page.

【Sequence】

“PC1” is the control terminal in the sequence below.

Example: Zoom (Stop) control

Camera IP Address = 192.168.0.10

Command = Z50

The control to stop the pan-tilt operation is exercised from PC1. [200 OK “zS50”] is returned as the response from the camera. The control command and query command are available as the pan-tilt head control commands. Given below is the command sequence.

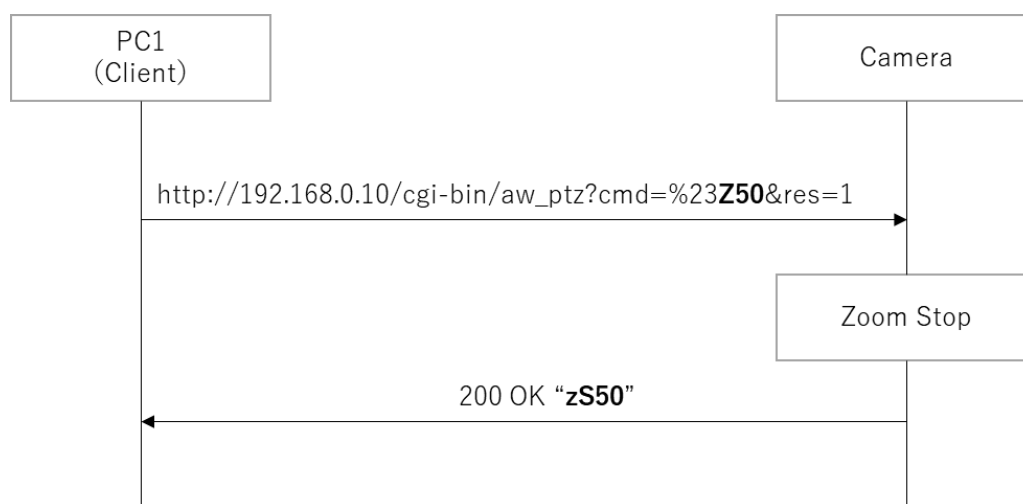


Figure 4.1.1-1 Command sequence of zoom speed control

For more details, please check the documents below for PTZ Camera Control Protocol.

https://eww.pass.panasonic.co.jp/pro-av/support/content/guide/DEF/HE50_120_IP/HDIntegratedCamera_InterfaceSpecifications-E.pdf

4.1.1 Power On/Stanby

CX series cameras cannot be turned On/Off by the PTZ Control Command. Only query command is supported.

Table 4.1.1.1 Power On/Stanby

Command name	Category	Command	Data value	Setting	Remarks
Power On/Stanby query command	Request	#O	None		• The response value is always 1.
	Response	p[Data]	1	Power On	

4.1.2 Lens Operations

4.1.2.1 Zoom

These commands control the zooming (between Wide and Tele) of the camera lens and enable the current zoom position to be acquired.

Table 4.1.2.1 Zoom

Command name	Category	Command	Data value	Setting	Remarks
Zoom (position control) query command	Request	#GZ	None		※In the case of AJ-CX4000 /AJ-UPX900, the availability depends on the lens.
	Response	gz[Data]	555h ~ FFFh	Wide ~ Tele	
Zoom (speed control) control command	Control	#Z[Data]	01	Wide Max. Speed	• Zooming speed to be controlled
	Response	zS[Data]	~ 49 50 51 ~ 99	~ Wide Min. Speed Zoom Stop Tele Min. Speed ~ Tele Max. Speed	

4.1.2.2 Focus

These commands control the focusing (between Near and Far) of the camera and enable the current focus position and focus adjustment speed to be acquired. They also enable On/Off for the auto focus to be controlled and the current auto focus On/Off status to be acquired. Commands which control the focusing are also described in section “4.2.1.1 Focus” of “4.2 Camera control”.

Table 4.1.2.2 Focus

Command name	Category	Command	Data value	Setting	Remarks
Focus (position control command)	Control	#AXF[Data]	555h	Near	<ul style="list-style-type: none"> Invalid when auto focus is On When the value is F93h, it is set to infinity <p>※Not supported by the AJ-CX4000/AJ-UPX900</p>
	Response	axf[Data]	~ F93h	~ Far(∞)	
Focus (position query command)	Request	#AXF	None		<ul style="list-style-type: none"> The data value differs depending on the responses to the control command and query command If the value is greater than F93h, it is set to over infinity <p>※In the case of AJ-CX4000/ AJ-UPX900, the availability depends on the lens.</p>
	Response	axf[Data]	555h ~ FFFh	Near ~ Far(over ∞)	
Focus position query command	Request	#GF	None		
	Response	gf[Data]	555h ~ FFFh	Near ~ Far	
Focus (speed control command)	Control	#F[Data]	01	Near Max. Speed	<ul style="list-style-type: none"> Focusing speed to be controlled Invalid when auto focus is On <p>※Not supported by the AJ-CX4000/AJ-UPX900</p>
	Response	fS[Data]	~ 49 50 51 ~ 99	~ Near Min. Speed Focus Stop Far Min. Speed ~ Far Max. Speed	

Command name	Category	Command	Data value	Setting	Remarks
Auto focus On/Off control command	Control	#D1[Data]	0	Off(Manual) On(auto)	※Not supported by the AJ-CX4000/AJ-UPX900
	Response	d1[Data]	1		
Auto focus On/Off query command	Request	#D1	None	Off(Manual) On(auto)	※Not supported by the AJ-CX4000/AJ-UPX900
	Response	d1[Data]	0 1		

4.1.2.3 Iris

These commands control the iris (between Close and Open) of the camera and enable the current iris position to be acquired. In addition they enable Auto/Manual control of the iris and the current iris Auto/Manual statuses to be acquired. Commands which control the iris are also described in section “4.2.1.2 Iris” of “4.2 Camera control”.

Table 4.1.2.3 Iris

Command name	Category	Command	Data value	Setting	Remarks
Iris position control command	Control	#I	01	Iris Close ~ Iris Open	• If the Iris mode is Auto, the camera reply an error response.
	Response	iC[Data]	~ 99		
Iris position query command	Request	#I	None	Iris Close ~ Iris Open	
	Response	iC[Data]	01 ~ 99		
Iris position control command	Control	#AXI[Data]	555h	Iris Close ~ Iris Open	
	Response	axi[Data]	~ FFFh		
Iris position query command	Request	#AXI	None	Iris Close ~ Iris Open	
	Response	axi[Data]	555h ~ FFFh		
Iris position	Request	#GI	None		

Command name	Category	Command	Data value	Setting	Remarks
Auto/Manual query command	Response	gi[Data1][Data2]	[Data1] 555h ~ FFFh [Data2] 0 1	Iris Close ~ Iris Open Manual Iris Auto Iris	
Auto Iris On/Off control command	Control	#D3[Data]	0	Manual Iris	
	Response	d3[Data]	1	Auto Iris	
Auto Iris On/Off query command	Request	#D3	None		
	Response	d3[Data]	0 1	Manual Iris Auto Iris	

4.1.3 Tally

These commands control the tally On/Off of the camera and enable the current tally On/Off to be acquired. Commands which control the tally settings are also described in section "4.2.17 Tally settings" of "4.2 Camera control".

Table 4.1.3.1 Tally

Command name	Category	Command	Data value	Setting	Remarks
R-Tally On/Off control command	Control	#DA[Data]	0	R-Tally Off	
	Response	dA[Data]	1	R-Tally On	
R-Tally On/Off query command	Request	#DA	None		
	Response	dA[Data]	0 1	R-Tally Off R-Tally On	

4.2 Camera control

The camera control commands are based on the HTTP1.1 communication specifications. Their format is given below.

【Command format】

[Send]

http://[IP Address]/cgi-bin/aw_cam?cmd=[Command]&res=[Type]

where

※IP Address..... IP address of camera at connection destination

※Command..... Details given in “Command” column in the command tables below

※Type..... Normally “1” (but “0” for the AWB[OWS] and ABB[OAS] commands)

[Receive] 200 OK “Command”

※Command..... Response value of each command; set in the HTTP message body

There is no response in the case of an AWB or ABB command whose Type is 0.

Example: Focus setting = Auto

[Send]

http://192.168.0.10/cgi-bin/aw_cam?cmd=OAF:0&res=1

[Receive]

200 OK “OAF:0”

Given below is the sequence used when communication has been performed in accordance with the command format described on the previous page.

【Sequence】

“PC1” is the control terminal in the sequence below.

Example: Focus setting = Auto

Camera IP Address = 192.168.0.10

Command = OAF:1

Auto focus control is performed from PC1, and [200 OK “OAF:1”] is returned as the response. Both a control command and query command are available as the camera control commands. Given below is the command sequence.

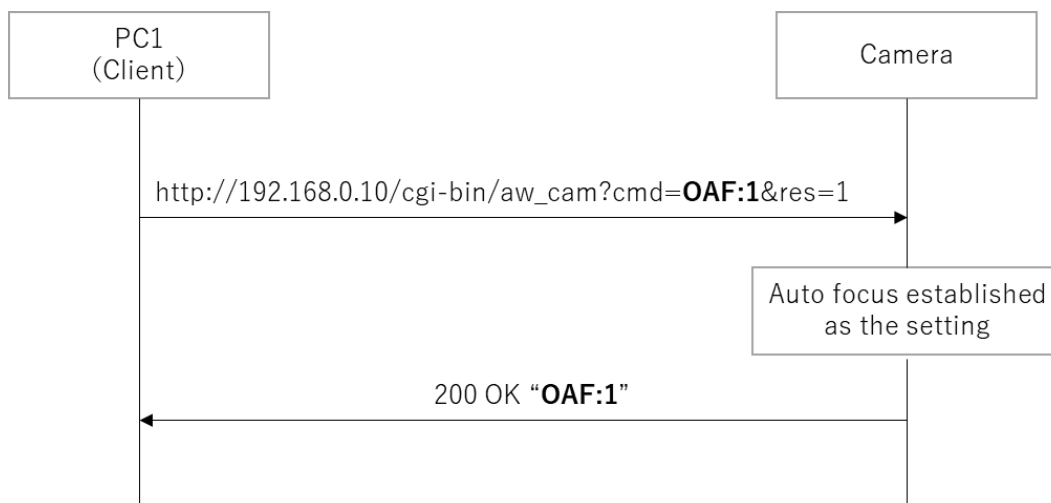


Figure 4.1.3-1 Camera control command sequence

For more details, please check the documents below for PTZ Camera Control Protocol.

https://www.pass.panasonic.co.jp/pro-av/support/content/guide/DEF/HE50_120_IP/HDIntegratedCamera_InterfaceSpecifications-E.pdf

4.2.1 Lens operations

4.2.1.1 Focus

These commands exercise Auto/Manual control of the focusing and one-touch auto focus control of the camera. Commands which control the focusing are also described in section “4.1.2.2 Focus” of “4.1 Pan-tilt head control”

Table 4.2.1.1 Focus

Command name	Category	Command	Data value	Setting	Remarks
Focus Auto/Manual control command	Control	OAF:[Data]	0	Manual	※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OAF:[Data]	1	Auto	
Focus Auto/Manual query command	Request	QAF	None		※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OAF:[Data]	0 1	Manual Auto	
One-touch focus control command	Control	OSE:69:[Data]	1	One Touch AF	<ul style="list-style-type: none"> One-touch focus On control ※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OSE:69:1			

4.2.1.2 Iris

These commands control the iris (between Close and Open) of the camera and enable the current iris position to be acquired. They also enable iris Auto/Manual to be controlled and the iris Auto/Manual status to be checked. Commands which control the iris are also described in section “4.1.2.3 Iris” of “4.1 Pan-tilt head control”.

Table 4.2.1.2 Iris

Command name	Category	Command	Data value	Setting	Remarks
Iris Auto/Manual control command	Control	ORS:[Data]	0	Manual	<ul style="list-style-type: none"> This command restores the held manual iris setting when control is switched from Auto to Manual.
	Response	ORS:[Data]	1	Auto	

Command name	Category	Command	Data value	Setting	Remarks
Iris Auto/Manual query command	Request	QRS	None		
	Response	ORS:[Data]	0 1	Manual Auto	
Picture level Auto Iris offset control command	Control	OSD:48:[Data]	00h	-50	
	Response	OSD:48:[Data]	~	~	
			31h	-1	
			32h	0	
			33h	+1	
			~ 64h	~ +50	
Picture level Auto Iris offset query command	Request	QSD:48	None		
	Response	OSD:48:[Data]	00h	-50	
			~	~	
			31h	-1	
			32h	0	
			33h	+1	
~ 64h	~ +50				
Iris volume control command	Control	ORV:[Data]	000h	Close	Iris volume control(Manual)
	Response	ORV:[Data]	~ 3FFh	~ Open	
Iris volume query command	Request	QRV	None		Iris volume status request
	Response	ORV:[Data]	000h ~ 3FFh	Close ~ Open	
	Request	QSD:4F	None		Iris volume status request
	Response	OSD:4F:[Data]	00h ~ FFh	Close ~ Open	
Auto iris speed control command	Control	OSJ:01:[Data]	0h	Slow	※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OSJ:01:[Data]	1h	Normal	
2h			Fast		
Auto iris speed query command	Request	QSJ:01	None		※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OSJ:01:[Data]	0h	Slow	
			1h 2h	Normal Fast	
Auto iris window control command	Control	OSJ:02:[Data]	0h	Normal1	
	Response	OSJ:02:[Data]	1h	Normal2	
2h			Center		

Command name	Category	Command	Data value	Setting	Remarks
Auto iris window query command	Request	QSJ:02	None		
	Response	OSJ:02:[Data]	0h	Normal1	
			1h	Normal2	
			2h	Center	

4.2.1.3 ND filter setting

These commands control the ND filter of the camera, and they enable the ND filter status to be acquired.

Table 4.2.1.3 ND filter setting

Command name	Category	Command	Data value	Setting	Remarks
ND filter control command	Control	OFT:[Data]	0	Through	※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OFT:[Data]	1	1/4	
			2	1/16	
			3	1/64	
ND filter query command	Request	QFT	None		
	Response	OFT:[Data]	0	Through	
			1	1/4	
			2	1/16	
			3	1/64	
		15	NG		

4.2.2 Color Bars setting

These commands enable color bar/camera to be switched, the color bar setup to be set and the current settings to be acquired.

Table 4.2.2.1 Color Bars

Command name	Category	Command	Data value	Setting	Remarks
Color bar/Camera control command	Control	DCB:[Data]	0	Camera	
	Response	DCB:[Data]	1	Color Bars	
Color bar/Camera Query command	Request	QBR	None		
	Response	OBR:[Data]	0 1	Camera Color Bars	

4.2.3 Scene file setting

These commands specify the scene files of the camera and enable the settings of the currently selected scene file to be acquired.

Table 4.2.3.1 Scene file setting

Command name	Category	Command	Data value	Setting	Remarks
Scene file control command	Control	XSF:[Data]	0	Scene1	
	Response	XSF:[Data]	1	Scene2	
			2	Scene3	
			3	Scene4	
			4	Scene5	
			5	Scene6	
Scene file query command	Request	QSF	None		
	Response	OSF:[Data]	0	Scene1	
			1	Scene2	
			2	Scene3	
			3	Scene4	
			4	Scene5	
		5	Scene6		

4.2.4 Shutter mode setting

These commands control the shutter of the camera and enable the currently set shutter mode to be acquired.

Table 4.2.4.1 Shutter mode setting

Command name	Category	Command	Data value	Setting	Remarks
Auto shutter limit control command	Control	OSD:BF:[Data]	2	1/100	※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OSD:BF:[Data]	3	1/120	
			4	1/250	
Auto shutter limit query command	Request	QSD:BF	None		※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OSD:BF:[Data]	2	1/100	
			3	1/120	
			4	1/250	

4.2.5 Gain setting

These commands enable the gain settings of the camera to be established and the current settings to be acquired.

Table 4.2.5.1 Gain settings

Command name	Category	Command	Data value	Setting	Remarks
Gain control command	Control	OGU:[Data]	02h	-6dB	<ul style="list-style-type: none"> Value can be set in increments of 1dB For the AG-CX350/AJ-UPX360/AG-CX200, to control AGC ON/OFF, set the Auto/Manual switch on the camera body to Auto If 02h to 32h is set when AGC is ON, the operation is the same as when 81h is set
	Response	OGU:[Data]	~	~	
			05h	-3dB	
			~	~	
			08h	0dB	
			~	~	
			11h	9dB	
			~	~	
			1Ah	18dB	
			~	~	
			32h	42dB	
			80h	Auto(AGC ON)	
			81h	Manual(AGC OFF)	

Command name	Category	Command	Data value	Setting	Remarks
Gain query command	Request	QGU	None		
		OGU:[Data]	02h	-6dB	
			~	~	
			05h	-3dB	
			~	~	
			08h	0dB	
			~	~	
			11h	9dB	
			~	~	
			1Ah	18dB	
		~	~		
		32h	42dB		
		80h	Auto(AGC ON)		
AGC maximum gain value control command	Control	OSD:69:[Data]	0	3dB	
	Response	OSD:69[Data]	1	6dB	
			2	12dB	
			3	18dB	
AGC maximum gain value query command	Request	QSD:69	None		
	Response	OSD:69:[Data]	0	3dB	
			1	6dB	
			2	12dB	
			3	18dB	

4.2.6 Color settings

4.2.6.1 R/B gain settings

These commands control the R/B gain levels of the camera, and they enable the current settings to be acquired.

Table 4.2.6.1 R/B gain settings

Command name	Category	Command	Data value	Setting	Remarks
R gain control command	Control	ORI:[Data]	000h	-200	
	Response	ORI:[Data]	~ 096h ~ 12Ch	~ 0 ~ +200	
R gain query command	Request	QRI	None		
	Response	ORI:[Data]	000h ~ 096h ~ 12Ch	-200 ~ 0 ~ +200	
R gain control command	Control	OSG:39:[Data]	738h	-200	
	Response	OSG:39:[Data]	~ 800h ~ 8C8h	~ 0 ~ +200	
R gain query command	Request	QSG:39	None		
	Response	OSG:39	738h ~ 800h ~ 8C8h	-200 ~ 0 ~ +200	
B gain control command	Control	OBI:[Data]	000h	-200	
	Response	OBI:[Data]	~ 096h ~ 12Ch	~ 0 ~ +200	
B gain query command	Request	QBI	None		
	Response	OBI:[Data]	000h ~ 096h ~ 12Ch	-200 ~ 0 ~ +200	

Command name	Category	Command	Data value	Setting	Remarks
B gain control command	Control	OSG:3A:[Data]	738h	-200	
	Response	OSG:3A:[Data]	~	~	
			800h	0	
			~	~	
8C8h	+200				
B gain query command	Request	QSG:3A	None		
	Response	OSG:3A:[Data]	738h	-200	
			~	~	
			800h	0	
~	~				
8C8h	+200				

4.2.6.2 R/B pedestal setting

These commands control the R/B pedestal values of the camera, and they enable the current settings to be acquired.

Table 4.2.6.2 R/B pedestal settings

Command name	Category	Command	Data value	Setting	Remarks
R pedestal control command	Control	ORP:[Data]	032h	-100	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	ORP:[Data]	~	~	
			096h	0	
			~	~	
0FAh	+100				
R pedestal query command	Request	QRP	None		
	Response	ORP:[Data]	032h	-100	
			~	~	
			096h	0	
~	~				
0FAh	+100				
B pedestal control command	Control	OBP:[Data]	032h	-100	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OBP:[Data]	~	~	
			096h	0	
			~	~	
0FAh	+100				

Command name	Category	Command	Data value	Setting	Remarks
B pedestal query command	Request	QBP	None		
	Response	OBP:[Data]	032h ~ 096h ~ 0FAh	-100 ~ 0 ~ +100	
Master pedestal control command	Control	OSJ:0F:[Data]	738h	-200	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSJ:0F:[Data]	~ 800h ~ 8C8h	~ 0 ~ +200	
Master pedestal query command	Request	QSJ:0F	None		
	Response	OSJ:0F:[Data]	738h ~ 800h ~ 8C8h	-200 ~ 0 ~ +200	
G pedestal control command	Control	OSJ:10:[Data]	032h	-100	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSJ:10:[Data]	~ 096h ~ 0FAh	~ 0 ~ +100	
G pedestal query command	Request	QSJ:10	None		
	Response	OSJ:10:[Data]	032h ~ 096h ~ 0FAh	-100 ~ 0 ~ +100	
Pdestal Offset control command	Control	OSJ:11:[Data]	0	Off	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSJ:11:[Data]	1	On	
Pedestal Offset query command	Request	QSJ:11	None		
	Response	OSJ:11:[Data]	0 1	Off On	

4.2.6.3 Color matrix settings

These commands control the color matrix of the camera, and they enable the current settings to be acquired.

Table 4.2.6.3 Color matrix setting

Command name	Category	Command	Data value	Setting	Remarks
Color matrix control command	Control	OSE:31:[Data]	0	NORMAL1	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting. ※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OSE:31:[Data]	1	NORMAL2	
			2	FULO.	
			3	CINELIKE	
Color matrix query command	Request	QSE:31	None		※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OSE:31:[Data]	0	NORMAL1	
			1	NORMAL2	
			2	FULO.	
3	CINELIKE				
Linear matrix R-G control command	Control	OSD:A4:[Data]	41h	-63	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:A4:[Data]	~	~	
			80h	0	
			~	~	
BFh	+63				
Linear matrix R-G query command	Request	QSD:A4	None		
	Response	OSD:A4:[Data]	41h	-63	
			~	~	
			80h	0	
~	~				
BFh	+63				
Linear matrix R-B control command	Control	OSD:A5:[Data]	41h	-63	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:A5:[Data]	~	~	
			80h	0	
			~	~	
BFh	+63				
Linear matrix R-B	Request	QSD:A5	None		

Command name	Category	Command	Data value	Setting	Remarks
query command	Response	OSD:A5:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Linear matrix G-R control command	Control	OSD:A6:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:A6:[Data]			
Linear matrix G-R query command	Request	QSD:A6	None		
	Response	OSD:A6:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Linear matrix G-B control command	Control	OSD:A7:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:A7:[Data]			
Linear matrix G-B query command	Request	QSD:A7	None		
	Response	OSD:A7:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Linear matrix B-R control command	Control	OSD:A8:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:A8:[Data]			
Linear matrix B-R query command	Request	QSD:A8	None		
	Response	OSD:A8:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Linear matrix B-G control command	Control	OSD:A9:[Data]	41h	-63	<ul style="list-style-type: none"> Setting cannot be

Command name	Category	Command	Data value	Setting	Remarks
control command	Response	OSD:A9:[Data]	~ 80h ~ BFh	~ 0 ~ +63	changed if V-Log has been selected as the Color Setting.
Linear matrix B-G query command	Request	QSD:A9	None		
	Response	OSD:A9:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction R GAIN/ SATURATION control command	Control	OSD:86:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:86:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction R GAIN/ SATURATION query command	Request	QSD:86	None		
	Response	OSD:86:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction R PHASE control command	Control	OSD:87:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:87:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction R PHASE query command	Request	QSD:87	None		
	Response	OSD:87:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction R_R_YI GAIN/ SATURATION control command	Control	OSD:9C:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:9C:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction	Request	QSD:9C	None		

Command name	Category	Command	Data value	Setting	Remarks
R_R_YI GAIN/ SATURATION query command	Response	OSD:9C:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction R_R_YI PHASE control command	Control	OSD:9D:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:9D:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction R_R_YI PHASE query command	Request	QSD:9D	None		
	Response	OSD:9D:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction R_YI GAIN/ SATURATION control command	Control	OSD:88:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:88:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction R_YI GAIN/ SATURATION query command	Request	QSD:88	None		
	Response	OSD:88:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction R_YI PHASE control command	Control	OSD:89:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:89:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction R_YI PHASE query command	Request	QSD:89	None		
	Response	OSD:89:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction	Control	OSD:9E:[Data]	41h	-63	• Setting cannot be

Command name	Category	Command	Data value	Setting	Remarks
R_YI_YI GAIN/ SATURATION control command	Response	OSD:9E:[Data]	~ 80h ~ BFh	~ 0 ~ +63	changed if V-Log has been selected as the Color Setting.
Color correction R_YI_YI GAIN/ SATURATION query command	Request	QSD:9E	None		
	Response	OSD:9E:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction R_YI_YI PHASE control command	Control	OSD:9F:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:9F:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction R_YI_YI PHASE query command	Request	QSD:9F:[Data]	None		
	Response	OSD:9F:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction YI GAIN/ SATURATION control command	Control	OSD:8A:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:8A:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction YI GAIN/ SATURATION query command	Request	QSD:8A	None		
	Response	OSD:8A:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction YI PHASE control command	Control	OSD:8B:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:8B:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction	Request	QSD:8B	None		

Command name	Category	Command	Data value	Setting	Remarks
YI PHASE query command	Response	OSD:8B:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction YI_G GAIN/ SATURATION control command	Control	OSD:8C:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:8C:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction YI_G GAIN/ SATURATION query command	Request	QSD:8C	None		
	Response	OSD:8C:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction YI_G PHASE control command	Control	OSD:8D:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:8D:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction YI_G PHASE query command	Request	QSD:8D	None		
	Response	OSD:8D:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction G GAIN/ SATURATION control command	Control	OSD:8E:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:8E:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction G GAIN/ SATURATION query command	Request	QSD:8E	None		
	Response	OSD:8E:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction	Control	OSD:8F:[Data]	41h	-63	• Setting cannot be

Command name	Category	Command	Data value	Setting	Remarks
G PHASE control command	Response	OSD:8F:[Data]	~ 80h ~ BFh	~ 0 ~ +63	changed if V-Log has been selected as the Color Setting.
Color correction G PHASE query command	Request	QSD:8F	None		
	Response	OSD:8F:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction G_Cy GAIN/ SATURATION control command	Control	OSD:90:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:90:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction G_Cy GAIN/ SATURATION query command	Request	QSD:90	None		
	Response	OSD:90:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction G_Cy PHASE control command	Control	OSD:91:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:91:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction G_Cy PHASE query command	Request	QSD:91	None		
	Response	OSD:91:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction Cy GAIN/ SATURATION control command	Control	OSD:92:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:92:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction	Request	QSD:92	None		

Command name	Category	Command	Data value	Setting	Remarks
Cy GAIN/ SATURATION query command	Response	OSD:92:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction Cy PHASE control command	Control	OSD:93:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:93:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction Cy PHASE query command	Request	QSD:93	None		
	Response	OSD:93:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction Cy_B GAIN/ SATURATION control command	Control	OSD:94:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:94:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction Cy_B GAIN/ SATURATION query command	Request	QSD:94	None		
	Response	OSD:94:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction Cy_B PHASE control command	Control	OSD:95:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:95:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction Cy_B PHASE query command	Request	QSD:95	None		
	Response	OSD:95:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction	Control	OSD:96:[Data]	41h	-63	• Setting cannot be

Command name	Category	Command	Data value	Setting	Remarks
B GAIN/ SATURATION control command	Response	OSD:96:[Data]	~ 80h ~ BFh	~ 0 ~ +63	changed if V-Log has been selected as the Color Setting.
Color correction B GAIN/ SATURATION query command	Request	QSD:96	None		
	Response	OSD:96:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction B PHASE control command	Control	OSD:97:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:97:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction B PHASE query command	Request	QSD:97	None		
	Response	OSD:97:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction B_Mg GAIN/ SATURATION control command	Control	OSD:80:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:80:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction B_Mg GAIN/ SATURATION query command	Request	QSD:80	None		
	Response	OSD:80:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction B_Mg PHASE control command	Control	OSD:81:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:81:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction	Request	QSD:81	None		

Command name	Category	Command	Data value	Setting	Remarks
B_Mg PHASE query command	Response	OSD:81:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction Mg GAIN/ SATURATION control command	Control	OSD:82:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:82:[Data]			
Color correction Mg GAIN/ SATURATION query command	Request	QSD:82	None		
	Response	OSD:82:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction Mg PHASE Control command	Control	OSD:83:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:83:[Data]			
Color correction Mg PHASE query command	Request	QSD:83	None		
	Response	OSD:83:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction Mg_R GAIN/ SATURATION control command	Control	OSD:84:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:84:[Data]			
Color correction Mg_R GAIN/ SATURATION query command	Request	QSD:84	None		
	Response	OSD:84:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction	Control	OSD:85:[Data]	41h	-63	• Setting cannot be

Command name	Category	Command	Data value	Setting	Remarks
Mg_R PHASE control command	Response	OSD:85:[Data]	~ 80h ~ BFh	~ 0 ~ +63	changed if V-Log has been selected as the Color Setting.
Color correction Mg_R PHASE query command	Request	QSD:85	None		
	Response	OSD:85:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction Mg_R_R GAIN/ SATURATION control command	Control	OSD:9A:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:9A:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction Mg_R_R GAIN query command	Request	QSD:9A	None		
	Response	OSD:9A:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction Mg_R_R PHASE control command	Control	OSD:9B:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:9B:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction Mg_R_R PHASE query command	Request	QSD:9B	None		
	Response	OSD:9B:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction YI_YI_G GAIN/ SATURATION control command	Control	OSJ:1C:[Data]	41h	-63	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSJ:1C:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction	Request	QSI:1C	None		

Command name	Category	Command	Data value	Setting	Remarks
YI_YI_G GAIN/ SATURATION query command	Response	OSJ:1C:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Color correction YI_YI_G PHASE control command	Control	OSJ:1D:[Data]	41h	-63	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSJ:1D:[Data]	~ 80h ~ BFh	~ 0 ~ +63	
Color correction YI_YI_G PHASE query command	Request	QSJ:1D	None		
	Response	OSJ:1D:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63	
Adaptive Matrix control command	Control	OSJ:4F:[Data]	0	OFF	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSJ:4F:[Data]	1	ON	
Adaptive Matrix query command	Request	QSJ:4F	None		
	Response	OSJ:4F	0 1	OFF ON	

4.2.7 Chroma level setting

These commands enable the chroma level of the camera to be set the current setting to be acquired.

Table 4.2.7.1 Chroma level setting

Command name	Category	Command	Data value	Setting	Remarks
Chroma level control command	Control	OSD:B0:[Data]	00h	OFF	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:B0:[Data]	1Dh	-99%	
			~	~	
			80h	0	
			~	~	
E3h	99%				
Chroma level query command	Request	QSD:B0	None		
	Response	OSD:B0:[Data]	00h	OFF	
			1Dh	-99%	
			~	~	
			80h	0	
~	~				
E3h	99%				
Chroma Phase control command	Control	OSJ:0B:[Data]	61h	-31	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSJ:0B:[Data]	~	~	
			80h	0	
			~	~	
9Fh	+31				
Chroma Phase query command	Request	QSJ:0B	None		
	Response	OSJ:0B:[Data]	61h	-31	
			~	~	
			80h	0	
~	~				
9Fh	+31				

4.2.8 AWB/ABB setting

These commands select the AWB mode of the camera, execute AWB/ABB and enable the current AWB mode status to be acquired.

Table 4.2.8.1 AWB/ABB setting

Command name	Category	Command	Data value	Setting	Remarks
AWB execution control command	Control	OWS	None		<ul style="list-style-type: none"> There is no response which supports this control command. <p>*This command expects res = 0, but if sent with res = 1, it returns "OWS" as the response value.</p>
AWB Mode control command	Control	OAW:[Data]	0	ATW	<ul style="list-style-type: none"> When the power is turned off or the controller is removed, it returns to the setting value of the physical switch of the camera.
	Response	OAW:[Data]	1	A	
			2	B	
			3	VAR	
			4	3200K	
			5	5600K	
AWB Mode query command	Request	QAW	None		
	Response	OAW:[Data]	0	ATW	
			1	A	
			2	B	
			3	VAR	
			4	3200K	
ABB execution control command	Control	OAS	None		<ul style="list-style-type: none"> There is no response which supports this control command. <p>* This command expects res = 0, but if sent with res = 1, it returns "OAS" as the response value.</p>

Command name	Category	Command	Data value	Setting	Remarks
Color temperature (increment) control command	Control	OSI:1E:[Data]	1h	1	<ul style="list-style-type: none"> • Increment from the current color temperature value. • If the WB setting is PRESET 3200K or PRESET 5600K, The VAR setting will change in the background.
	Response	OSI:1E:[Data]	~ Ah	~ 10	
Color temperature (decrement) control command	Control	OSI:1F:[Data]	1h	1	<ul style="list-style-type: none"> • Decrement from the current color temperature value. • If the WB setting is PRESET 3200K or PRESET 5600K, The VAR setting will change in the background.
	Response	OSI:1F:[Data]	~ Ah	~ 10	
Color temperature query command	Request	QSI:20	Nones		
	Response	OSI:20:[Data1]: [Data2]	[Data1] 0000h ~ FFFFh [Data2] 0h 1h	0K ~ 1048575K Valid Invalid	<ul style="list-style-type: none"> • Returns the current color temperature value in [Data1]. • If the ATW setting is ON, "1h: Invalid" is returned in [Data2]. • The range is 2000K ~ 15000K
ATW Speed control command	Control	OSI:25:[Data]	0	Normal	
	Response	OSI:25:[Data]	1 2	Slow Fast	

Command name	Category	Command	Data value	Setting	Remarks
ATW Speed query command	Request	QSI:25	None		
	Response	OSI:25:[Data]	0 1 2	Normal Slow Fast	
AWB gain offset control command	Control	OSJ:0C:[Data]	0h	Off	
	Response	OSJ:0C:[Data]	1h	On	
AWB gain offset query command	Request	QSJ:0C	None		
	Response	OSJ:0C:[Data]	0h 1h	Off On	
ATW Target R control command	Control	OSJ:0D:[Data]	76h	-10	
	Response	OSJ:0D:[Data]	~ 80h ~ 8Ah	~ 0 ~ +10	
ATW Target R query command	Request	QSJ:0D	None		
	Response	OSJ:0D:[Data]	76h ~ 80h ~ 8Ah	-10 ~ 0 ~ +10	
ATW Target B control command	Control	OSJ:0E:[Data]	76h	-10	
	Response	OSJ:0E:[Data]	~ 80h ~ 8Ah	~ 0 ~ +10	
ATW Target B query command	Request	QSJ:0E	None		
	Response	OSJ:0E:[Data]	76h ~ 80h ~ 8Ah	-10 ~ 0 ~ +10	

Command name	Category	Command	Data value	Setting	Remarks
AWB COLOR TEMPERATURE INC control command	Control	OSJ:48:[Data]	1h	1	<ul style="list-style-type: none"> If the WB setting is PRESET 3200K or PRESET 5600K, The VAR setting will change in the background.
	Response	OSJ:48:[Data]	~ Ah	~ 10	
AWB COLOR TEMPERATURE DEC control command	Control	OSJ:49:[Data]	1h	1	<ul style="list-style-type: none"> If the WB setting is PRESET 3200K or PRESET 5600K, The VAR setting will change in the background.
	Response	OSJ:49:[Data]	~ Ah	~ 10	
AWB COLOR TEMPERATURE query command	Request	QSJ:4A	None		<ul style="list-style-type: none"> Returns the current color temperature value in [Data1]. If the ATW setting is ON, "1h: Invalid" is returned in [Data2]. The range is 2000K ~ 15000K
	Response	OSJ:4A:[Data1]: [Data2]	[Data1] 00000h ~ FFFFFh [Data2] 0h 1h	0K ~ 1048575K Valid Invalid	
AWB R Gain control command	Control	OSJ:4B:[Data]	670h	-400	<ul style="list-style-type: none"> If the WB setting is PRESET, this command returns 400 responses.
	Response	OSJ:4B:[Data]	~ 800h ~ 990h	~ 0 ~ 400	
AWB R Gain query command	Request	QSJ:4B	None		<ul style="list-style-type: none"> If the WB setting is PRESET, this command returns 400 responses.
	Response	OSJ:4B:[Data]	670h ~ 800h ~ 990h	-400 ~ 0 ~ 400	
AWB B Gain control command	Control	OSJ:4C:[Data]	670h	-400	<ul style="list-style-type: none"> If the WB setting is PRESET, this command returns 400 responses.
	Response	OSJ:4C:[Data]	~ 800h ~ 990h	~ 0 ~ 400	

Command name	Category	Command	Data value	Setting	Remarks
AWB B Gain query command	Request	QSJ:4C	None		<ul style="list-style-type: none"> If the WB setting is PRESET, this command returns 400 responses.
	Response	OSJ:4C:[Data]	670h ~ 800h ~ 990h	-400 ~ 0 ~ 400	
AWB G Axis control command	Control	OSJ:4D:[Data]	670h	-400	<ul style="list-style-type: none"> If the WB setting is PRESET, this command returns 400 responses.
	Response	OSJ:4D:[Data]	~ 800h ~ 990h	~ 0 ~ 400	
AWB G Axis query command	Request	QSJ:4D	None		<ul style="list-style-type: none"> If the WB setting is PRESET, this command returns 400 responses.
	Response	OSJ:4D:[Data]	670h ~ 800h ~ 990h	-400 ~ 0 ~ 400	

4.2.9 Detail setting

Table 4.2.9.1 Detail setting

Command name	Category	Command	Data value	Setting	Remarks
Detail control command	Control	ODT:[Data]	0	Off	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	ODT:[Data]	1	On	
Detail query command	Request	QDT	None		
	Response	ODT:[Data]	0 1	Off On	

Command name	Category	Command	Data value	Setting	Remarks
V Detail Level control command	Control	OSD:A1:[Data]	79h	-7	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:A1:[Data]	~	~	
			80h	0	
			~	~	
87h	7				
V Detail Level query command	Request	QSD:A1	None		
	Response	OSD:A1:[Data]	79h	-7	
			~	~	
			80h	0	
~	~				
87h	7				
Detail frequency control command	Control	OSD:A2:[Data]	79h	-7	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:A2:[Data]	~	~	
			80h	0	
			~	~	
87h	7				
Detail frequency query command	Request	QSD:A2	None		
	Response	OSD:A2:[Data]	79h	-7	
			~	~	
			80h	0	
~	~				
87h	7				
Master detail control command	Control	OSA:30:[Data]	61h	-31	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSA:30:[Data]	~	~	
			80h	0	
			~	~	
9Fh	+31				
Master detail query command	Request	QSA:30	None		
	Response	OSA:30:[Data]	61h	-31	
			~	~	
			80h	0	
~	~				
9Fh	+31				

Command name	Category	Command	Data value	Setting	Remarks
Detail Gain(+) control command	Control	OSA:38:[Data]	61h	-31	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSA:38:[Data]	~	~	
			80h	0	
			~	~	
			9Fh	+31	
Detail Gain(+) query command	Request	QSA:38	None		
	Response	OSA:38:[Data]	61h	-31	
			~	~	
			80h	0	
			~	~	
			9Fh	+31	
Detail Gain(-) control command	Control	OSA:39:[Data]	61h	-31	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSA:39:[Data]	~	~	
			80h	0	
			~	~	
			9Fh	+31	
Knee aperture level control command	Control	OSG:3F:[Data]	00h	0	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSG:3F:[Data]	~	~	
			05h	5	
Knee aperture level query command	Request	QSG:3F	None		
	Response	OSG:3F:[Data]	00h	0	
			~	~	
			05h	5	
Detail coring control command	Control	OSJ:12:[Data]	00h	0	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSJ:12:[Data]	~	~	
			3Ch	60	
Detail coring query command	Request	QSJ:12	None		
	Response	OSJ:12:[Data]	00h	0	
			~	~	
			3Ch	60	
Level depend control command	Control	OSJ:13:[Data]	00h	0	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSJ:13:[Data]	~	~	
			3Ch	60	

Command name	Category	Command	Data value	Setting	Remarks
Level depend query command	Request	QSJ:13	None		
	Response	OSJ:13:[Data]	79h	-7	
			~	~	
			80h	0	
			~	~	
		87h	7		

4.2.10 Gamma setting

These commands control the Gamma of the camera and enable the current settings to be acquired.

Table 4.2.10.1 Gamma setting

Command name	Category	Command	Data value	Setting	Remarks
Gamma type control command	Control	OSE:72:[Data]	0	HD	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSE:72:[Data]	1	SD	
			2	FILMLIKE1	
			3	FILMLIKE2	
			4	FILMLIKE2	
			5	FILM-REC	
			6	VIDEO-REC	
			7	HLG	
Gamma type query command	Request	QSE:72	None		
	Response	OSE:72:[Data]	0	HD	
			1	SD	
			2	FILMLIKE1	
			3	FILMLIKE2	
			4	FILMLIKE2	
			5	FILM-REC	
			6	VIDEO-REC	
7	HLG				
Gamma control command	Control	OSA:6A:[Data]	67h	0.30	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSA:6A:[Data]	~	~	
			6Ch	0.35	
			~	~	
			80h	0.55	
			~	~	
			~	~	
			94h	0.75	
Gamma query command	Request	QSA:6A	None		
	Response	OSA:6A:[Data]	67h	0.30	
			~	~	
			6Ch	0.35	
			~	~	
			80h	0.55	
			~	~	
			~	~	
94h	0.75				

Command name	Category	Command	Data value	Setting	Remarks
Black gamma control command	Control	OSA:07:[Data]	78h	-8	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSA:07:[Data]	~	~	
			80h	0	
			~	~	
			88h	+8	
Black gamma query command	Request	QSA:07	None		
	Response	OSA:07:[Data]	78h	-8	
			~	~	
			80h	0	
			~	~	
88h	+8				
Black gamma range control command	Control	OSJ:1B:[Data]	1h	1	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSJ:1B:[Data]	2h	2	
			3h	3	
Black gamma range query command	Request	QSJ:1B	None		
	Response	OSJ:1B:[Data]	1h	1	
			2h	2	
3h	3				
F-REC dynamic LVL control command	Control	OSA:10:[Data]	0	200%	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting, or FILM-REC has not been selected as the Gamma Mode Sel.
	Response	OSA:10:[Data]	1	300%	
			2	400%	
			3	500%	
			4	600%	
F-REC dynamic LVL query command	Request	QSA:10	None		
	Response	OSA:10:[Data]	0	200%	
			1	300%	
			2	400%	
			3	500%	
4	600%				

Command name	Category	Command	Data value	Setting	Remarks
F-REC black STR LVL control command	Control	OSA:0F:[Data]	00h	0	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting, or FILM-REC has not been selected as the Gamma Mode Sel.
	Response	OSA:0F:[Data]	~ 1Eh	~ 30	
F-REC black STR LVL query command	Request	QSA:0F	None		
	Response	OSA:0F:[Data]	00h ~ 1Eh	0 ~ 30	
V-REC Knee slope control command	Control	OSA:25:[Data]	7Ch	150%	(1step=50%) <ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting, or VIDEO-REC has not been selected as the Gamma Mode Sel.
	Response	OSA:25:[Data]	~ 80h ~ 83h	~ 350% ~ 500%	
V-REC Knee slope query command	Request	QSA:25	None		(1step=50%)
	Response	OSA:25:[Data]	7Ch ~ 80h ~ 83h	150% ~ 350% ~ 500%	
V-REC Knee point control command	Control	OSA:21:[Data]	62h	30%	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting, or VIDEO-REC has not been selected as the Gamma Mode Sel.
	Response	OSA:21:[Data]	~ 80h ~ 9Eh ~ AFh	~ 60% ~ 90% ~ 107%	

Command name	Category	Command	Data value	Setting	Remarks
V-REC Knee point query command	Request	QSA:21	None		
	Response	OSA:21:[Data]	62h	30%	
			~	~	
			80h	60%	
			~	~	
			9Eh	90%	
			~ AFh	~ 107%	

4.2.11 Digital zoom settings

These commands control the digital zoom of the camera, and they enable the digital zoom settings to be acquired.

Table 4.2.11.1 Digital zoom settings

Command name	Category	Command	Data value	Setting	Remarks
iZoom control command	Control	OSD:B3:[Data]	0	Off	※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OSD:B3:[Data]	1	On	
iZoom query command	Request	QSD:B3	None		※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OSD:B3:[Data]	0 1	Off On	

4.2.12 Camera information acquisition

This command enables the camera information to be acquired.

Table 4.2.12.1 Camera information acquisition

Command name	Category	Command	Data value	Setting	Remarks
Model number query command	Request	QID	None		
	Response	OID:[Data]	In the case of the AG-CX350		
			AG-CX350		Model number of the camera
			In the case of the AJ-UPX360		
			AJ-UPX360		Model number of the camera
			In the case of the AG-CX200		
			AG-CX200		Model number of the camera
			In the case of the AJ-CX4000		
			AJ-CX4000		Model number of the camera
			In the case of the AJ-UPX900		
AJ-UPX900		Model number of the camera			

4.2.13 Frequency settings

This command enables the system frequency to be acquired.

Table 4.2.13.1 System frequency acquisition

Command name	Category	Command	Data value	Setting	Remarks
Frequency query command	Request	QSE:77	None		This command is only available in the following versions and later: <ul style="list-style-type: none"> • AG-CX350 Ver7.00 ~ • AJ-UPX360 Ver7.00 ~ • AG-CX200 Ver7.00 ~ • AJ-CX4000 Ver6.00 ~ • AJ-UPX900 Ver6.00 ~
	Response	OSE:77	0 1	59.94Hz 50.00Hz	

4.2.14 Knee settings

These commands control over Knee.

Table 4.2.14.1 Knee setting

Command name	Category	Command	Data value	Setting	Remarks
Knee Mode control command	Control	OSA:2D:[Data]	0	OFF	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting. For the AJ-CX4000/AJ-UPX900, when the power is turned off or the controller is removed, it returns to the setting value of the physical switch of the camera.
	Response	OSA:2D:[Data]	1	MANUAL	
			2	AUTO	
Knee Mode query command	Request	QSA:2D	None		
	Response	OSr trA:2D:[Data]	0 1 2	OFF MANUAL AUTO	
Master Knee Point control command	Control	OSA:20:[Data]	22h	70.00%	(1step=0.5%) <ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSA:20:[Data]	~	~	
			4Ah	80.00%	
			~	~	
			80h	93.50%	
~	~	~	~	~	
~	~	~	~	~	
Master Knee Point query command	Request	QSA:20	None		(1step=0.5%)
	Response	OSA:20:[Data]	22h ~ 4Ah ~ 80h	70.00% ~ 80.00% ~ 93.50%	

Command name	Category	Command	Data value	Setting	Remarks
			~ B6h	~ 107.00%	
Master Knee Slope control command	Control	OSA:24:[Data]	00h	0	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSA:24:[Data]	~ 63h	~ 99	
Master Knee Slope query command	Request	QSA:24	None		
	Response	OSA:24:[Data]	00h ~ 63h	0 ~ 99	
Auto Knee Response control command	Control	OSG:97:[Data]	1	1	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSG:97:[Data]	~ 8	~ 8	
Auto Knee Response query command	Request	QSG:97	None		
	Response	OSG:97:[Data]	1 ~ 8	1 ~ 8	
HLG Knee SW control command	Control	OSI:40:[Data]	0	OFF	• Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSI:40:[Data]	1	ON	
HLG Knee SW query command	Request	QSI:40	None		
	Response	OSI:40:[Data]	0 1	OFF ON	
HLG Knee point control command	Control	OSI:41:[Data]	1Ch	55.00	(1step=0.25%) Valid for 4 step units only: 1% increments • Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSI:41:[Data]	~ 80h ~ D0h	~ 80.00% ~ 100.00%	
HLG Knee point	Request	QSI:41	None		

Command name	Category	Command	Data value	Setting	Remarks
query command	Response	OSI:41:[Data]	1Ch ~ 80h ~ D0h	55.00 ~ 80.00% ~ 100.00%	(1step=0.25%) Valid for 4 step units only: 1% increments
HLG Knee slop control command	Control	OSI:42:[Data]	00h	0	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSI:42:[Data]	~ 64h	~ 100	
HLG Knee slop query command	Request	QSI:42	None		
	Response	OSI:42:[Data]	00h ~ 64h	0 ~ 100	

4.2.15 White Clip setting

These commands control over White Clip.

Table 4.2.15.1 White Clip setting

Command name	Category	Command	Data value	Setting	Remarks
White Clip settings control command	Control	OSA:2E:[Data]	0	OFF	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSA:2E:[Data]	1	ON	
White Clip settings query command	Request	QSA:2E	None		
	Response	OSA:2E:[Data]	0 1	OFF ON	
White Clip Level control command	Control	OSA:2A:[Data]	00h	90%	<ul style="list-style-type: none"> When [Knee Mode] is set to Auto and the White Clip value is changed, the Knee value will also change. Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response		~ 13h	~ 109%	
White Clip Level query command	Request	QSA:2A	None		
	Response	OSA:2A:[Data]	00h ~ 13h	90% ~ 109%	

4.2.16 OIS settings

These commands control over OIS.

Table 4.2.16.1 OIS settings

Command name	Category	Command	Data value	Setting	Remarks
OIS settings control command	Control	OIS:[Data]	0	Off	※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OIS:[Data]	1	On	
OIS settings query command	Request	QIS	None		※Not supported by the AJ-CX4000/AJ-UPX900
	Response	OIS:[Data]	0 1	Off On	

4.2.17 Tally settings

These commands perform ON/OFF controls for tallies.

Table 4.2.17.1 Tally settings

Command name	Category	Command	Data value	Setting	Remarks
RED tally settings control command	Control	TLR:[Data]	0	Off	
	Response	TLR:[Data]	1	On	
RED tally settings query command	Request	QLR	None		
	Response	TLR:[Data]	0 1	Off On	
GREEN tally settings control command	Control	TLG:[Data]	0	Off	
	Response	TLG:[Data]	1	On	
GREEN tally settings query command	Request	QLG	None		
	Response	OLG:[Data]	0 1	Off On	

4.2.18 SKIN TONE DETAIL settings

These commands configure the skin tone detail settings and acquire the current setting values.

Table 4.2.18.1 SKIN TONE DETAIL settings

Command name	Category	Command	Data value	Setting	Remarks
SKIN TONE DETAIL control command	Control	OSA:40:[Data]	0	Off	<ul style="list-style-type: none"> This command controls SKIN TONE DTL A ON/OFF. This setting is OFF if V-Log has been selected as the Color Setting.
	Response	OSA:40:[Data]	1	On	
SKIN TONE DETAIL query command	Request	QSA:40	None		
	Response	OSA:40:[Data]	0 1	Off On	
SKIN DETAIL EFFECT control command	Control	OSD:A3:[Data]	80h	0	<ul style="list-style-type: none"> Setting cannot be changed if V-Log has been selected as the Color Setting.
	Response	OSD:A3:[Data]	~ 9Fh	~ 31	
SKIN DETAIL EFFECT query command	Request	QSD:A3	None		
	Response	OSD:A3:[Data]	80h ~ 9Fh	0 ~ 31	

4.3 Video transmission and network application control

The video transmission and network application control commands are in compliance with the HTTP1.1 communication specifications. Their format is given below.

【Command format】

[Send]

http://[IP Address]/cgi-bin/[Command]?[Parameter name]=[Parameter value]

where

※IP Address..... IP address of camera at connection destination

※Command..... Details given in “Command” column in the command tables below

※Parameter name..... Details given in “Parameter name” column in the command tables below

※Parameter value..... Details given in “Command” column in the command tables below

[Receive] 200 OK “Command”

※Command..... Response value of each command; set in the HTTP message body

Example: Basic Settings Information Acquisition

[Send]

http://192.168.0.10/cgi-bin/get_basic

[Receive]

200 OK

cam_title = AG-CX350

plugin_download = disable

plugin_disp = 0

4.3.1 Device Information Acquisition

Method : GET

Command name	Command	Parameter name	Parameter value	Remarks
Device information acquisition	/cgi-bin/getinfo	FILE	1	• 1(Fixed)

Usage example) Acquisition of user ID (during H264(1) transmission)

http://192.168.0.10/cgi-bin/getinfo?FILE=1

The response data is as shown below.

```

MAC=< Mac address >[CR][LF]
SERIAL=< Serial number >[CR][LF]
VERSION=< Firmware version >[CR][LF]
NAME=< Model name >[CR][LF]
SDrec=< Recording status >[CR][LF]
SDrec2=< Recording status >[CR][LF]
sAlarm=< Alarm status >[CR][LF]
sAUX=< Aux status >[CR][LF]
ePort=< Event notification port number >[CR][LF]
aEnable=< Audio mode>[CR][LF]
aEnc=< Audio enc >[CR][LF]
aBitrate=< Audio bit rate >[CR][LF]
aBitrate2=< Audio bit rate >[CR][LF]
aInterval=< Audio input interval >[CR][LF]
aOutInterval=< Audio output interval >[CR][LF]
aOutPort=< Audio output port >[CR][LF]
aOutStatus=< Audio output status >[CR][LF]
aOutUID=< Audio output UID >[CR][LF]
aInPort_h264=< Audio with H.264/H.265 1st stream unicast port number >[CR][LF]
aInPort_h264_2=< Audio with H.264/H.265 2nd stream unicast port number >[CR][LF]
aInPort_h264_3=< Audio with H.264 3rd stream unicast port number >[CR][LF]
aInPort_h264_4=< Audio with H.264 4th stream unicast port number >[CR][LF]
sRtspMode_h264=< Control mode H.264(1)/H.265(1) >[CR][LF]

```

sRtspMode_h264_2=< Control mode H.264(2)/H.265(2) >[CR][LF]
sRtspMode_h264_3=< Control mode H.264(3) >[CR][LF]
sRtspMode_h264_4=< Control mode H.264(4) >[CR][LF]
ImageCaptureMode=< Image Capture Mode >[CR][LF]
ratio=< Aspect ratio >[CR][LF]
Maxfps=< Max fps >[CR][LF]
StreamMode=< Stream mode >[CR][LF]
StreamEncode=< Encode Type>[CR][LF]
iTransmit_h264=< H.264/H.265 1st stream ON/OFF setting >
sDelivery_h264=< H.264/H.265 1st stream setting >[CR][LF]
iBitrate_h264=< H.264/H.265 1st stream bit rate >[CR][LF]
iResolution_h264=< H.264/H.265 1st stream resolution >[CR][LF]
iQuality_h264=< H.264/H.265 1st stream quality >[CR][LF]
iMultiAuto_h264=< Multicast auto H.264(1)/H.265 >[CR][LF]
iTransmit_h264_2=< H.264/H.265 2nd stream ON/OFF setting >
sDelivery_h264_2=< H.264/H.265 2nd stream setting >[CR][LF]
iBitrate_h264_2=< H.264/H.265 2nd stream bit rate >[CR][LF]
iResolution_h264_2=< H.264/H.265 2nd stream resolution >[CR][LF]
iQuality_h264_2=< H.264/H.265 2nd stream quality >[CR][LF]
iMultiAuto_h264_2=< Multicast auto H.264(2) >[CR][LF]
iTransmit_h264_3=< H.264 3rd stream ON/OFF setting >
sDelivery_h264_3=< H.264 3rd stream setting >[CR][LF]
iBitrate_h264_3=< H.264 3rd stream bit rate >[CR][LF]
iResolution_h264_3=< H.264 3rd stream resolution >[CR][LF]
iQuality_h264_3=< H.264 3rd stream quality >[CR][LF]
iMultiAuto_h264_3=< Multicast auto H.264(3) >[CR][LF]
iTransmit_h264_4=< H.264 4th stream ON/OFF setting >
sDelivery_h264_4=< H.264 4th stream setting >[CR][LF]
iBitrate_h264_4=< H.264 4th stream bit rate >[CR][LF]
iResolution_h264_4=< H.264 4th stream resolution >[CR][LF]
iQuality_h264_4=< H.264 4th stream quality >[CR][LF]
iMultiAuto_h264_4=< Multicast auto H.264(4) >[CR][LF]

The description of the response data is as shown below.

Item	Value of response	Remarks
MAC	XX-XX-XX-XX-XX-XX	• MAC address
SERIAL	XXXXXXXXXX	• Product serial number
VERSION		• Software version
NAME	XX-XXXX	• Product number e.g.)AG-CX350
SDrec	disable	• Fixed value
SDrec2	disable	• Fixed value
sAlarm	off	• Fixed value
sAUX	off	• Fixed value
ePort	31004	• Fixed value
aEnable	off, in	• off: Audio OFF • in: Audio ON(reception)
aEnc	2	• Fixed value(2: AAC)
aBitrate	128, 96, 64	• Bit rate setting of audio
aBitrate2	64	• Fixed value
aInterval	20	• Fixed value
aOutInterval	640	• Fixed value
aOutPort	34004	• Fixed value
aOutStatus	off	• Fixed value
aOutUID	0	• Fixed value
aInPort_h264	1024 to 50000	• H.264(1)/H.265 Audio reception port number
aInPort_h264_2	1024 to 50000	• H.264(2) Audio reception port number
aInPort_h264_3	1024 to 50000	• H.264(3) Audio reception port number
aInPort_h264_4	1024 to 50000	• H.264(4) Audio reception port number
ImageCaptureMode	2m	• Fixed value
ratio	16_9	• Fixed value
Maxfps	30, 60	• Max. frame rate
StreamMode	1	• Fixed value
StreamEncode	1, 2	• 1: H.264 • 2: H.265
iTransmit_h264	1	• Fixed value
sDelivery_h264	uni, multi, uni_manual	• uni: Unicast(auto) • multi: Multicast • uni_manual Unicast(manual)
iBitrate_h264	Numeric value	• Bit rate setting of H.264(1)/H.265
iQuality_h264	320, 640, 1280, 1920, 3840	• Horizontal resolution setting of H.264(1)/H.265
iMultiAuto_h264	0	• Fixed value
iTransmit_h264_2	see.H.264(1)	see.H264(1)
sDelivery_h264_2		

Item	Value of response	Remarks
iBitrate_h264_2		
iResolution_h264_2	see.H.264(1)	see.H.264(1)
iQuality_h264_2		
iMultiAuto_h264_2		
iTransmit_h264_3	see.H.264(1)	see.H264(1)
sDelivery_h264_3		
iBitrate_h264_3		
iResolution_h264_3		
iQuality_h264_3		
iMultiAuto_h264_3		
iTransmit_h264_4	see.H.264(1)	see.H264(1)
sDelivery_h264_4		
iBitrate_h264_4		
iResolution_h264_4		
iQuality_h264_4		
iMultiAuto_h264_4		

4.3.2 JPEG-based Image Transmission

Method : GET

Command name	Command	Parameter name	Parameter value	Remarks
JPEG image 1 shot request	/cgi-bin/view.cgi	action	snapshot	<p>Acquires one JPEG image</p> <p>CX series cameras only support "snapshot".</p> <p>This command is only available in the following versions and later:</p> <ul style="list-style-type: none"> • AG-CX350 Ver7.00 ~ • AJ-UPX360 Ver7.00 ~ • AG-CX200 Ver7.00 ~ • AJ-CX4000 Ver6.00 ~ • AJ-UPX900 Ver6.00 ~

[Note]

JPEG image 1shot

By repeating the processes of acquisition, display, and standby for a single JPEG image, a movie display can be realized.

The frame rate is decided according to the standby time in the software and hardware at the receiving side.

In the AJ-CX4000/AJ-UPX900, the resolution of JPEG images is fixed at 416 x 240. In the AG-CX350/AJ-UPX360/AG-200, the resolution of JPEG images is fixed by the camera settings. If the aspect ratio is 16: 9, it is fixed at 416 x 240, and if it is 4: 3, it is fixed at 320 x 240.

If the recording format is 4K, the image of the CX series logo will be output.

4.3.3 Basic Settings Information Acquisition

Method : GET

Command name	Command	Parameter name	Parameter value	Remarks
Basic settings information acquisition	/cgi-bin/get_basic			

The response data is as shown below.

cam_title = Camera title

plugin_download = disable (Fixed value in the CX series)

plugin_disp = 0 (Fixed value for CX series)

4.3.4 VideoOverIP Screen Information Acquisition

Method : GET

Command name	Command	Parameter name	Parameter value	Remarks
VideoOverIP screen information acquisition	/cgi-bin/get_video_ov er_ip			<ul style="list-style-type: none"> The response is issued in a random order If transmission to a specific ch is not possible due to the specifications, the response for the desired ch is not returned Exampe) if transmission to h264(ch4) is not possible, h264_xxxxx_ch4 is not included in the response.

The response data is as shown below.

```

cam_title = Camera title

livestart_stream=h264/h264_2/h264_3/h264_4/jpeg/jpeg_2/jpeg_3
jpeg_quality=1/5
jpeg_quality_ch2=1/5
jpeg_quality_ch3=1/5
resol_stream1=320/640/1280/1920/3840
resol_stream2=320/640/1280
resol_stream3=320/640/1280
jpeg_transmit1=0/1
jpeg_transmit2=0/1
jpeg_transmit3=0/1
jpeg_interval1=1/4/5/12/15(12.5)/24/30(25)
jpeg_interval2=1/4/5/12/15(12.5)/24/30(25)
jpeg_interval3=1/4/5/12/15(12.5)/24/30(25)
h264_transmit_ch1=0/1
h264_transmit_ch2=0/1
h264_transmit_ch3=0/1
h264_transmit_ch4=0/1
h264_rtsp_mode_ch1=0/1

```

h264_rtsp_mode_ch2=0/1
h264_rtsp_mode_ch3=0/1
h264_rtsp_mode_ch4=0/1
h264_resolution_ch1=1920/3840
h264_resolution_ch2=320/640/1280/1920
h264_resolution_ch3=320/640/1280
h264_resolution_ch4=320/640/1280
h264_f_priority_ch1=0/1/2
h264_f_priority_ch2=0/1/2
h264_f_priority_ch3=0/1/2
h264_f_priority_ch4=0/1/2
h264_framerate_ch1=5/15(12.5)/24/30(25)/60(50)
h264_framerate_ch2=5/15(12.5)/24/30(25)/60(50)
h264_framerate_ch3=5/15(12.5)/30(25)
h264_framerate_ch4=5/15(12.5)/30(25)
h264_bandwidth_ch1 = Numeric value
h264_bandwidth_ch2 = Numeric value
h264_bandwidth_ch3 = Numeric value
h264_bandwidth_ch4 = Numeric value
h264_bandwidth_min_ch1 = Numeric value
h264_bandwidth_min_ch2 = Numeric value
h264_bandwidth_min_ch3 = Numeric value
h264_bandwidth_min_ch4 = Numeric value
h264_quality_ch1=fine/low1/5
h264_quality_ch2=fine/low1/5
h264_quality_ch3=fine/low1/5
h264_quality_ch4=fine/low1/5
h264_unimulti_ch1=uni/multi/uni_manual
h264_unimulti_ch2=uni/multi/uni_manual
h264_unimulti_ch3=uni/multi/uni_manual
h264_unimulti_ch4=uni/multi/uni_manual
h264_unicast_port_ch1 = Numeric value (1024 to 50000)
h264_unicast_port_ch2 = Numeric value (1024 to 50000)

h264_unicast_port_ch3 = Numeric value (1024 to 50000)
h264_unicast_port_ch4 = Numeric value (1024 to 50000)
h264_unicast_audio_port_ch1 = Numeric value (1024 to 50000)
h264_unicast_audio_port_ch2 = Numeric value (1024 to 50000)
h264_unicast_audio_port_ch3 = Numeric value (1024 to 50000)
h264_unicast_audio_port_ch4 = Numeric value (1024 to 50000)
h264_multicast_addr_ch1=xxx.xxx.xxx.xxx
h264_multicast_addr_ch2=xxx.xxx.xxx.xxx
h264_multicast_addr_ch3=xxx.xxx.xxx.xxx
h264_multicast_addr_ch4=xxx.xxx.xxx.xxx
h264_multicast_port_ch1 = Numeric value (1024 to 50000)
h264_multicast_port_ch2 = Numeric value (1024 to 50000)
h264_multicast_port_ch3 = Numeric value (1024 to 50000)
h264_multicast_port_ch4 = Numeric value (1024 to 50000)
h264_multicast_ttl_ch1 = Numeric value (1 to 254)
h264_multicast_ttl_ch2 = Numeric value (1 to 254)
h264_multicast_ttl_ch3 = Numeric value (1 to 254)
h264_multicast_ttl_ch4 = Numeric value (1 to 254)
h265_transmit_ch1=0/1
h265_rtsp_mode_ch1=0
h265_resolution_ch1=3840
h265_framerate_ch1=24/30(25)
h265_bandwidth_ch1= Numeric value
h265_unimulti_ch1=uni/multi/uni_manual
h265_unicast_port_ch1= Numeric value (1024~50000)
h265_unicast_audio_port_ch1= Numeric value (1024~50000)
h265_multicast_addr_ch1=xxx.xxx.xxx.xxx
h265_multicast_port_ch1= Numeric value (1024~50000)
h265_multicast_ttl_ch1= Numeric value (1~254)

4.3.5 Camera Status Acquisition

Method : GET

Command name	Command	Parameter name	Parameter value	Remarks
Camera status acquisition	/cgi-bin/get_state			This command is only available in the following versions and later: <ul style="list-style-type: none"> • AG-CX350 Ver7.00 ~ • AJ-UPX360 Ver7.00 ~ • AG-CX200 Ver7.00 ~ • AJ-CX4000 Ver6.00 ~ • AJ-UPX900 Ver6.00 ~

The response data is as shown below.

rec: on/off Is recording in progress or not

rec_counter: hh:mm:ss Recording elapsed time. Fixed at "00:00:00" for the CX series.

ftp_send: on/off Is FTP transfer in progress or not

play: on/off Is playback in progress or not

del_file: on/off Is file deletion in progress or not. Fixed at "off" for the CX series.

download: on/off Is download in progress or not. Fixed at "off" for the CX series.

sd_format: on/off Is SD card formatting in progress or not. Fixed at "off" for the CX series.

sd/sd2/ex1_insert: on/off Has SD card been inserted or not

sd/sd2/ex1_repair: on/off Is SD card being repaired or not. Fixed at "off" for the CX series.

sd/sd2/ex1_error: on/off Is SD card in error state or not.

sd/sd2/ex1_rem: xx SD card remaining amount [Gbyte]. Fixed at "0.0" for the CX series.

sd/sd2/ex1_org: yy SD card capacity [Gbyte]. Fixed at "0.0" for the CX series.

sd/sd2/ex1_protect: on/off Is SD card in protect state or not.

4.3.6 Video Recording Start/End Control

Method : GET

Command name	Command	Parameter name	Parameter value	Remarks
MP4 recording to SD card	/cgi-bin/sdctrl	save	start end	start: Recording Start end: Recording end This command is only available when the camera is ready for recording.

Usage example) Start recording to the SD card.

<http://192.168.0.10/cgi-bin/sdctrl?save=start>

4.3.7 RTMP Stream Control

Method : GET

Command name	Command	Parameter name	Parameter value	Remarks
RTMP Stream Control	/cgi-bin/rtmp_ctrl	cmd	start stop	start: RTMP Stream Start stop: RTMP Stream Stop This command is only available when RTMP is selected as the streaming protocol.

Usage example) Start RTMP Streaming.

http://192.168.0.10/cgi-bin/rtmp_ctrl?cmd=start

4.3.8 RTMP Server Setting

Method : GET

Command name	Command	Parameter name	Parameter value	Remarks
RTMP Server Setting	/cgi-bin/set_rtmp_param	type	0 1	0: URL, Stream key concatenation 1: URL, Stream key split
		url	String	ServerURL
		key	String	Stream Key *Optional if 0 is specified for type
				This command is only available when RTMP is selected as the streaming protocol. This command is only available in the following versions and later: <ul style="list-style-type: none"> • AG-CX350 Ver7.00 ~ • AJ-UPX360 Ver7.00 ~ • AG-CX200 Ver7.00 ~ • AJ-CX4000 Ver6.00 ~ • AJ-UPX900 Ver6.00 ~

4.3.9 SRT Stream Control

Method : GET

Command name	Command	Parameter name	Parameter value	Remarks
SRT Stream Control	/cgi-bin/srt_ctrl	cmd	start stop	start: SRT Stream Start stop: SRT Stream Stop This command is only available when SRT CLIENT is selected as the streaming protocol.

Usage example) Start SRT Streaming.

http://192.168.0.10/cgi-bin/srt_ctrl?cmd=start

4.3.10 SRT Streaming Settings

Method : GET

Command name	Command	Parameter name	Parameter value	Remarks
SRT Streaming Setting	/cgi-bin/set_srt_info	mode	0 1	0: Client 1: Listener Only 0 is supported in the CX series
		dip_addr	*.*.* format	Destination IP address
		dport	Numeric number	Destination Port number
		encryption	0 1 2 3	Encryption method 0: OFF 1: AES-128 2: AES-256 3: AES-192
		passphrase	String	Passphrase
		streamid	String	Stream ID