HD Integrated Camera Interface Specifications

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1. Introduction

This manual describes the external interface specifications which are applicable when the HD integrated camera is operated using Ethernet.

It consists of three main sections, namely, camera and pan-tilt head control, camera information update notifications and error return.

Applicable models

・AW-HE50 series※, AW-HE120, AW-HE60 series

※The functions indicated as “Ver.2” in the text can be used when the activation process has been completed after the upgrade kit (AW-HEF5) is applied.

2. Configuration outline

This manual has the following general configuration.

① Camera and pan-tilt head control

It is possible to control the pan, tilt and white balance adjustments.

It is also possible to acquire the gain and other camera information by initiating queries.

The various functions are employed for the operations with the camera using HTTP which is the host protocol of TCP.

For further details, refer to chapter 3.

② Camera information update notification

The local terminal is notified of the values of the gain and other settings which have been changed at another terminal or other terminals so that it can acquire the camera information.

This feature is useful when one camera is controlled by a multiple number of terminals, and when the setting for enabling update notifications to be received has been established, the information which has been changed by other terminals can be acquired.

For further details, refer to chapter 4.

③ Camera information batch acquisition

The camera information can be acquired in batch form. Since there is no need to query each and every camera information item when this feature is used, the feature is useful when all the camera information is required such as at startup.

For further details, refer to chapter 5.

④ Error return

An error — whether ER1, ER2 or ER3 — is returned when an error has been generated by a command in ① above or when the AWB result contains an error.

For further details, refer to chapter 6.

3. Camera and pan-tilt head control

Given below are the external interfaces which are used when operating the camera using Ethernet. This chapter presents the following details.

① Pan-tilt head control
This interface controls the pan-tilt head, and it uses the “pan-tilt head control commands”.

② Camera control
This interface is concerned with the camera’s lens control and image adjustments, and it uses the “camera control commands”.

3.1. Pan-tilt head control

The pan-tilt head control commands are in compliance with the HTTP1.1 communication specifications. Their format is given below.
For details on the HTTP messages, refer to <Appendix>.

【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: Pan/tilt (Stop)
[Send]
http://192.168.0.10/cgi-bin/aw_ptz?cmd=#PTS5050&res=1

[Receive]
200 OK **“pTS5050”**

※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=%23PTS5050&res=1

Given below is the communication sequence which accords with the command format presented on the previous page.
For the communication sequence of the errors generated in response to commands which have been sent, refer to “6. Error return”.

【Sequence】
“PC1” is the control terminal in the sequence below.
Example: Pan/tilt (Stop) control
Camera IP Address = 192.168.0.10
Command = PTS5050

The control to stop the pan-tilt operation is exercised from PC1. [200 OK “pTS5050”] 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.

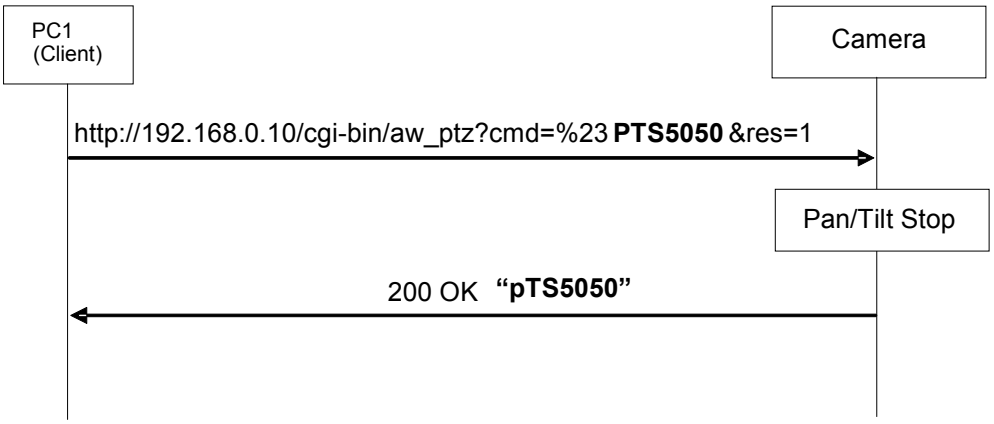


Fig.3.1-1 Command sequence of pan-tilt head control

It must be borne in mind that communication with the camera is subject to some restrictions.
These restrictions are as follows.

【Restrictions】

1. When using the pan-tilt head control commands, send the commands with a gap of 130 ms between each command. Given below is the sequence.

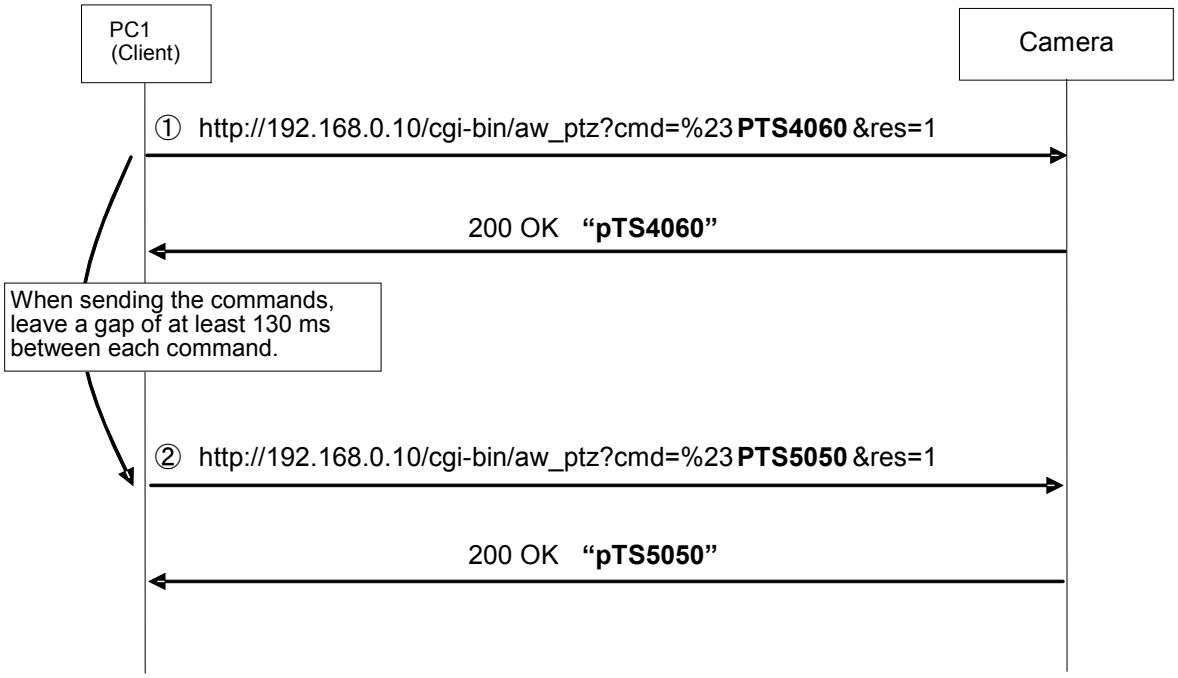


Fig.3.1-2 Restrictions

2. The number of sessions during which the camera can be accessed simultaneously is as follows.
   a) Maximum number of HTTP sessions: 72
   b) Number of terminals which can receive update notifications at the same time: 5
      When the AW-RP50 is connected, it is counted as one unit.

3. Keep-Alive cannot be set with HTTP connections.
   Connect and disconnect are performed each time a command is sent or received.

4. Some settings and conditions may restrict the effects of other settings (※including those with exclusive control conditions). See also the operating instructions which are provided with the products.

5. Send the commands which change the settings only at the point in time when the changes are required. (Do not send them at regular intervals.)
   ※The applicable models incorporate an EEPROM for storing the settings, and each time a command that changes the settings is received, data is written in the EEPROM. The number of times data can be written in the EEPROM is limited so if data is sent frequently, the model will cease to operate normally when the maximum number of times for writing the data has been reached.

3.1.1. Power On/Standby

These commands enable the power On/Standby of the camera to be controlled and the current power On/Standby statuses to be acquired.

Table 3.1.1. Power On/Standby

Command name	Category	Command	Data value	Setting	Remarks
Power On/ Standby control command	Control	#O[*Data*]	0 f 1 n	Standby Standby Power On Power On	
	Response	p[*Data*]			
Power On/ Standby query command	Request	#O	None		
	Response	p[*Data*]	0 1	Standby Power On	
			3	Transferring from Standby to ON	※Only supported by the AW-HE120.

Example of use) Power On

[Control] PC → AW-HE50

http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23O1&res=1

[Response] AW-HE50 → PC

200 OK “p1”

3.1.2. Installation and smart picture flip commands

These commands control the method used for the installation of the camera (stand-alone or suspended) and smart picture flip, and they enable the current installation and smart picture flip settings to be acquired.

Table 3.1.2. Installation position

Command name	Category	Command	Data value	Setting	Remarks
Installation position control command	Control	#INS[*Data*]	0 1	Desktop Hanging	
	Response	iNS[*Data*]			
Installation position query command	Request	#INS	None		
	Response	iNS[*Data*]	0 1	Desktop Hanging	
Smart picture flip Auto/Off control command	Control	#SPF[*Data*]	0 1	Off Auto	• This command enables smart picture flip to be set to Auto or Off. ※Only supported by the AW-HE120.
	Response	sPF[*Data*]			※Only supported by the AW-HE120.
Smart picture flip Auto/Off query command	Request	#SPF	None		※Only supported by the AW-HE120.
	Response	sPF[*Data*]	0 1	Off Auto	※Only supported by the AW-HE120.
Smart picture flip angle setting control command	Control	#FDA[*Data*]	3C ～ 78	60degree ～ 120degree	• This command enables the angle of smart picture flip to be set. ※Only supported by the AW-HE120.
	Response	fDA[*Data*]			※Only supported by the AW-HE120.
Smart picture flip angle setting query command	Request	#FDA	None		※Only supported by the AW-HE120.
	Response	fDA[*Data*]	3C ～ 78	60degree ～ 120degree	※Only supported by the AW-HE120.

Example of use)

・Installation position: Desktop

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23INS0&res=1

[Response] AW-HE50 → PC
200 OK “iNS0”

・Smart picture flip: Auto

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23SPF1&res=1

[Response] AW-HE120 → PC
200 OK “sPF1”

・Smart picture flip angle: 60deg

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23FDA3C&res=1

[Response] AW-HE120 → PC
200 OK “fDA3C”

3.1.3. Pan/tilt

These commands enable the pan and tilt of the pan-tilt head of the camera to be controlled and the current position information and operating speed to be acquired.

Table 3.1.3. Pan/tilt

Command name	Category	Command	Data value	Setting	Remarks
Pan/tilt position control command	Control	#APC[*Data1*] [*Data2*]	[Data1] 0000 ≀ 8000 ≀ FFFF [Data2] 0000 ≀ 8000 ≀ FFFF	[Data1]Pan Pos ccwLimit center cwLimit [Data2]Tilt Pos upLimit center downLimit	• The pan-tilt head moved to the home position by #APC[8000][8000]. • Pan(–175) – (+175)deg 2D08 – D2F5 ■In the case of the AW-HE50/ AW-HE60 • Tilt(–30) – (+90)deg 5556 – 8E38 ■In the case of the AW-HE120 • Tilt(–30) – (+210)deg 1C73 – 8E38 • The resolution is calculated to be 29.7 sec.
	Response	aPC[*Data1*] [*Data2*]			
Pan/tilt position query command	Request	#APC	None		
	Response	aPC[*Data1*] [*Data2*]	[Data1] 0000 ≀ 8000 ≀ FFFF [Data2] 0000 ≀ 8000 ≀ FFFF	[Data1]Pan Pos ccwLimit center cwLimit [Data2]Tilt Pos upLimit center downLimit	
Speed (pan/tilt) control command	Control	#P[*Data*]	01 ≀ 49 50 51 ≀ 99	Left Max. Speed ≀ Left Min. Speed Pan Stop Right Min. Speed ≀ Right Max. Speed	Pan speed to be controlled
	Response	pS[*Data*]			
	Control	#T[*Data*]	01 ≀ 49 50 51 ≀ 99	Down Max. Speed ≀ Down Min. Speed Tilt Stop UP Min. Speed ≀ UP Max. Speed	Tilt speed to be controlled
	Response	tS[*Data*]			

Command name	Category	Command	Data value	Setting	Remarks
Speed (pan/tilt) control command	Control	#PTS[*Data1*] [*Data2*]	[Data1] 01 ≀ 49 50 51 ≀ 99 [Data2] 01 ≀ 49 50 51 ≀ 99	[Data1] Left Max. Speed ≀ Left Min. Speed Pan Stop Right Min. Speed ≀ Right Max. Speed [Data2] Down Max. Speed ≀ Down Min. Speed Tilt Stop UP Min. Speed ≀ UP Max. Speed	[Data1] Pan speed control [Data2] Tilt speed control
	Response	pTS[*Data1*] [*Data2*]			

Example of use)

・Camera control: PAN= 7FFF, TILT= 7FFF (Home position)

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23APC7FFF7FFF&res=1

[Response] AW-HE50 → PC
200 OK “aPC7FFF7FFF”

・Pan speed control: max. speed to the right

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23P99&res=1

[Response] AW-HE50 → PC
200 OK “pS99”

・Tilt speed control: max. speed downward

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23T01&res=1

[Response] AW-HE50 → PC
200 OK “tS01”

・Pan/tilt speed control: max. speed to the left, max. speed upward

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23PTS0199&res=1

[Response] AW-HE50 → PC
200 OK “pTS0199”

3.1.4. Movement range limit On/Off

These commands enable the movement range settings (limiter settings) for the pan and tilt of the camera and the information of the current movement range limits to be acquired.
Up, down, left and right limits can be set.

Table 3.1.4. Movement range limit On/Off

Command name	Category	Command	Data value	Setting	Remarks
Movement range On/Off control command	Control	#LC[*Data1*] [*Data2*]	[Data1] 1 2 3 4 [Data2] 0 1	[Data1] Up Down Left Right [Data2] Release Set	The directions in which the movement range is to be limited are controlled, and limit set or release is controlled. [Data1] Control in the movement range limit direction [Data2] Limit set/release
	Response	IC[*Data1*][*Data2*]			
	Control	#L[*Data*]	1 2 3 4	Up Down Left Right	The direction in which the movement range is to be limited is controlled. • Operation toggles between set and release.
	Response	I [*Data*]	0 1	Release Set	Limit set/release
Movement range limit On/Off query command	Request	#LC[*Data*]	1 2 3 4	Up Down Left Right	
	Response	IC[*Data1*][*Data2*]	[Data1] 1 2 3 4 [Data2] 0 1	[Data1] Up Down Left Right [Data2] Release Set	[Data1] Control in the movement range limit direction [Data2] Limit set/release

Example of use)

・Setting the movement range limit in the upward direction

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23LC11&res=1

[Response] AW-HE50 → PC
200 OK “lC11”

・Releasing the movement range limit in the upward direction

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23LC10&res=1

[Response] AW-HE50 → PC
200 OK “lC10”

・Setting/releasing the movement range limit in the upward direction

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23L1&res=1

[Response] AW-HE50 → PC
200 OK “l1”

3.1.5. Lens operations

3.1.5.1. Zoom

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

Table 3.1.5.1. Zoom

Command name	Category	Command	Data value	Setting	Remarks
Zoom (position control) control command	Control	#AXZ[*Data*]	555 ≀ FFF	Wide ≀ Tele	
	Response	axz[*Data*]			
Zoom position query command	Request	#GZ	None		
	Response	gz[*Data*]	555 ≀ FFF "---"	Wide ≀ Tele Standby	The "---" setting is supported only by the AW-HE50/AW-HE60.
Zoom (speed control) control command	Control	#Z[*Data*]	01 ≀ 49 50 51 ≀ 99	Wide Max. Speed ≀ Wide Min. Speed Zoom Stop Tele Min. Speed ≀ Tele Max. Speed	Zooming speed to be controlled
	Response	zS[*Data*]			

Example of use)

・Zoom: Tele

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23AXZFFF&res=1

[Response] AW-HE50 → PC
200 OK "axzFFF"

・Speed control: zooming max. speed in Wide direction

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23Z01&res=1

[Response] AW-HE50 → PC
200 OK "zS01"

3.1.5.2. 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 “3.2.1.1. Focus” of “3.2. Camera control”.

Table 3.1.5.2. Focus

Command name	Category	Command	Data value	Setting	Remarks
Focus (position control) control command	Control	#AXF[*Data*]	555 ≀ FFF	Near ≀ Far	• Invalid when auto focus is On (ER3 is returned).
	Response	axf[*Data*]			
Focus position query command	Request	#GF	None		
	Response	gf[*Data*]	555 ≀ FFF “---”	Near ≀ Far Standby	The “---” setting is supported only by the AW-HE50/AW-HE60.
Focus (speed control) control command	Control	#F[*Data*]	01 ≀ 49 50 51 ≀ 99	Near Max. Speed ≀ Near Min. Speed Focus Stop Far Min. Speed ≀ Far Max. Speed	• Focusing speed to be controlled • Invalid when auto focus is On (ER3 is returned).
	Response	fS[*Data*]			
Auto focus On/Off control command	Control	#D1[*Data*]	0 1	Off(Manual) On(Auto)	
	Response	d1[*Data*]			
Auto focus On/Off query command	Request	#D1	None		
	Response	d1[*Data*]	0 1	Off(Manual) On(Auto)	

Example of use)

・Focus: Near

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23AXF555&res=1

[Response] AW-HE50 → PC
200 OK “axf555”

・Speed control: max. focusing speed in Far direction

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23F99&res=1

[Response] AW-HE50 → PC
200 OK “fS99”

・Auto focus: auto focus start

[Control] PC → AW-HE50

http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23D11&res=1

[Response] AW-HE50 → PC

200 OK “d11”

3.1.5.3. 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 “3.2.1.2. Iris” of “3.2. Camera control”.

Table 3.1.5.3. Iris

Command name	Category	Command	Data value	Setting	Remarks
Iris position control command	Control	#I [*Data*]	01 ≀ 99	Iris Close ≀ Iris Open	
	Response	iC[*Data*]			
	Control	#AXI [*Data*]	555 ≀ FFF	Iris Close ≀ Iris Open	
	Response	axi [*Data*]			
Iris position Auto/Manual query command	Request	#GI	None		
	Response	gi [*Data1*] [*Data2*]	[Data1] 555 ≀ FFF “---” [Data2] 0 1	 Iris Close ≀ Iris Open Standby Manual Iris Auto Iris	The “---” setting is supported only by the AW-HE50/AW-HE60.
Auto Iris On/Off control command	Control	#D3[*Data*]	0 1	Manual Iris Auto Iris	
	Response	d3[*Data*]			
Auto Iris On/Off query command	Request	#D3	None		
	Response	d3[*Data*]	0 1	Manual Iris Auto Iris	

Example of use)

・Iris: Open

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23I99&res=1
[Response] AW-HE50 → PC
200 OK “iC99”

・Iris: Close

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23AXI555&res=1
[Response] AW-HE50 → PC
200 OK “axi555”

・Auto iris: On

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23D31&res=1

[Response] AW-HE50 → PC
200 OK “d31”

3.1.6. Lens information notification

These commands enable On or Off to be set for the lens information notification of the camera and the current lens information notification On/Off status and lens information to be acquired.

Table 3.1.6. Lens information notification On/Off

Command name	Category	Command	Data value	Setting	Remarks
Lens information notification On/Off control command	Control	#LPC[*Data*]	0 1	Off On	Off: Information is not posted. On: Information is posted.
	Response	IPC[*Data*]			
Lens information notification On/Off query command	Request	#LPC	None		
	Response	IPC[*Data*]	0 1	Off On	Off: Information is not posted. On: Information is posted.
Lens information query command	Request	#LPI	None		
	Response	IPI [*Data1*] [*Data2*][*Data3*]	[Data1] 555 ≀ FFF [Data2] 555 ≀ FFF [Data3] 555 ≀ FFF	[Data1] Zoom Position Wide ≀ Tele [Data2] Focus Position Near ≀ Far [Data3] Iris Position Close ≀ Open	[Data1] Same return as #GZ [Data2] Same return as #GF [Data3] Same return as #GI • The command is sent periodically (every 300 ms) to all the channels to which the command can be sent. (This update notification flag must be provided at the UniS side.)

Example of use)

・Lens information notification: On

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23LPC1&res=1

[Response] AW-HE50 → PC
200 OK “IPC1”

・Lens information acquisition

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23LPI&res=1

[Response] AW-HE50 → PC
200 OK “IPI [Data1][Data2][Data3]”

3.1.7. Preset

These commands register and play back the presets of the camera and enable the preset number last played back to be acquired.
They also enable the preset speed to be registered and the current preset speed to be acquired.

Table 3.1.7. Preset

Command name	Category	Command	Data value	Setting	Remarks
Preset (register) control command	Control	#M[*Data*]	00 ≀ 99	Preset 001 ≀ Preset 100	
	Response	s[*Data*]			
Preset (playback) control command	Control	#R[*Data*]	00 ≀ 99	Preset 001 ≀ Preset 100	
	Response	s[*Data*]			
Preset number query command	Request	#S	None		Request for preset number last played back
	Response	s[*Data*]	00 ≀ 99	Preset 001 ≀ Preset 100	
Preset Speed control command	Request	#UPVS[*Data*]	000 250 ≀ 999	30 : MaxSpeed 1 : Slow ≀ 30 : Fast	
	Response	uPVS[*Data*]			
Preset Speed query command	Request	#UPVS			
	Response	uPVS[*Data*]	250 ≀ 999	1 : Slow ≀ 30 : Fast	

※After the presets have all been played back, the completion notification is sent in the “q**” format.
For details, refer to “4.4.4. Preset playback”.

Example of use)

・Preset: registering a setting in Preset 08

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23M07&res=1

[Response] AW-HE50 → PC
200 OK “s07”

・Preset: playing back Preset 12

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23R11&res=1

[Response] AW-HE50 → PC
200 OK “s11”

・Preset: Preset Speed Set to 1(Slow)

[Control] PC → AW-HE50

http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23UPVS250&res=1

[Response] AW-HE50 → PC

200 OK “uPVS250”

3.1.8. Tally

These commands exercise enable/disable control over the tally input of the camera and enable the current tally input enable/disable statuses to be acquired.
In addition, they exercise tally On/Off control over the camera.

Table 3.1.8. Tally

Command name	Category	Command	Data value	Setting	Remarks
Tally input enable/disable control command	Control	#TAE[*Data*]	0 1	Disable Enable	
	Response	tAE[*Data*]			
Tally input enable/disable query command	Request	#TAE	None		
	Response	tAE[*Data*]	0 1	Disable Enable	
Tally On/Off control command	Control	#DA[*Data*]	0 1	Tally Off Tally On	
	Response	dA[*Data*]			
Tally On/Off query command	Request	#DA	None		
	Response	dA[*Data*]	0 1	Tally Off Tally On	

Example of use)

・Tally input (enable/disable): Enable

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23TAE1&res=1

[Response] AW-HE50 → PC
200 OK “tAE1”

・Tally: On

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23DA1&res=1

[Response] AW-HE50 → PC
200 OK “dA1”

3.1.9. Wireless remote controller setting

These commands make it possible for enable or disable to be set for the control which is exercised over the wireless remote controller of the camera and for the current enable/disable statuses to be acquired.

Table 3.1.9. Wireless remote controller enable/disable setting

Command name	Category	Command	Data value	Setting	Remarks
Wireless remote controller control enable/disable control command	Control	#WLC[*Data*]	0 1	Disable Enable	
	Response	wLC[*Data*]			
Wireless remote controller control enable/disable query command	Request	#WLC	None		
	Response	wLC[*Data*]	0 1	Disable Enable	

Example of use) Wireless remote controller: Disable

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23WLC0&res=1

[Response] AW-HE50 → PC
200 OK “wLC0”

3.1.10. Zoom position-linked pan/tilt speed adjustment On/Off

These commands exercise On/Off control over the zoom position-linked pan/tilt speed adjustments of the camera and enable the current On/Off statuses to be acquired.
When the lens is zoomed toward Tele, the pan/tilt movement is set to the low speed.

Table 3.1.10. Zoom position-linked pan/tilt speed adjustment On/Off

Command name	Category	Command	Data value	Setting	Remarks
Zoom position-linked pan/tilt speed adjustment On/Off control command	Control	#SWZ[*Data*]	0 1	Off On	
	Response	sWZ[*Data*]			
Zoom position-linked pan/tilt speed adjustment On/Off query command	Request	#SWZ	None		
	Response	sWZ[*Data*]	0 1	Off On	

Example of use)

・Zoom position-linked pan/tilt speed adjustment: On

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23SWZ1&res=1

[Response] AW-HE50 → PC
200 OK “sWZ1”

3.1.11. Software version information

This command enables the software version information to be acquired.

Table 3.1.11. Software version information

Command name	Category	Command	Data value	Setting	Remarks
Software version information query command	Request	#QSV[*Data1*]	In the case of the AW-HE50/AW-HE60		
			[Data1] 0 1 2 3 4 5 6 7 8	[Data1] Pan Tilt CPU Camera CPU Camera PLD Network CPU OUT PLD Reserve Reserve Reserve Camera EEPROM	※The Camera EEPROM setting is supported only by the AW-HE60.
			In the case of the AW-HE120		
			[Data1] 0 1 2 3 4 5 6 7 8	[Data1] Servo CPU CameraMain CPU Frontend FPGA Network CPU Backend FPGA Interface CPU Lens FPGA Interface EEPROM Camera EEPROM	
	Response	qSV[*Data1*]V[*Data2*].[*Data3*][*Data4*][*Data5*][*Data6*]	[Data2] 00-99 [Data3] 00-99 [Data4] E L [Data5] 00-99 [Data6] 0 1 2	[Data2] MAJOR VERSION [Data3] MINOR VERSION [Data4] (Debug Build) (Release Build) [Data5] (REVISION) [Data6] NTSC PAL Other	

Example of use) Software version information acquisition: Camera CPU

[Control] PC → AW-HE50

http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23QSV1&res=1

[Response] AW-HE50 → PC

200 OK “qSV[Data1]V[Data2].[Data3][Data4][Data5][Data6]”

3.1.12. Error information

This command enables the error information mainly of the pan-tilt head to be acquired.

Table 3.1.12. Error information

Command name	Category	Command	Data value	Setting	Remarks
Error information query command	Request	#RER	None		
	Response	rER[*Data*]	00	Disable	Normal
			01	Enable	-
			02		-
			03		Motor Driver Error
			04		Pan Sensor Error
			05		Tilt Sensor Error
			06		Controller RX Over run Error
			07		Controller RX Framing Error
			08		Network RX Over run Error
			09		Network RX Framing Error
			0A		-
			0B		-
			-		-
			17		Controller RX Command Buffer Overflow
			-		-
			19		Network RX Command Buffer Overflow
			-		-
			21		System Error
			22		Spec Limit Over
			23		FPGA Config Error
			24		Network communication Error
			25		Lens Initialize Error
			-		-
			30		Lvds_Adjustment_NG
			31		Bar_Signal_Check_NG
			32		H-Sync_Check_NG
			33		HDMI_Check_NG

Example of use) Error information acquisition

[Control] PC → AW-HE50

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

[Response] AW-HE50 → PC

200 OK “rER[Data]”

3.2. Camera control

The camera control commands are based on the HTTP1.1 communication specifications.
Their format is given below. For details on the HTTP messages, refer to <Appendix>.

【Command format】

[Send]

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

※**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; described in the HTTP message body.

There is no response in the case of an AWB or ABB command whose Type is 0.
Refer to "4. Camera information update notification" in order to receive the AWB/ABB result notifications.

Example: Focus setting = Auto

[Send]

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

[Receive] The response is the HTTP response.

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.
For the sequence when errors have been generated in response to commands, refer to “6. Error return”.

【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.

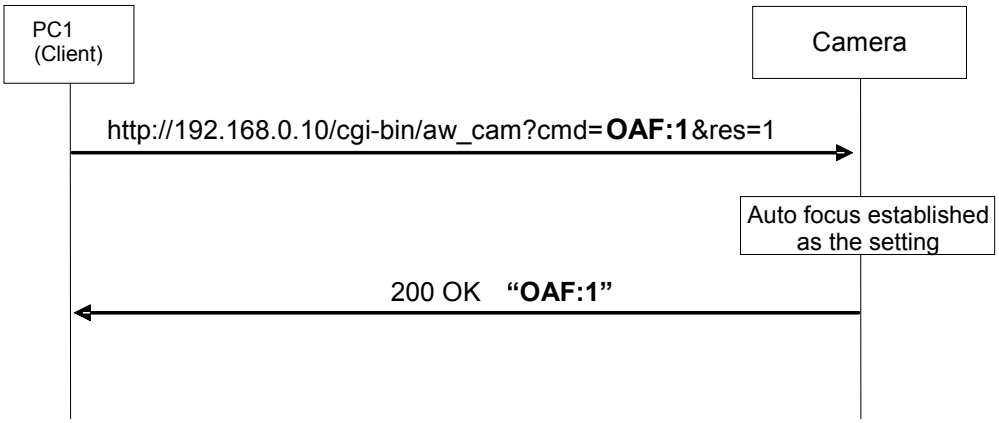


Fig. 3.2-1 Camera control command sequence

The following restrictions should be noted when using these commands.
These restrictions are as follows.

【Restrictions】

1. When sending the camera control commands, send the commands with a gap of 130 ms between each command.
   Given below is the command sequence.

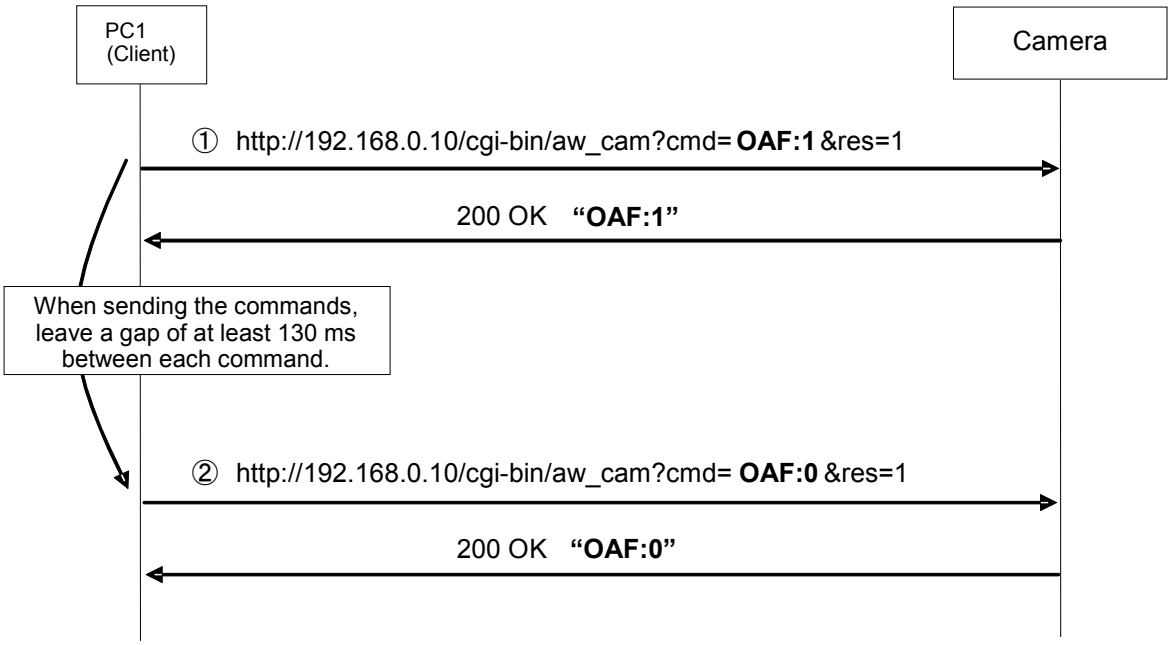


Fig.3.2-2 Restrictions

2. Send the commands which change the settings only at the point in time when the changes are required. (Do not send them at regular intervals.)
   ※The applicable models incorporate an EEPROM for storing the settings, and each time a command that changes the settings is received, data is written in the EEPROM. The number of times data can be written in the EEPROM is limited so if data is sent frequently, the model will cease to operate normally when the maximum number of times for writing the data has been reached.

3.2.1. Lens operations

3.2.1.1. 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 “3.1.5.2. Focus” of “3.1. Pan-tilt head control”.

Table 3.2.1.1. Focus

Command name	Category	Command	Data value	Setting	Remarks
Focus Auto/Manual control command	Control	OAF:[*Data*]	0 1	Manual Auto	
	Response	OAF:[*Data*]			
Focus Auto/Manual query command	Request	QAF	None		
	Response	OAF:[*Data*]	0 1	Manual Auto	
One-touch focus control command	Control	OSE:69:[*Data*]	1	One Touch AF	One-touch focus On control
	Response	OSE:69:1			

Example of use)

・Focus (Auto/Manual): Auto

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OAF:1&res=1
[Response] AW-HE50 → PC
200 OK “OAF:1”

・Execution of one-touch focus control

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:69:1&res=1
[Response] AW-HE50 → PC
200 OK “OSE:69:1”

3.2.1.2. 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, the iris Auto/Manual status to be checked and the 10 steps of the contrast level (AW-HE50 or AW-HE60) or the 20 steps of the picture level (AW-HE120) to be set and these settings to be checked.
Commands which control the iris are also described in section “3.1.5.3. Iris” of “3.1. Pan-tilt head control”.

Table 3.2.1.2. Iris

Command name	Category	Command	Data value	Setting	Remarks
Iris Auto/Manual control command	Control	ORS:[*Data*]	0 1	Manual Auto	• This command restores the held manual iris setting when control is switched from Auto to Manual.
	Response	ORS:[*Data*]			
Iris Auto/Manual query command	Request	QRS	None		
	Response	ORS:[*Data*]	0 1	Manual Auto	
Contrast level Picture level control command	Control	OSD:48:[*Data*]	In the case of the AW-HE50/AW-HE60		
			64 5A～63 50～59 46～4F 3C～45 32～3B 28～31 1B～27 14～1A 0A～13 00～09	+5 +4 +3 +2 +1 0 –1 –2 –3 –4 –5	• While “----” is displayed for Contrast Level on the OSD menu, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when the “----” display is released. • Contrast level control (Auto)
			In the case of the AW-HE120		
			64 63～5F 5E～5A 59～55 54～50 4F～4B 4A～46 45～41 40～3C 3B～37 36～32 31～2D 2C～28 27～23 22～1E 1D～19 18～14 13～0F 0E～0A 09～05 04～00	+10 +9 +8 +7 +6 +5 +4 +3 +2 +1 0 –1 –2 –3 –4 –5 –6 –7 –8 –9 –10	• While “----” is displayed for Picture Level on the OSD menu, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when the “----” display is released. • Valid when Gain AGC, Iris Auto and Shutter ELC have been set.
	Response	OSD:48:[*Data*]			

Command name	Category	Command	Data value	Setting	Remarks
Contrast level Picture level query command	Request	QSD:48	None		
	Response	OSD:48:[*Data*]	In the case of the AW-HE50/AW-HE60		
			64 5A～63 50～59 46～4F 3C～45 32～3B 28～31 1B～27 14～1A 0A～13 00～09	+5 +4 +3 +2 +1 0 –1 –2 –3 –4 –5	• Contrast level
			In the case of the AW-HE120		
			64 63～5F 5E～5A 59～55 54～50 4F～4B 4A～46 45～41 40～3C 3B～37 36～32 31～2D 2C～28 27～23 22～1E 1D～19 18～14 13～0F 0E～0A 09～05 04～00	+10 +9 +8 +7 +6 +5 +4 +3 +2 +1 0 –1 –2 –3 –4 –5 –6 –7 –8 –9 –10	• Picture level • Valid when Gain AGC, Iris Auto and Shutter ELC have been set.
Iris volume control command	Control	ORV:[*Data*]	000 ≀ 3FF	Close ≀ Open	Iris volume control (Manual)
	Response	ORV:[*Data*]			
Iris volume query command	Request	QRV	None		Iris volume status request (Manual)
	Response	ORV:[*Data*]	000 ≀ 3FF	Close ≀ Open	
	Request	QSD:4F	None		
	Response	OSD:4F:[*Data*]	00 ≀ FF	Close ≀ Open	Iris volume status request

Example of use)

・Auto iris: On

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=ORS:1&res=1

[Response] AW-HE50 → PC
200 OK “ORS:1”

・Iris: Open

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=ORV:3FF&res=1

[Response] AW-HE50 → PC
200 OK “ORV:3FF”

・Contrast level: 0

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:48:32&res=1

[Response] AW-HE50 → PC
200 OK “OSD:48:32”

3.2.1.3. ND filter setting

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

Table 3.2.1.3. ND filter setting

Command name	Category	Command	Data value	Setting	Remarks
ND filter control command	Control	OFT:[*Data*]	0 1 2 3	Through 1/4 1/16 1/64	※Only supported by the AW-HE120.
	Response	OFT:[*Data*]			
ND filter query command	Request	QFT	None		
	Response	OFT:[*Data*]	0 1 2 3	Through 1/4 1/16 1/64	※Only supported by the AW-HE120.

Example of use) ND filter: 1/4

[Control] PC → AW-HE120

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

[Response] AW-HE120 → PC

200 OK “OFT:1”

3.2.2. 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 3.2.2. Color Bars

Command name	Category	Command	Data value	Setting	Remarks
Color bar/Camera control command	Control	DGB:[*Data*]	0 1	Camera Color Bars	
	Response	DGB:[*Data*]			
Color bar/Camera query command	Request	QBR	None		
	Response	OBR:[*Data*]	0 1	Camera Color Bars	
Color bar setup level control command	Control	DCS:[*Data*]	0 1	Off On	※Only supported by the AW-HE120.
	Response	DCS:[*Data*]			
Color bar setup level query command	Request	QBR	None		
	Response	OBR:[*Data*]	0 1	Off On	※Only supported by the AW-HE120.

Example of use)

・Color bar/Camera control: Color bar

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=DGB:1&res=1

[Response] AW-HE50 → PC
200 OK “DGB:1”

・Color bar setup level: Off

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=DCS:0&res=1

[Response] AW-HE120 → PC
200 OK “DCS:0”

3.2.3. 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 3.2.3. Scene file setting

Command name	Category	Command	Data value	Setting	Remarks
Scene file control command	Control	XSF:[*Data*]	In the case of the AW-HE50/AW-HE60		
			1 2 3 4	Manual1 Manual2 Manual3 FullAuto	
			In the case of the AW-HE120		
			1 2 3 4	Scene1 Scene2 Scene3 Scene4	
	Response	XSF:[*Data*]			
Scene file query command	Request	QSF	None		
	Response	OSF:[*Data*]	In the case of the AW-HE50/AW-HE60		
			0 1 2 3	Manual1 Manual2 Manual3 FullAuto	• The data value differs depending on the responses to the control command and query command.
			In the case of the AW-HE120		
			1 2 3 4	Scene1 Scene2 Scene3 Scene4	• The data value differs depending on the responses to the control command and query command.

Example of use) Scene file: Manual1

[Control] PC → AW-HE50

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

[Response] AW-HE50 → PC

200 OK “XSF:1”

3.2.4. Shutter mode setting

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

Table 3.2.4. Shutter mode setting

Command name	Category	Command	Data value	Setting	Remarks
Shutter control command	Control	OSH:[*Data*]	In the case of the AW-HE50/AW-HE60		
			0	Shutter Off	• Disabled at the FullAuto setting (ER3 is returned). • When auto iris is On, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when auto iris is changed from On to Off.
			3	1/100(59.94Hz) 1/120(50Hz)	
			5	1/250	
			6	1/500	
			7	1/1000	
			8	1/2000	
			9	1/4000	
			A	1/10000	
			B	Synchro-Scan	
			In the case of the AW-HE120		
			0	Shutter Off	
			3	1/100(59.94Hz) 1/120(50Hz)	
			5	1/250	
			6	1/500	
			7	1/1000	
			8	1/2000	
			9	1/4000	
			A	1/10000	
			B	Synchro-Scan	
			C	ELC	
	Response	OSH:[*Data*]			
Shutter query command	Request	QSH	None		
	Response	OSH:[*Data*]	In the case of the AW-HE50/AW-HE60		
			0	Shutter Off	
			3	1/100(59.94Hz) 1/120(50Hz)	
			5	1/250	
			6	1/500	
			7	1/1000	
			8	1/2000	
			9	1/4000	
			A	1/10000	
			B	Synchro-Scan	
			In the case of the AW-HE120		
			0	Shutter Off	
			3	1/100(59.94Hz) 1/120(50Hz)	
			5	1/250	
			6	1/500	
			7	1/1000	
			8	1/2000	
			9	1/4000	
			A	1/10000	
			B	Synchro-Scan	
			C	ELC	

Command name	Category	Command	Data value	Setting	Remarks
Synchro scan control command	Control	OMS:[*Data*]	In the case of the AW-HE50/AW-HE60		
			001 〜 0FF	60.24Hz(59.94Hz) 50.20Hz(50Hz) 〜 646.21Hz(59.94Hz) 538.51Hz(50Hz)	• Disabled at the FullAuto setting (ER3 is returned). • When auto iris is On, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when auto iris is changed from On to Off.
			In the case of the AW-HE120		
			001 〜 0FF	60.17Hz(59.94Hz) 50.19Hz(50Hz) 〜 644.26Hz(59.94Hz) 537.13Hz(50Hz)	• While "----" is displayed for Step/Synchro on the OSD menu, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when the "----" display is released.
	Response	OMS:[*Data*]			
Synchro scan query command	Request	QMS	None		
	Response	OMS:[*Data*]	In the case of the AW-HE50/AW-HE60		
			001 〜 0FF	60.24Hz(59.94Hz) 50.20Hz(50Hz) 〜 646.21Hz(59.94Hz) 538.51Hz(50Hz)	
			In the case of the AW-HE120		
			001 〜 0FF	60.17Hz(59.94Hz) 50.19Hz(50Hz) 〜 644.26Hz(59.94Hz) 537.13Hz(50Hz)	

Example of use)

・Shutter: 1/500

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSH:6&res=1

[Response] AW-HE50 → PC
200 OK "OSH:6"

・Synchro scan (when 59.94Hz has been set as the frequency): 60.24Hz

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OMS:001&res=1

[Response] AW-HE50 → PC
200 OK "OMS:001"

3.2.5. Frame mix setting

These commands enable the frame mixing of camera to be set and the current settings to be acquired.

Table 3.2.5. Frame mix setting

Command name	Category	Command	Data value	Setting	Remarks
Frame mix control command	Control	OSA:65:[*Data*]	In the case of the AW-HE50/AW-HE60		
			00 06 0C 12 80	Off 6dB 12dB 18dB Auto	• Disabled at the FullAuto setting (ER3 is returned). • When auto iris is On, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when auto iris is changed from On to Off.
			In the case of the AW-HE120		
			00 06 0C 12 18	Off 6dB 12dB 18dB 24dB	• When the format is 1050/59.94i or 1080/50i or when any setting except Off is used for the shutter, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when the above restrictions are released.
	Response	OSA:65:[*Data*]			
Frame mix query command	Request	QSA:65	None		
	Response	OSA:65:[*Data*]	In the case of the AW-HE50/AW-HE60		
			00 06 0C 12 80	Off 6dB 12dB 18dB Auto	
			In the case of the AW-HE120		
			00 06 0C 12 18	Off 6dB 12dB 18dB 24dB	
Maximum frame mix value control command	Control	OSE:74:[*Data*]	00 01 02 03	0dB 6dB 12dB 18dB	• Disabled at the FullAuto setting (ER3 is returned). • Maximum frame mix value control (Auto) ※Supported only by the AW-HE50/ AW-HE60.
	Response	OSE:74:[*Data*]			
Maximum frame mix value query command	Request	QSE:74	None		
	Response	OSE:74:[*Data*]	00 01 02 03	0dB 6dB 12dB 18dB	※Supported only by the AW-HE50/ AW-HE60.

Example of use)

・Frame mix: 12dB

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSA:65:0C&res=1

[Response] AW-HE50 → PC
200 OK “OSA:65:0C”

・Maximum frame mix value: 18dB

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:74:03&res=1

[Response] AW-HE50 → PC
200 OK “OSE:74:03”

3.2.6. Gain setting

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

Table 3.2.6. Gain setting

Command name	Category	Command	Data value	Setting	Remarks
Gain control command	Control	OGU:[*Data*]	In the case of the AW-HE50/AW-HE60		
			08 0B 0E 11 14 17 1A 80	0dB 3dB 6dB 9dB 12dB 15dB 18dB Auto	• Disabled at the FullAuto setting (ER3 is returned).
			In the case of the AW-HE120		
			08 ≀ 11 ≀ 1A 80	0dB ≀ 9dB ≀ 18dB Auto	• Value can be set in increments of 1dB.
	Response	OGU:[*Data*]			
Gain query command	Request	QGU	None		
	Response	OGU:[*Data*]	In the case of the AW-HE50/AW-HE60		
			08 0B 0E 11 14 17 1A 80	0dB 3dB 6dB 9dB 12dB 15dB 18dB Auto	
			In the case of the AW-HE120		
			08 ≀ 11 ≀ 1A 80	0dB ≀ 9dB ≀ 18dB Auto	

Command name	Category	Command	Data value	Setting	Remarks
AGC maximum gain value control command	Control	OSD:69:[*Data*]	In the case of the AW-HE50/AW-HE60		
			01 02 03	6dB 12dB 18dB	• Disabled at the FullAuto setting (ER3 is returned).
			In the case of the AW-HE120		
			01 02 03	6dB 12dB 18dB	
	Response	OSD:69:[*Data*]			
AGC maximum gain value query command	Request	QSD:69	None		
	Response	OSD:69:[*Data*]	In the case of the AW-HE50/AW-HE60		
			01 02 03	6dB 12dB 18dB	• Disabled at the FullAuto setting (ER3 is returned).
			In the case of the AW-HE120		
			01 02 03	6dB 12dB 18dB	

Example of use)

・Gain: 3dB

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OGU:0B&res=1

[Response] AW-HE50 → PC
200 OK “OGU:0B”

・AGC maximum gain value: 18dB

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:69:03&res=1

[Response] AW-HE50 → PC
200 OK “OSD:69:03”

3.2.7. Color settings

3.2.7.1. 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 3.2.7.1. R/B gain settings

Command name	Category	Command	Data value	Setting	Remarks
R gain control command	Control	ORI:[*Data*]	In the case of the AW-HE50/AW-HE60		
			000 ≀ 096 ≀ 12C	–30 ≀ 0 ≀ +30	※The AW-HE50 is supported by Ver.2 or a later version. • Setting (menu display value) = (Data value − 0x96) / 5 • Cleared to zero at AWB OK completion.
			In the case of the AW-HE120		
			000 ≀ 096 ≀ 12C	–150 ≀ 0 ≀ +150	• Setting (menu display value) = (Data value − 0x96) • Cleared to zero at AWB OK completion.
	Response	ORI:[*Data*]			
	Control	ORG:[*Data*]	In the case of the AW-HE50/AW-HE60		
			00 ≀ 1E ≀ 3C	–30 ≀ 0 ≀ +30	※The AW-HE50 is supported by Ver.2 or a later version. • Setting (menu display value) = (Data value − 0x1E) • Cleared to zero at AWB OK completion.
			In the case of the AW-HE120		
			00 ≀ 1E ≀ 3C	–150 ≀ 0 ≀ +150	• Setting (menu display value) = (Data value − 0x1E) x 5 • Cleared to zero at AWB OK completion.
	Response	ORG[*Data*]			
R gain query command	Request	QRI	None		• The AW-HE50 is supported by Ver.2 or a later version.
	Response	ORI:[*Data*]	In the case of the AW-HE50/AW-HE60		
			000 ≀ 096 ≀ 12C	–30 ≀ 0 ≀ +30	※The AW-HE50 is supported by Ver.2 or a later version. • Data value of response = (Setting x 5 + 0x96)
			In the case of the AW-HE120		
			000 ≀ 096 ≀ 12C	–150 ≀ 0 ≀ +150	• Data value of response = (Setting + 0x96)

Command name	Category	Command	Data value	Setting	Remarks
R gain query command	Request	QGR	None		• The AW-HE50 is supported by Ver.2 or a later version.
	Response	OGR:[*Data*]	In the case of the AW-HE50/AW-HE60		
			00 ≀ 1E ≀ 3C	–30 ≀ 0 ≀ +30	※The AW-HE50 is supported by Ver.2 or a later version. • Data value of response = (Setting + 0x1E)
			In the case of the AW-HE120		
			00 ≀ 1E ≀ 3C	–150 ≀ 0 ≀ +150	• Data value of response = (Setting / 5 + 0x1E)
B gain control command	Control	OBI:[*Data*]	In the case of the AW-HE50/AW-HE60		
			000 ≀ 096 ≀ 12C	–30 ≀ 0 ≀ +30	※The AW-HE50 is supported by Ver.2 or a later version. • Setting (menu display value) = (Data value − 0x96) / 5 • Cleared to zero at AWB OK completion.
			In the case of the AW-HE120		
			000 ≀ 096 ≀ 12C	–150 ≀ 0 ≀ +150	• Setting (menu display value) = (Data value − 0x96) • Cleared to zero at AWB OK completion.
	Response	OBI:[*Data*]			
	Control	OBG:[*Data*]	In the case of the AW-HE50/AW-HE60		
			00 ≀ 1E ≀ 3C	–30 ≀ 0 ≀ +30	※The AW-HE50 is supported by Ver.2 or a later version. • Setting (menu display value) = (Data value − 0x1E) • Cleared to zero at AWB OK completion.
			In the case of the AW-HE120		
			00 ≀ 1E ≀ 3C	–150 ≀ 0 ≀ +150	• Setting (menu display value) = (Data value − 0x1E) x 5 • Cleared to zero at AWB OK completion.
	Response	OBG:[*Data*]			
B gain query command	Request	QBI	None		• The AW-HE50 is supported by Ver.2 or a later version.
	Response	OBI:[*Data*]	In the case of the AW-HE50/AW-HE60		
			000 ≀ 096 ≀ 12C	–30 ≀ 0 ≀ +30	※The AW-HE50 is supported by Ver.2 or a later version. • Data value of response = (Setting x 5 + 0x96)
			In the case of the AW-HE120		
			000 ≀ 096 ≀ 12C	–150 ≀ 0 ≀ +150	• Data value of response = (Setting + 0x96)

Command name	Category	Command	Data value	Setting	Remarks
B gain query command	Request	QGB	None		• The AW-HE50 is supported by Ver.2 or a later version.
	Response	OGB:[*Data*]	In the case of the AW-HE50/AW-HE60		
			00 ≀ 1E ≀ 3C	–30 ≀ 0 ≀ +30	※The AW-HE50 is supported by Ver.2 or a later version. • Data value of response = (Setting + 0x1E)
			In the case of the AW-HE120		
			00 ≀ 1E ≀ 3C	–150 ≀ 0 ≀ +150	• Data value of response = (Setting / 5 + 0x1E)

Example of use)

・R gain: –30

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=ORG:00&res=1

[Response] AW-HE50 → PC
200 OK “ORG:00”

・R gain: +150

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=ORI:12C&res=1

[Response] AW-HE120 → PC
200 OK “ORI:12C”

・B gain: –30

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OBG:00&res=1

[Response] AW-HE50 → PC
200 OK “OBG:00”

・B gain: +150

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OBI:12C&res=1

[Response] AW-HE120 → PC
200 OK “OBI:12C”

3.2.7.2. R/B pedestal settings

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

Table 3.2.7.2. R/B pedestal settings

Command name	Category	Command	Data value	Setting	Remarks
R pedestal control command	Control	ORP:[*Data*]	000 ≀ 096 ≀ 12C	–150 ≀ 0 ≀ +150	• Setting (menu display value) = (Data value − 0x96) • Cleared to zero at ABB OK completion. ※Only supported by the AW-HE120.
	Response	ORP:[*Data*]			※Only supported by the AW-HE120.
	Control	ORD:[*Data*]	00 ≀ 1E ≀ 3C	–150 ≀ 0 ≀ +150	• Setting (menu display value) = (Data value − 0x1E) x 5 • Cleared to zero at ABB OK completion. ※Only supported by the AW-HE120.
	Response	ORD:[*Data*]			※Only supported by the AW-HE120.
R pedestal query command	Request	QRP	None		※Only supported by the AW-HE120.
	Response	ORP:[*Data*]	000 ≀ 096 ≀ 12C	–150 ≀ 0 ≀ +150	• Data value of response = (Setting + 0x96) ※Only supported by the AW-HE120.
	Request	QRD	None		※Only supported by the AW-HE120.
	Response	ORD:[*Data*]	00 ≀ 1E ≀ 3C	–150 ≀ 0 ≀ +150	• Data value of response = (Setting / 5 + 0x1E) ※Only supported by the AW-HE120.
B pedestal control command	Control	OBP:[*Data*]	000 ≀ 096 ≀ 12C	–150 ≀ 0 ≀ +150	• Setting (menu display value) = (Data value − 0x96) • Cleared to zero at ABB OK completion. ※Only supported by the AW-HE120.
	Response	OBP:[*Data*]			※Only supported by the AW-HE120.
	Control	OBD:[*Data*]	00 ≀ 1E ≀ 3C	–150 ≀ 0 ≀ +150	• Setting (menu display value) = (Data value − 0x1E) x 5 • Cleared to zero at ABB OK completion. • The value displayed on the menu is the command setting multiplied by 5. ※Only supported by the AW-HE120.
	Response	OBD:[*Data*]			※Only supported by the AW-HE120.

Command name	Category	Command	Data value	Setting	Remarks
B pedestal query command	Request	QBP	None		※Only supported by the AW-HE120.
	Response	OBP:[*Data*]	000 ≀ 096 ≀ 12C	–150 ≀ 0 ≀ +150	• Data value of response = (Setting + 0x96) ※Only supported by the AW-HE120.
	Request	QBD	None		※Only supported by the AW-HE120.
	Response	OBD:[*Data*]	00 ≀ 1E ≀ 3C	–150 ≀ 0 ≀ +150	• Data value of response = (Setting / 5 + 0x1E) ※Only supported by the AW-HE120.

Example of use)

・R pedestal: –150

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=ORP:000&res=1

[Response] AW-HE120 → PC
200 OK “ORP:000”

・R pedestal: +150

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=ORD:3C&res=1

[Response] AW-HE120 → PC
200 OK “ORD:3C”

・B pedestal: +150

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OBP:12C&res=1

[Response] AW-HE120 → PC
200 OK “OBP:12C”

・B pedestal: –150

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OBD:00&res=1

[Response] AW-HE120 → PC
200 OK “OBD:00”

3.2.7.3. Color matrix settings

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

Table 3.2.7.3. Color matrix settings

Command name	Category	Command	Data value	Setting	Remarks
Color matrix control command	Control	OSE:31:[*Data*]	0 1 2 3	Normal EBU NTSC User	• The linear matrix and color correction settings can be selected only at the User setting. ※Only supported by the AW-HE120.
	Response	OSE:31:[*Data*]			※Only supported by the AW-HE120.
Color matrix query command	Request	QSE:31	None		※Only supported by the AW-HE120.
	Response	OSE:31:[*Data*]	0 1 2 3	Normal EBU NTSC User	※Only supported by the AW-HE120.
Linear matrix R-G control command	Control	OSD:2F:[*Data*]	00 ～ 1F ～ 3E	–31 ～ 0 ～ +31	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:2F:[*Data*]			※Only supported by the AW-HE120.
Linear matrix R-G query command	Request	QSD:2F	None		※Only supported by the AW-HE120.
	Response	OSD:2F:[*Data*]	00 ～ 1F ～ 3E	–31 ～ 0 ～ +31	※Only supported by the AW-HE120.
Linear matrix R-B control command	Control	OSD:30:[*Data*]	00 ～ 1F ～ 3E	–31 ～ 0 ～ +31	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:30:[*Data*]			※Only supported by the AW-HE120.
Linear matrix R-B query command	Request	QSD:30	None		※Only supported by the AW-HE120.
	Response	OSD:30:[*Data*]	00 ～ 1F ～ 3E	–31 ～ 0 ～ +31	※Only supported by the AW-HE120.
Linear matrix G-R control command	Control	OSD:31:[*Data*]	00 ～ 1F ～ 3E	–31 ～ 0 ～ +31	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:31:[*Data*]			※Only supported by the AW-HE120.

Command name	Category	Command	Data value	Setting	Remarks
Linear matrix G-R query command	Request	QSD:31	None		※Only supported by the AW-HE120.
	Response	OSD:31:[*Data*]	00 ≀ 1F ≀ 3E	–31 ≀ 0 ≀ +31	※Only supported by the AW-HE120.
Linear matrix G-B control command	Control	OSD:32:[*Data*]	00 ≀ 1F ≀ 3E	–31 ≀ 0 ≀ +31	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:32:[*Data*]			※Only supported by the AW-HE120.
Linear matrix G-B query command	Request	QSD:32	None		※Only supported by the AW-HE120.
	Response	OSD:32:[*Data*]	00 ≀ 1F ≀ 3E	–31 ≀ 0 ≀ +31	※Only supported by the AW-HE120.
Linear matrix B-R control command	Control	OSD:33:[*Data*]	00 ≀ 1F ≀ 3E	–31 ≀ 0 ≀ +31	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:33:[*Data*]			※Only supported by the AW-HE120.
Linear matrix B-R query command	Request	QSD:33	None		※Only supported by the AW-HE120.
	Response	OSD:33:[*Data*]	00 ≀ 1F ≀ 3E	–31 ≀ 0 ≀ +31	※Only supported by the AW-HE120.
Linear matrix B-G control command	Control	OSD:34:[*Data*]	00 ≀ 1F ≀ 3E	–31 ≀ 0 ≀ +31	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:34:[*Data*]			※Only supported by the AW-HE120.
Linear matrix B-G query command	Request	QSD:34	None		※Only supported by the AW-HE120.
	Response	OSD:34:[*Data*]	00 ≀ 1F ≀ 3E	–31 ≀ 0 ≀ +31	※Only supported by the AW-HE120.
Color correction R GAIN/ SATURATION control command	Control	OSD:86:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:86:[*Data*]			※Only supported by the AW-HE120.

Command name	Category	Command	Data value	Setting	Remarks
Color correction R GAIN/ SATURATION query command	Request	QSD:86	None		※Only supported by the AW-HE120.
	Response	OSD:86:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction R PHASE control command	Control	OSD:87:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:87:[*Data*]			※Only supported by the AW-HE120.
Color correction R PHASE query command	Request	QSD:87	None		※Only supported by the AW-HE120.
	Response	OSD:87:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction R_YI GAIN/ SATURATION control command	Control	OSD:88:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:88:[*Data*]			※Only supported by the AW-HE120.
Color correction R_YI GAIN/ SATURATION query command	Request	QSD:88	None		※Only supported by the AW-HE120.
	Response	OSD:88:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction R_YI PHASE control command	Control	OSD:89:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:89:[*Data*]			※Only supported by the AW-HE120.
Color correction R_YI PHASE query command	Request	QSD:89	None		※Only supported by the AW-HE120.
	Response	OSD:89:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction YI GAIN/ SATURATION control command	Control	OSD:8A:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:8A:[*Data*]			※Only supported by the AW-HE120.

Command name	Category	Command	Data value	Setting	Remarks
Color correction YI GAIN/ SATURATION query command	Request	QSD:8A	None		※Only supported by the AW-HE120.
	Response	OSD:8A:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction YI PHASE control command	Control	OSD:8B:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:8B:[*Data*]			※Only supported by the AW-HE120.
Color correction YI PHASE query command	Request	QSD:8B	None		※Only supported by the AW-HE120.
	Response	OSD:8B:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction YI_G GAIN/ SATURATION control command	Control	OSD:8C:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:8C:[*Data*]			※Only supported by the AW-HE120.
Color correction YI_G GAIN/ SATURATION query command	Request	QSD:8C	None		※Only supported by the AW-HE120.
	Response	OSD:8C:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction YI_G PHASE control command	Control	OSD:8D:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:8D:[*Data*]			※Only supported by the AW-HE120.
Color correction YI_G PHASE query command	Request	QSD:8D	None		※Only supported by the AW-HE120.
	Response	OSD:8D:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction G GAIN/ SATURATION control command	Control	OSD:8E:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:8E:[*Data*]			※Only supported by the AW-HE120.

Command name	Category	Command	Data value	Setting	Remarks
Color correction G GAIN/ SATURATION query command	Request	QSD:8E	None		※Only supported by the AW-HE120.
	Response	OSD:8E:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction G PHASE control command	Control	OSD:8F:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:8F:[*Data*]			※Only supported by the AW-HE120.
Color correction G PHASE query command	Request	QSD:8F	None		※Only supported by the AW-HE120.
	Response	OSD:8F:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction G_Cy GAIN/ SATURATION control command	Control	OSD:90:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:90:[*Data*]			※Only supported by the AW-HE120.
Color correction G_Cy GAIN/ SATURATION query command	Request	QSD:90	None		※Only supported by the AW-HE120.
	Response	OSD:90:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction G_Cy PHASE control command	Control	OSD:91:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:91:[*Data*]			※Only supported by the AW-HE120.
Color correction G_Cy PHASE query command	Request	QSD:91	None		※Only supported by the AW-HE120.
	Response	OSD:91:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction Cy GAIN/ SATURATION control command	Control	OSD:92:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:92:[*Data*]			※Only supported by the AW-HE120.

Command name	Category	Command	Data value	Setting	Remarks
Color correction Cy GAIN/ SATURATION query command	Request	QSD:92	None		※Only supported by the AW-HE120.
	Response	OSD:92:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction Cy PHASE control command	Control	OSD:93:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:93:[*Data*]			※Only supported by the AW-HE120.
Color correction Cy PHASE query command	Request	QSD:93	None		※Only supported by the AW-HE120.
	Response	OSD:93:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction Cy_B GAIN/ SATURATION control command	Control	OSD:94:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:94:[*Data*]			※Only supported by the AW-HE120.
Color correction Cy_B GAIN/ SATURATION query command	Request	QSD:94	None		※Only supported by the AW-HE120.
	Response	OSD:94:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction Cy_B PHASE control command	Control	OSD:95:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:95:[*Data*]			※Only supported by the AW-HE120.
Color correction Cy_B PHASE query command	Request	QSD:95	None		※Only supported by the AW-HE120.
	Response	OSD:95:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction B GAIN/ SATURATION control command	Control	OSD:96:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:96:[*Data*]			※Only supported by the AW-HE120.

Command name	Category	Command	Data value	Setting	Remarks
Color correction B GAIN/ SATURATION query command	Request	QSD:96	None		※Only supported by the AW-HE120.
	Response	OSD:96:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction B PHASE control command	Control	OSD:97:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:97:[*Data*]			※Only supported by the AW-HE120.
Color correction B PHASE query command	Request	QSD:97	None		※Only supported by the AW-HE120.
	Response	OSD:97:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction B_Mg GAIN/ SATURATION control command	Control	OSD:80:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:80:[*Data*]			※Only supported by the AW-HE120.
Color correction B_Mg GAIN/ SATURATION query command	Request	QSD:80	None		※Only supported by the AW-HE120.
	Response	OSD:80:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction B_Mg PHASE control command	Control	OSD:81:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:81:[*Data*]			※Only supported by the AW-HE120.
Color correction B_Mg PHASE query command	Request	QSD:81	None		※Only supported by the AW-HE120.
	Response	OSD:81:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction Mg GAIN/ SATURATION control command	Control	OSD:82:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:82:[*Data*]			※Only supported by the AW-HE120.

Command name	Category	Command	Data value	Setting	Remarks
Color correction Mg GAIN/ SATURATION query command	Request	QSD:82	None		※Only supported by the AW-HE120.
	Response	OSD:82:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction Mg PHASE control command	Control	OSD:83:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:83:[*Data*]			※Only supported by the AW-HE120.
Color correction Mg PHASE query command	Request	QSD:83	None		※Only supported by the AW-HE120.
	Response	OSD:83:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction Mg_R GAIN/ SATURATION control command	Control	OSD:84:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:84:[*Data*]			※Only supported by the AW-HE120.
Color correction Mg_R GAIN/ SATURATION query command	Request	QSD:84	None		※Only supported by the AW-HE120.
	Response	OSD:84:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.
Color correction Mg_R PHASE control command	Control	OSD:85:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	• Settings cannot be changed if Normal, EBU or NTSC has been selected as the MatrixType setting. • Setting is possible when User has been selected as the MatrixType setting. ※Only supported by the AW-HE120.
	Response	OSD:85:[*Data*]			※Only supported by the AW-HE120.
Color correction Mg_R PHASE query command	Request	QSD:85	None		※Only supported by the AW-HE120.
	Response	OSD:85:[*Data*]	01 ≀ 80 ≀ FF	–127 ≀ 0 ≀ +127	※Only supported by the AW-HE120.

Example of use)

・Color matrix: User

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:31:3&res=1

[Response] AW-HE120 → PC
200 OK “OSE:31:3”

・Linear matrix R-G: +31

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:2F:3E&res=1

[Response] AW-HE120 → PC
200 OK “OSD:2F:3E”

・Linear matrix R-B: +31

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:30:3E&res=1

[Response] AW-HE120 → PC
200 OK “OSD:30:3E”

・Linear matrix G-R: +31

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:31:3E&res=1

[Response] AW-HE120 → PC
200 OK “OSD:31:3E”

・Linear matrix G-B: +31

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:32:3E&res=1

[Response] AW-HE120 → PC
200 OK “OSD:32:3E”

・Linear matrix B-R: +31

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:33:3E&res=1

[Response] AW-HE120 → PC
200 OK “OSD:33:3E”

・Linear matrix B-G: +31

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:34:3E&res=1

[Response] AW-HE120 → PC
200 OK “OSD:34:3E”

・Color correction R GAIN/SATURATION: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:86:FF&res=1

[Response] AW-HE120 → PC
200 OK “OSD:86:FF”

・Color correction R PHASE: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:87:FF&res=1

[Response] AW-HE120 → PC
200 OK “OSD:87:FF”

・Color correction R_YI GAIN/SATURATION: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:88:FF&res=1

[Response] AW-HE120 → PC
200 OK “OSD:88:FF”

・Color correction R_YI PHASE: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:89:FF&res=1

[Response] AW-HE120 → PC
200 OK “OSD:89:FF”

・Color correction YI GAIN/SATURATION: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:8A:FF&res=1

[Response] AW-HE120 → PC
200 OK “OSD:8A:FF”

・Color correction YI PHASE: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:8B:FF&res=1

[Response] AW-HE120 → PC
200 OK “OSD:8B:FF”

・Color correction YI_G GAIN/SATURATION: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:8C:FF&res=1

[Response] AW-HE120 → PC
200 OK “OSD:8C:FF”

・Color correction YI_G PHASE: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:8D:FF&res=1

[Response] AW-HE120 → PC
200 OK “OSD:8D:FF”

・Color correction G GAIN/SATURATION: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:8E:FF&res=1

[Response] AW-HE120 → PC
200 OK “OSD:8E:FF”

・Color correction G PHASE: +127
[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:8F:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:8F:FF”

・Color correction G_Cy GAIN/SATURATION: +127
[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:90:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:90:FF”

・Color correction G_Cy PHASE: +127
[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:91:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:91:FF”

・Color correction Cy GAIN/SATURATION: +127
[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:92:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:92:FF”

・Color correction Cy PHASE: +127
[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:93:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:93:FF”

・Color correction Cy_B GAIN/SATURATION: +127
[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:94:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:94:FF”

・Color correction Cy_B PHASE: +127
[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:95:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:95:FF”

・Color correction B GAIN/SATURATION: +127
[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:96:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:96:FF”

・Color correction B PHASE: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:97:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:97:FF”

・Color correction B_Mg GAIN/SATURATION: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:80:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:80:FF”

・Color correction B_Mg PHASE: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:81:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:81:FF”

・Color correction Mg GAIN/SATURATION: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:82:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:82:FF”

・Color correction Mg PHASE: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:83:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:83:FF”

・Color correction Mg_R GAIN/SATURATION: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:84:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:84:FF”

・Color correction Mg_R PHASE: +127

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:85:FF&res=1
[Response] AW-HE120 → PC
200 OK “OSD:85:FF”

3.2.8. Chroma level setting

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

Table 3.2.8. Chroma level setting

Command name	Category	Command	Data value	Setting	Remarks
Chroma level control command	Control	OCG:[*Data*]	00 01 02 03 04 05 06	–3 –2 –1 0 +1 +2 +3	■In the case of the AW-HE50/ AW-HE60 • Disabled at the FullAuto setting (ER3 is returned).
	Response	OCG:[*Data*]			
Chroma level query command	Request	QCG	None		
	Response	OCG:[*Data*]	00 01 02 03 04 05 06	–3 –2 –1 0 +1 +2 +3	

Example of use)

・Chroma level: 0

[Control] PC → AW-HE50

http://192.168.0.10/cgi-bin/aw_cam?cmd=OCG:03&res=1

[Response] AW-HE50 → PC

200 OK “OCG:03”

3.2.9. 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 3.2.9. AWB/ABB setting

Command name	Category	Command	Data value	Setting	Remarks
AWB (AWC) execution control command	Control	OWS	None		AWB (AWC) is executed.
	Notification	OWS ER3:OWS		AWC/AWB OK AWC/AWB NG	• There is no response which supports this control command. Notification is given by the separate update notification function. For details, refer to “4. Camera information update notification”.
AWB execution underway status display On/Off control command	Control	OSA:88:[*Data*]	0 1	Off On	• On or Off for screen display of AWB OK/NG. • The status is fixed at Off when TALLY signals are present.
	Response	OSA:88:[*Data*]			
AWB execution underway status display On/Off query command	Request	QSA:88	None		
	Response	OSA:88:[*Data*]	0 1	Off On	
AWB (AWC) Mode control command	Control	OAW:[*Data*]	In the case of the AW-HE50/AW-HE60		
			0 1 2 3	ATW AWB A AWB B ATW	• Disabled at the FullAuto setting (ER3 is returned).
			In the case of the AW-HE120		
			0 1 2 3 4 5	ATW AWB A AWB B ATW PRESET 3200K PRESET 5600K	
	Response	OAW:[*Data*]			
AWB (AWC) Mode query command	Request	QAW	None		
	Response	OAW:[*Data*]	In the case of the AW-HE50/AW-HE60		
			0 2 3	ATW AWB A AWB B	• The data value differs depending on the responses to the control command and query command.
			In the case of the AW-HE120		
			0 2 3 4 5	ATW AWB A AWB B PRESET 3200K PRESET 5600K	• The data value differs depending on the responses to the control command and query command.
ABB (ABC) execution control command	Control	OAS	None		ABB (ABC) is executed.
	Notification	OAS ER3:OAS		ABB(ABC) OK ABB(ABC) NG	※Only supported by the AW-HE120. • There is no response which supports this control command. Notification is given by the separate update notification function. For details, refer to “4. Camera information update notification”.

Example of use)

・AWB (AWC) execution

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OWS&res=0

[Response] AW-HE50 → PC
None

・AWB (AWC), ABB execution underway status display: On

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSA:88:1&res=1

[Response] AW-HE50 → PC
200 OK “OSA:88:1”

・AWB (AWC) mode: ATW

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OAW:0&res=1

[Response] AW-HE50 → PC
200 OK “OAW:0”

・ABB execution

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OAS&res=0

[Response] AW-HE120 → PC
200 OK “OAS”

3.2.10. Detail setting

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

Table 3.2.10. Detail setting

Command name	Category	Command	Data value	Setting	Remarks
Detail control command	Control	ODT:[*Data*]	0 1 2	Off Low High	■In the case of the AW-HE50/ AW-HE60 • Disabled at the FullAuto setting (ER3 is returned).
	Response	ODT:[*Data*]			
Detail query command	Request	QDT	None		
	Response	ODT:[*Data*]	0 1 2	Off Low High	
H.DTL LEVEL H control command	Control	OSD:0A:[*Data*]	02 ≀ 3F	2 ≀ 63	• Even when Off is selected as the detail setting, this command is received, and its setting is reflected. • The setting can never be lower than the H.DTL LEVEL L. ※Only supported by the AW-HE120.
	Response	OSD:0A:[*Data*]			※Only supported by the AW-HE120.
H.DTL LEVEL H query command	Request	QSD:0A	None		※Only supported by the AW-HE120.
	Response	OSD:0A:[*Data*]	02 ≀ 3F	2 ≀ 63	※Only supported by the AW-HE120.
V DTL LEVEL H control command	Control	OSD:0E:[*Data*]	02 ≀ 1F	2 ≀ 31	• Even when Off is selected as the detail setting, this command is received, and its setting is reflected. • The setting can never be lower than the V DTL LEVEL L. ※Only supported by the AW-HE120.
	Response	OSD:0E:[*Data*]			※Only supported by the AW-HE120.
V DTL LEVEL H query command	Request	QSD:0E	None		※Only supported by the AW-HE120.
	Response	OSD:0E:[*Data*]	02 ≀ 1F	2 ≀ 31	※Only supported by the AW-HE120.
H.DTL LEVEL L control command	Control	OSD:12:[*Data*]	01 ≀ 3E	1 ≀ 62	• Even when Off is selected as the detail setting, this command is received, and its setting is reflected. • The level is set to less than the H.DTL LEVEL H setting. ※Only supported by the AW-HE120.
	Response	OSD:12:[*Data*]			※Only supported by the AW-HE120.
H.DTL LEVEL L query command	Request	QSD:12	None		※Only supported by the AW-HE120.
	Response	OSD:12:[*Data*]	01 ≀ 3E	1 ≀ 62	※Only supported by the AW-HE120.

Command name	Category	Command	Data value	Setting	Remarks
V DTL LEVEL L control command	Control	OSD:16:[*Data*]	01 ≀ 1E	1 ≀ 30	• Even when Off is selected as the detail setting, this command is received, and its setting is reflected. • The level is set to less than the V DTL LEVEL H. ※Only supported by the AW-HE120.
	Response	OSD:16:[*Data*]			※Only supported by the AW-HE120.
V DTL LEVEL L query command	Request	QSD:16	None		※Only supported by the AW-HE120.
	Response	OSD:16:[*Data*]	01 ≀ 1E	1 ≀ 30	※Only supported by the AW-HE120.
DETAIL BAND control command	Control	OSD:1E:[*Data*]	01 ≀ 05	1 ≀ 5	• Even when Off is selected as the detail setting, this command is received, and its setting is reflected. • The detail boost frequency can be controlled and the settings can be acquired. • If a high frequency is set, smaller subjects can be provided with the detail effect. ※Only supported by the AW-HE120.
	Response	OSD:1E:[*Data*]			※Only supported by the AW-HE120.
DETAIL BAND query command	Request	QSD:1E	None		※Only supported by the AW-HE120.
	Response	OSD:1E:[*Data*]	01 ≀ 05	1 ≀ 5	※Only supported by the AW-HE120.
NOISE SUPPRESS/ CRISP control command	Control	OSD:22:[*Data*]	00 ≀ 07	0 ≀ 7	• Even when Off is selected as the detail setting, this command is received, and its setting is reflected. • The screen noise produced by the detail is reduced. • The higher the value, the lower the noise. ※Only supported by the AW-HE120.
	Response	OSD:22:[*Data*]			※Only supported by the AW-HE120.
NOISE SUPPRESS/ CRISP query command	Request	QSD:22	None		※Only supported by the AW-HE120.
	Response	OSD:22:[*Data*]	00 ≀ 07	0 ≀ 7	
FLESH TONE NOISE SUPPRESS control command	Control	OSD:4B:[*Data*]	00 01 02	Off Low High	• Even when Off is selected as the detail setting, this command is received, and its setting is reflected. • The amount of detail can be reduced for scenes having flesh tones in accordance with the settings. ※Only supported by the AW-HE120.
	Response	OSD:4B:[*Data*]			※Only supported by the AW-HE120.
FLESH TONE NOISE SUPPRESS query command	Request	QSD:4B	None		※Only supported by the AW-HE120.
	Response	OSD:4B:[*Data*]	00 01 02	Off Low High	※Only supported by the AW-HE120.

Command name	Category	Command	Data value	Setting	Remarks
TOTAL DTL LEVEL control command	Control	OSA:30:[*Data*]	81 ≀ 92	1 ≀ 18	• Even when Off is selected as the detail setting, this command is received, and its setting is reflected. ■In the case of the AW-HE60 • The level is set to less than the TOTAL DTL LEVEL HIGH. ※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.
	Response	OSA:30:[*Data*]			※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.
TOTAL DTL LEVEL query command	Request	QSA:30	None		※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.
	Response	OSA:30:[*Data*]	81 ≀ 92	1 ≀ 18	※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.
TOTAL DTL LEVEL HIGH control command	Control	OSA:B1:[*Data*]	82 ≀ 92	2 ≀ 18	• Even when Off is selected as the detail setting, this command is received, and its setting is reflected. • A level below the TOTAL DTL LEVEL setting cannot be set. ※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.
	Response	OSA:B1:[*Data*]			※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.
TOTAL DTL LEVEL HIGH query command	Request	QSA:B1	None		※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.
	Response	OSA:B1:[*Data*]	82 ≀ 92	2 ≀ 18	※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.

Example of use)

・Detail: Low

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=ODT:1&res=1

[Response] AW-HE50 → PC
200 OK “ODT:1”

・H.DTL LEVEL: H 63

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:0A:3F&res=1

[Response] AW-HE120 → PC
200 OK “OSD:0A:3F”

・V DTL LEVEL: H 31

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:0E:1F&res=1
[Response] AW-HE120 → PC
200 OK “OSD:0E:1F”

・H.DTL LEVEL: L 62

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:12:3E&res=1
[Response] AW-HE120 → PC
200 OK “OSD:12:3E”

・V DTL LEVEL: L 30

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:16:1E&res=1
[Response] AW-HE120 → PC
200 OK “OSD:16:1E”

・DETAIL BAND: 1

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:1E:01&res=1
[Response] AW-HE120 → PC
200 OK “OSD:1E:01”

・NOISE SUPPRESS/CRISP: 7

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:22:07&res=1
[Response] AW-HE120 → PC
200 OK “OSD:22:07”

・FLESH TONE NOISE SUPPRESS: Low

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:4B:01&res=1
[Response] AW-HE120 → PC
200 OK “OSD:4B:01”

・TOTAL DTL LEVEL: 12

[Control] PC → AW-HE60
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSA:30:8C&res=1
[Response] AW-HE60 → PC
200 OK “OSA:30:8C”

・TOTAL DTL LEVEL HIGH: 18

[Control] PC → AW-HE60
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSA:B1:92&res=1
[Response] AW-HE60 → PC
200 OK “OSA:B1:92”

3.2.11. Flesh Tone Mode setting

These commands control the flesh tone mode of the camera and enable the current settings to be acquired.

Table 3.2.11. Flesh Tone Mode setting

Command name	Category	Command	Data value	Setting	Remarks
Flesh Tone Mode control command	Control	OSE:32:[*Data*]	0 1 3	Off Low High	• Disabled at the FullAuto setting (ER3 is returned). ※Supported only by the AW-HE50/ AW-HE60.
	Response	OSE:32:[*Data*]			※Supported only by the AW-HE50/ AW-HE60.
Flesh Tone Mode query command	Request	QSE:32	None		※Supported only by the AW-HE50/ AW-HE60.
	Response	OSE:32:[*Data*]	0 1 3	Off Low High	※Supported only by the AW-HE50/ AW-HE60.

Example of use) Flesh Tone Mode: High

[Control] PC → AW-HE50

http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:32:3&res=1

[Response] AW-HE50 → PC

200 OK “OSE:32:3”

3.2.12. Digital noise reduction (DNR) setting

These commands control the digital noise reduction (DNR) of the camera and enable the current settings to be acquired.

Table 3.2.12. Digital noise reduction (DNR) setting

Command name	Category	Command	Data value	Setting	Remarks
Digital noise reduction (DNR) control command	Control	OSD:3A:[*Data*]	00 01 02	Off Low High	■In the case of the AW-HE50/ AW-HE60 • Disabled at the FullAuto setting (ER3 is returned).
	Response	OSD:3A:[*Data*]			
Digital noise reduction (DNR) query command	Request	QSD:3A	None		
	Response	OSD:3A:[*Data*]	00 01 02	Off Low High	

Example of use) Digital noise reduction (DNR): High

[Control] PC → AW-HE50

http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:3A:02&res=1

[Response] AW-HE50 → PC

200 OK “OSD:3A:02”

3.2.13. Pedestal setting

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

Table 3.2.13. Pedestal setting

Command name	Category	Command	Data value	Setting	Remarks
Pedestal control command	Control	OTP:[*Data*]	In the case of the AW-HE50/AW-HE60		
			000 ≀ 096 ≀ 12C	–10 ≀ 0 ≀ +10	• Setting (menu display value) = (Data value − 0x96) / 15 • Disabled at the FullAuto setting (ER3 is returned).
			In the case of the AW-HE120		
			000 ≀ 096 ≀ 12C	–150 ≀ 0 ≀ +150	• Setting (menu display value) = (Data value − 0x96)
	Response	OTP:[*Data*]			
	Control	OTD:[*Data*]	In the case of the AW-HE50/AW-HE60		
			00 ≀ 1E ≀ 3C	–10 ≀ 0 ≀ +10	• Setting (menu display value) = (Data value − 0x96) / 3 • Disabled at the FullAuto setting (ER3 is returned).
			In the case of the AW-HE120		
			00 ≀ 1E ≀ 3C	–150 ≀ 0 ≀ +150	• Setting (menu display value) = (Data value − 0x1E) x 5
	Response	OTD:[*Data*]			
Pedestal query command	Request	QTP	None		
	Response	OTP:[*Data*]	In the case of the AW-HE50/AW-HE60		
			000 ≀ 096 ≀ 12C	–10 ≀ 0 ≀ +10	• Data value of response = (Setting x 15 + 0x96)
			In the case of the AW-HE120		
			000 ≀ 096 ≀ 12C	–150 ≀ 0 ≀ +150	• Data value of response = (Setting + 0x96)

Command name	Category	Command	Data value	Setting	Remarks
Pedestal query command	Request	QTD	None		
	Response	OTD:[*Data*]	In the case of the AW-HE50/AW-HE60		
			00 ≀ 1E ≀ 3C	–10 ≀ 0 ≀ +10	• Data value of response = (Setting x 3 + 0x1E)
			In the case of the AW-HE120		
			00 ≀ 1E ≀ 3C	–150 ≀ 0 ≀ +150	• Data value of response = (Setting / 5 + 0x1E)

Example of use)

・Pedestal: –10

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OTP:000&res=1

[Response] AW-HE50 → PC
200 OK “OTP:000”

・Pedestal: +10

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OTD:3C&res=1

[Response] AW-HE50 → PC
200 OK “OTD:3C”

3.2.14. Gamma/DRS setting

These commands control the Gamma or DRS of the camera and enable the current settings to be acquired.
There are three setting items: DRS, gamma type and gamma level.

Table 3.2.14. Gamma/DRS setting

Command name	Category	Command	Data value	Setting	Remarks
DRS control command	Control	OSE:33:[*Data*]	In the case of the AW-HE50/AW-HE60		
			0 1 3	Off Low High	• Disabled at the FullAuto setting (ER3 is returned).
			In the case of the AW-HE120		
			0 1 2 3	Off Low Mid High	• When any setting except Off is used for DRS and any setting except Normal is used for the gamma type or when digital zooming is valid, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when the above restrictions are released.
	Response	OSE:33:[*Data*]			
DRS query command	Request	QSE:33	None		
	Response	OSE:33:[*Data*]	In the case of the AW-HE50/AW-HE60		
			0 1 3	Off Low High	• Disabled at the FullAuto setting (ER3 is returned).
			In the case of the AW-HE120		
			0 1 2 3	Off Low Mid High	
Gamma type control command	Control	OSE:72:[*Data*]	0 1 2	Off Normal Cinema	■In the case of the AW-HE50/ AW-HE60 • Disabled at the FullAuto setting (ER3 is returned). • When the DRS is in any mode except Off, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when DRS is changed from the mode which is not Off to Off.
	Response	OSE:72:[*Data*]			
Gamma type query command	Request	QSE:72	None		
	Response	OSE:72:[*Data*]	0 1 2	Off Normal Cinema	■In the case of the AW-HE50/ AW-HE60 • Disabled at the FullAuto setting (ER3 is returned).

Command name	Category	Command	Data value	Setting	Remarks
Gamma level control command	Control	OSD:50:[*Data*]	00 01 02	Low Mid High	■In the case of the AW-HE50/ AW-HE60 • Disabled at the FullAuto setting (ER3 is returned). • When the DRS is in any mode except Off, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when DRS is changed from the mode which is not Off to Off. • When the DRS is in any mode except Off and any setting except Normal is established for the gamma type, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when DRS is changed to Off and the gamma type is changed to Normal. ■In the case of the AW-HE120 • When any setting except Normal is used for the gamma type, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when the above restrictions are released.
	Response	OSD:50:[*Data*]			
Gamma level query command	Request	QSD:50	None		
	Response	OSD:50:[*Data*]	00 01 02	Low Mid High	

Example of use)

・DRS: Off

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:33:0&res=1

[Response] AW-HE50 → PC
200 OK “OSE:33:0”

・Gamma type: Normal

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:72:1&res=1

[Response] AW-HE50 → PC
200 OK “OSE:72:1”

・Gamma level: Mid

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:50:01&res=1

[Response] AW-HE50 → PC
200 OK “OSD:50:01”

3.2.15. Backlight compensation setting

These commands exercise On/Off control over the backlight compensation of the camera and enable the current settings to be acquired.

Table 3.2.15. Backlight compensation setting

Command name	Category	Command	Data value	Setting	Remarks
Backlight compensation control command	Control	OSE:73:[*Data*]	0 1	Off On	• Disabled at the FullAuto setting (ER3 is returned). • When On is set for auto iris, or Auto is set for Frame Mix or Gain, the setting is accepted but it is not reflected in the images. The setting is reflected in the images when auto iris is changed from On to Off, or Frame Mix or Gain is changed to Manual. ※Supported only by the AW-HE50/ AW-HE60.
	Response	OSE:73:[*Data*]			※Supported only by the AW-HE50/ AW-HE60.
Backlight compensation query command	Request	QSE:73	None		※Supported only by the AW-HE50/ AW-HE60.
	Response	OSE:73:[*Data*]	0 1	Off On	※Supported only by the AW-HE50/ AW-HE60.

Example of use)

・Backlight compensation: Off

[Control] PC → AW-HE50

http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:73:0&res=1

[Response] AW-HE50 → PC

200 OK “OSE:73:0”

3.2.16. Genlock setting

These commands exercise genlock control over the camera and enable the current settings to be acquired.
The setting items include horizontal sync phase, subcarrier sync phase (coarse) and subcarrier sync phase (fine).

Table 3.2.16. Genlock setting

Command name	Category	Command	Data value	Setting	Remarks
Horizontal sync phase control command	Control	OHP:[*Data*]	000 ≀ 338 ≀ 3FF	–206 ≀ 0 ≀ +49	※This command has no effect with the AW-HE50H/AW-HE60H. • Setting (menu display value) = (Data value / 4 − 206)
	Response	OHP:[*Data*]			
Horizontal sync phase query command	Request	QHP	None		※This command has no effect with the AW-HE50H/AW-HE60H. • Data value = (Setting + 206) x 4
	Response	OHP:[*Data*]	000 ≀ 338 ≀ 3FC	–206 ≀ 0 ≀ +49	
Subcarrier sync phase (coarse) control command	Control	OSC:[*Data*]	0 1 2 3	90° 180° 270° 0°	※Supported only by the AW-HE50S/ AW-HE60S.
	Response	OSC:[*Data*]			※Supported only by the AW-HE50S/ AW-HE60S.
Subcarrier sync phase (coarse) query command	Request	QSC	None		※Supported only by the AW-HE50S/ AW-HE60S.
	Response	OSC:[*Data*]	0 1 2 3 5 6 7 8	90° 180° 270° 0° 45° 135° 225° 315°	※Supported only by the AW-HE50S/ AW-HE60S. • The data value differs depending on the responses to the control command and query command.
Subcarrier sync phase (fine) control command	Control	OSN:[*Data*]	000 ≀ 007 008 ≀ 200 ≀ 3FB 3FC ≀ 3FF	–127 ≀ –127 –126 ≀ 0 ≀ +126 +127 ≀ +127	※Supported only by the AW-HE50S/ AW-HE60S.
	Response	OSN:[*Data*]			※Supported only by the AW-HE50S/ AW-HE60S.

Command name	Category	Command	Data value	Setting	Remarks
Subcarrier sync phase (fine) query command	Request	QSN	None		※Supported only by the AW-HE50S/ AW-HE60S.
	Response	OSN:[*Data*]	000 〜 007 008 〜 200 〜 3FB 3FC 〜 3FF	–127 〜 –127 –126 〜 0 〜 +126 +127 〜 +127	※Supported only by the AW-HE50S/ AW-HE60S.

Example of use)

・Horizontal sync phase: +49

[Control] PC → AW-HE50

http://192.168.0.10/cgi-bin/aw_cam?cmd=OHP:3FF&res=1

[Response] AW-HE50 → PC

200 OK “OHP:3FF”

・Subcarrier sync phase (coarse): 90°

[Control] PC → AW-HE50

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

[Response] AW-HE50 → PC

200 OK “OSC:0”

・Subcarrier sync phase (fine): +127

[Control] PC → AW-HE50

http://192.168.0.10/cgi-bin/aw_cam?cmd=OSN:3FF&res=1

[Response] AW-HE50 → PC

200 OK “OSN:3FF”

3.2.17. Output setting

These commands control the output settings of the camera and enable the current settings to be acquired.
The setting items include format, down-conversion mode and HDMI color components.

Table 3.2.17. Output setting

Command name	Category	Command	Data value	Setting	Remarks
Format control command	Control	OSA:87:[*Data*]	In the case of the AW-HE50		
			1 2 4 5 7 8 B D 10 11	720/59.94p(59.94Hz) 720/50p(50Hz) 1080/59.94i(59.94Hz) 1080/50i(50Hz) 1080/29.97PsF(59.94Hz) 1080/25PsF(50Hz) 480/59.94i(59.94Hz) 576/50i(50Hz) 1080/59.94p(59.94Hz) 1080/50p(50Hz)	• Data values with different field frequencies are invalid (ER3 is returned). • The following formats are supported by Ver.2 or a later version. 1080/29.97PsF 1080/25PsF 1080/59.94p 1080/50p • The following formats are supported only by the HDMI models. 1080/59.94p 1080/50p
			In the case of the AW-HE60		
			1 2 4 5 7 8 B D 10 11 12 13	720/59.94p(59.94Hz) 720/50p(50Hz) 1080/59.94i(59.94Hz) 1080/50i(50Hz) 1080/29.97PsF(59.94Hz) 1080/25PsF(50Hz) 480/59.94i(59.94Hz) 576/50i(50Hz) 1080/59.94p(59.94Hz) 1080/50p(50Hz) 480/59.94p(59.94Hz) 576/50p(50Hz)	• Data values with different field frequencies are invalid (ER3 is returned). • The following formats are supported only by the HDMI models. 1080/59.94p 1080/50p 480/59.94p 576/50p
			In the case of the AW-HE120		
			1 2 4 5 B D 10 11 12 13	720/59.94p(59.94Hz) 720/50p(50Hz) 1080/59.94i(59.94Hz) 1080/50i(50Hz) 480/59.94i(59.94Hz) 576/50i(50Hz) 1080/59.94p(59.94Hz) 1080/50p(50Hz) 480/59.94p(59.94Hz) 576/50p(50Hz)	• Data values with different field frequencies are invalid (ER3 is returned).
	Response	OSA:87:[*Data*]			

Command name	Category	Command	Data value	Setting	Remarks
Format query command	Request	QSA:87	None		
	Response	OSA:87:[*Data*]	In the case of the AW-HE50		
			1	720/59.94p(59.94Hz)	
			2	720/50p(50Hz)	
			4	1080/59.94i(59.94Hz)	
			5	1080/50i(50Hz)	
			7	1080/29.97PsF(59.94Hz)	
			8	1080/25PsF(50Hz)	
			B	480/59.94i(59.94Hz)	
			D	576/50i(50Hz)	
			10	1080/59.94p(59.94Hz)	
			11	1080/50p(50Hz)	
			In the case of the AW-HE60		
			1	720/59.94p(59.94Hz)	
			2	720/50p(50Hz)	
			4	1080/59.94i(59.94Hz)	
			5	1080/50i(50Hz)	
			7	1080/29.97PsF(59.94Hz)	
			8	1080/25PsF(50Hz)	
			B	480/59.94i(59.94Hz)	
			D	576/50i(50Hz)	
			10	1080/59.94p(59.94Hz)	
			11	1080/50p(50Hz)	
			12	480/59.94p(59.94Hz)	
			13	576/50p(50Hz)	
			In the case of the AW-HE120		
			1	720/59.94p(59.94Hz)	
			2	720/50p(50Hz)	
			4	1080/59.94i(59.94Hz)	
			5	1080/50i(50Hz)	
			B	480/59.94i(59.94Hz)	
			D	576/50i(50Hz)	
			10	1080/59.94p(59.94Hz)	
			11	1080/50p(50Hz)	
			12	480/59.94p(59.94Hz)	
			13	576/50p(50Hz)	

Command name	Category	Command	Data value	Setting	Remarks
Down-conversion mode control command	Control	OSE:20:[*Data*]	0 1 2	SideCut Squeeze LetterBOX	
	Response	OSE:20:[*Data*]			
Down-conversion mode query command	Request	QSE:20	None		
	Response	OSE:20:[*Data*]	0 1 2	SideCut Squeeze LetterBOX	
HDMI color component control command	Control	OSE:68:[*Data*]	0 1 2 3	RGB-NOR RGB-ENH YCbCr422 YCbCr444	※This command has no effect with the AW-HE50S/AW-HE60S.
	Response	OSE:68:[*Data*]			
HDMI color component query command	Request	QSE:68	None		※This command has no effect with the AW-HE50S/AW-HE60S.
	Response	OSE:68:[*Data*]	0 1 2 3	RGB-NOR RGB-ENH YCbCr422 YCbCr444	
Analog component output control command	Control	OSD:65:[*Data*]	00 01	YPbPr RGB	※Only supported by the AW-HE120.
	Response	OSD:65:[*Data*]			
Analog component output query command	Request	QSD:65	None		※Only supported by the AW-HE120.
	Response	OSD:65:[*Data*]	00 01	YPbPr RGB	

Example of use)

・Format: 720/59.94p

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSA:87:01&res=1

[Response] AW-HE50 → PC
200 OK “OSA:87:01”

・Down-conversion mode: Squeeze

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:20:1&res=1

[Response] AW-HE50 → PC
200 OK “OSE:20:1”

・HDMI color components: RGB-NOR

[Control] PC → AW-HE50H
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:68:0&res=1

[Response] AW-HE50H → PC
200 OK “OSE:68:0”

・Analog component output: RGB

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:65:01&res=1

[Response] AW-HE120 → PC
200 OK “OSD:65:01”

3.2.18. Preset playback range setting

These commands control the playback range when the presets of the camera are to be played back and enable the current settings to be acquired.

Table 3.2.18. Preset playback range setting

Command name	Category	Command	Data value	Setting	Remarks
Preset playback range control command	Control	OSE:71:[*Data*]	0 1 2	Mode A Mode B Mode C	
	Response	OSE:71:[*Data*]			
Preset playback range query command	Request	QSE:71	None		
	Response	OSE:71:[*Data*]	0 1 2	Mode A Mode B Mode C	

Example of use) Preset playback range: Mode A

[Control] PC → AW-HE50

http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:71:0&res=1

[Response] AW-HE50 → PC

200 OK “OSE:71:0”

3.2.19. Digital zoom settings

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

Table 3.2.19. Digital zoom settings

Command name	Category	Command	Data value	Setting	Remarks
Digital zoom On/Off control command	Control	OSE:70:[*Data*]	0 1	Disable Enable	
	Response	OSE:70:[*Data*]			
Digital zoom On/Off query command	Request	QSE:70	None		
	Response	OSE:70:[*Data*]	0 1	Disable Enable	
Digital zoom maximum magnification control command	Control	OSE:7A:[*Data*]	02 ≀ 10	x2 ≀ x10	• This command enables the maximum digital zoom magnification to be set. ※Only supported by the AW-HE120.
	Response	OSE:7A:[*Data*]			※Only supported by the AW-HE120.
Digital zoom maximum magnification query command	Request	QSE:7A	None		※Only supported by the AW-HE120.
	Response	OSE:7A:[*Data*]	02 ≀ 10	x2 ≀ x10	※Only supported by the AW-HE120.
Digital zoom magnification control command	Control	OSE:76:[*Data*]	0100 ≀ 1000	x1.00 ≀ x10.00	• This command enables the digital zoom magnification to be set.
	Response	OSE:76:[*Data*]			
Digital zoom magnification query command	Request	QSE:76	None		
	Response	OSE:76:[*Data*]	0100 ≀ 1000	X1.00 ≀ x10.00	

Example of use)

・Digital zoom: Enable

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:70:1&res=1

[Response] AW-HE50 → PC
200 OK “OSE:70:1”

・Maximum digital zoom magnification: 10×

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:7A:10&res=1

[Response] AW-HE120 → PC
200 OK “OSE:7A:10”

・Digital zoom magnification: 1×

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:76:0100&res=1

[Response] AW-HE120 → PC
200 OK “OSE:76:0100”

3.2.20. Camera information acquisition

These commands enable the current camera information of the camera to be acquired.

Table 3.2.20. 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 AW-HE50		
			AW-HE50		Model number of camera
			In the case of the AW-HE60		
			AW-HE60		Model number of camera
			In the case of the AW-HE120		
			AW-HE120		Model number of camera
Camera microcontroller software version query command	Request	QSV	None		
	Response	OSV:[*Data*]			Camera Microcontroller software version Example: V01.28

Example of use)

・Model number acquisition

[Control] PC → AW-HE50/AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=QID&res=1

[Response] AW-HE50/AW-HE120 → PC
200 OK “OID:AW-HE50” ※In the case of the AW-HE50
200 OK “OID:AW-HE120” ※In the case of the AW-HE120

・Camera microcontroller software version acquisition

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=QSV&res=1

[Response] AW-HE50 → PC
200 OK “OSV:V01.00”

3.2.21. OSD menu

These commands exercise control over the OSD menu of the camera and enable the current settings to be acquired.

Table 3.2.21. OSD menu

Command name	Category	Command	Data value	Setting	Remarks
OSD menu On/Off control command	Control	DUS:[*Data*]	0 1	Menu Off Menu On	The camera OSD menu is turned On or Off.
	Response	DUS:[*Data*]			
OSD menu On/Off query command	Request	QUS	None		
	Response	OUS:[*Data*]	0 1	Menu Off Menu On	
MENU switch On control command	Control	DPG	None		
		DPG:[*Data*]	1		This cancels the (blinking) settings that are not confirmed yet.
	Response	DPG:[*Data*]			
ITEM switch On control command	Control	DIT	None		
		DIT:[*Data*]	1		Entered.
	Response	DIT:[*Data*]			
YES switch On control command	Control	DUP	None		
		DUP:[*Data*]	1 A	1Step 10Step	The cursor moves up (the value is changed).
	Response	DUP:[*Data*]			
NO switch On control command	Control	DDW	None		
		DDW:[*Data*]	1 A	1Step 10Step	The cursor moves down (the value is changed).
	Response	DDW:[*Data*]			
RIGHT switch control command	Control	DRT:[*Data*]	1 A	1Step 10Step	※Only supported by the AW-HE120.
	Response	DRT:[*Data*]			※Only supported by the AW-HE120.
LEFT switch control command	Control	DLT:[*Data*]	1 A	1Step 10Step	※Only supported by the AW-HE120.
	Response	DLT:[*Data*]			※Only supported by the AW-HE120.
OSD Off With TALLY control command	Control	OSE:75:[*Data*]	0 1	Off On	• The OSD menus are not displayed when “On” is selected as this setting and TALLY is On.
	Response	OSE:75:[*Data*]			
OSD Off With TALLY query command	Request	QSE:75	None		
	Response	OSE:75:[*Data*]	0 1	Off On	
OSD Mix control command	Control	OSE:7B:[*Data*]	00 01 02 04 08	OSD Mix Off SDI On HDMI On Component On Video On	• Bit0: SD1, bit1: HDMI, bit2: Analog, bit3: Video — On or Off settings for each of the above can be selected and combined. ※Only supported by the AW-HE120.
	Response	OSE:7B:[*Data*]			※Only supported by the AW-HE120.

Command name	Category	Command	Data value	Setting	Remarks
OSD Mix query command	Request	QSE:7B	None		※Only supported by the AW-HE120.
	Response	OSE:7B:[*Data*]	00 01 02 04 08	OSD Mix Off SDI On HDMI On Component On Video On	※Only supported by the AW-HE120.
CHARACTER MIX control command	Control	OSD:98:[*Data1*]:[*Data2*]	[Data1] 0 1 [Data2] 0 1 2	[Data1] Output Browser/Video SDI/HDMI, COMP [Data2] MixSelect Off On Off By Browser	※Only supported by the AW-HE60. • The Off By Browser setting takes effect only when SDI/HDMI or COMP has been selected as the Output setting.
	Response	OSD:98:[*Data1*]:[*Data2*]			
CHARACTER MIX query command	Request	QSD:98:[*Data1*]	[Data1] 0 1	[Data1] Output Browser/Video SDI/HDMI, COMP	※Only supported by the AW-HE60.
	Response	OSD:98:[*Data1*]:[*Data2*]	[Data1] 0 1 [Data2] 0 1 2	[Data1] Output Browser/Video SDI/HDMI, COMP [Data2] MixSelect Off On Off By Browser	※Only supported by the AW-HE60.

Example of use)

・OSD menu: On

[Control] PC → AW-HE50
http://192.168.0.10/cgi-bin/aw_cam?cmd=DUS:1&res=1

[Response] AW-HE50 → PC
200 OK “DUS:1”

・OSD Off With TALLY: On

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:75:1&res=1

[Response] AW-HE120 → PC
200 OK “OSE:75:1”

・OSD Mix: Off

[Control] PC → AW-HE120
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:7B:00&res=1

[Response] AW-HE120 → PC
200 OK “OSE:7B:00”

・SDI/HDMI, COMP CHARACTER MIX: Off

[Control] PC → AW-HE60
http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:98:1:0&res=1

[Response] AW-HE60 → PC
200 OK “OSD:98:1:0”

3.2.22. Smart picture flip information

This command enables the status of the camera's smart picture flip to be acquired.

Table 3.2.22. Smart picture flip information

Command name	Category	Command	Data value	Setting	Remarks
Smart picture flip status query command	Request	QFS	None		• Basically, the information is generated by the camera itself, and posted. • The current status is posted at startup as well. • Current status queries are also supported by the query command. • Normal is switched to Flip or vice versa depending on the Install Position setting. ※Only supported by the AW-HE120.
	Response	OFS:[*Data*]	0 1	Normal Flip	※Only supported by the AW-HE120.

Example of use)

・Smart picture flip status acquisition

[Control] PC → AW-HE120

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

[Response] AW-HE120 → PC

200 OK "OFS:[Data]"

3.2.23. Focus Adjust with PTZ setting

These commands control the Focus Adjust with PTZ and enable the current settings to be acquired.

Table 3.2.23. Focus Adjust with PTZ

Command name	Category	Command	Data value	Setting	Remarks
Focus ADJ With PTZ control command	Control	OAZ:[*Data*]	0 1	Off On	
	Response	OAZ:[*Data*]			
Focus ADJ With PTZ query command	Request	QAZ	None		
	Response	OAZ:[*Data*]	0 1	Off On	

Example of use) Focus Adjust with PTZ: On

[Control] PC → AW-HE50

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

[Response] AW-HE50 → PC

200 OK “OAZ:1”

3.2.24. Frequency setting

These commands enable the system frequency to be switched and the current setting to be acquired.

Table 3.2.24. Frequency

Command name	Category	Command	Data value	Setting	Remarks
Frequency control command	Control	OSE:77:[*Data*]	0 1	59.94Hz 50Hz	※The AW-HE50 is supported by Ver.2 or a later version
	Response	OSE:77:[*Data*]			
Frequency query command	Request	QSE:77	None		
	Response	OSE:77:[*Data*]	0 1	59.94Hz 50Hz	※The AW-HE50 is supported by Ver.2 or a later version

Example of use) Frequency: 50Hz

[Control] PC → AW-HE120

http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:77:1&res=1

[Response] AW-HE120 → PC

200 OK “OSE:77:1”

3.2.25. Error information

This command acquires the error information mainly of the camera.

Table 3.2.25. Error information

Command name	Category	Command	Data value	Setting	Remarks
Error information query command	Request	QER	None		※Only supported by the AW-HE120.
	Response	OER:[*Data*]	0 1	Normal Fan Error	※Only supported by the AW-HE120.

Example of use)

・Error information acquisition

[Control] PC → AW-HE120

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

[Response] AW-HE120 → PC

200 OK “OER:[Data]”

3.2.26. Option switch settings

These commands control the On/Off of the option functions.

Table 3.2.26. Option switch

Command name	Category	Command	Data value	Setting	Remarks
Option switch control command	Control	#D6[*Data*]	0 1	OFF ON	※Only supported by the AW-HE60. OFF: Switching to Day mode. ON: Switching to Night mode.
	Response	d6[*Data*]			
Option switch query command	Request	#D6	None		
	Response	d6[*Data*]	0 1	OFF ON	※Only supported by the AW-HE60. OFF: Day mode ON: Night mode

Example of use)

・Option switch: ON

[Control] PC → AW-HE60

http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23D61&res=1

[Response] AW-HE60 → PC

200 OK “d61”

4. Camera information update notification

The following restrictions apply to camera operations that are performed using HTTP communication and that have been described in the previous chapters:

A) Even when a camera setting is changed by one terminal, the other terminals will not know that the setting has been changed unless they send the query command to the camera.
B) In the case of a preset playback, AWB/ABB execution or other control commands that take time to be processed, it is necessary to wait until the processing is completed for the response.

By sending information autonomously from the camera to the terminals, it is possible to do the following:

A) When a camera setting is changed by one terminal, the other terminals are notified of the setting change immediately.
B) With a control command that takes time to be processed, the HTTP response is returned as soon as the command has been received, and separate notification of the processing result is given as soon as the processing is completed.

These functions are referred to as the camera information update notification function.
This chapter uses the term “update notification” to refer to this function.

4.1. Procedure for receiving the update notifications

An HTTP message is sent to the camera to start or stop the reception of the update notification from the camera.
At a time like this, the number of the TCP port on the terminal for receiving the update notification (having the update notification sent) is specified.

The ① update notification receive start steps and ② update notification receive end steps are each described below.

① Update notification receive start step

Example)

When reception is to be started with "192.168.0.10" used as the IP address of the camera

http://192.168.0.10/cgi-bin/event?connect=start&my_port=31004&uid=0

※ my_port … Number of the TCP port on the terminal (fixed at 31004)

Given below is the sequence which is followed when receiving the update notifications is started.

【Update notification receive start sequence】

The update notification receive start command is sent from the terminal where the update notifications are to be received.
"204 No Content" is returned from the camera which has received the command.

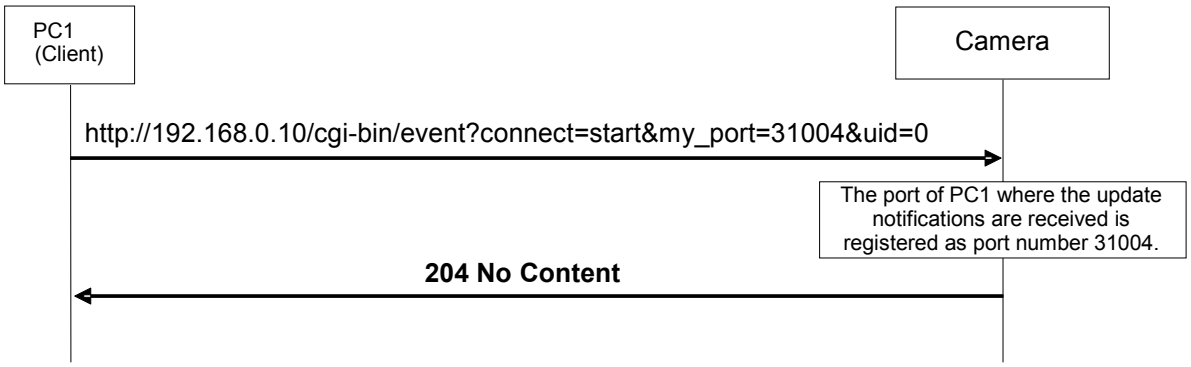


Fig.4-1 Update notification receive start sequence

【Caution】

Proceed with the update notification receive start step when communication has been cut off because the LAN cable has been disconnected, for example.

② Update notification receive end step

To close the application of the client, the update notification receive end step must be taken without fail.

Example)

When reception is to be ended with “192.168.0.10” used as the IP address of the camera

http://192.168.0.10/cgi-bin/event?connect=stop&my_port=31004&uid=0

※ my_port … Number of the TCP port on the terminal (fixed at 31004)

Given below is the sequence which is followed when receiving the update notifications is to be ended.

【Update notification receive end sequence】

The update notification receive end command is sent from the terminal which has received the update notifications.

“204 No Content” is returned from the camera which received the command.

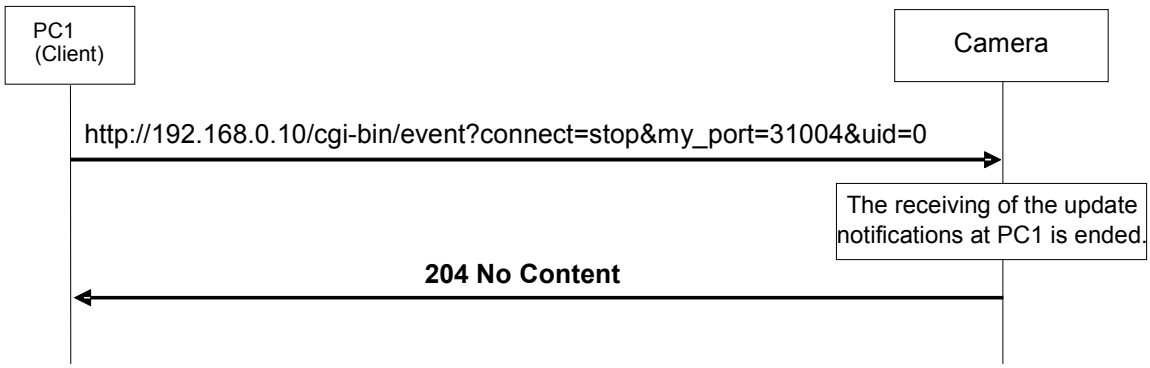


Fig.4-2 Update notification receive end sequence

4.2. Data format for update notifications

The data received in the update notifications will be described next.
The update notification is given to the TCP port on the terminal whose number was specified using the update notification start command by TCP protocol communication.
A breakdown of the data received is given below.

【Receive data】

Reserve (22 bytes)	**Size (2 bytes)**	Reserve (4 bytes)	**Update notification information (Variable length: Max. 504 bytes)**	Reserve (24 bytes)

Fig.4-3 Receive data format

The updated information is set in “Update notification information” of the receive data format.
The data received from the camera has a variable length.
The size of the update notification information is the value obtained by subtracting 8 bytes from the “Size” area setting.

・“Update notification information” data length ＝ “Size” － 8 bytes

The updates of the camera are described in the update notification information.
The format used for the update notification information received from the camera is given below.

【Update notification information format】

[CR][LF][Command response format][CR][LF]

※ [CR]:0x0d, [LF]:0x0a

Example 1) Power: On
[CR][LF]**p1**[CR][LF]

Example 2) Color bar: On
[CR][LF]**DCB:1**[CR][LF]

4.3. Setting change sequence

Update notifications are sent when the settings or statuses of the camera have been changed.
Given below is an example of the update notification sequence.
It is assumed that the update notification start command has been sent to all the terminals in the sequence and that the terminals can receive the update notifications from the camera.

4.3.1. Changing the settings from a terminal

【Changing the settings from the local terminal】

When the settings of the camera have been changed from the local terminal (PC1), the changes are also posted by an update notification separately from the HTTP response to the command.

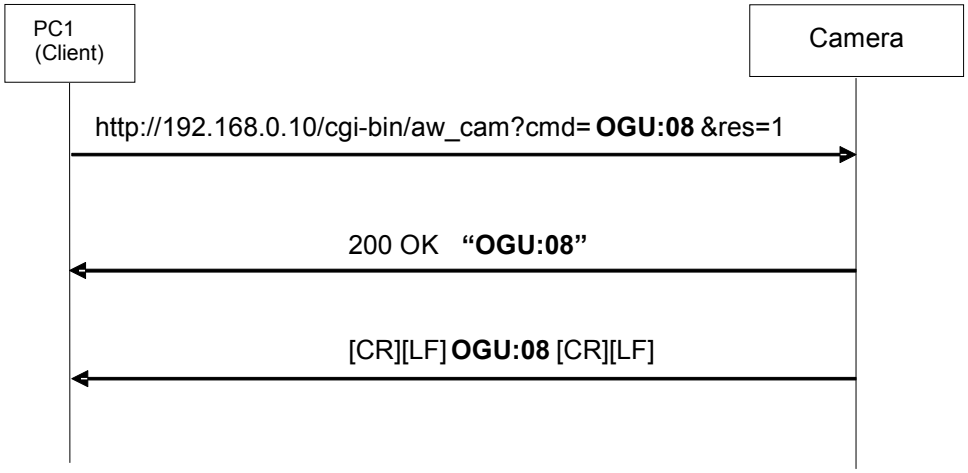


Fig.4-4 Changing the settings from the local terminal

【Changing the settings from another terminal】

When a camera setting has been changed from another terminal (PC2), the local terminal (PC1) is also notified of the change.

In addition to the HTTP response to the command, the other terminal (PC2) is notified of the change by an update notification as well.

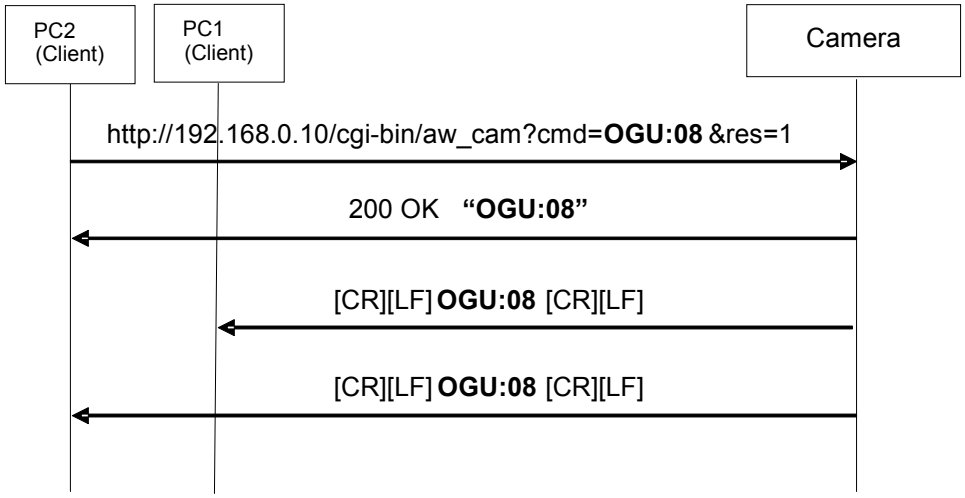


Fig.4-5 Changing the settings from another terminal

(Remarks)
When the camera receives the control command and its setting is changed, it gives an update notification.
(It does not give an update notification if a query command has been received.)
However, when any of the following commands have been received, the update notification is not given.

① OSD menu

Table 4-1

Command name		Command
OSD menu Off/On	control command	DUS:[Data]
MENU switch On	control command	DPG
ITEM switch On	control command	DIT
YES switch On	control command	DUP
NO switch On	control command	DDW
RIGHT switch On	control command	DRT
LEFT switch On	control command	DLT

※The RIGHT/LEFT switch On control command is supported only by the AW-HE120.

② Pan, tilt, zoom, focus and iris operation commands
<Pan-tilt head control commands>

Table 4-2

Command name		Command
Pan/tilt	control command	#APC[Data1][Data2]
		#P[Data]
		#T[Data]
		#PTS[Data1][Data2]
Zoom	control command	#AXZ[Data]
		#Z[Data]
Focus	control command	#AXF[Data]
		#F[Data]
Iris position	control command	#I [Data]
		#AXI [Data]

<Camera control commands>

Table 4-3

Command name		Command
One-touch focus	control command	OSE:69:[Data]
Contrast level (Picture level)	control command	OSD:48:[Data]
Iris volume	control command	ORV:[Data]

4.3.2. Setting value initialization

The contents of the table below are posted in succession by the update notifications when the settings have been initialized using the OSD menu of the camera or from the web screen.

Table 4-4-1 (In the case of the AW-HE50/AW-HE60)

Notification	Remarks
XSF	Scene file
ORS	Iris (Auto/Manual)
OSD:48	Contrast level
OSH	Shutter
OMS	Synchro scan
OGU	Gain
OSA:65	Frame mix
OSD:69	Maximum gain value
OSE:74	Maximum frame mix value
OCG	Chroma level
OAW	AWB (AWC) mode
ODT	Detail
OSA:B1	TOTAL DTL LEVEL HIGH ※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.
OSA:30	TOTAL DTL LEVEL ※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.
OSE:32	Flesh Tone Mode
OSE:31	Color matrix
OSD:3A	Digital noise reduction (DNR)
OTD	Pedestal
OSE:72	Gamma type
OSD:50	Gamma level
OSE:73	Backlight compensation
OSE:33	DRS
OHP	Horizontal sync phase
OSC	Subcarrier sync phase (coarse)
OSN	Subcarrier sync phase (fine)
OSE:20	Down-conversion mode
OSE:68	HDMI color component
iNS	Installation position
uPVS	Pan preset speed
OSE:71	Preset playback range
OSE:70	Digital zoom On/Off
sWZ	Zoom position-linked pan/tilt speed adjustment On/Off
OAF	Focus Auto/Manual
OAZ	Auto focus On/Off during zooming
tAE	Tally input enable/disable
OSA:88	AWB execution underway status display On/Off
wLC	Wireless Control
OSE:75	OSD Off With TALLY
d6	Option switch ※Only supported by the AW-HE60.
OSD:98:1	CHARACTER MIX (SDI/HDMI, COMP) ※Only supported by the AW-HE60.
OSD:98:0	CHARACTER MIX (Browser/Video) ※Only supported by the AW-HE60.

Table 4-4-2 (In the case of the AW-HE120)

Notification	Remarks
XSF	Scene file
iNS	Installation position
ORS	Iris (Auto/Manual)
sPF	Smart Picture Flip
OSD:48	Picture level
fDA	Flip Detect Angle
OSH	Shutter
uPVS	Pan preset speed
OMS	Synchro scan
sWZ	Zoom position-linked pan/tilt speed adjustment On/Off
OGU	Gain
wLC	Wireless Control
OSA:65	Frame mix
OSD:69	Maximum gain value
OSE:74	Maximum frame mix value
OCG	Chroma level
OAW	AWB (AWC) mode
ODT	Detail
OSE:31	Color matrix
OSD:3A	Digital noise reduction (DNR)
ORI	R GAIN
OBI	B GAIN
OTP	Pedestal
ORP	R PEDESTAL
OBP	B PEDESTAL
OSE:72	Gamma type
OSD:50	Gamma level
OSD:2F	Linear Matrix (R-G)
OSD:30	Linear Matrix (R-B)
OSD:31	Linear Matrix (G-R)
OSD:32	Linear Matrix (G-B)
OSD:33	Linear Matrix (B-R)
OSD:34	Linear Matrix (B-G)
OSD:0A	H Detail Level H
OSD:0E	V Detail Level H
OSD:12	H Detail Level L
OSD:16	V Detail Level L
OSD:1E	Detail Band
OSD:22	Noise Suppress
OSD:4B	FleshTone Noise Suppress
OSD:80	Color Correction (B_Mg GAIN/SATURATION)
OSD:81	Color Correction (B_Mg PHASE)
OSD:82	Color Correction (Mg GAIN/SATURATION)
OSD:83	Color Correction (Mg PHASE)

Table 4-4-2 (In the case of the AW-HE120) (continued)

Notification	Remarks
OSD:84	Color Correction (Mg_R GAIN/SATURATION)
OSD:85	Color Correction (Mg_R PHASE)
OSD:86	Color Correction (R GAIN/SATURATION)
OSD:87	Color Correction (R PHASE)
OSD:88	Color Correction (R_Yl GAIN/SATURATION)
OSD:89	Color Correction (R_Yl PHASE)
OSD:8A	Color Correction (Yl GAIN/SATURATION)
OSD:8B	Color Correction (Yl PHASE)
OSD:8C	Color Correction (Yl_G GAIN/SATURATION)
OSD:8D	Color Correction (Yl_G PHASE)
OSD:8E	Color Correction (G GAIN/SATURATION)
OSD:8F	Color Correction (G PHASE)
OSD:90	Color Correction (G_Cy GAIN/SATURATION)
OSD:91	Color Correction (G_Cy PHASE)
OSD:92	Color Correction (Cy GAIN/SATURATION)
OSD:93	Color Correction (Cy PHASE)
OSD:94	Color Correction (Cy_B GAIN/SATURATION)
OSD:95	Color Correction (Cy_B PHASE)
OSD:96	Color Correction (B GAIN/SATURATION)
OSD:97	Color Correction (B PHASE)
OFT	ND Filter
OSE:33	DRS
OAF	Focus Auto/Manual
OSE:7B	OSD Mix
OHP	Horizontal sync phase
ORV	Iris Mode (AUTO/MANUAL)
OSA:87	Format
OSA:88	AWB execution underway status display On/Off
OSE:20	Down-conversion mode
OSE:68	HDMI color component
OSE:70	Digital zoom On/Off
OSE:71	Preset playback range
OSE:75	OSD Off With TALLY
OSE:77	Frequency
OSE:7A	Maximum Digital Zoom
DCB	COLOR BAR/CAMERA
OAZ	Auto focus On/Off during zooming
DCS	Color Bars Setup
OSD:65	OUTPUT SELECT

The sequence during setting value initialization is as follows.

【Setting value initialization sequence】

The items whose settings have been changed by initialization are notified in succession when the settings are initialized using the OSD menu of the camera or from the web screen.

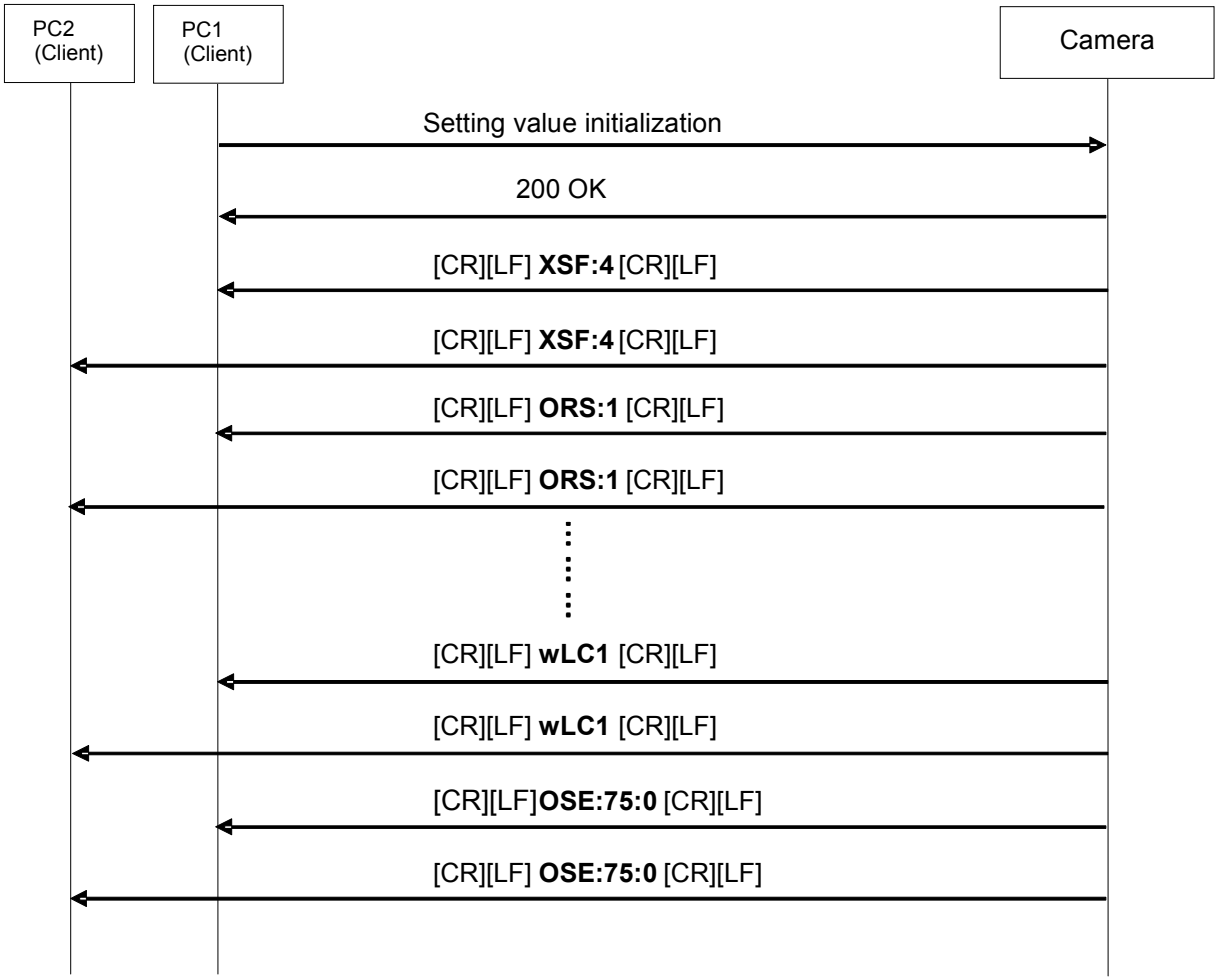


Fig.4-6 Setting value initialization

4.3.3. Scene file selection

The contents of the table below are posted in succession by the update notifications when scene files have been switched.

Table 4-5-1 (In the case of the AW-HE50/AW-HE60)

Notification	Remarks
XSF	Scene file
ORS	Iris (Auto/Manual)
OSD:48	Contrast level
OSH	Shutter
OMS	Synchro scan
OGU	Gain
OSA:65	Frame mix
OSD:69	Maximum gain value
OSE:74	Maximum frame mix value
OCG	Chroma level
OAW	AWB (AWC) mode
ODT	Detail
OSA:B1	TOTAL DTL LEVEL HIGH ※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.
OSA:30	TOTAL DTL LEVEL ※Supported only by AW-HE60 CameraMain V3.05 or subsequent versions.
OSE:32	Flesh Tone Mode
OSE:31	Color matrix
OSD:3A	Digital noise reduction (DNR)
ORG	R GAIN ※The AW-HE50 is supported by Ver.2 or a later version.
OBG	B GAIN ※The AW-HE50 is supported by Ver.2 or a later version.
OTD	Pedestal
OSE:72	Gamma type
OSD:50	Gamma level
OSE:73	Backlight compensation
OSE:33	DRS
d6	Option switch ※Only supported by the AW-HE60.

Table 4-5-2 (In the case of the AW-HE120)

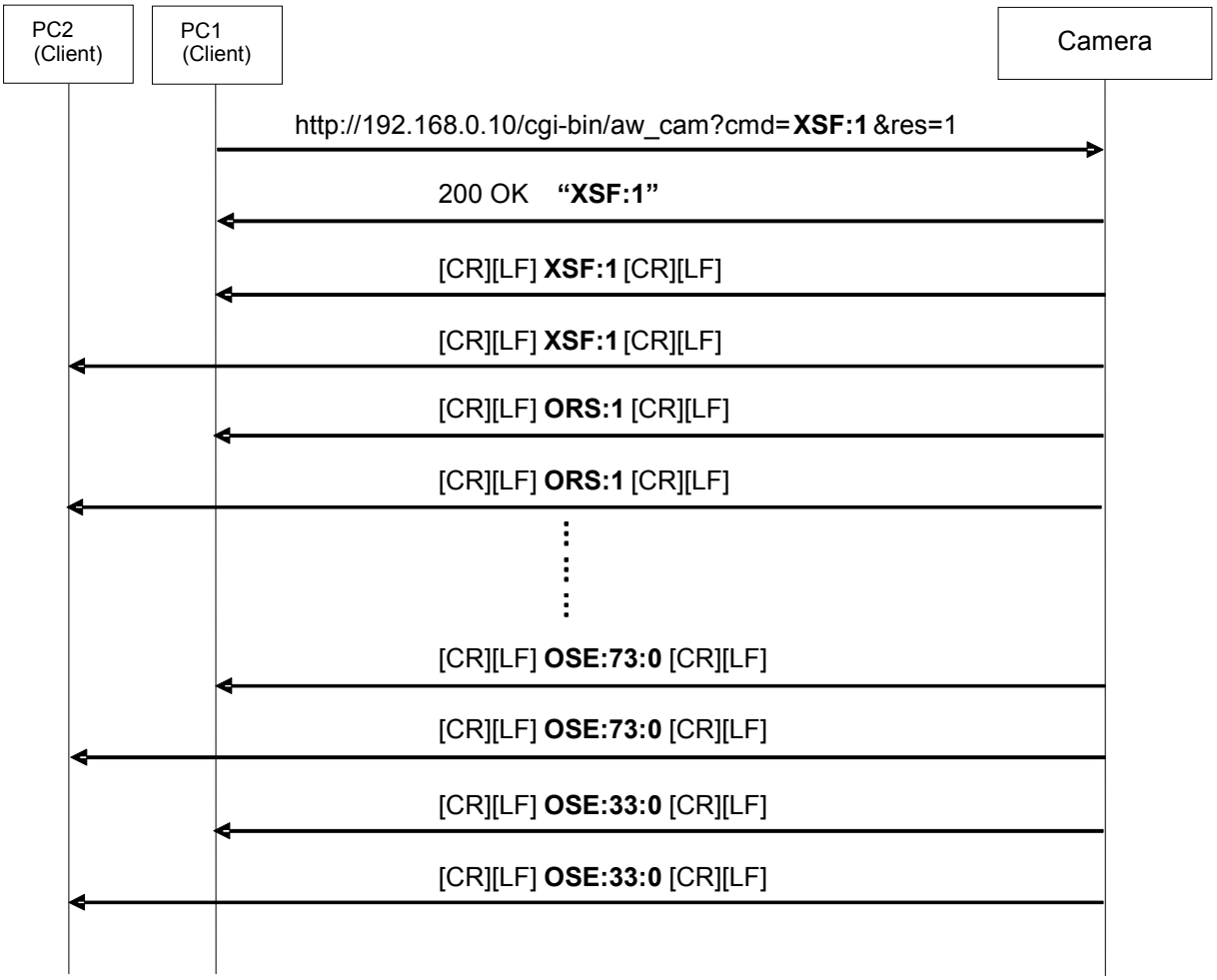
Notification	Remarks
XSF	Scene file
ORS	Iris (Auto/Manual)
OSD:48	Picture level
OSH	Shutter
OMS	Synchro scan
OGU	Gain
OSA:65	Frame mix
OSD:69	Maximum gain value
OSE:74	Maximum frame mix value
OCG	Chroma level
OAW	AWB (AWC) mode
ODT	Detail
OSE:31	Color matrix
OSD:3A	Digital noise reduction (DNR)
ORI	R GAIN
OBI	B GAIN
OTP	Pedestal
ORP	R PEDESTAL
OBP	B PEDESTAL
OSE:72	Gamma type
OSD:50	Gamma level
OSD:2F	Linear Matrix (R-G)
OSD:30	Linear Matrix (R-B)
OSD:31	Linear Matrix (G-R)
OSD:32	Linear Matrix (G-B)
OSD:33	Linear Matrix (B-R)
OSD:34	Linear Matrix (B-G)
OSD:0A	H Detail Level H
OSD:0E	V Detail Level H
OSD:12	H Detail Level L
OSD:16	V Detail Level L
OSD:1E	Detail Band
OSD:22	Noise Suppress
OSD:4B	FleshTone Noise Suppress
OSD:80	Color Correction (B_Mg GAIN/SATURATION)
OSD:81	Color Correction (B_Mg PHASE)
OSD:82	Color Correction (Mg GAIN/SATURATION)
OSD:83	Color Correction (Mg PHASE)
OSD:84	Color Correction (Mg_R GAIN/SATURATION)
OSD:85	Color Correction (Mg_R PHASE)
OSD:86	Color Correction (R GAIN/SATURATION)
OSD:87	Color Correction (R PHASE)
OSD:88	Color Correction (R_Yl GAIN/SATURATION)
OSD:89	Color Correction (R_Yl PHASE)

Table 4-5-2 (In the case of the AW-HE120) (continued)

Notification	Remarks
OSD:8A	Color Correction (YI GAIN/SATURATION)
OSD:8B	Color Correction (YI PHASE)
OSD:8C	Color Correction (YI_G GAIN/SATURATION)
OSD:8D	Color Correction (YI_G PHASE)
OSD:8E	Color Correction (G GAIN/SATURATION)
OSD:8F	Color Correction (G PHASE)
OSD:90	Color Correction (G_Cy GAIN/SATURATION)
OSD:91	Color Correction (G_Cy PHASE)
OSD:92	Color Correction (Cy GAIN/SATURATION)
OSD:93	Color Correction (Cy PHASE)
OSD:94	Color Correction (Cy_B GAIN/SATURATION)
OSD:95	Color Correction (Cy_B PHASE)
OSD:96	Color Correction (B GAIN/SATURATION)
OSD:97	Color Correction (B PHASE)
OFT	ND Filter
OSE:33	DRS
OAF	Focus Auto/Manual
OSE:7B	OSD Mix
OHP	Horizontal Phase
ORV	Iris Mode (AUTO/MANUAL)
OSA:87	Format
OSA:88	OSD Status
OSE:20	DownCONV.Mode
OSE:68	HDMI COLOR
OSE:70	DIGITAL ZOOM ENABLE
OSE:71	PRESET SCOPE
OSE:75	OSD Off With Tally
OSE:77	Frequency
OSE:7A	Maximum Digital Zoom
DCB	COLOR BAR/CAMERA
OAZ	Focus ADJ with PTZ
DCS	Color Bars Setup
OSD:65	OUTPUT SELECT

Given below is the sequence which is followed when scene files are selected.

【Scene file selection sequence】
The sequence below is followed if the scene file is changed to “Manual1”.
When “XSF:1” is returned in the response to the scene selection command and the scene file change is completed, the settings changed by the change in the scene file are posted in sequence by update notifications.



※The backlight compensation response (OSE:73:[Data]) is not supported by the AW-HE120.

Fig.4-7 Scene file selection

Described below are sequences which differ from the ones described in the previous pages.

4.4. Special sequences

Update notifications are sometimes sent at times other than when the settings or statuses of the camera have been changed.

Some cases are presented below.

It is assumed that the update notification start command has been sent to all the terminals in the sequence and that the terminals can receive the update notifications from the camera.

4.4.1. Version information notification

The version information is posted in 60-second cycles.

The information posted is given below.

Table 4-6

Notification	Version information
qSV3V∗∗.∗∗∗∗∗∗	qSV3V01.00L.002

Given below is the sequence which is followed when the version information is received.

【Sequence when the version information is received】

The camera sends the version information in 60-second cycles, and this information is received by terminals PC1 and PC2.

Fig.4-8 Sequence when the version information is received

4.4.2. Error information

In cases where the camera has detected error information, the error information is posted in 30-second cycles.

When operation has been restored from an error condition, [Error Code 00:Normal] is posted only once.

If the error has not been detected, the error information is not posted.

Given below is the information which is posted.

Table 4-7

Notification	Error Code
rER[Error Code]	00: Normal
	03: Motor Driver Error
	04: Pan Sensor Error
	05: Tilt Sensor Error
	06: Controller RX Over run Error
	07: Controller RX Framing Error
	08: Network RX Over run Error
	09: Network RX Framing Error
	17: Controller RX Command Buffer Overflow
	19: Network RX Command Buffer Overflow
	21: System Error
	22: Spec Limit Over
	23: FPGA Config Error
	24: Network communication Error
	25: Lens Initialize Error
	30: Lvds_Adjustment_NG
	31: Bar_Signal_Check_NG
	32: H_Sync_Check_NG
	33: HDMI_Check_NG

Given below is the sequence which is followed when error information is received.

【Error information receive sequence】

When the camera detects an error, it sends the error information to the terminals, and terminals PC1 and PC2 receive this information.

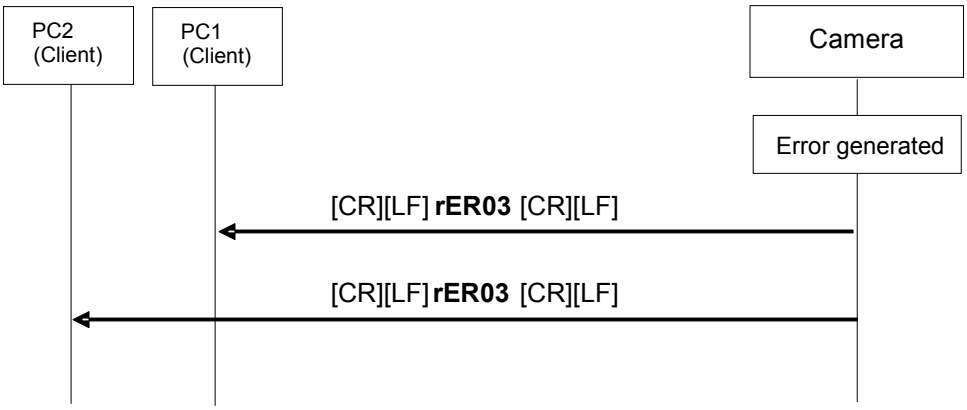


Fig.4-9 Sequence when error information is received

4.4.3. LPI information (lens information)

Notification is sent in a 300ms cycle when “On: Information is posted” has been set for the lens information notification On/Off control command in “3.1.6. Lens information notification” and a change has been made in the LPI information (lens information). The table below lists what is notified.

Table 4-8

Notification	Lens information
IPI [ZZZ] [FFF] [III]	ZZZ····· Zoom position FFF····· Focus position III ····· Iris position

Given below is the sequence which is followed when changes in the LPI (lens) information are received.

【Sequence when LPI information (lens information) is changed】

When the camera detects changes in the LPI (lens) information, the changed LPI (lens) information is sent to the terminals, and terminals PC1 and PC2 receive this information.

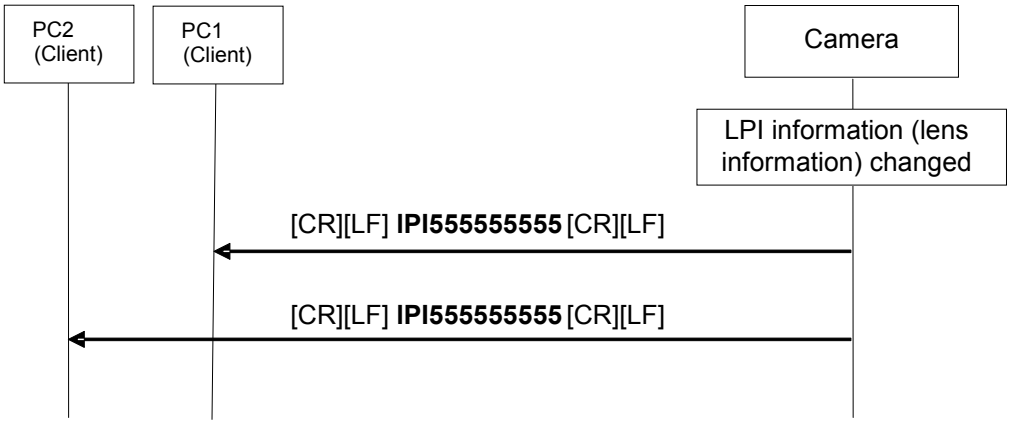


Fig.4-10 Sequence when LPI information is changed

4.4.4. Preset playback

This command sends the preset playback completion notification as an update notification when preset playback in the camera has been completed. The table below gives the notification details.

Table 4-9

Notification	Remarks
q[numeral]	Number of the preset which was played back

Given below is the sequence which is followed when presets are played back.

【Preset playback sequence】

This is the sequence in which preset number 08 is played back.

As soon as the preset playback command is received, “s07” is returned as the HTTP response, and as soon as the playback is completed after this, “q07” is posted separately as the update notification.

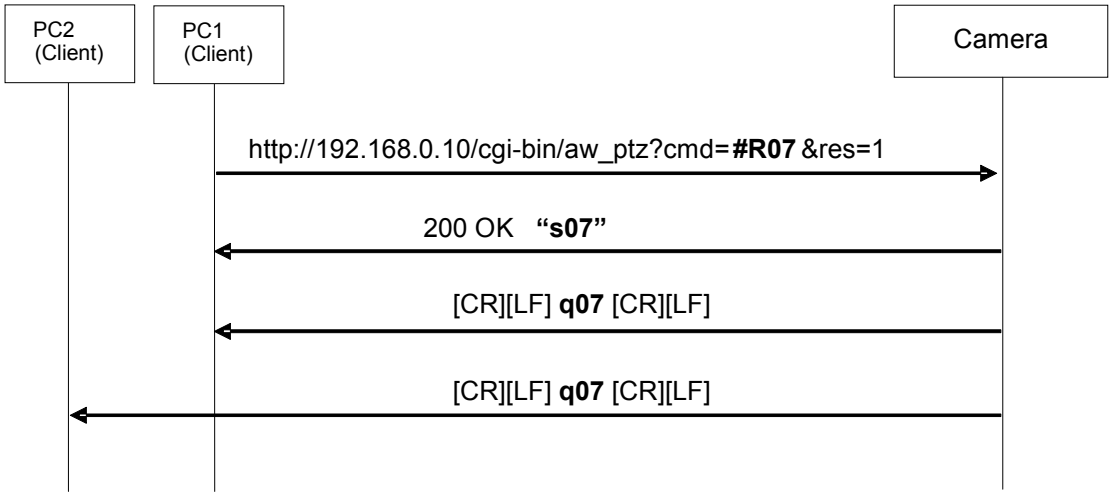


Fig.4-11 Preset playback

4.4.5. AWB/ABB execution

This command sends the execution results as an update notification when execution of AWB/ABB has been completed by the camera.
The table below lists what is notified.

Table 4-10 AWB result

Notification	Remarks
OWS	AWB execution successful
ORI:096	R Gain (only when AWB is successfully executed) ※1 * Notified with the AW-HE120
OBI:096	B Gain (only when AWB is successfully executed) ※1 * Notified with the AW-HE120
ORG:1E	R Gain (only when AWB is successfully executed) ※1 * Notified by AW-HE50 Ver.2 or subsequent versions or by AW-HE60.
OBG:1E	B Gain (only when AWB is successfully executed) ※1 * Notified by AW-HE50 Ver.2 or subsequent versions or by AW-HE60.
ER3:OWS	AWB execution failed

※1: The R gain and B gain update notifications are supported by Ver.2 or a later version for the AW-HE50.

Table 4-11 ABB result

Notification	Remarks
OAS	ABB execution successful
ORP:096	R Pedestal (only when ABB is successfully executed) ※2
OBP:096	B Pedestal (only when ABB is successfully executed) ※2
ER3:OAS	ABB execution failed ※2

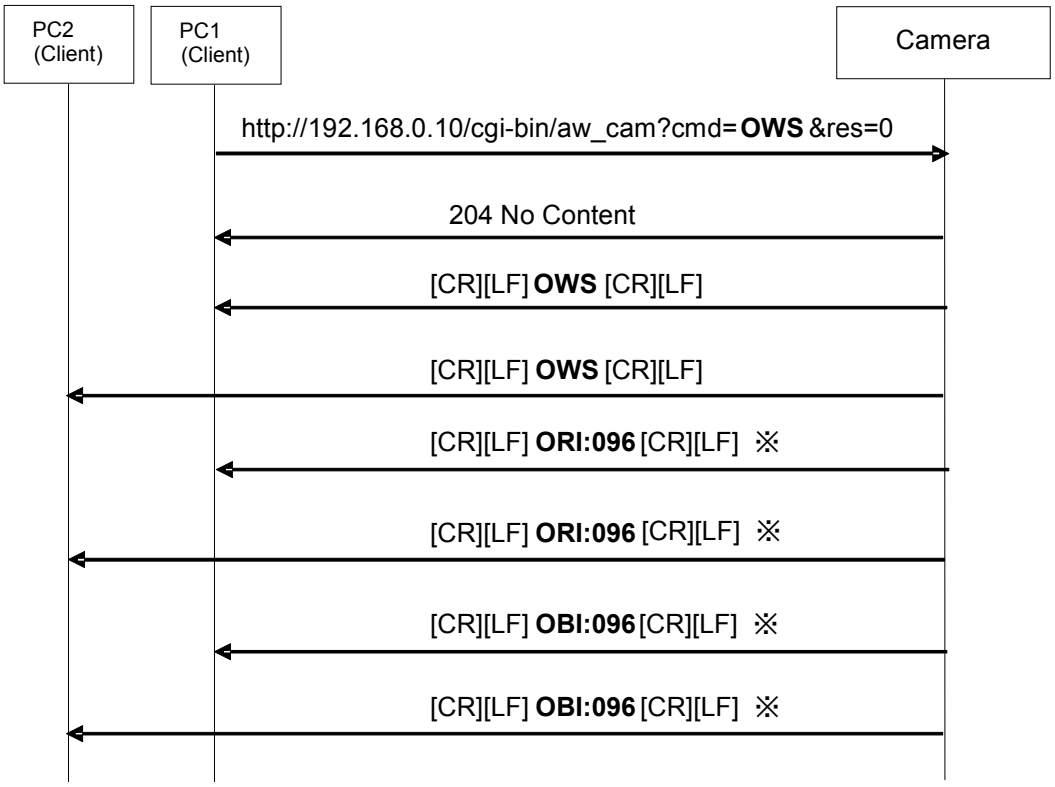
※2: With the AW-HE50 or the AW-HE60, the HTTP response is always given immediately for OAS, and no update notification is sent.

Given below is an example of the sequence which is followed when AWB is executed.

【AWB execution sequence】

As soon as the AWB execution command is received, “204 No Content” is returned as the HTTP response, and as soon as the AWB execution is completed, “OWS” is posted separately as the update notification.

For details on what happens if AWB execution has failed, refer to “6. Error return”.



※ The R gain and B gain update notifications are supported by Ver.2 or a later version for the AW-HE50.

※ In AW-HE50 Ver.2 or subsequent versions or in AW-HE60, if AWB A or AWB B is set as the AWB mode after switching, ORG or OBG is posted instead of ORI or OBI.

Fig.4-12 AWB execution

4.4.6. AWB Mode switching

The contents of the table below are posted in succession by update notifications when the AWB Mode setting has been switched.

Table 4-12

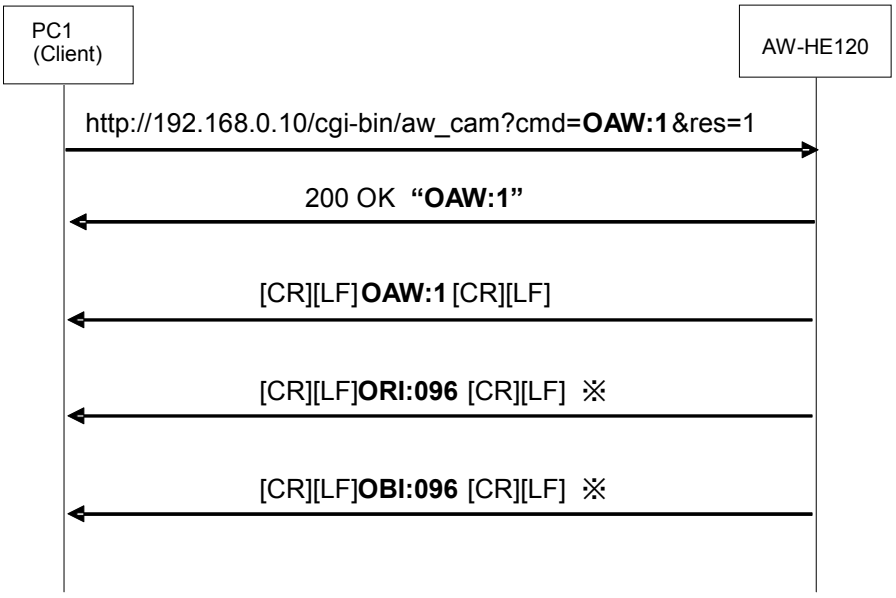
Notification	Remarks
OAW	AWB Mode
ORI	R Gain ※Only supported by the AW-HE120.
OBI	B Gain ※Only supported by the AW-HE120.
ORG	R Gain ※Notified by AW-HE50 Ver.2 or subsequent versions or by AW-HE60.
OBG	B Gain ※Notified by AW-HE50 Ver.2 or subsequent versions or by AW-HE60.

※ The R gain and B gain are notified only when the AWB mode after switching has been set to AWB A or AWB B.

The sequence below is followed when the AWB Mode is switched.

【AWB Mode switching sequence】

This sequence is followed if AWB Mode is switched to “AWB A”.
As the response to the AWB Mode switching command, “OAW:1” is returned, and the R gain and B gain settings stored for the AWB Mode after switching are posted in sequence by update notifications.



※ The R gain and B gain update notifications are supported by Ver.2 or a later version for the AW-HE50.

※ In AW-HE50 Ver.2 or subsequent versions or in AW-HE60, if AWB A or AWB B is set as the AWB mode after switching, ORG or OBG is posted instead of ORI or OBI.

Fig.4-13 AWB Mode switching

5. Camera information batch acquisition

All the information of the camera can be acquired together as a batch.

[Command format]

[Send]

http://**[IP Address]**/live/camdata.html

※**IP Address** ····· IP address of camera at connection destination

[Receive]

200 OK "**Camera information**"

Where:

※**Camera information** ···Camera information listed in Table 5.1;
[CR] and [LF] are used as the delimiters of the information.

[Sequence]

The camera information is acquired from PC1. "200 OK [Camera information]" is returned as the response from the camera.

Given below is the command sequence.

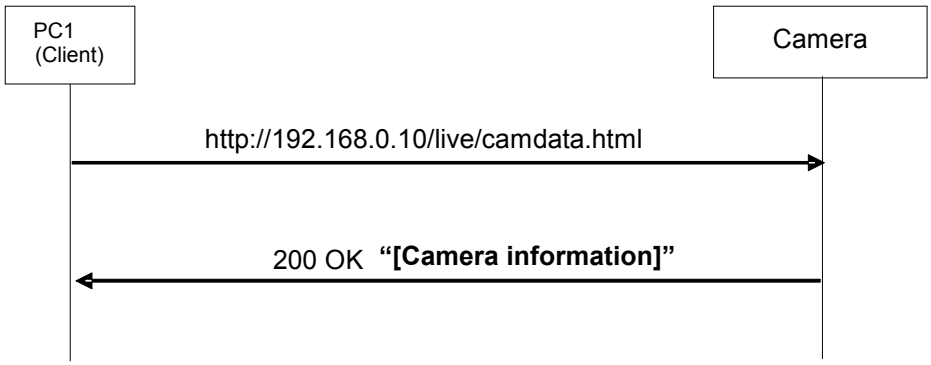


Fig.5-1 Camera information batch acquisition sequence

Table 5-1

Camera information	Command	[data] section
PowerOn/Off status	p[data]	0 : PowerOff 1 : PowerOn
Model Name	OID:[data]	In the case of the AW-HE50
		AW-HE50 (fixed)
		In the case of the AW-HE60
		AW-HE60 (fixed)
		In the case of the AW-HE120
		AW-HE120 (fixed)
CGI send interval	---	CGI_TIME:0 (fixed) ※The AW-HE50 is supported by Ver.2 or a later version
Format	OSA:87:[data]	In the case of the AW-HE50
		1: 720/59.94p 2: 720/50p 4: 1080/59.94i 5: 1080/50i 7: 1080/29.97PsF 8: 1080/25PsF B: 480/59.94i D: 576/50i 10: 1080/59.94p 11: 1080/50p
		In the case of the AW-HE60
		1: 720/59.94p 2: 720/50p 4: 1080/59.94i 5: 1080/50i 7: 1080/29.97PsF 8: 1080/25PsF B: 480/59.94i D: 576/50i 10: 1080/59.94p 11: 1080/50p 12: 480/59.94p 13: 576/50p
		In the case of the AW-HE120
		1: 720/59.94p 2: 720/50p 4: 1080/59.94i 5: 1080/50i B: 480/59.94i D: 576/50i 10: 1080/59.94p 11: 1080/50p 12: 480/59.94p 13: 576/50p

Camera information	Command	[data] section
Camera Title	---	TITLE:[data (Max. 20 half-size characters)]
Gain	OGU:[data]	In the case of the AW-HE50/AW-HE60
		80: Auto 08: 0dB 0B: 3dB 0E: 6dB 11: 9dB 14: 12dB 17: 15dB 1A: 18dB
		In the case of the AW-HE120
		80 : Auto 08 : 0dB 〜 11 : 9dB 〜 1A : 18dB • Value can be set in increments of 1dB.

Table 5.1 (continued)

Camera information	Command	[data] section
Pedestal ※AW-HE50 and AW-HE60 only	OTD:[data]	3C: +10 1B: –1 39: +9 18: –2 36: +8 15: –3 33: +7 12: –4 30: +6 0F: –5 2D: +5 0C: –6 2A: +4 09: –7 27: +3 06: –8 24: +2 03: –9 21: +1 00: –10 1E: 0
AWB Mode	OAW:[data]	In the case of the AW-HE50/AW-HE60
		0: ATW 2: AWB A 3: AWB B
		In the case of the AW-HE120
		0: ATW 2: AWB A 3: AWB B 4: 3200K 5: 5600K
Shutter Mode	OSH:[data]	0: Off 3: Step - 1/100 (59.94Hz) 1/120 (50Hz) 5: Step - 1/250 6: Step - 1/500 7: Step - 1/1000 8: Step - 1/2000 9: Step - 1/4000 A: Step - 1/10000 B: SynchroScan C: ELC ※AW-HE120 only
Detail	ODT:[data]	0: Off 1: Low 2: High
Scene	OSF:[data]	In the case of the AW-HE50/AW-HE60
		0: Manual1 1: Manual2 2: Manual3 3: FullAuto
		In the case of the AW-HE120
		0: Scene1 1: Scene2 2: Scene3 3: Scene4
Camera/ColorBar	OBR:[data]	0: Camera 1: ColorBar

Table 5.1 (continued)

Camera information	Command	[data] section
Speed With Zoom Pos.	sWZ[data]	0: Off 1: On
Preset Mode	OSE:71:[data]	0: Mode A 1: Mode B 2: Mode C
Install Position	iNS[data]	0: Desktop 1: Hanging
OSD On/Off	OUS:[data]	0: Off 1: On
Focus Mode	d1[data]	0: Manual 1: Auto
Iris Mode	d3[data]	0: Manual 1: Auto
Latest Call Preset No.	s[data]	1～100
Total Detail Level	OSA:30:[data]	0 (fixed)
ND Filter	d2[data]	0 (fixed)
Option SW	d6[data]	0: Off 1: On
Lamp	d4[data]	0 (fixed)
Iris Follow	OSD:4F:[data]	00: Close ⋮ FF: Open
Error Notice	OER:[data]	0: Normal 1: Fan Error
P/T Mode of Preset	rt[data]	1 (fixed)
Zoom Position	axz[data]	555: Wide ⋮ FFF: Tele
Error Status Info.	rER[data]	00: No Error 01: Error01 ⋮ 0A: Error10 ⋮ 24: Error30
Focus Position	axf[data]	555: Near ⋮ FFF: Far

Table 5.1 (continued)

Camera information	Command	[data] section
Preset Entry No.001～040	pE00[data]	0000000000～FFFFFFFFFF (40bit) bit01: Preset-No.001 ⋮ bit40: Preset-No.040 0: No Entry 1: Entry
Preset Entry No.041～080	pE01[data]	0000000000～FFFFFFFFFF (40bit) bit01: Preset-No.041 ⋮ bit40: Preset-No.080 0: No Entry 1: Entry
Preset Entry No.081～100	pE02[data]	0000000000～FFFFFFFFFF (40bit) bit01: Preset-No.081 ⋮ bit20: Preset-No.100 bit21: 0 (fixed) ⋮ bit40: 0 (fixed) 0: No Entry 1: Entry
Preset Speed	uPVS[data]	000: Max Speed (Preset Speed:30) 250: Slow (Preset Speed:1) ⋮ 999: Fast (Preset Speed:30)
Tilt-Up Limitation Set	IC1[data]	0: Release 1: Set
Tilt-Down Limitation Set	IC2[data]	0: Release 1: Set
Pan-Left Limitation Set	IC3[data]	0: Release 1: Set
Pan-Right Limitation Set	IC4[data]	0: Release 1: Set
R Gain	ORG:[data]	In the case of the AW-HE50/AW-HE60
		00: –30 ⋮ 1E: 0 ⋮ 3C: +30 ※The AW-HE50 is supported by Ver.2 or a later version
	ORI:[data]	In the case of the AW-HE120
		000: –150 ⋮ 096: 0 ⋮ 12C: +150

Table 5.1 (continued)

Camera information	Command	[data] section
B Gain	OBG:[data]	In the case of the AW-HE50/AW-HE60
		00: –30 ⋮ 1E: 0 ⋮ 3C: +30 ※The AW-HE50 is supported by Ver.2 or a later version
	OBI:[data]	In the case of the AW-HE120
		000: –150 ⋮ 096: 0 ⋮ 12C: +150
Pedestal ※AW-HE120 only	OTP:[data]	000: –150 ⋮ 096: 0 ⋮ 12C: +150
R Pedestal ※AW-HE120 only	ORP:[data]	000: –150 ⋮ 096: 0 ⋮ 12C: +150
B Pedestal ※AW-HE120 only	OBP:[data]	000: –150 ⋮ 096: 0 ⋮ 12C: +150

6. Error return

The three errors ER1, ER2 and ER3 below are returned in response to control or query commands by the camera.

① ER1 (unsupported command)

This error is generated when a command which is not supported by the camera has been received by the camera.

Example) When the non-existent “XF” command is executed for the camera

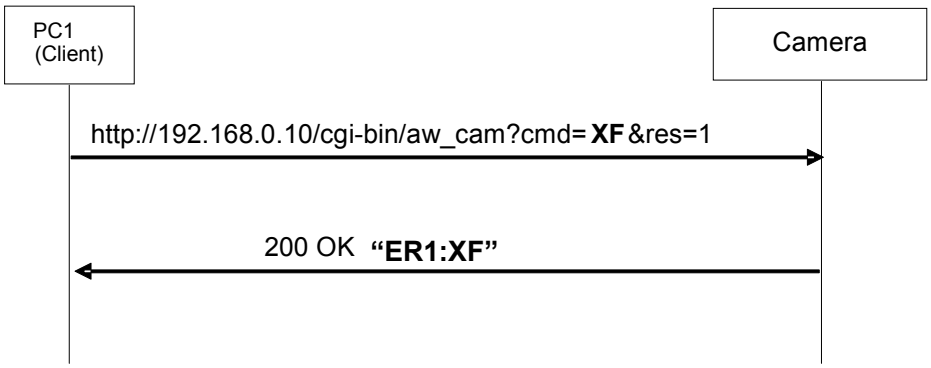


Fig.6-1 Error (ER1)

② ER2 (busy status)

This error is generated during Standby (Power Off) or at other times when the camera is in the busy status.

Example) When the scene file is changed to “Manual1” during Standby.

※In the case of the AW-HE50/AW-HE60

When the scene file is changed to “Scene1” during Standby.

※In the case of the AW-HE120

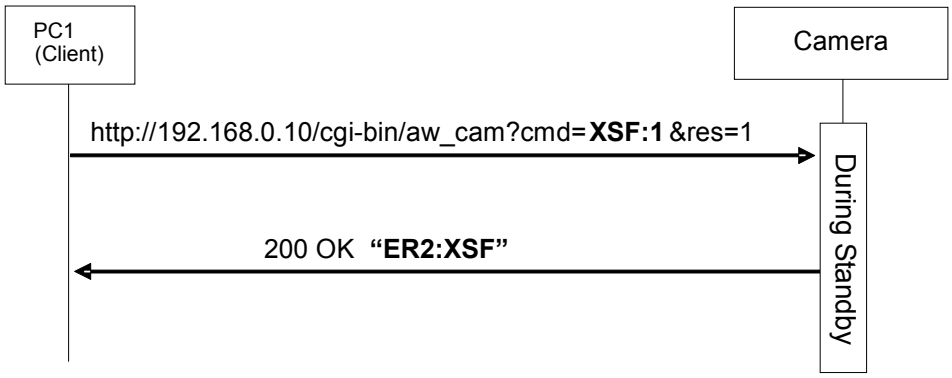


Fig.6-2 Error (ER2)

③ ER3 (outside acceptable range)

This error is generated when the data value of a command is outside the acceptable range.

Example)

The “OGU (gain setting)” command was executed with a data value of “90” which is outside the acceptable range.

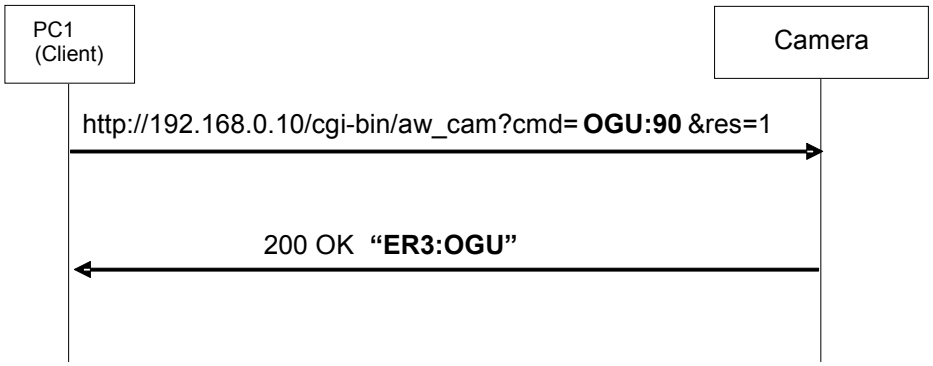


Fig.6-3 Error (ER3)

<Appendix>

This manual describes the HTTP messages using the format for input to the address bar of the web browser as in the example given below.

(Example: http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23PTS5050&res=1)

The actual HTTP messages are in compliance with the HTTP1.1 communication specifications, and have the [Send] and [Receive] formats as given below.

[Send]
A command such as the ones listed below is sent after connection has been made to the specified port (default: 80) which has been set for the camera.

Method: GET

GET /cgi-bin/aw_ptz?cmd=#PTS5050&res=1 HTTP/1.1[CR][LF]	Request
Accept: image/gif, ... (omitted) ... , */*[CR][LF] Referer: http://192.168.0.10/[CR][LF] Accept-Language: en[CR][LF] Accept-Encoding: gzip, deflate[CR][LF] User-Agent: AW-Cam Controller[CR][LF] Host: 192.168.0.10[CR][LF] Connection: Keep-Alive[CR][LF]	Header
[CR][LF]	Blank line

[Receive]
A message with the command name and result value contained in the message body of the HTTP response message is received.
In this manual, this message is given as 200 OK “pTS5050”, but in actual fact commands such as the following ones are received.

HTTP/1.1 200 OK[CR][LF]	Response
Status: 200[CR][LF] Date: Mon, 05 Dec 2011 00:00:00 GMT[CR][LF] Server: ver2.4 rev0[CR][LF] Connection: Close[CR][LF] Content-Type: Text/plain[CR][LF] Set-Cookie: Session=0[CR][LF] Accept-Ranges: bytes[CR][LF] Cache-control: no-cache[CR][LF] Content-length: 7[CR][LF]	Header ※Size of message body
[CR][LF]	Blank line
pTS5050	Message body