

HD/4K Integrated Camera Interface Specifications

AW-UE4
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Connected Solutions Company
Panasonic Corporation

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1.Introduction

This manual describes the external interface specifications which are applicable when the AW-UE4 is operated.

This manual consists of an overview of the external interface and a description of each command of UE4

2.Configuration outline

This manual has the following general configuration.

① Overview of the external interface

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 5](#).

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 6](#).

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 7](#).

⑤ Menu list and command correspondence table

This table which summarizes UE4 menu list and commands related to each menu item.

For further details, refer to [chapter 8](#).

⑥ Control and request command

Describes the specifications of commands used in UE4.

For further details, refer to [chapter 9](#).

3.Command type

There are two types of external interface command: Pan/Tilt control commands and camera control command.

3-1.Pan/Tilt control command

This interface controls the pan tilt head.

Starts with # (0x23).

example) Pan stop command

#	P	5	0
0x23	0x50	0x35	0x30

Commands that starts with “#” in the control / request commands (in chapter 7) are for Pan/Tilt control commands

3-2.Camera control command

This interface is for the camera lens control and image/color adjustments.

“:” letter is required before [Data] for camera Control commands,

example) Auto Focus setting

O	A	F	:	1
0x4F	0x41	0x46	0x3A	0x31

4.Communication method

In case of Pan/Tilt Control command

▼Send format

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

- ※IP Address...IP address of camera at connection destination
- ※Command.....Details given in “Command” column in [Chapter 9](#)
- ※Type.....Fixed at “1”

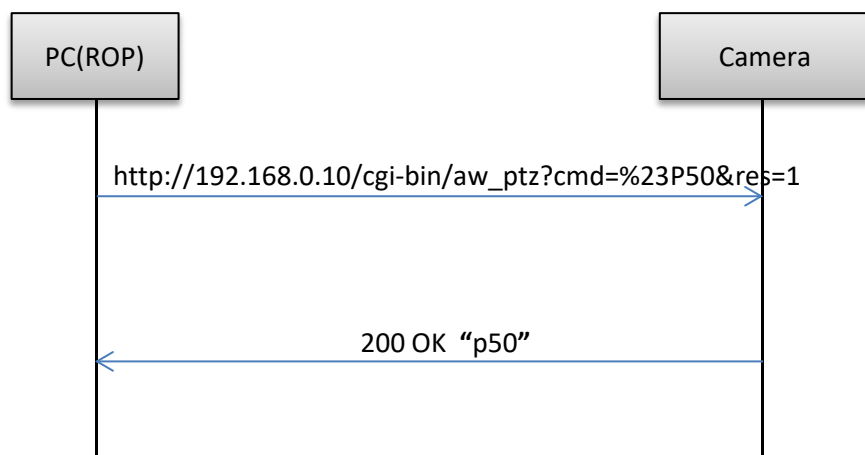
▼Receive format

200 OK “**Command**”

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

See more detail in [Chapter 7](#) for the error communication sequence for the transmitted command

▼Sequence



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

In case of Camera Control command

▼Send format

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 [Chapter 9](#)
- ※Type.....Fixed at “1”

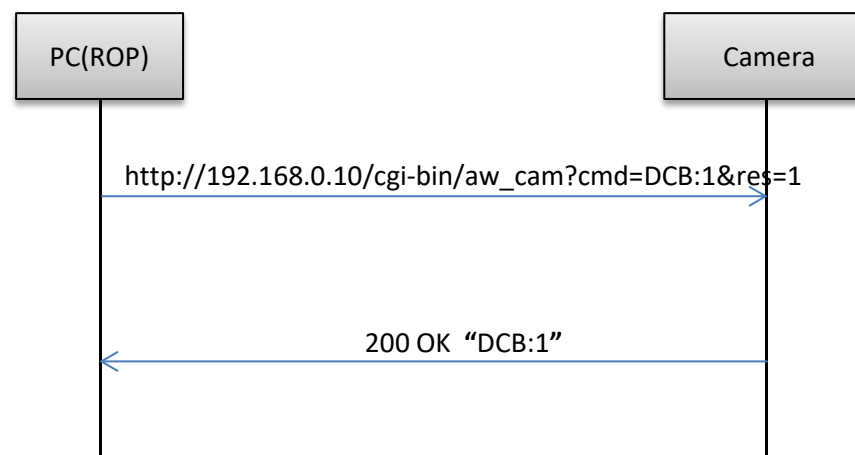
▼Receive format

200 OK “**Command**”

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

See more detail in [Chapter 7](#) for the error communication sequence for the transmitted command

▼Sequence



【Restrictions】

1. Keep-Alive cannot be set with HTTP connections.
Connect and disconnect are performed each time a command is sent or received.
2. 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.
3. 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.)

5.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:

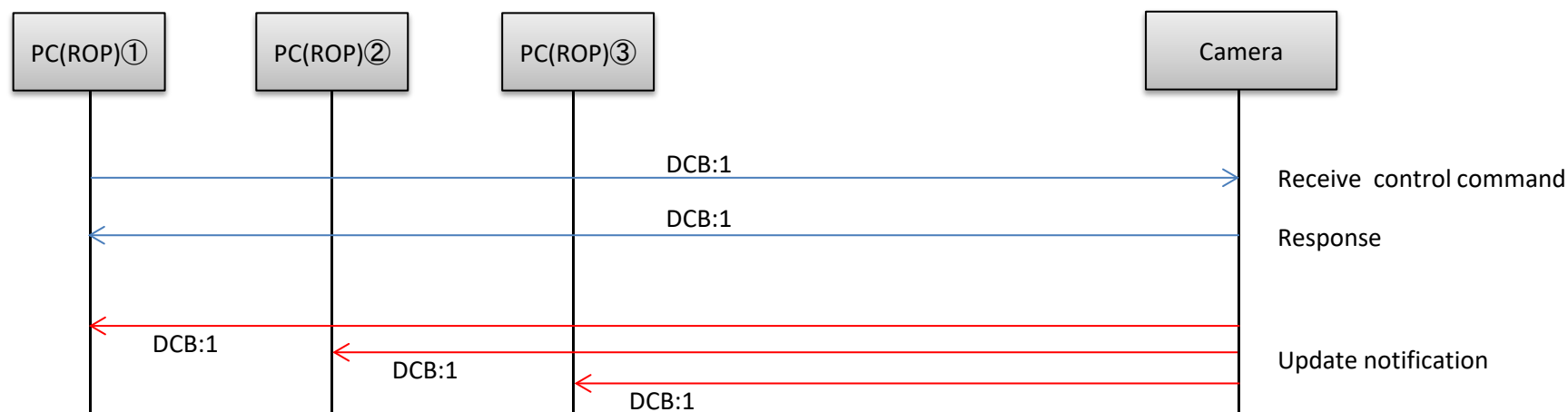
- A) When a camera setting is changed by one terminal, the other terminals are notified of the setting change immediately.
- B) With a control command that takes time to be processed, the HTTP response is returned as soon as the command has been received, and separate notification of the processing result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

5-1.Update notification sequence

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.



Some commands are not to be indicated as update notifications. See [Chapter:9](#) for more detail

5-2.Data format for update notifications

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

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

【Update notification information format】

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

※ [CR]:0x0d、[LF]:0x0a

例1)Power: On

[CR][LF]p1[CR][LF]

例2)カラーバー: On

[CR][LF]DCB:1[CR][LF]

5-3.Procedure of start/end of the update notifications reception

To receive an update notification via IP, you must perform the update notification reception start process in advance.

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.

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 (any port)

【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.



【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.

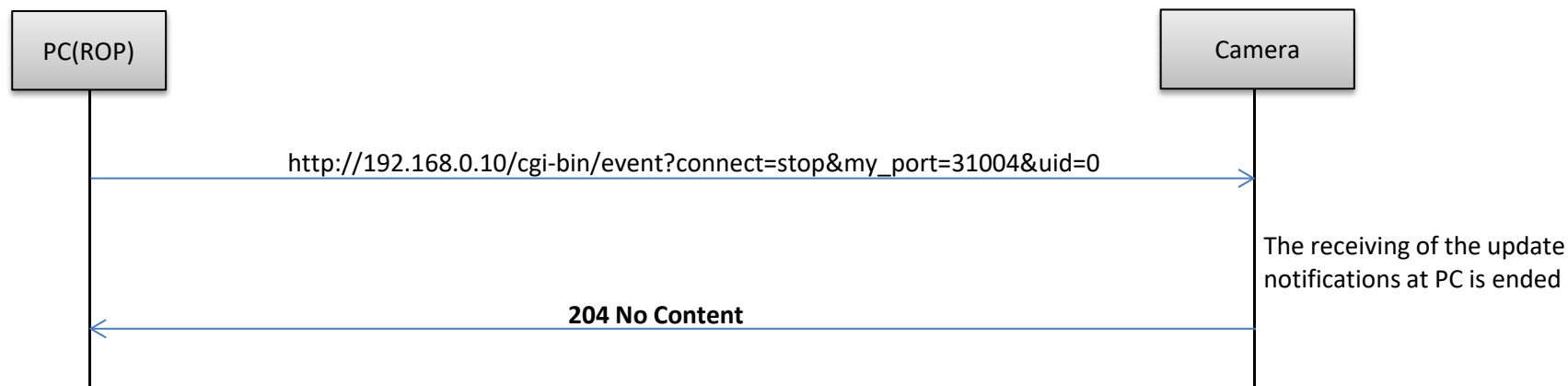
example) When reception is to be ended with “192.168.0.10” used as the IP address of the camera

`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

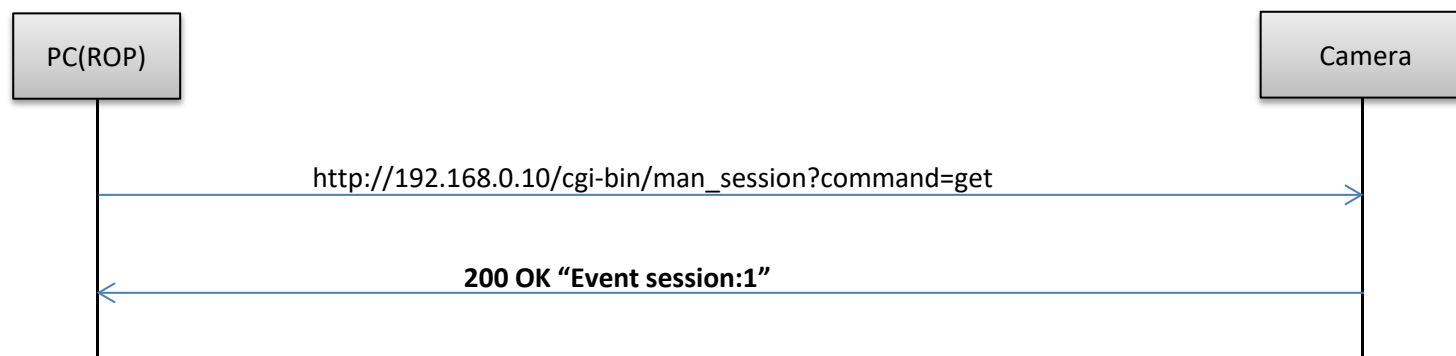
【Update notification receive end sequence】

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.



③ Registered number of update notifications

You can query the number of external devices (RP remote controller etc.) connected to the camera with the following command.
The number of connected device increases with the procedure to start receiving update notifications and decreases the procedure to start receiving update notifications. The number of connected device also decreases when it can not communicate with the device.
example) When the IP address of the camera is “192.168.0.10” and you want to request registered number.
`http://192.168.0.10/cgi-bin/man_session?command=get`



6.Special sequences

6-1.Preset playback

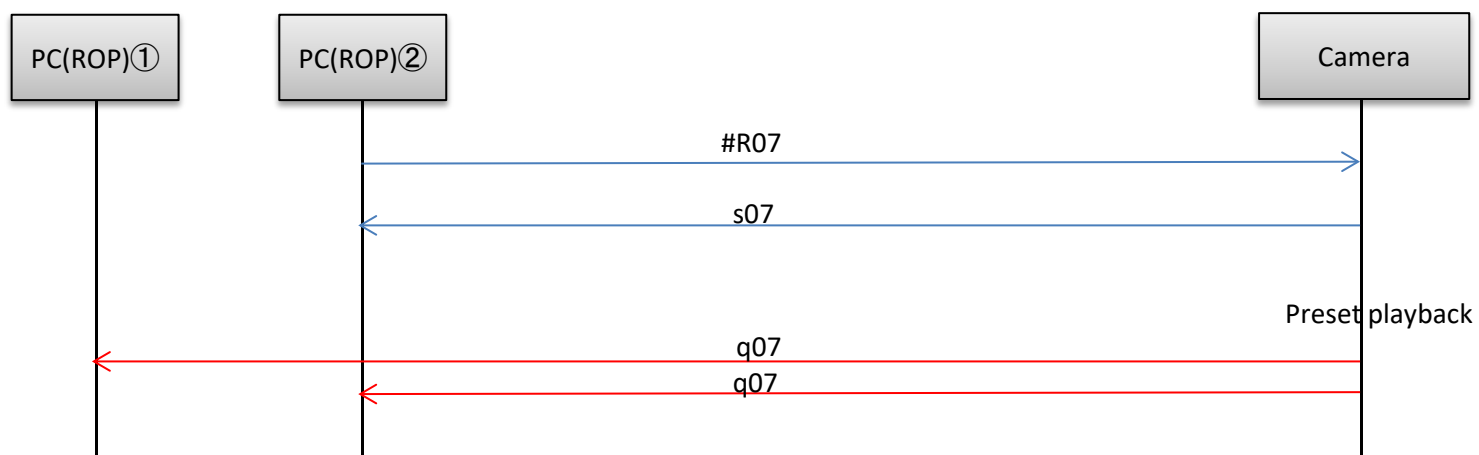
This command sends the preset playback completion notification as an update notification when preset playback in the camera has been completed.

Notification	Remarks
q[Data]	Number of the preset which was played back - 1

【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.



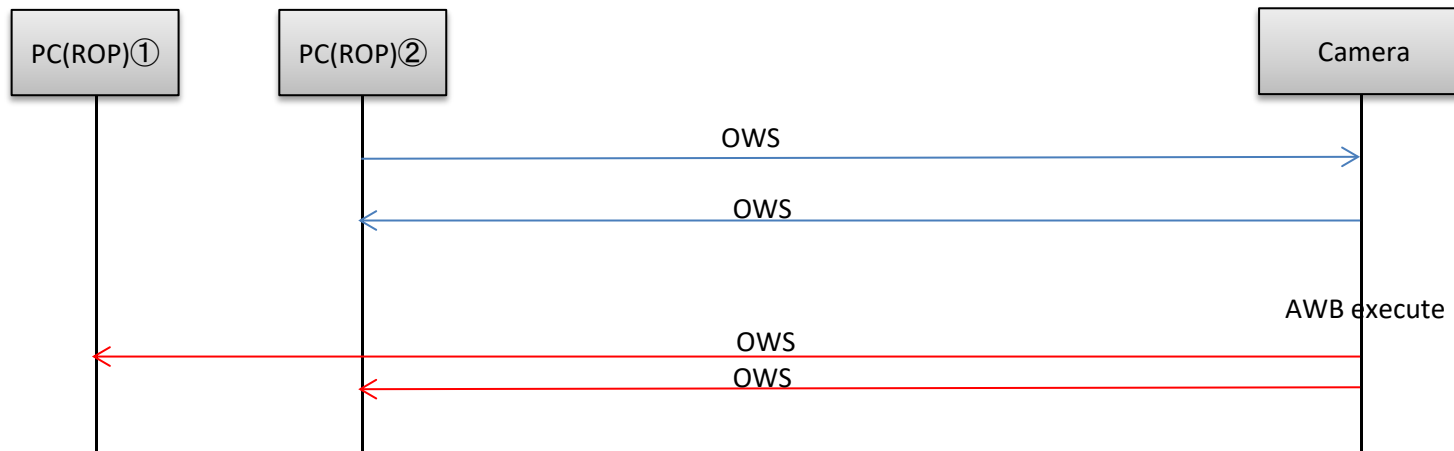
6-2 AWB/ABB execution

This command sends the execution results as an update notification when execution of AWB/ABB has been completed by the camera.

Notification	Remarks
OWS	AWB execution successful
OAS	ABB execution successful

【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.



6-3.Camera information batch acquisition

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

【Command format】

[send]

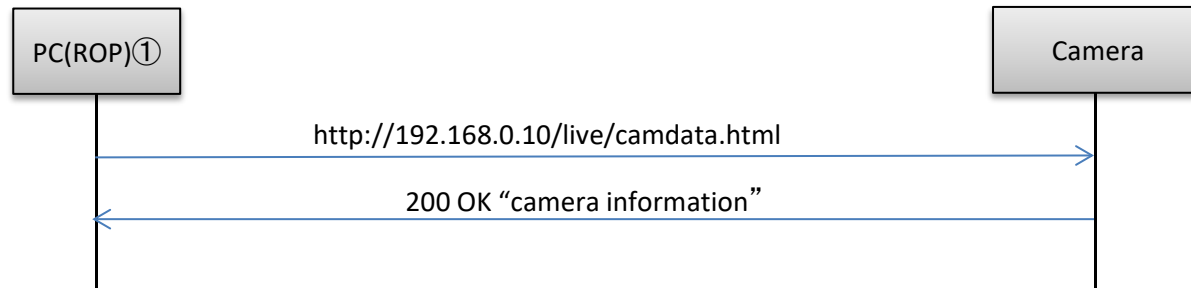
http://[IP Address]/live/camdata.html

[receive]

200 OK “Camera information”

See [chapter:9](#) for detail of camera information

【Sequence】



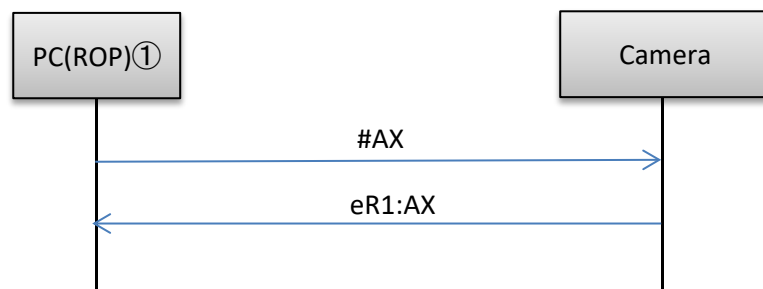
7.Error return

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

In the case of Pan/Tilt control command

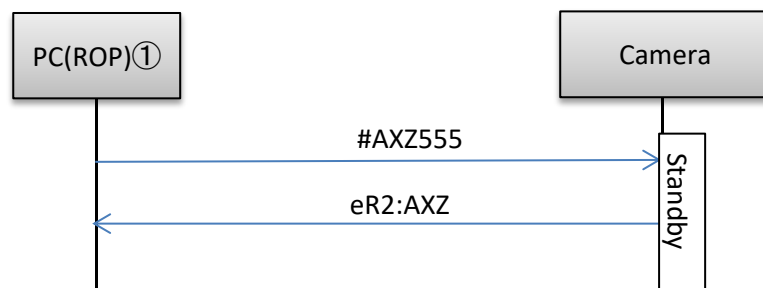
▼ER1 (unsupported command)

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 “AX” command is executed for the camera



▼ER2 (busy status)

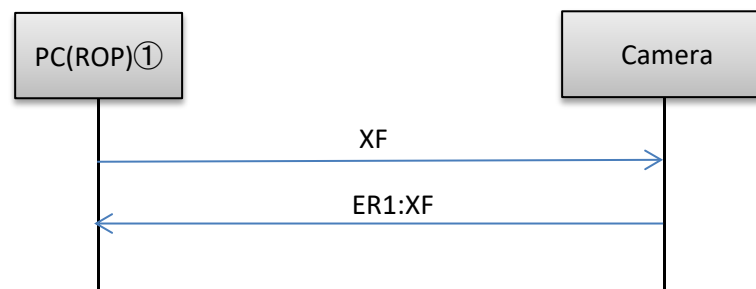
This error is generated during Standby (Power Off) or at other times when the camera is in the busy status.



In the case of Camera control command

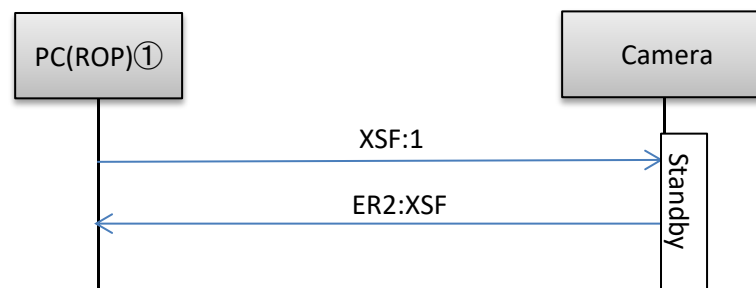
▼ER1 (unsupported command)

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



▼ER2 (busy status)

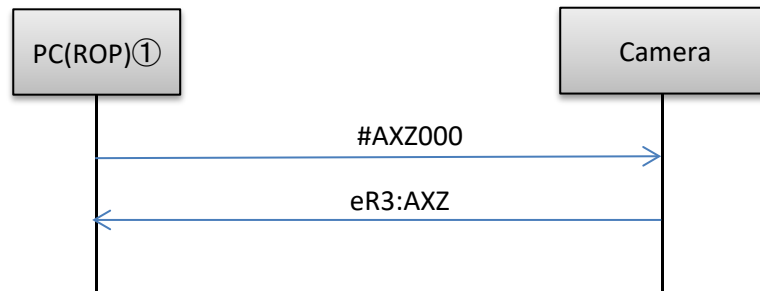
This error is generated during Standby (Power Off) or at other times when the camera is in the busy status.



▼ER3 (outside acceptable range)

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

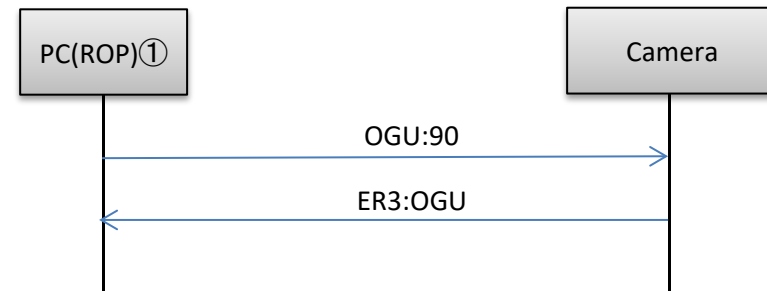
example) The “#AXZ” command was executed with a data value of “000” which is outside the acceptable range.



▼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.



8. AW-UE4 Menu-Command Correspondance Table

Menu		Command	Remarks
Camera			
	Scene	XSF	
	Brightness		
	Picture Level	OSD:48	Available when Scene is "Full Auto" or "Shutter Priority" condition.
	AGC MaxGain	OSD:69	Available when Scene is "Full Auto" or "Shutter Priority" condition.
	Slow Shutter	OSJ:80	Available when Scene is "Full Auto" condition.
	Shutter Speed	OSJ:03 OSJ:04 OSJ:05 OSJ:06	Available when Scene is "Shutter Priority" or "Manual" condition.
	Gain	OGU	Available when Scene is "Shutter Priority" or "Manual" condition.
	Picture		
	Chroma Level	OCG	
	White Balance Mode	OAW OWS OAS	
	Detail	ODT	
	Contrast	OSD:50	
	DRS	OSE:33	
	Back Light COMP.	OSE:73	Available when Scene is "Full Auto" or "Shutter Priority" condition.
	DNR	OSD:3A	
	LDC	OSJ:84	
System			
	Priority Mode	-	There is no corresponding AW command. Can be set by CGI command
	Frequency	OSE:77	
	Format	OSA:87	
	Install Position	#INS	
	Mirror	OSJ:81	
	Digital Zoom	OSE:70	
	Tally	#TAE #DA #TAA	
	Wireless ID	#RID #WLC	
	OSD off with Tally	OSE:75	
	ColorBar	DCB	
	Mic	OSA:D0	
Maintenance			
	Langage	OSJ:82	
	FW Version	QSV	

Commands not linked to menus			
MENU Control			
	MENU(MENU ON/OFF)	DUS	
	MENU SW(MENU Cancel)	DPG	
	ITEM SW(ENTER Botton)	DIT	
	YES SW(UP Botton)	DUP	
	NO SW(Down Botton)	DDW	
	RIGHT SW(Right Botton)	DRT	
	LEFT SW(Left Botton)	DLT	
Pan/Tilt			
	Pan/Tilt Absolute Position Control	#APC	
	PAN SPEED	#P	
	TILT SPEED	#T	
	Pan Tilt Speed Control	#PTS	
Lens			
	Zoom Position Control	#Z	
	Zoom Speed	#AXZ	
	Focus Position Control	#AXF	
	IRIS AUTO/MANUAL	ORS	
	Iris Control	#AXI	
	Lens Position Information Control	#LPC	
Preset			
	Recall Preset Memory	#R	
	Save Preset Memory	#M	
	Delete Preset Memory	#C	
	Preset Max Number Confirmation	#PE	
	Request Latest Recall Preset No.	#S	
	Preset completion notification	a	
Others			
	MODEL NUMBER	QID	
	PowerON_ Standby	#O	

9. Commad list
Scene

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
Scene	Control	XSF:[Data]	0	-	cam ※1	※2	OSF:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=XSF:1&res=1
	Response	XSF:[Data]	1	Full Auto				
			2	Shutter Priority				
	Request	QSF	3	Manual				
			0	Full Auto				
	Response	OSF:[Data]	1	Shutter Priority				
			2	Manual				
			3	-				

- ※1 There are two type of command type “ptz”is Pan-Tilt head Control and “cam” is for camera control
※2 When switching scene, update notification of each command belonging to the scene wii be sent
Commands belonging to Scene are as follows

command name	command	Remarks
SCENE FILE	XSF:[Data]	
IRIS AUTO/MANUAL	ORS:[Data]	fixed to AUTO
PICTURE LEVEL	OSD:48:[Data]	Send initial value when Scene is “Manual”
AGC Max Gain	OSD:69:[Data]	Send initial value when Scene is “Manual”
Shutter Mode	OSJ:03:[Data]	Send “OSJ:03:1” when Scene is “Full Auto” Send “OSJ:03:1” when Scene is “Shutter priority” or “Manual”
Slow Shutter	OSJ:80:[Data]	Send initial value when Scene is “Manual”
Step VAL	OSJ:06:[Data]	Send initial value when Scene is “Shutter priority” or “Manual”
Gain	OGU:[Data]	Send initial value when Scene is “Full Auto”
Chroma Level	OCG:[Data]	
White Balance Mode	OAW:[Data]	Send return parameter of control command
Detail	ODT:[Data]	
Contrast	OSD:50:[Data]	
DRS	OSE:33:[Data]	
Back Light COMP.	OSE:73:[Data]	Send initial value when Scene is “Manual”
DNR	OSD:3A:[Data]	
LDC	OSJ:84:[Data]	

Brightness

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
Picture Level	Control	OSD:48: [Data]	2Eh	~4	cam	OSD:48: [Data]	OSD:48:0x[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:48:32&res=1
	Response	OSD:48: [Data]	~					
	Request	QSD:48	32h	0				
	Response	OSD:48: [Data]	~	4				
AGC Max Gain	Control	OSD:69:[Data]	04	24dB	cam	OSD:69: [Data]	OSD:69: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:69:04&res=1
	Response	OSD:69: [Data]	05	30dB				
	Request	QSD:69	06	36dB				
	Response	OSD:69: [Data]	07	42dB				
Slow Shutter	Control	OSJ:80: [Data]	0 1	Off On	cam	OSJ:80: [Data]	OSJ:80: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSJ:80:1&res=1
	Response	OSJ:80: [Data]						■ On mode [50Hz] 1/1, 1/2, 1/5, 1/10, 1/20, 1/25, 1/50, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/16000 [59.94Hz/60Hz] 1/1, 1/2, 1/5, 1/10, 1/20, 1/30, 1/60, 1/120, 1/240, 1/480, 1/1000, 1/2000, 1/4000, 1/8000, 1/16000
	Request	QSJ:80						■ Off mode [50Hz] 1/50, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/16000 [59.94Hz/60Hz] 1/60, 1/120, 1/240, 1/480, 1/1000, 1/2000, 1/4000, 1/8000, 1/16000
	Response	OSJ:80: [Data]						

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
Shutter Mode	Control	OSJ:03:[Data]	0h 1h	Off Step	cam	OSJ:03:[Data]	OSJ:03:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSJ:03:1&res=1
	Response	OSJ:03:[Data]						▼When SCENE is "FULL AUTO" Fixed to "Off" ※Send ER3 except setting "Off" ▼When SCENE is "Shutter Priority" or "Manual" Fixed to "Step" ※Send ER3 except setting "Step"
	Request	QSJ:03						
	Response	OSJ:03:[Data]						
Step INC	Control	OSJ:04:[Data]	01h	1	cam	-	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSJ:04:01&res=1
	Response	OSJ:04:[Data]	-	-				Increase [Data] stage among selectable Shutter Steps Update notification of OSJ: 06 is sent
	Request	-	64h	100				
	Response	-	-	-				
Step DEC	Control	OSJ:05:[Data]	01h	1	cam	-	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSJ:05:01&res=1
	Response	OSJ:05:[Data]	-	-				Decrease [Data] stage among selectable Shutter Steps Update notification of OSJ: 06 is sent
	Request	-	64h	100				
	Response	-	-	-				
Step VAL	Control	OSJ:06:[Data]	0001h - 3E80h	1/1 - 1/16000	cam	OSJ:06:[Data]	OSJ:06:0x[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSJ:06:003C&res=1
	Response	OSJ:06:[Data]						Except for the effective shutter speed, respond with ER3 ▼In the case of any frequency 0001h 1/1 0002h 1/2 0005h 1/5 000Ah 1/10 0014h 1/20 03E8h 1/1000 07D0h 1/2000 0FA0h 1/4000 1F40h 1/8000 3E80h 1/16000 ▼In the case of 50Hz 0019h 1/25 0032h 1/50 0064h 1/100 00FAh 1/250 01F4h 1/500 ▼In the case of 59.94Hz/60Hz 001Eh 1/30 003Ch 1/60 0078h 1/120 00F0h 1/240 01E0h 1/480
	Request	QSJ:06						
	Response	OSJ:06:[Data]						
Gain	Control	OGU:[Data]	08h	0dB	cam	OGU:[Data]	OGU:0x[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OGU:08&res=1
	Response	OGU:[Data]	11h	9dB				Can be set in 3dB units. ER3 response except parameters that can be set
	Request	QGU	1Ah	18dB				
	Response	OGU:[Data]	32h	42dB				

Picture

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
Chroma Level	Control	OCG: [Data]	03h 04h 05h	0 1 2	cam	OCG: [Data]	OCG:0x[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OCG:08&res=1
	Response	OCG: [Data]	06h 07h 08h	3 4 5				
	Request	QCG	09h 0Ah 0Bh	6 7 8				
	Response	OCG:[Data]	0Ch 0Dh	9 10				
White Balance Mode	Control	OAW: [Data]	0 1 2 3	ATW AWC A AWC B ---	cam	OAW: [Data]	OAW: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OAW:1&res=1 ATW variable range is from 2800k to 6500K
	Response	OAW: [Data]	4 5	PRESET 3200K PRESET 5600K				
	Request	QAW	0 1 2 3	ATW --- AWC A AWC B				
	Response	OAW:[Data]	4 5	PRESET 3200K PRESET 5600K				
AWB	Control	OWS	-	-	cam	OWS ER3:OWS	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=OWS&res=1 See <u>Capter.6</u> for AWB execution sequence
	Response	OWS						
	Request	-						
	Response	-						
ABB	Control	OAS	-	-	cam	ER3:OAS	-	UE4 does not ABB function, ABB cannot be executed and can not get return errors
	Response	OAS						
	Request	-						
	Response	-						
Detail	Control	ODT: [Data]	0	0	cam	ODT: [Data]	ODT: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=ODT:1&res=1
	Response	ODT: [Data]	1	1				
	Request	QDT	2	2				
	Response	ODT:[Data]	3	3				
Contrast	Control	OSD:50: [Data]	0	0	cam	OSD:50: [Data]	OSD:50: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:50:1&res=1
	Response	OSD:50: [Data]	1	1				
	Request	QSD:50	2 3	2 3				
	Response	OSD:50:[Data]	4	4				
DRS	Control	OSE:33: [Data]	0 1	Off On	cam	OSE:33: [Data]	OSE:33: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:33:1&res=1
	Response	OSE:33: [Data]						
	Request	QSE:33						
	Response	OSE:33:[Data]						
Back Light COMP.	Control	OSE:73: [Data]	0 1	Off On	cam	OSE:73: [Data]	OSE:73: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:73:1&res=1
	Response	OSE:73: [Data]						
	Request	QSE:73						
	Response	OSE:73:[Data]						
DNR	Control	OSD:3A: [Data]	00 01 02	Off Low High	cam	OSD:3A: [Data]	OSD:3A: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:3A:01&res=1
	Response	OSD:3A: [Data]						
	Request	QSD:3A						
	Response	OSD:3A:[Data]						
LDC	Control	OSJ:84: [Data]	0 1	Off On	cam	OSJ:84: [Data]	OSJ:84: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSJ:84:1&res=1
	Response	OSJ:84: [Data]						
	Request	QSJ:84						
	Response	OSJ:84:[Data]						

System

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
Frequency	Control	OSE:77:[Data]	0	59.94Hz	cam	OSE:77:[Data]	OSE:77:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:77:1&res=1 Reboot after changing Frequency
	Response	OSE:77:[Data]	1	50Hz				
	Request	QSE:77	4	60Hz				
	Response	OSE:77:[Data]						
Format	Control	OSA:87:[Data]	0h	720/60p	cam	OSA:87:[Data]	OSA:87:0x[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSA:87:1&res=1 [50Hz] 2160/25p, 1080/50p, 1080/25p, 720/50p, [59.94Hz] 2160/29.97p, 1080/59.94p, 1080/29.97p, 720/59.94p, [60Hz] 2160/30p, 1080/60p, 1080/30p, 720/60p, ※In the case that Priority Mode is "4K", Format is 2160/25p, 2160/29.97p, 2160/30p according to Frequency
			1h	720/59.94p				
			2h	720/50p				
	Response	OSA:87:[Data]	10h	1080/59.94p				
			11h	1080/50p				
			14h	1080/29.97p				
			15h	1080/25p				
	Request	QSA:87	17h	2160/29.97p				
Install Positon			18h	2160/25p	ptz	iNS[Data]	iNS[Data]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23INS1&res=1
			20h	1080/60p				
			24h	2160/30p				
	Response	OSA:87:[Data]	25h	1080/30p				
	Control	#INS[Data]	0	Desktop				
	Response	#INS[Data]	1	Hanging				
	Request	#INS						
	Response	iNS[Data]						
Mirror	Control	OSJ:81:[Data]	0	OFF	cam	OSJ:81:[Data]	OSJ:81:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSJ:81:1&res=1
	Response	OSJ:81:[Data]	1	ON				
	Request	QSJ:81						
	Response	OSJ:81:[Data]						
Digital Zoom	Control	OSE:70:[Data]	0	OFF	cam	OSE:70:[Data]	OSE:70:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:70:1&res=1 Off : Operate D-Zoom up to x2 (operate as iA.Zoom) On : Operate D-Zoom up to x4
	Response	OSE:70:[Data]	1	ON				
	Request	QSE:70						
	Response	OSE:70:[Data]						

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
TALLY Enable	Control	#TAE[Data]	0 1	Disable Enable	ptz	tAE[Data]	tAE[Data]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23TAE1&res=1
	Response	tAE[Data]						
	Request	#TAE						
	Response	tAE[Data]						
Tally Control	Control	#DA[Data]	0 1	OFF ON	ptz	dA[Data]	dA[Data]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23DA1&res=1
	Response	dA[Data]						
	Request	#DA						
	Response	dA[Data]						
Tally Information	Control	-	[Data1] 0 1 [Data2] 0	[Data1] Tally LED Off Tally LED On [Data2] Reserved	ptz	tAA[Data1] [Data 2] [Data3] [Data4] [Data5] [Data6] [Data7] [Data8] [Data9]	tAA[Data1] [Data 2] [Data3] [Data4] [Data5] [Data6] [Data7] [Data8] [Data9]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23TAA&res=1 When #DA and #TAE change, if #TAA also changes, an update notification is sent
	Response	-	[Data3] 0 1 [Data4] 0	Command (#DA) Off Command (#DA) On [Data4] Reserved				
	Request	#TAA	[Data5] 0 [Data6] 0 [Data7] 0	Reserved [Data5] Reserved [Data6] Reserved [Data7] Reserved				
	Response	tAA[Data1][Data2][D ata3][Data4][Data5][Data6][Data7][Data8] [Data9]	[Data8] 0 [Data9] 0	[Data8] Reserved [Data9] Reserved				
Wireless ID	Control	#RID[Data]	0	01	ptz	rID[Data]	rID[Data]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23RID1&res=1
	Response	rID[Data]	1	02				
	Request	#RID	2	03				
	Response	rID[Data]	3	04				
Wireless Control	Control	#WLC[Data1]	0 1	Disable Enable	ptz	wLC[Data1]	wLC[Data1]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23WLC1&res=1
	Response	wLC[Data1]						
	Request	#WLC						
	Response	wLC[Data1]						
OSD Off With TALLY	Control	OSE:75:[Data]	0 1	OFF ON	cam	OSE:75:[Data]	OSE:75:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:75:1&res=1
	Response	OSE:75:[Data]						
	Request	QSE:75						
	Response	OSE:75:[Data]						
COLORBAR/CAMERA	Control	DCB:[Data]	0 1	Camera Color Bar	cam	DCB:[Data]	OBR:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=DCB:1&res=1
	Response	DCB:[Data]						
	Request	QBR						
	Response	OBR:[Data]						
Mic	Control	OSA:D0:[Data]	0 1	OFF ON	cam	OSA:D0:[Data]	OSA:D0:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSA:D0:1&res=1
	Response	OSA:D0:[Data]						
	Request	QSA:D0						
	Response	OSA:D0:[Data]						

Maintenance

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
Langage	Control	0SJ:82:[Data]	0	English Japanease Chinese	cam	0SJ:82:[Data]	0SJ:82:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=0SJ:82:1&res=1
	Response	0SJ:82:[Data]	1					
	Request	QSJ:82	2					
	Response	0SJ:82:[Data]						
SOFTWARE VERSION	Control	-	-	VXX.XX ※example: V00.06	cam	-	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=QSV&res=1
	Response							
	Request	QSV						
	Response	OSV:[Data1]						

OSD

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
MENU	Control	DUS: [Data]	0 1	OFF ON	cam	-	OUS: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=DUS:1&res=1
	Response	DUS: [Data]						
	Request	QUS						
	Response	OUS: [Data]						
MENU SW	Control	DPG: [Data]	1 (なし)	Cancel Cancel	cam	-	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=DPG&res=1
	Response	DPG: [Data]						
	Request	-						
	Response	-						
ITEM SW	Control	DIT: [Data]	1 (なし)	Enter Enter	cam	-	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=DIT&res=1
	Response	DIT: [Data]						
	Request	-						
	Response	-						
YES SW	Control	DUP: [Data]	1 (なし)	UP UP	cam	-	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=DUP&res=1
	Response	DUP: [Data]						
	Request	-						
	Response	-						
NO SW	Control	DDW: [Data]	1 (なし)	DOWN DOWN	cam	-	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=DDW&res=1
	Response	DDW: [Data]						
	Request	-						
	Response	-						
RIGHT SW	Control	DRT: [Data]	1 (なし)	RIGHT RIGHT	cam	-	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=DRT&res=1
	Response	DRT: [Data]						
	Request	-						
	Response	-						
LEFT SW	Control	DLT: [Data]	1 (なし)	LEFT LEFT	cam	-	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=DLT&res=1
	Response	DLT: [Data]						
	Request	-						
	Response	-						

Pan/Tilt

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
Pan/Tilt Absolute Position Control	Control	#APC[Data1][Data2]	[Data1]	[Data1]	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23APC80008000&res=1 Zoom moves to Wide end
	Response	aPC[Data1][Data2]	8000h	Pan Position				
	Request	-	[Data2]	Center				
	Response	-	8000h	[Data2]				
Pan Speed Control	Control	#P[Data]	01-07	Left Max. Speed	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23P70&res=1
	Response	pS[Data]	18-33	Left Mid. Speed				
	Request	-	34-49	Left Min. Speed				
	Response	-	50	Pan Stop				
Tilt Speed Control	Control	#T[Data]	01-07	Down Max. Speed	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23T70&res=1
	Response	tS[Data]	18-33	Down Mid. Speed				
	Request	-	34-49	Down Min. Speed				
	Response	-	50	Tilt Stop				
Pan Tilt Speed Control	Control	#PTS[Data1][Data2]	[Data1]	[Data1]	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23PTS7070&res=1
	Response	pTS[Data1][Data2]	01-07	Left Max. Speed				
	Request	-	18-33	Left Mid. Speed				
	Response	-	34-49	Left Min. Speed				
	Control	#PTS[Data1][Data2]	50	Pan Stop				
	Response	pTS[Data1][Data2]	51-66	Right Min. Speed				
	Request	-	67-82	Right Mid. Speed				
	Response	-	83-99	Right Max. Speed				
Pan Tilt Speed Control	Control	#PTS[Data1][Data2]	[Data2]	[Data2]	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23PTS7070&res=1
	Response	pTS[Data1][Data2]	01-07	Down Max. Speed				
	Request	-	18-33	Down Mid. Speed				
	Response	-	34-49	Down Min. Speed				
	Control	#PTS[Data1][Data2]	50	Tilt Stop				
	Response	pTS[Data1][Data2]	51-66	UP Min. Speed				
	Request	-	67-82	UP Mid. Speed				
	Response	-	83-99	UP Max. Speed				

Lens

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
Zoom Position Control	Control	#AXZ[Data]	555h	Wide	ptz	-	axz555	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23AXZ555&res=1 Zoom moves to Wide end
	Response	axz[Data]						
	Request	#AXZ						
	Response	axz[Data]						
Zoom Speed Control	Control	#Z[Data]	01-25	Wide Max. Speed	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23Z70&res=1
	Response	zS[Data]	26-49	Wide Min. Speed				
	Request	-	50	Zoom Stop				
	Response	-	51-74	Tele Min. Speed				
Focus Position Control	Control	#AXF[Data]	555h	FIX	ptz	-	axf555	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23AXF555&res=1 Respond normally to the control, but the actual operation does not change. Respond to queries with fixed values
	Response	axf[Data]						
	Request	#AXF						
	Response	axf[Data]						
IRIS AUTO/MANUAL	Control	ORS:[Data]	1	Auto	cam	-	ORS:1	http://192.168.0.10/cgi-bin/aw_cam?cmd=ORS:1&res=1 Respond with a fixed value
	Response	ORS:[Data]						
	Request	QRS						
	Response	ORS:[Data]						
Iris Control	Control	#AXI[Data]	555h	FIX	ptz	-	axi555	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23AXI555&res=1 Respond normally to the control, but the actual operation does not change. Respond to queries with fixed values
	Response	axi[Data]						
	Request	#AXI						
	Response	axi[Data]						
Lens Position Information Control	Control	#LPC[Data]	0 1	Off On	ptz	IPC[Data]	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23LPC1&res=1
	Response	IPC[Data]						
	Request	#LPC						
	Response	IPC[Data]						

Preset

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
Save Preset Memory	Control	#M[Data]	00	Preset001	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23M00&res=1
	Response	s[Data]	-	-				
	Request	-	99	Preset100				
	Response	-						
Recall Preset Memory	Control	#R[Data]	00	Preset001	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23R00&res=1
	Response	s[Data]	-	-				
	Request	-	99	Preset100				
	Response	-						
Preset completion notification	Control	-	00	Preset001	ptz	q[Data]	-	
	Response	q[Data]	-	-				
	Request	-	99	Preset100				
	Response	-						
Delete Preset Memory	Control	#C[Data]	00	Preset001	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23C00&res=1
	Response	s[Data]	-	-				
	Request	-	99	Preset100				
	Response	-						
Request Latest Recall Preset No.	Control	-	00	Preset001	ptz	s[Data]	s[Data]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23S&res=1
	Response	-	-	-				
	Request	#S	99	Preset100				
	Response	s[Data]						
Preset Entry Confirmation	Control	-	[Data1] 00h - 02h	[Data1] multiple (each 40 Presert No)	ptz	pE[Data1] [Data2]]	pE00[Data2] pE01[Data2] pE02[Data2]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23PE00&res=1
	Response	-	[Data2] 0000000000h - FFFFFFFFFh (bit0) 0 1 (bit1) 0 1 - (39bit) 0 1	[Data2] PRESET No. (Data1*40 + 1) No Entry Entry PRESET No. (Data1*40 + 2) No Entry Entry - PRESET				
	Request	#PE[Data1]						
	Response	pE[Data1][Data2]						

See Chapter.6 for Preset sequence

Others

command name	Category	command	Data value	Setting	Command type	Update notificat	camdata.html	Usage example / Remarks
MODEL NUMBER	Control	-		AW-UE4	cam	-	OID:AW-UE4	http://192.168.0.10/cgi-bin/aw_cam?cmd=QID&res=1
	Response	-						
	Request	QID						
	Response	OID:[Data]						
PowerON, Standby	Control	#0[Data]	0 1	Standby PowerOn	ptz	p[Data]	p[Data]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%2300&res=1
	Response	p[Data]						
	Request	#0						
	Response	p[Data]						