

Integrated Camera Interface Specifications

AW-UE5
2026/7/17

Panasonic Corporation

■ Index

1. Introduction	...1
2. Configuration outline	...2
3. Command type	...3
4. Communication method	...4
5. Update notification	...5
6. Special sequences	...7
7. Error return	...9
8. Menu-Command correspondence Table	...10
9. Command list	...12

1.Introduction

This manual describes the external interface specifications which are applicable when the AW-UE5 is operated.
This manual consists of an overview of the external interface and a description of each command of UE5

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 UE5 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 UE5.
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

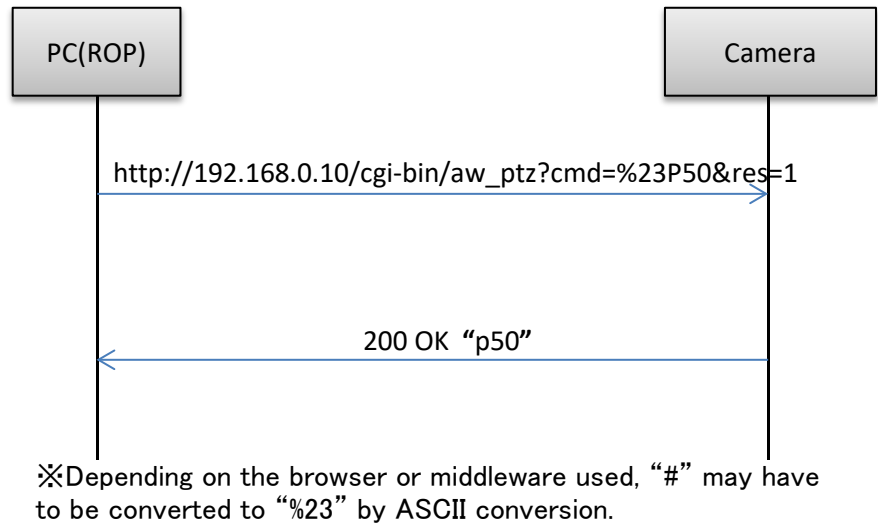
4.Communication method

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

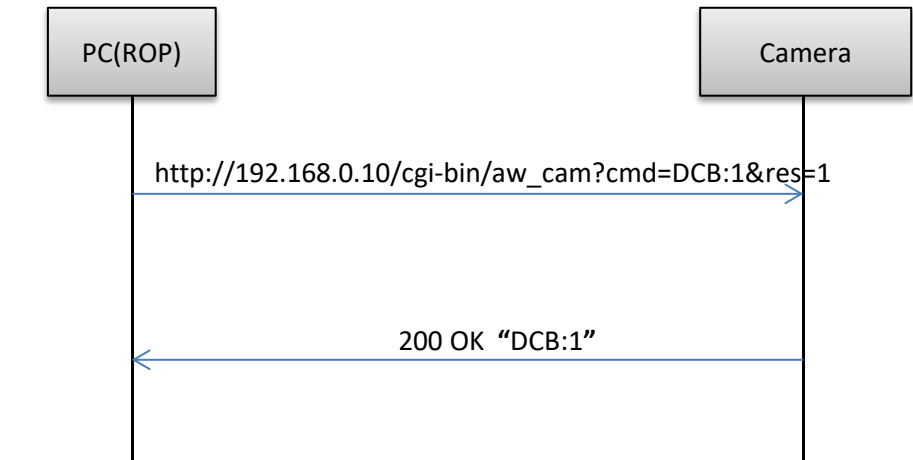


In case of Camera Control command

▼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.

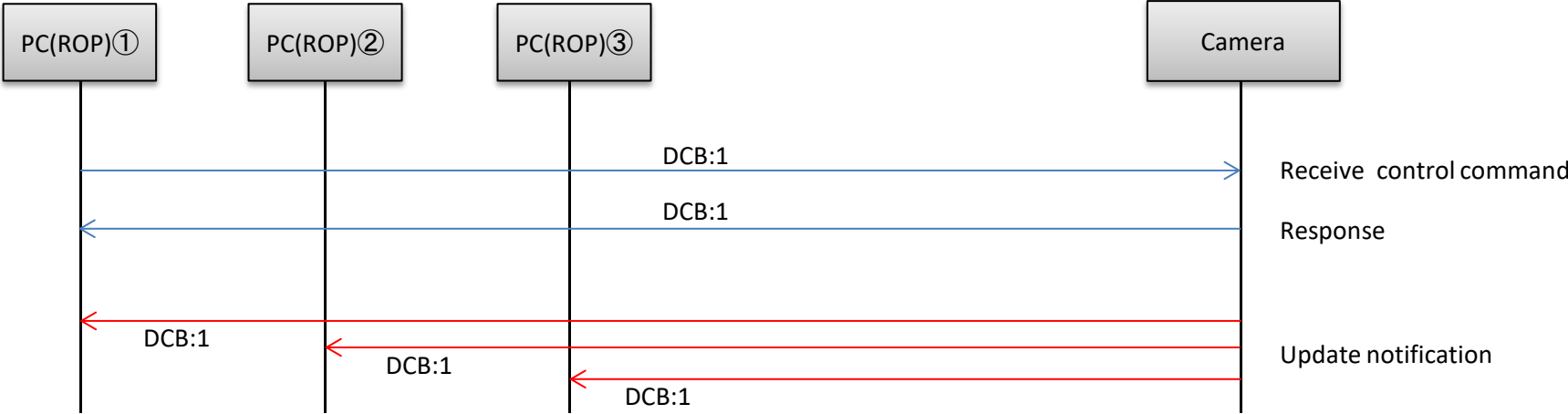
By sending information autonomously from the camera to the terminals, it is possible to do the following:

- 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]

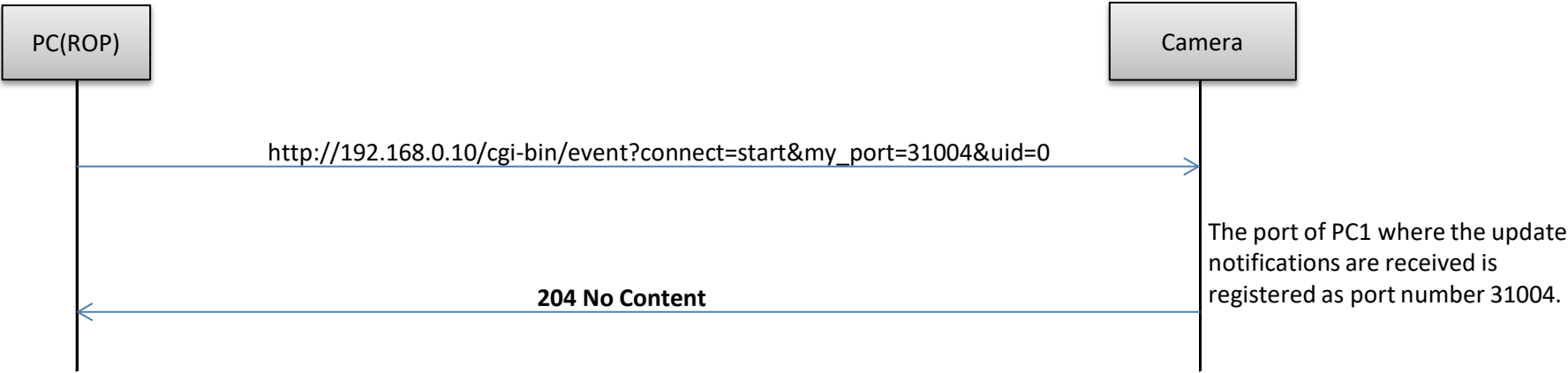
例2)カラーバー: On
[CR][LF]DCB:1[CR][LF]

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)

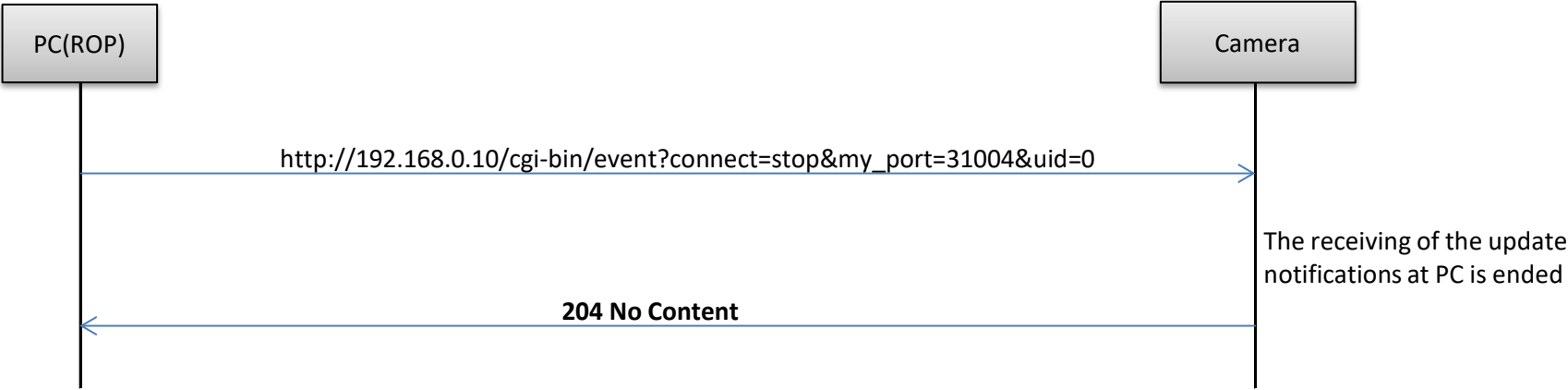
【Update notification receive start sequence】
The update notification receive start command is sent from the terminal where the update notifications are to be received.
“204 No Content” is returned from the camera which has received the command.



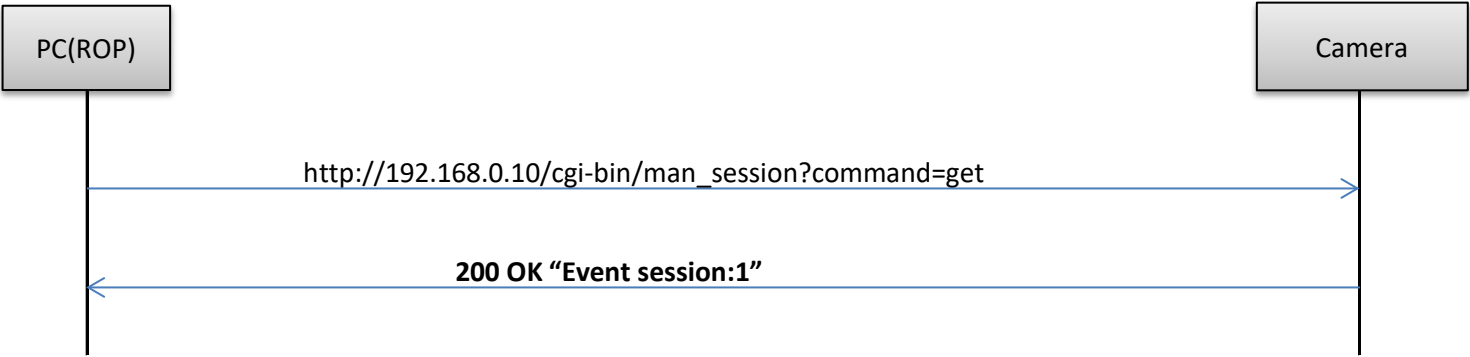
【Caution】
Proceed with the update notification receive start step when communication has been cut off because the LAN cable has been disconnected, for example.

- 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



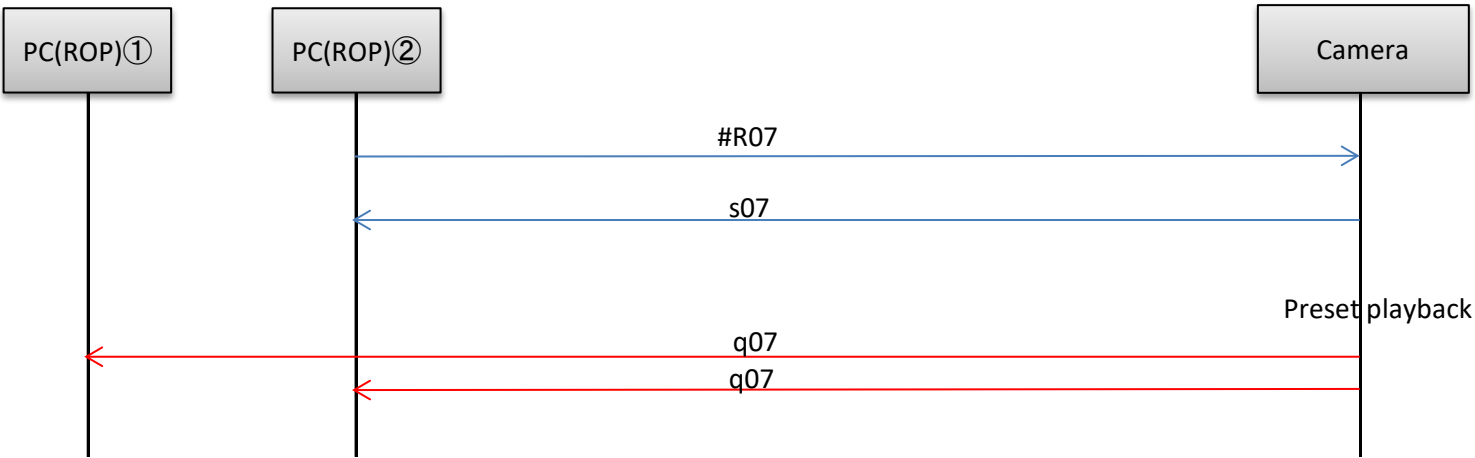
6.Special sequences

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.

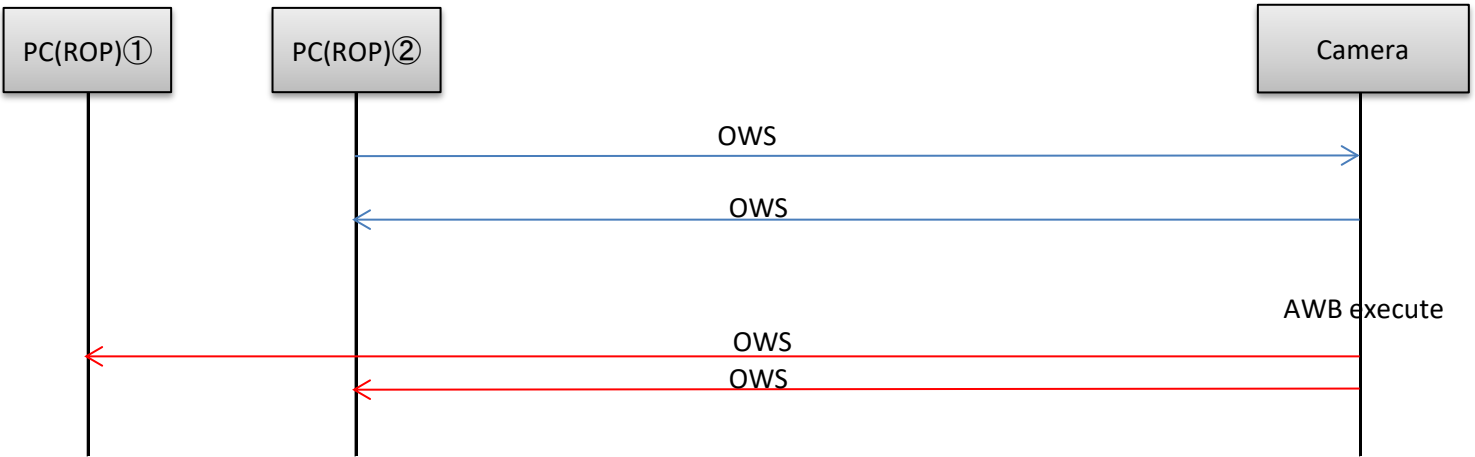


6-2 AWB/ABB execution

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.



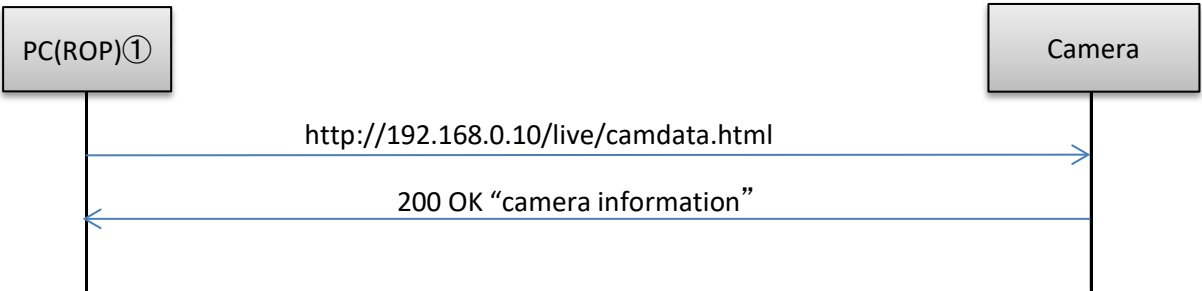
6-3.Camera information batch acquisition

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】

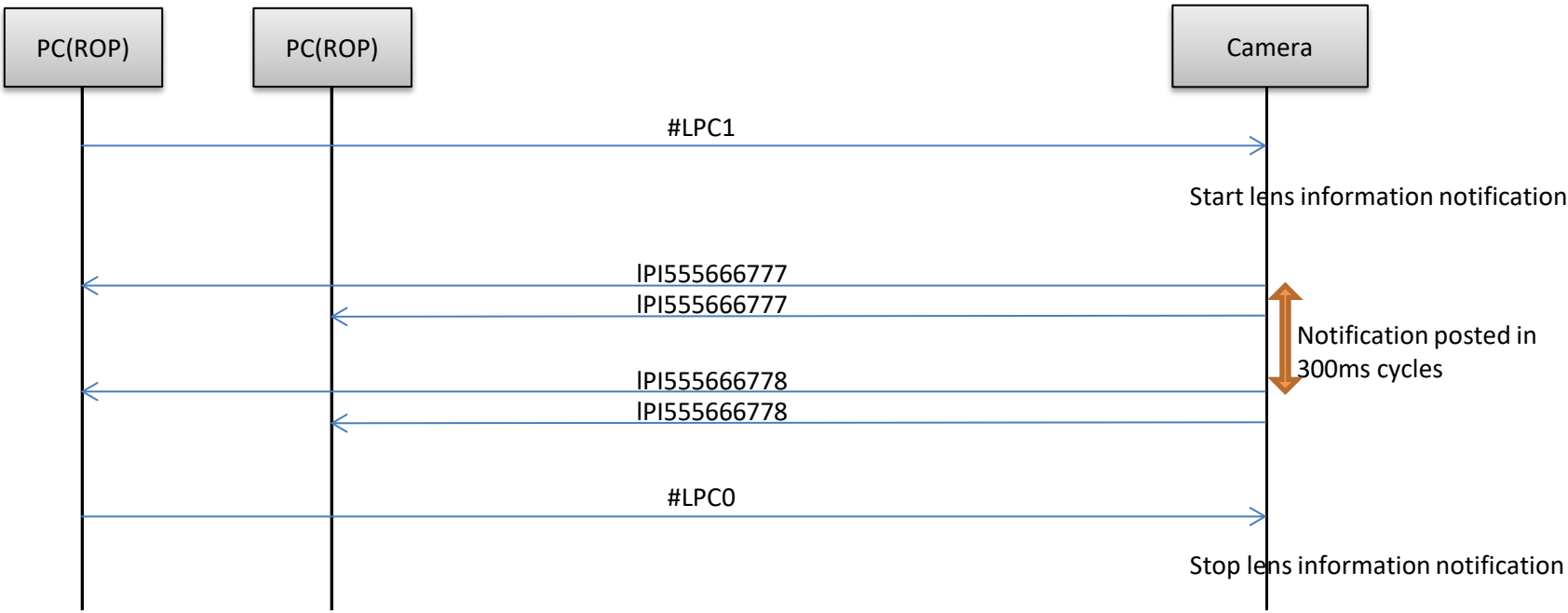


6-4.Lens Information

Notification is sent in a 300ms cycle when “On: Information is posted” has been set for the lens information notification On/Off control command

Notification	Lens information
LPI[ZZZ][FFF][III]	ZZZ Zoom position FFF Focus position III Iris position (Expressed in 3 digits each)

【Sequence when lens information is changed】
Start lens information notification when the camera receive lens information On command (#LPC1).
When the camera detects changes in the lens information, the changed lens information is sent to the terminals,
and terminals PC1 and PC2 receive this information.
Stop lens information notification when the camera receive lens information Off command (#LPC0).



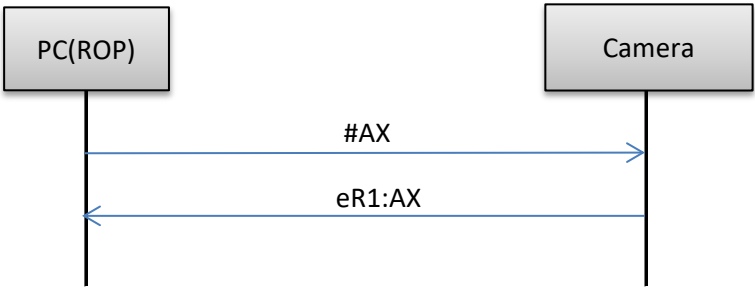
7.Error return

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

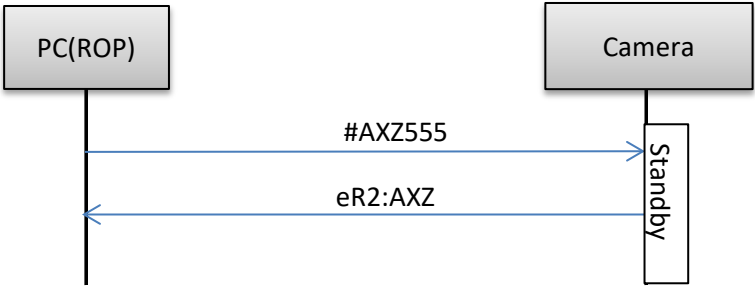
▼ER1 (unsupported command)

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



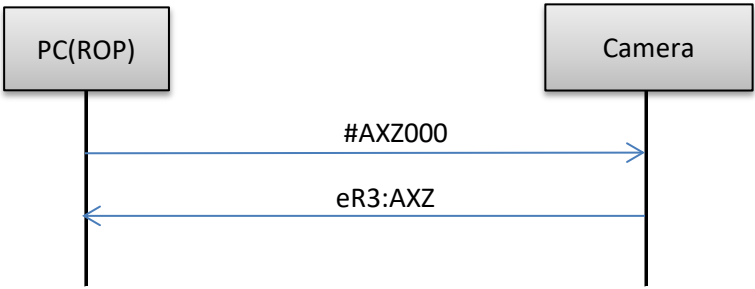
▼ER2 (busy status)

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



▼ER3 (outside acceptable range)

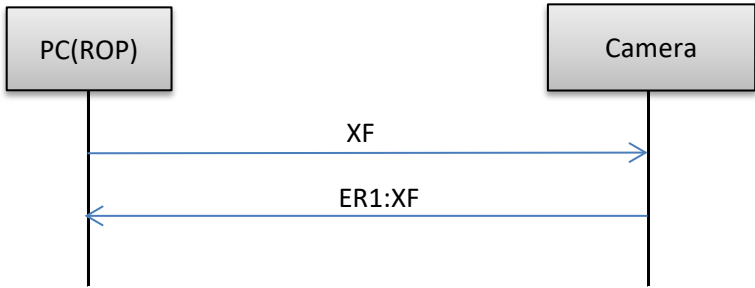
This error is generated when the data value of a command is outside the acceptable range.
example) The “#AXZ” command was executed with a data value of “000” which is outside the acceptable range.



In the case of Camera control command

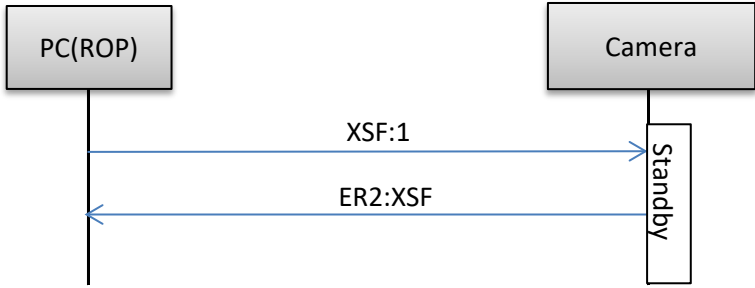
▼ER1 (unsupported command)

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



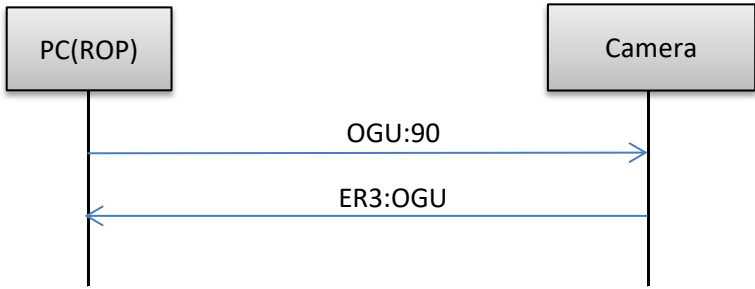
▼ER2 (busy status)

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



8. AW-UE5 Menu-Command Correspondence 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 "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	
	Lens		
	Max Digital Zoom	OSE:7A	
	LDC	OSJ:84	
	Power on Position	OSJ:45	
	P.ON Preset No.	OSJ:46	
	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 TLR TLG TLY	
	Wireless ID	#RID #WLC	
	OSD Off during R-Tally	OSE:75	
	Framing Tally Color	OSM:41	
	ColorBar	DCB	
	Mic	OSA:D0	
AI			
	Basic Config		
	Functionality	OSM:98	
	Group Framing		
	Auto Start	OSM:A2	
	Framing Control	OSM:99	
	Framing Status	OSM:9A	
	Number of detected	OSM:9B	
	Home Position	OSM:9C	
	Framing Sensitivity	OSM:9D	
	1st Preset Frame	OSM:9E	
	2nd Preset Frame	OSM:9F	
	3rd Preset Frame	OSM:A0	
	Max Zoom	OSM:A1	
	Output		
	USB	OSM:A3	
	HDMI	OSM:A4	
	IP Streaming	OSM:A5	
	Web	OSM:A6	
Maintenance			
	Language	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	
Lens Position Information	#LPI	
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	q	
AI		
AI FUNCTION PRESET FRAMING AREA 1ST	OSM:A7	
AI FUNCTION PRESET FRAMING AREA 2ND	OSM:A8	
AI FUNCTION PRESET FRAMING AREA 3RD	OSM:A9	
Others		
MODEL NUMBER	QID	
PowerON, Standby	#Q	

9. Command list
Scene

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

※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 will 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:03:0” when Scene is “Full Auto” Send “OSJ:03:1” when Scene is “Shutter priority” or “Manual”
Slow Shutter	OSJ:80:[Data]	Send the initial value when Scene is set to “Shutter Priority” or “Manual”.
Step VAL	OSJ:06:[Data]	Send the initial value when Scene is set to “Full Auto”.
Gain	OGU:[Data]	Send the initial value when Scene is set to “Full Auto” or “Shutter Priority”.
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]	

Brightness

command name	Category	command	Data value	Setting	Command type	Update notification	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]	~	0				
	Request	QSD:48	~32h	~				
	Response	OSD:48:[Data]	36h	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]
	Request	QSJ:80						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
	Response	OSJ:80:[Data]						■ 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

Picture

Command name	Category	Command	Data value	Setting	Command type	Update notification	camdata.html	Usage example / Remarks
Chroma Level	Control	OCG: [Data]	03h	0	cam	OCG: [Data]	OCG:0x[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OCG:08&res=1
	Response	OCG: [Data]	04h	1				
			05h	2				
	Request	QCG	06h	3				
White Balance Mode	Control	OAW: [Data]	07h	4	cam	OAW: [Data]	OAW: [Data]	ATW variable range is from 2800k to 6500K
			08h	5				
	Response	OAW: [Data]	09h	6				
			0Ah	7				
AWB	Request	QAW	0Bh	8	cam	OAW: [Data]	OAW: [Data]	ATW variable range is from 2800k to 6500K
			0Ch	9				
	Response	OAW:[Data]	0Dh	10				
			0Eh	10				
White Balance Mode	Control	OAW: [Data]	0Fh	11	cam	OAW: [Data]	OAW: [Data]	ATW variable range is from 2800k to 6500K
			10h	12				
	Response	OAW: [Data]	11h	13				
			12h	14				
AWB	Request	QAW	13h	15	cam	OAW: [Data]	OAW: [Data]	ATW variable range is from 2800k to 6500K
			14h	16				
	Response	OAW:[Data]	15h	17				
			16h	18				
AWB	Control	OWS	0	ATW	cam	OWS	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=OWS&res=1
	Response	OWS	1	AWB A				
	Request	-	2	AWB B				
	Response	-	3	---				
ABB	Response	OAS	4	PRESET 3200K	cam	ER3:OWS	-	See <u>Chapter 6</u> for AWB execution sequence
	Request	-	5	PRESET 5600K				
	Response	-	0	ATW				
	Response	-	1	---				
Detail	Response	OAS	2	AWB A	cam	ER3:OAS	-	UE5 does not ABB function, ABB cannot be executed and can not get return errors
	Request	-	3	AWB B				
	Response	-	4	PRESET 3200K				
	Response	-	5	PRESET 5600K				
Contrast	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	2				
	Response	OSD:50:[Data]	3	3				
DRS	Request	QSE:50	4	4	cam	OSE:33: [Data]	OSE:33: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:33:1&res=1
	Control	OSE:33: [Data]	0	Off				
	Response	OSE:33: [Data]	1	On				
	Request	QSE:33	0	Off				
Back Light COMP.	Response	OSE:33:[Data]	1	On	cam	OSE:73: [Data]	OSE:73: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:73:1&res=1
	Control	OSE:73: [Data]	0	Off				
	Response	OSE:73: [Data]	1	On				
	Request	QSE:73	0	Off				
DNR	Response	OSE:73:[Data]	1	On	cam	OSD:3A: [Data]	OSD:3A: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:3A:01&res=1
	Control	OSD:3A: [Data]	00	Off				
	Response	OSD:3A: [Data]	01	Low				
	Request	QSD:3A	02	High				
DNR	Response	OSD:3A:[Data]	02	High	cam	OSD:3A: [Data]	OSD:3A: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSD:3A:01&res=1
	Control	OSD:3A: [Data]	00	Off				
	Response	OSD:3A: [Data]	01	Low				
	Request	QSD:3A	02	High				

System

[illegible]

command name	Category	command	Data value	Setting	Command type	Update notification	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]						
R-Tally Control	Control	TLR: [Data]	0 1	OFF ON	cam	TLR: [Data]	TLR: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=TLR:1&res=1
	Response	TLR: [Data]						
	Request	QLR						
	Response	OLR: [Data]						
R-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]						
G-Tally Control	Control	TLG: [Data]	0 1	OFF ON	cam	TLG: [Data]	TLG: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=TLG:1&res=1
	Response	TLG: [Data]						
	Request	QLG						
	Response	OLG: [Data]						
Y-Tally Control	Control	TLY: [Data]	0 1	OFF ON	cam	TLY: [Data]	TLY: [Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=TLY:1&res=1
	Response	TLY: [Data]						
	Request	QLY						
	Response	OLY: [Data]						
Tally Information	Control	-	[Data1] 0 1	[Data1] R Tally LED Off R Tally LED On	ptz	tAA [Data1] [Data2] [Data3] [Data4] [Data5] [Data6] [Data7] [Data8] [Data9]	tAA [Data1] [Data2] [Data3] [Data4] [Data5] [Data6] [Data7] [Data8] [Data9]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23TAA&res=1
	Response	-	[Data2] 0 1	[Data2] Reserved Command (#DA/TLR) Off Command (#DA)/TLR On				When #DA and #TAE change, if #TAA also changes, an update notification is sent
	Request	#TAA	[Data3] 0 1	[Data3] G Tally LED Off G Tally LED On				
	Response	tAA [Data1] [Data2] [Data3] [Data4] [Data5] [Data6] [Data7] [Data8] [Data9]	[Data4] 0 1	[Data4] Reserved Command (TLG) Off Command (TLG) On				

command name	Category	command	Data value	Setting	Command type	Update notification	camdata.html	Usage example / Remarks
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 during R-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]						
Framing Tally Color	Control	OSM:41:[Data]	0 3	Amber Yellow	cam	OSM:41:[Data]	OSM:41:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:41:0&res=1
	Response	OSM:41:[Data]						
	Request	QSM:41						
	Response	OSM:41:[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 notification	camdata.html	Usage example / Remarks
Language	Control	OSJ:82:[Data]	0	English	cam	OSJ:82:[Data]	OSJ:82:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSJ:82:1&res=1
	Response	OSJ:82:[Data]	1	Japanese				
	Request	OSJ:82	2	Chinese				
	Response	OSJ:82:[Data]						
FW VERSION	Control	-	-	VXX.XX	cam	-	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=QSV&res=1
	Response			※example: V00.06				
	Request	QSV						
	Response	QSV:[Data1]						

OSD

command name	Category	command	Data value	Setting	Command type	Update notification	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 (no value)	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 (no value)	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 (no value)	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 (no value)	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 (no value)	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 (no value)	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 notification	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 Center				
	Request	-	[Data2]	[Data2]				
	Response	-	8000h	Tilt Position Center				
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
			18-33	Left Mid. Speed				
	Response	pS[Data]	34-49	Left Min. Speed				
	Request	-	50	Pan Stop				
Tilt Speed Control			51-66	Right Min. Speed	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23T70&res=1
			67-82	Right Mid. Speed				
	Response	-	83-99	Right Max. Speed				
Pan Tilt Speed Control	Control	#PTS[Data1][Data2]	[Data1]	[Data1]	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23PTS7070&res=1
			01-07	Left Max. Speed				
			18-33	Left Mid. Speed				
			34-49	Left Min. Speed				
			50	Pan Stop				
	Response	pTS[Data1][Data2]	51-66	Right Min. Speed				
			67-82	Right Mid. Speed				
			83-99	Right Max. Speed				
	Request	-	[Data2]	[Data2]	ptz	-	-	
			01-07	Down Max. Speed				
			18-33	Down Mid. Speed				
			34-49	Down Min. Speed				
			50	Tilt Stop				
			51-66	UP Min. Speed				
			67-82	UP Mid. Speed				
	Response	-	83-99	UP Max. Speed				

Lens

command name	Category	command	Data value	Setting	Command type	Update notification	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 Wide Min. Speed Zoom Stop Tele Min. Speed Tele Max. Speed	ptz	-	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23Z70&res=1
	Response	zS[Data]	26-49					
	Request	-	50					
	Response	-	51-74 75-99					
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	QRS:[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]						
LENS POSITION INFORMATION	Control	-	[Data1] 555h - FFFh [Data2] 555h - FFFh [Data3] 555h - FFFh	[Data1]ZOOM POSITION WIDE - TELE [Data2]FOCUS POSITION NEAR - FAR [Data3]IRIS POSITION CLOSE - OPEN	ptz	IPI[Data1][Data2][Data3]	-	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23LPI&res=1 [Data1] Wide (x1 zoom) corresponds to 555h, Tele (x5 zoom) corresponds to FFFh. Values for [Data1] can be assigned linearly between 555h and FFFh. [Data2] fixed 555 [Data3] fixed 555
	Response	-						
	Request	#LPI						
	Response	IPI[Data1][Data2][Data3]						
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]						
POWER ON POSITION	Control	OSJ:45:[Data]	1 2 3	STANDBY HOME PRESET	cam	OSJ:45:[Data]	OSJ:45:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSJ:45:1&res=1
	Response	OSJ:45:[Data]						
	Request	QSJ:45						
	Response	OSJ:45:[Data]						
P. ON PRESET NO.	Control	OSJ:46:[Data]	00 - 99	PRESET001 - PRESET100	cam	OSJ:46:[Data]	OSJ:46:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSJ:46:00&res=1
	Response	OSJ:46:[Data]						
	Request	QSJ:46						
	Response	OSJ:46:[Data]						
MAX DIGITAL ZOOM	Control	OSE:7A:[Data]	03 05	3x 5x	cam	OSE:7A:[Data]	OSE:7A:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSE:7A:10&res=1 Same setting as GROUP FRAMING MAX ZOOM (OSM:A1).
	Response	OSE:7A:[Data]						
	Request	QSE:7A						
	Response	OSE:7A:[Data]						

Preset

command name	Category	command	Data value	Setting	Command type	Update notification	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]	-	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	[Data2] PRESET No. (Data1*40 + 1) No Entry Entry				
	Request	#PE[Data1]	(bit1) 0 1 - (39bit) 0 1	PRESET No. (Data1*40 + 2) No Entry Entry - PRESET No. (Data1*40 + 40) No Entry Entry				
	Response	pE[Data1][Data2]						

See Chapter 6 for Preset sequence

AI Function

command name	Category	command	Data value	Setting	Command type	Update notification	camdata.html	Usage example / Remarks
AI FUNCTION FUNCTIONALITY	Control	OSM:98:[Data]	0 1	DISABLE ENABLE	cam	OSM:98:[Data]	OSM:98:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:98:0&res=1
	Response	OSM:98:[Data]						
	Request	QSM:98						
	Response	OSM:98:[Data]						
GROUP FRAMING FRAMING CONTROL	Control	OSM:99:[Data]	0 1	STOP START	cam	OSM:99:[Data]	OSM:99:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:99:0&res=1
	Response	OSM:99:[Data]						
	Request	QSM:99						
	Response	OSM:99:[Data]						
GROUP FRAMING FRAMING STATUS	Control	-	0 1 2 3 4 5	NOT FRAMING FRAMING LOST PRESET FRAMING 1st PRESET FRAMING 2nd PRESET FRAMING 3rd	cam	OSM:9A:[Data]	OSM:9A:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:9A:0&res=1
	Response	-						
	Request	QSM:9A						
	Response	OSM:9A:[Data]						
GROUP FRAMING NUMBER OF DETECTED	Control	-	00h - 63h	0 - 99	cam	OSM:9B:[Data]	OSM:9B:0x[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:9B:80&res=1
	Response	-						
	Request	QSM:9B						
	Response	OSM:9B:[Data]						
GROUP FRAMING FRAMING SENSITIVITY	Control	OSM:9C:[Data]	7Eh - 80h - 82h	-2 - 0 - +2	cam	OSM:9C:[Data]	OSM:9C:0x[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:9C:80&res=1
	Response	OSM:9C:[Data]						
	Request	QSM:9C						
	Response	OSM:9C:[Data]						
GROUP FRAMING HOME POSITION	Control	OSM:9D:[Data]	0 1 2 3 4	PRESET 1 PRESET 2 PRESET 3 NONE WIDE	cam	OSM:9D:[Data]	OSM:9D:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:9D:0&res=1
	Response	OSM:9D:[Data]						
	Request	QSM:9D						
	Response	OSM:9D:[Data]						
GROUP FRAMING 1st Preset Frame	Control	OSM:9E:[Data]	0 1	OFF ON	cam	OSM:9E:[Data]	OSM:9E:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:9E:0&res=1
	Response	OSM:9E:[Data]						
	Request	QSM:9E						
	Response	OSM:9E:[Data]						
GROUP FRAMING 2nd Preset Frame	Control	OSM:9F:[Data]	0 1	OFF ON	cam	OSM:9F:[Data]	OSM:9F:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:9F:0&res=1
	Response	OSM:9F:[Data]						
	Request	QSM:9F						
	Response	OSM:9F:[Data]						
GROUP FRAMING 3rd Preset Frame	Control	OSM:A0:[Data]	0 1	OFF ON	cam	OSM:A0:[Data]	OSM:A0:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:A0:0&res=1
	Response	OSM:A0:[Data]						
	Request	QSM:A0						
	Response	OSM:A0:[Data]						
GROUP FRAMING MAX ZOOM	Control	OSM:A1:[Data]	3 5	3x 5x	cam	OSM:A1:[Data]	OSM:A1:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:A1:0&res=1
	Response	OSM:A1:[Data]						
	Request	QSM:A1						
	Response	OSM:A1:[Data]						
GROUP FRAMING AUTO START	Control	OSM:A2:[Data]	0 1	DISABLE ENABLE	cam	OSM:A2:[Data]	OSM:A2:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:A2:0&res=1
	Response	OSM:A2:[Data]						
	Request	QSM:A2						
	Response	OSM:A2:[Data]						
AI FUNCTION OUTPUT USB	Control	OSM:A3:[Data]	0 1	FRAMING FULL	cam	OSM:A3:[Data]	OSM:A3:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:A3:0&res=1
	Response	OSM:A3:[Data]						
	Request	QSM:A3						
	Response	OSM:A3:[Data]						
AI FUNCTION OUTPUT HDMI	Control	OSM:A4:[Data]	0 1	FRAMING FULL	cam	OSM:A4:[Data]	OSM:A4:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:A4:0&res=1
	Response	OSM:A4:[Data]						
	Request	QSM:A4						
	Response	OSM:A4:[Data]						
AI FUNCTION OUTPUT IP STREAMING	Control	OSM:A5:[Data]	0 1	FRAMING FULL	cam	OSM:A5:[Data]	OSM:A5:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:A5:0&res=1
	Response	OSM:A5:[Data]						
	Request	QSM:A5						
	Response	OSM:A5:[Data]						
AI FUNCTION OUTPUT WEB	Control	OSM:A6:[Data]	0 1	FRAMING FULL	cam	OSM:A6:[Data]	OSM:A6:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:A6:0&res=1
	Response	OSM:A6:[Data]						
	Request	QSM:A6						
	Response	OSM:A6:[Data]						

AI FUNCTION PRESET FRAMING AREA 1ST	Control	OSM:A7:[Data1]:[Data2]:[Data3]:[Data4]	[Data1] 000h - FFFh	[Data1]UPPER LEFT (H) 0 - 4095	cam	OSM:A7:[Data1]:[Data2]:[Data3]:[Data4]	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:A7:000:000:FFF:FFF&res=1 Controls the size and position of the PRESET FRAMING frame configured via the Web UI. - Full view is defined as 1280x720 (top-left: (0,0), bottom-right: (1280,720)). - Aspect ratio is fixed to 16:9. Available size depends on the Max Zoom value. - [Data3] and [Data4] are automatically recalculated from the specified values due to these constraints.
	Response	OSM:A7:[Data1]:[Data2]:[Data3]:[Data4]	[Data2] 000h - FFFh	[Data2]UPPER LEFT (V) 0 - 4095				
	Request	QSM:A7	[Data3] 000h - FFFh	[Data3]BOTTOM RIGHT (H) 0 - 4095				
	Response	OSM:A7:[Data1]:[Data2]:[Data3]:[Data4]	[Data4] 000h - FFFh	[Data4]BOTTOM RIGHT (V) 0 - 4095				
AI FUNCTION PRESET FRAMING AREA 2ND	Control	OSM:A8:[Data1]:[Data2]:[Data3]:[Data4]	[Data1] 000h - FFFh	[Data1]UPPER LEFT (H) 0 - 4095	cam	OSM:A8:[Data1]:[Data2]:[Data3]:[Data4]	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:A8:000:000:FFF:FFF&res=1 Controls the size and position of the PRESET FRAMING frame configured via the Web UI. - Full view is defined as 1280x720 (top-left: (0,0), bottom-right: (1280,720)). - Aspect ratio is fixed to 16:9. Available size depends on the Max Zoom value. - [Data3] and [Data4] are automatically recalculated from the specified values due to these constraints.
	Response	OSM:A8:[Data1]:[Data2]:[Data3]:[Data4]	[Data2] 000h - FFFh	[Data2]UPPER LEFT (V) 0 - 4095				
	Request	QSM:A8	[Data3] 000h - FFFh	[Data3]BOTTOM RIGHT (H) 0 - 4095				
	Response	OSM:A8:[Data1]:[Data2]:[Data3]:[Data4]	[Data4] 000h - FFFh	[Data4]BOTTOM RIGHT (V) 0 - 4095				
AI FUNCTION PRESET FRAMING AREA 3RD	Control	OSM:A9:[Data1]:[Data2]:[Data3]:[Data4]	[Data1] 000h - FFFh	[Data1]UPPER LEFT (H) 0 - 4095	cam	OSM:A9:[Data1]:[Data2]:[Data3]:[Data4]	-	http://192.168.0.10/cgi-bin/aw_cam?cmd=OSM:A9:000:000:FFF:FFF&res=1 Controls the size and position of the PRESET FRAMING frame configured via the Web UI. - Full view is defined as 1280x720 (top-left: (0,0), bottom-right: (1280,720)). - Aspect ratio is fixed to 16:9. Available size depends on the Max Zoom value. - [Data3] and [Data4] are automatically recalculated from the specified values due to these constraints.
	Response	OSM:A9:[Data1]:[Data2]:[Data3]:[Data4]	[Data2] 000h - FFFh	[Data2]UPPER LEFT (V) 0 - 4095				
	Request	QSM:A9	[Data3] 000h - FFFh	[Data3]BOTTOM RIGHT (H) 0 - 4095				
	Response	OSM:A9:[Data1]:[Data2]:[Data3]:[Data4]	[Data4] 000h - FFFh	[Data4]BOTTOM RIGHT (V) 0 - 4095				

Others

[illegible]