HD/4K Integrated Camera Interface Specifications

AW-UE4

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■目次

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.

②Camera 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.

③Camera 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.

④Error 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.

⑤Menu 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.

⑥Control 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 Capter 7 for the error communication sequence
　for the transmitted command

▼Sequence

| PC(ROP) | Camera |

http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23P50&res=1 →

200 OK "p50" ←
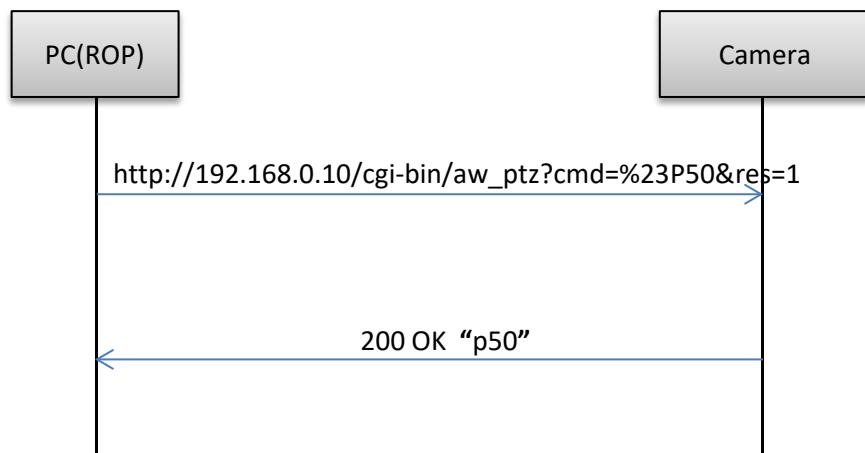
※Depending on the browser or middleware used, "#" may have
to be converted to "%23" by ASCII conversion.

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 Capter 7 for the error communication sequence
　for the transmitted command

▼Sequence

| PC(ROP) | Camera |

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

200 OK "DCB:1" ←
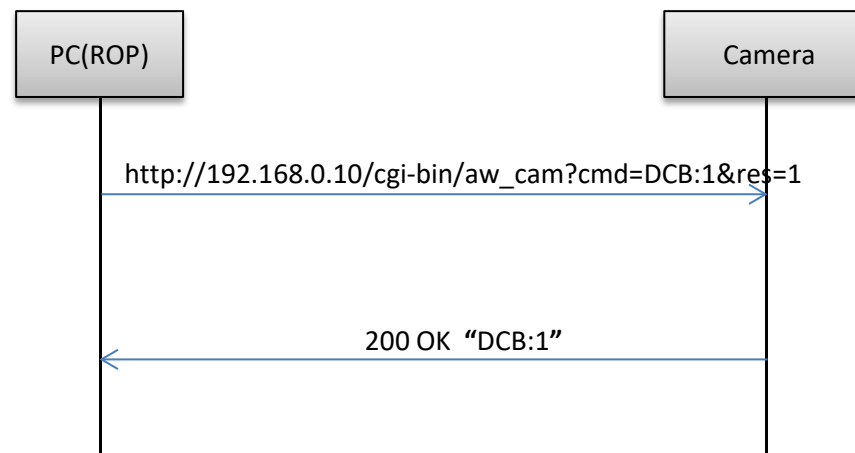
【Restrictions】
  1. Keep-Alive cannot be set with HTTP connections.
    Connect and disconnect are performed each time a command is sent or received.

  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.

| PC(ROP)① | PC(ROP)② | PC(ROP)③ | Camera |

DCB:1 → Receive control command

DCB:1 ← Response

DCB:1 ← Update notification
DCB:1
DCB:1
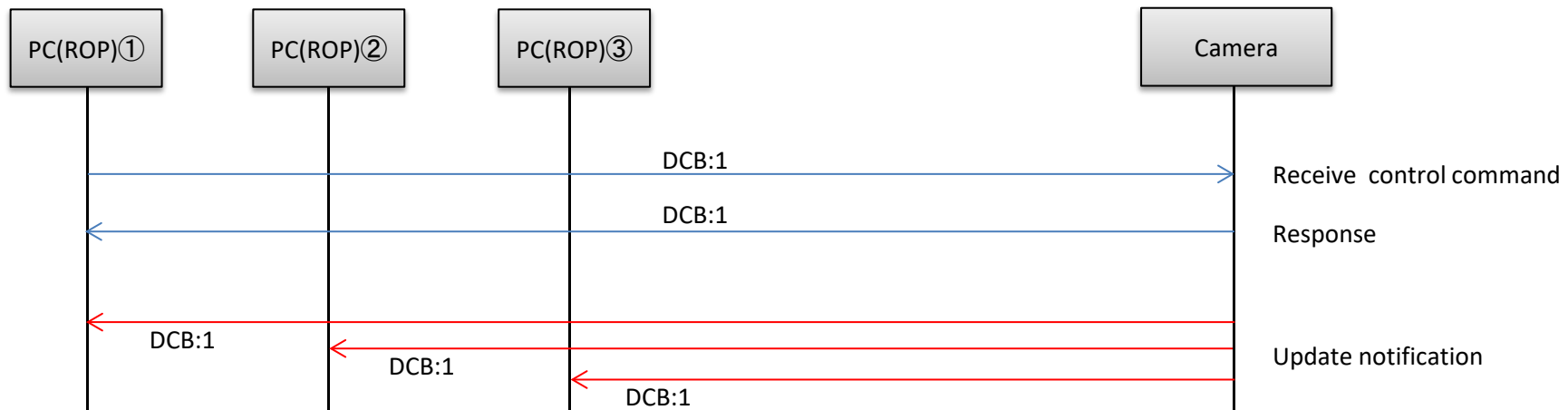
Some commands are not to be inicated as update notifications. See Chapter:9 for more detail

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.

PC(ROP)		Camera
	http://192.168.0.10/cgi-bin/event?connect=start&my_port=31004&uid=0 →	
	← **204 No Content**	The port of PC1 where the update notifications are received is registered as port number 31004.

【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.

```
PC(ROP)                                                                        Camera

   │                                                                              │
   │──── http://192.168.0.10/cgi-bin/event?connect=stop&my_port=31004&uid=0 ────▶│
   │                                                                              │
   │                                                                  The receiving of the update
   │                                                                  notifications at PC is ended
   │◀──────────────────────── 204 No Content ─────────────────────────────────── │
   │                                                                              │
```
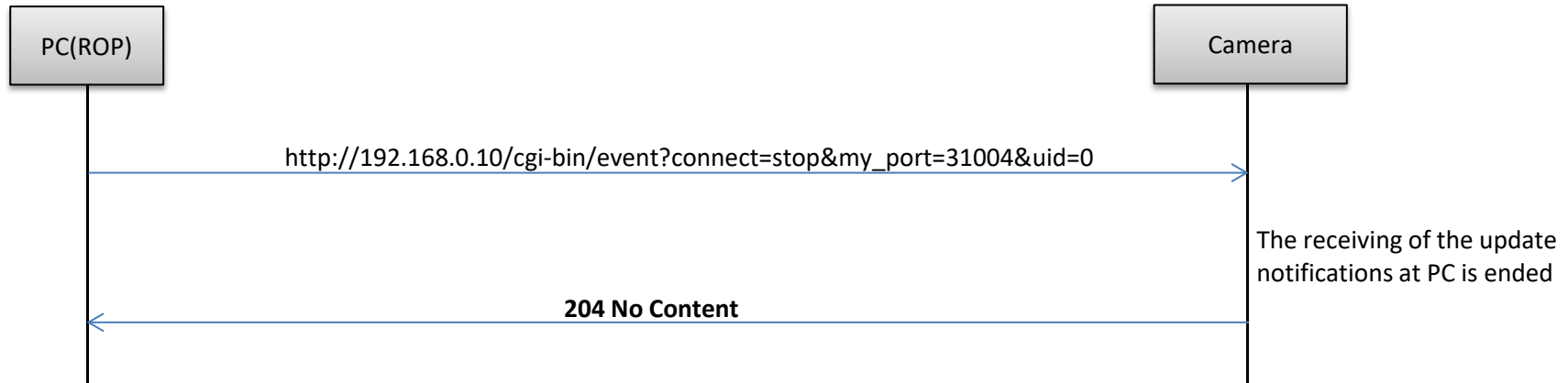
③ Registered number of update notifications
    You can query the number of external devices (RP remote controller etc.) connected to the camera with the following command.
    The number of connected device increases with the procedure to start receiving update notifications and decreases the procedure
    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

```
PC(ROP)                                                                        Camera

   │                                                                              │
   │──────── http://192.168.0.10/cgi-bin/man_session?command=get ───────────────▶│
   │                                                                              │
   │◀─────────────────── 200 OK "Event session:1" ────────────────────────────── │
   │                                                                              │
```
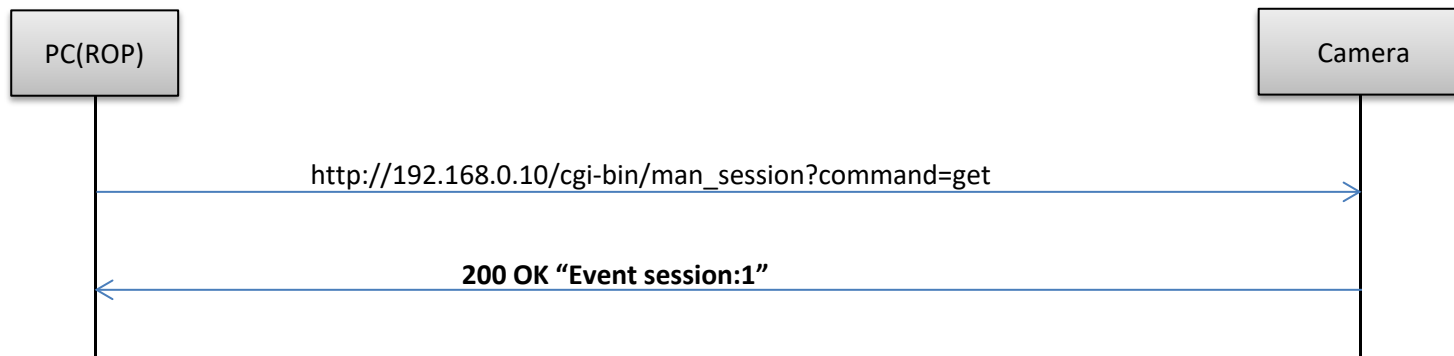
6.Special sequences

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.
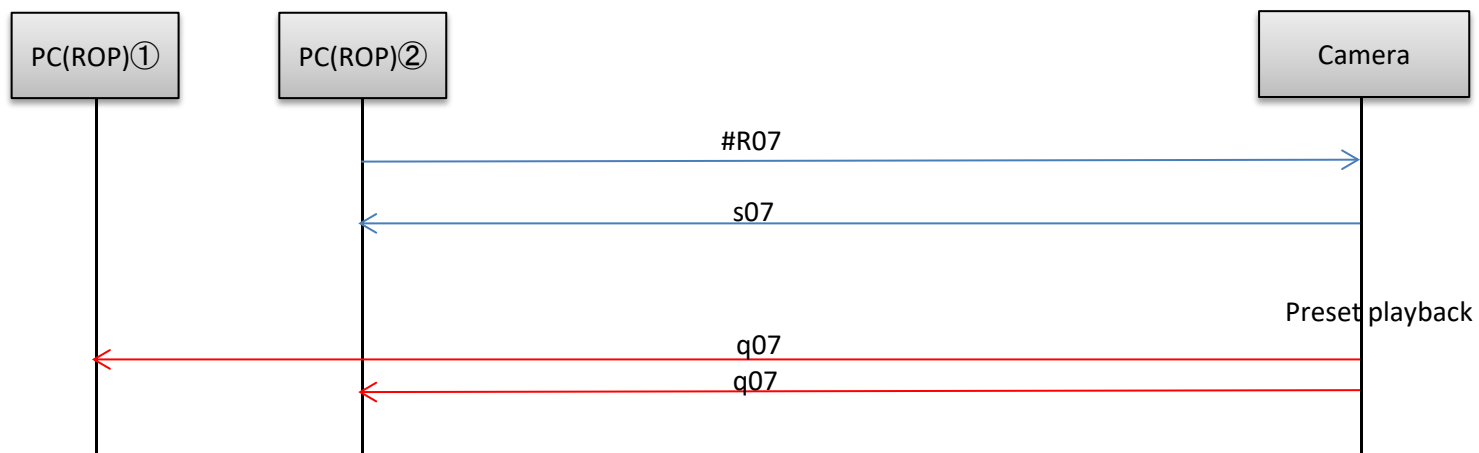
6-2 AWB/ABB execution

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.
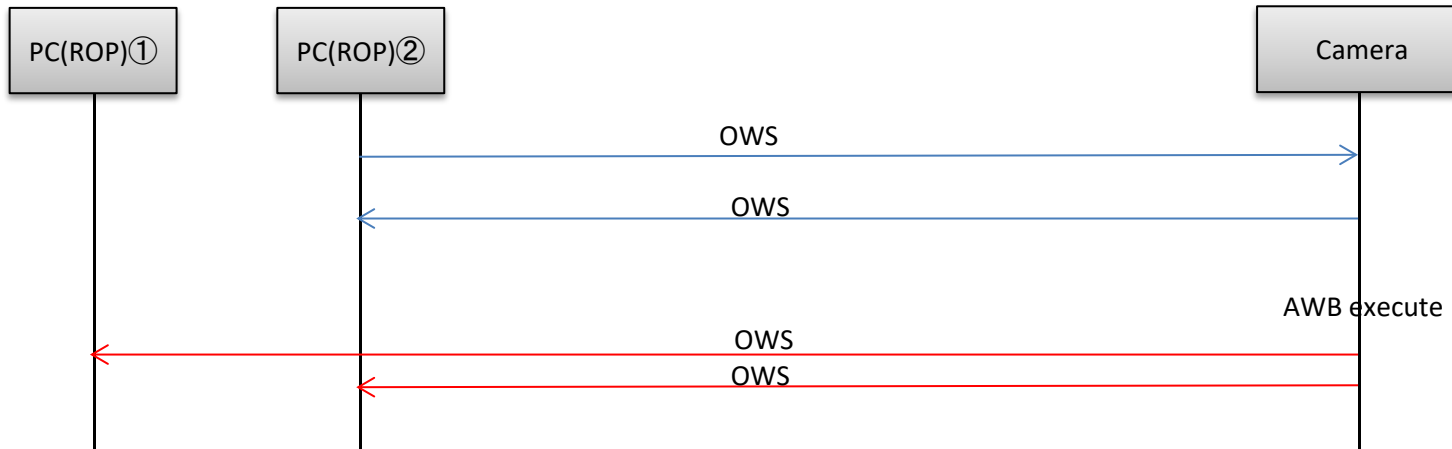
6-3.Camera information batch acquisition

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】

```
┌─────────────┐                              ┌─────────────┐
│  PC(ROP)①   │                              │   Camera    │
└─────────────┘                              └─────────────┘
       │                                            │
       │     http://192.168.0.10/live/camdata.html  │
       │──────────────────────────────────────────>│
       │                                            │
       │        200 OK "camera information"         │
       │<───────────────────────────────────────────│
       │                                            │
```
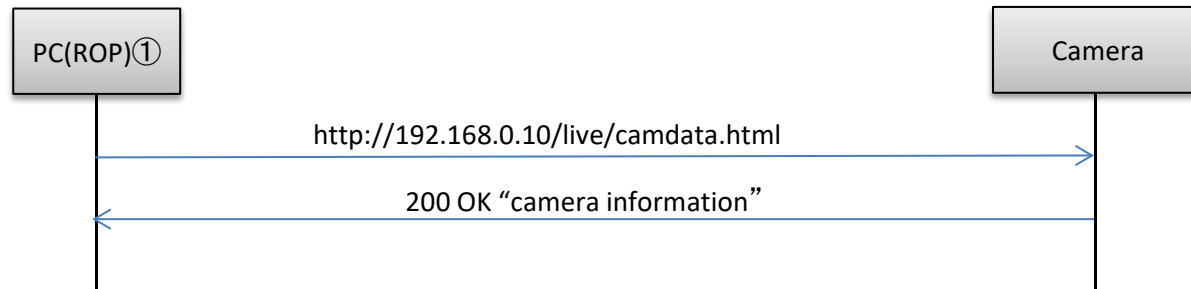
7.Error return

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
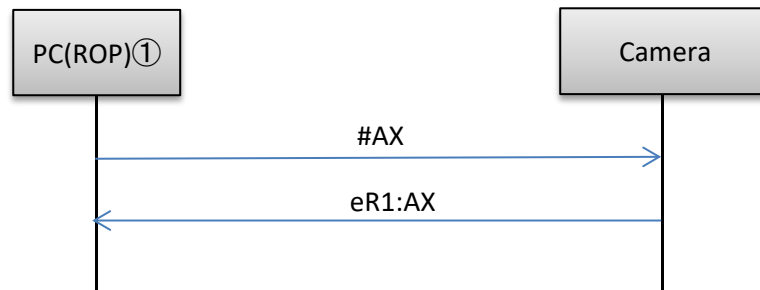
PC(ROP)①	Camera

#AX →

← eR1:AX

▼ER2 (busy status)
This error is generated during Standby (Power Off) or
at other times when the camera is in the busy status.

PC(ROP)①	Camera

#AXZ555 → Standby

← eR2:AXZ
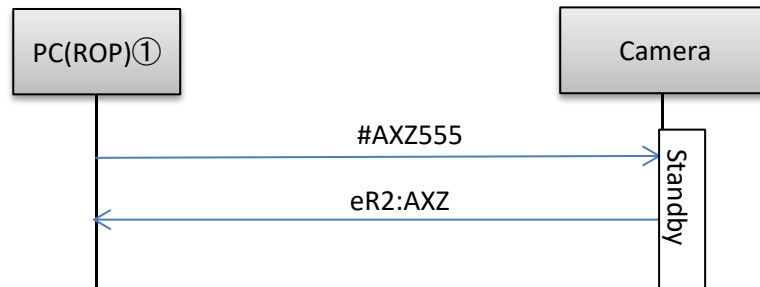
In the case of Camera control command

▼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
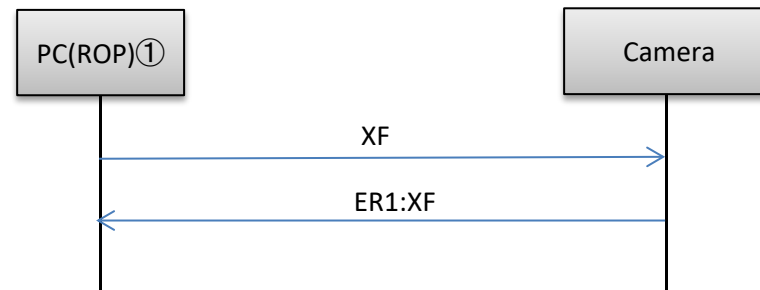
PC(ROP)①	Camera

XF →

← ER1:XF

▼ER2 (busy status)
This error is generated during Standby (Power Off) or
at other times when the camera is in the busy status.

PC(ROP)①	Camera

XSF:1 → Standby

← ER2:XSF
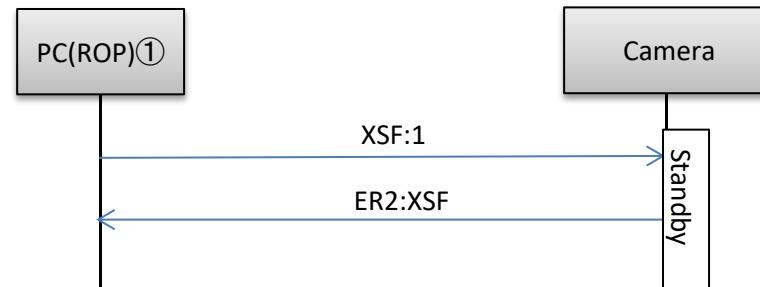
▼ER3 (outside acceptable range)
　This error is generated when the data value of a command
　is outside the acceptable range.
　　example) The "#AXZ" command was executed with a data
　　　　　　value of "000" which is outside the acceptable range.
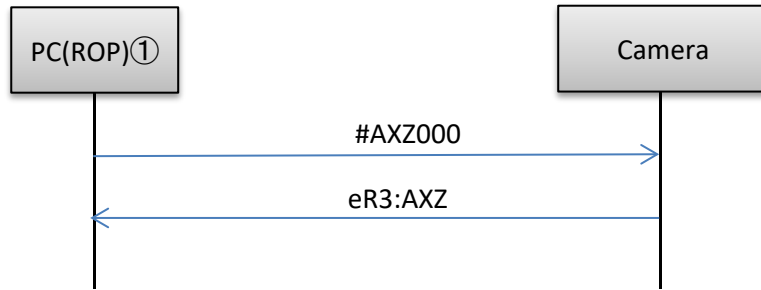
PC(ROP)①		Camera
	#AXZ000 →	
	← eR3:AXZ	

▼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.

PC(ROP)①		Camera
	OGU:90 →	
	← ER3:OGU	
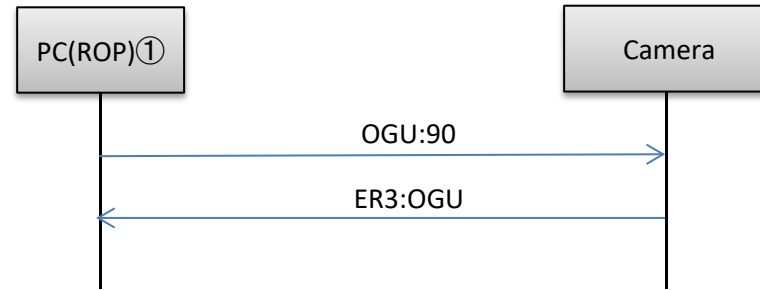
8. AW-UE4 Menu-Command Correspondance Table

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			Command	
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		q	
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 1 2 3	– Full Auto Shutter Priority Manual	cam ※1	※2	OSF:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=XSF:1&res=1
	Response	XSF:[Data]						
	Request	QSF	0 1 2 3	Full Auto Shutter Priority Manual –				
	Response	OSF:[Data]						

※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]	~ 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	Off	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]	1	On				■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 ■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
	Request	QSJ:80						
	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	Off	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]	1h	Step				▼When SCENE is "FULL AUTO"
	Request	QSJ:03						Fixed to "Off"　※Send ER3 except setting "Off"
	Response	OSJ:03:[Data]						▼When SCENE is "Shutter Priority" or "Manual"
								Fixed to "Step"　※Send ER3 except setting "Step"
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
	Request	–	64h	100				Update notification of OSJ: 06 is sent
	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
	Request	–	64h	100				Update notification of OSJ: 06 is sent
	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 Except for the effective shutter speed, respond with ER3 ▼In the case of any frequncy 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
	Response	OSJ:06:[Data]						
	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.
	Request	QGU	1Ah –	18dB –				ER3 response except parameters that can be set
	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 06h 07h 08h 09h 0Ah 0Bh 0Ch 0Dh	0 1 2 3 4 5 6 7 8 9 10	cam	OCG:[Data]	OCG:0x[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=OCG:08&res=1
	Response	OCG:[Data]						
	Request	QCG						
	Response	OCG:[Data]						
White Balance Mode	Control	OAW:[Data]	0 1 2 3 4 5	ATW AWC A AWC B ――― PRESET 3200K PRESET 5600K	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]						
	Request	QAW	0 1 2 3 4 5	ATW ――― AWC A AWC B PRESET 3200K PRESET 5600K				
	Response	OAW:[Data]						
AWB	Control	OWS	–	–	cam	OWS ER3:OWS	–	http://192.168.0.10/cgi-bin/aw_cam?cmd=OWS&res=1 See Capter.6 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 1 2 3	0 1 2 3	cam	ODT:[Data]	ODT:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=ODT:1&res=1
	Response	ODT:[Data]						
	Request	QDT						
	Response	ODT:[Data]						
Contrast	Control	OSD:50:[Data]	0 1 2 3 4	0 1 2 3 4	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]						
	Request	QSD:50						
	Response	OSD:50:[Data]						
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 notification	camdata.html	Usage example / Remarks
Frequency	Control	OSE:77:[Data]	0 1 4	59.94Hz 50Hz 60Hz	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]						
	Request	QSE:77						
	Response	OSE:77[Data]						
Format	Control	OSA:87:[Data]	0h 1h 2h 10h 11h 14h 15h 17h 18h 20h 24h 25h	720/60p 720/59.94p 720/50p 1080/59.94p 1080/50p 1080/29.97p 1080/25p 2160/29.97p 2160/25p 1080/60p 2160/30p 1080/30p	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
	Response	OSA:87:[Data]						
	Request	QSA:87						
	Response	OSA:87:[Data]						
Install Positon	Control	#INS[Data]	0 1	Desktop Hanging	ptz	iNS[Data]	iNS[Data]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23INS1&res=1
	Response	#INS[Data]						
	Request	#INS						
	Response	iNS[Data]						
Mirror	Control	OSJ:81:[Data]	0 1	OFF ON	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]						
	Request	QSJ:81						
	Response	OSJ:81:[Data]						
Digital Zoom	Control	OSE:70:[Data]	0 1	OFF ON	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]						
	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 [Data3] 0 1 [Data4] 0 [Data5] 0 [Data6] 0 [Data7] 0 [Data8] 0 [Data9] 0	[Data1] Tally LED Off Tally LED On [Data2] Reserved [Data3] Command(#DA) Off Command(#DA) On [Data4] Reserved [Data5] Reserved [Data6] Reserved [Data7] Reserved [Data8] Reserved [Data9] Reserved	ptz	tAA[Data1][Data2][Data3][Data4][Data5][Data6][Data7][Data8][Data9]	tAA[Data1][Data2][Data3][Data4][Data5][Data6][Data7][Data8][Data9]	When #DA and #TAE change, if #TAA also changes, an update notification is sent
	Response	–						
	Request	#TAA						
	Response	tAA[Data1][Data2][Data3][Data4][Data5][Data6][Data7][Data8][Data9]						
Wireless ID	Control	#RID[Data]	0 1 2 3	01 02 03 04	ptz	rID[Data]	rID[Data]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23RID1&res=1
	Response	rID[Data]						
	Request	#RID						
	Response	rID[Data]						
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	OSJ:82:[Data]	0 1 2	English Japanease Chinese	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]						
	Request	QSJ:82						
	Response	OSJ: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	OFF	cam	–	OUS:[Data]	http://192.168.0.10/cgi-bin/aw_cam?cmd=DUS:1&res=1
	Response	DUS:[Data]	1	ON				
	Request	QUS						
	Response	OUS:[Data]						
MENU SW	Control	DPG:[Data]	1	Cancel	cam	–	–	http://192.168.0.10/cgi-bin/aw_cam?cmd=DPG&res=1
	Response	DPG:[Data]	(なし)	Cancel				
	Request	–						
	Response	–						
ITEM SW	Control	DIT:[Data]	1	Enter	cam	–	–	http://192.168.0.10/cgi-bin/aw_cam?cmd=DIT&res=1
	Response	DIT:[Data]	(なし)	Enter				
	Request	–						
	Response	–						
YES SW	Control	DUP:[Data]	1	UP	cam	–	–	http://192.168.0.10/cgi-bin/aw_cam?cmd=DUP&res=1
	Response	DUP:[Data]	(なし)	UP				
	Request	–						
	Response	–						
NO SW	Control	DDW:[Data]	1	DOWN	cam	–	–	http://192.168.0.10/cgi-bin/aw_cam?cmd=DDW&res=1
	Response	DDW:[Data]	(なし)	DOWN				
	Request	–						
	Response	–						
RIGHT SW	Control	DRT:[Data]	1	RIGHT	cam	–	–	http://192.168.0.10/cgi-bin/aw_cam?cmd=DRT&res=1
	Response	DRT:[Data]	(なし)	RIGHT				
	Request	–						
	Response	–						
LEFT SW	Control	DLT:[Data]	1	LEFT	cam	–	–	http://192.168.0.10/cgi-bin/aw_cam?cmd=DLT&res=1
	Response	DLT:[Data]	(なし)	LEFT				
	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
	Response	aPC[Data1][Data2]	8000h	Pan Position				Zoom moves to Wide end
	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
			18-33	Left Mid. Speed				
	Response	pS[Data]	34-49	Left Min. Speed				
			50	Pan Stop				
	Request	–	51-66	Right Min. Speed				
			67-82	Right Mid. Speed				
	Response	–	83-99	Right Max. Speed				
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
			18-33	Down Mid. Speed				
	Response	tS[Data]	34-49	Down Min. Speed				
			50	Tilt Stop				
	Request	–	51-66	UP Min. Speed				
			67-82	UP Mid. Speed				
	Response	–	83-99	UP Max. Speed				
Pan Tilt Speed Control	Control	#PTS[Data1][Data2]	[Data1] 01-07 18-33 34-49	[Data1] Left Max. Speed Left Mid. Speed Left Min. Speed	ptz	–	–	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23PTS7070&res=1
	Response	pTS[Data1][Data2]	50 51-66 67-82 83-99	Pan Stop Right Min. Speed Right Mid. Speed Right Max. Speed				
	Request	–	[Data2] 01-07 18-33 34-49	[Data2] Down Max. Speed Down Mid. Speed Down Min. Speed				
	Response	–	50 51-66 67-82 83-99	Tilt Stop UP Min. Speed UP Mid. Speed 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 26-49 50 51-74 75-99	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]						
	Request	−						
	Response	−						
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 – 99	Preset001 – Preset100	ptz	–	–	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23M00&res=1
	Response	s[Data]						
	Request	–						
	Response	–						
Recall Preset Memory	Control	#R[Data]	00 – 99	Preset001 – Preset100	ptz	–	–	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23R00&res=1
	Response	s[Data]						
	Request	–						
	Response	–						
Preset completion notification	Control	–	00 – 99	Preset001 – Preset100	ptz	q[Data]	–	
	Response	q[Data]						
	Request	–						
	Response	–						
Delete Preset Memory	Control	#C[Data]	00 – 99	Preset001 – Preset100	ptz	–	–	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23C00&res=1
	Response	s[Data]						
	Request	–						
	Response	–						
Request Latest Recall Preset No.	Control	–	00 – 99	Preset001 – Preset100	ptz	s[Data]	s[Data]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%23S&res=1
	Response	–						
	Request	#S						
	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 – FFFFFFFFFFh (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				
	Response	pE[Data1][Data2]						

See Capter.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	Standby	ptz	p[Data]	p[Data]	http://192.168.0.10/cgi-bin/aw_ptz?cmd=%2300&res=1
	Response	p[Data]	1	PowerOn				
	Request	#0						
	Response	p[Data]						

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
MODEL NUMBER	QID / OID:[Data]		Returns model No. by ASCII	O	O	O	O	O	O	O	O	O	O	O
SOFTWARE VERSION	QSV / OSV:[Data]		Software Version	O	O	O	---	O	O	O	O	O	O	O
AWC/AWB SET	OWS	---	AWC/AWB Start	O	O	O	O	O	O	O	O	O	O	O
ABC/ABB SET	OAS	---	ABC/ABB Start	O	O	O	O	O	O	O	O	O	---	---
AWC MODE	OAW:[Data] / QAW	※	※	※	※	※	---	※	※	※	※	※	※	※
DETAIL	ODT:[Data] / QDT	0 1 2 / 0 1 2 / 0 1 2 3	OFF LOW HIGH / HE130, UB300, HR140, UE150 OFF ON ON / UE4 0 1 2 3	O	O	O	O	O	O	O	O	O	O	O
GAIN UP	OGU:[Data] / QGU	08h – 11h – 1Ah – 38h 80h	0dB – 9dB – 18dB – 48dB AGC ON	supports only 08(0dB)-32(42dB)	supports only 08(0dB)-32(42dB), 80(AGC ON)	supports only 08(0dB)-32(42dB), 80(AGC ON)	---	supports only 08h:0dB-38h:48dB 80h:AGC ON Use only 3dB Step.	supports only 08h:0dB-38h:48dB 80h:AGC ON Use only 3dB Step.	supports only 08h:0dB-38h:48dB 80h:AGC ON Use only 3dB Step.	supports only 08(0dB)-2C(36dB), 80(AGC ON)	supports only 08(0dB)-1A(18dB), 80(AGC ON)	supports only 08(0dB)-1A(18dB), 80(AGC ON)	supports only 08(0dB)-1A(18dB), 80(AGC ON)
SHUTTER	OSH:[Data] / QSH	0h 1h 2h 3h 4h 5h 6h 7h 8h 9h Ah Bh Ch Dh Eh Fh	OFF 1/50 1/60 1/100(NSTC)、1/120(PAL) 1/120 (NTSC)、1/100 (PAL) 1/250 1/500 1/1000 1/2000 1/4000 1/10000 Synchro-Scan ELC(AUTO ND) 1/24 1/25 1/30	---	---	※	---	※	※	※	※	※	※	※
SYNCHRO SCAN	OMS:[Data] / QMS	001h – OFFh	See right	---	---	(59Hz) 001h(60.15Hz) - OFFh(642.21Hz) (50Hz) 001h(50.15Hz) - OFFh(535.71Hz)	---	(59.94Hz) 001h(59.94Hz) - OFFh(660.09Hz) (50Hz 001h(50.00Hz) - OFFh(570.12Hz)	(59.94Hz) 001h(59.94Hz) - OFFh(660.09Hz) (50Hz 001h(50.00Hz) - OFFh(570.12Hz)	(59.94Hz) 001h(59.94Hz) - OFFh(660.09Hz) (50Hz 001h(50.00Hz) - OFFh(570.12Hz)	(59Hz) 001h(60.15Hz) - OFFh(642.21Hz) (50Hz) 001h(50.15Hz) - OFFh(535.71Hz)	(59Hz) 001h(60.17Hz) - OFFh(646.21Hz) (50Hz) 001h(50.19Hz) - OFFh(537.13Hz)	(59Hz) 001h(60.17Hz) - OFFh(644.25Hz) (50Hz) 001h(50.16Hz) - OFFh(542.42Hz)	(N Model) 001h(60.17Hz) - OFFh(644.25Hz) (E, MC Model) 001h(50.16Hz) - OFFh(542.42Hz)
IRIS AUTO/MANUAL	ORS:[Data] / QRS	0 1	Manual Auto	supports only 1(Auto)	O	O	O	O	O	O	O	O	O	O
MANUAL IRIS VOLUME	ORV:[Data] / QRV	000h – 3FFh	close – open	---	O	O	O	O	O	O	O	O	O	O

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
PICTURE LEVEL A.IRIS LEVEL IRIS OFFSET	OSD:48:[Data] QSD:48	00h – 32h – 64h 00h – 32h – 64h 00h – 32h – 64h 00h – 64h	UE150,HR140,HE130,UE4 -50 – 0 – +50 UE70series,HE42series,HE40series,HE120 -10 – 0 – 10 HE60,HE50 -5 – 0 – 5 UB300 0 – 100	supports only 2Eh(-4) – 36h(4) O	O	O	O	O	O	O	O	O	O	O
R PEDESTAL	ORD:[Data] QRD	00h – 1Eh – 3Ch	-150 – 0 – +150	---	---	supports only 0A(-100) – 32(+100)	---	---	---	---	supports only 0A(-100) – 32(+100)	O	---	---
B PEDESTAL	OBD:[Data] QBD	00h – 1Eh – 3Ch	-150 – 0 – +150	---	---	supports only 0A(-100) – 32(+100)	---	---	---	---	supports only 0A(-100) – 32(+100)	O	---	---
R GAIN	ORG:[Data] QGR OGR:[Data]	00h – 1Eh – 3Ch 00h – 1Eh – 3Ch	-30 – 0 – +30 HR140,HE130,HE120 -150 – 0 – 150	---	---	O	---	O	O	O	O	O	O	O
B GAIN	OBG:[Data] QGB OGB:[Data]	00h – 1Eh – 3Ch 00h – 1Eh – 3Ch	-30 – 0 – +30 HR140,HE130,HE120 -150 – 0 – 150	---	---	O	---	O	O	O	O	O	O	O
T PEDESTAL	OTD:[Data] QTD	00h – 1Eh – 3Ch 00h – 1Eh – 3Ch	-10 – 0 – +10 HR140,HE130,HE120 -150 – 0 – 150	---	---	O	---	O	O	O	O	O	O	O

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
H PHASE	OHP:[Data] QHP	000h – 3FFh	−206 – +49	---	O	O	---	O	O	---	O	O	O	O
SC COARSE	OSC:[Data] QSC	※	※	---	---	---	---	---	---	---	---	---	※	※
SC FINE	OSN:[Data] QSN	000h 001h 002h – 200h – 3FFh	−511 −511 −511 – 0 – +511	---									O	O
CHROMA LEVEL	OCG:[Data] QCG	00h – 03h – 06h – 0Dh	−3 – 0 – +3 – 10	supports only 03h(0) – 0Dh(10)	---	---	---	O	O	O	---	O	O	O
SCENE FILE	XSF:[Data] QSF OSF:[Data]	※	※	※	※	※	※	※	※	※	※	※	※	※
H.DTL LEVEL H	OSD:0A:[Data] QSD:0A	02h – 3Fh	2 – 63	---	---	---	---	---	---	---	---	O	---	---
V DTL LEVEL H	OSD:0E:[Data] QSD:0E	02h – 1Fh	2 – 31	---	---	---	---	---	---	---	---	O	---	---
H.DTL LEVEL L	OSD:12:[Data] QSD:12	01h – 3Eh	1 – 62	---	---	---	---	---	---	---	---	O	---	---
V DTL LEVEL L	OSD:16:[Data] QSD:16	01h – 1Eh	1 – 30	---	---	---	---	---	---	---	---	O	---	---
DETAIL BAND	OSD:1E:[Data] QSD:1E	01 – 05	01 – 05	---	---	---	---	---	---	---	---	O	---	---
NOISE SUPPRESS /CRISP	OSD:22:[Data] QSD:22	00h – 3Fh	0 – 63	---	---	Support Only 00(0)-3C(60)	O	---	---	---	Support Only 00(0)-3C(60)	Support Only 00(0)-07(7)	---	
LEVEL DEPENDENT	OSD:26:[Data] QSD:26	00h – 0Fh	00 – 15	---	---	---	O	---	---	---	---	---	---	---
MATRIX(R−G)	OSD:2F:[Data] QSD:2F	00h – 1Fh – 3Eh	−31 – 0 – +31	---	---	---	---	---	---	---	---	O	---	---
MATRIX(R−B)	OSD:30:[Data] QSD:30	00h – 1Fh – 3Eh	−31 – 0 – +31	---	---	---	---	---	---	---	---	O	---	---
MATRIX(G−R)	OSD:31:[Data] QSD:31	00h – 1Fh – 3Eh	−31 – 0 – +31	---	---	---	---	---	---	---	---	O	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
MATRIX(G-B)	OSD:32:[Data] QSD:32	00h – 1Fh – 3Eh	-31 – 0 – +31	---	---	---	---	---	---	---	---	○	---	---
MATRIX(B-R)	OSD:33:[Data] QSD:33	00h – 1Fh – 3Eh	-31 – 0 – +31	---	---	---	---	---	---	---	---	○	---	---
MATRIX(B-G)	OSD:34:[Data] QSD:34	00h – 1Fh – 3Eh	-31 – 0 – +31	---	---	---	---	---	---	---	---	○	---	---
FLARE R	OSD:35:[Data] QSD:35	9C ~ FF 00 01 ~ 64	-100 ~ -1 0 +1 ~ +100	---	---	---	○	---	---	---	---	---	---	---
FLARE G	OSD:36:[Data] QSD:36	9C ~ FF 00 01 ~ 64	-100 ~ -1 0 +1 ~ +100	---	---	---	○	---	---	---	---	---	---	---
FLARE B	OSD:37:[Data] QSD:37	9C ~ FF 00 01 ~ 64	-100 ~ -1 0 +1 ~ +100	---	---	---	○	---	---	---	---	---	---	---
FLARE SW	OSA:11:[Data] QSA:11	0 1	OFF ON	---	---	---	○	---	---	---	---	---	---	---
CLEAN DNR	OSD:3A:[Data] QSD:3A	00 01 02 AK-UB300 00 01 02	OFF LOW HIGH AK-UB300 OFF ON ON	○	○	○	○	○	○	○	○	○	○	○
FLESH NOISE SUPPRESS	OSD:4B:[Data] QSD:4B	00 01 02	OFF LOW HIGH		---	---	---	---	---	---	---	○	---	---
IRIS FOLLOW	QSD:4F OSD:4F:[Data]	00h – FFh	Close – Open	---	○	○	---	○	○	○	○	○	○	○
CONTRAST(GAMMA)	OSD:50:[Data] QSD:50	00 01 02 0 – 4	LOW MID HIGH UE4 0 – 4	○	---	---	○	○	○	○	---	○	○	○
OUTPUT SELECT	OSD:65:[Data] QSD:65	00 01 02	RGB YPbPr Y/C	---	---	---	---	---	---	---	---	Y/C is Valid	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
AGC MAX	OSD:69:[Data] QSD:69	01 02 03 04 05 06 07 08	6dB 12dB 18dB 24dB 30dB 36dB 42dB 48dB	supports only 04(24dB) – 07(42dB)	supports only 01(6dB) – 03(18dB)	supports only 01(6dB) – 03(18dB)	---	supports only 01(6dB) – 08(48dB)	supports only 01(6dB) – 08(48dB)	supports only 01(6dB) – 08(48dB)	supports only 01(6dB) – 03(18dB)	supports only 01(6dB) – 03(18dB)	supports only 01(6dB) – 03(18dB)	supports only 01(6dB) – 03(18dB)
COLOR BAR/CAMERA	DCB:[Data] QBR OBR:[Data]	0 1	Camera Color Bar	○	○	○	○	○	○	○	○	○	○	○
MENU	DUS:[Data] QUS OUS:[Data]	0 1	OFF ON	○	○	○	○	○	○	○	○	○	○	○
BAR SETUP	DCS:[Data] QCS OCS:[Data]	0 1	0.0% 7.5%	---	---	---	---	---	---	---	○	○	---	○
MENU SW	DPG:[Data]	1	Cancel	○	○	○	○	○	○	○	○	○	○	○
ITEM SW	DIT:[data]	1	Enter	○	○	○	○	○	○	○	○	○	○	○
YES SW	DUP:[Data]	1h Ah	1Step 10Step	supports only 1h(1Step)	supports only 1h(1Step)	○	supports only 1h(1Step)	○	○	○	○	○	○	○
NO SW	DDW:[Data]	1h Ah	1Step 10Step	supports only 1h(1Step)	supports only 1h(1Step)	○	supports only 1h(1Step)	○	○	○	○	○	○	○
ZOOM(TELE)	HZT	---	move to tele	---	---	---	○	○	○	○	---	---	○	○
ZOOM(WIDE)	HZW	---	move to wide	---	---	---	○	○	○	○	---	---	○	○
ZOOM(STOP)	HZS	---	stop zoom	---	---	---	○	○	○	○	---	---	○	○
ZOOM SPEED	LZS:[Data]	0 – 9	Slow – Fast	---	---	---	○	○	○	○	---	---	○	○
FOCUS(FAR)	HFF	---	move to far	---	---	---	○	○	○	○	---	---	○	○
FOCUS(NEAR)	HFN	---	move to near	---	---	---	○	○	○	○	---	---	○	○
FOCUS(STOP)	HFS	---	stop focus	---	---	---	○	○	○	○	---	---	○	○
FOCUS SPEED	LFS:[Data]	0 – 9	Slow – Fast	---	---	---	○	○	○	○	---	---	○	○
COLOR MATRIX R GAIN /COLOR CORRECTION R SATURATION	OSD:86:[Data] QSD:86	01h – 80h – FFh	-127 – 0 – +127	---	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 01h(-127) – FEh(+126)	supports only 61h(-31) – 9Fh(+31)	supports only 61h(-31) – 9Fh(+31)	supports only 61h(-31) – 9Fh(+31)	supports only 41h(-63) – BFh(+63)	○	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
COLOR MATRIX R PHASE /COLOR CORRECTION R PHASE	OSD:87:[Data] QSD:87	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX R_YI GAIN /COLOR CORRECTION R_YI SATURATION	OSD:88:[Data] QSD:88	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 01h(−127) – FEh(+126)	----	----	----	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX R_YI PHASE /COLOR CORRECTION R_YI PHASE	OSD:89:[Data] QSD:89	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	----	----	----	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX YI GAIN /COLOR CORRECTION YI SATURATION	OSD:8A:[Data] QSD:8A	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 01h(−127) – FEh(+126)	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX YI PHASE /COLOR CORRECTION YI PHASE	OSD:8B:[Data] QSD:8B	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX YI_G GAIN /COLOR CORRECTION YI_G SATURATION	OSD:8C:[Data] QSD:8C	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 01h(−127) – FEh(+126)	----	----	----	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX YI_G PHASE /COLOR CORRECTION YI_G PHASE	OSD:8D:[Data] QSD:8D	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	----	----	----	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX G GAIN /COLOR CORRECTION G SATURATION	OSD:8E:[Data] QSD:8E	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 01h(−127) – FEh(+126)	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX G PHASE /COLOR CORRECTION G PHASE	OSD:8F:[Data] QSD:8F	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX G_Cy GAIN /COLOR CORRECTION G_Cy SATURATION	OSD:90:[Data] QSD:90	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 01h(−127) – FEh(+126)	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX G_Cy PHASE /COLOR CORRECTION G_Cy PHASE	OSD:91:[Data] QSD:91	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX Cy GAIN /COLOR CORRECTION Cy SATURATION	OSD:92:[Data] QSD:92	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 01h(−127) – FEh(+126)	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	supports only 41h(−63) – BFh(+63)	○	----	----
COLOR MATRIX Cy PHASE /COLOR CORRECTION Cy PHASE	OSD:93:[Data] QSD:93	01h – 80h – FFh	−127 – 0 – +127	----	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	supports only 41h(−63) – BFh(+63)	○	----	----

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
COLOR MATRIX Cy_B GAIN /COLOR CORRECTION Cy_G SATURATION	OSD:94:[Data] QSD:94	01h – 80h – FFh	-127 – 0 – +127	---	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 01h(-127) – FEh(+126)	---	---	---	supports only 41h(-63) – BFh(+63)	O	---	---
COLOR MATRIX Cy_B PHASE /COLOR CORRECTION Cy_B PHASE	OSD:95:[Data] QSD:95	01h – 80h – FFh	-127 – 0 – +127	---	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	O	---	---	---	supports only 41h(-63) – BFh(+63)	O	---	---
COLOR MATRIX B GAIN /COLOR CORRECTION B SATURATION	OSD:96:[Data] QSD:96	01h – 80h – FFh	-127 – 0 – +127	---	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 01h(-127) – FEh(+126)	supports only 61h(-31) – 9Fh(+31)	supports only 61h(-31) – 9Fh(+31)	supports only 61h(-31) – 9Fh(+31)	supports only 41h(-63) – BFh(+63)	O	---	---
COLOR MATRIX B PHASE /COLOR CORRECTION B PHASE	OSD:97:[Data] QSD97	01h – 80h – FFh	-127 – 0 – +127	---	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	O	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	O	---	---
COLOR MATRIX B_Mg GAIN /COLOR CORRECTION B_Mg SATURATION	OSD:80:[Data] QSD:80	01h – 80h – FFh	-127 – 0 – +127	---	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 01h(-127) – FEh(+126)	---	---	---	supports only 41h(-63) – BFh(+63)	O	---	---
COLOR MATRIX B_Mg PHASE /COLOR CORRECTION B_Mg PHASE	OSD:81:[Data] QSD:81	01h – 80h – FFh	-127 – 0 – +127	---	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	O	---	---	---	supports only 41h(-63) – BFh(+63)	O	---	---
COLOR MATRIX Mg GAIN /COLOR CORRECTION Mg SATURATION	OSD:82:[Data] QSD:82	01h – 80h – FFh	-127 – 0 – +127	---	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 01h(-127) – FEh(+126)	supports only 61h(-31) – 9Fh(+31)	supports only 61h(-31) – 9Fh(+31)	supports only 61h(-31) – 9Fh(+31)	supports only 41h(-63) – BFh(+63)	O	---	---
COLOR MATRIX Mg PHASE /COLOR CORRECTION Mg PHASE	OSD:83:[Data] QSD:83	01h – 80h – FFh	-127 – 0 – +127	---	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	O	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	O	---	---
COLOR MATRIX Mg_R GAIN /COLOR CORRECTION Mg_R SATURATION	OSD:84:[Data] QSD:84	01h – 80h – FFh	-127 – 0 – +127	---	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 01h(-127) – FEh(+126)	supports only 61h(-31) – 9Fh(+31)	supports only 61h(-31) – 9Fh(+31)	supports only 61h(-31) – 9Fh(+31)	supports only 41h(-63) – BFh(+63)	O	---	---
COLOR MATRIX Mg_R PHASE /COLOR CORRECTION Mg_R PHASE	OSD:85:[Data] QSD:85	01h – 80h – FFh	-127 – 0 – +127	---	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	O	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	supports only 41h(-63) – BFh(+63)	O	---	---
T PEDESTAL	OTP:[Data] QTP	000h – 096h – 12Ch (UE70series,HE42series,HE40series,HE60,HE50) 000h – 096h – 12Ch	-150 – 0 – +150 -10 – 0 – 10	---	---	O	---	O	O	O	O	O	O	O

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
R GAIN	ORI:[Data] QRI	000h – 096h – 12Ch 000h – 096h – 12Ch	-150 – 0 – +150 UE70series,HE42series,HE40series,HE60,HE50 -30 – 0 – 30	---	---	○	---	○	○	○	○	○	○	○
B GAIN	OBI:[Data] QBI	000h – 096h – 12Ch 000h – 096h – 12Ch	-150 – 0 – +150 UE70series,HE42series,HE40series,HE60,HE50 -30 – 0 – 30	---	---	○	---	○	○	○	○	○	○	○
R PEDESTAL	ORP:[Data] QRP	000h – 096h – 12Ch	-150 – 0 – +150	---	supports only -100~+100	supports only -100~+100	---	---	---	---	supports only -100~+100	○	---	---
B PEDESTAL	OBP:[Data] QBP	000h – 096h – 12Ch	-150 – 0 – +150	---	supports only -100~+100	supports only -100~+100	---	---	---	---	supports only -100~+100	○	---	---
AUTO FOCUS	OAF:[Data] QAF	0 1	Manual FOCUS AUTO FOCUS	---	○	○	---	○	○	○	○	○	○	○
DIGITAL EXTENDER	ODE:[Data] QDE	0 1	OFF ON	---	On mean x1.4	○	○	○	○	○	○	---	---	---
FILTER	OFT:[Data] QFT	0 1 2 3 4 8	Clear 1/4 ND 1/16 ND 1/64 ND 1/8 ND Auto ND	---	supports only 0h: Clear(Through) 1h: 1/4 ND 2h: 1/16 ND 3h: 1/64 ND	supports only 0h: Clear 3h: 1/64 ND 4h: 1/8 ND	supports only 0h: Clear 1h: 1/4 ND 2h: 1/16 ND 3h: 1/64 ND	supports only 0h: Clear 1h: 1/4 ND 2h: 1/16 ND 3h: 1/64 ND 8h: Auto ND	supports only 0h: Clear 1h: 1/4 ND 2h: 1/16 ND 3h: 1/64 ND 8h: Auto ND	--	supports only 0h: Clear 3h: 1/64 ND 4h: 1/8 ND	supports only 0h: Clear 1h: 1/4 ND 2h: 1/16 ND 3h: 1/64 ND	---	---
RED TALLY	TLR:[Data] QLR OLR:[Data]	0 1	OFF ON	---	○	---	○	---	---	---	---	---	---	---
GREEN TALLY	TLG:[Data] QLG OLG:[Data]	0 1	OFF ON	---	○	---	○	---	---	---	---	---	---	---
M BLACK GAMMA	OSA:07:[Data] QSA:07	50h – 80h – B0h	-48 – 0 – +48	---	supports only 78h(-8) – 88h(+8)	---	○	---	---	---	---	---	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
R BLACK GAMMA	OSA:08:[Data] QSA:08	6Ch – 71h – 80h – 8Fh – 94h	-20 – -15 – 0 – +15 – +20	----	----	----	○	----	----	----	----	----	----	----
B BLACK GAMMA	OSA:09:[Data] QSA:09	6Ch – 71h – 80h – 8Fh – 94h	-20 – -15 – 0 – +15 – +20	----	----	----	○	----	----	----	----	----	----	----
GAMMA SW	OSA:0A:[Data] QSA:0A	0 1	OFF ON	----	----	----	○	----	----	----	----	----	----	----
BLACK GAMMA SW	OSA:0B:[Data] QSA:0B	0 1	OFF ON	----	----	----	○	----	----	----	----	----	----	----
DRS SW	OSA:0D:[Data] QSA:0D	0 1	OFF ON	----	----	----	○	----	----	----	----	----	----	----
BLACK STRETCH LEVEL(@FILM MENU & FILM REC)	OSA:0F:[Data] QSA:0F	00h – 1Eh	0 – 30	----	○	----	○	----	----	----	----	----	----	----
DYNAMIC LEVEL (@FILM MENU & FILM REC)	OSA:10:[Data] QSA:10	0 1 2 3 4	200% 300% 400% 500% 600%	----	○	----	supperts only 0(200%) – 3(500%)	----	----	----	----	----	----	----
M KNEE POINT (@VIDEO MENU)	OSA:20:[Data] QSA:20	22h – 80h – B6h – C2h	70.00% – 93.50% – 107.00% – 110.00% (1step=0.25%)	----	support only 22h(70.00%) – B6h(107.00%) (1step=0.5%)	support only 22h(70.00%) – B6h(107.00%) (1step=0.5%)	support only 4Ah(80.00%) – C2h(110.00%)	----	----	----	support only 22h(70.00%) – B6h(107.00%) (1step=0.5%)	----	----	----
M KNEE POINT (@FILM MENU & VIDEO REC)	OSA:21:[Data] QSA:21	62h – 80h – 9Eh – AFh	30% – 60% – 90% – 107%	----	○	----	support only 62(30%) – 9E(90%)	----	----	----	----	----	----	----
R KNEE POINT	OSA:22:[Data] QSA:22	1Ch – 80h – E4h	-25.00% – 0.00% – +25.00% (1step=0.25%)	----	----	----	○	----	----	----	----	----	----	----
B KNEE POINT	OSA:23:[Data] QSA:23	1Ch – 80h – E4h	-25.00% – 0.00% – +25.00% (1step=0.25%)	----	----	----	○	----	----	----	----	----	----	----
M KNEE SLOPE (@VIDEO MENU)	OSA:24:[Data] QSA:24	00h – 63h – C7h	0 – 99 – 199	----	support only 00h(0) – 63h(99)	support only 00h(0) – 63h(99)	○	----	----	----	support only 00h(0) – 63h(99)	----	----	----

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
M KNEE SLOPE (@FILM MENU & VIDEO REC)	OSA:25:[Data] QSA:25	7Ch – 80h – 85h	150% – 350% – 600% (1step=50%)	---	supports only 7Ch(150%) – 83h(500%)	---	○	---	---	---	---	---	---	---
R KNEE SLOPE (@VIDEO MENU)	OSA:26:[Data] QSA:26	1Dh – 80h – E3h	−99 – 0 – +99	---	---	---	○	---	---	---	---	---	---	---
B KNEE SLOPE (@VIDEO MENU)	OSA:27:[Data] QSA:27	1Dh – 80h – E3h	−99 – 0 – +99	---	---	---	○	---	---	---	---	---	---	---
A.KNEE POINT (@VIDEO MENU)	OSA:28:[Data] QSA:28	4Ah – 80h – B6h	80.00% – 93.50% – 107.00% (1step=0.25%)	---	---	---	○	---	---	---	---	---	---	---
A.KNEE LEVEL (@VIDEO MENU)	OSA:29:[Data] QSA:29	7Ch – 85h	100% – 109% (1step=1%)	---	---	---	○	---	---	---	---	---	---	---
M WHITE CLIP LEVEL	OSA:2A:[Data] QSA:2A	00h – 13h	90% – 109%	---	○	○	---	---	---	---	○	---	---	---
KNEE SW	OSA:2D:[Data] QSA:2D	0 1 2	OFF MANUAL AUTO	---	○	○	○	---	---	---	○	---	---	---
WHITE CLIP	OSA:2E:[Data] QSA:2E	0 1	OFF ON	---	○	○	---	---	---	---	○	---	---	---
TOTAL DTL LEVEL	OSA:30:[Data] QSA:30	61h – 80h – 9Fh 61h – 80h – 9Fh	−31 – 0 – +31 <u>AW-HE130, AW-HR140</u> 0 – +31 – +62	---	○	○	○	supports only 81h(1)-91h(17) for TOTAL DTL LEVEL (LOW)	supports only 81h(1)-91h(17) for TOTAL DTL LEVEL (LOW)	supports only 81h(1)-91h(17) for TOTAL DTL LEVEL (LOW)	○		supports only 81h(1)-91h(17) for TOTAL DTL LEVEL (LOW)	---
H DTL LEVEL	OSA:31:[Data] QSA:31	00h – 3Fh	0 – 63	---	---	---	○	---	---	---	---	---	---	---
DETAIL(+)	OSA:38:[Data] QSA:38	61h – 80h – 9Fh	−31 – 0 – +31	---	○	---	○	---	---	---	---	---	---	---
DETAIL(−)	OSA:39:[Data] QSA:39	61h – 80h – 9Fh	−31 – 0 – +31	---	○	---	○	---	---	---	---	---	---	---
DETAIL SOURCE	OSA:3B:[Data] QSA:3B	0 1 2 3 4 5	(G+R)/2 (G+B)/2 (2G+B+R)/4 (3G+R)/4 R G	---	---	---	○	---	---	---	---	---	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
SKIN TONE DETAIL (HD)	OSA:40:[Data] QSA:40	0 1	OFF ON	---	○	---	○	---	---	---	---	---	---	---
SKIN GET	OSA:41:[Data] QSA:41	0 1 2	OFF ON GET				○							
SKIN TONE DTL I CENTER (HD)	OSA:45:[Data] QSA:45	00h – FFh	0 – 255	---	---	---	○	---	---	---	---	---	---	---
SKIN TONE DTL I WIDTH (HD)	OSA:46:[Data] QSA:46	00h – FFh	0 – 255	---	---	---	○	---	---	---	---	---	---	---
SKIN TONE DTL Q WIDTH (HD)	OSA:47:[Data] QSA:47	00h – FFh	0 – 255	---	---	---	○	---	---	---	---	---	---	---
SKIN TONE ZEBRA	OSA:49:[Data] QSA:49	0 1	OFF ON	---	---	---	○	---	---	---	---	---	---	---
LOW GAIN	OSA:50:[Data] QSA:50	7Ah – 7Ch – 80h – 86h – 88h	−6dB – 0dB – 12dB – 30dB – 36dB	---	---	---	○	---	---	---	---	---	---	---
MID GAIN	OSA:51:[Data] QSA:51	7Ah – 7Ch – 80h – 86h – 88h	−6dB – 0dB – 12dB – 30dB – 36dB	---	---	---	○	---	---	---	---	---	---	---
HIGH GAIN	OSA:52:[Data] QSA:52	7Ah – 7Ch – 80h – 86h – 88h	−6dB – 0dB – 12dB – 30dB – 36dB	---	---	---	○	---	---	---	---	---	---	---
MODE @S.GAIN	OSA:60:[Data] QSA:60	0 1 2	S.GAIN1 S.GAIN2 S.GAIN3	---	---	---	○	---	---	---	---	---	---	---
FRAME MIX@S.GAIN	OSA:65:[Data] QSA:65	00h 06h 0Ch 12h 18h 1Eh 80h	OFF +6dB +12dB +18dB +24dB +30dB AUTO	---	Support Only 00h(OFF)–18h(+24dB)	Support Only 00h(OFF)–18h(+24dB)	Support Only 00h(OFF)–18h(+24dB)	Support Only 00h(OFF)–18h(+24dB), 80h(AUTO)	Support Only 00h(OFF)–18h(+24dB), 80h(AUTO)	Support Only 00h(OFF)–18h(+24dB), 80h(AUTO)	Support Only 00h(OFF)–18h(+24dB)	Support Only 00h(OFF)–18h(+24dB)	Support Only 00h(OFF)–12h(+18dB), 80h(AUTO)	Support Only 00h(OFF)–12h(+18dB), 80h(AUTO)
M GAMMA @S.GAIN & DRS OFF	OSA:6A:[Data] QSA:6A	67h – 80h – 94h	0.30 – 0.55 – 0.75	---	○	○	---	---	---	---	---	○	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
MATRIX TABLE	OSA:00:[Data] QSA:00	0 1	TABLE A TABLE B	----	----	----	○	----	----	----	----	----	----	----
GAIN SELECT	OGS:[Data] QGS	01h 04h 08h 06h 0Ch 0Eh	LOW MID HIGH S.GAIN1 S.GAIN2 S.GAIN3	----	----	----	○	----	----	----	----	----	----	----
MATRIX TABLE	OSA:84:[Data] QSA:84	0 1 2	OFF ON ON	----	----	----	○	----	----	----	----	----	----	----
COLOR CORRECTION	OSA:85:[Data] QSA:85	0 1	OFF ON	----	----	----	○	----	----	----	----	----	----	----
FORMAT	OSA:87:[Data] QSA:87	※	※	※	※	※	※	※	※	※	※	※	※	※

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
STATUS	OSA:88:[Data] QSA:88	0 1	OFF ON	---	○	○	○	○	○	○	○	○	○	○
TOTAL DTL LEVEL HIGH	OSA:B1:[Data] QSA:B1	61h – 80h – 9Fh	-31 – 0 – +31	---	---	---	---	supports only 82h(2)-92h(18) for TOTAL DTL LEVEL (HIGH)	supports only 82h(2)-92h(18) for TOTAL DTL LEVEL (HIGH)	supports only 82h(2)-92h(18) for TOTAL DTL LEVEL (HIGH)	---	---	supports only 82h(2)-92h(18) for TOTAL DTL LEVEL (HIGH)	---
D/C MODE (D/C BOARD)	OSE:20:[Data] QSE:20	0 1 2 3	SIDE CUT SQUEEZE LetterBOX Link	---	---	---	---	---	---	---	○	○	○	○
CHARACTER MIX SELECT	OSD:98:[Data1]:[Data2] QSD:98:[Data1]	Data1 0 1 Data2 0 1 2	Output Browser/Video SDI/HDMI,Component Character Mix Select Off On Off By Browser	---	---	---	---	---	---	---	---	---	suports only Output 0(Browser/Video), 1(SDI/HDMI,Component) Character Mix Select 2(Off By Browser) is Valid When Output is 1(SDI/HDMI,Component)	---
ERROR NOTICE	QER OER:[Data]	0 1 2	Normal Fan Error Other Error	---	○	supports only 0(Normal) 1(Fan Error)	supports only 0(Normal) 1(Fan Error)	---	---	---	---	supports only 0(Normal) 1(Fan Error)	---	---
PRESET MATRIX SELECT	OSE:31:[Data] QSE:31	0 1 2 3	NORMAL EBU MATRIX NTSC MATRIX USER	---	○	○	---	○	○	○	○	○	○	suports only 0(NORMAL), 1(EBU MATRIX), 2(NTSC MATRIX)
SOFT SKIN	OSE:32:[Data] QSE:32	0 1 2 3	OFF LOW MID HIGH	---	---	---	---	supports only 0(OFF),1(LOW),3(HIGH)	supports only 0(OFF),1(LOW),3(HIGH)	supports only 0(OFF),1(LOW),3(HIGH)	---	---	supports only 0(OFF),1(LOW),3(HIGH)	supports only 0(OFF),1(LOW),3(HIGH)
DRS SELECT	OSE:33:[Data] QSE:33	0 1 2 3	OFF LOW(ON) MID HIGH	supports only 0(OFF) 1(ON)	○	○	---	supports only 0(OFF),1(LOW),3(HIGH)	supports only 0(OFF),1(LOW),3(HIGH)	supports only 0(OFF),1(LOW),3(HIGH)	○	○	supports only 0(OFF),1(LOW),3(HIGH)	supports only 0(OFF),1(LOW),3(HIGH)
HDMI COLOR VideoSampling	OSE:68:[Data] QSE:68	0 1 2 3 4	RGB(NOR) RGB(ENH) YPbPr(422) YPbPr(444) YPbPr(420)	---	supports only 2(YPbPr(422)) 4(YPbPr(420))	---	---	---	---	---	---	supports only 0(RGB(NOR)) 1(RGB(ENH)) 2(YPbPr(422)) 3(YPbPr(444))	supports only 0(RGB(NOR)) 1(RGB(ENH)) 2(YPbPr(422)) 3(YPbPr(444))	supports only 0(RGB(NOR)) 1(RGB(ENH)) 2(YPbPr(422)) 3(YPbPr(444))
PUSH AUTO FOCUS	OSE:69:[Data]	1	PUSH AUTO	---	○	○	---	○	○	○	○	○	○	○
DIGITAL ZOOM ENABLE	OSE:70:[Data] QSE:70	0 1	DISABLE ENABLE	○	[Zoom Mode] -Opt Zoom OSE:70:0 OSD:B3:0 -i Zoom OSE:70:0 OSD:B3:1 -D Zoom OSE:70:1 OSD:B3:0	○	---	○	○	○	○	○	○	○
PRESET SCOPE	OSE:71:[Data] QSE:71	0 1 2	MODE A MODE B MODE C	---	○	○	---	○	○	○	○	○	○	○

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
GAMMA TYPE	OSE:72:[Data] QSE:72	0 1 2 AW-HE130,AW-HR140, AW-UE150 0 1 2 3 4 5 6 7	OFF NORMAL CINEMA HD HD SD FILMLIKE1 FILMLIKE2 FILMLIKE3 FILM REC VIDEO REC HLG	---	O	supports only 0(HD) 2(FILMLIKE1) 3(FILMLIKE2) 4(FILMLIKE3)	---	O	O	O	supports only 0(HD) 1(SD) 2(FILMLIKE1) 3(FILMLIKE2) 4(FILMLIKE3)	O	O	O
BACK LIGHT COMPENSATION	OSE:73:[Data] QSE:73	0 1	OFF ON	O	---	---	---	O	O	O	---	---	O	O
AUTO F.MIX MAX GAIN	OSE:74:[Data] QSE:74	00 01 02 03	(OFF) 6dB 12dB 18dB	---	---	---	---	O	O	O	---	---	O	O
OSD Off With TALLY	OSE:75:[Data] QSE:75	0 1	OFF ON	O	O	O	---	O	O	O	O	O	O	O
DIGITAL ZOOM MAGNIFICATION	OSE:76:[Data] QSE:76	0100 – 9999	*1.00 – *99.99	---	supports only 0100(*1.00) – 1000(*10.00)	supports only 0100(*1.00) – 1000(*10.00)		supports only 0100(*1.00) – 1200(*12.00)	supports only 0100(*1.00) – 1200(*12.00)	supports only 0100(*1.00) – 1600(*16.00)	supports only 0100(*1.00) – 1000(*10.00)	supports only 0100(*1.00) – 1000(*10.00)	supports only 0100(*1.00) – 1000(*10.00)	supports only 0100(*1.00) – 1000(*10.00)
BASE FREQUENCY SELECT	OSE:77:[Data] QSE:77	0 1 2 3 4	59.94Hz 50.00Hz 24.00Hz 23.98Hz 60.00Hz	supports only 0(59.94Hz), 1(50.00Hz), 4(60.00Hz)	supports only 0(59.94Hz), 1(50.00Hz), 2(24.98Hz), 3(23.98Hz)	supports only 0(59.94Hz), 1(50.00Hz)	---	supports only 0(59.94Hz), 1(50.00Hz)	supports only 0(59.94Hz), 1(50.00Hz)	supports only 0(59.94Hz), 1(50.00Hz)	supports only 0(59.94Hz), 1(50.00Hz)	supports only 0(59.94Hz), 1(50.00Hz)	supports only 0(59.94Hz), 1(50.00Hz)	supports only 0(59.94Hz), 1(50.00Hz)
MAXIMUM DIGITAL ZOOM	OSE:7A:[Data] QSE:7A	02 – 18	x2 – x18	---	supports only 02(x2) – 10(x10)	supports only 02(x2) – 10(x10)	---	supports only 02:(x2) – 12(x12)	supports only 02:(x2) – 12(x12)	supports only 02(x2) – 16(x16)	supports only 02(x2) – 10(x10)	supports only 02(x2) – 10(x10)	---	---
RIGHT SW	DRT:[Data]	1h Ah	1Step 10Step	supports only 1h(1Step)	O	O	supports only 1h(1Step)	---	---	---	O	O	---	---
LEFT SW	DLT:[Data]	1h Ah	1Step 10Step	supports only 1h(1Step)	O	O	supports only 1h(1Step)	---	---	---	O	O	---	---
OIS(Optical Image Stabilizer)	OIS:[Data] QIS	0 1 [AW-HR140] 0 1 2	Off On [AW-HR140] Off OIS Dynamic I.S. System	---	O	O	---	O	O	O	O	---	---	---
OSD Mix	OSE:7B:[Data] OSE:7B	00h 01h 02h 04h 08h 10h 20h 40h	OSD Mix Off SDI On HDMI On Analog On Video On IP On 12G SDI/OPTICAL On MONI On ※bit0:SDI, bit1:HDMI, bit2:Analog, bit3:Video, bit4: IP, bit5:12G SDI/OPTICAL, bit6: MONI	---	supports only 00(OSD Mix Off) 01(SDI On) 02(HDMI On) 10(IP On) 20(12G SDI/OPTICAL ON) 40(MONI On)	supports only 00(OSD Mix Off) 01(SDI On)	supports only 00(OSD Mix Off) 01(SDI On) 10(IP On)	---	---	---	supports only 00(OSD Mix Off) 01(SDI On) 02(HDMI On) 08(Video On) 10(IP On)	supports only 00(OSD Mix Off) 01(SDI On) 02(HDMI On) 04(Analog On) 08(Video On)	---	---
Flip Status	QFS OFS:[Data]	0 1	Normal Flip	---	O	O	---	---	---	---	O	O	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Focus ADJ With Zoom Mode	OAZ:[Data] QAZ	0 1	OFF ON	----	○	○	----	○	○	○	○	○	○	○
CHROMA LEVEL	OSD:B0:[Data] QSD:B0	00h 1Dh – 80h – A8h – E3h AK-UB300 00h 1Dh – 80h – A8h	OFF -99% – 0 – 40% – 99% AK-UB300 -100% -99% – 0 – 40%	----	○	supports only 00(Off), 1D(-99%) – A8(40%)	○	----	----	----	supports only 00(Off), 1D(-99%) – A8(40%)	----	----	----
COLOR TEMPERATURE	OSD:B1:[Data] QSD:B1	※	※	----	----	※	----	※	※	※	※	----	----	----
V DTL LEVEL	OSD:A1:[Data] QSD:A1	79h – 80h – 87h	-7 – 0 – 7	----	○	○	----	----	----	----	○	----	----	----
DETAIL BAND DETAIL FREQUENCY	OSD:A2:[Data] QSD:A2	79h – 80h – 87h	-7 – 0 – 7	----	○	○	----	----	----	----	○	----	----	----
FLESH NOISE SUPPRESS	OSD:A3:[Data] QSD:A3	80h – 9Fh	0 – 31	----	○	○	----	----	----	----	○	----	----	----
MATRIX(R-G)	OSD:A4:[Data] QSD:A4	41h – 80h – BFh	-63 – 0 – 63	----	○	○	----	----	----	----	○	----	----	----
MATRIX(R-B)	OSD:A5:[Data] QSD:A5	41h – 80h – BFh	-63 – 0 – 63	----	○	○	----	----	----	----	○	----	----	----
MATRIX(G-R)	OSD:A6:[Data] QSD:A6	41h – 80h – BFh	-63 – 0 – 63	----	○	○	----	----	----	----	○	----	----	----
MATRIX(G-B)	OSD:A7:[Data] QSD:A7	41h – 80h – BFh	-63 – 0 – 63	----	○	○	----	----	----	----	○	----	----	----
MATRIX(B-R)	OSD:A8:[Data] QSD:A8	41h – 80h – BFh	-63 – 0 – 63	----	○	○	----	----	----	----	○	----	----	----
MATRIX(B-G)	OSD:A9:[Data] QSD:A9	41h – 80h – BFh	-63 – 0 – 63	----	○	○	----	----	----	----	○	----	----	----
COLOR MATRIX Mg_R_R GAIN /COLOR CORRECTION Mg_R_R SATURATION	OSD:9A:[Data] QSD:9A	41h – 80h – BFh	-63 – 0 – +63	----	○	○	----	----	----	----	○	----	----	----

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
COLOR MATRIX Mg_R_R PHASE /COLOR CORRECTION Mg_R_R PHASE	OSD:9B:[Data] QSD:9B	41h – 80h – BFh	–63 – 0 – +63	---	O	O	---	---	---	---	O	---	---	---
COLOR MATRIX R_R_YI GAIN /COLOR CORRECTION R_R_YI SATURATION	OSD:9C:[Data] QSD:9C	41h – 80h – BFh	–63 – 0 – +63	---	O	O	---	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	O	---	---	---
COLOR MATRIX R_R_YI PHASE /COLOR CORRECTION R_R_YI PHASE	OSD:9D:[Data] QSD:9D	41h – 80h – BFh	–63 – 0 – +63	---	O	O	---	O	O	O	O	---	---	---
COLOR MATRIX R_YI_YI GAIN /COLOR CORRECTION R_YI_YI SATURATION	OSD:9E:[Data] QSD:9E	41h – 80h – BFh	–63 – 0 – +63	---	O	O	---	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	supports only 61h(−31) – 9Fh(+31)	O	---	---	---
COLOR MATRIX R_YI_YI PHASE /COLOR CORRECTION R_YI_YI PHASE	OSD:9F:[Data] QSD:9F	41h – 80h – BFh	–63 – 0 – +63	---	O	O	---	O	O	O	O	---	---	---
AUDIO	OSA:D0:[Data] QSA:D0	0 1	OFF ON	O	O	O	---	O	O	O	O	---	---	---
AUDIO INPUT VOLUME	OSA:D1:[Data] QSA:D1	0 1 2 3 4 5	Mic High Mic Middle Mic Low Line High Line Middle Line Low	---	supports only 0(Mic) 3(Line)	---	---	O	O	O	O	---	---	---
AUDIO PLUGIN POWER	OSA:D2:[Data] QSA:D2	0 1	OFF ON	---	O	---	---	O	O	O	O	---	---	---
TALLY BRIGHTNESS	OSA:D3:[Data] QSA:D3	0 1 2	LOW MID HIGH	---	O	---	---	---	---	---	O	---	---	---
NIGHT MODE SEL	OSD:B2:[Data] QSD:B2	0 1	Manual Auto	---	---	---	---	O	O	O	---	---	---	---
i. ZOOM	OSD:B3:[Data] QSD:B3	0 1	DISABLE ENABLE	---	[Zoom Mode] −Opt Zoom OSE:70:0 OSD:B3:0 −i Zoom OSE:70:0 OSD:B3:1 −D Zoom OSE:70:1 OSD:B3:0	---	---	O	O	O	---	---	---	---
HDR	OSD:B4:[Data] QSD:B4	0 1 2 3	Off Low Mid High	---	---	---	---	supports only 0(OFF),1(LOW),3(HIGH)	supports only 0(OFF),1(LOW),3(HIGH)	supports only 0(OFF),1(LOW),3(HIGH)	---	---	---	---
COLOR MATRIX Cy_Cy_B GAIN /COLOR CORRECTION Cy_Cy_B SATURATION	OSD:AA:[Data] QSD:AA	61h – 80h – 9Fh	–31 – 0 – +31	---	---	---	---	O	O	O	---	---	---	---
COLOR MATRIX Cy_Cy_B PHASE /COLOR CORRECTION Cy_Cy_B PHASE	OSD:AB:[Data] QSD:AB	41h – 80h – BFh	–63 – 0 – +63	---	---	---	---	O	O	O	---	---	---	---
COLOR MATRIX Cy_B_B GAIN /COLOR CORRECTION Cy_B_B SATURATION	OSD:AC:[Data] QSD:AC	61h – 80h – 9Fh	–31 – 0 – +31	---	---	---	---	O	O	O	---	---	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
COLOR MATRIX Cy_B_B PHASE /COLOR CORRECTION Cy_B_B PHASE	OSD:AD:[Data] QSD:AD	41h – 80h – BFh	−63 – 0 – +63	----	----	----	----	○	○	○	----	----	----	----
COLOR MATRIX B_B_Mg GAIN /COLOR CORRECTION B_B_Mg SATURATION	OSD:C0:[Data] QSD:C0	61h – 80h – 9Fh	−31 – 0 – +31	----	----	----	----	○	○	○	----	----	----	----
COLOR MATRIX B_B_Mg PHASE /COLOR CORRECTION B_B_Mg PHASE	OSD:C1:[Data] QSD:C1	41h – 80h – BFh	−63 – 0 – +63	----	----	----	----	○	○	○	----	----	----	----
COLOR MATRIX B_Mg_Mg GAIN /COLOR CORRECTION B_Mg_Mg SATURATION	OSD:C2:[Data] QSD:C2	61h – 80h – 9Fh	−31 – 0 – +31	----	----	----	----	○	○	○	----	----	----	----
COLOR MATRIX B_Mg_Mg PHASE /COLOR CORRECTION B_Mg_Mg PHASE	OSD:C3:[Data] QSD:C3	41h – 80h – BFh	−63 – 0 – +63	----	----	----	----	○	○	○	----	----	----	----
COLOR MATRIX Yl_Yl_G GAIN /COLOR CORRECTION Yl_Yl_G SATURATION	OSD:C4:[Data] QSD:C4	61h – 80h – 9Fh	−31 – 0 – +31	----	----	----	----	○	○	○	----	----	----	----
COLOR MATRIX Yl_Yl_G PHASE /COLOR CORRECTION Yl_Yl_G PHASE	OSD:C5:[Data] QSD:C5	41h – 80h – BFh	−63 – 0 – +63	----	----	----	----	○	○	○	----	----	----	----
COLOR MATRIX Yl_G_G GAIN /COLOR CORRECTION Yl_G_G SATURATION	OSD:C6:[Data] QSD:C6	61h – 80h – 9Fh	−31 – 0 – +31	----	----	----	----	○	○	○	----	----	----	----
COLOR MATRIX Yl_G_G PHASE /COLOR CORRECTION Yl_G_G PHASE	OSD:C7:[Data] QSD:C7	41h – 80h – BFh	−63 – 0 – +63	----	----	----	----	○	○	○	----	----	----	----
NIGHT-DAY LEVEL	OSD:B7:[Data] QSD:B7	0 1 2	Low Mid High	----	----	----	----	○	○	○	----	----	----	----
Digital Extender Magnification	OSD:B8:[Data] QSD:B8	0 1 2 3 4	x1.4 x2.0 x4.0 x6.0 x8.0	----	----	----	----	○	○	----	----	----	----	----

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Format_SDI	OSD:B9:[Data] QSD:B9	0h 1h 2h 3h 4h 5h 6h 7h 8h 9h Ah Bh Ch Dh Eh 10h 11h 12h 13h 14h 15h 16h	720/60p 720/59.94p 720/50p 1080/60i 1080/59.94i 1080/50i 1080/30psF 1080/29.97psF 1080/25psF 1080/24psF 1080/23.98psF 480/59.94i 480/29.97psF 576/50i 576/25psF 1080/59.94p 1080/50p 480/59.94p 576/50p 1080/29.97p 1080/25p 1080/23.98p	―――	―――	―――	―――	[59.94Hz] supports only 1h(720/59.94p) 4h(1080/59.94i) 7h(1080/29.97psF) 10h(1080/59.94p) 14h(1080/29.97p) [50Hz] supports only 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 11h(1080/50p) 15h(1080/25p)	[59.94Hz] supports only 1h(720/59.94p) 4h(1080/59.94i) 7h(1080/29.97psF) 10h(1080/59.94p) 14h(1080/29.97p) [50Hz] supports only 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 11h(1080/50p) 15h(1080/25p)	―――	―――	―――	―――	―――
Color Bars Type	OSD:BA:[Data] QSD:BA	0 1	TYPE2(Full BAR/EBU) TYPE1(SMPTE)	―――	〇	―――	―――	〇	〇	V1.21+AW-SFU01	―――	―――	―――	―――
ALC	OSD:BB:[Data] QSD:BB	0 1	OFF ON	―――	―――	―――	―――	〇	〇	V1.21+AW-SFU01	―――	―――	―――	―――
Equalize	OSD:BC:[Data] QSD:BC	0 1 2	OFF LowCUT VOICE	―――	―――	―――	―――	〇	〇	V1.21+AW-SFU01	―――	―――	―――	―――
Bars Title	OSD:BE:[Data] QSD:BE	0 1	OFF ON	―――	―――	―――	―――	〇	〇	V1.21+AW-SFU01	―――	―――	―――	―――
AutoShutterLimit	OSD:BF:[Data] QSD:BF	0 1 2 3 4 2 3 4	[59.94Hz] [50Hz] Off Off 1/60 1/50 1/100 1/100 1/120 1/125 1/250 1/250 AW-UE150 1/100 1/120 1/250	―――	〇	―――	―――	〇	〇	―――	―――	―――	―――	―――
E.DRS SELECT	OSD:C8:[Data] QSD:C8	0 1 2 3	OFF LOW MID HIGH	―――	―――	―――	―――	supports only 0(OFF), 1(LOW), 3(HIGH)	supports only 0(OFF), 1(LOW), 3(HIGH)	supports only 0(OFF), 1(LOW), 3(HIGH)	―――	―――	―――	―――
SOFTWARE VERSION	QSI:19:[Data1] OSI:19:[Data1]:[Data2]	[Data1] 0 1 2 3 4 5 6 [Data2] (Ver.String)	[Data1] SYSTEM VERSION CAM MAIN NETWORK ROM TABLE CAM FPGA AVIO FPGA OPTION FPGA [Data2] (ex) 01.00-000-00.00	―――	―――	―――	〇	―――	―――	―――	―――	―――	―――	―――
Request Zoom/Focus/Iris Position (Output D/A Data)	QSI:18 OSI:18:[Data1]:[Data2]:[Data3]	[Data1] 555h – FFFh [Data2] 555h – FFFh [Data3] 555h – FFFh	[Data1]Zoom Position Wide – Tele [Data2]Focus Position Near – Far [Data3]Iris Position Close – Open	―――	―――	―――	〇	―――	―――	―――	―――	―――	―――	―――

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
A. IRIS LEVEL	OSI:1D:[Data] QSI:1D	00h – 64h	0 – 100	----	----	----	○	----	----	----	----	----	----	----
Request IRIS F No.	QIF OIF:[Data]	0Eh(=14) – 1Ch(=28) – 38h(=56) – A0h(=160) – FFh	F1.4 – F2.8 – F5.6 – F16 – CLOSE	----	○	----	○	----	----	----	----	----	----	----
SHUTTER SW	OSG:59:[Data] QSG:59	0 1	OFF ON	----	----	----	○	----	----	----	----	----	----	----
SHUTTER MODE	OSG:5A:[Data] QSG:5A	0 1	SHUTTER SYNC	----	----	----	○	----	----	----	----	----	----	----
SHUTTER SPEED	OSG:5D:[Data] QSG:5D	※	※	----	----	----	※	----	----	----	----	----	----	----
R GAIN	OSG:39:[Data] QSG:39	418h – 800h – BE8h	−1000 – 0 – 1000	----	V1.00 support only 738h(−200) – 8C8h(200)	----	○	----	----	----	----	----	----	----
B GAIN	OSG:3A:[Data] QSG:3A	418h – 800h – BE8h	−1000 – 0 – 1000	----	V1.00 support only 738h(−200) – 8C8h(200)	----	○	----	----	----	----	----	----	----
M-PED	OSG:4A:[Data] QSG:4A	1Dh – 80h – E3h	−99 – 0 – 99	----	----	----	○	----	----	----	----	----	----	----
R PEDESTAL	OSG:4C:[Data] QSG:4C	4E0h – 800h – B20h	−800 – 0 – 800	----	----	----	○	----	----	----	----	----	----	----
B PEDESTAL	OSG:4E:[Data] QSG:4E	4E0h – 800h – B20h	−800 – 0 – 800	----	----	----	○	----	----	----	----	----	----	----
MATRIX	OSG:A0:[Data] QSG:A0	0 1	OFF ON	----	----	----	○	----	----	----	----	----	----	----
MATRIX (R-G)_N	OSG:A5:N:[Data] OSG:A5:[N|P]:[Data] QSG:A5:N	00h – 1Fh – 3Eh	−31 – 0 – +31	----	----	----	○	----	----	----	----	----	----	----
MATRIX (R-G)_P	OSG:A5:P:[Data] OSG:A5:[N|P]:[Data] QSG:A5:P	00h – 1Fh – 3Eh	−31 – 0 – +31	----	----	----	○	----	----	----	----	----	----	----
MATRIX (R-B)_N	OSG:A6:N:[Data] OSG:A6:[N|P]:[Data] QSG:A6:N	00h – 1Fh – 3Eh	−31 – 0 – +31	----	----	----	○	----	----	----	----	----	----	----
MATRIX (R-B)_P	OSG:A6:P:[Data] OSG:A6:[N|P]:[Data] QSG:A6:P	00h – 1Fh – 3Eh	−31 – 0 – +31	----	----	----	○	----	----	----	----	----	----	----
MATRIX (G-R)_N	OSG:A7:N:[Data] OSG:A7:[N|P]:[Data] QSG:A7:N	00h – 1Fh – 3Eh	−31 – 0 – +31	----	----	----	○	----	----	----	----	----	----	----

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
MATRIX (G-R)_P	OSG:A7:P:[Data] OSG:A7:[N|P]:[Data] QSG:A7:P	00h - 1Fh - 3Eh	-31 - 0 - +31	---	---	---	○	---	---	---	---	---	---	---
MATRIX (G-B)_N	OSG:A8:N:[Data] OSG:A8:[N|P]:[Data] QSG:A8:N	00h - 1Fh - 3Eh	-31 - 0 - +31	---	---	---	○	---	---	---	---	---	---	---
MATRIX (G-B)_P	OSG:A8:P:[Data] OSG:A8:[N|P]:[Data] QSG:A8:P	00h - 1Fh - 3Eh	-31 - 0 - +31	---	---	---	○	---	---	---	---	---	---	---
MATRIX (B-R)_N	OSG:A9:N:[Data] OSG:A9:[N|P]:[Data] QSG:A9:N	00h - 1Fh - 3Eh	-31 - 0 - +31	---	---	---	○	---	---	---	---	---	---	---
MATRIX (B-R)_P	OSG:A9:P:[Data] OSG:A9:[N|P]:[Data] QSG:A9:P	00h - 1Fh - 3Eh	-31 - 0 - +31	---	---	---	○	---	---	---	---	---	---	---
MATRIX (B-G)_N	OSG:AA:N:[Data] OSG:AA:[N|P]:[Data] QSG:AA:N	00h - 1Fh - 3Eh	-31 - 0 - +31	---	---	---	○	---	---	---	---	---	---	---
MATRIX (B-G)_P	OSG:AA:P:[Data] OSG:AA:[N|P]:[Data] QSG:AA:P	00h - 1Fh - 3Eh	-31 - 0 - +31	---	---	---	○	---	---	---	---	---	---	---
COLOR CORRECT TABLE	OSG:A4:[Data] QSG:A4	0 1	A B	---	---	---	○	---	---	---	---	---	---	---
SKIN AREA SW	OSG:B0:[Data] QSG:B0	0 1	OFF ON	---	---	---	○	---	---	---	---	---	---	---
SKIN AREA TABLE	OSG:B1:[Data] QSG:B1	0 1	A B	---	---	---	○	---	---	---	---	---	---	---
SKIN AREA HUE	OSG:B2:[Data] QSG:B2	01h - 80h - FFh	-127 - 0 - +127	---	---	---	○	---	---	---	---	---	---	---
SKIN AREA TONE	OSG:B3:[Data] QSG:B3	01h - 80h - FEh	-127 - 0 - +126	---	---	---	○	---	---	---	---	---	---	---
CHROMA LEVEL SWITCH	OSG:93:[Data] QSG:93	0 1	OFF ON	---	---	---	○	---	---	---	---	---	---	---
COLOR TEMPERATURE INC	OSI:1E:[Data]	1h - Ah	INC 1 - INC 10	---	○	---	supports only 1h(INC 1)	---	---	---	---	---	---	---
COLOR TEMPERATURE DEC	OSI:1F:[Data]	1h - Ah	DEC 1 - DEC 10	---	○	---	supports only 1h(DEC 1)	---	---	---	---	---	---	---
COLOR TEMPERATURE	OSI:20:[Data1]:[Data2] QSI:20	[Data1] 00000h - FFFFFh [Data2] 0h 1h 2h	[Data1] 0K - 1048575K [Data2] Valid Under Over	---	[Data1] supports only 007D0h(2000K) - 03A98h(15000K) [Data2] supports only 0(valid)	---	supports only Confirmation Command	---	---	---	---	---	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
V DETAIL LEVEL	OSG:32:[Data] QSG:32	00h – 3Fh	00 – 63	----	----	----	○	----	----	----	----	----	----	----
PEAK FREQUENCY	OSG:30:[Data] QSG:30	00h – 04h – 1Fh	0 – 4 – 31	----	----	----	[In case HD format] 00h(0) – 1Fh(31) [In case 4K format] 00h(0) – 04h(4)	----	----	----	----	----	----	----
V DETAIL FREQUENCY	OSG:35:[Data] QSG:35	00h – 04h – 1Fh	0 – 4 – 31	----	----	----	[In case HD format] 00h(0) – 1Fh(31) [In case 4K format] 00h(0) – 04h(4)	----	----	----	----	----	----	----
DETAIL +CLIP	OSG:40:[Data] QSG:40	00h – 3Fh	0 – 63	----	----	----	○	----	----	----	----	----	----	----
DETAIL –CLIP	OSG:41:[Data] QSG:41	00h – 3Fh	0 – 63	----	----	----	○	----	----	----	----	----	----	----
KNEE APERTURE LEVEL	OSG:3F:[Data] QSG:3F	00h – 27h	0 – 39	----	supports only 00h(0) – 05h(5)	----	○	----	----	----	----	----	----	----
LEVEL DEPENDENT SWITCH	OSG:3E:[Data] QSG:3E	0 1	OFF ON	----	----	----	○	----	----	----	----	----	----	----
MEMORY SELECT	OSG:42:[Data] QSG:42	0 1 2	A B C	----	----	----	○	----	----	----	----	----	----	----
H POSITION	OSG:44:[Data] QSG:44	000h – 190h	0 – 100.00% (0.25% Step)	----	----	----	○	----	----	----	----	----	----	----
V POSITION	OSG:45:[Data] QSG:45	000h – 190h	0 – 100.00% (0.25% Step)	----	----	----	○	----	----	----	----	----	----	----
ZEBRA EFFECT MEMORY	OSG:47:[Data] QSG:47	0 1 2 3 4 5 6	A B C A+B A+C B+C A+B+C	----	----	----	○	----	----	----	----	----	----	----
SKIN TONE EFFECT MEMORY	OSG:48:[Data] QSG:48	0 1 2 3 4 5 6	A B C A+B A+C B+C A+B+C	----	----	----	○	----	----	----	----	----	----	----
SKIN TONE CRISP	OSG:49:[Data] QSG:49	41h – 80h – BFh	–63 – 0 – +63	----	----	----	○	----	----	----	----	----	----	----
SKIN TONE Q PHASE	OSG:4F:[Data] QSG:4F	000h – 167h	0 – 359	----	----	----	○	----	----	----	----	----	----	----
DNR LEVEL	OSG:B5:[Data] QSG:B5	1 – 5	1 – 5	----	----	----	○	----	----	----	----	----	----	----
HAZE REDUCTION	OSG:B6:[Data] QSG:B6	0 1	OFF ON	----	----	○	○	----	----	----	----	----	----	----
HAZE REDUCTION LEVEL	OSG:B7:[Data] QSG:B7	1 – 3	1 – 3	----	----	○	○	----	----	----	----	----	----	----
GEN-LOCK INPUT	OSG:CA:[Data] QSG:CA	0 1	BNC DSUB	----	----	----	○	----	----	----	----	----	----	----

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
H PHASE-COARSE	OSG:CB:[Data] QSG:CB	3h – 8h – Dh	−5 – 0 – +5	---	---	---	○	---	---	---	---	---	---	---
H PHASE-FINE	OSG:CC:[Data] QSG:CC	1Ch – 80h – E4h	−100 – 0 – +100	---	---	---	○	---	---	---	---	---	---	---
CROP OUT SEL	OSI:16:[Data] QSI:16	1 2 3	YL G MG	---	○	---	○	---	---	---	---	---	---	---
CROP ADJ SEL	OSI:17:[Data] QSI:17	1 2 3	YL G MG	---	○	---	○	---	---	---	---	---	---	---
CROP H/V POSITION Speed Control	OSI:15:[Data1]:[Data2]	[Data1] 01 – 50 – 99 [Data2] 01 – 50 – 99	[Data1] Left Max. Speed – Stop – Right Max. Speed [Data2] Down Max. Speed – Stop – UP Max. Speed	---	○	---	○	---	---	---	---	---	---	---
CROP MARKER SEL	OSI:1A:[Data] QSI:1A	0 1 2 3 4 5 6 7	OFF YL G MG YL+G YL+MG G+MG YL+G+MG	---	○	---	supports only 1(YL) 2(G) 3(MG) 4(YL+G) 5(YL+MG) 6(G+MG) 7(YL+G+MG)	---	---	---	---	---	---	---
CROP H POSITION	OSI:1B:[Data] QSI:1B	738h – 800h – 8C8h	−50% – 0% – +50% (0.25% Step)	---	---	---	○	---	---	---	---	---	---	---
CROP V POSITION	OSI:1C:[Data] QSI:1C	738h – 800h – 8C8h	−50% – 0% – +50% (0.25% Step)	---	---	---	○	---	---	---	---	---	---	---
Preset Digital Extender Enable	OSE:7C:[Data] QSE:7C	0 1	OFF ON	---	○	○	---	---	---	---	○	---	---	---
Preset Zoom Mode	OSE:7D:[Data] QSE:7D	0 1	Mode A Mode B	---	○	○	---	---	---	---	---	---	---	---
Super Gain	OSI:28:[Data] QSI:28	0 1	OFF ON	---	○	○	---	---	---	---	---	---	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
ATW Speed	OSI:25:[Data] QSI:25	0 1 2	Normal Slow Fast	---	O	O	---	---	---	---	---	---	---	---
ATW Width	OSI:26:[Data] QSI:26	1 2 3 4 5	1 2 3 4 5	---	---	O	---	---	---	---	---	---	---	---
Intelligent	OSI:21:[Data] QSI:21	0 1 2	Off On Lock	---	---	O	---	---	---	---	---	---	---	---
Intelligent Mode	OSI:22:[Data] QSI:22	0 1	AE AE+ATW	---	---	O	---	---	---	---	---	---	---	---
Intelligent ND Filter	OSI:23:[Data] QSI:23	0 1 2 3	Through 1/8 1/64 Auto	---	---	O	---	---	---	---	---	---	---	---
Intelligent AGC Mode	OSI:24:[Data] QSI:24	0 1 2	Normal Sports SN	---	---	O	---	---	---	---	---	---	---	---
3G SDI Out	OSI:29:[Data] QSI:29	0 1	Level A Level B	---	O	O	---	---	---	---	---	---	---	---
Option Device Type	QSI:2A OSI:2A:[Data]	[AK-UB300] 0 1 2 3	[AK-UB300] no option 4K default 12G option TICO option	---	---	---	O	---	---	---	---	---	---	---
Audio Line Input Level	OSA:D4:[Data1]:[Data2] QSA:D4:[Data1]	[Data1] 0 1 [Data2] 0 1 2	[Data1] CH1/CH3 CH2/CH4 [Data2] +4dB 0dB -20dB	---	---	O	---	---	---	---	---	---	---	---
Audio Output Volume	OSA:D5:[Data1]:[Data2] QSA:D5:[Data1]	[Data1] 0 1 2 3 [Data2] 58h – 80h – 8Ch	[Data1] CH1 CH2 CH3 CH4 [Data2] -40dB – 0dB – 12dB	---	[Data1] supports only 0(CH1) [Data2] supports only 5Ch(-36dB) – 8C(12dB)	O	---	---	---	---	---	---	---	---
Audio Head Room	OSA:D6:[Data] QSA:D6	0 1 2	FS-12dB FS-18dB FS-20dB	---	---	O	---	---	---	---	---	---	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Audio Line CH Select	OSA:D7:[Data] QSA:D7	0 1 2 3	All CH1/CH2 CH3/CH4 None	---	---	O	---	---	---	---	---	---	---	---
DC Out	OSI:2B:[Data] QSI:2B	0 1	OFF ON	---	---	O	---	---	---	---	---	---	---	---
HDR SW (MAIN)	OSI:2C:[Data] QSI:2C	0 1	OFF ON	---	---	---	O	---	---	---	---	---	---	---
COLORIMETRY	OSI:2D:[Data] QSI:2D	00h 01h	no effect BT.709	---	---	---	O	---	---	---	---	---	---	---
HDR SW (SDI1)	OSI:2E:[Data] QSI:2E	0 1	OFF ON	---	---	---	O	---	---	---	---	---	---	---
HDR SW (LAN)	OSI:2F:[Data] QSI:2F	0 1	OFF ON	---	---	---	O	---	---	---	---	---	---	---
SHOOTING MODE	OSI:30:[Data] QSI:30	0 1	NORMAL HIGH SENS.	---	O	---	O	---	---	---	---	---	---	---
HDR SW (SDI2)	OSI:31:[Data] QSI:31	0 1	OFF ON	---	---	---	O	---	---	---	---	---	---	---
HD-SDI2 OUT SEL	OSI:32:[Data] QSI:32	0 1	FULL CROP	---	O	---	O	---	---	---	---	---	---	---
LAN OUT SEL	OSI:33:[Data] QSI:33	0 1	FULL CROP	---	O	---	O	---	---	---	---	---	---	---
MASTER FLARE	OSG:96:[Data] QSG:96	1Ch – 80h – E4h	-100 – 0 – 100	---	---	---	O	---	---	---	---	---	---	---
GAMMA MODE SELECT	OSG:86:[Data] QSG:86	0 1 2 3 4 5	HD FILMLIKE1 FILMLIKE2 FILMLIKE3 FILM REC VIDEO REC	---	---	---	O	---	---	---	---	---	---	---
MASTER GAMMA INC	OSI:37:[Data]	1	INC	---	---	---	O	---	---	---	---	---	---	---
MASTER GAMMA DEC	OSI:38:[Data]	1	DEC	---	---	---	O	---	---	---	---	---	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
MASTER GAMMA	QSI:34 OSI:34:[Data]	05DCh – 1194h – 1D4Ch	0.1500 – 0.4500 – 0.7500	----	----	----	○	----	----	----	----	----	----	----
R GAMMA	OSI:35:[Data] QSI:35	35h – 80h – CBh	−75 – 0 – +75	----	----	----	○	----	----	----	----	----	----	----
B GAMMA	OSI:36:[Data] QSI:36	35h – 80h – CBh	−75 – 0 – +75	----	----	----	○	----	----	----	----	----	----	----
A.KNEE RESPONSE	OSG:97:[Data] QSG:97	1 – 8	1 – 8	----	○	----	○	----	----	----	----	----	----	----
HLG MODE (HDR PAINT)	OSI:39:[Data] QSI:39	0 1	FIX VAR	----	----	----	○	----	----	----	----	----	----	----
SDR CONVERT MODE (HDR PAINT)	OSI:3A:[Data] QSI:3A	0 1	FIX VAR	----	----	----	○	----	----	----	----	----	----	----
HLG TYPE SELECT (HDR PAINT)	OSI:3B:[Data] QSI:3B	0 1	NORMAL STRETCH	----	----	----	○	----	----	----	----	----	----	----
BLACK GAMMA SW (HDR PAINT)	OSI:3C:[Data] QSI:3C	0 1	OFF ON	----	----	----	○	----	----	----	----	----	----	----
MASTER BLACK GAMMA (HDR PAINT)	OSI:3D:[Data] QSI:3D	60h – 80h – A0h	−32 – 0 – +32	----	----	----	○	----	----	----	----	----	----	----
R BLACK GAMMA (HDR PAINT)	OSI:3E:[Data] QSI:3E	60h – 80h – A0h	−32 – 0 – +32	----	----	----	○	----	----	----	----	----	----	----
B BLACK GAMMA (HDR PAINT)	OSI:3F:[Data] QSI:3F	60h – 80h – A0h	−32 – 0 – +32	----	----	----	○	----	----	----	----	----	----	----
KNEE SW (HDR PAINT)	OSI:40:[Data] QSI:40	0 1	OFF ON	----	○	----	○	----	----	----	----	----	----	----
KNEE POINT (HDR PAINT)	OSI:41:[Data] QSI:41	1Ch – 30h – 80h – D0h – F4h	55.00% – 60.00% – 80.00% – 100.00% – 109.00% (1step=0.25%)	----	suppurt only 1Ch(55%) – D0(100%) (1step=1%)	----	suppurt only 30h(60%) – D0(100%)	----	----	----	----	----	----	----
KNEE SLOPE (HDR PAINT)	OSI:42:[Data] QSI:42	00h – C7h	0 – 199	----	supports only 00h – 64h	----	○	----	----	----	----	----	----	----
SDR CONVERT GAIN (HDR PAINT)	OSI:43:[Data] QSI:43	74h 77h 7Ah 7Dh 80h	−12 −9 −6 −3 0	----	----	----	○	----	----	----	----	----	----	----

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
SDR CONVERT CLIP (HDR PAINT)	OSI:44:[Data] QSI:44	0 1 2	LOW MID HIGH	----	----	----	O	----	----	----	----	----	----	----
ERROR INFORMATION	QSI:46 OSI:46:[Data]	00000000h 00000001h 00000002h 00000004h 00000008h 00000010h	No Error Fan Error High Temperature Lens Error Pan/Tilt Error Sensor Error ※bit0:Fan Error, bit1:High Temperature, bit2:Lens Error, bit3:Pan/Tilt Error, bit4:Sensor Error	----	O	----	----	----	----	----	----	----	----	----
Auto Iris Speed	OSJ:01:[Data] QSJ:01	0h 1h 2h	Slow Normal Fast	----	O	----	----	----	----	----	----	----	----	----
Auto Iris Window	OSJ:02:[Data] QSJ:02	0h 1h 2h	Normal1 Normal2 Center	----	O	----	----	----	----	----	----	----	----	----
Shutter Mode	OSJ:03:[Data] QSJ:03	0h 1h 2h 3h	Off Step Synchro ELC	supports only 0(Off) 1(Step)	O	----	----	----	----	----	----	----	----	----
Step INC	OSJ:04:[Data]	01h – 64h	1 — 100	O	O	----	----	----	----	----	----	----	----	----
Step DEC	OSJ:05:[Data]	01h – 64h	1 — 100	O	O	----	----	----	----	----	----	----	----	----
Step VAL	OSJ:06:[Data] QSJ:06	0001h – 2710 h – 3E80h	1/1 – 1/10000 – 1/16000	O	supports only 0001h(1/1) – 2710h(1/10000)	----	----	----	----	----	----	----	----	----
Synchro INC	OSJ:07:[Data]	01h – 64h	1 — 100	----	O	----	----	----	----	----	----	----	----	----
Synchro DEC	OSJ:08:[Data]	01h – 64h	1 — 100	----	O	----	----	----	----	----	----	----	----	----
Synchro VAL	OSJ:09:[Data] QSJ:09	00000h – 186A0h	0.0 [Hz] – 10000.0[Hz]	----	supports only [59.94p/59.94i] 60.0Hz – 7200.0Hz [29.97p] 30.0Hz – 7200.0Hz [23.98p/24p] 24.0Hz – 7200.0Hz [50p/50i] 50.0Hz～7200.0Hz [25p] 25.0Hz～7200.0Hz	----	----	----	----	----	----	----	----	----
Chroma Phase	OSJ:0B:[Data] QSJ:0B	61h – 80h – 9Fh	−31 – 0 – +31	----	O	----	----	----	----	----	----	----	----	----
AWB Gain Offset	OSJ:0C:[Data] QSJ:0C	0h 1h	Off On	----	O	----	----	----	----	----	----	----	----	----
ATW Target R	OSJ:0D:[Data] QSJ:0D	76h – 80h – 8Ah	−10 – 0 – +10	----	O	----	----	----	----	----	----	----	----	----

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
ATW Target B	OSJ:0E:[Data] QSJ:0E	76h – 80h – 8Ah	−10 – 0 – +10	----	〇	----	----	----	----	----	----	----	----	----
Master Pedestal	OSJ:0F:[Data] QSJ:0F	738h – 800h – 8C8h	−200 – 0 – +200	----	〇	----	----	----	----	----	----	----	----	----
G Pedestal	OSJ:10:[Data] QSJ:10	032h – 096h – 0FAh	−100 – 0 – +100	----	〇	----	----	----	----	----	----	----	----	----
Pedestal Offset	OSJ:11:[Data] QSJ:11	0 1	Off On	----	〇	----	----	----	----	----	----	----	----	----
Detail Coring	OSJ:12:[Data] QSJ:12	00h – 3Ch	0 – 60	----	〇	----	----	----	----	----	----	----	----	----
Level Depend.	OSJ:13:[Data] QSJ:13	79h – 80h – 87h	−7 – 0 – 7	----	〇	----	----	----	----	----	----	----	----	----
DownCon Detail	OSJ:14:[Data] QSJ:14	0h 1h	OFF ON	----	〇	----	----	----	----	----	----	----	----	----
DC. Master Detail	OSJ:15:[Data] QSJ:15	61h – 80h – 9Fh	−31 – 0 – +31	----	〇	----	----	----	----	----	----	----	----	----
DC. Detail Coring	OSJ:16:[Data] QSJ:16	00h – 3Ch	0 – 60	----	〇	----	----	----	----	----	----	----	----	----
DC. V Detail Level	OSJ:17:[Data] QSJ:17	79h – 80h – 87h	−7 – 0 – +7	----	〇	----	----	----	----	----	----	----	----	----
DC. Detail Frequency	OSJ:18:[Data] QSJ:18	7Eh – 80h – 82h	−2 – 0 – +2	----	〇	----	----	----	----	----	----	----	----	----
DC. Level Depend.	OSJ:19:[Data] QSJ:19	79h – 80h – 87h	−7 – 0 – +7	----	〇	----	----	----	----	----	----	----	----	----
DC. Knee Ape Level	OSJ:1A:[Data] QSJ:1A	00h 01h 02h 03h 04h 05h	0 1 2 3 4 5	----	〇	----	----	----	----	----	----	----	----	----
B.Gamma Range	OSJ:1B:[Data] QSJ:1B	1h 2h 3h	1 2 3	----	〇	----	----	----	----	----	----	----	----	----
YI_YI_G Saturation	OSJ:1C:[Data] QSJ:1C	41h – 80h – BFh	−63 – 0 – 63	----	〇	----	----	----	----	----	----	----	----	----
YI_YI_G Phase	OSJ:1D:[Data] QSJ:1D	41h – 80h – BFh	−63 – 0 – 63	----	〇	----	----	----	----	----	----	----	----	----

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
12G SDI/OPTICAL OUT Format	OSJ:1E:[Data] QSJ:1E	01h	720/59.94p	---	O	---	---	---	---	---	---	---	---	---
		02h	720/50p											
		04h	1080/59.94i											
		05h	1080/50i											
		07h	1080/29.97PsF											
		08h	1080/25PsF											
		0Ah	1080/23.98PsF											
		10h	1080/59.94p											
		11h	1080/50p											
		14h	1080/29.97p											
		15h	1080/25p											
		16h	1080/23.98p (over 59.94i/p)											
		17h	2160/29.97p											
		18h	2160/25p											
		19h	2160/59.94p											
		1Ah	2160/50p											
		1Bh	2160/23.98p											
		21h	2160/24p											
		22h	1080/24p											
		23h	1080/23.98p											
12G SDI/OPTICAL OUT 3G SDI Out	OSJ:20:[Data] QSJ:20	0h	Level A	---	O	---	---	---	---	---	---	---	---	---
		1h	Level B											
3G SDI Out Format	OSJ:21:[Data] QSJ:21	01h	720/59.94p	---	O	---	---	---	---	---	---	---	---	---
		02h	720/50p											
		04h	1080/59.94i											
		05h	1080/50i											
		07h	1080/29.97PsF											
		08h	1080/25PsF											
		0Ah	1080/23.98PsF											
		10h	1080/59.94p											
		11h	1080/50p											
		14h	1080/29.97p											
		15h	1080/25p											
		16h	1080/23.98p (over 59.94i/p)											
		22h	1080/24p											
		23h	1080/23.98p											
3G SDI Out HDR Output Select	OSJ:22:[Data] QSJ:22	0h	SDR	---	O	---	---	---	---	---	---	---	---	---
		1h	HDR(2020)											
		2h	HDR(709)											
MONI Out Format	OSJ:23:[Data] QSJ:23	01h	720/59.94p	---	O	---	---	---	---	---	---	---	---	---
		02h	720/50p											
		04h	1080/59.94i											
		05h	1080/50i											
		07h	1080/29.97PsF											
		08h	1080/25PsF											
		0Ah	1080/23.98PsF											
		14h	1080/29.97p											
		15h	1080/25p											
		16h	1080/23.98p (over 59.94i/p)											
		22h	1080/24p											
		23h	1080/23.98p											
MONI Out HDR Output Select	OSJ:24:[Data] QSJ:24	0h	SDR	---	O	---	---	---	---	---	---	---	---	---
		1h	HDR(2020)											
		2h	HDR(709)											
HDMI Out Format	OSJ:25:[Data] QSJ:25	01h	720/59.94p	---	O	---	---	---	---	---	---	---	---	---
		02h	720/50p											
		04h	1080/59.94i											
		05h	1080/50i											
		10h	1080/59.94p											
		11h	1080/50p											
		14h	1080/29.97p											
		15h	1080/25p											
		16h	1080/23.98p(over 59.94i/p)											
		17h	2160/29.97p											
		18h	2160/25p											
		19h	2160/59.94p											
		1Ah	2160/50p											
		1Bh	2160/23.98p											
		21h	2160/24p											
		22h	1080/24p											
		23h	1080/23.98p											

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
HDMI Out HDR Output Select	OSJ:26:[Data] QSJ:26	0h 1h 2h	SDR HDR(2020) HDR(709)	---	○	---	---	---	---	---	---	---	---	---
Color Bar Tone	OSJ:27:[Data] QSJ:27	0h 1h 2h	Off Low Normal	---	○	---	---	---	---	---	---	---	---	---
TOUTCH AF	OSJ:28:[Data1]:[Data2]	[Data1] 00h – 64h [Data2] 00h – 64h	[Data1]H Pos. 0% – 100% [Data2]V Pos. 0% – 100%	---	○	---	---	---	---	---	---	---	---	---
Preset Speed Unit	OSJ:29:[Data] QSJ:29	0h 1h	Speed Table Time	---	○	---	---	---	---	---	---	---	---	---
Preset Crop	OSJ:2A:[Data] QSJ:2A	0h 1h	Off On	---	○	---	---	---	---	---	---	---	---	---
Preset Thumbnail Update	OSJ:2B:[Data] QSJ:2B	0h 1h	Off On	---	○	---	---	---	---	---	---	---	---	---
Preset Name	OSJ:2C:[Data] QSJ:2C	0h 1h	Reset Hold	---	○	---	---	---	---	---	---	---	---	---
PT. Speed Mode	OSJ:2D:[Data] QSJ:2D	0h 1h	Normal Fast	---	○	---	---	---	---	---	---	---	---	---
UHD Crop	OSJ:2E:[Data] QSJ:2E	0h 1h 2h	Off Crop(1080) Crop(720)	---	○	---	---	---	---	---	---	---	---	---
Crop H POS. (YL)	OSJ:2F:[Data] QSJ:2F	000h – 780h – A00h	0 – 1920 – 2560	---	(1step=2pix)	---	---	---	---	---	---	---	---	---
Crop V POS. (YL)	OSJ:30:[Data] QSJ:30	000h – 438h – 5A0h	0 – 1080 – 1440	---	○	---	---	---	---	---	---	---	---	---
Crop H POS. (G)	OSJ:31:[Data] QSJ:31	000h – 780h – A00h	0 – 1920 – 2560	---	(1step=2pix)	---	---	---	---	---	---	---	---	---
Crop V POS. (G)	OSJ:32:[Data] QSJ:32	000h – 438h – 5A0h	0 – 1080 – 1440	---	○	---	---	---	---	---	---	---	---	---
Crop H POS. (MG)	OSJ:33:[Data] QSJ:33	000h – 780h – A00h	0 – 1920 – 2560	---	(1step=2pix)	---	---	---	---	---	---	---	---	---
Crop V POS. (MG)	OSJ:34:[Data] QSJ:34	000h – 438h – 5A0h	0 – 1080 – 1440	---	○	---	---	---	---	---	---	---	---	---
Save Preset Name (Single)	OSJ:35:[Data1]:[Data2] QSJ:35:[Data1]	[Data1] 00 – 99 [Data2] xxxxxxxxxxxxxxx	[Data1] Preset001 – Preset100 [Data2] Preset Name (Fixed 15 Charactors)	---	[Data2] use only follow charactors A – Z (Alphabet) 1 – 9 (Decimal Number)	---	---	---	---	---	---	---	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Delete Preset Name (Single)	OSJ:36:[Data]	[Data] 00 – 99	[Data] Preset001 – Preset100	---	O	---	---	---	---	---	---	---	---	---
Delete Preset Name (All)	OSJ:37	–	---	---	O	---	---	---	---	---	---	---	---	---
Update Preset Thumbnail	OSJ:39:[Data]	[Data] 00 – 99	[Data] Preset001 – Preset100	---	O	---	---	---	---	---	---	---	---	---
Delete Preset Thumbnail (Single)	OSJ:3A:[Data]	[Data] 00 – 99	[Data] Preset001 – Preset100	---	O	---	---	---	---	---	---	---	---	---
Delete Preset Thumbnail (All)	OSJ:3B	–	---	---	O	---	---	---	---	---	---	---	---	---
Preset Name / Preset Thumbnail Counter	QSJ:3C:[Data1] OSJ:3C:[Data1]:[Data2]	[Data1] 00h 01h 02h 03h 04h 05h 06h 07h 08h 09h 0Ah 0Bh [Data2] 000000000h – FFFFFFFFFh	[Data1] Preset 001-009 Preset 010-018 Preset 019-027 Preset 028-036 Preset 037-045 Preset 046-054 Preset 055-063 Preset 064-072 Preset 073-081 Preset 082-090 Preset 091-099 Preset 100 [Data2] 000000000h – FFFFFFFFFh	---	O	---	---	---	---	---	---	---	---	---
Zoom Scale	QSJ:3D OSJ:3D:[Data]	000h – 3E7h	0 – 999	---	O	---	---	---	---	---	---	---	---	---
Operation Lock	OSJ:3E:[Data]	xxxxxxxx	Any Information (40 Charactors)	---	O	---	---	---	---	---	---	---	---	---
Release Operation Lock	OSJ:3F	–	---	---	O	---	---	---	---	---	---	---	---	---
Operation Lock Status	QSJ:40 OSJ:40:[Data1]:[Data2]	[Data1] 0 1 [Data2] xxxxxxxx	[Data1] Unlock Lock [Data2] Any Information (40 Charactors)	---	O	---	---	---	---	---	---	---	---	---
External Output Menu Setting 1	OSJ:41:[Data] QSJ:41	0 1 2	Off R-Tally G-Tally	---	O	---	---	---	---	---	---	---	---	---
External Output Menu Setting 2	OSJ:42:[Data] QSJ:42	0 1 2	Off R-Tally G-Tally	---	O	---	---	---	---	---	---	---	---	---
Power On Position	OSJ:45:[Data] QSJ:45	0 1 2 3	None Standby Home Preset	---	O	---	---	---	---	---	---	---	---	---
Power On Preset Number	OSJ:46:[Data] QSJ:46	00 – 99	Preset001 – Preset100	---	O	---	---	---	---	---	---	---	---	---
12G SDI/Fiber Out HDR Output Select	OSJ:1F:[Data] QSJ:1F	0h 1h 2h	SDR HDR(2020) HDR(709)	---	O	---	---	---	---	---	---	---	---	---
AWB COLOR TEMPERATURE INC	OSJ:48:[Data]	1h – Ah	1 – 10	---	O	---	---	---	---	---	---	---	---	---
AWB COLOR TEMPERATURE DEC	OSJ:49:[Data]	1h – Ah	1 – 10	---	O	---	---	---	---	---	---	---	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
AWB COLOR TEMPERATURE	OSJ:4A:[Data1]:[Data2] QSJ:4A	[Data1] 007D0h – 03A98h [Data2] 0h 1h 2h	[Data1] 2000K – 15000K [Data2] Valid Under Over	---	○	---	---	---	---	---	---	---	---	---
AWB R Gain	OSJ:4B:[Data] QSJ:4B	670h – 800h – 990h	−400 – 0 – 400	---	○	---	---	---	---	---	---	---	---	---
AWB B Gain	OSJ:4C:[Data] QSJ:4C	670h – 800h – 990h	−400 – 0 – 400	---	○	---	---	---	---	---	---	---	---	---
AWB G Axis	OSJ:4D:[Data] QSJ:4D	670h 800h 990h	−400 – 0 – 400	---	○	---	---	---	---	---	---	---	---	---
Digital Extender	OSJ:4E:[Data] QSJ:4E	0 1 2	OFF x1.4 x2.0	---	○	---	---	---	---	---	---	---	---	---
Adaptive Matrix	OSJ:4F:[Data] QSJ:4F	0 1	OFF ON	---	○	---	---	---	---	---	---	---	---	---
Tracking Data Output Serial Out	OSJ:54 QSJ:54	0 1	OFF ON	---	○	---	---	---	---	---	---	---	---	---
Tracking Data Output IP Out	OSJ:55 QSJ:55	0 1	OFF ON	---	○	---	---	---	---	---	---	---	---	---
Color Setting	OSJ:56 QSJ:56	0 1	Normal V-Log	---	○	---	---	---	---	---	---	---	---	---
12G SDI/Fiber Out V-Log Output Select	OSJ:57 QSJ:57	0 1	V-Log V-709	---	○	---	---	---	---	---	---	---	---	---
3G SDI Out V-Log Output Select	OSJ:58 QSJ:58	0 1	V-Log V-709	---	○	---	---	---	---	---	---	---	---	---
MONI Out V-Log Output Select	OSJ:59 QSJ:59	0 1	V-Log V-709	---	○	---	---	---	---	---	---	---	---	---
HDMI Out V-Log Output Select	OSJ:5A QSJ:5A	0 1	V-Log V-709	---	○	---	---	---	---	---	---	---	---	---
Preset Iris	OSJ:5B QSJ:5B	0 1	OFF ON	---	○	---	---	---	---	---	---	---	---	---
Camera Title	OSJ:5C QSJ:5C	xxxxxxxx	Camera Title (Fixed 40 Charactors : ASCII CODE)	---	○	---	---	---	---	---	---	---	---	---
CROP H/V POSITION Speed Control (YL)	OSJ:5D	[Data1] 01 – 50 – 99 [Data2] 01 – 50 – 99	[Data1] Left Max. Speed – Stop – Right Max. Speed [Data2] Down Max. Speed – Stop – UP Max. Speed	---	○	---	---	---	---	---	---	---	---	---

ITEM	Command Control / Response / Confirmation	Data	Data Contents Control and Response to contol	UE4	UE150	HR140	UB300	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
CROP H/V POSITION Speed Control (G)	OSJ:5E	[Data1] 01 – 50 – 99 [Data2] 01 – 50 – 99	[Data1] Left Max. Speed – Stop – Right Max. Speed [Data2] Down Max. Speed – Stop – UP Max. Speed	---	O	---	---	---	---	---	---	---	---	---
CROP H/V POSITION Speed Control (MG)	OSJ:5F	[Data1] 01 – 50 – 99 [Data2] 01 – 50 – 99	[Data1] Left Max. Speed – Stop – Right Max. Speed [Data2] Down Max. Speed – Stop – UP Max. Speed	---	O	---	---	---	---	---	---	---	---	---
Get CROP H/V POSITION (YL, G, MG)	QSJ:60 OSJ:60	[Data1] 000h – 780h – A00h [Data2] 000h – 438h – 5A0h [Data3] 000h – 780h – A00h [Data4] 000h – 438h – 5A0h [Data5] 000h – 780h – A00h [Data6] 000h – 438h – 5A0h	[Data1] H POS (YL) 0 – 1920 – 2560 [Data2] V POS (YL) 0 – 1080 – 1440 [Data3] H POS (G) 0 – 1920 – 2560 [Data4] V POS (G) 0 – 1080 – 1440 [Data5] H POS (MG) 0 – 1920 – 2560 [Data6] V POS (MG) 0 – 1080 – 1440	---	O	---	---	---	---	---	---	---	---	---
Slow Shutter	OSJ:80 QSJ:80	0 1	Off On	O	---	---	---	---	---	---	---	---	---	---
Mirror	OSJ:81 QSJ:81	0 1	Off On	O	---	---	---	---	---	---	---	---	---	---
Language	OSJ:82 QSJ:82	0 1 2	English Japanese Chinese	O	---	---	---	---	---	---	---	---	---	---
LDC	OSJ:84 QSJ:84	0 1	Off On	O	---	---	---	---	---	---	---	---	---	---

ITEM	Command Control Confirmation Response	Data	Data Contents	UE4	UE150	HR140	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Power	#O[Data] p[Data] (Control command)	0 1	Power OFF Power ON	O	O	O	O	O	O	O	O	O	O
	#O p[Data] (Confirmation command)	0 1 3	Power OFF Power ON Starting	O	O	O	O	O	O	O	O	O	O
Pan Speed Control	#P[Data] pS[Data]	01 – 50 – 99	Left Max. Speed – Stop – Right Max. Speed	O	O	O	O	O	O	O	O	O	O
Tilt Speed Control	#T[Data] tS[Data]	01 – 50 – 99	Down Max. Speed – Stop – UP Max. Speed	O	O	O	O	O	O	O	O	O	O
Zoom Speed Control	#Z[Data] zS[Data]	01 – 49 50 51 – 99	Wide Max. Speed – Wide Min. Speed Stop Tele Min. Speed – Tele Max. Speed	O	O	O	O	O	O	O	O	O	O
Zoom Position Control	#AXZ[Data] #AXZ axz[Data]	555h – FFFh	Wide – Tele	supports only 555	O	O	O	O	O	O	O	O	O
Focus Speed Control	#F[Data] fS[Data]	01 – 49 50 51 – 99	Near Max. Speed – Near Min. Speed Stop Far Min. Speed – Far Max. Speed	–––	O	O	O	O	O	O	O	O	O
Focus Position Control	#AXF[Data] #AXF axf[Data]	555h – FFFh	Near – Far	supports only 555	O	O	O	O	O	O	O	O	O
Iris Control	#I[Data] #I iC[Data]	01 – 99	Iris Close – Iris Open	–––	O	O	O	O	O	O	O	O	O
Iris Control	#AXI[Data] axi[Data]	555h – FFFh	Iris Close – Iris Open	supports only 555	O	O	O	O	O	O	O	O	O
Extender/AF Control	#D1[Data] #D1 d1[Data]	0 1	OFF ON	–––	O	O	O	O	O	O	O	O	O
Iris Auto/Manual	#D3[Data] #D3 d3[Data]	0 1	Manual Iris Auto Iris	–––	O	O	O	O	O	O	O	O	O
OPTION SW Control	#D6[Data] #D6 d6[Data]	0 1	Day Night	–––	O	O	O	O	O	O	–––	O	O
Defroster Control	#D7[Data] d7[Data]	0 1	OFF ON	–––	–––	0 : Auto 1 : On	–––	–––	–––	–––	–––	–––	–––
Wiper Control	#D8[Data] d8[Data]	0 1	OFF ON	–––	–––	0 : Off 1 : Fast	–––	–––	–––	–––	–––	–––	–––
Heater/Fan Control	#D9[Data] d9[Data]	0 1	OFF ON	–––	–––	(Heater) 0 : Auto 1 : On	–––	–––	–––	–––	–––	–––	–––
Tally Control	#DA[Data] #DA dA[Data]	0 1	OFF ON	O	O	O	O	O	O	O	O	O	O

ITEM	Command Control Confirmation Response	Data	Data Contents	UE4	UE150	HR140	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Request Latest Recall Preset No.	#S s[Data]	00 – 99	Preset 1 – Preset 100	O	O	O	O	O	O	O	O	O	O
Save Preset Memory	#M[Data] s[Data]	00 – 99	Preset001 – Preset100	O	O	O	O	O	O	O	O	O	O
Recall Preset Memory	#R[Data] s[Data]	00 – 99	Preset001 – Preset100	O	O	O	O	O	O	O	O	O	O
Preset completion notification	q[Data]	00 – 99	Preset001 – Preset100	O	O	O	O	O	O	O	O	O	O
Limitation Setting	#L[Data] l[Data]	Controller –> P/T 1 2 3 4 P/T –> Controller 0	Tilt Up Tilt Down Pan Left Pan Right Release Set	---	O	O	O	O	O	O	O	O	O
Request Zoom Position (Output D/A Data)	#GZ gz[Data]	555h – FFFh "---"	Wide – Tele @Power OFF	---	O	O	O	O	O	O	O	O	O
Request Focus Position (Output D/A Data)	#GF gf[Data]	555h – FFFh "---"	Near – Far @Power OFF	---	O	O	O	O	O	O	O	O	O
Request Iris Position (Output D/A Data)	#GI gi[Data1][Data2]	[Data1] 555h – FFFh "---" [Data2] 0 1	[Data1] Close – Open @Power OFF [Data2] Manual Iris Auto Iris	---	O	O	O	O	O	O	O	O	O
TALLY Enable	#TAE[Data] #TAE tAE[Data]	0 1	Disable Enable	O	O	---	O	O	O	O	O	O	O
Install Positon	#INS[Data] #INS iNS[Data]	0 1	Desktop Hanging	O	O	O	O	O	O	O	O	O	O
Speed With Zoom POS	#SWZ[Data] #SWZ sWZ[Data]	0 1	OFF ON	---	O	O	O	O	O	O	O	O	O
Pan/Tilt Absolute Position Control	#APC[Data1][Data2] #APC aPC[Data1][Data2]	[Data1] 0000h – 8000h – FFFFh [Data2] 0000h – 8000h – FFFFh	[Data1]Pan Position CCW Limit – Center – CW Limit [Data2]Tilt Position UP Limit – Center – DOWN Limit	supports only Pan 8000(Center) Tilt 8000(Center)	supports only Pan 2D09(CCW Limit) –D2F5(CW Limit) Tilt 1C71(UP Limit) –8E38(DOWN Limit)	supports only Pan 2D09(CCW Limit) –D2F5(CW Limit) Tilt 1C71(UP Limit) –8E38(DOWN Limit)	supports only Pan 2D09(CCW Limit) –D2F5(CW Limit) Tilt 5555(UP Limit) –8E38(DOWN Limit)	supports only Pan 2D09(CCW Limit) –D2F5(CW Limit) Tilt 5555(UP Limit) –8E38(DOWN Limit)	supports only Pan 2D09(CCW Limit) –D2F5(CW Limit) Tilt 5555(UP Limit) –8E38(DOWN Limit)	supports only Pan 2D09(CCW Limit) –D2F5(CW Limit) Tilt 1C71(UP Limit) –8E38(DOWN Limit)	supports only Pan 2D09(CCW Limit) –D2F5(CW Limit) Tilt 1C71(UP Limit) –8E38(DOWN Limit)	supports only Pan 2D09(CCW Limit) –D2F5(CW Limit) Tilt 5555(UP Limit) –8E38(DOWN Limit)	supports only Pan 2D09(CCW Limit) –D2F5(CW Limit) Tilt 5555(UP Limit) –8E38(DOWN Limit)

ITEM	Command / Control / Confirmation / Response	Data	Data Contents	UE4	UE150	HR140	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Limitation Control	#LC[Data1][Data2] #LC[Data1] lC[Data1][Data2]	[Data1] 1 2 3 4 [Data2] 0 1	[Data1] Tilt Up Tilt Down Pan Left Pan Right [Data2] Release Set	---	O	O	O	O	O	O	O	O	O
Pan Tilt Speed Control	#PTS[Data1][Data2] pTS[Data1][Data2]	[Data1] 01 – 50 – 99 [Data2] 01 – 50 – 99	[Data1] Left Max. Speed – Stop – Right Max. Speed [Data2] Down Max. Speed – Stop – UP Max. Speed	O	O	O	O	O	O	O	O	O	O
Wireless Control	#WLC[Data1] #WLC wLC[Data1]	0 1	Disable Enable	O	O	---	O	O	O	O	O	O	O
SOFTWARE VERSION	#QSV[Data1] qSV[Data1]V[Data2].[Data3][Data4][Data5][data6]	※	※	---	※	※	※	※	※	※	※	※	※
Error Status Info.	#RER rER[Data]	※	※	---	※	※	※	※	※	※	※	※	※
Lens Position Information	#LPI lPI[Data1][Data2][Data3]	[Data1] 555h – FFFh [Data2] 555h – FFFh [Data3] 555h – FFFh	[Data1]Zoom Position Wide – Tele [Data2]Focus Position Near – Far [Data3]Iris Position Close – Open	---	O	O	O	O	O	O	O	O	O
Lens Position Information Control	#LPC[Data] #LPC lPC[Data]	0 1	Off On	O	O	O	O	O	O	O	O	O	O
Smart Picture Flip	#SPF[Data] #SPF sPF[Data]	0 1	Off Auto	---	O	O	---	---	---	O	O	---	---
Flip Detect Angle	#FDA[Data] #FDA fDA[Data]	3Ch – 78h	60deg – 120deg	---	O	O	---	---	---	O	O	---	---
IR Remote Controller ID	#RID[Data] #RID rID[Data]	0 1 2 3	01 02 03 04	O	---	---	O	O	O	---	---	---	---
Resolution Control	#RZL[Data] #RZL rZL[Data]	0 1 2 3	640x360 320x180 1280x720 1920x1080	---	O	---	supports only 0(640x360) 1(320x180)	supports only 0(640x360) 1(320x180)	supports only 0(640x360) 1(320x180)	---	---	---	---
P/T Relative Position Control	#RPC[Data1][Data2] rPC[Data1][Data2]	[Data1] 0000h – 8000h – FFFFh	[Data1]Pan Position CCW Limit – Center – CW Limit	---	O	O	O	O	O	O	---	---	---
Image Freeze During Preset	#PRF[Data] #PRF pRF[Data]	0 1	OFF ON	---	O	O	O	O	O	O	---	---	---

ITEM	Command Control Confirmation Response	Data	Data Contents	UE4	UE150	HR140	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Preset Speed Table	#PST[Data] #PST pST[Data]	0 1 2	SLOW MID FAST	----	supports only 0(SLOW) 2(FAST)	supports only 0(SLOW) 2(FAST)	O	O	O	supports only 0(SLOW) 2(FAST)	----	----	----
P/T Absolute Position Control w/Speed	#APS[Data1][Data2][Data3][Data4] aPS[Data1][Data2][Data3][Data4]	[Data1] 0000h – 8000h – FFFFh [Data2] 0000h – 8000h – FFFFh [Data3] 00h – 1Dh [Data4] 0 1 2	[Data1]Pan Position CCW Limit – Center – CW Limit [Data2]Tilt Position UP Limit – Center – DOWN Limit [Data3]Preset Speed 1 – 30 [Data4]Preset Speed Table SLOW MID FAST	----	O	O	O	O	O	O	----	----	----
P/T Relative Position Control w/Speed	#RPS[Data1][Data2][Data3][Data4] rPS[Data1][Data2][Data3][Data4]	[Data1] 0000h – 8000h – FFFFh [Data2] 0000h – 8000h – FFFFh [Data3] 00h – 1Dh [Data4] 0 1 2	[Data1]Pan Position CCW Limit – Center – CW Limit [Data2]Tilt Position UP Limit – Center – DOWN Limit [Data3]Preset Speed 1 – 30 [Data4]Preset Speed Table SLOW MID FAST	----	O	O	O	O	O	O	----	----	----
Status Display Lamp	#LMP[Data] #LMP lMP[Data]	0 1	Disable Enable	----	O	----	----	----	----	O	----	----	----
FAN	#FAN[Data] #FAN fAN[Data]	0 1 2 3	Auto High Mid Low	----	O	Supports only 0(Auto) 1(On)	----	----	----	----	----	----	----
FAN2	#FA2[Data] #FA2 fA2[Data]	0 1 2 3	Auto High Mid Low	----	O	----	----	----	----	----	----	----	----
Wiper	#WIP[Data] #WIP wIP[Data]	0 1 2	Off Fast Slow	----	----	O	----	----	----	----	----	----	----
Washer	#WAS[Data] #WAS wAS[Data]	0 1	Off On	----	----	O	----	----	----	----	----	----	----

ITEM	Command Control Confirmation Response	Data	Data Contents	UE4	UE150	HR140	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Fan Status1	#FS1 fS1[Data]	0 1 2	Off On Error	---	O	Supports only 0(Off), 1(On)	---	---	---	---	---	---	---
Fan Status2	#FS2 fS2[Data]	0 1 2	Off On Error	---	O	Supports only 0(Off), 1(On)	---	---	---	---	---	---	---
Heater Status	#HS hS[Data]	0 1	Off On	---	---	O	---	---	---	---	---	---	---
Defroster Status	#DS dS[Data]	0 1	Off On	---	---	O	---	---	---	---	---	---	---
Washer PT Position	#WPT wPT	---	---	---	---	O	---	---	---	---	---	---	---
Washer PT Position Reset	#WPR wPR	---	---	---	---	O	---	---	---	---	---	---	---
Get Gain/ColorTemp/Shutter/ND	#PTG pTG[Data1][Data2][Data3][Data4][Data5][Data6]	[Data1] 08h – 11h – 1Ah – 32h 80h [Data2] 00000h – 3A98h [Data3] 0h 1h 2h 3h [Data4] 0001h – 2710 h [Data5] 00000h – 186A0h [Data6] 0 1 2 3	[Data1] (Gain) 0dB – 9dB – 18dB – 42dB AGC ON [Data2] 0K – 15000K [Data3] (Shutter Mode) Off Step Syncro ELC [Data4] (Shutter Step) 1/1 – 1/10000 [Data5] (Shutter Synchro) 0.0 [Hz] – 10000.0[Hz] [Data6] (ND) Throgh 1/4 ND 1/16 ND 1/64 ND	---	O	---	---	---	---	---	---	---	---
Get Pan/Tilt/Zoom/Focus/Iris	#PTV pTV[Data1][Data2][Data3][Data4][Data5]	[Data1] 0000h – 8000h – FFFFh [Data2] 0000h – 8000h – FFFFh [Data3] 555h – FFFh [Data4] 555h – FFFh [Data5] 555h – FFFh	[Data1] (Pan) ccwLimit – Center – cwLimit [Data2] (Tilt) UpLimit – Center – DownLimit [Data3] (Zoom) Wide – Tele [Data4] (Focus) Near – Far [Data5] (Iris) Close – Open	---	O	---	---	---	---	---	---	---	---

ITEM	Command / Control / Confirmation / Response	Data	Data Contents	UE4	UE150	HR140	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Get Pan/Tilt/Zoom/Focus/Iris	#PTD pTD[Data1][Data2][Data3][Data4][Data5]	[Data1] 0000h – FFFFh [Data2] 0000h – FFFFh [Data3] 000h – 3E7h [Data4] 00h – 63h [Data5] 00h – FEh FFh	[Data1] (Pan) 0000h – FFFFh [Data2] (Tilt) 0000h – FFFFh [Data3] (Zoom) 0 – 999 [Data4] (Focus) 0 – 99 [Data5] (Iris) F0.0 – F25.4 CLOSE	───	○	───	───	───	───	───	───	───	───
Tally Infomation	#TAA tAA[Data1][Data2][Data3][Data4][Data5][Data6][Data7][Data8][Data9]	[Data1] 0 1 [Data2] 0 1 [Data3] 0 1 [Data4] 0 1 [Data5] 0 1 [Data6] 0 1 [Data7] 0 1 [Data8] 0 1 [Data9] 0 1	[Data1] Red Tally Off Red Tally On [Data2] Wired Red Tally In Off Wired Red Tally In On [Data3] Command Red Tally In Off Command Red Tally In On [Data4] Green Tally Off Tally Green On [Data5] Wired Green Tally In Off Wired Green Tally In On [Data6] Command Green Tally In Off Command Green Tally In On [Data7] (Reserved) Tally Off (Reserved) Tally On [Data8] Wired (Reserved) Tally In Off Wired (Reserved) Tally In On [Data9] Command (Reserved) Tally In Off Command (Reserved) Tally In On	───	[Data4],[Data5],[Data6],[Data8]:unused	───	───	───	───	───	───	───	───

ITEM	Command Control Confirmation Response	Data	Data Contents	UE4	UE150	HR140	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Preset Speed Control	#UPVS[Data] #UPVS uPVS[Data]	[Preset Speed Unit : 0 (SpeedTable)] 275h 300h 325h 350h 375h 400h 425h 450h 475h 500h 525h 550h 575h 600h 625h 650h 675h 700h 725h 750h 775h 800h 825h 850h 875h 900h 925h 950h 975h 999h [Preset Speed Unit : 1 (Time)] 001h – 063h	[Preset Speed Unit : 0 (SpeedTable)] 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 [Preset Speed Unit : 1 (Time)] 01 – 99	–––	○	○	○	○	○	○	○	○	○
Delete Preset Memory	#C[Data] s[Data]	00 – 99	Preset001 – Preset100	○	○	○	○	○	○	○	○	○	○

ITEM	Command Control Confirmation Response	Data	Data Contents	UE4	UE150	HR140	UE70series	HE42series	HE40series	HE130	HE120	HE60	HE50
Preset Entry Confirmation	#PE[Data1] pE[Data1]	[Data1] 00h 01h 02h [Data2] 0000000000h – FFFFFFFFFFh (bit0) 0 1 (bit1) 0 1 – (39bit) 0 1	[Data1] Preset 001～040 Preset 041～080 Preset 081～100 [Data2] PRESET No.(Data1*40 + 1) No Entry Entry PRESET No.(Data1*40 + 2) No Entry Entry – PRESET No.(Data1*40 + 40) No Entry Entry	○	○	○	○	○	○	○	○	○	○

※Details

▼OSH

Parameters vary depending on model and System Format

HR140, HE130		UE70series, HE42series, HE40series, HE60, HE50	HE120	UE150, UB300
(59.94p/59.94i) 0(OFF) 3(1/100) 4(1/120) 5(1/250) – C(ELC) (29.97p) 0(OFF) 2(1/60) 4(1/120) 5(1/250) – C(ELC)	F(1/30) (23.98p) 0(OFF) 2(1/60) 4(1/120) 5(1/250) – D(1/24) (50p/50i) 0(OFF) 2(1/60) 3(1/120) 5(1/250) – C(ELC) (25p) 0(OFF) 2(1/60) 3(1/120) 5(1/250) – C(ELC) E(1/25)	0(OFF), 3(1/100 NTSC) (1/120 PAL), 5(1/250) – B(Synchro-Scan)	0(OFF), 3(1/100 NTSC) (1/120 PAL), 5(1/250) – C(ELC)	---

Parameters vary depending on model

UE4	UE150	HR140	UB300	UE70series	HE42series
[59.94Hz] 1h(720/59.94p) 10h(1080/59.94p) 14h(1080/29.97p) 17h(2160/29.97p) [50Hz] 2h(720/50p) 11h(1808/50p) 15h(1080/25p) 18h(2160/25p) [60Hz] 0h(720/60p) 20h(1080/60p) 24h(2160/30p) 25h(1080/30p)	[59.94Hz] 01h(720/59.94p) 04h(1080/59.94i) 07h(1080/29.97psF) 10h(1080/59.94p) 14h(1080/29.97p) 16h(1080/23.98p (over 59.94i/p)) 17h(2160/29.97p) 19h(2160/59.94p) [50Hz] 02h(720/50p) 05h(1080/50i) 08h(1080/25psF) 11h(1080/50p) 15h(1080/25p) 18h(2160/25p) 1Ah(2160/50p) [24Hz] 21h(2160/24p) 22h(1080/24p) [23.98Hz] 0Ah(1080/23.98psF) 1Bh(2160/23.98p) 23h(1080/23.98p)	[59.94Hz] 1h(720/59.94p) 4h(1080/59.94i) 7h(1080/29.97psF) Ah(1080/23.98psF) 10h(1080/59.95p) 14h(1080/29.97p) 16h(1080/23.98p) [50Hz] 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 11h(1080/50p) 15h(1080/25p)	[59.94Hz] 00h(720/60p) 01h(720/59.94p) 04h(1080/59.94i) 07h(1080/29.97psF) 0Ah(1080/23.98psF) 10h(1080/59.94p) 16h(1080/23.98p) 17h(2160/29.97p) 19h(2160/59.94p) 1Bh(2160/23.98p) 1Ch(2160/29.97psF) 1Eh(2160/23.98psF) 1Fh(2160/60p) 20h(1080/60p) 44h(1080/59.94i CROP) 50h(1080/59.94p CROP) [50Hz] 02h(720/50p) 05h(1080/50i) 08h(1080/25psF) 11h(1080/50p) 18h(2160/25p) 1Ah(2160/50p) 1Dh(2160/25psF) 45h(1080/50i CROP) 51h(1080/50p CROP)	[59.94Hz] 1h(720/59.94p) 4h(1080/59.94i) 7h(1080/29.97psF) 10h(1080/59.94p) 14h(1080/29.97p) 17h(2160/29.97p) 80h(Auto) [50Hz] 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 11h(1080/50p) 15h(1080/25p) 18h(2160/25p) 80h(Auto)	[59.94Hz] 1h(720/59.94p) 4h(1080/59.94i) 7h(1080/29.97psF) 10h(1080/59.94p) 14h(1080/29.97p) 80h(Auto) [50Hz] 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 11h(1080/50p) 15h(1080/25p) 80h(Auto)

Parameters vary depending on model

HE40Series	HE130	HE120	HE60	HE50
=== HDMI Model === [59.94Hz] 1h(720/59.94p) 4h(1080/59.94i) 7h(1080/29.97psF) 10h(1080/59.95p) 14h(1080/29.97p) 80h(Auto) [50Hz] 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 11h(1080/50p) 15h(1080/25p) 80h(Auto) === SDI Model === [59.94Hz] 1h(720/59.94p) 4h(1080/59.94i) 7h(1080/29.97psF) 14h(1080/29.97p) [50Hz] 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 15h(1080/25p)	[59.94Hz] 1h(720/59.94p) 4h(1080/59.94i) 7h(1080/29.97psF) Ah(1080/23.98psF) 10h(1080/59.95p) 12h(480/59.94p) 14h(1080/29.97p) 16h(1080/23.98p) [50Hz] 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 11h(1080/50p) 13h(576/50p) 15h(1080/25p)	[59.94Hz] 1h(720/59.94p) 4h(1080/59.94i) Bh(480/59.94i) 10h(1080/59.94p) 12h(480/59.94p) [50Hz] 2h(720/50p) 5h(1080/50i) Dh(576/50i) 11h(1808/50p) 13h(576/50p)	[H Model/59.94Hz] 1h(720/59.94p) 4h(1080/59.94i) Bh(480/59.94i) 10h(1080/59.94p) 12h(480/59.94p) [H Model/50Hz] 2h(720/50p) 5h(1080/50i) Dh(576/50i) 11h(1808/50p) 8h(1080/25psf) 13h(576/50p) [S Model/59.94Hz] 1h(720/59.94p) 4h(1080/59.94i) Bh(480/59.94i) [S Model/50Hz] 2h(720/50p) 5h(1080/50i) Dh(576/50i)	[N Model] 1h(720/59.94p) 4h(1080/59.94i) Bh(480/59.94i) [E,MC Model] 2h(720/50p) 5h(1080/50i) Dh(576/50i) [H Model/59.94Hz] 1h(720/59.94p) 4h(1080/59.94i) Bh(480/59.94i) 10h(1080/59.94p) 7h(1080/29.97psF) [H Model/50Hz] 2h(720/50p) 5h(1080/50i) Dh(576/50i) 11h(1808/50p) 8h(1080/25psf) [S Model/59.94Hz] 1h(720/59.94p) 4h(1080/59.94i) Bh(480/59.94i) 7h(1080/29.97psF) [S Model/50Hz] 2h(720/50p) 5h(1080/50i) Dh(576/50i) 8h(1080/25psf)

▼OSD:B1

Parameters vary depending on model

HR140, HE130		UE70series, HE42series, HE40series	
[Data]	Data Contents	[Data]	Data Contents
000h – 078h	2000K,2010K,2020K,2040K,2050K,2070K,2080K,2090K,2110K,2120K,2140K,2150K,2170K, 2180K,2200K,2210K,2230K,2240K,2260K,2280K,2300K,2310K,2330K,2340K,2360K,2380K, 2400K,2420K,2440K,2460K,2480K,2500K,2520K,2540K,2560K,2600K,2620K,2640K,2680K, 2700K,2720K,2740K,2780K,2800K,2820K,2850K,2870K,2920K,2950K,2970K,3000K,3020K, 3070K,3100K,3120K,3150K,3200K,3250K,3270K,3330K,3360K,3420K,3450K,3510K,3570K, 3600K,3660K,3720K,3780K,3840K,3870K,3930K,3990K,4050K,4110K,4170K,4240K,4320K, 4360K,4440K,4520K,4600K,4680K,4760K,4840K,4920K,5000K,5100K,5200K,5300K,5400K, 5500K,5600K,5750K,5850K,6000K,6150K,6300K,6450K,6650K,6800K,7000K,7150K,7400K, 7600K,7800K,8100K,8300K,8600K,8900K,9200K,9600K,10000K,10500K,11000K,11500K, 12000K,12500K,13000K,14000K,15000K	000h 001h – 04A 04B	2400K 2500K – 9800K 9900K （100K step）

▼OSG:5D

Parameters vary depending on System Frequency

UB300			
59.94p/59.94i	50p/50i	29.97p/23.98p	25p
04h(1/100) 05h(1/120) 06h(1/125) 07h(1/250) 08h(1/500) 09h(1/1000) 0Ah(1/1500) 0Bh(1/2000) 0Ch(1/180.0deg) 0Dh(1/172.8deg) 0Eh(1/144.0deg) 0Fh(1/120.0deg) 10h(1/90.0deg) 11h(1/45.0deg)	02h(1/60) 04h(1/100) 06h(1/125) 07h(1/250) 08h(1/500) 09h(1/1000) 0Ah(1/1500) 0Bh(1/2000) 0Ch(1/180.0deg) 0Dh(1/172.8deg) 0Eh(1/144.0deg) 0Fh(1/120.0deg) 10h(1/90.0deg) 11h(1/45.0deg)	00h(1/48) 01h(1/50) 02h(1/60) 03h(1/96) 04h(1/100) 05h(1/120) 06h(1/125) 07h(1/250) 08h(1/500) 09h(1/1000) 0Ah(1/1500) 0Bh(1/2000) 0Ch(1/180.0deg) 0Dh(1/172.8deg) 0Eh(1/144.0deg) 0Fh(1/120.0deg) 10h(1/90.0deg) 11h(1/45.0deg)	00h(1/48) 01h(1/50) 02h(1/60) 03h(1/96) 04h(1/100) 06h(1/125) 07h(1/250) 08h(1/500) 09h(1/1000) 0Ah(1/1500) 0Bh(1/2000) 0Ch(1/180.0deg) 0Dh(1/172.8deg) 0Eh(1/144.0deg) 0Fh(1/120.0deg) 10h(1/90.0deg) 11h(1/45.0deg)

▼OAW

Parameter meaning var between control command and response for confirmation command

Control		Confirmation	
0	ATW	0	ATW
1	AWC A	1	---
2	AWC B	2	AWC A
3	ATW	3	AWC B
4	PRESET 3200K	4	PRESET 3200K
5	PRESET 5600K	5	PRESET 5600K
6	PRESET 4500K	6	PRESET 4500K
7	PRESET 6000K	7	PRESET 6000K
8	PRESET 2800K	8	PRESET 2800K
9	VAR	9	VAR

Parameters vary depending on model

		UE150/HR140/UE70series/HE42series/HE40series/HE130/HE120	HE60/HE50	UE4
Control	0	ATW	ATW	ATW
	1	AWC A	AWC A	AWC A
	2	AWC B	AWC B	AWC B
	3	ATW	ATW	ATW
	4	PRESET 3200K	---	PRESET 3200K
	5	PRESET 5600K	---	PRESET 5600K
	6	---	---	---
	7	---	---	---
	8	---	---	---
	9	VAR	---	---
Confirmation	0	ATW	ATW	ATW
	1	---	---	---
	2	AWC A	AWC A	AWC A
	3	AWC B	AWC B	AWC B
	4	PRESET 3200K	---	PRESET 3200K
	5	PRESET 5600K	---	PRESET 5600K
	6	---	---	---
	7	---	---	---
	8	---	---	---
	9	VAR	---	---

▼OSC

Parameter meaning var between control command and response for confirmation command

	Control		Confirmation
1	2(90deg)	1	―――
2	3(180deg)	2	1(0deg)
3	4(270deg)	3	2(90deg)
4	1(0deg)	4	3(180deg)
5	―――	5	4(270deg)

▼#QSV

Parameters vary depending on model

UE150	HR140	UE70series	HE40series	HE130	HE120	HE60	HE50
[Data1] Servo CPU Camera CPU COM FPGA Main/Network CPU AVIO FPGA Interface CPU Lens CPU Interface EEPROM reserved BE EEPROM [Data2] MAJOR VERSION [Data3] MINOR VERSION [Data4] (Debug Build) (Release Build) [Data5] (REVISION) [data6] NTSC PAL	[Data1] Servo CPU CameraMain CPU COM FPGA Network CPU AVIO FPGA Interface CPU Lens FPGA Interface EEPROM reserve reserve [Data2] MAJOR VERSION [Data3] MINOR VERSION [Data4] (Debug Build) (Release Build) [Data5] (REVISION) [data6] NTSC PAL	[Data1] Servo CPU Cam CPU FPGA BE CPU reserve Interface CPU reserve Interface EEPROM reserve reserve [Data2] 00 [Data3] VERSION [Data4] L [Data5] 00 [data6] NTSC PAL	[Data1] Servo CPU Cam CPU FPGA BE CPU reserve Interface CPU reserve Interface EEPROM reserve reserve [Data2] 00 [Data3] VERSION [Data4] L [Data5] 00 [data6] NTSC PAL	[Data1] Servo CPU CameraMain CPU COM FPGA Network CPU AVIO FPGA Interface CPU Lens FPGA Interface EEPROM reserve reserve [Data2] MAJOR VERSION [Data3] MINOR VERSION [Data4] (Debug Build) (Release Build) [Data5] (REVISION) [data6] NTSC PAL	[Data1] Servo CPU CameraMain CPU Frontend FPGA Network CPU Backend FPGA Interface CPU Lens FPGA Interface EEPROM Camera EEPROM Lens EEPROM [Data2] MAJOR VERSION [Data3] MINOR VERSION [Data4] (Debug Build) (Release Build) [Data5] (REVISION) [data6] NTSC PAL	[Data1] Pan Tilt CPU Camera CPU Camera FPGA Network CPU OUT FPGA reserve reserve reserve Camera EEPROM reserve [Data2] MAJOR VERSION [Data3] MINOR VERSION [Data4] (Debug Build) (Release Build) [Data5] (REVISION) [data6] NTSC PAL Other	[Data1] Pan Tilt CPU Camera CPU Camera FPGA Network CPU OUT FPGA reserve reserve reserve reserve reserve [Data2] MAJOR VERSION [Data3] MINOR VERSION [Data4] (Debug Build) (Release Build) [Data5] (REVISION) [data6] NTSC PAL Other

▼#RER
The content of the error varies depending on the model

UE150	HR140	UE70series, HE42 Series	HE40 Series
00h Normal	00h：Normal	00h Normal(No Error)	00h Normal(No Error)
03h Motor Driver Error	03h：Motor Driver Error	03h Motor Driver Error	03h Motor Driver Error
04h Pan Sensor Error	04h：Pan Sensor Error	04h Pan Sensor Error	04h Pan Sensor Error
05h Tilt Sensor Error	05h：Tilt Sensor Error	05h Tilt Sensor Error	05h Tilt Sensor Error
06h Controller RX Over run Error	06h：Controller RX Over run Error	06h IF/FPGA UART Over run Error	06h IF/FPGA UART Over run Error
07h Controller RX Framing Error	07h：Controller RX Framing Error	07h IF/FPGA UART Framing Error	07h IF/FPGA UART Framing Error
08h Network RX Over run Error	08h：Network RX Over run Error	08h IF/NET　UART Over run Error	08h IF/NET　UART Over run Error
09h Network RX Framing Error	09h：Network RX Framing Error	09h IF/NET　UART Framing Error	09h IF/NET　UART Framing Error
17h Controller RX Command Buffer Overflow	17h：Controller RX Command Buffer Overflow	17h IF/FPGA UART Buffer Overflow	17h IF/FPGA UART Buffer Overflow
19h Network RX Command Buffer Overflow	19h：Network RX Command Buffer Overflow	19h IF/NET　UART Buffer Overflow	19h IF/NET　UART Buffer Overflow
21h System Error	21h：System Error	21h System Error(IF/SERVO Error)	21h System Error(IF/SERVO Error)
22h Spec Limit Over	22h：Spec Limit Over	22h PT Limit Over	22h PT Limit Over
23h FPGA Config Error	23h：FPGA Config Error	24h NET　Life-monitoring Error	24h NET　Life-monitoring Error
24h NET　Life-monitoring Error	25h：CAMERA　communication Error	25h BE　Life-monitoring Error	25h BE　Life-monitoring Error
25h BE　Life-monitoring Error	26h：CAMERA RX Over run Error	26h IF/BE UART Buffer Overflow	26h IF/BE UART Buffer Overflow
26h IF/BE UART Buffer Overflow	27h：CAMERA RX Framing Error	27h IF/BE UART Framing Error	27h IF/BE UART Framing Error
27h IF/BE UART Framing Error	28h：CAMERA RX Command Buffer Overflow	28h IF/BE UART Buffer Overflow	28h IF/BE UART Buffer Overflow
28h IF/BE UART Buffer Overflow	31h：Fan1 Error	29h CAM　Life-monitoring Error	29h CAM　Life-monitoring Error
29h CAM　Life-monitoring Error	32h：Fan2 Error		
31h Fan1 error	33h：High Temp		
32h Fan2 error	36h：Low Temp		
33h High Temp	39h：Wiper Error		
36h Low Temp	40h：Temp Sensor Error		
40h Temp Sensor Error	41h Lens Initialize Error		
41h Lens Initialize Error	42h PT. Initialize Error		
42h PT. Initialize Error	50h：MR Level Error		
50h：MR Level Error	51h：GYRO Initial Error		
52h：MR Offset Error	52h：MR Offset Error		
53h：Origin Offset Error	53h：Origin Offset Error		
54h:Angle MR Sensor Error			
55h:PT. Gear Error			
56h:Motor Disconnect Error			

▼#RER（Continued）

The content of the error varies depending on the model

HE130	HE120	HE60	HE50
V1.00 00h：Normal 03h：Motor Driver Error 04h：Pan Sensor Error 05h：Tilt Sensor Error 06h：Controller RX Over run Error 07h：Controller RX Framing Error 08h：Network RX Over run Error 09h：Network RX Framing Error 17h：Controller RX Command Buffer Overflow 19h：Network RX Command Buffer Overflow 21h：System Error 22h：Spec Limit Over 23h：FPGA Config Error 25h：CAMERA　communication Error 26h：CAMERA RX Over run Error 27h：CAMERA RX Framing Error 28h：CAMERA RX Command Buffer Overflow	V1.00 00h：Normal 03h：Motor Driver Error 04h：Pan Sensor Error 05h：Tilt Sensor Error 06h：Controller RX Over run Error 07h：Controller RX Framing Error 08h：Network RX Over run Error 09h：Network RX Framing Error 17h：Controller RX Command Buffer Overflow 19h：Network RX Command Buffer Overflow 21h：System Error 22h：Spec Limit Over 23h：FPGA Config Error 24h：Network communication Error 25h：Lens Initialize Error	00h：Normal 03h：Motor Driver Error 04h：Pan Sensor Error 05h：Tilt Sensor Error 06h：Controller RX Over run Error 07h：Controller RX Framing Error 08h：Network RX Over run Error 09h：Network RX Framing Error 17h：Controller RX Command Buffer Overflow 19h：Network RX Command Buffer Overflow 21h：System Error 22h：Spec Limit Over 23h：FPGA Config Error 24h：Network communication Error 30h：Lvds_Adjustmet_NG 31h：Bar_Signal_Check_NG 32h：H_Sync_Check_NG 33h：HDMI_Check_NG	V1.00 00h：Normal 03h：Motor Driver Error 04h：Pan Sensor Error 05h：Tilt Sensor Error 06h：Controller RX Over run Error 07h：Controller RX Framing Error 08h：Network RX Over run Error 09h：Network RX Framing Error 17h：Controller RX Command Buffer Overflow 19h：Network RX Command Buffer Overflow 21h：System Error 22h：Spec Limit Over 23h：FPGA Config Error 24h：Network communication Error 30h：Lvds_Adjustmet_NG 31h：Bar_Signal_Check_NG

▼XSF

Parameter meaning var between control command and response for confirmation command

UB300

	Control		Confirmation
0	―――	0	current
1	current	1	Scene1
2	Scene1	2	Scene2
3	Scene2	3	Scene3
4	Scene3	4	Scene4
5	Scene4	5	Scene5
6	Scene5	6	Scene6
7	Scene6	7	Scene7
8	Scene7	8	Scene8
9	Scene8	9	―――

UE4

	Control		Confirmation
0	―――	0	Full Auto
1	Full Auto	1	Shutter Priority
2	Shutter Priority	2	Manual
3	Manual	3	―――

Others

	Control		Confirmation
0	―――	0	Scene1(Manual1)
1	Scene1(Manual1)	1	Scene2(Manual2)
2	Scene2(Manual2)	2	Scene3(Manual3)
3	Scene3(Manual3)	3	Scene4(FullAuto)
4	Scene4(FullAuto)	4	Scene1(Manual1)

▼#O

Parameter meaning var between control command and response for confirmation command

	Control		Confirmation
0	Power OFF	0	Power OFF
1	Power ON	1	Power ON
3	―――	3	Starting