PROTOCOL of CONVERTIBLE CAMERA and PAN/TILT SYSTEM
Ver3.01 (June/23, 2017)

AW-E300A/AW-E600/AW-E800/AW-E800A/AW-E350
AW-E650/AW-E655/AW-E750/AW-E860/AW-HE100
AK-HC1500/AK-HC1800/AW-HE870
AW-PH100/AW-PH300A/AW-PH500/AW-PH600/AW-PH350
AW-PH400(with AW-RP400/IF400)/AW-PH360/AW-PH650/AW-PH405
AW-HE130/AW-HE60/AW-HE120/AW-HE50
AW-HE40/AW-HE65/AW-HE70/AW-UE70
AK-UB300/AW-HR140

Specifications are subject to change without notice.

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Camera Control Protocol

This is a program to control Panasonic Convertible Camera system from PC by serial communication.

Method	Half Duplex
Commnunication Speed	9600bps
Data bit	8bit
Stop bit	1bit
Prity	None
Flow contorol	None

(Electrical Specification)
Compatible with RS422
2line system(TXD/send, RXD/Recieve)

(Process)
(1) PC —— Command ⟶ CAMERA
(2) CAMERA —— ACK(H'06) ⟶ PC
(3) CAMERA Processes "Command"
(4) CAMERA —— Command' ⟶ PC

Normally it is processed as mentioned above,but in case of error,it ends by replying error code(*1) in (4).
Command and Command' are not always the same.
Camera does not accept a command unless command process finishes and returns the return code

(*1)Error code

Item	Error code	Contents
Unsupported	[STX]ER1:***[ETX]	The Command is not supported by CAMERA.
System busy	[STX]ER2:***[ETX]	CAMERA can not process the command for running the other processing.
Out of range	[STX]ER3:***[ETX]	Data is out of range.

*** : Command name (maximum 3 letters.)

<Basic pattern of Command>

Camera Command([STX][Command][ETX])

Header is [STX] (H'02) and Delimiter for [ETX] (H'03), and Command of ASCII and / or Data can be inserted in between. Division of Command and Data is ": (H'3A)".

There are 2 kinds of Commands , one is for letters and the other for numbers.
In total , there are 37 kinds of ASCII code code 0(H'30) to 9(H'39), A(H'41) to Z(H'5A),/(H'2F).
For Command of (1) to (6) and (10) PC -> Camera(To), Camera -> PC(From) are the same in both ways, but for (7),(8) and (11) it is different between (To) and (From).

(1)Pattern 1 (For the Camera Operation) There is no Data , only Command.

[STX]	O	?	S	[ETX]
H'02	H'4F	H'**	H'53	H'03

(2)Pattern 2 (Camera mode setting)
In order of Command, ":", Data. Data length id different by each Command and maximum 3 letters.

[STX]	O	?	?	:	?	(	?	?)	[ETX]
H'02	H'4F	H'**	H'**	H'3A	H'**	(H'**	H'**)		H'03
	Command				Data				

Caution : Data length is fixed for each Command and not able to decrease.

(3)Pattern 3 (Selection of Scene) In order of Command, ":", Data. Data length=1 Byte

[STX]	X	S	F	:	?	[ETX]
H'02	H'58	H'53	H'46	H'3A	H'**	H'03

(4)Pattern 4 (Monitoring) In order of Command, ":", Data. Data length=1 Byte

[STX]	D	?	?	:	?	[ETX]
H'02	H'44	H'**	H'**	H'3A	H'**	H'03

(5)Pattern 5 (Other Menus)

In order of Command, ":", Number Command(2 Bytes), ":", Data. Data length=2 Bytes.

[STX]	O	S	D	:	?	?	:	?	?	[ETX]
H'02	H'4F	H'53	H'44	H'3A	H'**	H'**	H'3A	H'**	H'**	H'03

In this pattern, numbers at rear part of command (6th and 7th letters) are the command and Data follows by 2bytes (9th and 10th letters)

(6)Pattern 6 (Questions to Camera)

There is only Command, not Data

[STX]	Q	?	?	[ETX]
H'02	H'51	H'**	H'**	H'03

This Command requires the programmed number of the Camera and Camera returns adding Data.

Data is 2 Bytes but there are same exceptions. It is specified as Q(H'51) -> O(H'4F).

(7)Pattern 7 (Questions to Camera 2)

In order of Command, ":", number of Command. No Data. Command from Camera is with Data.

[STX]	Q	S	D	:	?	?	[ETX]
H'02	H'51	H'53	H'44	H'3A	H'**	H'**	H'03

This Command also requires the programmed number of the Camera and the Command is converted into numbers. It can be programmed only by Camera User Mode and is Data length , which Camera returns is 2 Bytes.(There are same exceptions.) It is Q(H'51) -> O(H'4F) same as (7) . When Camera receives unprocessable number Command, it returns as Data = number Command.

a) PC -> CAMERA

[STX]	Q	S	D	:	1	4	[ETX]
H'02	H'51	H'53	H'44	H'3A	H'31	H'34	H'03

b) CAMERA -> PC

[STX]	O	S	D	:	1	4	:	1	4	[ETX]
H'02	H'4F	H'53	H'44	H'3A	H'31	H'34	H'3A	H'31	H'34	H'03

(8)Pattern 8 (Related to Contact Closer P/T)

There is only Command, not Data

[STX]	H	?	?	[ETX]
H'02	H'48	H'**	H'**	H'03

Command for Lens I/F Card (AW-PB308) and control of lens for AW-E655. Camera repeats the same Command.

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation	Remarks	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
MODEL NUMBER	---		QID	OID:[Data]	00 01 02 03	---	AW-E300 AW-E300P AW-E300E AW-E600 AW-E600P AW-E600E AW-E800 AW-E800P AW-E800E		to Ver.187		to Ver.055	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
							Returns model No. by ASCII	Ex. OID:AW-E800P	from Ver.188		from Ver.056	Ver.001						V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V7.00	V1.00
SOFTWARE VERSION	---		QSV	OSV:[Data]			Software Version		Ver.001									V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	---	V1.00
AWC/AWB SET	OWS	OWS ER3:OWS ER2:OWS	---		---	AWC/AWB Start AWC/AWC OK AWC/AWB NG AWC/AWB NG(busy)	---	Response Command returns when AWC/AWB finish	Ver.001									V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V7.00	V1.00
ABC/ABB SET	OAS	OAS ER3:OAS ER2:OAS	---		---	ABC/ABB Start ABC/ABB OK ABC/ABB NG ABC/ABB NG(busy)	---	Response Command returns when ABC/ABB finish	Ver.001									V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	---	---	V1.00	V1.00	V1.00	V1.00	V7.00	V1.00
AWC MODE	OAW:[Data]		QAW	OAW:[Data]	0 1 2 3 4 5 6 7 8 9	ATW AWC A AWC B ATW PRESET 3200K PRESET 5600K PRESET 4500K PRESET 6000K PRESET 2800K VAR	ATW --- AWC A AWC B PRESET 3200K PRESET 5600K PRESET 4500K PRESET 6000K PRESET 2800K VAR	Be careful because Data of control and question is different.	Ver.001									V1.00L01	---	---	V1.00L01	V1.00 supports only ATW,AWC A,AWC B	V3.00 supports only ATW,AWC A,AWC B	V1.00 supports only ATW AWC A AWC B PRESET 3200K PRESET 5600K	V1.00 supports only ATW AWC A AWC B PRESET 3200K PRESET 5600K VAR	V1.00 supports only ATW AWC A AWC B PRESET 3200K PRESET 5600K VAR	V1.00 supports only ATW AWC A AWC B PRESET 3200K PRESET 5600K VAR	---	V1.00 supports only ATW AWC A AWC B PRESET 3200K PRESET 5600K VAR
DETAIL	ODT:[Data]		QDT	ODT:[Data]	0 1 2 0 1 2	OFF LOW HIGH <u>HC1500, HC1800, HE130, UB300, HR140</u> OFF ON ON			Ver.001									V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V7.00	V1.00
HD DETAIL	OHD:[Data]		QHD	OHD:[Data]	0 1 2	<u>AW-HE870</u> OFF LOW HIGH			---									---	---	---	V1.00L01 Only User mode	---	---	---	---	---	---	---	---
GAIN UP	OGU:[Data]		QGU	OGU:[Data]	00h 01h 08h - 11h - 1Ah - 26h 27h 28h 80h 08h - 11h - 1Ah - 38h 80h 02h - 1Ah 80h 08 - 14 15 16 17 18 19 1A 80	AGC Low AGC High 0dB - 9dB - 18dB - 30dB N/Eye Low N/Eye N/Eye High AGC ON <u>AW-HE130,HE40,HE70,HR140</u> 0dB - 9dB - 18dB - 48dB AGC ON <u>AW-HE870</u> -6dB - 18dB AGC ON <u>AW-HE100</u> 0dB - 12dB ER3 ER3 15dB ER3 ER3 18dB AGC ON		above 18dB, from Ver.188	above 18dB, from Ver.188	above 18dB, from Ver.056	Ver.001	Ver.001 AGC Low -> Max Gain=18dB AGC High -> Max Gain=30dB if use AGC ON, Max Gain of AGC is set up by the AGC MAX command(OSD:69).		V1.00L01	---	---	V1.00L01	V1.00 supports only 08(0dB)-1A(18dB), 80(AGC ON)	V3.00 supports only 08(0dB)-1A(18dB), 80(AGC ON)	V1.00 supports only 08(0dB)-1A(18dB), 80(AGC ON)	V1.00 supports only 08(0dB)-2C(36dB), 80(AGC ON)	V1.00 supports only 08h:0dB-38h:48dB 80h:AGC ON Use only 3dB Step.	V1.00 supports only 08h:0dB-38h:48dB 80h:AGC ON Use only 3dB Step.	---	V1.00 supports only 08(0dB)-32(42dB), 80(AGC ON)

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation	Remarks	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
SHUTTER	OSH:[Data]		OSH	OSH:[Data]	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		Ver.001									V1.00L01	---	---	V1.00L01	V1.00 supports only 0(OFF), 3(1/100 NTSC) (1/120 PAL), 5(1/250) ~ B(Synchro-Scan)	V3.00 supports only 0(OFF), 3(1/100 NTSC) (1/120 PAL), 5(1/250) ~ B(Synchro-Scan)	V1.00 supports only 0(OFF), 3(1/100 NTSC) (1/120 PAL), 5(1/250) ~ C(ELC)	V1.00 (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)	V1.00 supports only 0(OFF), 3(1/100 NTSC) (1/120 PAL), 5(1/250) ~ B(Synchro-Scan)	V1.00 supports only 0(OFF), 3(1/100 NTSC) (1/120 PAL), 5(1/250) ~ B(Synchro-Scan)	---	V1.00 (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) 3(1/120) 5(1/250) ~ C(ELC) (25p) 0(OFF) 3(1/120) 5(1/250) ~ C(ELC) E(1/25)
SYNCHRO SCAN	OMS:[Data]		OMS	OMS:[Data]	001h ~ 105h 001h ~ 137h 721h ~ 8DFh 721h ~ 8DFh 721h ~ 8DFh 001h ~ 1ABh 001h ~ 1C2h	N Model(59Hz) 60.34Hz ~ 15.75kHz E MC Model(50Hz) 50.24Hz ~ 15.63kHz AK-HC1500/HC1800(60Hz) 60.32Hz/60.32Hz ~ 150.0Hz/149.2Hz AK-HC1500/HC1800(50Hz) 50.27Hz/50.27Hz ~ 125.0Hz/124.3Hz AK-HC1500, HC1800(FILM MENU) 358.1deg ~ 144.0deg HE-100N 60Hz ~ 248.8Hz HE-100E MC 50.0Hz ~ 250.0Hz		Ver.001									V1.00L01 Only User mode	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01 (N Model) 001h(61.19 Hz) ~ 109h(1466 Hz) (E.MC Model) 001h(50.99 Hz) ~ 10Dh(1478 Hz)	V1.00 (N Model) 001h(60.17Hz) ~ 0FFh(644.25Hz) (E.MC Model) 001h(50.16Hz) ~ 0FFh(542.42Hz)	V3.00 (59Hz) 001h(60.17Hz) ~ 0FFh(644.25Hz) (50Hz) 001h(50.16Hz) ~ 0FFh(542.42Hz)	V1.00 (59Hz) 001h(60.17Hz) ~ 0FFh(646.21Hz) (50Hz) 001h(50.19Hz) ~ 0FFh(537.13Hz)	V1.00 (59Hz) 001h(60.15Hz) ~ 0FFh(642.21Hz) (50Hz) 001h(50.15Hz) ~ 0FFh(535.71Hz)	V1.00 (59.94Hz) 001h(59.94Hz) ~ 0FFh(660.09Hz) (50Hz 001h(50.00Hz) ~ 0FFh(570.12Hz)	V1.00 (59.94Hz) 001h(59.94Hz) ~ 0FFh(660.09Hz) (50Hz 001h(50.00Hz) ~ 0FFh(570.12Hz)	---	V1.00 (59Hz) 001h(60.15Hz) ~ 0FFh(642.21Hz) (50Hz) 001h(50.15Hz) ~ 0FFh(535.71Hz)
FIELD/FRAME	OFR:[Data]		OFF	OFF:[Data]	0 1 2	Field Frame1 Frame2		Only User Mode	Ver.001									---	---	---	---	---	---	---	---	---	---	---	---
V.RESOLUTION					0 1 2	Normal (Fine) Fine	Normal --- FIne	Only Halogen,Fluorescent,Outdoor mode														---	---	---	---	---	---	---	---
IRIS AUTO/MANUAL	ORS:[Data]		ORS	ORS:[Data]	0 1	Manual Auto			Ver.001									V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V7.00	V1.00
MANUAL IRIS VOLUME	ORV:[Data]		ORV	ORV:[Data]	000h ~ 3FFh	close ~ open			Ver.001									V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V7.00	V1.00
PICTURE LEVEL A.IRIS LEVEL IRIS OFFSET	OSD:48:[Data]		QSD:48	OSD:48:[Data]	00h ~ 31h 32h 33h ~ 64h 00h ~ 64h 00-2Eh ~ 31h 32h 33h ~ 36-64h	-50 ~ -1 0 +1 ~ +50 AK-HC1500, HC1800, UB300 0 ~ 100 AW-HE100 -4 ~ -1 0 +1 ~ +4		from Ver.188	from Ver.056	Ver.001							V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	V1.00 Data/10	V3.00 Data/10	V1.00 Data/5	V1.00	V1.00 Data/5	V1.00 Data/5	V7.00	V1.00
LIGHT PEAK/AVG A.IRIS PEAK/AVG	OPV:[Data]		QPA	OPA:[Data]	00h ~ 31h 32h 33h ~ 64h 00h ~ 64h	P50 ~ P1 0 A1 ~ A50 AK-HC1500, HC1800 0 ~ 100		from Ver.188	from Ver.056	Ver.001								---	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	---	---	---	---	---	---	---	---
LIGHT AREA A.IRIS AREA	ORA:[Data]		QAR	OAR:[Data]	0 1 5 6 7	ALL Center Top Cut Bottom Cut R/L Cut			Ver.001									---	---	---	V1.00L01	---	---	---	---	---	---	---	---
NEGA/POSI	ONP:[Data]		ONP	ONP:[Data]	0 1	Positive Negative			Ver.001									---	---	---	---	---	---	---	---	---	---	---	---

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation	Remarks	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
R PEDESTAL	ORD:[Data]		QRD	ORD:[Data]	00h ~ 1Eh ~ 3Ch	-30 ~ 0 ~ +30			Ver.001				Ver.001 Data x 5					----	Ver.1.00-00-0.00 Data x 3	Ver.1.00-00-0.00 Data x 3	V1.00L01 Data x 5	----	----	V1.00 Data*5	V1.00 Data*5 supports only OA(-100) ~ 32(+100)	----	----	----	V1.00 Data*5 supports only OA(-100) ~ 32(+100)
B PEDESTAL	OBD:[Data]		QBD	OBD:[Data]	00h ~ 1Eh ~ 3Ch	-30 ~ 0 ~ +30			Ver.001				Ver.001 Data x 5					----	Ver.1.00-00-0.00 Data x 3	Ver.1.00-00-0.00 Data x 3	V1.00L01 Data x 5	----	----	V1.00 Data*5	V1.00 Data*5 supports only OA(-100) ~ 32(+100)	----	----	----	V1.00 Data*5 supports only OA(-100) ~ 32(+100)
R GAIN	ORG:[Data]		QGR	OGR:[Data]	00h ~ 1Eh ~ 3Ch	-30 ~ 0 ~ +30			Ver.001				Ver.001 Data x 5					V1.00L01	Ver.1.00-00-0.00 Data x 3	Ver.1.00-00-0.00 Data x 3	V1.00L01 Data x 5	V2.00	V3.00	V1.00 Data*5	V1.00 Data*5	V1.00	V1.00	----	V1.00 Data*5
B GAIN	OBG:[Data]		QGB	OGB:[Data]	00h ~ 1Eh ~ 3Ch	-30 ~ 0 ~ +30			Ver.001				Ver.001 Data x 5					V1.00L01	Ver.1.00-00-0.00 Data x 3	Ver.1.00-00-0.00 Data x 3	V1.00L01 Data x 5	V 2.00	V3.00	V1.00 Data*5	V1.00 Data*5	V1.00	V1.00	----	V1.00 Data*5
T PEDESTAL	OTD:[Data]		QTD	OTD:[Data]	00h ~ 1Eh ~ 3Ch	-30 ~ 0 ~ +30			Ver.001				Ver.001 Data x 5					V1.00L01	Ver.1.00-00-0.00 Data x 6	Ver.1.00-00-0.00 Data x 6	V1.00L01 Data x 5	V1.00 Data/3	V3.00 Data/3	V1.00 Data*5	V1.00 Data*5	V1.00 Data/3	V1.00 Data/3	----	V1.00 Data*5
H PHASE	OHP:[Data]		QHP	OHP:[Data]	000h ~ 3FFh	-206 ~ +49			Ver.001									V1.00L01	----	----	V1.00L01	V1.00	V3.00	V1.00	V1.00	----	V1.00	----	V1.00
SC COARSE	OSC:[Data]		QSC	OSC:[Data]	0 1 2 3 4 AW-HE870 5 6 7 8	2(90deg) 3(180deg) 4(270deg) 1(0deg) ---- AW-HE870 45deg(HE870) 135deg(HE870) 225deg(HE870) 315deg(HE870)	---- 1(0deg) 2(90deg) 3(180deg) 4(270deg) AW-HE870 45deg 135deg 225deg 315deg	Be careful because Data of control and question is different.	Ver.001									V1.00L01 supports only Control Command	----	----	V1.00L01	V1.00	V3.00	----	----	----	----	----	----
SC FINE	OSN:[Data]		QSN	OSN:[Data]	000h 001h 002h ~ 200h ~ 3FFh AW-HE870 000h ~ 007h 008h ~ 200h ~ 3FBh 3FCh ~ 3FFh	-511 -511 -511 ~ 0 ~ +511 AW-HE100/HE870 -127 ~ -127 -126 ~ 0 ~ +126 +127 ~ +127		(AW-HE870) One value of "Data Contents" is added by four "Data" counts.	Ver.001									V1.00L01	----	----	V1.00L01	V1.00	V3.00	----	----	----	----	----	----
CHROMA LEVEL	OCG:[Data]		QCG	OCG:[Data]	00 ~ 03 ~ 06	-3 ~ 0 ~ +3			Ver.001									V1.00L01	----	----	V1.00L01	V1.00	V3.00	V1.00	----	V1.00	V1.00	----	----
SCENE FILE	XSF:[Data]		QSF	OSF:[Data]	0 1 2 3 4 5 6 7 0 1 2 3 4 0 1 2 3 4 5 6 7 8 9	Halogen Fluorescent Outdoor User HC1500, HC1800 PRESET USER1 USER2 CURRENT AK-UB300 - CURRENT SCENE1 SCENE2 SCENE3 SCENE4 SCENE5 SCENE6 SCENE7 SCENE8	Halogen Fluorescent Outdoor User Halogen Fluorescent Outdoor User HC1500, HC1800 PRESET USER1 USER2 CURRENT AK-UB300 CURRENT SCENE1 SCENE2 SCENE3 SCENE4 SCENE5 SCENE6 SCENE7 SCENE8 -	Be careful because Data of control and question is different.	Ver.001									V1.00L01	Ver.1.00-00-0.00	Ver.1.00-00-0.00	V1.00L01	V1.00 supports only Halogen=MANUAL1, Fluorescent=MANUAL2, Outdoor=MANUAL3, User=FULLAUTO,	V3.00 supports only Halogen=MANUAL1, Fluorescent=MANUAL2, Outdoor=MANUAL3, User=FULLAUTO,	V1.00 supports only Halogen=Scene1, Fluorescent=Scene2, Outdoor=Scene3, User=Scene4,	V1.00 supports only Halogen=Scene1, Fluorescent=Scene2, Outdoor=Scene3, User=Scene4,	V1.00 supports only Halogen=MANUAL1, Fluorescent=MANUAL2 Outdoor=MANUAL3, User=FULLAUTO,	V1.00 supports only Halogen=MANUAL1, Fluorescent=MANUAL2 Outdoor=MANUAL3, User=FULLAUTO,	V7.00	V1.00 supports only Halogen=Scene1, Fluorescent=Scene2, Outdoor=Scene3, User=Scene4,
GAMMA	OSD:00:[Data]		QSD:00	OSD:00:[Data]	00h ~ 0Ah ~ 14h	0.35 ~ 0.45 ~ 0.55			Ver.001 Only User mode									----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
KNEE POINT	OSD:08:[Data]		QSD:08	OSD:08[Data]	FFh 00h ~ 0Ah 0Bh	---- Dynamic 88% ~ 98%	Dynamic 88% ~ 98% ----	Be careful because Data of control and question is different.	from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
WHITE CLIP	OSD:09:[Data]		QSD:09	OSD:09:[Data]	00h ~ 0Fh	95% ~ 110%			from Ver.188 Only User mode		from Ver.056 Only User	Ver.001 Only User mode						----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
H.DTL LEVEL H	OSD:0A:[Data]		QSD:0A	OSD:0A:[Data]	01h ~ 3Fh	1 ~ 63			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	----	----	V1.00L01 Only User mode	----	----	V1.00 Support Only 02(0)-3F(63)	----	----	----	----	----
HD H.DTL LEVEL H	OSD:0B:[Data]		QSD:0B	OSD:0B:[Data]	01h ~ 3Fh	1 ~ 63			----	----	----	----	----	----	----	----	----	----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
V DTL LEVEL H	OSD:0E:[Data]		QSD:0E	OSD:0E:[Data]	01h ~ 1Fh	1 ~ 31			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	----	----	V1.00L01 Only User mode	----	----	V1.00 Support Only 02(0)-1F(32)	----	----	----	----	----
HD V DTL LEVEL H	OSD:0F:[Data]		QSD:0F	OSD:0F:[Data]	01h ~ 1Fh	1 ~ 31			----	----	----	----	----	----	----	----	----	----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
H.DTL LEVEL L	OSD:12:[Data]		QSD:12	OSD:12:[Data]	00h ~ 3Eh	0 ~ 62			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	----	----	V1.00L01 Only User mode	----	----	V1.00 Support Only 01(0)-3E(62)	----	----	----	----	----
HD H.DTL LEVEL L	OSD:13:[Data]		QSD:13	OSD:13:[Data]	00h ~ 3Eh	0 ~ 62			----	----	----	----	----	----	----	----	----	----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks																				
						Control and Response to contol	Response to Confirmation		E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
V DTL LEVEL L	OSD:16:[Data]		QSD:16	OSD:16:[Data]	00h ~ 1Eh 00h ~ 07h ~ 0Eh	0 ~ 30 AW-HE100 -7 ~ 0 ~ +7			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						V1.00L01	----	----	V1.00L01 Only User mode	----	----	V1.00 Support Only 01(0)-1E(30)	----	----	----	----	----
HD V DTL LEVEL L	OSD:17:[Data]		QSD:17	OSD:17:[Data]	00h ~ 1Eh	0 ~ 30			----	----	----	----	----	----	----	----	----	----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
DETAIL BAND	OSD:1E:[Data]		QSD:1E	OSD:1E[Data]	01 ~ 05	01 ~ 05			from Ver.188 Only User mode		from Ver.056 Only User	Ver.001 Only User mode						----	----	----	V1.00L01 Only User mode	----	----	V1.00	----	----	----	----	----
HD DETAIL BAND	OSD:1F:[Data]		QSD:1F	OSD:1F[Data]	01 ~ 05	01 ~ 05			----	----	----	----	----	----	----	----	----	----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
NOISE SUPPRESS /CRISP	OSD:22:[Data]		QSD:22	OSD:22:[Data]	00h ~ 3Ch 00h ~ 1Fh AK-UB300 00h ~ 3Fh	0 ~ 60 AK-HC1500, HC1800 0 ~ 31 AK-UB300 0 ~ 63			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						V1.00L01 Only User mode	----	----	V1.00L01 Only User mode	----	----	V1.00 Support Only 00(0)-07(7)	V1.00	----	----	V7.00	V1.00
HD NOISE SUPPRESS /CRISP	OSD:23:[Data]		QSD:23	OSD:23:[Data]	00h ~ 0Ah	AW-HE870 0 ~ 10			----	----	----	----	----	----	----	----	----	----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
LEVEL DEPENDENT	OSD:26:[Data]		QSD:26	OSD:26:[Data]	00h ~ 19h AK-HC1500, HC1800 00h ~ 0Fh AK-HC3800 00 ~ 1E AK-UB300 00h ~ 0Fh	00% ~ 25% AK-HC1500, HC1800 0% ~ 15% AK-HC3800 0% ~ 30% AK-UB300 00 ~ 15			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	V7.00	----
HD LEVEL DEPENDENT	OSD:27:[Data]		QSD:27	OSD:27:[Data]	00h ~ 19h	AW-HE870 00% ~ 25%			----	----	----	----						----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
CHROMA DETAIL	OSD:2A:[Data]		QSD:2A	OSD:2A:[Data]	00h ~ 0Fh	00 ~ 15			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
HD CHROMA DETAIL	OSD:2B:[Data]		QSD:2B	OSD:2B:[Data]	00h ~ 0Fh	00 ~ 15			----	----	----	----						----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
HD DARK DETAIL	OSD:2D:[Data]		QSD:2D	OSD:2D:[Data]	00 ~ 05 AK-HC3800 00 ~ 07	0 ~ 5 AK-HC3800 0 ~ 7			----	----	----	----						----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
DARK DETAIL	OSD:2E:[Data]		QSD:2E	OSD:2E:[Data]	00 ~ 05	0 ~ 5			from Ver.188 Only User mode		from Ver.056 Only User	Ver.001 Only User mode						----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
MATRIX(R-G)	OSD:2F:[Data]		QSD:2F	OSD:2F:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01 Only User mode	----	----	V1.00	----	----	----	----	----
MATRIX(R-B)	OSD:30:[Data]		QSD:30	OSD:30:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01 Only User mode	----	----	V1.00	----	----	----	----	----
MATRIX(G-R)	OSD:31:[Data]		QSD:31	OSD:31:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01 Only User mode	----	----	V1.00	----	----	----	----	----
MATRIX(G-B)	OSD:32:[Data]		QSD:32	OSD:32:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01 Only User mode	----	----	V1.00	----	----	----	----	----

ITEM	Control Command / Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation	Remarks	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
MATRIX(B-R)	OSD:33:[Data]	QSD:33	OSD:33:[Data]	00h - 1Fh - 3Eh	-31 - 0 - +31			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01 Only User mode	----	----	V1.00	----	----	----	----	----
MATRIX(B-G)	OSD:34:[Data]	QSD:34	OSD:34:[Data]	00h - 1Fh - 3Eh	-31 - 0 - +31			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01 Only User mode	----	----	V1.00	----	----	----	----	----
FLARE R	OSD:35:[Data]	QSD:35	OSD:35:[Data]	00h - 64h AK-HC3500 9C ～ FF 00 01 ～ 64	0 - 100 AK-HC3500 -100 ～ -1 0 +1 ～ +100			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
FLARE G	OSD:36:[Data]	QSD:36	OSD:36:[Data]	00h - 64h AK-HC3500 9C ～ FF 00 01 ～ 64	0 - 100 AK-HC3500 -100 ～ -1 0 +1 ～ +100			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
FLARE B	OSD:37:[Data]	QSD:37	OSD:37:[Data]	00h - 64h AK-HC3500 9C ～ FF 00 01 ～ 64	0 - 100 AK-HC3500 -100 ～ -1 0 +1 ～ +100			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
FLARE SW	OSA:11:[Data]	QSA:11	OSA:11:[Data]	0 1	OFF ON			----										Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	----	----	----	----	----	----	----	----	----
CLEAN DNR	OSD:3A:[Data]	QSD:3A	OSD:3A:[Data]	00 01 02 AK-UB300 00 01 02	OFF LOW HIGH AK-UB300 OFF ON ON			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode				V001		----	----	----	V1.00L01 Only User mode	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V7.00	V1.00
HD CLEAN DNR	OSD:3B:[Data]	QSD:3B	OSD:3B:[Data]	00 01 02	OFF LOW HIGH			----		----	----				----		----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
2D LPF	OSD:3F:[Data]	QSD:3F	OSD:3F:[Data]	00 01 02	OFF LOW HIGH			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode				V001		----	----	----	V1.00L01	----	----	----	----	----	----	----	----
CORNER DETAIL	OSD:43:[Data]	QSD:43	OSD:43:[Data]	00 01	OFF ON			from Ver.188 Only User mode		from Ver.056 Only User	Ver.001 Only User mode						----	----	----	----	----	----	----	----	----	----	----	----
PRECISION DETAIL /SLIM DETAIL	OSD:44:[Data]	QSD:44	OSD:44:[Data]	00 01 02 00 01 02	OFF LOW HIGH AK-HC1500, HC1800 OFF ON ON			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode						----	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	----	----	----	----	----	----	----	----	----
HD PRECISION DETAIL /HD SLIM DETAIL	OSD:45:[Data]	QSD:45	OSD:45:[Data]	00 01 02	AW-HE870 OFF LOW HIGH			----		----	----						----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
BLACK STRETCH	OSD:46:[Data]	QSD:46	OSD:46:[Data]	00 01	OFF ON			from Ver.188 Only User mode		from Ver.056 Only User	Ver.001 Only User mode						----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
HIGH LIGHT CHROMA	OSD:49:[Data]	QSD:49	OSD:49:[Data]	00 01 02	OFF LOW HIGH			from Ver.188 Only User mode		from Ver.056 Only User mode	Ver.001 Only User mode	----					----	----	----	----	----	----	----	----	----	----	----	----
FLESH NOISE SUPPRESS	OSD:4B:[Data]	QSD:4B	OSD:4B:[Data]	00 01 02	OFF LOW HIGH			----		from Ver.056 Only User mode	Ver.001 Only User mode	----			Ver.001		----	----	----	V1.00L01 Only User mode	----	----	V1.00	----	----	----	----	----
FLESH DETAIL FLESH DTL LEVEL				00 01 02	LOW MID HIGH			from Ver.188 Only User mode		----			Ver.001		----		----	----	----	----	----	----	----	----	----	----	----	----

ITEM	Control Command / Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation	Remarks	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
HD FLESH NOISE SUPPRESS	OSD:4C:[Data]	QSD:4C	OSD:4C:[Data]	00 01 02	OFF LOW HIGH			----		----	----	----				----	----	----	----	V1.00L01 Only User mode	----	----	----	----	----	----	----	----
IRIS FOLLOW	---	QSD:4F	OSD:4F:[Data]	00h ~ FFh	---	Close ~ Open	This Command can't be used through AW-RP400.	from Ver.188		from Ver.056	Ver.001						V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	----	V1.00
CONTRAST(GAMMA)	OSD:50:[Data]	QSD:50	OSD:50:[Data]	00 01 02	LOW MID HIGH			from Ver.188 Only Halogen,Fluorescent,Outdoor mode		from Ver.056 Only Halogen,Fluorescent	Ver.001 Only Halogen,Fluorescent,Outdoor mode						V1.00L01 Only User mode	----	----	V1.00L01 Only Halogen,Fluorescent,Outdoor	V1.00	V3.00	V1.00	----	V1.00	V1.00	----	----
FLESH TONE	OSD:52:[Data]	QSD:52	OSD:52:[Data]	00 ~ 03 ~ 06	-3 ~ 0 ~ +3			from Ver.188 Only Halogen,Fluorescent,Outdoor mode		from Ver.056 Only Halogen,Fluorescent,Outdoor	Ver.001 Only Halogen,Fluorescent,Outdoor mode						----	----	----	V1.00L01 Only Halogen,Fluorescent,Outdoor mode	----	----	----	----	----	----	----	----
DETAIL SELECT	OSD:54:[Data]	QSD:54	OSD:54:[Data]	00 01	Normal Super DTL			from Ver.188 Only Halogen,Fluorescent,Outdoor mode		from Ver.056 Only Halogen,Fluorescent	Ver.001 Only Halogen,Fluorescent,Outdoor mode						----	----	----	V1.00L01 Only Halogen,Fluorescent,Outdoor	----	----	----	----	----	----	----	----
NOISE SUPPRESS	OSD:55:[Data]	QSD:55	OSD:55:[Data]	00 01 02	OFF LOW HIGH			from Ver.188 Only Halogen,Fluorescent,Outdoor mode		from Ver.056 Only Halogen,Fluorescent	Ver.001 Only Halogen,Fluorescent,Outdoor mode						----	----	----	V1.00L01 Only Halogen,Fluorescent,Outdoor	----	----	----	----	----	----	----	----
FLESH NOSE SUPPRESS	OSD:56:[Data]	QSD:56	OSD:56:[Data]	00 01 02	OFF LOW HIGH			----		from Ver.056 Only Halogen,Fluorescent	Ver.001 Only Halogen,Fluorescent,Outdoor	----				---- OSD:4B	----	----	----	----	----	----	----	----	----	----	----	----
DTL FLESH SUPPRESS				00 01 02	LOW MID HIGH			from Ver.188 Only Halogen,Fluorescent,Outdoor mode		----		----				----	----	----	----	----	----	----	----	----	----	----	----	----
ZEBRA INDICATER	OSD:60:[Data]	QSD:60	OSD:60:[Data]	00 01	OFF ON	with studio card		from Ver.188		from Ver.056	Ver.001						----	----	----	----	----	----	----	----	----	----	----	----
ZEBRA1 LEVEL	OSD:61:[Data]	QSD:61	OSD:61:[Data]	00h ~ 27h	70% ~ 109%	with studio card		from Ver.188		from Ver.056	Ver.001						----	----	----	----	----	----	----	----	----	----	----	----
ZEBRA2 LEVEL	OSD:62:[Data]	QSD:62	OSD:62:[Data]	01h ~ 28h	71% ~ 110%	with studio card		from Ver.188		from Ver.056	----						----	----	----	----	----	----	----	----	----	----	----	----
SAFETY ZONE	OSD:63:[Data]	QSD:63	OSD:63:[Data]	01 02 03 04 05 06	1 2 3 4 5 OFF	with studio card		from Ver.188		from Ver.056	Ver.001						----	----	----	----	----	----	----	----	----	----	----	----
EVF OUTPUT	OSD:64:[Data]	QSD:64	OSD:64:[Data]	00 01	Y VBS	with studio card		from Ver.188		from Ver.056	Ver.001						----	----	----	----	----	----	----	----	----	----	----	----
OUTPUT SELECT	OSD:65:[Data]	QSD:65	OSD:65:[Data]	00 01 02	RGB YPbPr Y/C	Y/C is Valid With SD(480i/576i) format		from Ver.188 with component Card		from Ver.056 with component Card	Ver.001 with component Card	Ver.001					V1.00L01 supports only 01(Y/Pb/Pr),02(Y/C)	----	----	V1.00L01	----	----	V1.00 Y/C is Valid	----	----	----	----	----
CHARGE TIME	OSD:68:[Data]	QSD:68	OSD:68:[Data]	00 01 02 03 04 05 06 07 08 00 01 02 03 04 05 06 07 08	NTSC 2s 1s 1/2s 1/4s 1/8s 1/15s 1/30s OFF AUTO PAL 2s 1s 1/2s 1/3s 1/6s 1/12s 1/25s OFF AUTO			from Ver.188 with High Sensitivity Card		from Ver.056	Ver.001	Ver.001				----	----	----	----	----	----	----	----	----	----	----	----	----
AGC MAX	OSD:69:[Data]	QSD:69	OSD:69:[Data]	00 01 02 03 04 05 06 07 00 01 02 03 04 05 06 07 08	(OFF) 6dB 12dB 18dB 24dB 30dB 33dB(HBK50),N/Eye(E300/A) N/Eye L(E600, E750, E655, E860) N/Eye H(E600, E750, E655, E860) AW-HE40/HE65/HE70 (OFF) 6dB 12dB 18dB 24dB 30dB 36dB 42dB 48dB			from Ver.188 with High Sensitivity Card		from Ver.056	Ver.001	Ver.001				V1.00L01 supports only 01(6dB) ~ 03(18dB)	----	----	V1.00L01 supports only 01(6dB) ~ 03(18dB)	V1.00 supports only 01(6dB) ~ 03(18dB)	V3.00 supports only 01(6dB) ~ 03(18dB)	V1.00 supports only 01(6dB) ~ 03(18dB)	V1.00 supports only 01(6dB) ~ 03(18dB)	V1.00 supports only 01(6dB) ~ 08(48dB)	V1.00 supports only 01(6dB) ~ 08(48dB)	----	V1.00 supports only 01(6dB) ~ 03(18dB)
ASPECT RATIO	OSD:70:[Data]	QSD:70	OSD:70:[Data]	00 01	16:9 4:3			----		from Ver.056	Ver.001	----				Ver.001	V1.00L01	----	----	V1.00L01	----	----	----	----	----	----	----	----
FAN	OSD:71:[Data]	QSD:71	OSD:71:[Data]	00 01 02 00 01 02	OFF ON AUTO(E750,E655,E860,HE100) AK-HC1500, HC1800 OFF AUTO ON			----		from Ver.056	----	----	Ver.001				----	----	----	----	----	----	----	----	----	----	----	----
ATW SPEED	OSD:72:[Data]	QSD:72	OSD:72:[Data]	00 01 02 03 04	Slow2 Slow1 Middle Fast1 Fast2			----			Ver.001						----	----	----	V1.00L01	----	----	----	----	----	----	----	----
COLOR BAR/CAMERA	DCB:[Data]	QBR	OBR:[Data]	0 1 2 3	Camera Color Bar Test Close(Camera)			supports only 0(Camera),1(Color Bar)									V1.00L01 supports only 0(Camera),1(Color Bar)	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01 supports only 0(Camera),1(Color Bar)	V1.00 supports only 0(Camera),1(Color Bar)	V3.00 supports only 0(Camera),1(Color Bar)	V1.00 supports only 0(Camera),1(Color Bar)	V1.00 supports only 0(Camera),1(Color Bar)	V1.00 supports only 0(Camera),1(Color Bar)	V1.00 supports only 0(Camera),1(Color Bar)	V7.00 supports only 0(Camera),1(Color Bar)	V1.00 supports only 0(Camera),1(Color Bar)
MENU	DUS:[Data]	QUS	OUS:[Data]	0 1 2	OFF ON ON ByBrowser			Ver.001									V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	V1.00 supports only 0(OFF),1(ON)	V3.00 supports only 0(OFF),1(ON)	V1.00 supports only 0(OFF),1(ON)	V1.00 supports only 0(OFF),1(ON)	V1.00 supports only 0(OFF),1(ON)	V1.00 supports only 0(OFF),1(ON)	V7.00 supports only 0(OFF),1(ON)	V1.00 supports only 0(OFF),1(ON)
BAR SETUP	DCS:[Data]	QCS	OCS:[Data]	0 1	0.0% 7.5%			----				Ver.001					----	----	----	V1.00L01	----	----	V1.00	V1.00	----	----	----	----
MENU SW	DPG:[Data]	---		1		"DPG" is equal to "DPG:1".		Ver.001									V1.00L01	----	----	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V7.00	V1.00
ITEM SW	DIT:[data]	---		1		"DIT" is equal to "DIT:1".		Ver.001									V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V7.00	V1.00

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation	Remarks:	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
YES SW	DUP:[Data]		---		1h Ah	1Step 10Step	"DUP" is equal to "DUP:1".		Ver.001 supports only DUP,DUP:1									V1.00L01 supports only DUP,DUP:1	Ver.1.00 -00-0.00 supports only DUP,DUP:1	Ver.1.00 -00-0.00 supports only DUP,DUP:1	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V7.00 supports only 1h(1Step)	V1.00
NO SW	DDW:[Data]		---		1h Ah	1Step 10Step	"DDW" is equal to "DDW:1".		Ver.001 supports only DDW,DDW:1									V1.00L01 supports only DDW,DDW:1	Ver.1.00 -00-0.00 supports only DDW,DDW:1	Ver.1.00 -00-0.00 supports only DDW,DDW:1	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V7.00 supports only 1h(1Step)	V1.00
PAN(LEFT)	HPL		---		---	move to left			from Ver.177		from Ver.046	Ver.001						---	---	---	---	---	---	---	---	---	---	---	---
									with Lens I/F Card													---	---	---	---	---	---	---	---
PAN(RIGHT)	HPR		---		---	move to right			from Ver.177		from Ver.046	Ver.001						---	---	---	---	---	---	---	---	---	---	---	---
									with Lens I/F Card													---	---	---	---	---	---	---	---
PAN(STOP)	HPS		---		---	stop pan			from Ver.177		from Ver.046	Ver.001						---	---	---	---	---	---	---	---	---	---	---	---
									with Lens I/F Card													---	---	---	---	---	---	---	---
TILT(UP)	HTU		---		---	move to up			from Ver.177		from Ver.046	Ver.001						---	---	---	---	---	---	---	---	---	---	---	---
									with Lens I/F Card													---	---	---	---	---	---	---	---
TILT(DOWN)	HTD		---		---	move to down			from Ver.177		from Ver.046	Ver.001						---	---	---	---	---	---	---	---	---	---	---	---
									with Lens I/F Card													---	---	---	---	---	---	---	---
TILT(STOP)	HTS		---		---	stop tilit			from Ver.177		from Ver.046	Ver.001						---	---	---	---	---	---	---	---	---	---	---	---
									with Lens I/F Card													---	---	---	---	---	---	---	---
ZOOM(TELE)	HZT		---		---	move to tele			from Ver.177		from Ver.046	Ver.001						V1.00L01	Ver.1.10-00-0.00	Ver.1.00-00-0.00	V1.00L01	V1.00	V3.00	---	---	V1.00	V1.00	V7.00	---
									with Lens I/F Card								with Lens I/F Card				with Lens I/F Card								
ZOOM(WIDE)	HZW		---		---	move to wide			from Ver.177		from Ver.046	Ver.001						V1.00L01	Ver.1.10-00-0.00	Ver.1.00-00-0.00	V1.00L01	V1.00	V3.00	---	---	V1.00	V1.00	V7.00	---
									with Lens I/F Card								with Lens I/F Card	V1.00L01			with Lens I/F Card								
ZOOM(STOP)	HZS		---		---	stop zoom			from Ver.177		from Ver.046	Ver.001						V1.00L01	Ver.1.10-00-0.00	Ver.1.00-00-0.00	V1.00L01	V1.00	V3.00	---	---	V1.00	V1.00	V7.00	---
									with Lens I/F Card								with Lens I/F Card	V1.00L01			with Lens I/F Card								
ZOOM SPEED	LZS:[Data]		---		0 ~ 9	Slow ~ Fast			---								from Ver.077	V1.00L01	Ver.1.10-00-0.00	Ver.1.00-00-0.00	V1.00L01	V1.00	V3.00	---	---	V1.00	V1.00	V7.00	---
FOCUS(FAR)	HFF		---		---	move to far			from Ver.177		from Ver.046	Ver.001						V1.00L01	Ver.1.10-00-0.00	Ver.1.00-00-0.00	V1.00L01	V1.00	V3.00	---	---	V1.00	V1.00	V7.00	---
									with Lens I/F Card								with Lens I/F Card	V1.00L01			with Lens I/F Card								
FOCUS(NEAR)	HFN		---		---	move to near			from Ver.177		from Ver.046	Ver.001						V1.00L01	Ver.1.10-00-0.00	Ver.1.00-00-0.00	V1.00L01	V1.00	V3.00	---	---	V1.00	V1.00	V7.00	---
									with Lens I/F Card								with Lens I/F Card	V1.00L01			with Lens I/F Card								
FOCUS(STOP)	HFS		---		---	stop focus			from Ver.177		from Ver.046	Ver.001						V1.00L01	Ver.1.10-00-0.00	Ver.1.00-00-0.00	V1.00L01	V1.00	V3.00	---	---	V1.00	V1.00	V7.00	---
									with Lens I/F Card								with Lens I/F Card	V1.00L01			with Lens I/F Card								
FOCUS SPEED	LFS:[Data]		---		0 ~ 9	Slow ~ Fast			---								from Ver.077	V1.00L01	Ver.1.10-00-0.00	Ver.1.00-00-0.00	V1.00L01	V1.00	V3.00	---	---	V1.00	V1.00	V7.00	---
SAVE LENS PSITION to PRESET	LPS:[Data]		---		01 02 03 04 05	Save to Preset1 Save to Preset2 Save to Preset3 Save to Preset4 Save to Preset5			---									---	Ver.1.10-00-0.00	Ver.1.00-00-0.00	---	---	---	---	---	---	---	---	---	---
Recall LENS PRESET	LPM:[Data]		---		00 01 02 03 04 05	Recall Current Recall Preset1 Recall Preset2 Recall Preset3 Recall Preset4 Recall Preset5			---									---	Ver.1.10-00-0.00	Ver.1.00-00-0.00	---	---	---	---	---	---	---	---	---	---
COLOR MATRIX R GAIN /COLOR CORRECTION R SATURATION	OSD:86:[Data]	QSD:86		OSD:86:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX R PHASE /COLOR CORRECTION R PHASE	OSD:87:[Data]	QSD:87		OSD:87:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX R_YI GAIN /COLOR CORRECTION R_YI SATURATION	OSD:88:[Data]	QSD:88		OSD:88:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	---	---	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX R_YI PHASE /COLOR CORRECTION R_YI PHASE	OSD:89:[Data]	QSD:89		OSD:89:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	---	---	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks																				
						Control and Response to contol	Response to Confirmation		E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
COLOR MATRIX YI GAIN /COLOR CORRECTION YI SATURATION	OSD:8A:[Data]		QSD:8A	OSD:8A:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX YI PHASE /COLOR CORRECTION YI PHASE	OSD:8B:[Data]		QSD:8B	OSD:8B:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX YI_G GAIN /COLOR CORRECTION YI_G SATURATION	OSD:8C:[Data]		QSD:8C	OSD:8C:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	---	---	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX YI_G PHASE /COLOR CORRECTION YI_G PHASE	OSD:8D:[Data]		QSD:8D	OSD:8D:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	---	---	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX G GAIN /COLOR CORRECTION G SATURATION	OSD:8E:[Data]		QSD:8E	OSD:8E:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX G PHASE /COLOR CORRECTION G PHASE	OSD:8F:[Data]		QSD:8F	OSD:8F:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX G_Cy GAIN /COLOR CORRECTION G_Cy SATURATION	OSD:90:[Data]		QSD:90	OSD:90:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX G_Cy PHASE /COLOR CORRECTION G_Cy PHASE	OSD:91:[Data]		QSD:91	OSD:91:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX Cy GAIN /COLOR CORRECTION Cy SATURATION	OSD:92:[Data]		QSD:92	OSD:92:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX Cy PHASE /COLOR CORRECTION Cy PHASE	OSD:93:[Data]		QSD:93	OSD:93:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX Cy_B GAIN /COLOR CORRECTION Cy_G SATURATION	OSD:94:[Data]		QSD:94	OSD:94:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	---	---	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX Cy_B PHASE /COLOR CORRECTION Cy_B PHASE	OSD:95:[Data]		QSD:95	OSD:95:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	---	---	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX B GAIN /COLOR CORRECTION B SATURATION	OSD:96:[Data]		QSD:96	OSD:96:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX B PHASE /COLOR CORRECTION B PHASE	OSD:97:[Data]		QSD97	OSD:97:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX B_Mg GAIN /COLOR CORRECTION B_Mg SATURATION	OSD:80:[Data]		QSD:80	OSD:80:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	---	---	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX B_Mg PHASE /COLOR CORRECTION B_Mg PHASE	OSD:81:[Data]		QSD:81	OSD:81:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	---	---	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX Mg GAIN /COLOR CORRECTION Mg SATURATION	OSD:82:[Data]		QSD:82	OSD:82:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX Mg PHASE /COLOR CORRECTION Mg PHASE	OSD:83:[Data]		QSD:83	OSD:83:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX Mg_R GAIN /COLOR CORRECTION Mg_R SATURATION	OSD:84:[Data]		QSD:84	OSD:84:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V7.00 supports only 01h(-127) ~ FEh(+126)	V1.00 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX Mg_R PHASE /COLOR CORRECTION Mg_R PHASE	OSD:85:[Data]		QSD:85	OSD:85:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			---				Ver001 Only User mode					---	Ver1.10-00-0.00 -63 <->+63	Ver1.00-00-0.00 -63 <->+63	V1.00L01 Only User mode	---	---	V1.00	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V7.00	V1.00 supports only 41h(-63) ~ BFh(+63)
T PEDESTAL	OTP:[Data]		QTP	OTP:[Data]	000h ~ 096h ~ 12Ch	-150 ~ 0 ~ +150			---				Ver001					---	Ver1.00-00-0.00	Ver1.00-00-0.00	V1.00L01	V1.00 Data/15	V3.00 Data/15	V1.00	V1.00	V1.00 Data/15	V1.00 Data/15	---	V1.00
R GAIN	ORI:[Data]		QRI	ORI:[Data]	000h ~ 096h ~ 12Ch	-150 ~ 0 ~ +150			---				Ver001					V1.00L01 Data / 5	Ver1.00-00-0.00	Ver1.00-00-0.00	V1.00L01	V2.00 Data/5	V3.00 Data/5	V1.00	V1.00	V1.00 Data/5	V1.00 Data/5	---	V1.00
B GAIN	OBI:[Data]		QBI	OBI:[Data]	000h ~ 096h ~ 12Ch	-150 ~ 0 ~ +150			---				Ver001					V1.00L01 Data / 5	Ver1.00-00-0.00	Ver1.00-00-0.00	V1.00L01	V2.00 Data/5	V3.00 Data/5	V1.00	V1.00	V1.00 Data/5	V1.00 Data/5	---	V1.00
R PEDESTAL	ORP:[Data]		QRP	ORP:[Data]	000h ~ 096h ~ 12Ch	-150 ~ 0 ~ +150			---				Ver001					---	Ver1.00-00-0.00 -100 to +100	Ver1.00-00-0.00 -100 to +100	V1.00L01	---	---	V1.00	V1.00 supports only -100～+100	---	---	---	V1.00 supports only -100～+100

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks																				
						Control and Response to contol	Response to Confirmation		E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
B PEDESTAL	OBP:[Data]		OBP	OBP:[Data]	000h ~ 096h ~ 12Ch	-150 ~ 0 ~ +150			----				Ver001					----	Ver1.00-00-0.00 -100 to +100	Ver1.00-00-0.00 -100 to +100	V1.00LO1	----	----	V1.00	V1.00 supports only -100～+100	----	----	----	V1.00 supports only -100～+100
3D-DNR	ODD:[Data]		ODD	ODD:[Data]	00 01 02	OFF LOW HIGH			----				Ver001				----			----	----	----	----	----	----	----	----	----	----
AUTO FOCUS	OAF:[Data]		OAF	OAF:[Data]	0 1	Manual FOCUS AUTO FOCUS			----						Ver.001 with AF LENS	----	----	V1.00LO1	----	----	----	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	----	V1.00
DIGITAL GAIN UP	ODG:[Data]		ODG	ODG:[Data]	0 1 2 3 4 5	0dB 6dB 12dB 18dB 24dB 30dB			----				Ver001				----			----	----	----	----	----	----	----	----	----	----
DIGITAL EXTENDER	ODE:[Data]		ODE	ODE:[Data]	0 1	OFF ON			----				Ver001				----	----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	V1.00	V1.00	V1.00	----	V1.00
FILTER	OFT:[Data]		OFT	OFT:[Data]	0 1 2 3 0 1 2 3 4	IR Through Normal 1/16 ND 1/64 ND <u>AW-HE130,HE40,HE70,HR140 AW-HE120,AK-HC1500, HC1800, UB300</u> Clear 1/4 ND 1/16 ND 1/64 ND 1/8 ND			----						Ver.001	----		----	Ver1.00-00-0.00	Ver1.00-00-0.00	----	----	----	V1.00 supports only Clear 1/4 ND 1/16 ND 1/64 ND	V1.00 supports only Clear 1/64 ND 1/8 ND	--	V1.00 0h: Clear 1h: 1/4 ND 2h: 1/16 ND 3h: 1/64 ND 8h: Auto ND	V7.00 supports only Clear 1/4 ND 1/16 ND 1/64 ND	V1.00 supports only Clear 1/64 ND 1/8 ND
RED TALLY	TLR:[Data]		OLR	OLR:[Data]	0 1	OFF ON	----		----									----	Ver1.00-00-0.00 supports only Control Command	Ver1.00-00-0.00 supports only Control Command	----	----	----	----	----	----	----	V7.00	----
GREEN TALLY	TLG:[Data]		OLG	OLG:[Data]	0 1	OFF ON	----		----									----	Ver1.00-00-0.00 supports only Control Command	Ver1.00-00-0.00 supports only Control Command	----	----	----	----	----	----	----	V7.00	----
BLACK SHADING CORRECT(DIG)	OSA:C0:[Data]		QSA:C0	OSA:C0:[Data]	0 1	OFF ON			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
M GAMMA#DRS OFF	OSA:01:[Data]		QSA:01	OSA:01:[Data]	6Ah ~ 79h ~ 97h	0.30 ~ 0.45 ~ 0.75			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----	----
M GAMMA#DRS ON	OSA:02:[Data]		QSA:02	OSA:02:[Data]	76h ~ 80h ~ 8Ah	-10 ~ 0 ~ +10			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----	----
R GAMMA#DRS OFF	OSA:03:[Data]		QSA:03	OSA:03:[Data]	71h ~ 80h ~ 8Fh	-15 ~ 0 ~ +15			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----	----
R GAMMA#DRS ON	OSA:04:[Data]		QSA:04	OSA:04:[Data]	76h ~ 80h ~ 8Ah	-10 ~ 0 ~ +10			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----	----
B GAMMA#DRS OFF	OSA:05:[Data]		QSA:05	OSA:05:[Data]	71h ~ 80h ~ 8Fh	-15 ~ 0 ~ +15			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----	----
B GAMMA#DRS ON	OSA:06:[Data]		QSA:06	OSA:06:[Data]	76h ~ 80h ~ 8Ah	-10 ~ 0 ~ +10			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----	----
M BLACK GAMMA	OSA:07:[Data]		QSA:07	OSA:07:[Data]	60h ~ 80h ~ A0h	-32 ~ 0 ~ +32			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----	----
R BLACK GAMMA	OSA:08:[Data]		QSA:08	OSA:08:[Data]	71h ~ 80h ~ 8Fh	-15 ~ 0 ~ +15			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----	----
B BLACK GAMMA	OSA:09:[Data]		QSA:09	OSA:09:[Data]	71h ~ 80h ~ 8Fh	-15 ~ 0 ~ +15			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----	----
GAMMA SW	OSA:0A:[Data]		QSA:0A	OSA:0A:[Data]	0 1	OFF ON			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
BLACK GAMMA SW	OSA:0B:[Data]		QSA:0B	OSA:0B:[Data]	0 1	OFF ON			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
EFFECT DEPTH	OSA:0C:[Data]		QSA:0C	OSA:0C:[Data]	1 ~ 5	1 ~ 5			----									V2.01LO1 1<->3	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
DRS SW	OSA:0D:[Data]		QSA:0D	OSA:0D:[Data]	0 1	OFF ON			----									V2.01LO1	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
CINE GAMMA SELECT	OSA:0E:[Data]		QSA:0E	OSA:0E:[Data]	0 1	FILM REC VIDEO REC			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
BLACK STRETCH LEVEL(@FILM MENU & FILM REC)	OSA:0F:[Data]		QSA:0F	OSA:0F:[Data]	00h ~ 1Eh	0 ~ 30			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
DYNAMIC LEVEL (@FILM MENU & FILM REC)	OSA:10:[Data]		QSA:10	OSA:10:[Data]	0 1 2 3	200% 300% 400% 500%			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
M KNEE POINT (@VIDEO MENU)	OSA:20:[Data]		QSA:20	OSA:20:[Data]	22h ~ 80h ~ B6h	70.00% ~ 93.50% ~ 107.00% (1step=0.25%)			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	V1.00	----	----	----	V1.00

ITEM	Control Command / Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation		Remarks: E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
M KNEE POINT (@FILM MENU & VIDEO REC)	OSA:21:[Data]	QSA:21	OSA:21:[Data]	62h ~ 80h ~ 9Eh	30% ~ 60% ~ 90%			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
R KNEE POINT	OSA:22:[Data]	QSA:22	OSA:22:[Data]	1Ch ~ 80h ~ E4h	-25.00% ~ 0.00% ~ +25.00% (1step=0.25%)			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
B KNEE POINT	OSA:23:[Data]	QSA:23	OSA:23:[Data]	1Ch ~ 80h ~ E4h	-25.00% ~ 0.00% ~ +25.00% (1step=0.25%)			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
M KNEE SLOPE (@VIDEO MENU)	OSA:24:[Data]	QSA:24	OSA:24:[Data]	00h ~ 63h	0 ~ 99			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	V1.00	----	----	----	V1.00
M KNEE SLOPE (@FILM MENU & VIDEO REC)	OSA:25:[Data]	QSA:25	OSA:25:[Data]	7Ch ~ 80h ~ 85h	150% ~ 350% ~ 600% (1step=50%)			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
R KNEE SLOPE (@VIDEO MENU)	OSA:26:[Data]	QSA:26	OSA:26:[Data]	1Dh ~ 80h ~ E3h	-99 ~ 0 ~ +99			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
B KNEE SLOPE (@VIDEO MENU)	OSA:27:[Data]	QSA:27	OSA:27:[Data]	1Dh ~ 80h ~ E3h	-99 ~ 0 ~ +99			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
A.KNEE POINT (@VIDEO MENU)	OSA:28:[Data]	QSA:28	OSA:28:[Data]	4Ah ~ 80h ~ B6h	80.00% ~ 93.50% ~ 107.00% (1step=0.25%)			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
A.KNEE LEVEL (@VIDEO MENU)	OSA:29:[Data]	QSA:29	OSA:29:[Data]	7Ch ~ 85h	100% ~ 109% (1step=0.25%)			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
M WHITE CLIP LEVEL	OSA:2A:[Data]	QSA:2A	OSA:2A:[Data]	00h ~ 13h	90% ~ 109%			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	V1.00	----	----	----	V1.00
R WHITE CLIP LEVEL	OSA:2B:[Data]	QSA:2B	OSA:2B:[Data]	71h ~ 80h ~ 8Fh	-15% ~ 0% ~ +15%			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
B WHITE CLIP LEVEL	OSA:2C:[Data]	QSA:2C	OSA:2C:[Data]	71h ~ 80h ~ 8Fh	-15% ~ 0% ~ +15%			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
KNEE SW	OSA:2D:[Data]	QSA:2D	OSA:2D:[Data]	0 1 2	OFF MANUAL AUTO			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	V1.00	----	----	----	V1.00
WHITE CLIP	OSA:2E:[Data]	QSA:2E	OSA:2E:[Data]	0 1	OFF ON			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	V1.00	----	----	----	V1.00
HIGH COLOR	OSA:2F:[Data]	QSA:2F	OSA:2F:[Data]	0 1	OFF ON			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
TOTAL DTL LEVEL	OSA:30:[Data]	QSA:30	OSA:30:[Data]	61h ~ 80h ~ 9Fh 61h ~ 80h ~ 9Fh 80h ~ 8Eh	-31 ~ 0 ~ +31 AW-HE130,AW-HR140 0 ~ +31 ~ +62 AW-HE100 0 ~ 14			----									V1.00LG1	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	Camera Main V3.05 supports only 81h(1)-91h(17) for TOTAL DTL LEVEL (LOW)	----	V1.00	V1.00 supports only 81h(1)-91h(17) for TOTAL DTL LEVEL (LOW)	V1.00 supports only 81h(1)-91h(17) for TOTAL DTL LEVEL (LOW)	V7.00	V1.00
H DTL LEVEL	OSA:31:[Data]	QSA:31	OSA:31:[Data]	00h ~ 3Fh	0 ~ 63			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	V7.00	----
PEAK FREQUENCY	OSA:34:[Data]	QSA:34	OSA:34:[Data]	00h ~ 1Fh	0 ~ 31			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
KNEE APERTURE	OSA:35:[Data]	QSA:35	OSA:35:[Data]	0 1	OFF ON			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
KNEE APE LEVEL	OSA:36:[Data]	QSA:36	OSA:36:[Data]	0 ~ 5	0 ~ 5			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
DETAIL(+)	OSA:38:[Data]	QSA:38	OSA:38:[Data]	61h ~ 80h ~ 9Fh	-31 ~ 0 ~ +31			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	V7.00	----
DETAIL(-)	OSA:39:[Data]	QSA:39	OSA:39:[Data]	61h ~ 80h ~ 9Fh	-31 ~ 0 ~ +31			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	V7.00	----
DETAIL CLIP	OSA:3A:[Data]	QSA:3A	OSA:3A:[Data]	00h ~ 3Fh	0 ~ 63			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
DETAIL SOURCE	OSA:3B:[Data]	QSA:3B	OSA:3B:[Data]	0 1 2 3 4 5 AK-UB300 0 1 2 3 4 5	(G+R)/2 (G+B)/2 (2G+B+R)/4 (3G+B)/4 R G AK-UB300 (G+R)/2 (G+B)/2 (2G+B+R)/4 (3G+R)/4 R G			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	V7.00	----

ITEM	Control Command / Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation	Remarks	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
SKIN TONE DETAIL (HD)	OSA:40:[Data]	QSA:40	OSA:40:[Data]	0 1	OFF ON			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	V7.00	----
SKIN GET	OSA:41:[Data]	QSA:41	OSA:41:[Data]	0 1 2	OFF ON GET	OFF:Wipe out the rectangle. ON:Display the rectangle. GET:Get Flesh Noise Suppress/SKIN		----									----	Ver1.10-00-0.00 supports only 0(OFF),1(ON)	Ver1.00-00-0.00 supports only 0(OFF),1(ON)	V1.00L01	----	----	----	----	----	----	V7.00	----
SKIN DTL CORING (HD)	OSA:42:[Data]	QSA:42	OSA:42:[Data]	0 ~ 7	0 ~ 7			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
SKIN TONE DTL Y MAX (HD)	OSA:43:[Data]	QSA:43	OSA:43:[Data]	00h ~ FFh	0 ~ 255			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
SKIN TONE DTL Y MIN (HD)	OSA:44:[Data]	QSA:44	OSA:44:[Data]	00h ~ FFh	0 ~ 255			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
SKIN TONE DTL I CENTER (HD)	OSA:45:[Data]	QSA:45	OSA:45:[Data]	00h ~ FFh	0 ~ 255			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	V7.00	----
SKIN TONE DTL I WIDTH (HD)	OSA:46:[Data]	QSA:46	OSA:46:[Data]	00h ~ FFh	0 ~ 255			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	V7.00	----
SKIN TONE DTL Q WIDTH (HD)	OSA:47:[Data]	QSA:47	OSA:47:[Data]	00h ~ FFh	0 ~ 255			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	V7.00	----
SKIN TONE DTL Q PHASE (HD)	OSA:48:[Data]	QSA:48	OSA:48:[Data]	00h ~ 80h ~ FFh	-127 ~ 0 ~ 128			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
SKIN TONE ZEBRA	OSA:49:[Data]	QSA:49	OSA:49:[Data]	0 1	OFF ON			----									----	Ver1.40-00-0.00 with HD SDI BOARD	Ver1.00-00-0.00	----	----	----	----	----	----	----	V7.00	----
LOW GAIN	OSA:50:[Data]	QSA:50	OSA:50:[Data]	7Ah ~ 7Ch ~ 80h ~ 86h ~ 88h	-6dB ~ 0dB ~ 12dB ~ 30dB ~ 36dB			----									----	Ver1.10-00-0.00 support only 7Ah(-6dB) ~ 86h(30dB)	Ver1.00-00-0.00 support only 7Ah(-6dB) ~ 86h(30dB)	----	----	----	----	----	----	----	V7.00	----
MID GAIN	OSA:51:[Data]	QSA:51	OSA:51:[Data]	7Ah ~ 7Ch ~ 80h ~ 86h ~ 88h	-6dB ~ 0dB ~ 12dB ~ 30dB ~ 36dB			----									----	Ver1.10-00-0.00 support only 7Ah(-6dB) ~ 86h(30dB)	Ver1.00-00-0.00 support only 7Ah(-6dB) ~ 86h(30dB)	----	----	----	----	----	----	----	V7.00	----
HIGH GAIN	OSA:52:[Data]	QSA:52	OSA:52:[Data]	7Ah ~ 7Ch ~ 80h ~ 86h ~ 88h	-6dB ~ 0dB ~ 12dB ~ 30dB ~ 36dB			----									----	Ver1.10-00-0.00 support only 7Ah(-6dB) ~ 86h(30dB)	Ver1.00-00-0.00 support only 7Ah(-6dB) ~ 86h(30dB)	----	----	----	----	----	----	----	V7.00	----
A.IRIIS WINDOW	OSA:53:[Data]	QSA:53	OSA:53:[Data]	0 1 2	NORM1 NORM2 CENTER			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
IRIS MODE	OSA:54:[Data]	QSA:54	OSA:54:[Data]	0 1	LENS CAM			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
IRIS GAIN @IRIS MODE = CAM	OSA:55:[Data]	QSA:55	OSA:55:[Data]	01h ~ 0Ah	1(A. IRIS SLOW) ~ 10(A. IRIS FAST)			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
MODE @S.GAIN	OSA:60:[Data]	QSA:60	OSA:60:[Data]	0 1 2	S.GAIN1 S.GAIN2 S.GAIN3			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	V7.00	----
TOTAL GAIN@S.GAIN	----	QSA:61	OSA:61:[Data]	00h ~ 48h	0dB ~ 72dB			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
GAIN@S.GAIN	OSA:62:[Data]	QSA:62	OSA:62:[Data]	00h 03h 06h ~ 1Eh 21h 24h	0dB 3dB 6dB ~ 30dB 33dB 36dB			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
PIX MIX@S.GAIN	OSA:63:[Data]	QSA:63	OSA:63:[Data]	0 1	OFF +6dB			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
V MIX@S.GAIN	OSA:64:[Data]	QSA:64	OSA:64:[Data]	0 1	OFF +6dB			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
FRAME MIX@S.GAIN	OSA:65:[Data]	QSA:65	OSA:65:[Data]	00h 06h 0Ch 12h 18h 1Eh 80h	OFF +6dB +12dB +18dB +24dB +30dB AUTO	if use AUTO Max Gain of AUTO is set up by the FRAME MIX MAX command (OSE:74:[Data])		----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	V1.00 Support Only 00h(OFF)-12h(+18dB), 80h(AUTO)	V3.00 Support Only 00h(OFF)-12h(+18dB), 80h(AUTO)	V1.00 Support Only 00h(OFF)-18h(+24dB)	V1.00 Support Only 00h(OFF)-18h(+24dB)	V1.00 Support Only 00h(OFF)-18h(+24dB), 80h(AUTO)	V1.00 Support Only 00h(OFF)-18h(+24dB), 80h(AUTO)	V7.00 Support Only 00h(OFF)-18h(+24dB)	V1.00 Support Only 00h(OFF)-18h(+24dB)
H DETAIL LEVEL @S.GAIN	OSA:66:[Data]	QSA:66	OSA:66:[Data]	00h ~ 3Fh	0 ~ 63			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
CRISP @S.GAIN	OSA:67:[Data]	QSA:67	OSA:67:[Data]	00h ~ 1Fh	0 ~ 31			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
LEVEL DEPENDENT @S.GAIN	OSA:68:[Data]	QSA:68	OSA:68:[Data]	00h ~ 0Fh	0 ~ 15			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
PEAK FREQUENCY @S.GAIN	OSA:69:[Data]	QSA:69	OSA:69:[Data]	00h ~ 1Fh	0 ~ 31			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
M GAMMA @S.GAIN & DRS OFF	OSA:6A:[Data]	QSA:6A	OSA:6A:[Data]	67h ~ 80h ~ 94h	0.30 ~ 0.55 ~ 0.75			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	V1.00	----	----	----	V1.00
M GAMMA @S.GAIN & DRS ON	OSA:6B:[Data]	QSA:6B	OSA:6B:[Data]	76h ~ 80h ~ 8Ah	-10 ~ 0 ~ +10			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
M PED OFFSET @S.GAIN	OSA:6C:[Data]	QSA:6C	OSA:6C:[Data]	738h ~ 800h ~ 8C8h	-200 ~ 0 ~ +200			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks																				
						Control and Response to contol	Response to Confirmation		E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
R PED OFFSET #S.GAIN	OSA:6D:[Data]		QSA:6D	OSA:6D:[Data]	738h ~ 800h ~ 8C8h	-200 ~ 0 ~ +200			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	----	----
B PED OFFSET #S.GAIN	OSA:6E:[Data]		QSA:6E	OSA:6E:[Data]	738h ~ 800h ~ 8C8h	-200 ~ 0 ~ +200			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	----	----
SCAN REVERSE	OSA:70:[Data]		QSA:70	OSA:70:[Data]	0 1 2 3	OFF REVERSE1(L/R REVERSE) REVERSE2(U/D REVERSE) REVERSE3(L/R & U/D REVERSE)			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	----	----
FRAME RATE RANGE #VARIABLE FRAME	OSA:71:[Data]		QSA:71	OSA:71:[Data]	0 1	60-4 60-6			----									----	Ver1.10- 00-0.00	----	----	----	----	----	----	----	----	----
FRAME RATE #VARIABLE FRAME	OSA:72:[Data]		QSA:72	OSA:72:[Data]	04h ~ 3Ch	4fps ~ 60fps			----									----	Ver1.10- 00-0.00	----	----	----	----	----	----	----	----	----
MATRIX TABLE	OSA:00:[Data]		QSA:00	OSA:00:[Data]	0 1	TABLE A TABLE B			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	V7.00	----
D5600 #VIDEO MENU	OSA:80:[Data]		QSA:80	OSA:80:[Data]	0 1	OFF ON			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	----	----
LIGHTING #FILM MENU	OSA:81:[Data]		QSA:81	OSA:81:[Data]	0 1	DAYLIGHT TUNGSTEN			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	----	----
GAIN SELECT	OGS:[Data]		OGS	OGS:[Data]	01h 04h 08h 06h 0Ch 0Eh	LOW MID HIGH S.GAIN1 S.GAIN2 S.GAIN3			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	----	V7.00	----
CAM ID	OSA:82:[Data]		QSA:82	OSA:82:[Data]	0 1 2	OFF BAR ON			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	----	----
CAM ID POSI	OSA:83:[Data]		QSA:83	OSA:83:[Data]	0 1 2 3	0(Upper left) 1(Upper right) 2(Lower left) 3(Lower right)			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	----	----
MATRIX TABLE	OSA:84:[Data]		QSA:84	OSA:84:[Data]	0 1 2 <u>AK-UB300</u> 0 1 2	OFF A B <u>AK-UB300</u> OFF ON ON			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	----	V7.00	----
COLOR CORRECTION	OSA:85:[Data]		QSA:85	OSA:85:[Data]	0 1	OFF ON			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	V7.00	----
BAR SELECT	OSA:86:[Data]		QSA:86	OSA:86:[Data]	0 1 2 3 4 5 6	FULL(16:9) FULL(4:3) SMPTE(16:9) SMPTE(4:3) ARIB EIAJ SPRIT			----									----	Ver1.10- 00-0.00	Ver1.00- 00-0.00	----	----	----	----	----	----	----	----	----	----
FORMAT	OSA:87:[Data]		QSA:87	OSA:87:[Data]	0h 1h 2h 3h 4h 5h 6h 7h 8h 9h Ah Bh Ch Dh Eh 10h 11h 12h 13h 14h 15h 16h 17h 18h 19h 1Ah 1Bh 1Ch 1Dh 1Eh 1Fh 20h 44h 45h 50h 51h 80h	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 2160/29.97p 2160/25p 2160/59.94p 2160/50p 2160/23.98p 2160/29.97psF 2160/25psF 2160/23.98psF 2160/60p 1080/60p 1080/59.94i CROP 1080/50i CROP 1080/59.94p CROP 1080/50p CROP Auto		---									V1.00L01 (N Model) supports only 1(720/59.94p),4(1080/59.94i),B(480/59.94i),C(480/29.97psF). (E,MC Model) supports only 2(720/50p),5(1080/50i),D(576/50i),E(576/25psF).	Ver1.10- 00-0.00 supports only 0(720/60p),1(720/59.94p),2(720/50p),3(1080/60i),4(1080/59.94i),5(1080/50i),6(1080/30p),7(1080/29.97p),8(1080/24p),9(1080/24p),A(1080/23.98p)	Ver1.00- 00-0.00 supports only 4(1080/59.94i),5(1080/50i).	V1.00L01 (N Model) supports only 1(720/59.94p),4(1080/59.94i),B(480/59.94i). (E,MC Model) supports only 2(720/50p),5(1080/50i),D(576/50i).	V1.00L01 [N Model] supports only 1h(720/59.94p),4h(1080/59.94i),Bh(480/59.94i) [E,MC Model] supports only 2h(720/50p),5h(1080/50i),Dh(576/50i) V2.00 [H Model/59.94Hz] supports only 1h(720/59.94p),4h(1080/59.94i),Bh(480/59.94i),10h(1080/59.94p),7h(1080/29.97psF) [H Model/50Hz] supports only 2h(720/50p),5h(1080/50i),Dh(576/50i),11h(1808/50p),8h(1080/25psf) [S Model/59.94Hz] supports only 1h(720/59.94p),4h(1080/59.94i),Bh(480/59.94i),7h(1080/29.97psF) [S Model/50Hz] supports only 2h(720/50p),5h(1080/50i),Dh(576/50i),8h(1080/25psf)	V3.00 [H Model/59.94Hz] supports only 1h(720/59.94p),4h(1080/59.94i),Bh(480/59.94i),10h(1080/59.94p),12h(480/59.94p) [H Model/50Hz] supports only 2h(720/50p),5h(1080/50i),Dh(576/50i),11h(1808/50p),8h(1080/25psf),13h(576/50p) [S Model/59.94Hz] supports only 1h(720/59.94p),4h(1080/59.94i),Bh(480/59.94i) [S Model/50Hz] supports only 2h(720/50p),5h(1080/50i),Dh(576/50i)	V1.00L01 [59.94Hz] supports only 1h(720/59.94p),4h(1080/59.94i),Bh(480/59.94i),10h(1080/59.94p),12h(480/59.94p) [50Hz] supports only 2h(720/50p),5h(1080/50i),Dh(576/50i),13h(576/50p)	V1.00 [59.94Hz] supports only 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] supports only 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 11h(1080/50p) 13h(576/50p) 15h(1080/25p)	V1.00 === HDMI Model === [59.94Hz] supports only 1h(720/59.94p) 4h(1080/59.94i) 7h(1080/29.97psF) 10h(1080/59.95p) 14h(1080/29.97p) 80h(Auto) [50Hz] supports only 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 11h(1080/50p) 15h(1080/25p) 80h(Auto) === SDI Model === [59.94Hz] supports only 1h(720/59.94p) 4h(1080/59.94i) 7h(1080/29.97psF) 14h(1080/29.97p) [50Hz] supports only 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 15h(1080/25p)	v1.00 [59.94Hz] supports only 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] supports only 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 11h(1080/50p) 15h(1080/25p) 18h(2160/25p) 80h(Auto)	V7.00 [59.94Hz] supports only 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) 50h(1080/59.94p CROP) [50Hz] supports only 02h(720/50p) 05h(1080/50i) 08h(1080/25psF) 11h(1080/50p) 18h(2160/25p) 1Ah(2160/50p) 51h(1080/50p CROP)	V1.00 [59.94Hz] supports only 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] supports only 2h(720/50p) 5h(1080/50i) 8h(1080/25psF) 11h(1080/50p) 15h(1080/25p)

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation	Remarks	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
STATUS	OSA:88:[Data]		QSA:88	OSA:88:[Data]	0 1	OFF ON			----									V1.00L01	Ver1.10-00-0.00	Ver1.00-00-0.00	V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V7.20	V1.00
MENU ON BAR	OSA:89:[Data]		QSA:89	OSA:89:[Data]	0 1	OFF ON			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
MENU SEL	----		QSA:8A	OSA:8A:[Data]	0 1	VIDEO MENU FILM MENU			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
SHUTTER MODE	OSA:90:[Data]		QSA:90	OSA:90:[Data]	1 2 3	OFF ON SYNCHRO SCAN			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
SHUTTER SPEED	OSA:91:[Data]		QSA:91	OSA:91:[Data]	0 1 2 3 4 5 0 1 2 3 4 5	VIDEO MENU 1/100s 1/120s 1/250s 1/500s 1/1000s 1/2000s FILM MENU 180.0deg 172.8deg 144.0deg 120.0deg 90.0deg 45.0deg			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
GEN-LOCK INPUT	OSA:A0:[Data]		QSA:A0	OSA:A0:[Data]	0 1	OFF ON			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
H PHASE-COARSE @HD SYNC & 720	OSA:A1:[Data]		QSA:A1	OSA:A1:[Data]	58h ~ 80h ~ A8h	-40 ~ 0 ~ +40			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
H PHASE-COARSE @HD SYNC & 1080	OSA:A2:[Data]		QSA:A2	OSA:A2:[Data]	44h ~ 80h ~ BCh	-60 ~ 0 ~ +60			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
H PHASE-COARSE @SD SYNC	OSA:A3:[Data]		QSA:A3	OSA:A3:[Data]	08h ~ 80h ~ F8h	-120 ~ 0 ~ +120			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
H PHASE-FINE @HD SYNC & 720	OSA:A4:[Data]		QSA:A4	OSA:A4:[Data]	53h ~ 80h ~ ADh	-45 ~ 0 ~ +45			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
H PHASE-FINE @HD SYNC & 1080	OSA:A5:[Data]		QSA:A5	OSA:A5:[Data]	53h ~ 80h ~ ADh	-45 ~ 0 ~ +45			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
H PHASE-FINE @SD SYNC	OSA:A6:[Data]		QSA:A6	OSA:A6:[Data]	53h ~ 80h ~ ADh	-45 ~ 0 ~ +45			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
HD-SD PHASE CRS @HD SYNC	OSA:A7:[Data]		QSA:A7	OSA:A7:[Data]	79h ~ 80h ~ 88h	-7 ~ 0 ~ +7			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
HD-SD PHASE FINE @HD SYNC	OSA:A8:[Data]		QSA:A8	OSA:A8:[Data]	1Dh ~ 80h ~ E3h	-99 ~ 0 ~ +99			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
SD-HD PHASE CRS @SD SYNC	OSA:A9:[Data]		QSA:A9	OSA:A9:[Data]	7Ch ~ 80h ~ 84h	-4 ~ 0 ~ +4			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
SD-HD PHASE FINE @SD SYNC (D/C BOARD)	OSA:AA:[Data]		QSA:AA	OSA:AA:[Data]	1Dh ~ 80h ~ E3h	-99 ~ 0 ~ +99			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
HD/SD V PHASE @SD SYNC (D/C BOARD)	OSA:AB:[Data]		QSA:AB	OSA:AB:[Data]	0 1	HD SD			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
SC COARSE @SD SYNC (D/C BOARD)	OSA:AC:[Data]		QSA:AC	OSA:AC:[Data]	1 ~ 8	1 ~ 8			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
SC FINE @SD SYNC (D/C BOARD)	OSA:AD:[Data]		QSA:AD	OSA:AD:[Data]	19Ch ~ 200h ~ 264h	-100 ~ 0 ~ +100			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
SC-H COARSE @HD SYNC or NO SYNC (D/C BOARD)	OSA:AE:[Data]		QSA:AE	OSA:AE:[Data]	1 ~ 8	1 ~ 8			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
SC-H FINE @HD SYNC or NO SYNC	OSA:AF:[Data]		QSA:AF	OSA:AF:[Data]	19Ch ~ 200h ~ 264h	-100 ~ 0 ~ +100			----									----	Ver1.10-00-0.00	Ver1.00-00-0.00	----	----	----	----	----	----	----	----	----
TOTAL DTL LEVEL HIGH	OSA:B1:[Data]		QSA:B1	OSA:B1:[Data]	61h ~ 80h ~ 9Fh	-31 ~ 0 ~ +31			----													----	Camera Main V3.05 supports only 82h(2)-92h(18) for TOTAL DTL LEVEL (HIGH)	----	----	V1.00 supports only 82h(2)-92h(18) for TOTAL DTL LEVEL (HIGH)	V1.00 supports only 82h(2)-92h(18) for TOTAL DTL LEVEL (HIGH)	----	----
TOTAL DTL LEVEL (D/C BOARD)	OSE:00:[Data]		QSE:00	OSE:00:[Data]	00h ~ 3Fh	0 ~ 63			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
H DTL LEVEL (D/C BOARD)	OSE:01:[Data]		QSE:01	OSE:01:[Data]	00h ~ 3Fh	0 ~ 63			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
CRISP (D/C BOARD)	OSE:02:[Data]		QSE:02	OSE:02:[Data]	00h ~ 3Fh	0 ~ 63			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
PEAK FREQUENCY (D/C BOARD)	OSE:03:[Data]		QSE:03	OSE:03:[Data]	1 2 3 4 5 6 7	1.89MHz 2.18MHz 2.56MHz 3.17MHz 4.00MHz 5.28MHz 6.75MHz			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----

ITEM	Control Command / Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation		Remarks: E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
LEVEL DEPENDENT (D/C BOARD)	OSE:04:[Data]	QSE:04	OSE:04:[Data]	00h ~ 1Eh	0% ~ 30%			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
DARK DETAIL (D/C BOARD)	OSE:05:[Data]	QSE:05	OSE:05:[Data]	0 ~ 7	0(OFF) ~ 7			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
KNEE APERTURE (D/C BOARD)	OSE:06:[Data]	QSE:06	OSE:06:[Data]	00h ~ 3Fh	0 ~ 63			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
+CLIP (D/C BOARD)	OSE:07:[Data]	QSE:07	OSE:07:[Data]	00h ~ 3Fh	0 ~ 63			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
-CLIP (D/C BOARD)	OSE:08:[Data]	QSE:08	OSE:08:[Data]	00h ~ 3Fh	0 ~ 63			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
CORNER DETAIL (D/C BOARD)	OSE:09:[Data]	QSE:09	OSE:09:[Data]	00h ~ 1Fh	0 ~ 31			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
CHROMA DETAIL (D/C BOARD)	OSE:0A:[Data]	QSE:0A	OSE:0A:[Data]	00h ~ 3Fh	0 ~ 63			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
CHROMA DTL CRISP (D/C BOARD)	OSE:0B:[Data]	QSE:0B	OSE:0B:[Data]	00h ~ 3Fh	0 ~ 63			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
DETAIL SOURCE (D/C BOARD)	OSE:0C:[Data]	QSE:0C	OSE:0C:[Data]	0 1 2 3 4	(G+R)/2 (G+B)/2 (2G+B+R)/4 (3G+B)/4 R			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
SKIN TONE DETAIL (D/C BOARD)	OSE:10:[Data]	QSE:10	OSE:10:[Data]	0 1	OFF ON			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
SKIN TONE LEVEL (D/C BOARD)	OSE:11:[Data]	QSE:11	OSE:11:[Data]	0 1 2	LOW MID HIGH			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
SKIN TONE ZEBRA (D/C BOARD)	OSE:12:[Data]	QSE:12	OSE:12:[Data]	0 1	OFF ON			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
SKIN TONE PHASE (D/C BOARD)	OSE:13:[Data]	QSE:13	OSE:13:[Data]	50h ~ 7Bh ~ 99h	93 ~ 123 ~ 153			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
SKIN TONE WIDTH (D/C BOARD)	OSE:14:[Data]	QSE:14	OSE:14:[Data]	01h ~ 14h	1 ~ 20			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
SKIN TONE CRISP (D/C BOARD)	OSE:15:[Data]	QSE:15	OSE:15:[Data]	0 ~ 7	0 ~ 7			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
D/C MODE (D/C BOARD)	OSE:20:[Data]	QSE:20	OSE:20:[Data]	0 1 2 3	SIDE CUT SQUEEZE LetterBOX Link			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	V1.00	V3.00	V1.00	V1.00	----	----	----	----
VBS SETUP (D/C BOARD)	OSE:21:[Data]	QSE:21	OSE:21:[Data]	0 1	0.0% 7.5%			----									V1.00L01	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	V1.00L01	----	----	----	----	----	----	----	----
CHARACTER MIX (D/C BOARD)	OSE:22:[Data]	QSE:22	OSE:22:[Data]	0 1 2 3	ALL SD(VBS + SD-SDI) VBS SD-SDI			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
2D LPF (D/C BOARD)	OSE:23:[Data]	QSE:23	OSE:23:[Data]	0 1 2 3	OFF LOW MID HIGH			----									----	Ver1.30-00-0.00 with D/C BOARD	Ver1.00-00-0.00 with D/C BOARD	----	----	----	----	----	----	----	----	----
CHARACTER MIX (HD SDI BOARD)	OSE:30:[Data]	QSE:30	OSE:30:[Data]	0 1	ALL OPTION			----									----	Ver1.40-00-0.00 with HD SDI BOARD	Ver1.00-00-0.00 with HD SDI BOARD	----	----	----	----	----	----	----	----	----
CHARACTER MIX SELECT	OSD:98:[Data1]:[Data2]	QSD:98:[Data1]	OSD:98: [Data1]:[Data2]	Data1 0 1 2 Data2 0 1 2	Output Browser/Video SDI/HDMI,Component OPTION Character Mix Select Off On Off By Browser			----									----	----	----	V1.00L01	----	V3.00 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	QER:[Data]	0 1	Normal Fan Error	If the Camera made trouble,Camera sent "QER:[Data]" periodically.		----												V1.00L01	----	----	V1.00	----	----	----	V7.00	V1.00
PRESET MATRIX SELECT	OSE:31:[Data]	QSE:31	OSE:31:[Data]	0 1 2 3	NORMAL EBU MATRIX NTSC MATRIX USER			----													V1.00 suports only 0(NORMAL), 1(EBU MATRIX), 2(NTSC MATRIX) V2.00	V3.00	V1.00	V1.00	V1.00	V1.00	----	V1.00
SOFT SKIN	OSE:32:[Data]	QSE:32	OSE:32:[Data]	0 1 2 3	OFF LOW MID HIGH			----													V1.00 supports only 0(OFF),1(LOW),3(HIGH)	V3.00 supports only 0(OFF),1(LOW),3(HIGH)	----	----	V1.00 supports only 0(OFF),1(LOW),3(HIG H)	V1.00 supports only 0(OFF),1(LOW),3(HIG H)	----	----
DRS SELECT	OSE:33:[Data]	QSE:33	OSE:33:[Data]	0 1 2 3	OFF LOW MID HIGH			----													V1.00 supports only 0(OFF),1(LOW),3(HIGH)	V3.00 supports only 0(OFF),1(LOW),3(HIGH)	V1.00	V1.00	V1.00 supports only 0(OFF),1(LOW),3(HIG H)	V1.00 supports only 0(OFF),1(LOW),3(HIG H)	----	V1.00
HDMI COLOR	OSE:68:[Data]	QSE:68	OSE:68:[Data]	0 1 2 3	RGB(NOR) RGB(ENH) YPbPr(422) YPbPr(444)			----													V1.00	V3.00	V1.00	----	----	----	----	----
PUSH AUTO FOCUS	OSE:69:[Data]	----	----	1	PUSH AUTO			----													V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	----	V1.00
DIGITAL ZOOM ENABLE	OSE:70:[Data]	QSE:70	OSE:70:[Data]	0 1	DISABLE ENABLE			----													V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	----	V1.00
PRESET SCOPE	OSE:71:[Data]	QSE:71	OSE:71:[Data]	0 1 2	MODE A MODE B MODE C			----													V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	----	V1.00

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks																			
						Control and Response to contol	Response to Confirmation		E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
GAMMA TYPE	OSE:72:[Data]		QSE:72	OSE:72:[Data]	0 1 2 0 1 2 3 4	OFF NORMAL CINEMA <u>AW-HE130,AW-HR140</u> HD SD FILMLIKE1 FILMLIKE2 FILMLIKE3		---													V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	---	V1.00 supports only 0(HD) 2(FILMLIKE1) 3(FILMLIKE2) 4(FILMLIKE3)
BACK LIGHT COMPENSATION	OSE:73:[Data]		QSE:73	OSE:73:[Data]	0 1	OFF ON		---														V1.00	V3.00	---	---	V1.00	V1.00	---	---
AUTO F.MIX MAX GAIN	OSE:74:[Data]		QSE:74	OSE:74:[Data]	00 01 02 03 04 05 06	(OFF) 6dB 12dB 18dB 24dB 30dB 36dB (HBK50:33dB)		---														V1.00 supports only 00(OFF)-03(18dB)	V3.00 supports only 00(OFF)-03(18dB)	---	---	V1.00 supports only 00(OFF)-03(18dB)	V1.00 supports only 00(OFF)-03(18dB)	---	---
OSD Off With TALLY	OSE:75:[Data]		QSE:75	OSE:75:[Data]	0 1	OFF ON		---														V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	---	V1.00
DIGITAL ZOOM MAGNIFICATION	OSE:76:[Data]		QSE:76	OSE:76:[Data]	0100 ~ 9999	*1.00 ~ *99.99		---														V1.00 supports only 0100(*1.00) 1000(*10.00)	V3.00 supports only 0100(*1.00) ~ 1000(*10.00)	V1.00 supports only 0100(*1.00) ~ 1000(*10.00)	V1.00 supports only 0100(*1.00) ~ 1000(*10.00)	V1.00 supports only 0100(*1.00) ~ 1600(*16.00)	V1.00 supports only 0100(*1.00) ~ 1200(*12.00)	---	V1.00 supports only 0100(*1.00) ~ 1000(*10.00)
BASE FREQUENCY SELECT	OSE:77:[Data]		QSE:77	OSE:77:[Data]	0 1	59.94Hz 50.00Hz		---														V2.00	V1.00	V1.00	V1.00	V1.00	V1.00	---	V1.00
MAXIMUM DIGITAL ZOOM	OSE:7A:[Data]		QSE:7A	OSE:7A:[Data]	02 ~ 18	x2 ~ x18		---														---	---	V1.00 supports only 02(x2) ~ 10(x10)	V1.00 supports only 02(x2) ~ 10(x10)	V1.00 supports only 02(x2) ~ 16(x16)	V1.00 supports only 02:(x2) ~ 12(x12)	---	V1.00 supports only 02(x2) ~ 10(x10)
RIGHT SW	DRT:[Data]		---	---	1h Ah	1Step 10Step		---														---	---	V1.00	V1.00	---	---	V7.00 supports only 1h(1Step)	V1.00
LEFT SW	DLT:[Data]		---	---	1h Ah	1Step 10Step		---														---	---	V1.00	V1.00	---	---	V7.00 supports only 1h(1Step)	V1.00
DAY-NIGHT	OSE:80:[Data]		QSE:80	OSE:80:[Data]	0 1	Day Night		---														---	---	---	---	---	---	---	---
OIS(Optical Image Stabilizer)	OIS:[Data]		QIS	OIS:[Data]	0 1 [AW-HR140] 0 1 2	Off On [AW-HR140] Off OIS Dynamic I.S. System		---														---	---	---	V1.00	V1.00	V1.00	---	V1.00
Flash Band Comp	OFB:[Data]		QFB	OFB:[Data]	0 1	Off On		---														---	---	---	---	---	---	---	---
OSD Mix	OSE:7B:[Data]		QSE:7B	OSE:7B:[Data]	00h 01h 02h 04h 08h 10h	OSD Mix Off SDI On HDMI On Analog On Video On IP On ※bit0:SDI, bit1:HDMI, bit2:Analog, bit3:Video, bit4 : IP		---														---	---	V1.00 supports only 00(OSD Mix Off) 01(SDI On) 02(HDMI On) 04(Analog On) 08(Video On)	V1.00 supports only 00(OSD Mix Off) 01(SDI On) 02(HDMI On) 08(Video On) 10(IP On)	---	---	V7.20 supports only 00(OSD Mix Off) 01(SDI On) 10(IP On)	V1.00 supports only 00(OSD Mix Off) 01(SDI On) 10(IP On)
Flip Status	---		QFS	OFS:[Data]	0 1	Normal Flip		---														---	---	V1.00	V1.00	---	---	---	V1.00
Focus ADJ With Zoom Mode	OAZ:[Data]		QAZ	OAZ:[Data]	0 1	OFF ON		---														V1.00	V1.00	V1.00	V1.00	V1.00	V1.00	---	V1.00
PinP CTRL	OP:[Data]		QP	OP:[Data]	0 1	OFF ON		---														---	---	---	---	---	---	---	---
CHROMA LEVEL	OSD:B0:[Data]		QSD:B0	OSD:B0:[Data]	00h 1Dh ~ 80h ~ A8h <u>AK-UB300</u> 00h 1Dh ~ 80h ~ A8h	OFF -99% ~ 0 ~ 40% <u>AK-B300</u> -100% -99% ~ 0 ~ 40%		---														---	---	---	V1.00	---	---	V7.00	V1.00

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks																			
						Control and Response to contol	Response to Confirmation		E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
COLOR TEMPERATURE	OSD:B1:[Data]		QSD:B1	OSD:B1:[Data]	000h, 001h, 002h, 003h, 004h, 005h, 006h, 007h, 008h, 009h, ~ 06Eh, 06Fh, 070h, 071h, 072h, 073h, 074h, 075h, 076h, 077h, 078h 000h 001h ~ 04A 04B	AW-HE130,AW-HR140 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 [AW-HE40/HE65/HE70] 2400K 2500K ~ 9800K 9900K (100K step)		----														----	----	----	V1.00	V1.00	V1.00	----	V1.00
V DTL LEVEL	OSD:A1:[Data]		QSD:A1	OSD:A1:[Data]	79h ~ 80h ~ 87h	-7 ~ 0 ~ 7		----														----	----	----	V1.0	----	----	----	V1.0
DETAIL BAND	OSD:A2:[Data]		QSD:A2	OSD:A2:[Data]	79h ~ 80h ~ 87h	-7 ~ 0 ~ 7		----														----	----	----	V1.0	----	----	----	V1.0
FLESH NOISE SUPPRESS	OSD:A3:[Data]		QSD:A3	OSD:A3:[Data]	80h ~ 9Fh	0 ~ 31		----														----	----	----	V1.0	----	----	----	V1.0
MATRIX(R-G)	OSD:A4:[Data]		QSD:A4	OSD:A4:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ 63		----														----	----	----	V1.0	----	----	----	V1.0
MATRIX(R-B)	OSD:A5:[Data]		QSD:A5	OSD:A5:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ 63		----														----	----	----	V1.0	----	----	----	V1.0
MATRIX(G-R)	OSD:A6:[Data]		QSD:A6	OSD:A6:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ 63		----														----	----	----	V1.0	----	----	----	V1.0
MATRIX(G-B)	OSD:A7:[Data]		QSD:A7	OSD:A7:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ 63		----														----	----	----	V1.0	----	----	----	V1.0
MATRIX(B-R)	OSD:A8:[Data]		QSD:A8	OSD:A8:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ 63		----														----	----	----	V1.0	----	----	----	V1.0
MATRIX(B-G)	OSD:A9:[Data]		QSD:A9	OSD:A9:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ 63		----														----	----	----	V1.0	----	----	----	V1.0
COLOR MATRIX Mz_R_R GAIN /COLOR CORRECTION Mz_R_R SATURATION	OSD:9A:[Data]		QSD:9A	OSD:9A:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	V1.0 supports only 41h(-63) ~ BFh(+63)	----	----	----	V1.0 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX Mz_R_R PHASE /COLOR CORRECTION Mz_R_R PHASE	OSD:9B:[Data]		QSD:9B	OSD:9B:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	V1.0 supports only 41h(-63) ~ BFh(+63)	----	----	----	V1.0 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX R_R_Yl GAIN /COLOR CORRECTION R_R_Yl SATURATION	OSD:9C:[Data]		QSD:9C	OSD:9C:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	V1.0 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	----	V1.0 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX R_R_Yl PHASE /COLOR CORRECTION R_R_Yl PHASE	OSD:9D:[Data]		QSD:9D	OSD:9D:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	V1.0 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	----	V1.0 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX R_Yl_Yl GAIN /COLOR CORRECTION R_Yl_Yl SATURATION	OSD:9E:[Data]		QSD:9E	OSD:9E:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	V1.0 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	----	V1.0 supports only 41h(-63) ~ BFh(+63)
COLOR MATRIX R_Yl_Yl PHASE /COLOR CORRECTION R_Yl_Yl PHASE	OSD:9F:[Data]		QSD:9F	OSD:9F:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	V1.0 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	----	V1.0 supports only 41h(-63) ~ BFh(+63)
AUDIO	OSA:D0:[Data]		QSA:D0	OSA:D0:[Data]	0 1	OFF ON		----														----	----	----	V1.0	V1.00	V1.00	----	V1.0
AUDIO INPUT VOLUME	OSA:D1:[Data]		QSA:D1	OSA:D1:[Data]	0 1 2 3 4 5	Mic High Mic Middle Nic Low Line High Line Middle Line Low		----														----	----	----	V1.0	V1.00	V1.00	----	----
AUDIO PLUGIN POWER	OSA:D2:[Data]		QSA:D2	OSA:D2:[Data]	0 1	OFF ON		----														----	----	----	V1.0	V1.00	V1.00	----	----
TALLY BRIGHTNESS	OSA:D3:[Data]		QSA:D3	OSA:D3:[Data]	0 1 2	LOW MID HIGH		----														----	----	----	V1.0	----	----	----	----
NIGHT MODE SEL	OSD:B2:[Data]		QSD:B2	OSD:B2:[Data]	0 1	Manual Auto		----														----	----	----	----	V1.00	V1.00	----	----
i. ZOOM	OSD:B3:[Data]		QSD:B3	OSD:B3:[Data]	0 1	DISABLE ENABLE		----														----	----	----	----	V1.00	V1.00	----	----
HDR	OSD:B4:[Data]		QSD:B4	OSD:B4:[Data]	0 1 2 3	Off Low Mid High		----														----	----	----	----	V1.00 supports only 0(OFF),1(LOW),3(HIGH)	V1.00 supports only 0(OFF),1(LOW),3(HIGH)	----	----

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks																			
						Control and Response to contol	Response to Confirmation		E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
COLOR MATRIX Cy_Cy_B GAIN /COLOR CORRECTION Cy_Cy_B SATURATION	OSD:AA:[Data]		QSD:AA	OSD:AA:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	----	----
COLOR MATRIX Cy_Cy_B PHASE /COLOR CORRECTION Cy_Cy_B PHASE	OSD:AB:[Data]		QSD:AB	OSD:AB:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	----	----
COLOR MATRIX Cy_B_B GAIN /COLOR CORRECTION Cy_B_B SATURATION	OSD:AC:[Data]		QSD:AC	OSD:AC:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	----	----
COLOR MATRIX Cy_B_B PHASE /COLOR CORRECTION Cy_B_B PHASE	OSD:AD:[Data]		QSD:AD	OSD:AD:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	----	----
COLOR MATRIX B_B_Mg GAIN /COLOR CORRECTION B_B_Mg SATURATION	OSD:C0:[Data]		QSD:C0	OSD:C0:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	----	----
COLOR MATRIX B_B_Mg PHASE /COLOR CORRECTION B_B_Mg PHASE	OSD:C1:[Data]		QSD:C1	OSD:C1:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	----	----
COLOR MATRIX B_Mg_Mg GAIN /COLOR CORRECTION B_Mg_Mg SATURATION	OSD:C2:[Data]		QSD:C2	OSD:C2:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	----	----
COLOR MATRIX B_Mg_Mg PHASE /COLOR CORRECTION B_Mg_Mg PHASE	OSD:C3:[Data]		QSD:C3	OSD:C3:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	----	----
COLOR MATRIX Yl_Yl_G GAIN /COLOR CORRECTION Yl_Yl_G SATURATION	OSD:C4:[Data]		QSD:C4	OSD:C4:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	----	----
COLOR MATRIX Yl_Yl_G PHASE /COLOR CORRECTION Yl_Yl_G PHASE	OSD:C5:[Data]		QSD:C5	OSD:C5:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	----	----
COLOR MATRIX Yl_G_G GAIN /COLOR CORRECTION Yl_G_G SATURATION	OSD:C6:[Data]		QSD:C6	OSD:C6:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 61h(-31) ~ 9Fh(+31)	V1.00 supports only 61h(-31) ~ 9Fh(+31)	----	----
COLOR MATRIX Yl_G_G PHASE /COLOR CORRECTION Yl_G_G PHASE	OSD:C7:[Data]		QSD:C7	OSD:C7:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127		----														----	----	----	----	V1.00 supports only 41h(-63) ~ BFh(+63)	V1.00 supports only 41h(-63) ~ BFh(+63)	----	----
NIGHT-DAY LEVEL	OSD:B7:[Data]		QSD:B7	OSD:B7:[Data]	0 1 2	Low Mid High		----														----	----	----	----	V1.00	V1.00	----	----
Digital Extender Magnification	OSD:B8:[Data]		QSD:B8	OSD:B8:[Data]	0 1 2 3 4	x1.4 x2.0 x4.0 x6.0 x8.0		----														----	----	----	----	----	V1.00	----	----
Format_SDI	OSD:B9:[Data]		QSD:B9	OSD:B9:[Data]	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		----													----	----	----	----	----	V1.00 [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	OSD:BA:[Data]	0 1	TYPE2(Full BAR/EBU) TYPE1(SMPTE)		----														----	----	----	----	V1.21+AW-SFU01	V1.00	----	----
ALC	OSD:BB:[Data]		QSD:BB	OSD:BB:[Data]	0 1	OFF ON		----														----	----	----	----	V1.21+AW-SFU01	V1.00	----	----
Equalize	OSD:BC:[Data]		QSD:BC	OSD:BC:[Data]	0 1 2	OFF LowCUT VOICE		----														----	----	----	----	V1.21+AW-SFU01	V1.00	----	----
Bars Title	OSD:BE:[Data]		QSD:BE	OSD:BE:[Data]	0 1	OFF ON		----														----	----	----	----	V1.21+AW-SFU01	V1.00	----	----
AutoShutterLimit	OSD:BF:[Data]		QSD:BE	OSD:BE:[Data]	0 1 2 3 4	[59.94Hz] [50Hz] Off Off 1/60 1/50 1/100 1/100 1/120 1/125 1/250 1/250		----														----	----	----	----	----	V1.00	----	----
E.DRS SELECT	OSD:C8:[Data]		QSD:C8	OSD:C8:[Data]	0 1 2 3	OFF LOW MID HIGH		----														----	----	----	----	V1.48 supports only 0(OFF), 1(LOW), 3(HIGH)	V1.17 supports only 0(OFF), 1(LOW), 3(HIGH)	----	----
SOFTWARE VERSION	-		QSI:19:[Data1]	QSI: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	[Data1] SYSTEM VERSION CAM MAIN NETWORK ROM TABLE CAM FPGA AVIO FPGA OPTION FPGA [Data2] (ex) 01.00-000-00.00		----														----	----	----	----	----	----	V7.00	----

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks																			
						Control and Response to contol	Response to Confirmation		E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
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		----													----	----	----	----	----	----	V7.00	----
A.IRIS LEVEL	OSI:1D:[Data]		QSI:1D	OSI:1D:[Data]	00h ~ 64h	0 ~ 100			----													----	----	----	----	----	----	V7.00	----
Request IRIS F No.	-		OIF	OIF:[Data]	0Eh(=14) ~ 1Ch(=28) ~ 38h(=56) ~ A0h(=160) ~ FFh	----	F1.4 ~ F2.8 ~ F5.6 ~ F16 ~ CLOSE		----													----	----	----	----	----	----	V7.00	----
SHUTTER SW	OSG:59:[Data]		QSG:59	OSG:59:[Data]	0 1	OFF ON			----													----	----	----	----	----	----	V7.00	----
SHUTTER MODE	OSG:5A:[Data]		QSG:5A	OSG:5A:[Data]	0 1	SHUTTER SYNC			----													----	----	----	----	----	----	V7.00	----
SHUTTER SPEED	OSG:5D:[Data]		QSG:5D	OSG:5D:[Data]	00h 01h 02h 03h 04h 05h 06h 07h 08h 09h 0Ah 0Bh 0Ch 0Dh 0Eh 0Fh 10h 11h	1/48 1/50 1/60 1/96 1/100 1/120 1/125 1/250 1/500 1/1000 1/1500 1/2000 180.0deg 172.8deg 144.0deg 120.0deg 90.0deg 45.0deg			----													----	----	----	----	----	----	V7.00 (59.94p/59.94i) 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) (50p/50i) 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) (29.97p/23.98p) 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) (25p) 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)	----
R GAIN	OSG:39:[Data]		QSG:39	OSG:39:[Data]	418h ~ 800h ~ BE8h	-1000 ~ 0 ~ 1000			----													----	----	----	----	----	----	V7.00	----
B GAIN	OSG:3A:[Data]		QSG:3A	OSG:3A:[Data]	418h ~ 800h ~ BE8h	-1000 ~ 0 ~ 1000			----													----	----	----	----	----	----	V7.00	----
M-PED	OSG:4A:[Data]		QSG:4A	OSG:4A:[Data]	1Dh ~ 80h ~ E3h	-99 ~ 0 ~ 99			----													----	----	----	----	----	----	V7.00	----
R PEDESTAL	OSG:4C:[Data]		QSG:4C	OSG:4C:[Data]	4E0h ~ 800h ~ B20h	-800 ~ 0 ~ 800			----													----	----	----	----	----	----	V7.00	----
B PEDESTAL	OSG:4E:[Data]		QSG:4E	OSG:4E:[Data]	4E0h ~ 800h ~ B20h	-800 ~ 0 ~ 800			----													----	----	----	----	----	----	V7.00	----
MATRIX	OSG:A0:[Data]		QSG:A0	OSG:A0:[Data]	0 1	OFF ON			----													----	----	----	----	----	----	V7.00	----
MATRIX (R-G)_N	OSG:A5:N:[Data]		QSG:A5:N	OSG:A5:N:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----
MATRIX (R-G)_P	OSG:A5:P:[Data]		QSG:A5:P	OSG:A5:P:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----

ITEM	Control Command / Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation		Remarks: E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
MATRIX (R-B)_N	OSG:A6:N:[Data]	QSG:A6:N	OSG:A6:N:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----
MATRIX (R-B)_P	OSG:A6:P:[Data]	QSG:A6:P	OSG:A6:P:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----
MATRIX (G-R)_N	OSG:A7:N:[Data]	QSG:A7:N	OSG:A7:N:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----
MATRIX (G-R)_P	OSG:A7:P:[Data]	QSG:A7:P	OSG:A7:P:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----
MATRIX (G-B)_N	OSG:A8:N:[Data]	QSG:A8:N	OSG:A8:N:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----
MATRIX (G-B)_P	OSG:A8:P:[Data]	QSG:A8:P	OSG:A8:P:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----
MATRIX (B-R)_N	OSG:A9:N:[Data]	QSG:A9:N	OSG:A9:N:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----
MATRIX (B-R)_P	OSG:A9:P:[Data]	QSG:A9:P	OSG:A9:P:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----
MATRIX (B-G)_N	OSG:AA:N:[Data]	QSG:AA:N	OSG:AA:N:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----
MATRIX (B-G)_P	OSG:AA:P:[Data]	QSG:AA:P	OSG:AA:P:[Data]	00h ~ 1Fh ~ 3Eh	-31 ~ 0 ~ +31			----													----	----	----	----	----	----	V7.00	----
COLOR CORRECT TABLE	OSG:A4:[Data]	QSG:A4	OSG:A4:[Data]	0 1	A B			----													----	----	----	----	----	----	V7.00	----
SKIN AREA SW	OSG:B0:[Data]	QSG:B0	OSG:B0:[Data]	0 1	OFF ON			----													----	----	----	----	----	----	V7.00	----
SKIN AREA TABLE	OSG:B1:[Data]	QSG:B1	OSG:B1:[Data]	0 1	A B			----													----	----	----	----	----	----	V7.00	----
SKIN AREA HUE	OSG:B2:[Data]	QSG:B2	OSG:B2:[Data]	01h ~ 80h ~ FFh	-127 ~ 0 ~ +127			----													----	----	----	----	----	----	V7.00	----
SKIN AREA TONE	OSG:B3:[Data]	QSG:B3	OSG:B3:[Data]	01h ~ 80h ~ FEh	-127 ~ 0 ~ +126			----													----	----	----	----	----	----	V7.00	----
CHROMA LEVEL SWITCH	OSG:93:[Data]	QSG:93	OSG:93:[Data]	0 1	OFF ON			----													----	----	----	----	----	----	V7.00	----
COLOR TEMPERATURE INC	OSI:1E:[Data]	-	-	1	INC	---		----													----	----	----	----	----	----	V7.00	----
COLOR TEMPERATURE DEC	OSI:1F:[Data]	-	-	1	DEC	---		----													----	----	----	----	----	----	V7.00	----
COLOR TEMPERATURE	-	QSI:20	OSI:20:[Data1]:[Data2]	[Data1] 00000h ~ FFFFFh [Data2] 0h 1h 2h	---	[Data1] OK ~ 1048575K [Data2] Valid Under Over		----													----	----	----	----	----	----	V7.00	----
V DETAIL LEVEL	OSG:32:[Data]	QSG:32	OSG:32:[Data]	00h ~ 3Fh	00 ~ 63			----													----	----	----	----	----	----	V7.00	----
PEAK FREQUENCY	OSG:30:[Data]	QSG:30	OSG:30:[Data]	00h ~ 04h ~ 1Fh	0 ~ 4 ~ 31			----													----	----	----	----	----	----	V7.00 [In case HD format] 00h(0) - 1Fh(31) [In case 4K format] 00h(0) - 04h(4)	----
V DETAIL FREQUENCY	OSG:35:[Data]	QSG:35	OSG:35:[Data]	00h ~ 04h ~ 1Fh	0 ~ 4 ~ 31			----													----	----	----	----	----	----	V7.00 [In case HD format] 00h(0) - 1Fh(31) [In case 4K format] 00h(0) - 04h(4)	----
DETAIL +CLIP	OSG:40:[Data]	QSG:40	OSG:40:[Data]	00h ~ 3Fh	0 ~ 63			----													----	----	----	----	----	----	V7.00	----
DETAIL -CLIP	OSG:41:[Data]	QSG:41	OSG:41:[Data]	00h ~ 3Fh	0 ~ 63			----													----	----	----	----	----	----	V7.00	----
KNEE APERTURE LEVEL	OSG:3F:[Data]	QSG:3F	OSG:3F:[Data]	00h ~ 27h	0 ~ 39			----													----	----	----	----	----	----	V7.00	----
LEVEL DEPENDENT SWITCH	OSG:3E:[Data]	QSG:3E	OSG:3E:[Data]	0 1	OFF ON			----													----	----	----	----	----	----	V7.00	----
MEMORY SELECT	OSG:42:[Data]	QSG:42	OSG:42:[Data]	0 1 2	A B C			----													----	----	----	----	----	----	V7.00	----
H POSITION	OSG:44:[Data]	QSG:44	OSG:44:[Data]	000h ~ 190h	0 ~ 100.00% (0.25% Step)			----													----	----	----	----	----	----	V7.00	----
V POSITION	OSG:45:[Data]	QSG:45	OSG:45:[Data]	000h ~ 190h	0 ~ 100.00% (0.25% Step)			----													----	----	----	----	----	----	V7.00	----
ZEBRA EFFECT MEMORY	OSG:47:[Data]	QSG:47	OSG:47:[Data]	0 1 2 3 4 5 6	A B C A+B A+C B+C A+B+C			----													----	----	----	----	----	----	V7.00	----
SKIN TONE EFFECT MEMORY	OSG:48:[Data]	QSG:48	OSG:48:[Data]	0 1 2 3 4 5 6	A B C A+B A+C B+C A+B+C			----													----	----	----	----	----	----	V7.00	----

ITEM	Control Command / Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents: Control and Response to contol	Data Contents: Response to Confirmation		Remarks: E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
SKIN TONE CRISP	OSG:49:[Data]	QSG:49	OSG:49:[Data]	41h ~ 80h ~ BFh	-63 ~ 0 ~ +63			----													----	----	----	----	----	----	V7.00	----
SKIN TONE Q PHASE	OSG:4F:[Data]	QSG:4F	OSG:4F:[Data]	000h ~ 167h	0 ~ 359			----													----	----	----	----	----	----	V7.00	----
DNR LEVEL	OSG:B5:[Data]	QSG:B5	OSG:B5:[Data]	1 ~ 5	1 ~ 5			----													----	----	----	----	----	----	V7.00	----
HAZE REDUCTION	OSG:B6:[Data]	QSG:B6	OSG:B6:[Data]	0 1	OFF ON			----													----	----	----	----	----	----	V7.00	V1.00
HAZE REDUCTION LEVEL	OSG:B7:[Data]	QSG:B7	OSG:B7:[Data]	1 ~ 3	1 ~ 3			----													----	----	----	----	----	----	V7.00	V1.00
GEN-LOCK INPUT	OSG:CA:[Data]	QSG:CA	OSG:CA:[Data]	0 1	BNC DSUB			----													----	----	----	----	----	----	V7.00	----
H PHASE-COARSE	OSG:CB:[Data]	QSG:CB	OSG:CB:[Data]	3h ~ 8h ~ Dh	-5 ~ 0 ~ +5			----													----	----	----	----	----	----	V7.00	----
H PHASE-FINE	OSG:CC:[Data]	QSG:CC	OSG:CC:[Data]	1Ch ~ 80h ~ E4h	-100 ~ 0 ~ +100			----													----	----	----	----	----	----	V7.00	----
CROP OUT SEL	OSI:16:[Data]	QSI:16	OSI:16:[Data]	1 2 3	YL G MG			----													----	----	----	----	----	----	V7.00	----
CROP ADJ SEL	OSI:17:[Data]	QSI:17	OSI:17:[Data]	1 2 3	YL G MG			----													----	----	----	----	----	----	V7.00	----
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	----		----													----	----	----	----	----	----	V7.00	----
CROP MARKER SEL	OSI:1A:[Data]	QSI:1A	OSI:1A:[Data]	1 2 3 4 5 6 7	YL G MG YL+G YL+MG G+MG YL+G+MG			----													----	----	----	----	----	----	V7.00	----
CROP H POSITION	OSI:1B:[Data]	QSI:1B	OSI:1B:[Data]	738h ~ 800h ~ 8C8h	-50% ~ 0% ~ +50% (0.25% Step)			----													----	----	----	----	----	----	V7.00	----
CROP V POSITION	OSI:1C:[Data]	QSI:1C	OSI:1C:[Data]	738h ~ 800h ~ 8C8h	-50% ~ 0% ~ +50% (0.25% Step)			----													----	----	----	----	----	----	V7.00	----
Preset Digital Extender Enable	OSE:7C:[Data]	QSE:7C	OSE:7C:[Data]	0 1	OFF ON			----													----	----	----	V2.00	----	----	----	V1.00
Preset Zoom Mode	OSE:7D:[Data]	QSE:7D	OSE:7D:[Data]	0 1	Mode A Mode B			----													----	----	----	----	----	----	----	V1.00
Super Gain	OSI:28:[Data]	QSI:28	OSI:28:[Data]	0 1	OFF ON			----													----	----	----	----	----	----	----	V1.00
ATW Speed	OSI:25:[Data]	QSI:25	OSI:25:[Data]	0 1 2	Normal Slow Fast			----													----	----	----	----	----	----	----	V1.00
ATW Width	OSI:26:[Data]	QSI:26	OSI:26:[Data]	1 2 3 4 5	1 2 3 4 5			----													----	----	----	----	----	----	----	V1.00
Intelligent	OSI:21:[Data]	QSI:21	OSI:20:[Data]	0 1 2	Off On Lock			----													----	----	----	----	----	----	----	V1.00
Intelligent Mode	OSI:22:[Data]	QSI:22	OSI:22:[Data]	0 1	AE AE+ATW			----													----	----	----	----	----	----	----	V1.00
Intelligent ND Filter	OSI:23:[Data]	QSI:23	OSI:23:[Data]	0 1 2 3	Through 1/8 1/64 Auto			----													----	----	----	----	----	----	----	V1.00
Intelligent AGC Mode	OSI:24:[Data]	QSI:24	OSI:24:[Data]	0 1 2	Normal Sports SN			----													----	----	----	----	----	----	----	V1.00
3G SDI Out	OSI:29:[Data]	QSI:29	OSI:29:[Data]	0 1	Level A Level B			----													----	----	----	----	----	----	----	V1.00

ITEM	Control Command / Reply for Control Command	Confirmation Command / Reply for Confirmation Command	Data	Data Contents		Remarks																			
				Control and Response to contol	Response to Confirmation		E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	HE50	HE60	HE120	HE130	HE40/ HE65/ HE70	UE70	UB300	HR140
Audio Line Input Level	OSA:D4:[Data1]:[Data2]	QSA:D4:[Data1]	OSA:D4:[Data1]:[Data2]	[Data1] 0 1 [Data2] 0 1 2	[Data1] CH1/CH3 CH2/CH4 [Data2] +4dB 0dB -20dB		---:---:---													---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	V1.00
Audio Output Volume	OSA:D5:[Data1]:[Data2]	QSA:D5:[Data1]	OSA:D5:[Data1]:[Data2]	[Data1] 0 1 2 3 [Data2] 58h ~ 80h ~ 8Ch	[Data1] CH1 CH2 CH3 CH4 [Data2] -40dB ~ 0dB ~ 12dB		---:---:---													---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	V1.00
Audio Head Room	OSA:D6:[Data]	QSA:D6	OSA:D6:[Data]	0 1 2	FS-12dB FS-18dB FS-20dB		---:---:---													---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	V1.00
Audio Line CH Select	OSA:D7:[Data]	QSA:D7	OSA:D7:[Data]	0 1 2 3	All CH1/CH2 CH3/CH4 None		---:---:---													---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	V1.00
DC Out	OSI:2B:[Data]	QSI:2B	OSI:2B:[Data]	0 1	OFF ON		---:---:---													---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	---:---:---	V1.00

P/T Control Protocol

This is a program to control Panasonic PAN/TILT system from PC by serial communication.

Method	Half Duplex
Commnunication Speed	9600bps
Data bit	8bit
Stop bit	1bit
Prity	None
Flow contorol	None

(Electrical Specification)
Connecter : Mojdular 8pin
Compatible with RS422
4line system(TX+,TX-/send, RX+,RX-/Recieve)

(Process)
(1) PC —— Command ⟶ CAMERA
(2) CAMERA —— Command ⟶ PC (In most P/T commands, there is no reply.)

Normally it is processed as mentioned above,but in case of error,it ends by replying error code(*1) in (2).

(*1)Error code

Item	Error code	Contents
Unsupported	eR1[CR]	The Command is not supported by CAMERA.
System busy	eR2[CR]	CAMERA can not process the command for running the other processing.
Out of range	eR3[CR]	Data is out of range.

ex)1 PAN Stop command

#	P	5	0	[CR]
H'23	H'50	H'35	H'30	H'0D

ITEM	Control Command	Confirmation Command	Responce Command	Data	Data Contents		Remarks											Remarks																	
					Control and Response to control	Response to Confirmation		PH300	PH300A	PH500	PH600	PH350	PH400 w/:RP400 or w/:IF400	PH360	PH650	PH405	PH370	HE100		PH300	PH300A	PH500	PH600	PH350	PH400 w/:RP400 or w/:IF400	PH360	PH650	PH405	HE100	HE50	HE60	HE120	HE130	HE40/HE65/HE70	UE70	HR140
Power	#O[Data]	#O	p[Data]	0 f 1 n 2 3	Power OFF Power OFF Power ON Power ON ---- ----	Power OFF Power OFF Power ON(w/ Camera TX) Power ON(w/o Camera TX) Starting	Camera Power & P/T Control "Starting" is supported only Responce Command.	without Camera TX -> Controller RX line				with Camera TX -> Controller RX line							Camera Power & P/T Control	without Camera TX -> Controller RX line				with Camera TX -> Controller RX line						with Camera TX -> Controller RX line	with Camera TX -> Controller RX line	with Camera TX -> Controller RX line	with Camera TX -> Controller RX line	with Camera TX -> Controller RX line	with Camera TX -> Controller RX line	with Camera TX -> Controller RX line
Pan Speed Control	#P[Data]	----	pS[Data]	01 ~ 50 ~ 99	Left Max. Speed ~ Stop ~ Right Max. Speed			----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01											V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Tilt Speed Control	#T[Data]	----	tS[Data]	01 ~ 50 ~ 99	Down Max. Speed ~ Stop ~ UP Max. Speed			----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01											V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
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			----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01											V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Zoom Position Control	#AXZ[Data]	#AXZ	axz[Data]	555h ~ FFFh	Wide ~ Tele			----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01		----					----				V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Zoom Position Control	#AYZ[Data]	----	axz[Data]	[Response to control] 001 ~ 999 [Response to Confirmation] 555h	Wide ~ Tele	Wide														----					----				V1.00L01	----	----	----	----	----	----	----
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			----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01											V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Focus Position Control	#AXF[Data]	#AXF	axf[Data]	555h ~ FFFh	Near ~ Far			----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01		----					----				V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Focus Position Control	#AYF[Data]	----	axf[Data]	[Response to control] 001 ~ 999 [Response to Confirmation] 555h ~ FFFh	Near ~ Far	Near ~ Far														----					----				V1.00L01	----	----	----	----	----	----	----
Roll Speed Control	#RO[Data]	----	rO[Data]	01 ~ 49 50 51 ~ 99	CCW Max. Speed ~ CCW Min. Speed Stop CW Min. Speed ~ CW Max. Speed			----	----	----	----	----	with RL400	----	----	----	----	----		----	----	----	----	----	with RL400	----	----	----	----	----	----	----	----	----	----	----
Iris Control	#I[Data]	#I	iC[Data]	01 ~ 99	Iris Close ~ Iris Open			----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01											V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Iris Control	#AXI[Data]	#AXI	axi[Data]	555h ~ FFFh	Iris Close ~ Iris Open			----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01											V1.00L01	V1.00 (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)	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Iris Control	#AYI[Data]	----	axi[Data]	[Response to control] 001 ~ 999 [Response to Confirmation] 555h ~ FFFh	Iris Close ~ Iris Open	Iris Close ~ Iris Open																							V1.00L01	----	----	----	----	----	----	----
Extender/AF Control	#D1[Data]	#D1	d1[Data]	0 1		OFF ON		----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01											V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
ND Control	#D2[Data]	#D2	d2[Data]	0 1	OFF ON			----	----	----	----	----	----	----	----	V1.00	----	----											----	----	----	----	----	----	----	----
Iris Auto/Manual	#D3[Data]	#D3	d3[Data]	0 1		Manual Iris Auto Iris		----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01											V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Lamp Control	#D4[Data]	#D4	d4[Data]	0 1	OFF ON			----	----	----	----	----	----	----	----	V1.00	----	----											----	----	----	----	----	----	----	----
Lamp Alarm	#D5	----	d5[Data]	0 1		Alarm OFF Alarm ON		with PS300 or PS300A Control Command Only			----	with PS300 or PS300A	----	with PS300 or PS300A	----	----	----	----		with PS300 or PS300A Control Command Only			----	with PS300 or PS300A	----	with PS300 or PS300A	----	----	----	----	----	----	----	----	----	----
OPTION SW Control	#D6[Data]	#D6	d6[Data]	0 1		OFF ON		with PS300 or PS300A Control Command Only			----	with PS300 or PS300A Control Command Only	----	with PS300 or PS300A Control Command Only	----	----	V1.00	V1.00L01		with PS300 or PS300A Control Command Only			----	with PS300 or PS300A Control Command Only	----	with PS300 or PS300A Control Command Only	----	----	V1.00L01	V1.00	V3.00	----	V1.00	V1.00	V1.00	V1.00
Defroster Control	#D7[Data]	----	d7[Data]	0 1	OFF ON			----	----	----	with CH600	----	----	----	----	----	----	----		----	----	----	with CH600	----	----	----	----	----	----	----	----	----	----	----	V1.00 0 : Auto 1 : On
Wiper Control	#D8[Data]	----	d8[Data]	0 1	OFF ON			----	----	----	with CH600	----	----	----	----	----	----	----		----	----	----	with CH600	----	----	----	----	----	----	----	----	----	----	----	V1.00 0 : Off 1 : Fast
Heater/Fan Control	#D9[Data]	----	d9[Data]	0 1	OFF ON			----	----	----	with CH600	----	----	----	----	----	----	----		----	----	----	with CH600	----	----	----	----	----	----	----	----	----	----	----	V1.00 (Heater) 0 : Auto 1 : On
Tally Control	#DA[Data]	#DA	dA[Data]	0 1	OFF ON			----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01		----					----				V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Request Latest Recall Preset No.	----	#S	s[Data]	00 ~ 99 <u>PH360,PH400,PH405,PH650</u> 00 ~ 49		Preset 1 ~ Preset 100 <u>PH360,PH400,PH405,PH650</u> Preset 01 ~ Preset 50		----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00L01		----					----				V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00

ITEM	Control Command	Confirmation Command	Responce Command	Data	Data Contents: Control and Response to control	Data Contents: Response to Confirmation	Remarks	PH300	PH300A	PH500	PH600	PH350	PH400 w/RP400 or w/IF400	PH360	PH650	PH405	PH370	HE100	
Save Preset Memory	#M[Data]	---	s[Data]	00 – 99 PH360,PH400,PH405,PH650 00 – 49	Preset001 – Preset100 PH360,PH400,PH405,PH650 Preset 01 – Preset 50			---	---	---	---	---	---	---	---	V1.00	V1.00	V1.00L01	
Recall Preset Memory	#R[Data]	---	s[Data]	00 – 99 PH360,PH400,PH405,PH650 00 – 49	Preset001 – Preset100 PH360,PH400,PH405,PH650 Preset 01 – Preset 50			---	---	---	---	---	---	---	---	V1.00	V1.00	V1.00L01	
Preset completion notification	---	---	q[Data]	00 – 99 PH360,PH400,PH405,PH650 00 – 49	Preset001 – Preset100 PH360,PH400,PH405,PH650 Preset 01 – Preset 50			---	---	---	---	---	---	---	---	V1.00	V1.00	V1.00L01	
Preset Mode Setting	#RT[Data]	#RT	rt[Data]	0 1	Normal Diagonal			---	---	---	---	---	---	---	---	V1.00	---	---	
Limitation Setting	#L[Data]	---	l[Data]	Controller -> P/T 1 2 3 4 P/T -> Controller 0 1	Tilt Up Tilt Down Pan Left Pan Right	Release Set		---	---	---	---	---	---	---	---	V1.00	V1.00	V1.00L01	
Landing Setting	#N[Data]	---	n[Data]	0 1	Just Landing Soft Landing			---	---	---	---	---	---	---	---	V1.00	V1.00	V1.00L01	
Request Zoom Position (Output D/A Data)	---	#GZ	gz[Data]	555h – FFFh "---"		Wide – Tele @Power OFF		---	---	---	---	---	---	---	---	V1.00	V1.00	V1.00L01	
Request Focus Position (Output D/A Data)	---	#GF	gf[Data]	555h – FFFh "---"		Near – Far @Power OFF		---	---	---	---	---	---	---	---	V1.00	V1.00	V1.00L01	
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	@Iris Manual	---	---	---	---	---	---	---	---	V1.00	V1.00	V1.00L01	
Tilt Range	#AGL[Data]	#AGL	aGL[Data]	0 1	Narrow(190deg) Wide(300deg)			---	---	---	---	---		---	---	---	---	---	
Request Software Vertion	---	#V?	[Version Data]					---	---	---	---	---	---	---	---	V1.00	V1.00	V1.00L01	@Iris Manual
TALLY Enable	#TAE[Data]	#TAE	tAE[Data]	0 1	Disable Enable			---	---	---	---	---	---	---	---	---	V1.00	---	
Install Positon	#INS[Data]	#INS	iNS[Data]	0 1	Desktop Hanging			---	---	---	---	---	---	---	---	---	V1.00	---	
Speed With Zoom POS	#SWZ[Data]	#SWZ	sWZ[Data]	0 1	OFF ON			---	---	---	---	---	---	---	---	---	V1.00	---	
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	[Data1]Pan Position CCW Limit – Center – CW Limit [Data2]Tilt Position UP Limit – Center – DOWN Limit	1 step is equivalent to 29.7 seconds	---	---	---	---	---	---	---	---	---	V1.00	---	
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	[Data1] Tilt Up Tilt Down Pan Left Pan Right [Data2] Release Set		---	---	---	---	---	---	---	---	---	---	---	
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			---	---	---	---	---	---	---	---	---	---	---	
Wireless Control	#WLC[Data1]	#WLC	wLC[Data1]	0 1	Disable Enable														
SOFTWARE VERSION	#CSV[Data1]V[Data2].[Data3][Data4][Data5][data6]	#QSV[Data1]	qSV[Data1]V[Data2].[Data3][Data4][Data5][data6]	[Data1] 0 1 2 3 4 5 6 7 8 9 [Data2] 00-99 [Data3] 00-99 [Data4] E L [Data5] 00-99 [data6] 0 1 2	[Data1] (Unit No.0) (Unit No.1) (Unit No.2) (Unit No.3) (Unit No.4) (Unit No.5) (Unit No.6) (Unit No.7) (Unit No.8) (Unit No.9)	[Data1] (Unit No.0) (Unit No.1) (Unit No.2) (Unit No.3) (Unit No.4) (Unit No.5) (Unit No.6) (Unit No.7) (Unit No.8) (Unit No.9) [Data2] MAJOR VERSION [Data3] MINOR VERSION [Data4] Debug Build Release Build [Data5] REVISION [data6] NTSC PAL Other											V1.00	[Data1] Pan Tilt UNIT CPU Pan Tilt UNIT IR Camera Control Unit CPU Camera Control Unit FPGA Camera Prosess Unit CPU Camera Prosess Unit FPGA reserve [Data2] MAJOR VERSION [Data3] MINOR VERSION	

ITEM	PH300	PH300A	PH500	PH600	PH350	PH400 w/RP400 or w/IF400	PH360	PH650	PH405	HE100	HE50	HE60	HE120	HE130	HE40/HE65/HE70	UE70	HR140
Save Preset Memory										V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Recall Preset Memory										V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Preset completion notification	---					---				V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Preset Mode Setting	---	---	---	---		---				---	---	---	---	---	---	---	---
Limitation Setting										V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Landing Setting						---				V1.00L01	---	---	---	---	---	---	---
Request Zoom Position (Output D/A Data)						---				V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Request Focus Position (Output D/A Data)						---				V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Request Iris Position (Output D/A Data)						---				V1.00L01	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Tilt Range	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---
Request Software Vertion						---				V1.00L01	---	---	---	---	---	---	---
TALLY Enable	---	---	---	---	---	---	---	---	---	---	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	---
Install Positon	---	---	---	---	---	---	---	---	---	---	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Speed With Zoom POS	---	---	---	---	---	---	---	---	---	---	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Pan/Tilt Absolute Position Control	---	---	---	---	---	---	---	---	---	---	V1.00 supports only Pan 2D08(CCW Limit)-D2F5(CW Limit) Tilt 5556(UP Limit)-8E38(DOWN Limit)	V3.00 supports only Pan 2D08(CCW Limit)-D2F5(CW Limit) Tilt 5556(UP Limit)-8E38(DOWN Limit)	V1.00 supports only Pan 2D08(CCW Limit)-D2F5(CW Limit) Tilt 1C73(UP Limit)-8E38(DOWN Limit)	V1.00 supports only Pan 2D08(CCW Limit)-D2F5(CW Limit) Tilt 1C73(UP Limit)-8E38(DOWN Limit)	V1.00 supports only Pan 2D08(CCW Limit)-D2F5(CW Limit) Tilt 5556(UP Limit)-8E38(DOWN Limit)	V1.00 supports only Pan 2D08(CCW Limit)-D2F5(CW Limit) Tilt 5556(UP Limit)-8E38(DOWN Limit)	V1.00 supports only Pan 2D08(CCW Limit)-D2F5(CW Limit) Tilt 1C73(UP Limit)-8E38(DOWN Limit)
Limitation Control	---	---	---	---	---	---	---	---	---	---	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Pan Tilt Speed Control	---	---	---	---	---	---	---	---	---	---	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Wireless Control	---	---	---	---	---	---	---	---	---	---	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	---
SOFTWARE VERSION	---	---	---	---	---	---	---	---	---	---	[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	[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] 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] 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	supports only #QSV[Data1] [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	supports only #QSV[Data1] [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

ITEM	Control Command	Confirmation Command	Responce Command	Data	Data Contents		Remarks												Remarks																		
					Control and Response to control	Response to Confirmation		PH300	PH300A	PH500	PH600	PH350	PH400 w/:RP400 or w:/IF400	PH360	PH650	PH405	PH370	HE100		PH300	PH300A	PH500	PH600	PH350	PH400 w/:RP400 or w:/IF400	PH360	PH650	PH405	HE100	HE50	HE60	HE120	HE130	HE40/HE65/HE70	UE70	HR140
Error Status Info.	----	#RER	rER[Data]	00h 01h 02h 03h 04h 05h 06h 07h 08h 09h 0Ah 0Bh ~ 17h ~ 19h ~ 21h 22h 23h 24h 25h 26h 27h 28h ~ 31h 32h 33h 34h 35h 36h 37h 38h 39h 40h		Normal [Error1] [Error2] [Error3] [Error4] [Error5] [Error6] [Error7] [Error8] [Error9] [Error10] [Error11] ~ [Error23] ~ [Error25] ~ [Error33] [Error34] [Error35] [Error36] [Error37] [Error38] [Error39] [Error40] ~ [Error49] [Error50] [Error51] [Error52] [Error53] [Error54] [Error55] [Error56] [Error57] [Error58]		----	----	----	----	----	----	----	----		V1.00	V1.00L00		----	----	----	----	----	----	----	----	----	----	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_Adjustnet_NG 31h: Bar_Signal_Check_NG ~ ~	V3.00 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_Adjustnet_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 25h: Lens Initialize Error ~ ~ ~ ~ ~ ~ ~ ~ ~	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 supports only 00h:Normal(No Error) 03h:Motor Driver Error 04h:Pan Sensor Error 05h:Tilt Sensor Error 06h:IF/FPGA UART Over run Error 07h:IF/FPGA UART Framing Error 08h:IF/NET UART Over run Error 09h:IF/NET UART Framing Error 17h:IF/FPGA UART Buffer Overflow 19h:IF/NET UART Buffer Overflow 21h:System Error(IF/SERVO Error) 22h:PT Limit Over 24h:NET Life-monitoring Error 25h:BE Life-monitoring Error 26h:IF/BE UART Buffer Overflow 27h:IF/BE UART Framing Error 28h:IF/BE UART Buffer Overflow 29h:CAM Life-monitoring Error	V1.00 supports only 00h:Normal(No Error) 03h:Motor Driver Error 04h:Pan Sensor Error 05h:Tilt Sensor Error 06h:IF/FPGA UART Over run Error 07h:IF/FPGA UART Framing Error 08h:IF/NET UART Over run Error 09h:IF/NET UART Framing Error 17h:IF/FPGA UART Buffer Overflow 19h:IF/NET UART Buffer Overflow 21h:System Error(IF/SERVO Error) 22h:PT Limit Over 24h:NET Life-monitoring Error 25h:BE Life-monitoring Error 26h:IF/BE UART Buffer Overflow 27h:IF/BE UART Framing Error 28h:IF/BE UART Buffer Overflow 29h:CAM Life-monitoring Error	V1.00 00h: Normal ~ ~ 03h: Motor Driver Error 04h: Pan Sensor Error 05h: Tilt Sensor Error 06h: IF/FPGA UART Over run Error 07h: IF/FPGA UART Framing Error 08h: IF/NET UART Over run Error 09h: IF/NET UART Framing Error 17h: IF/FPGA UART Buffer Overflow 19h: IF/NET UART Buffer Overflow 21h: System Error(IF/SERVO Error) 22h: PT Limit Over 24h: NET Life-monitoring Error 25h: BE Life-monitoring Error 26h: IF/BE UART Buffer Overflow 27h: IF/BE UART Framing Error 28h: IF/BE UART Buffer Overflow 29h: CAM Life-monitoring 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 ~ ~ ~ ~
Lens Position Information	----	#LPI	iPI[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		----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Lens Position Information Control	#LPC[Data]	#LPC	iPC[Data]	0 1		Off On		----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00	V3.00	V1.00	V1.00	V1.00	V1.00	V1.00
Smart Picture Flip	#SPF[Data]	#SPF	sPF[Data]	0 1		Off Auto		----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00	V1.00	----	----	V1.00
Flip Detect Angle	#FDA[Data]	#FDA	fDA[Data]	3Ch ~ 78h		60deg ~ 120deg		----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00	V1.00	----	----	V1.00
PinP Position	#PO[Data]	#PO	sDI[Data]	0 1 2 3		Right Up Right Down Left Down Left Up		----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Camera/PinP Control	#CMP[Data]	#CMP	cMP[Data]	0 1		Camera Main PinP		----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Guide Line Control	#GDL[Data]	#GDL	gDL[Data]	0 1		Off On		----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IR Remote Controller ID	#RID[Data]	#RID	rID[Data]	0 1 2 3		01 02 03 04		----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00	V1.00	----
Resolution Control	#RZL[Data]	#RZL	rZL[Data]	0 1		640x360 320x180		----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00	V1.00	----
P/T Relative Position Control	#RPC[Data1][Data2]	----	rPC[Data1][Data2]	[Data1] 0000h ~ 8000h ~ FFFFh		[Data1]Pan Position CCW Limit ~ Center ~ CW Limit														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00	V1.00
Image Freeze During Preset	#PRF[Data]	#PRF	pRF[Data]	0 1		OFF ON														----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00	V1.00
Preset Speed Table	#PST[Data]	#PST	pST[Data]	0 1 2		SLOW MID FAST														----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00	V1.00
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														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00	V1.00
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														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00	V1.00	V1.00	V1.00
Status Display Lamp	#LMP[Data]	#LMP	lMP[Data]	0 1		Disable Enable														----	----	----	----	----	----	----	----	----	----	----	----	----	V2.00	----	----	----
FAN	#FAN[Data]	#FAN	fAN[Data]	0 1		Auto On														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00
Wiper	#WIP[Data]	#WIP	wIP[Data]	0 1 2		Off Fast Slow														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00
Washer	#WAS[Data]	#WAS	wAS[Data]	0 1		Off On														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00
Fan Status1	----	#FS1	fS1[Data]	0 1		Off On														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00
Fan Status2	----	#FS2	fS2[Data]	0 1		Off On														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00
Heater Status	----	#HS	hS[Data]	0 1		Off On														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00
Defroster Status	----	#DS	dS[Data]	0 1		Off On														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00
Washer PT Position	#WPT	----	wPT	----		----														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00
Washer PT Position Reset	#WPR	----	wPR	----		----														----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	V1.00