

PROTOCOL of CONVERTIBLE CAMERA and PAN/TILT SYSTEM
Ver2.34 (11/5,2009)

Broadcast & Multimedia Bussiness Unit
System Solutions Company
Panasonic Corporation

Specifications are subject to change without notice.

Camera Control Protocol

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

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

(Electrical Specification)

Connector : Made by Sumitomo3M

Compatible with RS232C

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 repeating error code 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

(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 some 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

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		Remarks																					
						Control and Response to control	Response to Confirmation	E300/A	E600	E800	E800A	E350	E650	E750	E860	HE100	HC1500	HC1800	HE870										
MODEL NUMBER	---	---	QID	OID:[Data]	00	---	AW-E300 AW-E300P AW-E300E AW-E600 AW-E600P AW-E600E AW-E800 AW-E800P AW-E800E	to Ver.187																					
					01																								
					02																								
					03					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		
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						
AWC/AWB SET	OVS	OVS ER3:OVS	---	---	---	AWC/AWB Start AWC/AWB OK AWC/AWB NG	---	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						
ABC/ABB SET	OAS	OAS ER3:OAS	---	---	---	ABC/ABB Start ABC/ABB OK ABC/ABB NG	---	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						
AWC MODE	OAW:[Data]	---	QAW	OAW:[Data]	0 1 2 3 4 5	ATW AWC A AWC B ATW PRESET 3200K PRESET 5600K	ATW --- AWC A AWC B PRESET 3200K PRESET 5600K	Be careful because Data of control and question is different.	Ver.001									V1.00L01					V1.00L01						
DETAIL	ODT:[Data]	---	QDT	ODT:[Data]	0 1 2	Convertible OFF LOW HIGH			Ver.001									V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00			V1.00L01						
HD DETAIL	OHD:[Data]	---	QHD	OHD:[Data]	0 1 2	AW-HE870 OFF LOW HIGH			---															V1.00L01 Only User mode					
GAIN UP	OGU:[Data]	---	QGU	OGU:[Data]	00 01 08 - 11 - 1A - 26 27 28 80 08 - 14 15 16 17 18 19 1A 80 02 - 1A 80	AGC Low AGC High 0dB - 9dB - 18dB - 30dB N/Eye Low N/Eye N/Eye High AGC ON AW-HE100 0dB - 12dB ER3 ER3 15dB ER3 ER3 ER3 18dB AGC ON AW-HE870 -6dB - 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						
SHUTTER	OSH:[Data]	---	QSH	OSH:[Data]	0 3 5 6 7 8 9 A B C	OFF 1/100(NSTC) 1/120(PAL) 1/250 1/500 1/1000 1/2000 1/4000 1/10000 Synchro-Scan ELC(AUTO ND)			Ver.001									V1.00L01					V1.00L01						

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks													
						Control and Response to control	Response to Confirmation	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	
SYNCHRO SCAN	OMS:[Data]		QMS	OMS:[Data]	001h - 105h 001h - 137h 721h - 8DFh 721h - 8DFh 721h - 8DFh 001h - 1ABh 001h - 1C2h	<u>Convertible(NTSC)</u> 60.34Hz - 15.75kHz <u>Convertible(PAL)</u> 50.24Hz - 15.63kHz <u>AK-HC1500/HC1800(60Hz)</u> 60.32Hz/60.32Hz - 150.0Hz/149.2Hz <u>AK-HC1500/HC1800(50Hz)</u> 50.27Hz/50.27Hz - 125.0Hz/124.3Hz <u>AK-HC1500/HC1800(FILM MENU)</u> 358.1deg - 144.0deg <u>HE-100N</u> 60Hz - 248.8Hz <u>HE-100E,MC</u> 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(61.19Hz) - 109h(1466Hz) (E,MC Model) 001h(50.99Hz) - 10Dh(1478Hz)
FIELD/FRAME			OFF	OFF:[Data]	0 1 2	Field Frame1 Frame2	Only User Mode	Ver.001													
V.RESOLUTION	OFR:[Data]		OFF	OFF:[Data]	0 1 2	Normal (Fine) Fine	Normal - Fine	Only Halogen,Fluorescent,Outdoor mode													
IRIS AUTO/MANUAL	ORS:[Data]		QRS	ORS:[Data]	0 1	Manual AUTO		Ver.001										V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01
MANUAL IRIS VOLUME	ORV:[Data]		QRV	ORV:[Data]	000h - 3FFh	close open		Ver.001										V1.00L01	Ver.1.00 -00-0.00	Ver.1.00 -00-0.00	V1.00L01
PICTURE LEVEL AJRIS LEVEL	OSD:48:[Data]		QSD:48	OSD:48:[Data]	00h - 31h 32h 33h - 64h 00h - 64h 00-2Eh - 31h 32h 33h - 36-64h	<u>Convertible</u> -50 - -1 0 +1 - +50 <u>AK-HC1500/HC1800</u> 0 - 100 <u>AW-HE100</u> -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	
LIGHT PEAK/AVG AJRIS PEAK/AVG	OPV:[Data]		QPA	OPA:[Data]	00h - 31h 32h 33h - 64h 00h - 64h	<u>Convertible</u> P50 - P1 0 A1 - A50 <u>AK-HC1500/HC1800</u> 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 AJRIS 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]		QNP	ONP:[Data]	0 1	Positive Negative		Ver.001													

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks	Remarks															
						Control and Response to control	Response to Confirmation		E300/A	E600	E800	E800A	E350	E650	E750	E860	HE100	HC1500	HC1800	HE870				
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
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
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
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
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
H PHASE	OHP:[Data]	QHP	OHP:[Data]	000h - 3FFh	-206 - +49				Ver.001											V1.00L01				V1.00L01
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)		Be careful because Data of control and question is different.	Ver.001											V1.00L01 supports only Control Command				V1.00L01
SC FINE	OSN:[Data]	QSN	OSN:[Data]	000h - 007h 008h - 200h - 3FBh 3FCh - 3FFh AW-HE100,HE870 000h - 007h 008h - 200h - 3FBh 3FCh - 3FFh	-511 -511 -511 - 0 - +511 AW-HE100,HE870 -127 - -127 -126 - 0 - +126 +127 - +127			(AW-HE100,AW-HE870) One value of "Data Contents" is added by four "Data" counts.	Ver.001											V1.00L01				V1.00L01
CHROMA LEVEL	OCG:[Data]	QCG	OCG:[Data]	00 - 03 - 06	-3 - 0 - +3				Ver.001											V1.00L01				V1.00L01
SCENE FILE	XSF:[Data]	QSF	OSF:[Data]	0 1 2 3 4 5 6 7 0 1 2 3 4	Convertible Halogen Fluorescent Outdoor User HC1500, HC1800	Convertible Halogen Fluorescent Outdoor User Halogen Fluorescent Outdoor User HC1500, HC1800 PRESET USER1 USER2 CURRENT		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	
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

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks	Remarks														
						Control and Response to control	Response to Confirmation		E300/A	E600	E800	E800A	E350	E650	E750	E860	HE100	HC1500	HC1800	HE870			
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 mode	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	
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
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
HD H.DTL LEVEL L	OSD:13:[Data]		QSD:13	OSD:13:[Data]	00h - 3Eh		0 - 62																V1.00L01 Only User mode
V DTL LEVEL L	OSD:16:[Data]		QSD:16	OSD:16:[Data]	00h - 1Eh 00h - 07h - 0Eh		0 - 30 <u>AW-HE100</u> -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
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 mode	Ver.001 Only User mode												V1.00L01 Only User mode
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 - 0Ah 00h - 1Fh		<u>Convertible</u> 0 - 10 <u>AK-HC1500_HC1800</u> 0 - 31		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
HD NOISE SUPPRESS /CRISP	OSD:23:[Data]		QSD:23	OSD:23:[Data]	00h - 0Ah		<u>AW-HE870</u> 0 - 10																V1.00L01 Only User mode
LEVEL DEPENDENT	OSD:26:[Data]		QSD:26	OSD:26:[Data]	00h - 19h 00h - 0Fh		<u>Convertible</u> 00% - 25% <u>AK-HC1500_HC1800</u> 0% - 15%		from Ver.188 Only User mode	from Ver.056 Only User mode	Ver.001 Only User mode												V1.00L01 Only User mode
HD LEVEL DEPENDENT	OSD:27:[Data]		QSD:27	OSD:27:[Data]	00h - 19h		<u>AW-HE870</u> 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

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks											
						Control and Response to control	Response to Confirmation	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800
COLOR MATRIX R GAIN /COLOR CORRECTION R SATURATION	OSD:86:[Data]		QSD:86	OSD:86:[Data]	00h - 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
COLOR MATRIX R PHASE /COLOR CORRECTION R PHASE	OSD:87:[Data]		QSD:87	OSD:87:[Data]	00h - 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
COLOR MATRIX R_YI GAIN /COLOR CORRECTION R_YI SATURATION	OSD:88:[Data]		QSD:88	OSD:88:[Data]	00h - 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
COLOR MATRIX R_YI PHASE /COLOR CORRECTION R_YI PHASE	OSD:89:[Data]		QSD:89	OSD:89:[Data]	00h - 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
COLOR MATRIX YI GAIN /COLOR CORRECTION YI SATURATION	OSD:8A:[Data]		QSD:8A	OSD:8A:[Data]	00h - 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
COLOR MATRIX YI PHASE /COLOR CORRECTION YI PHASE	OSD:8B:[Data]		QSD:8B	OSD:8B:[Data]	00h - 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
COLOR MATRIX YL GAIN /COLOR CORRECTION YL G SATURATION	OSD:8C:[Data]		QSD:8C	OSD:8C:[Data]	00h - 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
COLOR MATRIX YL PHASE /COLOR CORRECTION YL G PHASE	OSD:8D:[Data]		QSD:8D	OSD:8D:[Data]	00h - 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
COLOR MATRIX G GAIN /COLOR CORRECTION G SATURATION	OSD:8E:[Data]		QSD:8E	OSD:8E:[Data]	00h - 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
COLOR MATRIX G PHASE /COLOR CORRECTION G PHASE	OSD:8F:[Data]		QSD:8F	OSD:8F:[Data]	00h - 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
COLOR MATRIX G_Cy GAIN /COLOR CORRECTION G_Cy SATURATION	OSD:90:[Data]		QSD:90	OSD:90:[Data]	00h - 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
COLOR MATRIX G_Cy PHASE /COLOR CORRECTION G_Cy PHASE	OSD:91:[Data]		QSD:91	OSD:91:[Data]	00h - 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
COLOR MATRIX Cy GAIN /COLOR CORRECTION Cy SATURATION	OSD:92:[Data]		QSD:92	OSD:92:[Data]	00h - 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
COLOR MATRIX Cy PHASE /COLOR CORRECTION Cy PHASE	OSD:93:[Data]		QSD:93	OSD:93:[Data]	00h - 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

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks													
						Control and Response to control	Response to Confirmation	E300/A	E600	E800	E800A	E350	E650	E750	E860	HE100	HC1500	HC1800	HE870		
COLOR MATRIX Cy_B GAIN /COLOR CORRECTION Cy_G SATURATION	OSD:94:[Data]		QSD:94	OSD:94:[Data]	00h - 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
COLOR MATRIX Cy_B PHASE /COLOR CORRECTION Cy_B PHASE	OSD:95:[Data]		QSD:95	OSD:95:[Data]	00h - 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
COLOR MATRIX B GAIN /COLOR CORRECTION B SATURATION	OSD:96:[Data]		QSD:96	OSD:96:[Data]	00h - 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
COLOR MATRIX B PHASE /COLOR CORRECTION B PHASE	OSD:97:[Data]		QSD:97	OSD:97:[Data]	00h - 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
COLOR MATRIX B_Mg GAIN /COLOR CORRECTION B_Mg SATURATION	OSD:80:[Data]		QSD:80	OSD:80:[Data]	00h - 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
COLOR MATRIX B_Mg PHASE /COLOR CORRECTION B_Mg PHASE	OSD:81:[Data]		QSD:81	OSD:81:[Data]	00h - 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
COLOR MATRIX Mg GAIN /COLOR CORRECTION Mg SATURATION	OSD:82:[Data]		QSD:82	OSD:82:[Data]	00h - 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
COLOR MATRIX Mg PHASE /COLOR CORRECTION Mg PHASE	OSD:83:[Data]		QSD:83	OSD:83:[Data]	00h - 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
COLOR MATRIX Mg_R GAIN /COLOR CORRECTION Mg_R SATURATION	OSD:84:[Data]		QSD:84	OSD:84:[Data]	00h - 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
COLOR MATRIX Mg_R PHASE /COLOR CORRECTION Mg_R PHASE	OSD:85:[Data]		QSD:85	OSD:85:[Data]	00h - 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
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
R GAIN	ORl:[Data]		QRI	ORl:[Data]	000h - 096h - 12Ch	-150 - 0 - +150							Ver001				V1.00L01 Data / 5		Ver1.00-00-0.00	Ver1.00-00-0.00	V1.00L01
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
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
B PEDESTAL	OBP:[Data]		QBP	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	V1.00L01

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks																		
						Control and Response to control	Response to Confirmation	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870						
3D-DNR	ODD:[Data]	QDD	ODD:[Data]	00 01 02	OFF LOW HIGH									Ver001												
AUTO FOCUS	OAF:[Data]	QAF	OAF:[Data]	0 1	Manual FOCUS AUTO FOCUS														Ver.001 with AF LENS				V1.00L01			
DIGITAL GAIN UP	ODG:[Data]	QDG	ODG:[Data]	0 1 2 3 4 5	0dB 6dB 12dB 18dB 24dB 30dB									Ver001												
DIGITAL EXTENDER	ODE:[Data]	QDE	ODE:[Data]	0 1	OFF ON									Ver001										Ver1.10-00- 0.00	Ver1.00-00- 0.00	
FILTER	OFT:[Data]	QFT	OFT:[Data]	0 1 2 3 0 1 2 3	Convertible IR Through Normal 1/16 ND 1/64 ND AK-HC1500_HC1800 Clear 1/4 ND 1/16 ND 1/64 ND													Ver.001					Ver1.00-00- 0.00	Ver1.00-00- 0.00		
RED TALLY	TLR:[Data]	---	---	0 1	OFF ON																			Ver1.00-00- 0.00	Ver1.00-00- 0.00	
GREEN TALLY	TLG:[Data]	---	---	0 1	OFF ON																			Ver1.00-00- 0.00	Ver1.00-00- 0.00	
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	

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks															
						Control and Response to control	Response to Confirmation	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870			
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			
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			
WHITE CLIP	OSA:2E:[Data]		QSA:2E	OSA:2E:[Data]	0 1		OFF ON												Ver1.10-00-0.00	Ver1.00-00-0.00			
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 - 80h - 8Eh		-31 - 0 - +31 AW-HE100 0 - 14										V1.00L01	Ver1.10-00-0.00	Ver1.00-00-0.00				
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			
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			
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			
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		(G+R)/2 (G+B)/2 (2G+B+R)/4 (3G+B)/4 R G												Ver1.10-00-0.00	Ver1.00-00-0.00			
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			
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) Color										Ver1.10-00-0.00	Ver1.00-00-0.00	supports only 0(OFF),1(ON)	Ver1.00-00-0.00	supports only 0(OFF),1(ON)	V1.00L01
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			

ITEM	Control Command	Reply for Control Command	Confirmation Command	Reply for Confirmation Command	Data	Data Contents		Remarks													
						Control and Response to control	Response to Confirmation	E300/A	E600	E800	E800A	E350	E650	E655	E750	E860	HE100	HC1500	HC1800	HE870	
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	
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	
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	
LOW GAIN	OSA:50:[Data]		QSA:50	OSA:50:[Data]	7Ah - 7Ch - 80h - 86h	-6dB - 0dB - 12dB - 30dB													Ver1.10-00-0.00	Ver1.00-00-0.00	
MID GAIN	OSA:51:[Data]		QSA:51	OSA:51:[Data]	7Ah - 7Ch - 80h - 86h	-6dB - 0dB - 12dB - 30dB													Ver1.10-00-0.00	Ver1.00-00-0.00	
HIGH GAIN	OSA:52:[Data]		QSA:52	OSA:52:[Data]	7Ah - 7Ch - 80h - 86h	-6dB - 0dB - 12dB - 30dB													Ver1.10-00-0.00	Ver1.00-00-0.00	
A:IRIS 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	
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	OFF +6dB +12dB +18dB +24dB													Ver1.10-00-0.00	Ver1.00-00-0.00	
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	

ITEM	Control Command	Confirmation Command	Response Command	Data	Data Contents		Remarks				
					Control and Response to control	Response to Confirmation	AW-RP605	AW-DU600	AW-RP400	AW-RP655	AW-RP555
Control Select	XPT:[Data]	---	XPT:[Data]	0 1 2 3 4	Port1 Port2 Port3 Port4 Port5	Select P/T	Ver.001				
Control Select2	XCM:[Data]	---	XCM:[Data]	0 1 2 3 4	Port1 Port2 Port3 Port4 Port5	Select Camera Control Port for CB400	---	Ver.001	---		

P/T Control Protocol

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

Method	Half Duplex
Communication Speed	9600bps
Data bit	8bit
Stop bit	1bit
Prity	None
Flow control	None

(Electrical Specification)

Connecter : Mojular 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.)

ex)1 PAN Stop command

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

ITEM	Control Command	Reply for Confirmation Command	Response Command	Data	Data Contents		Remarks											
					Control and Response to control	Response to Confirmation	PH300	PH300A	PH500	PH600	PH350	PH400 w/RP400 or w/IF400	PH360	PH650	PH405	HE100		
Power	#O[Data]		p[Data]	0 f 1 n 2	Power OFF Power OFF Power ON Power ON	Power OFF Power OFF Power ON(w/ Camera TX) Power ON(wo/ Camera TX)	Camera Power & P/T Control	without Camera TX -> Controller RX line						with Camera TX -> Controller RX line				
Pan Speed Control	#P[Data]	---	---	01 - 50 - 99	Left Max. Speed - Stop -													V1.00L01
Tilt Speed Control	#T[Data]	---	---	01 - 50 - 99	Right Max. Speed Down Max. Speed - Stop -													V1.00L01
Zoom Speed Control	#Z[Data]	---	---	01 - 49 50 51 - 99	Wide Max. Speed - Wide Min. Speed Stop Tele Min. Speed - Tele Max. Speed													V1.00L01
Zoom Position Control	#AXZ[Data]	---	axz[Data]	555h - FFFh		Wide - Tele		---					---					V1.00L01
Zoom Position Control	#AYZ[Data]	---	axz[Data]	[Response to control] 001 - 999 [Response to Confirmation] 555h - FFFh	Wide - Tele	Wide - Tele		---					---					V1.00L01
Focus Speed Control	#F[Data]	---	---	01 - 49 50 51 - 99	Near Max. Speed - Near Min. Speed Stop Far Min. Speed - Far Max. Speed													V1.00L01
Focus Position Control	#AXF[Data]	---	axf[Data]	555h - FFFh		Near - Far		---					---					V1.00L01
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]	---	---	01 - 49 50 51 - 99	CCW Max. Speed - CCW Min. Speed Stop CW Min. Speed - CW Max. Speed			---	---	---	---	---	---	with RL400	---	---	---	---
Iris Control	#I[Data]	---	---	01 - 99	Iris Close - Iris Open													V1.00L01
Iris Control	#AXI[Data]	---	axi[Data]	555h - FFFh		Iris Close - Iris Open												V1.00L01
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]	---	---	0 1	OFF ON													V1.00L01
ND Control	#D2[Data]	---	---	0 1	OFF ON													---
Iris Auto/Manual	#D3[Data]	---	---	0 1	Manual Iris Auto Iris													V1.00L01
Lamp Control	#D4[Data]	---	---	0 1	OFF ON													---

ITEM	Control Command	Reply for Confirmation Command	Response Command	Data	Data Contents		Remarks									
					Control and Response to control	Response to Confirmation	PH300	PH300A	PH500	PH600	PH350	PH400 w/RP400 or w/IF400	PH360	PH650	PH405	HE100
Lamp Alarm	#D5	---	d5[Data]	0 1		Alarm OFF Alarm ON	with PS300 or PS300A			---	with PS300 or PS300A	---	with PS300 or PS300A	---	---	---
OPTION SW Control	#D6[Data]	#D6	d6[Data]	0 1	OFF ON	OFF ON	with PS300 or PS300A Control Command Only			---	with PS300 or PS300A Control Command Only	---	with PS300 or PS300A Control Command Only	---	---	V1.00L01
Defroster Control	#D7[Data]	---	---	0 1	OFF ON		---	---	---	with CH600	---	---	---	---	---	---
Wiper Control	#D8[Data]	---	---	0 1	OFF ON		---	---	---	with CH600	---	---	---	---	---	---
Heater/Fan Control	#D9[Data]	---	---	0 1	OFF ON		---	---	---	with CH600	---	---	---	---	---	---
Tally Control	#DA[Data]	---	---	0 1	OFF ON		---	---	---		---	---	---	---	---	V1.00L01
Request Latest Recall Preset No.	---	#S	s[Data]	00 - 49		Preset 01 - Preset 50	---	---	---		---	---	---	---	---	V1.00L01
Save Preset Memory	#M[Data]	---	s[Data]	AW-HE100 00 - 99 AW-PH300 0 - 9 other P/T 00 - 49	AW-HE100 Preset001 - Preset100 AW-PH300 Preset 1 - Preset 10 other P/T Preset 01 - Preset 50	AW-HE100 Preset001 - Preset100 AW-PH300 - - other P/T Preset 01 - Preset 50	---	---	---		---	---	---	---	---	V1.00L01
Recall Preset Memory	#R[Data]	---	s[Data]	AW-HE100 00 - 99 AW-PH300 0 - 9 other P/T 00 - 49	AW-HE100 Preset001 - Preset100 AW-PH300 Preset 1 - Preset 10 other P/T Preset 01 - Preset 50	AW-HE100 Preset001 - Preset100 AW-PH300 - - other P/T Preset 01 - Preset 50	---	---	---		---	---	---	---	---	V1.00L01
Preset completion notification	---	---	q[Data]	AW-HE100 00 - 99 Other P/T 00 - 49		AW-HE100 Preset001 - Preset100 other P/T Preset 01 - Preset 50	---	---	---		---	---	---	---	---	V1.00L01
Preset Mode Setting	#RT[Data]	---	rt[Data]	0 1		Normal Diagonal	---	---	---	---	---	---	---	---	---	---
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		---	---	---		---	---	---	---	---	V1.00L01
Landing Setting	#N[Data]	---	---	0 1	Just Landing Soft Landing		---	---	---		---	---	---	---	---	V1.00L01
Request Zoom Position (Output D/A Data)	---	#GZ	gz[Data]	555h - FFFh "----"		Wide - Tele @Power OFF	---	---	---		---	---	---	---	---	V1.00L01
Request Focus Position (Output D/A Data)	---	#GF	gf[Data]	555h - FFFh "----"		Near - Far @Power OFF	---	---	---		---	---	---	---	---	V1.00L01

ITEM	Control Command	Reply for Confirmation Command	Response Command	Data	Data Contents		Remarks												
					Control and Response to control	Response to Confirmation	PH300	PH300A	PH500	PH600	PH350	PH400 w/ RP400 or w/IF400	PH360	PH650	PH405	HE100			
Request Iris Position (Output D/A Data)	---	#GI	g[Data1][data2]	[data1] 555h - FFFh "----" [data2] 0 1		[data1] Close - Open @Power OFF [data2] Manual Iris Auto Iris	@Iris Manual												V1.00L01
Tilt Range	#AGL[Data]	---	aGL[Data]	0 1		Narrow(190deg) Wide(300deg)		---	---	---	---	---	---	---	---	---	---	---	---
Request Software Verzion	---	#V?	[Version Data]																V1.00L01