PTC-150 DVIP Protocol

July 21, 2015

1. Command Driving Protocol

1.1 Command Head:

Command Start: 0x00

Command Length: 0x0n (n = total length from 0x00 to 0xFF)

Start Byte 0x00	Command Length Byte	Command Packet

Command Length

1.2 Pan-Tilt Drive

Command Name	Head	Command packet	Note
Up	00 0B	81 01 06 01 VV WW 03 01 FF	Pan Speed VV
Down	00 0B	81 01 06 01 VV WW 03 02 FF	(=01h:Slow to 18h:Fast)
Left	00 0B	81 01 06 01 VV WW 01 03 FF	Tilt Speed WW
Right	00 0B	81 01 06 01 VV WW 02 03 FF	(=01h:Slow to 18h:Fast)
Up Left	00 0B	81 01 06 01 VV WW 01 01 FF	
Up Right	00 0B	81 01 06 01 VV WW 02 01 FF	
Down Left	00 0B	81 01 06 01 VV WW 01 02 FF	
Down Right	00 0B	81 01 06 01 VV WW 02 02 FF	
Stop	00 0B	81 01 06 01 VV WW 03 03 FF	
Home	00 07	81 01 06 04 FF	
Reset	00 07	81 01 06 05 FF	
Absolute Position	00 12	81 01 06 02 VV 00 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	YYYYY : Pan Position
Relative Position	00 12	81 01 06 03 VV 00 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	ZZZZ : Tilt Position
Pan Reverse	00 0A	On: 81 01 7E 01 06 00 01 FF	
	00 0A	Off: 81 01 7E 01 06 00 00 FF	
Tilt Reverse	00 0A	On: 81 01 7E 01 09 00 01 FF	
	00 0A	Off: 81 01 7E 01 09 00 00 FF	

1.3 Camera Zoom Drive

Command Name	Head	Command Packet	Note
Stop	00 08	81 01 04 07 00 FF	
Tele(Standard)	00 08	81 01 04 07 02 FF	
Wide(Standard)	00 08	81 01 04 07 03 FF	
Tele(Variable)	00 08	81 01 04 07 2p FF	p(=0 Slow to 7:Fast)
Wide(Variable)	00 08	81 01 04 07 3p FF	q(=0 Slow to 7:Fast)
Direct	00 0B	81 01 04 47 0p 0q 0r 0s FF	pqrs : Zoom Position

1.4 Camera Focus

Command Name	Head	Command Packet	Note
Stop	00 08	81 01 04 08 00 FF	
Far(Standard)	00 08	81 01 04 08 02 FF	
Near(Standard)	00 08	81 01 04 08 03 FF	
Far(Variable)	00 08	81 01 04 08 2p FF	p(=0:Low to 7:Fast)
Near(Variable)	00 08	81 01 04 08 3p FF	q(=0:Low to 7:Fast)
Direct	00 0B	81 01 04 48 0p 0q 0r 0s FF	pqrs : Focus Position 0x1000(Far) ~ 0xF000(Near)
Auto Focus	00 08	81 01 04 38 02 FF	AF ON/OFF
Manual Focus	00 08	81 01 04 38 03 FF	
Auto/Manual	00 08	81 01 04 38 10 FF	
One Push Trigger	00 08	81 01 04 18 01 FF	One Push AF Trigger
Infinity	00 08	81 01 04 18 02 FF	Force Infinity

1.5 Camera White Balance

Command Name	Head	Command Packet	Note
Auto	00 08	81 01 04 35 00 FF	
Manual	00 08	81 01 04 35 05 FF	
Indoor	00 08	81 01 04 35 01 FF	
Outdoor	00 08	81 01 04 35 02 FF	
One Push WB	00 08	81 01 04 35 03 FF	
ATW	00 08	81 01 04 35 04 FF	
One Push Tigger :	00 08	81 01 04 10 05 FF	

1.6 Camera R-Gain

Command Name	Head	Command Packet	Note
Reset	00 08	81 01 04 03 00 FF	
INCREASE(+)	00 08	81 01 04 03 02 FF	
DECREASE(-)	00 08	81 01 04 03 03 FF	
Direct	00 0B	81 01 04 43 00 00 0p 0q FF	R-Gain Direct pq(=00 to FF)

1.7 Camera B-Gain

Command Name	Head	Command Packet	Note
Reset	00 08	81 01 04 04 00 FF	
INCREASE(+)	00 08	81 01 04 04 02 FF	
DECREASE(-)	00 08	81 01 04 04 03 FF	
Direct	00 0B	81 01 04 44 00 00 0p 0q FF	B-Gain Direct pq(=00 to FF)

1.8 Camera Shutter

Command Name	Head	Command Packet	Note
Auto	00 08	81 01 04 5A 02 FF	
Manual	00 08	81 01 04 39 03 FF	
Direct	00 0B	81 01 04 4A 00 00 0p 0q FF	pq = shutter position (00~15)
INCREASE(+)	00 08	81 01 04 0A 02 FF	
DECREASE(-)	00 08	81 01 04 0A 03 FF	

1.9 Camera IRIS

Command Name	Head	Command Packet	Note
Mode	00 08	81 01 04 0B 0p FF	p = 0: Reset 2: Up 3: Down
Reset	00 08	81 01 04 0B 00 FF	
INCREASE(+)	00 08	81 01 04 0B 02 FF	
DECREASE(-)	00 08	81 01 04 0B 03 FF	
Direct	00 0B	81 01 04 4B 00 00 0p 0q FF	pq = iris position (00, 05~11)

1.10   Camera Gain

Command Name	Head	Command Packet	Note
Reset	00 08	81 01 04 0C 00 FF	
INCREASE(+)	00 08	81 01 04 0C 02 FF	
DECREASE(-)	00 08	81 01 04 0C 03 FF	
Direct	00 0B	81 01 04 4C 00 00 0p 0q FF	pq : Gain Position (00~0F)
Limit	00 08	81 01 04 2C 0p FF	p: Gain position (4~F)

1.11   Camera Brightness

Command Name	Head	Command Packet	Note
Direct	00 0B	81 01 04 4D 00 00 0p 0q FF	pq = brightness position
INCREASE(+)	00 08	81 01 04 0E 02 FF	
DECREASE(-)	00 08	81 01 04 0E 03 FF	

1.12   Camera Memory

Command Name	Head	Command Packet	Note
Reset	00 09	81 01 04 3F 00 0p FF	Memory number p(=0 to F)
Set	00 09	81 01 04 3F 01 0p FF	
Recall	00 09	81 01 04 3F 02 0p FF	
Speed	00 0A	81 01 7E 01 0B 0p 0q FF	Memory number p(=0 to F) Speed q(=1 to 18 : fast)
Exp. Command Mode	00 08	81 01 04 3E 0p FF	p = 2: On 3: Off

1.13   Other Commands

Command Name	Head	Command Packet	Note
Address Set	00 06	81 30 01 FF	
Color Bar	00 08	On : 81 01 04 15 08 FF	
	00 08	Off : 81 01 04 15 09 FF	
Camera Power	00 08	On : 81 01 04 00 02 FF	
	00 08	Off : 81 01 04 00 03 FF	
Camera Tally	00 0B	81 01 7E 01 0A 00 0r 0g FF	r/g =2(ON)/ 3(OFF) r:Red , g:Green
Camera Register Value	00 0A	81 01 04 24 mm 0p 0q FF	mm : Register No.(=00 to 7F) pq : Register Value(=00 to FF) (Need to Reboot camera after register setting)
Screen Flip	00 08	81 01 04 66 0p FF	p = 2(On)/ 3(Off)
Screen Mirror	00 08	81 01 04 61 0p FF	p = 2(On)/ 3(Off)
AE Mode	00 08	81 01 04 39 0p FF	p= 0: FULL-AUTO, 3: MANUAL, A: SHUTTER Priority, B: IRIS Priority, D: BRIGHT
Video Format	00 09	81 01 04 24 72 pq FF	pq = 00: (1080/60i), 04: (1080/50i), 06: (1080/29.97p), 08: (1080/25p) , 09: (720/59.94p), 0C: (720/50p), 13: (1080/59.94p), 14: (1080/50p)

1.14   Camera Status Inquiry

Command Name	Head	Command Packet	Note
Power Mode	00 07	81 09 04 00 FF	
Focus Mode	00 07	81 09 04 38 FF	
WB Mode	00 07	81 09 04 35 FF	
R Gain	00 07	81 09 04 43 FF	
B Gain	00 07	81 09 04 44 FF	
AE Mode	00 07	81 09 04 39 FF	
IRIS Position	00 07	81 09 04 4B FF	
Gain Position	00 07	81 09 04 4C FF	
Gain Limit	00 07	81 09 04 2C FF	
Brightness Position	00 07	81 09 04 4D FF	
Shutter Mode	00 07	81 09 04 5A FF	
Shutter Position	00 07	81 09 04 4A FF	
ID	00 07	81 09 04 22 FF	
Version	00 07	81 09 00 02 FF	
Screen Flip	00 07	81 09 04 66 FF	
Screen Mirror	00 07	81 09 04 61 FF	
Register	00 08	81 09 04 24 pp FF	Register No. pp=(0x00~0x7F)
OSD Menu	00 07	81 09 06 06 FF	
Pan Reverse	00 08	81 09 7E 01 06 FF	Return: y0 50 01 FF(On) y0 50 00 FF(Off)
Tilt Reverse	00 08	81 09 7E 01 09 FF	

1.15　　Full Status Inquiry

Command Name	Head	Command Packet	Note
PTC150 Status	00 08	81 09 7E 7E 70 FF	

Return

00 11		x0, 50, aa , bb , cc , dd , ee , ff , gg , hh , ii , jj , kk , ll ,	FF
	aa	bit0=1/0=power on/off, bit4=1/0= setting menu on/off	
	bb	bit 5 ~ bit 0	Video Format 00: (1080/60i), 04: (1080/50i), 06: (1080/29.97p), 08: (1080/25p) , 09: (720/59.94p), 0C: (720/50p), 13: (1080/59.94p), 14: (1080/50p)
	cc	00= Manual , 01~ = Auto mode	ATW
	dd	bit 0 ~ bit 3	R Gain H
	ee	bit 0 ~ bit 3	R Gain L
	ff	bit 0 ~ bit 3	B Gain H
	gg	bit 0 ~ bit 3	B Gain L
	hh	2= auto, 3= manual mode	Focus mode
	ii	0= auto, 1~ = manual mode	IRIS mode
	jj	0= AGC off (manual gain) , 1~ = AGC mode level	AGC mode
	kk	bit 4= H_reverse, bit 5= V_reverse , bit 0=1= pan_tilt_reverse	Video Flip, Pan_dir & Tilt_dir
	ll	3= FAST, 2=Middle, 1=Slow	PTZ speed range

2. OSD Display Command

2.1 OSD Menu Mode

Command Name	Head	Command Packet	Note
On	00 08	81 01 06 06 02 FF	
Off	00 08	81 01 06 06 03 FF	
On/Off	00 08	81 01 06 06 10 FF	
Cursor Up	00 0B	81 01 06 01 00 00 03 01 FF	
Cursor Down	00 0B	81 01 06 01 00 01 03 02 FF	
INCREASE (+)	00 0B	81 01 06 01 01 00 02 03 FF	
DECREASE(-)	00 0B	81 01 06 01 00 00 01 03 FF	
Enter	00 0A	81 01 7E 01 02 00 01 FF	
Stop	00 0B	81 01 06 01 00 00 03 03 FF	

2.2 OSD Menu Mode Inquiry

Command Name	Head	Command Packet	Note

OSD Menu Mode Inquiry	00 07	81 09 06 06 FF	Return :
			  y0 50 02 FF : On
			  y0 50 03 FF : Off