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HT-CAM-1080PTZ

Full HD PTZ Camera

Command List

Version: 1.0



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TCP/IP Control

Default IP: 192.168.6.163, Port 1259

Visca Protocol List

RS232/RS485

Baud rate: 2400 | 4800 | 9600 | 115200

Start bit: 1 bit | Data bit: 8 bit | Stop bit: 1 bit | Verification bit: None

ACK, COMPLETION, AND ERROR MESSAGES

y = socket number; z = device address + 8

Message	Command Packet	Remark
ACK	z0 41 FF	Returned when the command is accepted.
Completion	z0 51 FF	Returned when the command has been executed.
Syntax Error	z0 60 02 FF	Returned when the command format is different or when a command with invalid command parameters is accepted.
Command Canceled	z0 6y 04 FF	Returned when a command which is being executed in a socket specified by the cancel command is canceled. The completion message for the command is not returned.
No Socket	z0 6y 05 FF	Returned when no command is executed in a socket specified by the cancel command, or when an invalid socket number is specified.
Command Not Executable	z0 6y 41 FF	Returned when a command cannot be executed due to current conditions. For example, when commands sent controlling the focus manually are received during auto focus.

CAMERA CONTROL COMMANDS

Command	Function	Command Packet	Remark
AddressSet	Broadcast	88 30 0p FF	p = address setting
IF_Clear	Broadcast	88 01 00 01 FF	Select the desired multicast/unicast stream.
CAM_Power	On	8x 01 04 00 02 FF	Power on/off

Command	Function	Command Packet	Remark
	Off	8x 01 04 07 03 FF	
CAM_Zoom	Stop	8x 01 04 07 00 FF	p = 0 (low) ~ 7 (high)
	Tele (standard)	8x 01 04 07 02 FF	
	Wide (standard)	8x 01 04 07 03 FF	
	Tele (Variable)	8x 01 04 07 2p FF	
	Wide (Variable)	8x 01 04 07 3p FF	
	Direct	8x 01 04 47 0p 0q 0r 0s FF	pqrs: Zoom Position
CAM_Focus	Stop	8x 01 04 08 00 FF	p = 0 (low) ~ 7 (high)
	Far (Standard)	8x 01 04 08 02 FF	
	Near (Standard)	8x 01 04 08 03 FF	
	Far (Variable)	8x 01 04 08 2p FF	
	Near (Variable)	8x 01 04 08 3p FF	
	Direct	8x 01 04 48 0p 0q 0r 0s FF	pqrs: Focus Position
	Auto Focus	8x 01 04 38 02 FF	
	Manual Focus	8x 01 04 38 03 FF	
	One Push Mode	8x 01 04 38 04 FF	
	One Push Trigger	8x 01 04 18 01 FF	
CAM_Zoom Focus	Direct	8x 01 04 47 0p 0q 0r 0s 0t 0u 0v 0w FF	pqrs: Zoom Position tuvw: Focus Position
CAM_AF Sensitivity	High	8x 01 04 58 01 FF	Focus sensitivity setting
	Normal	8x 01 04 58 02 FF	
	Low	8x 01 04 58 03 FF	
CAM_AF Zone	Top	8x 01 04 AA 00 FF	Focus region setting
	Center	8x 01 04 AA 01 FF	
	Bottom	8x 01 04 AA 02 FF	
	All	8x 01 04 AA 03 FF	
CAM_WB	Auto	8x 01 04 35 00 FF	
	3,000k	8x 01 04 35 01 FF	
	4,000k	8x 01 04 35 02 FF	

Command	Function	Command Packet	Remark
	One Push Mode	8x 01 04 35 03 FF	
	5,000k	8x 01 04 35 04 FF	
	Manual	8x 01 04 35 05 FF	
	6,500k	8x 01 04 35 06 FF	
	3,500k	8x 01 04 35 07 FF	
	4,500k	8x 01 04 35 08 FF	
	5,500k	8x 01 04 35 09 FF	
	6,000k	8x 01 04 35 0A FF	
	7,000k	8x 01 04 35 0B FF	
	One Push Trigger	8x 01 04 10 05 FF	
CAM_RGain	Reset	8x 01 04 03 00 FF	Manual control of red gain
	Up	8x 01 04 03 02 FF	
	Down	8x 01 04 03 03 FF	
	Direct	8x 01 04 43 00 00 0p 0q FF	pq: R Gain
CAM_BGain	Reset	8x 01 04 04 00 FF	Manual control of blue gain
	Up	8x 01 04 04 02 FF	
	Down	8x 01 04 04 03 FF	
	Direct	8x 01 04 44 00 00 0p 0q FF	pq: R Gain
CAM_AE	Full Auto	8x 01 04 39 00 FF	Automatic exposure mode
	Manual	8x 01 04 39 03 FF	Manual control mode
	Shutter Priority	8x 01 04 39 0A FF	Shutter priority automatic exposure mode
	Iris Priority	8x 01 04 39 0B FF	Iris priority automatic exposure mode
	Bright	8x 01 04 39 0D FF	Bright mode
CAM_Shutter	Reset	8x 01 04 0A 00 FF	Shutter setting
	Up	8x 01 04 0A 02 FF	
	Down	8x 01 04 0A 03 FF	
	Direct	8x 01 04 4A 00 00 0p 0q FF	pq: Shutter position
CAM_Iris	Reset	8x 01 04 0B 00 FF	Iris setting
	Up	8x 01 04 0B 02 FF	

Command	Function	Command Packet	Remark
	Down	8x 01 04 0B 03 FF	
	Direct	8x 01 04 4B 00 00 0p 0q FF	pq: Iris position
CAM_Gain Limit	Reset	8x 01 04 0C 00 FF	Gain limit setting
	Up	8x 01 04 0C 02 FF	
	Down	8x 01 04 0C 03 FF	
	Gain Limit	8x 01 04 2C 0p FF	p: Gain position
CAM_Bright	Reset	8x 01 04 0D 00 FF	Bright position
	Up	8x 01 04 0D 02 FF	
	Down	8x 01 04 0D 03 FF	
	Direct	8x 01 04 4D 00 00 0p 0q FF	pq: Bright position
CAM_ExpComp	On	8x 01 04 3E 02 FF	Exposure compensation on/off
	Off	8x 01 04 3E 03 FF	
	Reset	8x 01 04 0E 00 FF	Exposure compensation amount setting
	Up	8x 01 04 0E 02 FF	
	Down	8x 01 04 0E 03 FF	
	Direct	8x 01 04 4E 00 00 0p 0q FF	pq: Exposure compensation position
CAM_Back Light	On	8x 01 04 33 02 FF	Back light compensation
	Off	8x 01 04 33 03 FF	
CAM_WDRS trength	Reset	8x 01 04 21 00 FF	Wide dynamic range level setting
	Up	8x 01 04 21 02 FF	
	Down	8x 01 04 21 03 FF	
	Direct	8x 01 04 51 00 00 00 0p FF	p: Wide dynamic range level position
CAM_NR	2D	8x 01 04 53 0p FF	p: 0~7, 0=off
	3D	8x 01 04 54 0p FF	p: 0~8, 0=off
CAM_Gamma	Gamma	8x 01 04 5B 0p FF	p: 0~4. 0=default, 1=0.45, 2=0.50, 3=0.55, 4=0.63
CAM_Low-Light Mode	On	8x 01 04 2D 01 FF	Low-light mode setting
	Off	8x 01 04 2D 00 FF	
CAM_Gain	Direct	8x 01 04 4C 00 00 0p 0q FF	pq: 0~20

Command	Function	Command Packet	Remark
CAM_Preset Speed	Direct	8x 01 01 0p FF	p: 1~10
CAM_Flicker	Off	8x 01 04 23 00 FF	Flicker setting
	50Hz	8x 01 04 23 01 FF	
	60Hz	8x 01 04 23 02 FF	
CAM_Aperture	Reset	8x 01 04 02 00 FF	Aperture control
	Up	8x 01 04 02 02 FF	
	Down	8x 01 04 02 03 FF	
	Direct	8x 01 04 42 00 00 0p 0q FF	pq: Aperture gain
CAM_Picture Effect	B&W Mode	8x 01 04 63 04 FF	Picture effect setting
	Off	8x 01 04 63 00 FF	
CAM_Memory	Reset	8x 01 04 3F 00 pq FF	pq: Memory number (0~254)
	Set	8x 01 04 3F 01 pq FF	
	Recall	8x 01 04 3F 02 pq FF	
CAM_LR Reverse	On	8x 01 04 61 02 FF	Horizontal image flip on/off
	Off	8x 01 04 61 03 FF	
CAM_Picture Flip	On	8x 01 04 66 02 FF	Vertical image flip on/off
	Off	8x 01 04 66 03 FF	
CAM_Color Saturation	Direct	8x 01 04 49 00 00 00 0p FF	p: 0~D. 0=60%, 1=70%, 2=80%, 3=90%, 4=100%, 5=110%, 6=120%, 7=130%, 8=140%, 9=150%, A=160%, B=180%, C=190%, D=200%
CAM_IDWrite	Direct	8x 01 04 22 0p 0q 0r 0s FF	pqrs: Camera ID, 0000~FFFF
SYS_Menu	On	8x 01 04 06 06 02 FF	Turn on/off system menu
	Off	8x 01 04 06 06 03 FF	
IR_Receive	On	8x 01 06 08 02 FF	IR receive on/off
	Off	8x 01 06 08 03 FF	
CAM_Setting Reset	Reset	8x 01 04 A0 10 FF	Reset factory setting
CAM_Brightness	Direct	8x 01 04 A1 00 00 0p 0q FF	pq: Brightness position
CAM_Contrast	Direct	8x 01 04 A2 00 00 0p 0q FF	pq: Contrast position

Command	Function	Command Packet	Remark
CAM_Flip	Off	8x 01 04 A4 00 FF	Single command for video flip
	Flip-H	8x 01 04 A4 01 FF	
	Flip-V	8x 01 04 A4 02 FF	
	Flip-HV	8x 01 04 A4 03 FF	
CAM_Video System	Set	8x 01 06 35 00 0p FF	p: 0~B video format. 0=1080p60, 1=1080p50, 2=1080i60, 3=1080i50, 4=1080p30 5=1080p25, 6=720p60, 7=720p50, 8=1080p59.94, 9=1080i59.95, A=1080p29.97, B=720p59.94
Pan_tilt Drive	Up	8x 01 06 01 pp qq 03 01 FF	pp: Pan speed 0x01 (low) ~ 0x18 (high) qq: Tilt speed 0x01 (low) ~ 0x14 (high) yyyy: Pan position zzzz: Tilt position
	Down	8x 01 06 01 pp qq 03 02 FF	
	Left	8x 01 06 01 pp qq 03 03 FF	
	Right	8x 01 06 01 pp qq 02 03 FF	
	Up Left	8x 01 06 01 pp qq 01 01 FF	
	Up Right	8x 01 06 01 pp qq 02 01 FF	
	Down Left	8x 01 06 01 pp qq 01 02 FF	
	Down Right	8x 01 06 01 pp qq 02 02 FF	
	Stop	8x 01 06 01 pp qq 03 03 FF	
	Absolute Position	8x 01 06 02 pp qq 0y 0y 0y 0y 0z 0z 0z FF	
	Relative Position	8x 01 06 03 pp qq 0y 0y 0y 0y 0z 0z 0z FF	
	Home	8x 01 06 04 FF	
	Reset	8x 01 06 05 FF	
Pan_tilt LimitSet	Set	8x 01 06 07 00 0w 0y 0y 0y 0y 0z 0z 0z FF	w: 1 = up right, w: 0 = down left yyyy: Pan limit position zzzz: Tilt limit position
	Clear	8x 01 06 07 01 0w 0y 0y 0y 0y 0z 0z 0z FF	
Tracking	Off	81 0A 01 32 00 00 03 00 FF	Tracking on/off
	On	81 0A 01 32 00 00 02 00 FF	
	Real-time tracking	81 0A 01 32 00 00 02 00 FF	
	Region tracking	81 0A 01 32 00 00 02 01 FF	

INQUIRY COMMANDS

Command	Command Packet	Return Packet	Remark
CAM_PowerInq	8x 09 04 00 FF	y0 50 02 FF	On
		y0 50 03 FF	Off (standby)
CAM_ZoomPos Inq	8x 09 04 47 FF	y0 50 0p 0q 0r 0s FF	pqrs: Zoom position
CAM_Focus AFModelInq	8x 09 04 38 FF	y0 50 02 FF	Auto focus
		y0 50 03 FF	Manual focus
		y0 50 04 FF	One push mode
CAM_Focus PosInq	8x 09 04 48 FF	y0 50 0p 0q 0r 0s FF	pqrs: Focus position
CAM_AF SensitivityInq	8x 09 04 58 FF	y0 50 01 FF	High
		y0 50 02 FF	Normal
		y0 50 03 FF	Low
CAM_AFZoneInq	8x 09 04 AA FF	y0 50 00 FF	Front
		y0 50 01 FF	Beting
		y0 50 02 FF	Meeting
		y0 50 03 FF	Education
		y0 50 04 FF	Moving
		y0 50 05 FF	Middle
CAM_WB ModelInq	8x 09 04 35 FF	y0 50 00 FF	Auto
		y0 50 01 FF	3,000k
		y0 50 02 FF	4,000k
		y0 50 03 FF	One push mode
		y0 50 04 FF	5,000k
		y0 50 05 FF	Manual
		y0 50 06 FF	6,500k
		y0 50 07 FF	3,500k
		y0 50 08 FF	4,500k
		y0 50 09 FF	5,500k
		y0 50 0A FF	6,000k

Command	Command Packet	Return Packet	Remark
		y0 50 0B FF	7,000k
CAM_AWB SensitivityInq	8x 09 04 A9 FF	y0 50 00 FF	Low
		y0 50 01 FF	Normal
		y0 50 02 FF	High
CAM_RGainInq	8x 09 04 43 FF	y0 50 00 00 0p 0q FF	pq: Red Gain
CAM_BGainInq	8x 09 04 44 FF	y0 50 00 00 0p 0q FF	pq: Blue Gain
CAM_AEModeInq	8x 09 04 39 FF	y0 50 00 FF	Full auto
		y0 50 03 FF	Manual
		y0 50 0A FF	Shutter priority
		y0 50 0B FF	Iris priority
		y0 50 0D FF	Bright
CAM_Shutter PosInq	8x 09 04 4A FF	y0 50 00 00 0p 0q FF	pq: Shutter position
CAM_IrisPosInq	8x 09 04 4B FF	y0 50 00 00 0p 0q FF	pq: Iris position
CAM_Gain LimitInq	8x 09 04 2C FF	y0 50 0p FF	p: Gain position
CAM_Bright PosInq	8x 09 04 4D FF	y0 50 00 00 0p 0q FF	pq: Bright position
CAM_ExpComp ModelInq	8x 09 04 3E FF	y0 50 02 FF	Exposure compensation on
		y0 50 03 FF	Exposure compensation off
CAM_ExpComp PosInq	8x 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: Exposure compensation position
CAM_Backlight ModelInq	8x 09 04 33 FF	y0 50 02 FF	Back light on
		y0 50 03 FF	Back light off
CAM_WDR StrengthInq	8x 09 04 51 FF	y0 50 00 00 00 0p FF	p: Wide dynamic range strength
CAM_NRLevel (2D)Inq	8x 09 04 53 FF	y0 50 0p FF	p: 2D NR Level
CAM_NRLevel (3D)Inq	8x 09 04 54 FF	y0 50 0p FF	p: 3D NR Level
CAM_Flicker ModelInq	8x 09 04 55 FF	y0 50 0p FF	p: Flicker settings. 0=off, 1=50Hz, 2=60Hz
CAM_Aperture Inq	8x 09 04 42 FF	y0 50 00 00 0p 0q FF	pq: Aperture gain
CAM_Picture	8x 09 04 63 FF	y0 50 00 FF	Off

Command	Command Packet	Return Packet	Remark
EffectModelInq		y0 50 04 FF	Black & White
CAM_MemoryInq	8x 09 04 3F FF	y0 50 0p FF	p: Memory number last operated
SYS_Menu ModelInq	8x 09 06 06 FF	y0 50 02 FF	Menu on
		y0 50 03 FF	Menu off
CAM_LR_ReverseInq	8x 09 04 61 FF	y0 50 02 FF	Horizontal flip on
		y0 50 03 FF	Horizontal flip off
CAM_Picture FlipInq	8x 09 04 66 FF	y0 50 02 FF	Vertical flip on
		y0 50 03 FF	Vertical flip off
CAM_Color SaturationInq	8x 09 04 49 FF	y0 50 00 00 00 0p FF	p: Color gain, 0=60%, 1=70%, 2=80%, 3=90%, 4=100%, 5=110%, 6=120%, 7=130%, 8=140%, 9=150%, A=160%, B=180%, C=190%, D=200%
CAM_IDInq	8x 09 04 22 FF	y0 50 0p FF	p: Camera ID
IR_ReceiveInq	8x 09 06 08 FF	y0 50 02 FF	IR receive on
		y0 50 03 FF	IR receive off
CAM_Brightness Inq	8x 09 04 A1 FF	y0 50 00 00 0p 0q FF	pq: Brightness position
CAM_Contrast Inq	8x 09 04 A2 FF	y0 50 00 00 0p 0q FF	pq: Contrast position
CAM_FlipInq	8x 09 04 A4 FF	y0 50 00 FF	Off
		y0 50 01 FF	Flip Horizontally
		y0 50 02 FF	Flip Vertically
		y0 50 03 FF	Flip Horizontally & Vertically
CAM_VersionInq	8x 09 00 02 FF	y0 50 ab cd mn pq rs tu vw FF	ab cd: vendor ID (0220) mn pq: model ID rs tu: ARM vw: reserve
VideoSystemInq	8x 09 06 23 FF	y0 50 0p FF	p: 0~B video format. 0=1080p60, 1=1080p50, 2=1080i60, 3=1080i50, 4=1080p30 5=1080p25, 6=720p60, 7=720p50, 8=1080p59.94, 9=1080i59.95, A=1080p29.97, B=720p59.94
PantiltMax SpeedInq	8x 09 06 11 FF	y0 50 ww zz FF	ww: Pan max speed zz: Tilt max speed
Pan-tiltPosInq	8x 09 06 12 FF	y0 50 0w 0w 0w 0w 0z 0z 0z 0z FF	wwww: Pan position zzzz: Tilt position

Pelco-D Protocol List

Function	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7
Up	0xFF	Address	0x00	0x08	Pan Speed	Tilt Speed	SUM
Down	0xFF	Address	0x00	0x10	Pan Speed	Tilt Speed	SUM
Left	0xFF	Address	0x00	0x04	Pan Speed	Tilt Speed	SUM
Right	0xFF	Address	0x00	0x02	Pan Speed	Tilt Speed	SUM
Up Left	0xFF	Address	0x00	0x0C	Pan Speed	Tilt Speed	SUM
Up Right	0xFF	Address	0x00	0x0A	Pan Speed	Tilt Speed	SUM
Down Left	0xFF	Address	0x00	0x14	Pan Speed	Tilt Speed	SUM
Down Right	0xFF	Address	0x00	0x12	Pan Speed	Tilt Speed	SUM
Zoom In	0xFF	Address	0x00	0x20	0x00	0x00	SUM
Zoom Out	0xFF	Address	0x00	0x40	0x00	0x00	SUM
Focus Far	0xFF	Address	0x00	0x80	0x00	0x00	SUM
Focus Near	0xFF	Address	0x01	0x00	0x00	0x00	SUM
Stop	0xFF	Address	0x00	0x00	0x00	0x00	SUM
Set Preset	0xFF	Address	0x00	0x03	0x00	Preset ID	SUM
Clear Preset	0xFF	Address	0x00	0x05	0x00	Preset ID	SUM
Call Preset	0xFF	Address	0x00	0x07	0x00	Preset ID	SUM
Query Pan Position	0xFF	Address	0x00	0x51	0x00	0x00	SUM
Query Pan Position Response	0xFF	Address	0x00	0x59	Value High Byte	Value Low Byte	SUM
Query Tilt Position	0xFF	Address	0x00	0x53	0x00	0x00	SUM
Query Tilt Position Response	0xFF	Address	0x00	0x5B	Value High Byte	Value Low Byte	SUM
Query Zoom Position	0xFF	Address	0x00	0x55	0x00	0x00	SUM
Query Zoom Position Response	0xFF	Address	0x00	0x5D	Value High Byte	Value Low Byte	SUM

Pelco-P Protocol List

Function	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte 8
Up	0xA0	Address	0x00	0x08	Pan Speed	Tilt Speed	0xAF	XOR
Down	0xA0	Address	0x00	0x10	Pan Speed	Tilt Speed	0xAF	XOR
Left	0xA0	Address	0x00	0x04	Pan Speed	Tilt Speed	0xAF	XOR
Right	0xA0	Address	0x00	0x02	Pan Speed	Tilt Speed	0xAF	XOR
Up Left	0xA0	Address	0x00	0x0C	Pan Speed	Tilt Speed	0xAF	XOR
Up Right	0xA0	Address	0x00	0x0A	Pan Speed	Tilt Speed	0xAF	XOR
Down Left	0xA0	Address	0x00	0x14	Pan Speed	Tilt Speed	0xAF	XOR
Down Right	0xA0	Address	0x00	0x12	Pan Speed	Tilt Speed	0xAF	XOR
Zoom In	0xA0	Address	0x00	0x20	0x00	0x00	0xAF	XOR
Zoom Out	0xA0	Address	0x00	0x40	0x00	0x00	0xAF	XOR
Focus Far	0xA0	Address	0x01	0x00	0x00	0x00	0xAF	XOR
Focus Near	0xA0	Address	0x02	0x00	0x00	0x00	0xAF	XOR
Stop	0xA0	Address	0x00	0x00	0x00	0x00	0xAF	XOR
Set Preset	0xA0	Address	0x00	0x03	0x00	Preset ID	0xAF	XOR
Clear Preset	0xA0	Address	0x00	0x05	0x00	Preset ID	0xAF	XOR
Call Preset	0xA0	Address	0x00	0x07	0x00	Preset ID	0xAF	XOR
Query Pan Position	0xA0	Address	0x00	0x51	0x00	0x00	0xAF	XOR
Query Pan Position Response	0xA0	Address	0x00	0x59	Value High Byte	Value Low Byte	0xAF	XOR
Query Tilt Position	0xA0	Address	0x00	0x53	0x00	0x00	0xAF	XOR
Query Tilt Position Response	0xA0	Address	0x00	0x5B	Value High Byte	Value Low Byte	0xAF	XOR
Query Zoom Position	0xA0	Address	0x00	0x55	0x00	0x00	0xAF	XOR
Query Zoom Position Response	0xA0	Address	0x00	0x5D	Value High Byte	Value Low Byte	0xAF	XOR



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