PTZOptics VISCA Commands

Older model PTZOptics cameras may not be compatible with all commands. For best compatibility, see https://ptzoptics.com/firmware-finder/

Command	Function	Command Package	Note
ACK/Completion	ACK	z0 4y FF	Return when the command is accepted
	Completion	z0 5y FF	Return when the command has been executed
z = Camera Address + 8			
Error Messages	Syntax Error	z0 60 02 FF	Returned when the command format is different or when a command with illegal command parameters is accepted
	Command Buffer Full	z0 60 03 FF	Indicates that two sockets are already being used(executing two commands) and the command could not be accepted when received
	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 specifild by the cancel command, or when an invalid socket number is specified
	Command Not Executable	z0 6y 41 FF	Returned when a command canot be executed due to current conditions. For example, when commands controlling the focus manually are received during auto focus
x = Camera Address + 8			
CAM_Power	On	8x 01 04 00 02 FF	Power ON/OFF
	Off	8x 01 04 00 03 FF	
CAM_Zoom	Stop	8x 01 04 07 00 FF	
	Tele (Standard)	8x 01 04 07 02 FF	
	Wide (Standard)	8x 01 04 07 03 FF	
	Tele (Variable)	8x 01 04 07 2p FF	p = 0(low) - 7(high)
	Wide (Variable)	8x 01 04 07 3p FF	
	Direct	8x 01 04 47 p q r s FF	pqrs: Zoom Position (0x04 0x00 0x00 0x00 is zoomed all the way in, 0x00 0x00 0x00 0x00 is zoomed all the way out)
CAM_Focus	Stop	8x 01 04 08 00 FF	
	Far (Standard)	8x 01 04 08 02 FF	
	Near (Standard)	8x 01 04 08 03 FF	
	Far (Variable)	8x 01 04 08 2p FF	p = 0(low) - 7(high)
	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	AF On/Off
	Manual Focus	8x 01 04 38 03 FF	
	Auto/Manual	8x 01 04 38 10 FF	
	Focus Lock	8x 0a 04 68 02 FF	Prevents any other operation or command from adjusting the current focus state
	Focus Unlock	8x 0a 04 68 03 FF	
CAM_WB	Auto	8x 01 04 35 00 FF	Normal Auto
	Indoor Mode	8x 01 04 35 01 FF	Indoor mode
	Outdoor Mode	8x 01 04 35 02 FF	Outdoor mode
	OnePush Mode	8x 01 04 35 03 FF	One Push WB mode
	Manual	8x 01 04 35 05 FF	Manual Control mode
	ColorTemperature	8x 01 04 35 20 FF	Color Temperature mode
	OnePush Trigger	8x 01 04 10 05 FF	One Push WB Trigger
CAM_RGain	Reset	8x 01 04 03 00 FF	Manual Control of R 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 B 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: B Gain
CAM_ColorTemp	Reset	8x 01 04 20 00 FF	Default ColorTemperature setting
	Up	8x 01 04 20 02 FF	
	Down	8x 01 04 20 03 FF	
	Direct	8x 01 04 20 0p 0q FF	pq: Color Temperature position 0x00: 2500K ~ 0x37: 8000K
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(Manual control)
CAM_Iris	Reset	8x 01 04 0B 00 FF	Iris Setting
	Up	8x 01 04 0B 02 FF	
	Down	8x 01 04 0B 03 FF	
	Direct	8x 01 04 4B 00 00 0p 0q FF	pq: Iris Position
CAM_Shutter	Reset	8x 01 04 0A 00 FF	Default 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_Bright	Reset	8x 01 04 0D 00 FF	Default Bright setting
	Up	8x 01 04 0D 02 FF	
	Down	8x 01 04 0D 03 FF	
	Direct	8x 01 04 0D 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	Default ExpComp 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: ExpComp position
CAM_Backlight	On	8x 01 04 33 02 FF	Back Light Compensation On/Off
	Off	8x 01 04 33 03 FF	
CAM_Flicker	-	8x 01 04 23 0p FF	p: Flicker Settings - (0: Off, 1: 50Hz, 2: 60Hz)
CAM_PictureEffect	Off	8x 01 04 63 00 FF	Picture Effect Setting
	B&W	8x 01 04 63 04 FF	
CAM_Memory	Reset	8x 01 04 3F 00 pp FF	pp: Memory Number(=0 to 127)
	Set	8x 01 04 3F 01 pp FF	
	Recall	8x 01 04 3F 02 pp FF	
Preset Recall Speed	Preset Speed	8x 01 06 01 p FF	p: speed grade,the values are (0x01~0x18)
CAM_LR_Reverse	On	8x 01 04 61 02 FF	Image Flip Horizontal On/Off
	Off	8x 01 04 61 03 FF	
CAM_PictureFlip	On	8x 01 04 66 02 FF	Image Flip Vertical On/Off
	Off	8x 01 04 66 03 FF	
CAM_ColorGain	Direct	8x 01 04 49 00 00 00 0p FF	p: Color Gain setting 0h (60%) to Eh (200%)
	Up	8x 01 06 01 VV WW 03 01 FF	
	Down	8x 01 06 01 VV WW 03 02 FF	

Pan_TiltDrive	Left	8x 01 06 01 VV WW 01 03 FF	
	Right	8x 01 06 01 VV WW 02 03 FF	
	UpLeft	8x 01 06 01 VV WW 01 01 FF	
	UpRight	8x 01 06 01 VV WW 02 01 FF	VV: Pan speed 0x01 (low speed) to 0x18 (high speed)
	DownLeft	8x 01 06 01 VV WW 01 02 FF	WW: Tilt speed 0x01 (low speed) to 0x14 (high speed)
	DownRight	8x 01 06 01 VV WW 02 02 FF	
	Stop	8x 01 06 01 VV WW 03 03 FF	
	AbsolutePosition	8x 01 06 02 VV WW 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	YYYY: Pan Position ZZZZ: Tilt Position ...
	RelativePosition	8x 01 06 03 VV WW 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	YYYY: Pan Position ZZZZ: Tilt Position ...
	Home	8x 01 06 04 FF	
	Reset	8x 01 06 05 FF	
Pan_TiltLimitSet	LimitSet	8x 01 06 07 00 0W	
		0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	W: 1 UpRight 0: DownLeft
	LimitClear	8x 01 06 07 01 0W	YYYY: Pan Limit Position
		07 0F 0F 0F 07 0F 0F 0F FF	ZZZZ: Tilt Limit Position
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
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_SettingSave	Save	8x 01 04 A5 10 FF	Save Current Setting
CAM_AWBSensitivity	High	8x 01 04 A9 00 FF	High
	Normal	8x 01 04 A9 01 FF	Normal
	Low	8x 01 04 A9 02 FF	Low
CAM_AFZone	Top	8x 01 04 AA 00 FF	AF Zone weight select
	Center	8x 01 04 AA 01 FF	
	Bottom	8x 01 04 AA 02 FF	
CAM_ColorHue	Direct	8x 01 04 4F 00 00 00 0p FF	p: Color Hue setting 0h (− 14 degrees) to Eh (+14 degrees)
OSD_Control	Open / Close	8x 01 04 3F 02 5F FF	
	Navigate Up	8x 01 06 01 0E 0E 03 01 FF	
	Navigate Down	8x 01 06 01 0E 0E 03 02 FF	
	Navigate Left	8x 01 06 01 0E 0E 01 03 FF	
	Navigate Right	8x 01 06 01 0E 0E 02 03 FF	
	Enter	8x 01 06 06 05 FF	
	Return	8x 01 06 06 04 FF	
CAM_NDIMode	High	8x 0B 01 01 FF	
	Medium	8x 0B 01 02 FF	
	Low	8x 0B 01 03 FF	
	Off	8x 0B 01 04 FF	
CAM_MulticastMode	Multicast Mode	8x 0B 01 23 0p FF	p=1: On, p=2: Off
CAM_PTZMotionSync	PTZ Motion Sync On	8x 0A 11 13 02 FF	
	PTZ Motion Sync Off	8x 0A 11 13 03 FF	
	PTZ MS Upper Speed Limi	8x 0A 11 14 pq FF	
	PTZ MS Lower Speed Limi	8x 0A 11 14 pq FF	pq: speed stage
CAM_UACStatus	Toggle USB Audio	8x 2a 02 a0 04 0p ff	p=2: On, p=3: Off

Command	Command Package	Return Package	Note
CAM_PowerInq	81 09 04 00 FF	y0 50 02 FF	On
		y0 50 03 FF	Off (Standby)
		y0 50 04 FF	Internal Power Circuit Error
CAM_ZoomPosInq	8x 09 04 47 FF	y0 50 0p 0q 0r 0s FF	pqrs: Zoom Position
CAM_FocusAFModeInq	8x 09 04 38 FF	y0 50 02 FF	Auto Focus
		y0 50 03 FF	Manual Focus
CAM_FocusPosInq	8x 09 04 48 FF	y0 50 0p 0q 0r 0s FF	pqrs: Focus Position
CAM_WBModeInq	8x 09 04 35 FF	y0 50 00 FF	Auto
		y0 50 01 FF	Indoor mode
		y0 50 02 FF	Outdoor mode
		y0 50 03 FF	OnePush mode
		y0 50 05 FF	Manual mode
		y0 50 20 FF	ColorTemperature mode
CAM_RGainInq	8x 09 04 43 FF	y0 50 00 00 0p 0q FF	pq: R Gain
CAM_BGainInq	8x 09 04 44 FF	y0 50 00 00 0p 0q FF	pq: B Gain
CAM_ColorTempInq	8x 09 04 20 FF	y0 50 pq FF	pq: Color Temperature position
CAM_AEModeInq	8x 09 04 39 FF	y0 50 00 FF	Full Auto
		y0 50 03 FF	Manual
		y0 50 0A FF	Shutter priority (SAE)
		y0 50 0B FF	Iris priority (AAE)
		y0 50 0D FF	Bright
CAM_ShutterPosInq	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_BrightPosInq	8x 09 04 4D FF	y0 50 00 00 0p 0q FF	pq: Bright Position
CAM_ExpCompModeInq	8x 09 04 3E FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_ExpCompPosInq	8x 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: ExpComp Position
CAM_BacklightModeInq	8x 09 04 33 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_Noise2DModeInq	8x 09 04 50 FF	y0 50 02 FF	Auto Noise 2D
		y0 50 03 FF	Manual Noise 2D
CAM_Noise2DLevel	8x 09 04 53 FF	y0 50 0p FF	Noise Reduction (2D) p: 0 to 5
CAM_Noise3DLevel	8x 09 04 54 FF	y0 50 0p FF	Noise Reduction (3D) p: 0 to 8
CAM_FlickerModeInq	8x 09 04 55 FF	y0 50 0p FF	p: Flicker Settings(0: OFF, 1: 50Hz, 2: 60Hz)
CAM_ApertureModeInq (Sharpness)	8x 09 04 05 FF	y0 50 02 FF	Auto Sharpness
		y0 50 03 FF	Manual Sharpness
CAM_ApertureInq (Sharpness)	8x 09 04 42 FF	y0 50 00 00 0p 0q FF	pq: Aperture Gain

		y0 50 02 FF	On
SYS_MenuModeInq	8x 09 06 06 FF	y0 50 03 FF	Off
CAM_PictureEffectModeInq	8x 09 04 63 FF	y0 50 02 FF	Off
		y0 50 04 FF	B&W
CAM_LR_ReverseInq	8x 09 04 61 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_PictureFlipInq	8x 09 04 66 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_ColorGainInq	8x 09 04 49 FF	y0 50 00 00 00 0p FF	p: Color Gain setting 0h (60%) to Eh (200%)
CAM_PanTiltPosInq	8x 09 06 12 FF	y0 50 0w 0w 0w 0w	wwww: Pan Position
		0z 0z 0z 0z FF	zzzz: Tilt Position
CAM_GainLimitInq	8x 09 04 2C FF	y0 50 0q FF	p: Gain Limit
CAM_AFSensitivityInq	8x 09 04 58 FF	y0 50 01 FF	High
		y0 50 02 FF	Normal
		y0 50 03 FF	Low
CAM_BrightnessInq	8x 09 04 A1 FF	y0 50 00 00 0p 0q FF	pq: Brightness Position
CAM_ContrastInq	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-H
		y0 50 02 FF	Flip-V
		y0 50 03 FF	Flip-HV
CAM_AFZone	8x 09 04 AA FF	y0 50 00 FF	Top
		y0 50 01 FF	Center
		y0 50 02 FF	Bottom
CAM_ColorHueInq	8x 09 04 4F FF	y0 50 00 00 00 0p FF	p: Color Hue setting 0h (~ 14 degrees) to Eh (+14 degrees)
CAM_AWBSensitivityInq	8x 09 04 A9 FF	y0 50 00 FF	High
		y0 50 01 FF	Normal
		y0 50 02 FF	Low
CAM_UACInq	8x 2A 02 A0 04 FF	y0 50 02 FF	On
		y0 50 03 FF	Off

y = (x + 8) - X = VISCA Address

Command	Command Package	Return Package	Note
CAM_LensBlockInq	8x 09 7E 7E 00 FF	y0 50 0u 0u 0u 0u 00 00 0v 0v 0v 0v 00 0w 00 FF	uuuu: Zoom position vvvv: Focus position w.bit0: Focus mode 1: Auto, 0: Manual
CAM_CameraBlockInq	8x 09 7E 7E 01 FF	y0 50 0p 0p 0q 0q 0r 0s tt 0u vv ww 00 xx 0z FF	pp: R_Gain qq: B_Gain r: WB Mode s: Aperture tt: AE Mode u.bit2: Backlight u.bit1: Exposure Comp vv: Shutter position ww: Iris position xx: Bright position z: Exposure Comp position
CAM_OtherBlockInq	8x 09 7E 7E 02 FF	y0 50 0p 0q 00 0r 00 00 00 00 00 00 00 00 00 FF	p.bit0: Power 1: On, 0: Off q.bit2: LR Reverse 1: On, 0: Off r.bit3~0: Picture Effect Mode
CAM_EnlargmentBlockInq	8x 09 7E 7E 03 FF	y0 50 00 00 00 00 00 00 00 0p 0q rr 0s 0t 0u FF	p: AF sensitivity q.bit0: Picture flip 1: On, 0: Off rr.bit6~3: Color Gain (0h (60%) to Eh (200%)) s: Flip 0: Off, 1: Flip-H, 2: FlipV, 3: FlipHV t.bit2~0: NR2D Level u: Gain limit

y = (x + 8) - X = VISCA Address