



PTZOptics VISCA API

Developer Documentation

VISCA

Welcome to the **VISCA documentation**. This guide provides all the necessary information to programmatically control your camera using the VISCA protocol. Our API is designed for seamless and efficient integration, offering a comprehensive solution for controlling camera functions.

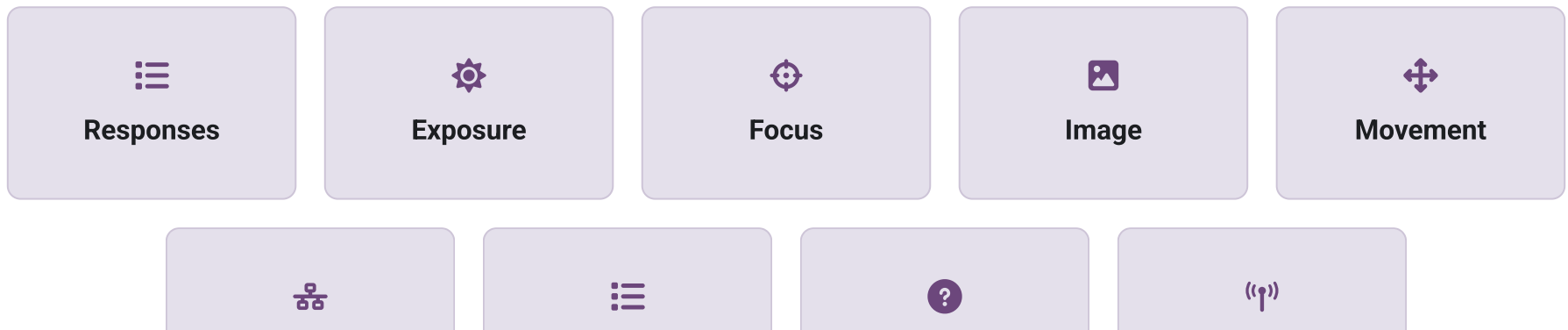
API Information

- **API Version:** 1.0
- **Date:** October 13, 2026

Communication Protocols

The VISCA protocol is a command-based communication protocol used to control professional video cameras. It supports two primary communication methods:

- **Serial VISCA:** A physical RS-232 serial connection for direct, local control.
- **IP VISCA:** TCP/IP-encapsulated VISCA for remote, networked camera control.



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Responses

VISCA cameras respond according to the request type. Commands may return an acknowledgement, a completion message, or both; inquiries return an inquiry reply. Either request type can return an error. Every response packet ends with the `FF` terminator.

Packet Notation

Symbol	Meaning
<code>Y</code>	Reply-address nibble. For VISCA over IP, <code>Y</code> is <code>9</code> . For serial VISCA, <code>Y</code> is the camera address plus 8 (<code>9</code> through <code>F</code> for camera addresses 1 through 7).
<code>Z</code>	Command socket number. A camera reports this number in the acknowledgement and the corresponding completion or error.
<code>...</code>	Reply data whose length and meaning depend on the command or inquiry.
<code>FF</code>	Packet terminator.

`4Z`, `5Z`, and `6Z` each represent one byte. The first hexadecimal digit identifies the message type, and the second digit is the socket number. For example, socket 1 produces `41`, `51`, or `61`.

Command Responses

Commands may use a command socket and return an acknowledgement, a completion message, or both. When both are sent, the acknowledgement reports that the camera accepted the command, and the completion message reports that execution finished.

Response	Packet	Meaning
Acknowledgement (ACK)	Y0 4Z FF	The camera accepted the command on socket Z.
Completion	Y0 5Z FF	The command on socket Z finished executing.

For VISCA over IP, a command accepted on socket 1 returns 90 41 FF; when that command finishes, the camera returns 90 51 FF.

Match completion and socket-specific error packets to the acknowledgement by their shared socket number. When more than one command is active, completion order can differ from submission order.

Inquiry Replies

Inquiries do not allocate a VISCA command socket and do not return an acknowledgement. A successful inquiry returns a completion reply whose socket-number field is 0, with the requested data following the 50 byte.

Response	Packet	Meaning
Inquiry reply	Y0 50 ... FF	The inquiry completed; ... contains the requested value.

For example, 90 50 02 FF is the VISCA-over-IP reply indicating that camera power is on. See [Inquiries](#) for inquiry packets and reply values.

Error Responses

A camera returns an error when it rejects a command or inquiry, or when an accepted command cannot finish. An error may therefore arrive before any acknowledgement or instead of the completion message.

Error	Packet	Meaning
Syntax error	<code>Y0 60</code> <code>02 FF</code>	The packet format or a command parameter is invalid.
Command buffer full	<code>Y0 60</code> <code>03 FF</code>	Both command sockets are in use, so the camera cannot accept another command.
Command canceled	<code>Y0 6Z</code> <code>04 FF</code>	The command assigned to socket <code>Z</code> was canceled. No completion message follows for it.
No socket	<code>Y0 6Z</code> <code>05 FF</code>	No command is executing on socket <code>Z</code> , or the specified socket number is invalid.
Command not executable	<code>Y0 6Z</code> <code>41 FF</code>	The command is valid but cannot run in the camera's current state.

Syntax and command-buffer-full errors use a socket-number field of `0`. Errors associated with an assigned command socket identify that socket in `Z`. A command-not-executable error can also use `Z = 0` when the command is rejected before a socket is assigned.

Exposure

Command	Function	Command Packet	Comments
CAM_WB	Auto	81 01 04 35 00 FF	Normal Auto Mode
*	Indoor	81 01 04 35 01 FF	Indoor Mode
*	Outdoor	81 01 04 35 02 FF	Outdoor Mode
*	OnePush	81 01 04 35 03 FF	One Push White Balance Mode
*	Manual	81 01 04 35 05 FF	Manual Control Mode
*	ColorTemperature (VAR)	81 01 04 35 20 FF	Color Temperature Mode
*	OnePush Trigger	81 01 04 10 05 FF	One Push White Balance Trigger
CAM_RGain	Reset	81 01 04 03 00 FF	Default Bright Position
*	Up	81 01 04 03 02 FF	Default Bright Position
*	Down	81 01 04 03 03 FF	Default Bright Position

Command	Function	Command Packet	Comments
*	Direct	81 01 04 43 00 00 0p 0q FF	pq: Red Gain
CAM_BGain	Reset	81 01 04 04 00 FF	Manual control of blue gain
*	Up	81 01 04 04 02 FF	Manual control of blue gain
*	Down	81 01 04 04 03 FF	Manual control of blue gain
*	Direct	81 01 04 44 00 00 0p 0q FF	pq: Blue Gain
CAM_ColorTemp	Reset	81 01 04 20 00 FF	Default ColorTemperature Settings
*	Up	81 01 04 20 02 FF	Default ColorTemperature Settings
*	Down	81 01 04 20 03 FF	Default ColorTemperature Settings
*	Direct	81 01 04 20 0p 0q FF	pq: ColorTemperature position: 0x00: 2500K ~ 0x37: 8000K
CAM_RTuning	Direct	81 0A 01 12 pq FF	pq: Red / Blue Tuning position 0x00 (-10) ~ 0x14 (+10)
CAM_BTuning	Direct	81 0A 01 13 pq FF	pq: Red / Blue Tuning position 0x00 (-10) ~ 0x14 (+10)

Command	Function	Command Packet	Comments
CAM_AE	Full Auto	81 01 04 39 00 FF	Automatic Exposure mode
*	Manual	81 01 04 39 03 FF	Manual exposure mode
*	Shutter Priority	81 01 04 39 0A FF	Shutter priority auto exposure mode
*	Iris Priority	81 01 04 39 0B FF	Iris priority auto exposure mode
*	Bright	81 01 04 39 0D FF	Bright manual exposure mode
CAM_Iris	Reset	81 01 04 0B 00 FF	Default Iris Position
*	Up	81 01 04 0B 02 FF	Iris Setting
*	Down	81 01 04 0B 03 FF	Iris Setting
*	Direct	81 01 04 4B 00 00 0p 0q FF	pq: Iris Position
CAM_DRC	Direct	81 01 04 25 00 00 00 0p FF	p: 0(low) - 8(high)
CAM_Shutter	Reset	81 01 04 0A 00 FF	Default shutter Position
*	Up	81 01 04 0B 02 FF	Shutter Setting
*	Down	81 01 04 0B 03 FF	Shutter Setting

Command	Function	Command Packet	Comments
*	Direct	81 01 04 4B 00 00 0p 0q FF	pq: Shutter Position
CAM_Gain	Reset	81 01 04 0C 00 FF	Gain Setting
*	Up	81 01 04 0C 02 FF	Gain Setting
*	Down	81 01 04 0C 03 FF	Gain Setting
*	Direct	81 01 04 0C 00 00 0p 0q FF	pq: Gain Position
*	Gain Limit	81 01 04 2C 0p FF	p: Gain Position
CAM_Bright	Reset	81 01 04 0D 00 FF	Default Bright position
*	Up	81 01 04 0D 02 FF	Bright Setting
*	Down	81 01 04 0D 03 FF	Bright Setting
*	Direct	81 01 04 0D 00 00 0p 0q FF	pq: Bright position
CAM_ExpComp	On	81 01 04 3E 02 FF	Exposure Compensation On
*	Off	81 01 04 3E 03 FF	Exposure Compensation Off
*	Reset	81 01 04 0E 00 FF	Default ExpComp Position

Command	Function	Command Packet	Comments
*	Up	81 01 04 0E 02 FF	ExpComp Setting
*	Down	81 01 04 0E 03 FF	ExpComp Setting
*	Direct	81 01 04 4E 00 00 0p 0q FF	pq: ExpComp position
CAM_NR(2D)Mode	Auto	81 01 04 50 02 FF	ND2D Auto
*	Manual	81 01 04 50 03 FF	ND2D Manual
CAM_NR(2D)Level	Direct	81 01 04 53 0p FF	p: NR Setting (0: Off, level 1 to 5)
CAM_NR(3D)Level	Direct	81 01 04 54 0p FF	p: NR Setting (0: Off, level 1 to 8)
CAM_WDRStrength	Reset	81 01 04 21 00 FF	WDRStrength Setting
*	Up	81 01 04 21 02 FF	WDRStrength Setting
*	Down	81 01 04 21 03 FF	WDRStrength Setting
*	Direct	81 01 04 51 00 00 0p 0q FF	pq: WDR Level Positon
CAM_Backlight	On	81 01 04 33 02 FF	Backlight Compensation On
*	Off	81 01 04 33 03 FF	Backlight Compensation Off

Command	Function	Command Packet	Comments
CAM_Flicker	-	81 01 04 23 0p FF	p: Flicker settings - (0: Off, 1: 50Hz, 2: 60Hz)
CAM_ApertureMode (Sharpness)	Auto	81 01 04 05 02 FF	ApertureMode Auto
*	Manual	81 01 04 05 03 FF	ApertureMode Manual
CAM_Aperture (Sharpness)**	Reset	81 01 04 02 00 FF	Aperture Control
*	Up	81 01 04 02 02 FF	Aperture Control
*	Down	81 01 04 02 03 FF	Aperture Control
*	Direct	81 01 04 42 00 00 0p 0q FF	pq: Aperture Gain

Focus

Command	Function	Command Packet	Comments
CAM_Focus	Stop	81 01 04 08 00 FF	
*	Far (Standard)	81 01 04 08 02 FF	
*	Near (Standard)	81 01 04 08 03 FF	
*	Far (Variable)	81 01 04 08 2p FF	
*	Near (Variable)	81 01 04 08 3p FF	
*	Direct	81 01 04 48 0p 0q 0r 0s FF	pqrs: Focus Position
*	Auto Focus	81 01 04 38 02 FF	Auto Focus On / Off
*	Manual Focus	81 01 04 38 03 FF	Auto Focus On / Off
*	Auto / Manual	81 01 04 38 10 FF	Auto Focus On / Off
*	Snap Focus	81 01 04 38 04 FF	Focus image while maintaining manual focus mode

Command	Function	Command Packet	Comments
*	Focus Lock	81 0a 04 68 02 FF	Prevents any other operation or command from adjusting the current focus state
*	Focus Unlock	81 0a 04 68 03 FF	Prevents any other operation or command from adjusting the current focus state
*	Direct	0s 0t 0u 0v 0w FF	tuvw: Focus Position
CAM_AFSensitivity	High	81 01 04 58 01 FF	AF Sensitivity High / Normal / Low
CAM_AFSensitivity	Normal	81 01 04 58 02 FF	AF Sensitivity High / Normal / Low
CAM_AFSensitivity	Low	81 01 04 58 03 FF	AF Sensitivity High / Normal / Low
CAM_FocusRange	Focus Range	81 0A 11 42 0p rs tv FF	p=0: Off p=1: On, rs: furthest position(0x00 ~ 0x0B), tv: nearest position(0x00 ~ 0x0B)
CAM_AFZone	Top	81 01 04 AA 00 FF	AF Zone weight select
*	Center	81 01 04 AA 01 FF	AF Zone weight select
*	Bottom	81 01 04 AA 02 FF	AF Zone weight select
CAM_LensType	Type 1	81 0A 01 04 1B 00 FF	

Command	Function	Command Packet	Comments
*	Type 2	81 0A 01 04 1B 01 FF	
CAM_AFCalibration	Re-Calibrates Focus	81 0A 01 03 12 FF	Advanced command. Improper use of this command could result in the camera's focus failing.

Image

Command	Function	Command Packet	Comments
CAM_Picture Effect	Off	81 01 04 63 00 FF	Picture Effect Setting
*	B&W	81 01 04 63 04 FF	Picture Effect Setting
CAM_ImageFreeze	Freeze Image	81 01 04 62 0p FF	p: 2 ON; p: 3 OFF
CAM_LR_Reverse	On	81 01 04 61 02 FF	Image Flip Horizontal On
*	Off	81 01 04 61 03 FF	Image Flip Horizontal Off
CAM_PictureFlip	On	81 01 04 66 02 FF	Image Flip Vertical On
*	Off	81 01 04 66 03 FF	Image Flip Vertical Off
CAM_ColorGain	Direct	81 01 04 49 00 00 00 0p FF	P: Color Gain setting 0h (60%) to Eh(200%)
CAM_Brightness	Direct	81 01 04 A1 00 00 0p 0q FF	pq: Brightness position
CAM_Contrast	Direct	81 01 04 A2 00 00 0p 0q FF	pq: Contrast position
CAM_Flip	Off	81 01 04 A4 00 FF	Single Command for video flip

Command	Function	Command Packet	Comments
*	Flip-H	81 01 04 A4 01 FF	Single Command for video flip
*	Flip-V	81 01 04 A4 02 FF	Single Command for video flip
*	Flip-HV	81 01 04 A4 03 FF	Single Command for video flip
CAM_SettingSave	Save	81 01 04 A5 10 FF	Save Current Setting
CAM_AWB Sensitivity	High	81 01 04 A9 00 FF	Single Command for video flip
*	Normal	81 01 04 A9 01 FF	Single Command for video flip
*	Low	81 01 04 A9 02 FF	Single Command for video flip
CAM_ColorHue	Direct	81 01 04 4F 00 00 00 0p FF	P: Color Hue setting 0h (-14°) to Eh (+14°)

Inquiries

VISCA inquiries read the current state or value of a camera setting.

An inquiry returns one data-bearing completion message. It does not return a separate acknowledgement. See [Responses](#) for the general reply and error formats.

Packet Notation

Symbol	Meaning
81	Controller-to-camera header used by these PTZOptics examples. It addresses camera 1; VISCA over IP fixes the VISCA destination at 1.
09	Identifies the packet as an inquiry.
y	Reply-address nibble. y is 9 for VISCA over IP and the camera address plus 8 for serial VISCA.
50	An inquiry does not allocate a VISCA command socket and does not return a separate ACK. A successful inquiry returns its data directly in a completion reply whose socket-number field is 0: y0 50 . . . FF
p, q, r, s	Hexadecimal value nibbles. Each placeholder represents one hexadecimal digit.

Symbol	Meaning
0p	One byte whose high nibble is zero and whose low nibble is the value of p.
FF	Packet terminator.

When a reply contains 0p 0q 0r 0s, concatenate the four low nibbles to recover the value pqrs. For example, 90 50 01 02 03 04 FF contains p=1, q=2, r=3, and s=4, so the returned value is 0x1234.

The packets below use concrete 81 inquiry headers and symbolic y0 response headers. For VISCA over IP, replace y0 with 90.

State and Mode Inquiries

Inquiry	Inquiry packet	Response packet	Returned value
CAM_PowerInq	81 09 04 00 FF	y0 50 02 FF	On
*	81 09 04 00 FF	y0 50 03 FF	Off (standby)
*	81 09 04 00 FF	y0 50 04 FF	Internal power circuit error
CAM_FocusAFModeInq	81 09 04 38 FF	y0 50 02 FF	Auto focus
*	81 09 04 38 FF	y0 50 03 FF	Manual focus

Inquiry	Inquiry packet	Response packet	Returned value
CAM_WBModeInq	81 09 04 35 FF	y0 50 00 FF	Auto
*	81 09 04 35 FF	y0 50 01 FF	Indoor
*	81 09 04 35 FF	y0 50 02 FF	Outdoor
*	81 09 04 35 FF	y0 50 03 FF	One Push
*	81 09 04 35 FF	y0 50 05 FF	Manual
*	81 09 04 35 FF	y0 50 20 FF	Color Temperature
CAM_AEModeInq	81 09 04 39 FF	y0 50 00 FF	Full Auto
*	81 09 04 39 FF	y0 50 03 FF	Manual
*	81 09 04 39 FF	y0 50 0A FF	Shutter Priority
*	81 09 04 39 FF	y0 50 0B FF	Iris Priority
*	81 09 04 39 FF	y0 50 0D FF	Bright
CAM_ExpCompModeInq	81 09 04 3E FF	y0 50 02 FF	On
*	81 09 04 3E FF	y0 50 03 FF	Off

Inquiry	Inquiry packet	Response packet	Returned value
CAM_BacklightModeInq	81 09 04 33 FF	y0 50 02 FF	On
*	81 09 04 33 FF	y0 50 03 FF	Off
CAM_Noise2DModeModeInq	81 09 04 50 FF	y0 50 02 FF	Auto
*	81 09 04 50 FF	y0 50 03 FF	Manual
CAM_FlickerModeInq	81 09 04 55 FF	y0 50 00 FF	Off
*	81 09 04 55 FF	y0 50 01 FF	50 Hz
*	81 09 04 55 FF	y0 50 02 FF	60 Hz
CAM_ApertureModeInq (Sharpness)	81 09 04 05 FF	y0 50 02 FF	Auto
*	81 09 04 05 FF	y0 50 03 FF	Manual
CAM_MenuModeInq	81 09 06 06 FF	y0 50 02 FF	On
*	81 09 06 06 FF	y0 50 03 FF	Off
CAM_PictureEffectModeInq	81 09 04 63 FF	y0 50 02 FF	Off
*	81 09 04 63 FF	y0 50 04 FF	Black and white

Numeric and Position Inquiries

Inquiry	Inquiry packet	Response packet	Returned value
CAM_ZoomPosInq	81 09 04 47 FF	y0 50 0p 0q 0r 0s FF	Zoom position pqrs
CAM_FocusPosInq	81 09 04 48 FF	y0 50 0p 0q 0r 0s FF	Focus position pqrs
CAM_RGainInq	81 09 04 43 FF	y0 50 00 00 0p 0q FF	Red gain pq
CAM_BGainInq	81 09 04 44 FF	y0 50 00 00 0p 0q FF	Blue gain pq
CAM_ColorTempInq	81 09 04 20 FF	y0 50 pq FF	Color-temperature position pq
CAM_RTuningInq	81 09 04 12 FF	y0 50 00 00 0p 0q FF	Red tuning pq, from 0x00 through 0x14
CAM_BTuningInq	81 09 04 13 FF	y0 50 00 00 0p 0q FF	Blue tuning pq, from 0x00 through 0x14
CAM_ShutterPosInq	81 09 04 4A FF	y0 50 00 00 0p 0q FF	Shutter position pq
CAM_IrisPosInq	81 09 04 4B FF	y0 50 00 00 0p 0q FF	Iris position pq
CAM_BrightPositionInq	81 09 04 4D FF	y0 50 00 00 0p 0q FF	Bright position pq
CAM_ExpCompPosInq	81 09 04 4E FF	y0 50 00 00 0p 0q FF	Exposure-compensation position pq

Inquiry	Inquiry packet	Response packet	Returned value
CAM_Noise2DLevel	81 09 04 53 FF	y0 50 0p FF	2D noise-reduction level p, from 0 through 5
CAM_Noise3DLevel	81 09 04 54 FF	y0 50 0p FF	3D noise-reduction level p, from 0 through 8

Compatibility

Inquiry support and value ranges can vary by PTZOptics model and firmware version. Confirm availability against the documentation for the target camera.

Movement

Pan/Tilt

Commands

Command	Function	Command Packet	Comments
Pan_TiltDrive	Up	81 01 06 01 VV WW 03 01 FF	Replace VV and WW with the desired speed values. Pan stops; tilt moves up.
*	Down	81 01 06 01 VV WW 03 02 FF	Replace VV and WW with the desired speed values. Pan stops; tilt moves down.
*	Left	81 01 06 01 VV WW 01 03 FF	Replace VV and WW with the desired speed values. Pan moves left; tilt stops.
*	Right	81 01 06 01 VV WW 02 03 FF	Replace VV and WW with the desired speed values. Pan moves right; tilt stops.

Command	Function	Command Packet	Comments
*	UpLeft	81 01 06 01 VV WW 01 01 FF	Replace VV and WW with the desired speed values. Pan moves left; tilt moves up.
*	UpRight	81 01 06 01 VV WW 02 01 FF	Replace VV and WW with the desired speed values. Pan moves right; tilt moves up.
*	DownLeft	81 01 06 01 VV WW 01 02 FF	Replace VV and WW with the desired speed values. Pan moves left; tilt moves down.
*	DownRight	81 01 06 01 VV WW 02 02 FF	Replace VV and WW with the desired speed values. Pan moves right; tilt moves down.
*	Stop	81 01 06 01 VV WW 03 03 FF	Include valid speed values for VV and WW. Both pan and tilt stop.
*	AbsolutePosition	81 01 06 02 VV WW 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	Replace VV and WW with the desired speed values. YYYY: Pan position; ZZZZ: Tilt position.
*	RelativePosition	81 01 06 03 VV WW 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	Replace VV and WW with the desired speed values. YYYY: Pan

Command	Function	Command Packet	Comments
			offset; ZZZZ: Tilt offset.
*	Home	81 01 06 04 FF	Move to the home position.
*	Reset	81 01 06 05 FF	Reset the pan/tilt mechanism.
Pan_TiltLimitSet	LimitSet	81 01 06 07 00 0W 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	W: 1 (UpRight), 0 (DownLeft). YYYY: Pan position; ZZZZ: Tilt position.
*	LimitClear	81 01 06 07 01 0W 07 0F 0F 0F 07 0F 0F 0F FF	W: 1 (UpRight), 0 (DownLeft). Clear the selected limit.

Setting pan and tilt speeds

Placeholder	Setting	Valid hexadecimal values	Decimal equivalent
VV	Pan speed (left/right)	01 (lowest) through 18 (highest)	1–24
WW	Tilt speed (up/down)	01 (lowest) through 14 (highest)	1–20

These values select speed levels, not degrees per second. Higher values request faster movement.

 **WARNING**

Do not send the literal letters `VV` or `WW`. These are placeholders for the actual speed values you want to use. For example, to request pan speed 10 and tilt speed 5, replace `VV` with `0A` and `WW` with `05`.

Both speed bytes must be included, even when only one axis moves or when sending Stop. The direction bytes following the speed values determine which axes move.

Example: Down command template:

```
81 01 06 01 VV WW 03 02 FF
```

With pan speed `0A` and tilt speed `05`, send:

```
81 01 06 01 0A 05 03 02 FF
```

The camera tilts down at speed level 5. The pan speed is included but does not produce horizontal movement because the pan direction byte is `03` (stop).

Absolute and Relative Position Commands

- **AbsolutePosition** moves the camera to specified pan and tilt coordinates, measured from the camera's coordinate origin.
- **RelativePosition** moves the camera by specified pan and tilt offsets from its current position.

In both commands, `0Y 0Y 0Y 0Y` encodes the four-digit pan value (`YYYY`), and `0Z 0Z 0Z 0Z` encodes the four-digit tilt value (`ZZZZ`).

Each `Y` or `Z` is a placeholder for one hexadecimal digit: `0–9` or `A–F`. Replace the placeholders with the successive digits of your desired value, from left to right. The leading `0` in each byte stays fixed.

Example Values:

Value	Four-digit hexadecimal value	Bytes to send
Absolute Pan position or Relative (offset)	1234	01 02 03 04
Absolute Tilt position or Relative (offset)	0056	00 00 05 06

Full Absolute and Relative Position Command Example:

Command	Full packet
AbsolutePosition	81 01 06 02 05 05 01 02 03 04 00 00 05 06 FF
RelativePosition	81 01 06 03 05 05 01 02 03 04 00 00 05 06 FF

Zoom

Command	Function	Command Packet	Comments
CAM_Zoom	Stop	81 01 04 07 00 FF	
*	Tele (Standard)	81 01 04 07 02 FF	
*	Wide (Standard)	81 01 04 07 03 FF	

Command	Function	Command Packet	Comments
*	Tele (Variable)	81 01 04 07 2p FF	p = 0 (low) – 7 (high)
*	Wide (Variable)	81 01 04 07 3p FF	p = 0 (low) – 7 (high)
*	Direct	81 01 04 47 p q r s FF	
CAM_ZoomFocus	Direct	81 01 04 47 0p 0q	pqrs: Zoom Position

Hex Reference

Decimal	Hexadecimal byte	Valid pan speed (VV)	Valid tilt speed (WW)
0	00	—	—
1	01	✓	✓
2	02	✓	✓
3	03	✓	✓
4	04	✓	✓
5	05	✓	✓

Decimal	Hexadecimal byte	Valid pan speed (VV)	Valid tilt speed (WW)
6	06	✓	✓
7	07	✓	✓
8	08	✓	✓
9	09	✓	✓
10	0A	✓	✓
11	0B	✓	✓
12	0C	✓	✓
13	0D	✓	✓
14	0E	✓	✓
15	0F	✓	✓
16	10	✓	✓
17	11	✓	✓
18	12	✓	✓

Decimal	Hexadecimal byte	Valid pan speed (VV)	Valid tilt speed (WW)
19	13	✓	✓
20	14	✓	✓
21	15	✓	—
22	16	✓	—
23	17	✓	—
24	18	✓	—

Network

Command	Function	Command Packet	Comments
CAM_NDIMODE	High	81 0B 01 01 FF	
*	Medium	81 0B 01 02 FF	
*	Low	81 0B 01 03 FF	
*	Off	81 0B 01 04 FF	
CAM_Multicast Mode	Multicast Mode	81 0B 01 23 0p FF	p=1: On, p=2: Off

OSD

Command	Function	Command Packet	Comments
OSD_Control	Open / Close	81 01 04 3F 02 5F FF	
*	Close	81 01 06 06 03 FF	
*	Navigate Up	81 01 06 01 0E 0E 03 01 FF	
*	Navigate Down	81 01 06 01 0E 0E 03 02 FF	
*	Navigate Left	81 01 06 01 0E 0E 01 03 FF	
*	Navigate Right	81 01 06 01 0E 0E 02 03 FF	
*	Enter	81 01 06 06 05 FF	
*	Return	81 01 06 06 04 FF	

Streaming

Command	Function	Command Packet	Comments
CAM_RTMPSet	Toggle RTMP	81 0A 11 A8 pq FF	p: 1 Stream 1; p: 2 stream 2; q: 2 ON, q: 3 OFF