

# NET VISCA Commands of TP1

## Serial control Command Set

| No. | Feature             | Item           | Command package            | Description  |
|-----|---------------------|----------------|----------------------------|--|
| 3   | CAM_Zoom            | Stop           | 8x 01 04 07 00 FF          |  |
|     |                     | Tele(Variable) | 8x 01 04 07 2p FF          | p = 0(low) - 7(high)   |
|     |                     | Wide(Variable) | 8x 01 04 07 3p FF          |  |
| 4   | CAM_Focus (Focus)   | Auto Focus     | 8x 01 04 38 02 FF          | AF On/Off  |
| 22  | CAM_Memory (Preset) | Set            | 8x 01 04 3F 01 pp FF       |  |
|     |                     | Recall         | 8x 01 04 3F 02 pp FF       |  |
| 27  | Pan_tiltDrive       | Up             | 8x 01 06 01 VV WW 03 01 FF | VV: Pan speed 0x01 (low speed) to 0x18 (high speed)<br>WW: Tilt speed 0x01 (low speed) to 0x14 (high speed)<br>YYYY: Pan Position<br>ZZZZ: Tilt Position |
|     |                     | Down           | 8x 01 06 01 VV WW 03 02 FF |  |
|     |                     | 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 |  |
|     |                     | DownLeft       | 8x 01 06 01 VV WW 01 02 FF |  |
|     |                     | DownRight      | 8x 01 06 01 VV WW 02 02 FF |  |
|     |                     | Stop           | 8x 01 06 01 VV WW 03 03 FF |  |
|     |                     | Home           | 8x 01 06 04 FF             |  |

## Serial query command set

| No. | Command               | Command package | Return package       | Description                    |
|-----|-----------------------|-----------------|----------------------|--------------------------------|
| 1   | CAM_PowerInq          | 8x 09 04 00 FF  | y0 50 02 FF          | On                             |
|     |                       |                 | y0 50 03 FF          | Off(Standby)                   |
| 2   | CAM_ZoomPosInq        | 8x 09 04 47 FF  | y0 50 0p 0q 0r 0s FF | pqrs: Zoom Position            |
| 3   | CAM_FocusAFModelInq   | 8x 09 04 38 FF  | y0 50 02 FF          | Auto Focus                     |
|     |                       |                 | y0 50 03 FF          | Manual Focus                   |
| 4   | CAM_FocusPosInq       | 8x 09 04 48 FF  | y0 50 0p 0q 0r 0s FF | pqrs: Focus Position           |
| 5   | CAM_FocusNearLimitInq | 8x 09 04 28 FF  | y0 50 0p 0q 0r 0s FF | pqrs: Focus Near LimitPosition |
| 6   | CAM_WBModelInq        | 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                         |

|    |                          |                |                                     |  |
|----|--------------------------|----------------|-------------------------------------|--|
| 7  | CAM_RGainInq             | 8x 09 04 43 FF | y0 50 00 00 0p 0q FF                | pq: R Gain   |
| 8  | CAM_BGainInq             | 8x 09 04 44 FF | y0 50 00 00 0p 0q FF                | pq: B Gain   |
| 9  | 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   |
| 10 | CAM_ShutterPosInq        | 8x 09 04 4A FF | y0 50 00 00 0p 0q FF                | pq: Shutter Position   |
| 11 | CAM_IrisPosInq           | 8x 09 04 4B FF | y0 50 00 00 0p 0q FF                | pq: Iris Position  |
| 12 | CAM_GainPosInq           | 8x 09 04 4C FF | y0 50 00 00 0p 0q FF                | pq: Gain Position  |
| 13 | CAM_BrightPosInq         | 8x 09 04 4D FF | y0 50 00 00 0p 0q FF                | pq: Bright Position  |
| 14 | CAM_ExpCompModeInq       | 8x 09 04 3E FF | y0 50 02 FF                         | On   |
|    |                          |                | y0 50 03 FF                         | Off  |
| 15 | CAM_ExpCompPosInq        | 8x 09 04 4E FF | y0 50 00 00 0p 0q FF                | pq: ExpComp Position   |
| 16 | CAM_BacklightModeInq     | 8x 09 04 33 FF | y0 50 02 FF                         | On   |
|    |                          |                | y0 50 03 FF                         | Off  |
| 17 | CAM_Noise2DModeInq       | 8x 09 04 53 FF | y0 50 0p FF                         | Noise Reduction (2D) p: 0 to 5   |
| 18 | CAM_Noise3DModeInq       | 8x 09 04 54 FF | y0 50 0p FF                         | Noise Reduction (3D) p: 0 to 5   |
| 19 | CAM_FlickerModeInq       | 8x 09 04 55 FF | y0 50 0p FF                         | p: Flicker Settings(0: OFF, 1: 50Hz, 2: 60Hz)  |
| 20 | CAM_ApertureInq          | 8x 09 04 42 FF | y0 50 00 00 0p 0q FF                | pq: Aperture Gain  |
|    |                          |                | y0 50 02 FF                         | Off  |
| 21 | CAM_PictureEffectModeInq | 8x 09 04 63 FF | y0 50 03 FF                         | Neg.Art  |
|    |                          |                | y0 50 04 FF                         | B&W  |
| 22 | CAM_MemoryInq            | 8x 09 04 3F FF | y0 50 0p FF                         | p: Memory number last operated.  |
| 23 | SYS_MenuModeInq          | 8x 09 06 06 FF | y0 50 02 FF                         | On   |
|    |                          |                | y0 50 03 FF                         | Off  |
| 24 | CAM_LR_ReverselInq       | 8x 09 04 61 FF | y0 50 02 FF                         | On   |
|    |                          |                | y0 50 03 FF                         | Off  |
| 25 | CAM_PictureFlipInq       | 8x 09 04 66 FF | y0 50 02 FF                         | On   |
|    |                          |                | y0 50 03 FF                         | Off  |
| 26 | CAM_IDInq                | 8x 09 04 22 FF | y0 50 0p 0q 0r 0s FF                | pqrs: Camera ID  |
| 27 | CAM_VersionInq           | 8x 09 00 02 FF | y0 50 ab cd<br>mn pq rs tu vw FF    | ab: Factory Code(00: VHD, 01:MR, 08:T)<br>cd: Hardware Version<br>mnpq: ARM Version<br>rstu: SOC Version<br>vw: Camera model |
| 28 | Pan-tiltMaxSpeedInq      | 8x 09 06 11 FF | y0 50 ww zz FF                      | ww: Pan Max Speed<br>zz: Tilt Max Speed  |
| 29 | Pan-tiltPosInq           | 8x 09 06 12 FF | y0 50 0w 0w 0w 0w<br>0z 0z 0z 0z FF | www: Pan Position<br>zzzz: Tilt Position   |
| 30 | Pan-tiltModeInq          | 8x 09 06 10 FF | y0 50 pq rs FF                      | pqrs: Pan/Tilt Status  |

|    |                       |                   |   |  |
|----|-----------------------|-------------------|---|--|
| 31 | CAM_DateInq           | 8x 09 00 04 FF    | y0 50 0r ss uu uu vv ww 0D FF                   | Version date<br>r: Big Version Number<br>ss: Little Version Number<br>uuuu: Year<br>vv: Month<br>ww: Day |
| 32 | CAM_ModelInq          | 8x 09 04 A6 FF    | y0 50 00 FF                                     | Mode0  |
|    |                       |                   | y0 50 02 FF                                     | Mode2  |
| 33 | CAM_MeteringModelInq  | 8x 09 04 3A FF    | y0 50 00 FF                                     | Average Metering   |
|    |                       |                   | y0 50 01 FF                                     | Center-weighted Average Metering   |
| 34 | CAM_GainLimitInq      | 8x 09 04 2C FF    | y0 50 0q FF                                     | p: Gain Limit  |
| 35 | CAM_DHotPixelInq      | 8x 09 04 56 FF    | y0 50 0q FF                                     | p: Dynamic Hot Pixel Setting (0: Off, level 1 to 5)  |
| 36 | CAM_AFSensitivityInq  | 8x 09 04 58 FF    | y0 50 01 FF                                     | High   |
|    |                       |                   | y0 50 02 FF                                     | Normal   |
|    |                       |                   | y0 50 03 FF                                     | Low  |
| 37 | CAM_BrightnessInq     | 8x 09 04 A1 FF    | y0 50 00 00 0p 0q FF                            | pq: Brightness Position  |
| 38 | CAM_ContrastInq       | 8x 09 04 A2 FF    | y0 50 00 00 0p 0q FF                            | pq: Contrast Position  |
| 39 | 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  |
| 40 | CAM_IridixInq         | 8x 09 04 A7 FF    | y0 50 00 00 0p 0q FF                            | pq: Iridix Position  |
| 41 | Color System Inq      | 8x 09 04 A8 FF    | y0 50 02 FF                                     | VGA Mode On  |
|    |                       |                   | y0 50 03 FF                                     | VGA Mode Off   |
| 42 | CAM_GammaInq          | 8x 09 04 5B FF    | y0 50 0p FF                                     | p: Gamma setting (0x00~0x0A)   |
| 43 | CAM_AFZone            | 8x 09 04 AA FF    | y0 50 00 FF                                     | Top  |
|    |                       |                   | y0 50 01 FF                                     | Center   |
|    |                       |                   | y0 50 02 FF                                     | Bottom   |
| 44 | CAM_DVIModeInq        | 8x 09 04 AB FF    | y0 50 02 FF                                     | DVI Mode:HDMI  |
|    |                       |                   | y0 50 03 FF                                     | DVI Mode:DVI   |
| 45 | CAM_ColorHueInq       | 8x 09 04 4F FF    | y0 50 00 00 00 0p FF                            | p: Color Hue setting 0h (- 14 dgree) to Eh (+14 degrees)   |
| 46 | CAM_AWBSensitivityInq | 8x 09 04 A9 FF    | y0 50 00 FF                                     | High   |
|    |                       |                   | y0 50 01 FF                                     | Normal   |
|    |                       |                   | y0 50 02 FF                                     | Low  |
| 47 | CAM_LensBlockInq      | 8x 09 7E 7E 00 FF | y0 50 0u 0u 0u 0u 00 00 0v 0v 0v 0v 00 0w 00 FF | uuu: Zoom Position<br>vvv: Focus Position<br>w.bit0: Focus Mode<br>1: Auto 0: Manual                     |

|    |                         |                   |  |  |
|----|-------------------------|-------------------|--|--|
| 48 | CAM_CameraBlockInq      | 8x 09 7E 7E 01 FF | y0 50 0p 0p 0q 0q 0r 0s tt 0u<br>vv ww 00 xx 0z FF | pp: R_Gain<br>qq: B_Gain<br>r: WB Mode<br>s: Aperture<br>tt: AE Mode<br>u.bit2: Back Light<br>u.bit1: Exposure Comp.<br>vv: Shutter Position<br>ww: Iris Position<br>xx: Bright Position<br>z: Exposure Comp. Position |
| 49 | CAM_EnlargementBlockInq | 8x 09 7E 7E 03 FF | y0 50 00 00 00 00 00 00 0p<br>0q rr 0s 0t 0u FF    | p: AF sensitivity<br>q.bit0: Picture flip(1:On, 0:Off)<br>rr.bit6~3: Color Gain(0h(60%) to Eh(200%))<br>s: Flip(0: Off, 1:Flip-H, 2:Flip-V, 3:Flip-HV)<br>t.bit2~0: NR2D Level<br>u: Gain Limit                        |

## Commands for control the videoconference

| Name         | Command                 |
|--------------|-------------------------|
| OK           | A1 06 02 F6 09 B7 48 FF |
| CALL         | A1 06 02 FD 02 B7 48 FF |
| VOLUME_UP    | A1 06 02 F9 06 B7 48 FF |
| VOLUME_DOWN  | A1 06 02 FE 01 B7 48 FF |
| HANGUP       | A1 06 02 F0 0F B7 48 FF |
| 1            | A1 06 02 F3 0C B7 48 FF |
| 2            | A1 06 02 EE 11 B7 48 FF |
| 3            | A1 06 02 F1 0E B7 48 FF |
| 4            | A1 06 02 EF 10 B7 48 FF |
| 5            | A1 06 02 EA 15 B7 48 FF |
| 6            | A1 06 02 ED 12 B7 48 FF |
| 7            | A1 06 02 EB 14 B7 48 FF |
| 8            | A1 06 02 E6 19 B7 48 FF |
| 9            | A1 06 02 E9 16 B7 48 FF |
| 0            | A1 06 02 E2 1D B7 48 FF |
| SPOT (.)     | A1 06 02 E7 18 B7 48 FF |
| POUND (#)    | A1 06 02 E5 1A B7 48 FF |
| BACKSPACE    | A1 06 02 D5 2A B7 48 FF |
| PRESET_CLEAR | A1 06 02 DD 22 B7 48 FF |
| PRESET_CALL  | A1 06 02 DB 24 B7 48 FF |
| PRESET_SAVE  | A1 06 02 DA 25 B7 48 FF |
| ADDRESSBOOK  | A1 06 02 DC 23 B7 48 FF |
| UP           | A1 06 02 FA 05 B7 48 FF |
| DOWN         | A1 06 02 F2 0D B7 48 FF |
| RIGHT        | A1 06 02 F5 0A B7 48 FF |

|             |                         |
|-------------|-------------------------|
| LEFT        | A1 06 02 F7 08 B7 48 FF |
| BACK        | A1 06 02 E0 1F B7 48 FF |
| HOME        | A1 06 02 D6 29 B7 48 FF |
| MENU        | A1 06 02 BC 43 B7 48 FF |
| POWER       | A1 06 02 E4 1B B7 48 FF |
| F1          | A1 06 02 DF 20 B7 48 FF |
| F2          | A1 06 02 DE 21 B7 48 FF |
| F3          | A1 06 02 D8 27 B7 48 FF |
| F4          | A1 06 02 D7 28 B7 48 FF |
| VOLUME_DOWN | A1 06 02 FE 01 B7 48 FF |
| MUTE        | A1 06 02 E1 1E B7 48 FF |
| FECC        | A1 06 02 BE 41 B7 48 FF |
| INFO        | A1 06 02 D9 26 B7 48 FF |
| CAMERA      | A1 06 02 E3 1C B7 48 FF |
| LAYOUT      | A1 06 02 F4 0B B7 48 FF |
| CONTENT     | A1 06 02 EC 13 B7 48 FF |

## Serial port return command

| No. | Command                 | Feature             | Command package             | Comment  |
|-----|-------------------------|---------------------|-----------------------------|--|
| 1   | ACK/Completion Messages | ACK                 | z0 4y FF (y: Socket No.)    | Return when the command is accepted.   |
|     |                         | Completion          | z0 5y FF (y: Socket No.)    | Return when the command has been executed.   |
| 2   | 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 (y: Socket No.) | 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 (y: Socket No.) | 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<br>(y: Execution command Socket No.<br>Inquiry command: 0) | Returned when a command cannot be executed due to current conditions. For example, when commands controlling the focus manually are received during auto focus. |
|--|--|------------------------|--|---|

## Pelco protocol command test

| Protocol         | No. | Feature                   | Sent command            | Expected outcome          | Remarks   |
|------------------|-----|---------------------------|-------------------------|---------------------------|---|
| Pelco-P Protocol | 1   | PTZ upward                | a0 01 00 08 00 30 af 39 | PTZ upward                | Description of the command format of the P-P protocol:<br>The first bit is STX, always A0H; the second bit is the address code, the range is 00~1F; the third and four is the instruction code; the fifth and six is the data code; the seventh bit is ETX, always AFH, the eighth Bit is a check code;<br><br>Where xx is the address code, the range is 00~1f; vv is the horizontal speed, ww is the vertical speed; yy is the preset position number |
|                  | 2   | PTZ downward              | a0 01 00 10 00 30 af 21 | PTZ downward              |   |
|                  | 3   | PTZ leftward              | a0 01 00 04 10 00 af 15 | PTZ leftward              |   |
|                  | 4   | PTZ rightward             | a0 01 00 02 10 00 af 13 | PTZ rightward             |   |
|                  | 5   | Zoom far                  | a0 01 00 20 00 00 af 21 | Zoom far                  |   |
|                  | 6   | Zoom near                 | a0 01 00 40 00 00 af 41 | Zoom near                 |   |
|                  | 7   | Set preset 1              | a0 01 00 03 00 01 af 03 | Set preset 1              |   |
|                  | 8   | Call preset 1             | a0 01 00 07 00 01 af 07 | Call preset 1             |   |
|                  | 9   | Delete preset 1           | a0 01 00 05 00 01 af 01 | Delete preset 1           |   |
|                  | 10  | Focus near                | A0 00 01 00 00 00 AF 0E | Focus near                |   |
|                  | 11  | Focus far                 | A0 00 00 80 00 00 AF 8F | Focus far                 |   |
|                  | 12  | Auto focus                | a0 xx 00 2b 00 01 af 05 | Auto focus                |   |
|                  | 13  | Manual focus              | a0 xx 00 2b 00 02 af 26 | Manual focus              |   |
|                  | 14  | Query horizontal position | a0 xx 00 51 00 00 af 5e | Query horizontal position |   |
|                  | 15  | Query vertical position   | a0 xx 00 53 00 00 af 5c | Query vertical position   |   |
|                  | 16  | Query zoom value          | a0 xx 00 55 00 00 af 5a | Query zoom value          |   |
| Pelco-D Protocol | 1   | PTZ upward                | ff 01 00 08 00 ff 08    | PTZ upward                | Description of the command format of the P-P protocol:<br>The first bit is the sync byte, which is always FFH; the second bit is the address code, the range is 00~FE; the third and fourth bits are the instruction code; the fifth and sixth bits are the data code; the  |
|                  | 2   | PTZ downward              | ff 01 00 10 00 ff 10    | PTZ downward              |   |
|                  | 3   | PTZ leftward              | ff 01 00 04 ff 00 04    | PTZ leftward              |   |
|                  | 4   | PTZ rightward             | ff 01 00 02 ff 00 02    | PTZ rightward             |   |
|                  | 5   | Zoom far                  | ff 01 00 40 00 00 41    | Zoom far                  |   |
|                  | 6   | Zoom near                 | ff 01 00 20 00 00 21    | Zoom near                 |   |
|                  | 7   | Set preset 1              | ff 01 00 03 00 01 05    | Set preset 1              |   |
|                  | 8   | Call preset 1             | ff 01 00 07 00 01 09    | Call preset 1             |   |

|    |                           |                      |                           |  |
|----|---------------------------|----------------------|---------------------------|--|
| 9  | Delete preset 1           | ff 01 00 05 00 01 07 | Delete preset 1           | seventh bit is the check code;<br><br>Where xx is the address code, the range is 00~1f; vv is the horizontal speed, ww is the vertical speed; yy is the preset position number |
| 10 | Focus near                | ff xx 00 00 00 00 01 | Focus near                |  |
| 11 | Focus far                 | ff xx 00 80 00 00 81 | Focus far                 |  |
| 12 | Auto focus                | ff xx 00 2B 00 01 2D | Auto focus                |  |
| 13 | Manual focus              | ff xx 00 2B 00 02 2E | Manual focus              |  |
| 14 | Query horizontal position | ff xx 00 51 00 00 52 | Query horizontal position |  |
| 15 | Query vertical position   | ff xx 00 53 00 00 54 | Query vertical position   |  |
| 16 | Query zoom value          | ff xx 00 55 00 00 56 | Query zoom value          |  |