Revision: 12/17/2018

This document provides additional assistance with wiring your Extron IP Link Pro Control Processor to your device. Different components may require a different wiring scheme than those listed below.

For complete operating instructions, refer to the user's manual for the specific IP Link Pro Control Processor or the documentation supplied by the manufacturer of the controlled device.

For more information on using Global Scripter Modules, refer to the "Guide to Using Scripter Modules" document.

Device Specifications

Device Type: Camera
Manufacturer: Visca
Firmware Version: N/A
Model(s): Visca

Tested on the Following Software and Firmware Versions

IP Link Pro Control Processor Firmware	Global Scripter Version
3.04.0001-b002	2.3.1

Version History

Module Version	Date	Notes
1_0_1_2	10/16/2019	Fixed Ethernetclass issue.
1_0_1_1	12/17/2018	Updated module to Rev. B1
1_0_1_0	11/1/2016	Initial Version

Module Notes

- Unidirectional variable must be set to 'True' if status is not required. Default value is 'False'. Example: InterfaceName.Unidirectional = 'True'
- connectionCounter variable must be set to the number of queries that will be sent to the device before displaying 'Disconnected' if no response is received. Default value is 15.

Example: InterfaceName.connectionCounter = 5

Serial Control DeviceID variable must be set accordingly. Default value is '1'. DeviceID ranges from 1 – 7.
 Ethernet Control cannot be changed, and it is fixed at '1'

Example: InterfaceName.DeviceID = '1'

Supported Classes and Examples

SerialClass

InterfaceName = ModuleName.SerialClass(ProcessorName, 'COM1', Model='Visca')

SerialOverEthernetClass

InterfaceName = ModuleName.SerialOverEthernetClass('192.168.254.254', 2001, Model='Visca')

EthernetClass

InterfaceName = ModuleName.EthernetClass('192.168.254.254', 52381, Model='Visca')

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Control Commands (Serial)

Format with Qualifier:

InterfaceName.Set(Command, Value, {'Qualifier Key': 'Qualifier Value'})

Format without Qualifier:

InterfaceName.Set(Command, Value)

Command	Value	Value	Value
AutoExposure	'Automatic Exposure Mode'	'Manual Control Mode'	'Shutter Priority Mode'
	'Iris Priority Mode'	'Bright Mode'	
# AutoExposure exampl InterfaceName.Set('Au	e toExposure', 'Automatic Ex	kposure Mode')	
Command	Value	Value	
AutoFocus	'Auto'	'Manual'	
# AutoFocus example InterfaceName.Set('Au	toFocus', 'Auto')		
Command	Value	Value	
BacklightMode	'On'	'Off'	
	# BacklightMode example InterfaceName.Set('BacklightMode', 'On')		
Command	Value	Value	Value
Focus	'Near'	'Far'	'Stop'
Qualifier Key	Qualifier Value		
'Focus Speed'	0 to 7 in steps of 1		
# Focus example InterfaceName.Set('Fo	# Focus example InterfaceName.Set('Focus', 'Near', {'Focus Speed': 7})		
Command	Value	Value	Value
Gain	'Up'	'Down'	'Reset'
# Gain example InterfaceName.Set('Ga	# Gain example InterfaceName.Set('Gain', 'Up')		
Command	Value	Value	
IRReceiver	'On'	'Off'	
# IRReceiver example InterfaceName.Set('IRReceiver', 'On')			
Command	Value	Value	Value
Iris	'Reset'	'Up'	'Down'
# Iris example InterfaceName.Set('Ir	is', 'Reset')		

Command	Value	Value	Value
PanTilt	'Up'	'Down'	'Left'
	'Right'	'Up Left'	'Up Right'
	'Down Left'	'Down Right'	'Stop'
Qualifier Key	Qualifier Value		
'Pan Speed'	1 to 24 in steps of 1		
Qualifier Key 'Tilt Speed'	Qualifier Value 1 to 24 in steps of 1		
<pre># PanTilt example InterfaceName.Set('Pa</pre>	nTilt', 'Up', {'Pan Speed'	: 24, 'Tilt Speed': 24})	
Command	Value	Value	
Power	'On'	'Off'	
# Power example InterfaceName.Set('Po	wer', 'On')		
Command RecallPreset	Value '1' – '16'		
	# RecallPreset example InterfaceName.Set('RecallPreset', '1')		
Command SavePreset	Value '1' – '16'		
# SavePreset example InterfaceName.Set('Sa	vePreset', '1')		
Command	Value	Value	Value
Shutter	'On'	'Off'	'Reset'
# Shutter example InterfaceName.Set('Shutter', 'On')			
Command	Value	Value	Value
Zoom	'Tele'	'Wide'	'Stop'
Qualifier Key	Qualifier Value		
'Zoom Speed'	0 to 7 in steps of 1		
# Zoom example InterfaceName.Set('Zoom', 'Tele', {'Zoom Speed': 7})			

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Status Available (Serial)

For all commands, call Update to receive the latest status. ConnectionStatus does not support the Update function and is triggered by the device providing a successful response to other Update function calls.

Format with Qualifier:

```
InterfaceName.Update(Command, {'Qualifier Key': 'Qualifier Value'})
Value = InterfaceName.ReadStatus(Command, {'Qualifier Key': 'Qualifier Value'})
InterfaceName.SubscribeStatus(Command, {'Qualifier Key': 'Qualifier Value'}, FeedbackHandler)
FeedbackHandler will be called only when the specified qualifier gets a new status.
```

Format without Qualifier:

InterfaceName.Update(Command)
Value = InterfaceName.ReadStatus(Command)
InterfaceName.SubscribeStatus(Command, None, FeedbackHandler)
FeedbackHandler will be called when any qualifier gets a new status.

Command	Value	Value	Value
AutoExposure	'Automatic Exposure Mode'	'Manual Control Mode'	'Shutter Priority Mode'
	'Iris Priority Mode'	'Bright Mode'	
		•	
Command AutoFocus	Value 'Auto'	Value 'Manual'	
	'AutoFocus') .ReadStatus('AutoFocus') beStatus('AutoFocus', None	, FeedbackHandler)	
Command BacklightMode	Value 'On'	Value 'Off'	
Command Power	Value 'On'	Value 'Off'	
<pre># Power examples InterfaceName.Update(Value = InterfaceName InterfaceName.Subscri</pre>	· · · · · · · · · · · · · · · · · · ·	edbackHandler)	

Control Commands (Ethernet)

Format with Qualifier:

InterfaceName.Set(Command, Value, {'Qualifier Key': 'Qualifier Value'})

Format without Qualifier:

InterfaceName.Set(Command, Value)

Command	Value	Value	Value
AutoExposure	'Automatic Exposure Mode'	'Manual Control Mode'	'Shutter Priority Mode'
	'Iris Priority Mode'	'Bright Mode'	
# AutoExposure exampl InterfaceName.Set('Au	e toExposure', 'Automatic Ex	kposure Mode')	
Command	Value	Value	
AutoFocus	'Auto'	'Manual'	
# AutoFocus example InterfaceName.Set('Au	toFocus', 'Auto')		
Command	Value	Value	
BacklightMode	'On'	'Off'	
	# BacklightMode example InterfaceName.Set('BacklightMode', 'On')		
Command	Value	Value	Value
Focus	'Near'	'Far'	'Stop'
Qualifier Key	Qualifier Value		
# Focus example	<pre>'Focus Speed'</pre>		
Command	Value	Value	Value
Gain	'Up'	'Down'	'Reset'
# Gain example InterfaceName.Set('Ga	# Gain example InterfaceName.Set('Gain', 'Up')		
Command	Value	Value	
IRReceiver	'On'	'Off'	
<pre># IRReceiver example InterfaceName.Set('IRReceiver', 'On')</pre>			
Command	Value	Value	Value
Iris	'Reset'	'Up'	'Down'
# Iris example InterfaceName.Set('Ir	is', 'Reset')		

Command	Value	Value	Value
PanTilt	'Up'	'Down'	'Left'
	'Right'	'Up Left'	'Up Right'
	'Down Left'	'Down Right'	'Stop'
Qualifier Key	Qualifier Value		
'Pan Speed'	1 to 24 in steps of 1		
Qualifier Key	Qualifier Value		
'Tilt Speed'	1 to 24 in steps of 1	•	_
<pre># PanTilt example InterfaceName.Set('Pa</pre>	nTilt', 'Up', {'Pan Speed	': 24, 'Tilt Speed': 24})	
Command	Value	Value	
Power	'On'	'Off'	
<pre># Power example InterfaceName.Set('Po</pre>	wer', 'On')		
Command	Value		
RecallPreset	'1' - '16'		
# RecallPreset example InterfaceName.Set('RecallPreset', '1')			
Command	Value		
SavePreset	'1' - '16'		
<pre># SavePreset example InterfaceName.Set('Sa</pre>	vePreset', '1')		
Command	Value	Value	Value
Shutter	'On'	'Off'	'Reset'
# Shutter example InterfaceName.Set('Shutter', 'On')			
Command	Value	Value	Value
Zoom	'Tele'	'Wide'	'Stop'
Qualifier Key	Qualifier Value		
'Zoom Speed'	0 to 7 in steps of 1		
# Zoom example InterfaceName.Set('Zoom', 'Tele', {'Zoom Speed': 7})			

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Status Available (Ethernet)

For all commands, call Update to receive the latest status. ConnectionStatus does not support the Update function and is triggered by the device providing a successful response to other Update function calls.

Format with Qualifier:

```
InterfaceName.Update(Command, {'Qualifier Key': 'Qualifier Value'})
Value = InterfaceName.ReadStatus(Command, {'Qualifier Key': 'Qualifier Value'})
InterfaceName.SubscribeStatus(Command, {'Qualifier Key': 'Qualifier Value'}, FeedbackHandler)
FeedbackHandler will be called only when the specified qualifier gets a new status.
```

Format without Qualifier:

InterfaceName.Update(Command)
Value = InterfaceName.ReadStatus(Command)
InterfaceName.SubscribeStatus(Command, None, FeedbackHandler)
FeedbackHandler will be called when any qualifier gets a new status.

Command	Value	Value	Value
AutoExposure	'Automatic Exposure Mode'	'Manual Control Mode'	'Shutter Priority Mode'
	'Iris Priority Mode'	'Bright Mode'	
Command	Value	Value	
AutoFocus	'Auto'	'Manual'	
	'AutoFocus') .ReadStatus('AutoFocus') beStatus('AutoFocus', None	, FeedbackHandler) Value	
BacklightMode	'On'	'Off'	
Command Power	Value 'On'	Value 'Off'	
<pre># Power examples InterfaceName.Update(Value = InterfaceName InterfaceName.Subscri</pre>		edbackHandler)	

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Cable and Adapter Requirements

Captive Screw to DIN-8 VISCA Serial Cable

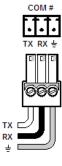
Notes for the Device

If dip switch for address is set to 0 (Auto), cameras will automatically assign an address to the camera. Address from 1 to 7 can be assigned to different cameras. If address is set manually on dip switch, it must match the address assigned in the driver.

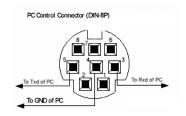
Serial communication

Port Type:RS-232, Serial_RS422Parity:NoneBaud Rate:9600Stop Bits:OneData Bits:8Flow Control:None

Pin Assignments Diagram



Signal	Main Cable	Pin	Signal
TxD		5	RxD
RxD		3	TxD
GND		4	GND



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Network communication

When configuring the Ethernet module, be sure device settings match those of the Global Scripter ethernet interface

Port Type: Ethernet

Default Port: 52381

Supported:

Logon Credentials

Multi-Connection Max 5

Capabilities:

Port Changeability: Yes

Ethernet Module Configuration Description

No

Please refer to user manual for settings and changes to the network communication

Notes for the Device

Appendix A. Set Commands (Serial)

Auto Exposure Automatic Exposure Mode	\x81\x01\x049\x00\xFF
Auto Exposure Bright Mode	\x81\x01\x049\x0D\xFF
Auto Exposure Iris Priority Mode	\x81\x01\x049\x0B\xFF
Auto Exposure Manual Control Mode	\x81\x01\x049\x03\xFF
Auto Exposure Shutter Priority Mode	\x81\x01\x049\x0A\xFF
Auto Focus Auto	\x81\x01\x048\x02\xFF
Auto Focus Manual	\x81\x01\x048\x03\xFF
Backlight Mode Off	\x81\x01\x043\x03\xFF
Backlight Mode On	\x81\x01\x043\x02\xFF
Focus Far Focus Speed 0	\x81\x01\x04\x08 \xFF
Focus Far Focus Speed 7	\x81\x01\x04\x08'\xFF
Focus Near Focus Speed 0	\x81\x01\x04\x080\xFF
Focus Near Focus Speed 7	\x81\x01\x04\x087\xFF
Focus Stop Focus Speed 0	\x81\x01\x04\x08\x00\xFF
Focus Stop Focus Speed 7	\x81\x01\x04\x08\x00\xFF
Gain Down	\x81\x01\x04\x0C\x03\xFF
Gain Reset	\x81\x01\x04\x0C\x00\xFF
Gain Up	\x81\x01\x04\x0C\x02\xFF
IR Receiver Off	\x81\x01\x06\x08\x03\xFF
IR Receiver On	\x81\x01\x06\x08\x02\xFF
Iris Down	\x81\x01\x04\x0B\x03\xFF
Iris Reset	\x81\x01\x04\x0B\x00\xFF
Iris Up	\x81\x01\x04\x0B\x02\xFF
Pan Tilt Down Left Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x01\x02\xFF
Pan Tilt Down Left Pan Speed 1 Tilt Speed 24	\x81\x01\x06\x01\x01\x18\x01\x02\xFF
Pan Tilt Down Left Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x01\x02\xFF
Pan Tilt Down Left Pan Speed 24 Tilt Speed 24	\x81\x01\x06\x01\x18\x18\x01\x02\xFF
Pan Tilt Down Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x03\x02\xFF
Pan Tilt Down Pan Speed 1 Tilt Speed 24	\x81\x01\x06\x01\x01\x18\x03\x02\xFF
Pan Tilt Down Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x03\x02\xFF
Pan Tilt Down Pan Speed 24 Tilt Speed 24	\x81\x01\x06\x01\x18\x18\x03\x02\xFF
Pan Tilt Down Right Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x02\x02\xFF
Pan Tilt Down Right Pan Speed 1 Tilt Speed 24	\x81\x01\x06\x01\x01\x18\x02\x02\xFF
Pan Tilt Down Right Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x02\x02\xFF
Pan Tilt Down Right Pan Speed 24 Tilt Speed 24	\x81\x01\x06\x01\x18\x18\x02\x02\xFF
Pan Tilt Left Pan Speed 1 Tilt Speed 1	\x81\x01\x01\x01\x01\x01\x03\xFF

Pan Tilt Left Pan Speed 1 Tilt Speed 24	\x81\x01\x06\x01\x01\x18\x01\x03\xFF
Pan Tilt Left Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x01\x03\xFF
Pan Tilt Left Pan Speed 24 Tilt Speed 24	\x81\x01\x06\x01\x18\x18\x01\x03\xFF
Pan Tilt Right Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x02\x03\xFF
Pan Tilt Right Pan Speed 1 Tilt Speed 24	\x81\x01\x06\x01\x01\x18\x02\x03\xFF
Pan Tilt Right Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x02\x03\xFF
Pan Tilt Right Pan Speed 24 Tilt Speed 24	\x81\x01\x06\x01\x18\x18\x02\x03\xFF
Pan Tilt Stop Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x03\x0F
Pan Tilt Stop Pan Speed 1 Tilt Speed 24	\x81\x01\x06\x01\x01\x18\x03\x03\xFF
Pan Tilt Stop Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x03\x03\xFF
Pan Tilt Stop Pan Speed 24 Tilt Speed 24	\x81\x01\x06\x01\x18\x18\x03\x03\xFF
Pan Tilt Up Left Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x01\x01\xFF
Pan Tilt Up Left Pan Speed 1 Tilt Speed 24	\x81\x01\x06\x01\x01\x18\x01\x01\xFF
Pan Tilt Up Left Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x01\x01\xFF
Pan Tilt Up Left Pan Speed 24 Tilt Speed 24	\x81\x01\x06\x01\x18\x18\x01\x01\xFF
Pan Tilt Up Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x03\x01\xFF
Pan Tilt Up Pan Speed 1 Tilt Speed 24	\x81\x01\x06\x01\x01\x18\x03\x01\xFF
Pan Tilt Up Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x03\x01\xFF
Pan Tilt Up Pan Speed 24 Tilt Speed 24	\x81\x01\x06\x01\x18\x18\x03\x01\xFF
Pan Tilt Up Right Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x02\x01\xFF
Pan Tilt Up Right Pan Speed 1 Tilt Speed 24	\x81\x01\x06\x01\x01\x18\x02\x01\xFF
Pan Tilt Up Right Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x02\x01\xFF
Pan Tilt Up Right Pan Speed 24 Tilt Speed 24	\x81\x01\x06\x01\x18\x18\x02\x01\xFF
Power Off	\x81\x01\x04\x00\x03\xFF
Power On	\x81\x01\x04\x00\x02\xFF
Recall Preset 1	\x81\x01\x04?\x02\x00\xFF
Recall Preset 16	\x81\x01\x04?\x02\x0F\xFF
Save Preset 1	\x81\x01\x04?\x01\x00\xFF
Save Preset 16	\x81\x01\x04?\x01\x0F\xFF
Shutter Off	\x81\x01\x04\x0A\x03\xFF
Shutter On	\x81\x01\x04\x0A\x02\xFF
Shutter Reset	\x81\x01\x04\x0A\x00\xFF
Zoom Stop Zoom Speed 0	\x81\x01\x04\x07\x00\xFF
Zoom Stop Zoom Speed 7	\x81\x01\x04\x07\x00\xFF
Zoom Tele Zoom Speed 0	\x81\x01\x04\x07 \xFF
Zoom Tele Zoom Speed 7	\x81\x01\x04\x07'\xFF
Zoom Wide Zoom Speed 0	\x81\x01\x04\x070\xFF
Zoom Wide Zoom Speed 7	\x81\x01\x04\x077\xFF

Appendix B. Update Commands (Serial)

Auto Exposure	\x81\x09\x049\xFF
Auto Focus	\x81\x09\x048\xFF
Backlight Mode	\x81\x09\x043\xFF
Power	\x81\x09\x04\x00\xFF

Appendix C. Set Commands (Ethernet)

Auto Exposure Automatic Exposure Mode	\x01\x00\x00\x06\x00\x00\x00\x01\x81\x01\x049\x00\xFF
Auto Exposure Bright Mode	\x01\x00\x00\x06\x00\x00\x00\x02\x81\x01\x049\x0D \xFF
Auto Exposure Iris Priority Mode	\x01\x00\x00\x06\x00\x00\x00\x03\x81\x01\x049\x0B \xFF
Auto Exposure Manual Control Mode	\x01\x00\x00\x06\x00\x00\x00\x04\x81\x01\x049\x03 \xFF
Auto Exposure Shutter Priority Mode	\x01\x00\x00\x06\x00\x00\x00\x05\x81\x01\x049\x0A \xFF
Auto Focus Auto	\x01\x00\x06\x06\x00\x00\x06\x81\x01\x048\x02 \xFF
Auto Focus Manual	\x01\x00\x00\x06\x00\x00\x00\x07\x81\x01\x048\x03 \xFF
Backlight Mode Off	\x01\x00\x00\x06\x00\x00\x00\x08\x81\x01\x043\x03 \xFF
Backlight Mode On	\x01\x00\x00\x06\x00\x00\x00\x09\x81\x01\x043\x02 \xFF
Focus Far Focus Speed 0	\x01\x00\x00\x06\x00\x00\x00\x0A\x81\x01\x04\x08 \xFF
Focus Far Focus Speed 7	\x01\x00\x00\x06\x00\x00\x00\x0D\x81\x01\x04\x08' \xFF
Focus Near Focus Speed 0	\x01\x00\x00\x06\x00\x00\x00\x0B\x81\x01\x04\x080 \xFF
Focus Near Focus Speed 7	\x01\x00\x00\x06\x00\x00\x00\x0E\x81\x01\x04\x087 \xFF
Focus Stop Focus Speed 0	\x01\x00\x00\x06\x00\x00\x00\x0C\x81\x01\x04\x08\ x00\xFF
Focus Stop Focus Speed 7	\x01\x00\x06\x00\x00\x00\x0F\x81\x01\x04\x08\ x00\xFF
Gain Down	\x01\x00\x00\x06\x00\x00\x00\x10\x81\x01\x04\x0C\ x03\xFF
Gain Reset	\x01\x00\x06\x00\x00\x00\x11\x81\x01\x04\x0C\ x00\xFF
Gain Up	\x01\x00\x00\x06\x00\x00\x00\x12\x81\x01\x04\x0C\ x02\xFF
IR Receiver Off	\x01\x00\x00\x06\x00\x00\x00\x13\x81\x01\x06\x08\ x03\xFF
IR Receiver On	\x01\x00\x00\x06\x00\x00\x00\x14\x81\x01\x06\x08\ x02\xFF
Iris Down	\x01\x00\x00\x06\x00\x00\x00\x15\x81\x01\x04\x0B\ x03\xFF
Iris Reset	\x01\x00\x00\x06\x00\x00\x00\x16\x81\x01\x04\x0B\ x00\xFF
Iris Up	\x01\x00\x00\x06\x00\x00\x00\x17\x81\x01\x04\x0B\ x02\xFF
Pan Tilt Down Left Pan Speed 1 Tilt Speed 1	\x01\x00\x00\x09\x00\x00\x00\x19\x81\x01\x06\x01\ x01\x01\x01\x02\xFF

Described and the second of the second of	\x01\x00\x00\x09\x00\x00\x00"\x81\x01\x06\x01\x01
Pan Tilt Down Left Pan Speed 1 Tilt Speed 24	\x18\x01\x02\xFF
Pan Tilt Down Left Pan Speed 24 Tilt Speed 1	\x01\x00\x00\x09\x00\x00\x00+\x81\x01\x06\x01\x18 \x01\x01\x02\xFF
Pan Tilt Down Left Pan Speed 24 Tilt Speed 24	\x01\x00\x00\x09\x00\x00\x004\x81\x01\x06\x01\x18 \x18\x01\x02\xFF
Pan Tilt Down Pan Speed 1 Tilt Speed 1	\x01\x00\x00\x09\x00\x00\x00\x18\x81\x01\x06\x01\x01\x01\x03\x02\xFF
Pan Tilt Down Pan Speed 1 Tilt Speed 24	\x01\x00\x00\x09\x00\x00\x00!\x81\x01\x06\x01\x01 \x18\x03\x02\xFF
Pan Tilt Down Pan Speed 24 Tilt Speed 1	\x01\x00\x00\x09\x00\x00\x00*\x81\x01\x06\x01\x18 \x01\x03\x02\xFF
Pan Tilt Down Pan Speed 24 Tilt Speed 24	\x01\x00\x00\x09\x00\x00\x003\x81\x01\x06\x01\x18 \x18\x03\x02\xFF
Pan Tilt Down Right Pan Speed 1 Tilt Speed 1	\x01\x00\x00\x09\x00\x00\x00\x1A\x81\x01\x06\x01\x01\x01\x02\xFF
Pan Tilt Down Right Pan Speed 1 Tilt Speed 24	\x01\x00\x00\x09\x00\x00\x00#\x81\x01\x06\x01\x01 \x18\x02\x02\xFF
Pan Tilt Down Right Pan Speed 24 Tilt Speed 1	\x01\x00\x00\x09\x00\x00\x00,\x81\x01\x06\x01\x18 \x01\x02\x02\xFF
Pan Tilt Down Right Pan Speed 24 Tilt Speed 24	\x01\x00\x00\x09\x00\x00\x005\x81\x01\x06\x01\x18\x18\x02\x02\xFF
Pan Tilt Left Pan Speed 1 Tilt Speed 1	\x01\x00\x00\x09\x00\x00\x00\x1B\x81\x01\x06\x01\x01\x01\x01\x01\x03\xFF
Pan Tilt Left Pan Speed 1 Tilt Speed 24	\x01\x00\x00\x09\x00\x00\x00\$\x81\x01\x06\x01\x01 \x18\x01\x03\xFF
Pan Tilt Left Pan Speed 24 Tilt Speed 1	\x01\x00\x00\x09\x00\x00- \x81\x01\x06\x01\x18\x01\x01\x03\xFF
Pan Tilt Left Pan Speed 24 Tilt Speed 24	\x01\x00\x00\x09\x00\x00\x006\x81\x01\x06\x01\x18 \x18\x01\x03\xFF
Pan Tilt Right Pan Speed 1 Tilt Speed 1	\x01\x00\x00\x00\x00\x00\x1C\x81\x01\x06\x01\x01\x01\x02\x03\xFF
Pan Tilt Right Pan Speed 1 Tilt Speed 24	\x01\x00\x09\x00\x00\x00\x01\x01\x01\x01\x01\x01\x01
Pan Tilt Right Pan Speed 24 Tilt Speed 1	\x01\x00\x00\x09\x00\x00\x00.\x81\x01\x06\x01\x18 \x01\x02\x03\xFF
Pan Tilt Right Pan Speed 24 Tilt Speed 24	\x01\x00\x00\x09\x00\x00\x007\x81\x01\x06\x01\x18\x18\x02\x03\xFF
Pan Tilt Stop Pan Speed 1 Tilt Speed 1	\x01\x00\x00\x00\x00\x00\x1D\x81\x01\x06\x01\x01\x01\x03\xFF
Pan Tilt Stop Pan Speed 1 Tilt Speed 24	\x01\x00\x00\x09\x00\x00\x00&\x81\x01\x06\x01\x01 \x18\x03\x03\xFF
Pan Tilt Stop Pan Speed 24 Tilt Speed 1	\x01\x00\x00\x09\x00\x00\x00/\x81\x01\x06\x01\x18 \x01\x03\x03\xFF
Pan Tilt Stop Pan Speed 24 Tilt Speed 24	\x01\x00\x00\x09\x00\x00\x008\x81\x01\x06\x01\x18 \x18\x03\x03\xFF
Pan Tilt Up Left Pan Speed 1 Tilt Speed 1	\x01\x00\x00\x09\x00\x00\x00\x1F\x81\x01\x06\x01\x01\x01\x01\x01\x01\x01
Pan Tilt Up Left Pan Speed 1 Tilt Speed 24	\x01\x00\x00\x09\x00\x00\x00(\x81\x01\x06\x01\x01\x01\x01\x18\x01\x01\xFF
	\x18\x01\x01\xFF

\x01\x00\x00\x09\x00\x00\x001\x81\x01\x06\x01\x18 Pan Tilt Up Left Pan Speed 24 Tilt Speed 1 $\x01\x01\x01\xFF$ \x01\x00\x00\x09\x00\x00\x00:\x81\x01\x06\x01\x18 Pan Tilt Up Left Pan Speed 24 Tilt Speed 24 $x18\x01\x01\xFF$ \x01\x00\x00\x09\x00\x00\x00\x1E\x81\x01\x06\x01\ Pan Tilt Up Pan Speed 1 Tilt Speed 1 x01\x01\x03\x01\xFF \x01\x00\x00\x09\x00\x00\x00'\x81\x01\x06\x01\x01 Pan Tilt Up Pan Speed 1 Tilt Speed 24 $x18\x03\x01\xff$ \x01\x00\x00\x09\x00\x00\x000\x81\x01\x06\x01\x18 Pan Tilt Up Pan Speed 24 Tilt Speed 1 \x01\x03\x01\xFF \x01\x00\x00\x09\x00\x00\x009\x81\x01\x06\x01\x18 Pan Tilt Up Pan Speed 24 Tilt Speed 24 $x18\x03\x01\xfF$ \x01\x00\x00\x09\x00\x00\x00 Pan Tilt Up Right Pan Speed 1 Tilt Speed 1 \x81\x01\x06\x01\x01\x01\x02\x01\xFF \x01\x00\x00\x09\x00\x00\x00)\x81\x01\x06\x01\x01 Pan Tilt Up Right Pan Speed 1 Tilt Speed 24 $x18\x02\x01\xff$ \x01\x00\x00\x09\x00\x00\x002\x81\x01\x06\x01\x18 Pan Tilt Up Right Pan Speed 24 Tilt Speed 1 $x01\x02\x01\xFF$ \x01\x00\x00\x09\x00\x00\x00;\x81\x01\x06\x01\x18 Pan Tilt Up Right Pan Speed 24 Tilt Speed 24 $x18\x02\x01\xFF$ \x01\x00\x00\x06\x00\x00\x00<\x81\x01\x04\x00\x03 **Power Off Power On** \x01\x00\x00\x06\x00\x00\x00=\x81\x01\x04\x00\x02 \xFF \x01\x00\x00\x07\x00\x00\x00>\x81\x01\x04?\x02\x0 **Recall Preset 1** 0\xFF \x01\x00\x00\x07\x00\x00\x00?\x81\x01\x04?\x02\x0 **Recall Preset 16** \x01\x00\x00\x07\x00\x00\x00@\x81\x01\x04?\x01\x0 **Save Preset 1** \x01\x00\x00\x07\x00\x00\x00A\x81\x01\x04?\x01\x0 Save Preset 16 **Shutter Off** \x01\x00\x00\x06\x00\x00\x00B\x81\x01\x04\x0A\x03 \xFF \x01\x00\x00\x06\x00\x00\x00C\x81\x01\x04\x0A\x02 **Shutter On** \x01\x00\x00\x06\x00\x00\x00D\x81\x01\x04\x0A\x00 **Shutter Reset** \x01\x00\x00\x06\x00\x00\x00E\x81\x01\x04\x07\x00 **Zoom Stop Zoom Speed 0** \x01\x00\x00\x06\x00\x00\x00H\x81\x01\x04\x07\x00 **Zoom Stop Zoom Speed 7** \x01\x00\x00\x06\x00\x00\x00F\x81\x01\x04\x07 **Zoom Tele Zoom Speed 0** \x01\x00\x00\x06\x00\x00\x00I\x81\x01\x04\x07'\xF **Zoom Tele Zoom Speed 7** \x01\x00\x00\x06\x00\x00\x00G\x81\x01\x04\x070\xF **Zoom Wide Zoom Speed 0** $\x01\x00\x00\x00\x00\x00\x00J\x81\x01\x04\x077\xF$ **Zoom Wide Zoom Speed 7**

Appendix D. Update Commands (Ethernet)

Auto Exposure	\x01\x10\x00\x05\x00\x00\x00K\x81\x09\x049\xFF
Auto Focus	\x01\x10\x00\x05\x00\x00\x00L\x81\x09\x048\xFF
Backlight Mode	\x01\x10\x00\x05\x00\x00\x00M\x81\x09\x043\xFF
Power	\x01\x10\x00\x05\x00\x00\x00N\x81\x09\x04\x00\xFF