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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: PTZ Optics
Firmware Version: N/A

Firmware Version: N/A

Model(s): 12X-USB-G2, 20X-SDI-G2, 20X-USB-G2, 12X-SDI-G2

### **Tested on the Following Software and Firmware Versions**

IP Link Pro Control Processor Firmware	Global Scripter Version
2.06.0002-b002	1.4.2

### **Version History**

Module Version	Date	Notes
1_1_0_0	2/23/2018	Added daisy chain support for Serial control.
1_0_1_0	6/29/2017	Initial Version

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#### **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

• Only for Ethernet control, DeviceID variable must be set to ID of the device. Default value is '1'. DeviceID ranges from '1' to '7' or 'Broadcast'. Example: InterfaceName.DeviceID = '1'

#### **Supported Classes and Examples**

### 

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### **Set Commands**

Format with Qualifier:

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

Format without Qualifier:

s\_v1\_1\_0\_0.py

InterfaceName.Set(Command, Value)

Command	Value 'On'	Value 'Off'	
AutoFocus	Qualifier Value	Qualifier Value	
Qualifier Key 'Device ID'	'1' - '7'	'Broadcast'	
# AutoFocus example InterfaceName.Set('Au	toFocus', 'On', {'Device		
Command	Value	Value	
BackLight	'On'	'Off'	
Qualifier Key 'Device ID'	Qualifier Value '1' – '7'	Qualifier Value 'Broadcast'	
# BackLight example InterfaceName.Set('Ba	ckLight', 'On', {'Device	ID': '1'})	
Command	Value	Value	Value
Focus	'Stop'	'Far'	'Near'
Qualifier Key 'Device ID'	Qualifier Value '1' – '7'	Qualifier Value 'Broadcast'	
Qualifier Key 'Focus Speed'	Qualifier Value 0 to 7 in steps of 1		
<pre># Focus example InterfaceName.Set('Fo</pre>	cus', 'Stop', {'Device ID	': '1', 'Focus Speed': 7})	
Command	Value	Value	Value
Gain	'Up'	'Down'	'Reset'
Qualifier Key 'Device ID'	Qualifier Value '1' – '7'	Qualifier Value 'Broadcast'	
# Gain example InterfaceName.Set('Gain', 'Up', {'Device ID': '1'})			
Command	Value	Value	Value
Iris	'Reset'	'Up'	'Down'
Qualifier Key	Qualifier Value	Qualifier Value	
'Device ID'	'1' – '7'	'Broadcast'	
# Iris example InterfaceName.Set('Ir	<pre># Iris example InterfaceName.Set('Iris', 'Reset', {'Device ID': '1'})</pre>		
Command	Value	Value	Value
PanTilt	'Up'	'Down'	'Left'

	'Right'	'Up Left'	'Up Right'
	'Down Left'	'Down Right'	'Stop'
	'Home'	'Reset'	
Qualifier Key	Qualifier Value	Qualifier Value	
'Device ID'	'1' – '7'	'Broadcast'	
Qualifier Key	Qualifier Value		
'Pan Speed'	1 to 24 in steps of 1		
Qualifier Key	Qualifier Value		
'Tilt Speed'	1 to 20 in steps of 1		
<pre># PanTilt example InterfaceName.Set('Pa</pre>	nTilt', 'Up', {'Device ID'	: '1', 'Pan Speed': 24, '	Tilt Speed': 20})
Command	Value	Value	
Power	'On'	'Off'	
Qualifier Key	Qualifier Value	Qualifier Value	
'Device ID'	'1' – '7'	'Broadcast'	_
# Power example InterfaceName.Set('Po	wer', 'On', {'Device ID':	'1'})	
Command	Value		
PresetRecall	'0' – '254'		
Qualifier Key	Qualifier Value	Qualifier Value	
'Device ID'	'1' – '7'	'Broadcast'	
# PresetRecall exampl InterfaceName.Set('Pr	e esetRecall', '0', {'Device	e ID': '1'})	
Command	Value		
PresetReset	'0' – '254'		
Qualifier Key	Qualifier Value	Qualifier Value	
'Device ID'	'1' – '7'	'Broadcast'	
<pre># PresetReset example InterfaceName.Set('Pr</pre>	esetReset', '0', {'Device	ID': '1'})	
Command	Value		
PresetSave	'0' – '254'		
Qualifier Key	Qualifier Value	Qualifier Value	
'Device ID'	'1' – '7'	'Broadcast'	-
<pre># PresetSave example InterfaceName.Set('PresetSave', '0', {'Device ID': '1'})</pre>			
Command	Value	Value	Value
Zoom	'Stop'	'Tele'	'Wide'
Qualifier Key	Qualifier Value	Qualifier Value	
'Device ID'	'1' – '7'	'Broadcast'	
Qualifier Key	Qualifier Value		
'Zoom Speed'	0 to 7 in steps of 1		

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```
# Zoom example
InterfaceName.Set('Zoom', 'Stop', {'Device ID': '1', 'Zoom Speed': 7})
```

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#### **Status Available**

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 'Off'	
Qualifier Key 'Device ID'	'On' Qualifier Value '1' – '7'	Qualifier Value 'Broadcast'	
Value = InterfaceName	'AutoFocus', {'Device ID': .ReadStatus('AutoFocus', { beStatus('AutoFocus', None	'Device ID': '1'})	
Command BackLight	Value 'On'	Value 'Off'	
Qualifier Key 'Device ID'	Qualifier Value '1' - '7'	Qualifier Value 'Broadcast'	
Value = InterfaceName	<pre># BackLight examples InterfaceName.Update('BackLight', {'Device ID': '1'}) Value = InterfaceName.ReadStatus('BackLight', {'Device ID': '1'}) InterfaceName.SubscribeStatus('BackLight', None, FeedbackHandler)</pre>		
Command ConnectionStatus	Value 'Connected'	Value 'Disconnected'	
# ConnectionStatus examples Value = InterfaceName.ReadStatus('ConnectionStatus') InterfaceName.SubscribeStatus('ConnectionStatus', None, FeedbackHandler)			
Command Power	Value 'On'	Value 'Off'	
Qualifier Key 'Device ID'	Qualifier Value '1' – '7'	Qualifier Value 'Broadcast'	
# Power examples InterfaceName.Update('Power', {'Device ID': '1'}) Value = InterfaceName.ReadStatus('Power', {'Device ID': '1'}) InterfaceName.SubscribeStatus('Power', None, FeedbackHandler)			

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### **Cable and Adapter Requirements**

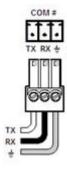
Captive Screw to DIN-8 VISCA Serial Cable

#### **Notes for the Device**

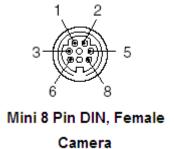
### **Serial communication**

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

### **Pin Assignments Diagram**



Signal	Main Cable	Pin	Signal
TxD	$\longrightarrow$	2	RxD
RxD	<del></del>	3	TxD
GND		5	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:** 5678

Logon Credentials

No

Supported:

**Multi-Connection** Yes

**Capabilities:** 

Port Changeability: Yes

### **Ethernet Module Configuration Description**

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

#### **Notes for the Device**

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## **Appendix A. Set Commands (Serial)**

Auto Focus Off Device ID 1	\x81\x01\x048\x03\xFF
Auto Focus On Device ID 1	\x81\x01\x048\x02\xFF
Auto Focus Off Device ID 7	\x87\x01\x048\x03\xFF
Auto Focus On Device ID 7	\x87\x01\x048\x02\xFF
Back Light Off Device ID 1	\x81\x01\x043\x03\xFF
Back Light On Device ID 1	\x81\x01\x043\x02\xFF
Back Light Off Device ID 7	\x87\x01\x043\x03\xFF
Back Light On Device ID 7	\x87\x01\x043\x02\xFF
Focus Far Device ID 1 Focus Speed 0	\x81\x01\x04\x08 \xFF
Focus Near Device ID 1 Focus Speed 0	\x81\x01\x04\x080\xFF
Focus Stop Device ID 1 Focus Speed 0	\x81\x01\x04\x08\x00\xFF
Focus Far Device ID 1 Focus Speed 7	\x81\x01\x04\x08'\xFF
Focus Near Device ID 1 Focus Speed 7	\x81\x01\x04\x087\xFF
Focus Stop Device ID 1 Focus Speed 7	\x81\x01\x04\x08\x00\xFF
Focus Far Device ID 7 Focus Speed 0	\x87\x01\x04\x08 \xFF
Focus Near Device ID 7 Focus Speed 0	\x87\x01\x04\x080\xFF
Focus Stop Device ID 7 Focus Speed 0	\x87\x01\x04\x08\x00\xFF
Focus Far Device ID 7 Focus Speed 7	\x87\x01\x04\x08'\xFF
Focus Near Device ID 7 Focus Speed 7	\x87\x01\x04\x087\xFF
Focus Stop Device ID 7 Focus Speed 7	\x87\x01\x04\x08\x00\xFF
Gain Down Device ID 1	\x81\x01\x04\x0C\x03\xFF
Gain Reset Device ID 1	\x81\x01\x04\x0C\x00\xFF
Gain Up Device ID 1	\x81\x01\x04\x0C\x02\xFF
Gain Down Device ID 7	\x87\x01\x04\x0C\x03\xFF
Gain Reset Device ID 7	\x87\x01\x04\x0C\x00\xFF
Gain Up Device ID 7	\x87\x01\x04\x0C\x02\xFF
Iris Down Device ID 1	\x81\x01\x04\x0B\x03\xFF
Iris Reset Device ID 1	\x81\x01\x04\x0B\x00\xFF
Iris Up Device ID 1	\x81\x01\x04\x0B\x02\xFF
Iris Down Device ID 7	\x87\x01\x04\x0B\x03\xFF
Iris Reset Device ID 7	\x87\x01\x04\x0B\x00\xFF
Iris Up Device ID 7	\x87\x01\x04\x0B\x02\xFF
Pan Tilt Down Device ID 1 Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x03\x02\xFF
Pan Tilt Down Left Device ID 1 Pan Speed 1 Tilt Speed	\x81\x01\x06\x01\x01\x01\x01\x02\xFF
1	
Pan Tilt Down Right Device ID 1 Pan Speed 1 Tilt	\x81\x01\x06\x01\x01\x01\x02\x02\xFF
Speed 1	

Pan Tilt Home Device ID 1 Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x04\xFF
Pan Tilt Left Device ID 1 Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x01\x03\xFF
Pan Tilt Reset Device ID 1 Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x05\xFF
Pan Tilt Right Device ID 1 Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x02\x03\xFF
Pan Tilt Stop Device ID 1 Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x03\xFF
Pan Tilt Up Device ID 1 Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x03\x01\xFF
Pan Tilt Up Left Device ID 1 Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x01\x01\xFF
Pan Tilt Up Right Device ID 1 Pan Speed 1 Tilt Speed 1	\x81\x01\x06\x01\x01\x01\x02\x01\xFF
Pan Tilt Down Device ID 1 Pan Speed 1 Tilt Speed 20	\x81\x01\x06\x01\x01\x14\x03\x02\xFF
Pan Tilt Down Left Device ID 1 Pan Speed 1 Tilt Speed 20	\x81\x01\x06\x01\x01\x14\x01\x02\xFF
Pan Tilt Down Right Device ID 1 Pan Speed 1 Tilt Speed 20	\x81\x01\x06\x01\x01\x14\x02\x02\xFF
Pan Tilt Home Device ID 1 Pan Speed 1 Tilt Speed 20	\x81\x01\x06\x04\xFF
Pan Tilt Left Device ID 1 Pan Speed 1 Tilt Speed 20	\x81\x01\x06\x01\x01\x14\x01\x03\xFF
Pan Tilt Reset Device ID 1 Pan Speed 1 Tilt Speed 20	\x81\x01\x06\x05\xFF
Pan Tilt Right Device ID 1 Pan Speed 1 Tilt Speed 20	\x81\x01\x06\x01\x01\x14\x02\x03\xFF
Pan Tilt Stop Device ID 1 Pan Speed 1 Tilt Speed 20	\x81\x01\x06\x01\x01\x14\x03\x03\xFF
Pan Tilt Up Device ID 1 Pan Speed 1 Tilt Speed 20	\x81\x01\x06\x01\x01\x14\x03\x01\xFF
Pan Tilt Up Left Device ID 1 Pan Speed 1 Tilt Speed 20	\x81\x01\x06\x01\x01\x14\x01\x01\xFF
Pan Tilt Up Right Device ID 1 Pan Speed 1 Tilt Speed 20	\x81\x01\x06\x01\x01\x14\x02\x01\xFF
Pan Tilt Down Device ID 1 Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x03\x02\xFF
Pan Tilt Down Left Device ID 1 Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x01\x02\xFF
Pan Tilt Down Right Device ID 1 Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x02\x02\xFF
Pan Tilt Home Device ID 1 Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x04\xFF
Pan Tilt Left Device ID 1 Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x01\x03\xFF
Pan Tilt Reset Device ID 1 Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x05\xFF
Pan Tilt Right Device ID 1 Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x02\x03\xFF
Pan Tilt Stop Device ID 1 Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x03\x03\xFF
Pan Tilt Up Device ID 1 Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x03\x01\xFF
Pan Tilt Up Left Device ID 1 Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x01\x01\xFF
Pan Tilt Up Right Device ID 1 Pan Speed 24 Tilt Speed 1	\x81\x01\x06\x01\x18\x01\x02\x01\xFF
Pan Tilt Down Device ID 1 Pan Speed 24 Tilt Speed 20	\x81\x01\x06\x01\x18\x14\x03\x02\xFF
Pan Tilt Down Left Device ID 1 Pan Speed 24 Tilt Speed 20	\x81\x01\x06\x01\x18\x14\x01\x02\xFF
- p	

Pan Tilt Down Right Device ID 1 Pan Speed 24 Tilt Speed 20	\x81\x01\x06\x01\x18\x14\x02\x02\xFF
Pan Tilt Home Device ID 1 Pan Speed 24 Tilt Speed 20	\x81\x01\x06\x04\xFF
Pan Tilt Left Device ID 1 Pan Speed 24 Tilt Speed 20	\x81\x01\x06\x01\x18\x14\x01\x03\xFF
Pan Tilt Reset Device ID 1 Pan Speed 24 Tilt Speed 20	\x81\x01\x06\x05\xFF
Pan Tilt Right Device ID 1 Pan Speed 24 Tilt Speed 20	\x81\x01\x06\x01\x18\x14\x02\x03\xFF
Pan Tilt Stop Device ID 1 Pan Speed 24 Tilt Speed 20	\x81\x01\x06\x01\x18\x14\x03\x03\xFF
Pan Tilt Up Device ID 1 Pan Speed 24 Tilt Speed 20	\x81\x01\x06\x01\x18\x14\x03\x01\xFF
Pan Tilt Up Left Device ID 1 Pan Speed 24 Tilt Speed	\x81\x01\x06\x01\x18\x14\x01\x01\xFF
20	
Pan Tilt Up Right Device ID 1 Pan Speed 24 Tilt Speed	\x81\x01\x06\x01\x18\x14\x02\x01\xFF
20	
Pan Tilt Down Device ID 7 Pan Speed 1 Tilt Speed 1	\x87\x01\x06\x01\x01\x01\x03\x02\xFF
Pan Tilt Down Left Device ID 7 Pan Speed 1 Tilt Speed	\x87\x01\x06\x01\x01\x01\x01\x02\xFF
1	
Pan Tilt Down Right Device ID 7 Pan Speed 1 Tilt	\x87\x01\x06\x01\x01\x01\x02\xFF
Speed 1	
Pan Tilt Home Device ID 7 Pan Speed 1 Tilt Speed 1	\x87\x01\x06\x04\xFF
Pan Tilt Left Device ID 7 Pan Speed 1 Tilt Speed 1	\x87\x01\x06\x01\x01\x01\x03\xFF
Pan Tilt Reset Device ID 7 Pan Speed 1 Tilt Speed 1	\x87\x01\x06\x05\xFF
Pan Tilt Right Device ID 7 Pan Speed 1 Tilt Speed 1	\x87\x01\x06\x01\x01\x01\x02\x03\xFF
Pan Tilt Stop Device ID 7 Pan Speed 1 Tilt Speed 1	\x87\x01\x06\x01\x01\x01\x03\xFF
Pan Tilt Up Device ID 7 Pan Speed 1 Tilt Speed 1	\x87\x01\x06\x01\x01\x01\x03\x01\xFF
Pan Tilt Up Left Device ID 7 Pan Speed 1 Tilt Speed 1	\x87\x01\x06\x01\x01\x01\x01\x01\xFF
Pan Tilt Up Right Device ID 7 Pan Speed 1 Tilt Speed 1	\x87\x01\x06\x01\x01\x01\x02\x01\xFF
Pan Tilt Down Device ID 7 Pan Speed 1 Tilt Speed 20	\x87\x01\x06\x01\x01\x14\x03\x02\xFF
Pan Tilt Down Left Device ID 7 Pan Speed 1 Tilt Speed	\x87\x01\x06\x01\x01\x14\x01\x02\xFF
20	
Pan Tilt Down Right Device ID 7 Pan Speed 1 Tilt	\x87\x01\x06\x01\x01\x14\x02\x02\xFF
Speed 20	) 07) 04) 05) 04) 55
Pan Tilt Home Device ID 7 Pan Speed 1 Tilt Speed 20	\x87\x01\x06\x04\xFF
Pan Tilt Left Device ID 7 Pan Speed 1 Tilt Speed 20	\x87\x01\x06\x01\x01\x14\x01\x03\xFF
Pan Tilt Reset Device ID 7 Pan Speed 1 Tilt Speed 20	\x87\x01\x06\x05\xFF
Pan Tilt Right Device ID 7 Pan Speed 1 Tilt Speed 20	\x87\x01\x06\x01\x01\x14\x02\x03\xFF
Pan Tilt Stop Device ID 7 Pan Speed 1 Tilt Speed 20	\x87\x01\x06\x01\x01\x14\x03\x03\xFF
Pan Tilt Up Device ID 7 Pan Speed 1 Tilt Speed 20	\x87\x01\x06\x01\x01\x14\x03\x01\xFF
Pan Tilt Up Left Device ID 7 Pan Speed 1 Tilt Speed 20	\x87\x01\x06\x01\x01\x14\x01\x01\xFF
Pan Tilt Up Right Device ID 7 Pan Speed 1 Tilt Speed	\x87\x01\x06\x01\x01\x14\x02\x01\xFF
20	

Pan Tilt Down Device ID 7 Pan Speed 24 Tilt Speed 1	\x87\x01\x06\x01\x18\x01\x03\x02\xFF
Pan Tilt Down Left Device ID 7 Pan Speed 24 Tilt	\x87\x01\x06\x01\x18\x01\x01\x02\xFF
Speed 1	
Pan Tilt Down Right Device ID 7 Pan Speed 24 Tilt	\x87\x01\x06\x01\x18\x01\x02\x02\xFF
Speed 1	
Pan Tilt Home Device ID 7 Pan Speed 24 Tilt Speed 1	\x87\x01\x06\x04\xFF
Pan Tilt Left Device ID 7 Pan Speed 24 Tilt Speed 1	\x87\x01\x06\x01\x18\x01\x01\x03\xFF
Pan Tilt Reset Device ID 7 Pan Speed 24 Tilt Speed 1	\x87\x01\x06\x05\xFF
Pan Tilt Right Device ID 7 Pan Speed 24 Tilt Speed 1	\x87\x01\x06\x01\x18\x01\x02\x03\xFF
Pan Tilt Stop Device ID 7 Pan Speed 24 Tilt Speed 1	\x87\x01\x06\x01\x18\x01\x03\x03\xFF
Pan Tilt Up Device ID 7 Pan Speed 24 Tilt Speed 1	\x87\x01\x06\x01\x18\x01\x03\x01\xFF
Pan Tilt Up Left Device ID 7 Pan Speed 24 Tilt Speed 1	\x87\x01\x06\x01\x18\x01\x01\x01\xFF
Pan Tilt Up Right Device ID 7 Pan Speed 24 Tilt Speed	\x87\x01\x06\x01\x18\x01\x02\x01\xFF
1	
Pan Tilt Down Device ID 7 Pan Speed 24 Tilt Speed 20	\x87\x01\x06\x01\x18\x14\x03\x02\xFF
Pan Tilt Down Left Device ID 7 Pan Speed 24 Tilt	\x87\x01\x06\x01\x18\x14\x01\x02\xFF
Speed 20	
Pan Tilt Down Right Device ID 7 Pan Speed 24 Tilt	\x87\x01\x06\x01\x18\x14\x02\x02\xFF
Speed 20	
Pan Tilt Home Device ID 7 Pan Speed 24 Tilt Speed 20	\x87\x01\x06\x04\xFF
Pan Tilt Left Device ID 7 Pan Speed 24 Tilt Speed 20	\x87\x01\x06\x01\x18\x14\x01\x03\xFF
Pan Tilt Reset Device ID 7 Pan Speed 24 Tilt Speed 20	\x87\x01\x06\x05\xFF
Pan Tilt Right Device ID 7 Pan Speed 24 Tilt Speed 20	\x87\x01\x06\x01\x18\x14\x02\x03\xFF
Pan Tilt Stop Device ID 7 Pan Speed 24 Tilt Speed 20	\x87\x01\x06\x01\x18\x14\x03\x03\xFF
Pan Tilt Up Device ID 7 Pan Speed 24 Tilt Speed 20	\x87\x01\x06\x01\x18\x14\x03\x01\xFF
Pan Tilt Up Left Device ID 7 Pan Speed 24 Tilt Speed	\x87\x01\x06\x01\x18\x14\x01\x01\xFF
20	
Pan Tilt Up Right Device ID 7 Pan Speed 24 Tilt Speed	\x87\x01\x06\x01\x18\x14\x02\x01\xFF
20	
Power Off Device ID 1	\x81\x01\x04\x00\x03\xFF
Power On Device ID 1	\x81\x01\x04\x00\x02\xFF
Power Off Device ID 7	\x87\x01\x04\x00\x03\xFF
Power On Device ID 7	\x87\x01\x04\x00\x02\xFF
Preset Recall 0 Device ID 1	\x81\x01\x04?\x02\x00\xFF
Preset Recall 254 Device ID 1	\x81\x01\x04?\x02\xFE\xFF
Preset Recall 0 Device ID 7	\x87\x01\x04?\x02\x00\xFF
Preset Recall 254 Device ID 7	\x87\x01\x04?\x02\xFE\xFF
Preset Reset 0 Device ID 1	\x81\x01\x04?\x00\x00\xFF
Preset Reset 254 Device ID 1	\x81\x01\x04?\x00\xFE\xFF
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Preset Reset 0 Device ID 7	\x87\x01\x04?\x00\x00\xFF	
Preset Reset 254 Device ID 7	\x87\x01\x04?\x00\xFE\xFF	
Preset Save 0 Device ID 1	\x81\x01\x04?\x01\x00\xFF	
Preset Save 254 Device ID 1	\x81\x01\x04?\x01\xFE\xFF	
Preset Save 0 Device ID 7	\x87\x01\x04?\x01\x00\xFF	
Preset Save 254 Device ID 7	\x87\x01\x04?\x01\xFE\xFF	
Zoom Stop Device ID 1 Zoom Speed 0	\x81\x01\x04\x07\x00\xFF	
Zoom Tele Device ID 1 Zoom Speed 0	\x81\x01\x04\x07 \xFF	
Zoom Wide Device ID 1 Zoom Speed 0	\x81\x01\x04\x070\xFF	
Zoom Stop Device ID 1 Zoom Speed 7	\x81\x01\x04\x07\x00\xFF	
Zoom Tele Device ID 1 Zoom Speed 7	\x81\x01\x04\x07'\xFF	
Zoom Wide Device ID 1 Zoom Speed 7	\x81\x01\x04\x077\xFF	
Zoom Stop Device ID 7 Zoom Speed 0	\x87\x01\x04\x07\x00\xFF	
Zoom Tele Device ID 7 Zoom Speed 0	\x87\x01\x04\x07 \xFF	
Zoom Wide Device ID 7 Zoom Speed 0	\x87\x01\x04\x070\xFF	
Zoom Stop Device ID 7 Zoom Speed 7	\x87\x01\x04\x07\x00\xFF	
Zoom Tele Device ID 7 Zoom Speed 7	\x87\x01\x04\x07'\xFF	
Zoom Wide Device ID 7 Zoom Speed 7	\x87\x01\x04\x077\xFF	

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## Appendix B. Update Commands (Serial)

Auto Focus Device ID 1	\x81\x09\x048\xFF
Auto Focus Device ID 7	\x87\x09\x048\xFF
Back Light Device ID 1	\x81\x09\x043\xFF
Back Light Device ID 7	\x87\x09\x043\xFF
Power Device ID 1	\x81\x09\x04\x00\xFF
Power Device ID 7	\x87\x09\x04\x00\xFF

## **Appendix C. Set Commands (Ethernet)**

Auto Focus Off	\x01\x01\x048\x03\xFF
Auto Focus On	\x01\x01\x048\x02\xFF
Focus Far Focus Speed 0	\x01\x01\x04\x08 \xFF
Focus Near Focus Speed 0	\x01\x01\x04\x080\xFF
Focus Stop Focus Speed 0	\x01\x01\x04\x08\x00\xFF
Focus Far Focus Speed 7	\x01\x01\x04\x08'\xFF
Focus Near Focus Speed 7	\x01\x01\x04\x087\xFF
Focus Stop Focus Speed 7	\x01\x01\x04\x08\x00\xFF
Pan Tilt Down Pan Speed 1 Tilt Speed 1	\x01\x01\x06\x01\x01\x01\x03\x02\xFF
Pan Tilt Down Left Pan Speed 1 Tilt Speed 1	\x01\x01\x06\x01\x01\x01\x01\x02\xFF
Pan Tilt Down Right Pan Speed 1 Tilt Speed 1	\x01\x01\x06\x01\x01\x01\x02\x02\xFF
Pan Tilt Home Pan Speed 1 Tilt Speed 1	\x01\x01\x06\x04\xFF
Pan Tilt Left Pan Speed 1 Tilt Speed 1	\x01\x01\x06\x01\x01\x01\x01\x03\xFF
Pan Tilt Reset Pan Speed 1 Tilt Speed 1	\x01\x01\x06\x05\xFF
Pan Tilt Right Pan Speed 1 Tilt Speed 1	\x01\x01\x06\x01\x01\x01\x02\x03\xFF
Pan Tilt Stop Pan Speed 1 Tilt Speed 1	\x01\x01\x06\x01\x01\x01\x03\x03\xFF
Pan Tilt Up Pan Speed 1 Tilt Speed 1	\x01\x01\x06\x01\x01\x01\x03\x01\xFF
Pan Tilt Up Left Pan Speed 1 Tilt Speed 1	\x01\x01\x01\x01\x01\x01\x01\xFF
Pan Tilt Up Right Pan Speed 1 Tilt Speed 1	\x01\x01\x06\x01\x01\x01\x02\x01\xFF
Pan Tilt Down Pan Speed 1 Tilt Speed 20	\x01\x01\x06\x01\x01\x14\x03\x02\xFF
Pan Tilt Down Left Pan Speed 1 Tilt Speed 20	\x01\x01\x06\x01\x01\x14\x01\x02\xFF
Pan Tilt Down Right Pan Speed 1 Tilt Speed 20	\x01\x01\x06\x01\x01\x14\x02\x02\xFF
Pan Tilt Home Pan Speed 1 Tilt Speed 20	\x01\x01\x06\x04\xFF
Pan Tilt Left Pan Speed 1 Tilt Speed 20	\x01\x01\x06\x01\x01\x14\x01\x03\xFF
Pan Tilt Reset Pan Speed 1 Tilt Speed 20	\x01\x01\x06\x05\xFF
Pan Tilt Right Pan Speed 1 Tilt Speed 20	\x01\x01\x06\x01\x01\x14\x02\x03\xFF
Pan Tilt Stop Pan Speed 1 Tilt Speed 20	\x01\x01\x06\x01\x01\x14\x03\x03\xFF
Pan Tilt Up Pan Speed 1 Tilt Speed 20	\x01\x01\x06\x01\x01\x14\x03\x01\xFF
Pan Tilt Up Left Pan Speed 1 Tilt Speed 20	\x01\x01\x06\x01\x01\x14\x01\x01\xFF
Pan Tilt Up Right Pan Speed 1 Tilt Speed 20	\x01\x01\x06\x01\x01\x14\x02\x01\xFF
Pan Tilt Down Pan Speed 24 Tilt Speed 1	\x01\x01\x06\x01\x18\x01\x03\x02\xFF
Pan Tilt Down Left Pan Speed 24 Tilt Speed 1	\x01\x01\x06\x01\x18\x01\x01\x02\xFF
Pan Tilt Down Right Pan Speed 24 Tilt Speed 1	\x01\x01\x06\x01\x18\x01\x02\x02\xFF
Pan Tilt Home Pan Speed 24 Tilt Speed 1	\x01\x01\x06\x04\xFF
Pan Tilt Left Pan Speed 24 Tilt Speed 1	\x01\x01\x06\x01\x18\x01\x01\x03\xFF
Pan Tilt Reset Pan Speed 24 Tilt Speed 1	\x01\x01\x06\x05\xFF

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Pan Tilt Right Pan Speed 24 Tilt Speed 1	\x01\x01\x06\x01\x18\x01\x02\x03\xFF
Pan Tilt Stop Pan Speed 24 Tilt Speed 1	\x01\x01\x06\x01\x18\x01\x03\x03\xFF
Pan Tilt Up Pan Speed 24 Tilt Speed 1	\x01\x01\x06\x01\x18\x01\x03\x01\xFF
Pan Tilt Up Left Pan Speed 24 Tilt Speed 1	\x01\x01\x06\x01\x18\x01\x01\x01\xFF
Pan Tilt Up Right Pan Speed 24 Tilt Speed 1	\x01\x01\x06\x01\x18\x01\x02\x01\xFF
Pan Tilt Down Pan Speed 24 Tilt Speed 20	\x01\x01\x06\x01\x18\x14\x03\x02\xFF
Pan Tilt Down Left Pan Speed 24 Tilt Speed 20	\x01\x01\x06\x01\x18\x14\x01\x02\xFF
Pan Tilt Down Right Pan Speed 24 Tilt Speed 20	\x01\x01\x06\x01\x18\x14\x02\x02\xFF
Pan Tilt Home Pan Speed 24 Tilt Speed 20	\x01\x01\x06\x04\xFF
Pan Tilt Left Pan Speed 24 Tilt Speed 20	\x01\x01\x06\x01\x18\x14\x01\x03\xFF
Pan Tilt Reset Pan Speed 24 Tilt Speed 20	\x01\x01\x06\x05\xFF
Pan Tilt Right Pan Speed 24 Tilt Speed 20	\x01\x01\x06\x01\x18\x14\x02\x03\xFF
Pan Tilt Stop Pan Speed 24 Tilt Speed 20	\x01\x01\x06\x01\x18\x14\x03\x03\xFF
Pan Tilt Up Pan Speed 24 Tilt Speed 20	\x01\x01\x06\x01\x18\x14\x03\x01\xFF
Pan Tilt Up Left Pan Speed 24 Tilt Speed 20	\x01\x01\x06\x01\x18\x14\x01\x01\xFF
Pan Tilt Up Right Pan Speed 24 Tilt Speed 20	\x01\x01\x06\x01\x18\x14\x02\x01\xFF
Preset Recall 0	\x01\x01\x04?\x02\x00\xFF
Preset Recall 254	\x01\x01\x04?\x02\xFE\xFF
Preset Reset 0	\x01\x01\x04?\x00\x00\xFF
Preset Reset 254	\x01\x01\x04?\x00\xFE\xFF
Preset Save 0	\x01\x01\x04?\x01\x00\xFF
Preset Save 254	\x01\x01\x04?\x01\xFE\xFF
Zoom Stop Zoom Speed 0	\x01\x01\x04\x07\x00\xFF
Zoom Tele Zoom Speed 0	\x01\x01\x04\x07 \xFF
Zoom Wide Zoom Speed 0	\x01\x01\x04\x070\xFF
Zoom Stop Zoom Speed 7	\x01\x01\x04\x07\x00\xFF
Zoom Tele Zoom Speed 7	\x01\x01\x04\x07'\xFF
Zoom Wide Zoom Speed 7	\x01\x01\x04\x07\xFF