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:	Document Camera
Manufacturer:	Elmo
Firmware Version:	N/A
Model(s):	PX-30, PX-10

Tested on the Following Software and Firmware Versions

IP Link Pro Control Processor Firmware	Global Scripter Version
3.00.0000-b022	2.0.0

Version History

Module Version	Date	Notes
1_0_1_0	10/31/2018	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`

Supported Classes and Examples

SerialClass

```
InterfaceName = ModuleName.SerialClass(ProcessorName, 'COM1', Model='PX-30')
```

SerialOverEthernetClass

```
InterfaceName = ModuleName.SerialOverEthernetClass('192.168.254.254', 2001, Model='PX-30')
```

EthernetClass

```
InterfaceName = ModuleName.EthernetClass('192.168.254.254', 5136, Model='PX-30')
```

Control Commands (Serial)

Format with Qualifier:

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

Format without Qualifier:

```
InterfaceName.Set(Command, Value)
```

Command	Value	Value	
AspectRatio	'Normal (16:9)'	'Full (4:3)'	
`# AspectRatio example` `InterfaceName.Set('AspectRatio', 'Normal (16:9)')`			
Command	Value		
AutoFocus	None		
`# AutoFocus example` `InterfaceName.Set('AutoFocus', None)`			
Command	Value	Value	Value
Focus	'Far'	'Near'	'Stop'
Qualifier Key	Qualifier Value	Qualifier Value	
'Speed'	'0' – '14'	'Auto'	
`# Focus example` `InterfaceName.Set('Focus', 'Far', {'Speed': '0'})`			
Command	Value	Value	
Freeze	'On'	'Off'	
`# Freeze example` `InterfaceName.Set('Freeze', 'On')`			
Command	Value	Value	Value
Input	'Camera'	'HDMI 1'	'HDMI 2'
	'RGB'		
`# Input example` `InterfaceName.Set('Input', 'Camera')`			
Command	Value	Value	
LED	'On'	'Off'	
`# LED example` `InterfaceName.Set('LED', 'On')`			
Command	Value	Value	
Power	'On'	'Off'	
`# Power example` `InterfaceName.Set('Power', 'On')`			
Command	Value	Value	Value
Rotation	'0'	'90'	'180'
	'270'		

```
# Rotation example
InterfaceName.Set('Rotation', '0')
```

Command	Value	Value	Value
Zoom	'Wide'	'Tele'	'Stop'
Qualifier Key	Qualifier Value	Qualifier Value	
'Speed'	'0' – '7'	'Auto'	

```
# Zoom example
InterfaceName.Set('Zoom', 'Wide', {'Speed': '0'})
```

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	
AspectRatio	'Normal (16:9)'	'Full (4:3)'	

```
# AspectRatio examples
InterfaceName.Update('AspectRatio')
Value = InterfaceName.ReadStatus('AspectRatio')
InterfaceName.SubscribeStatus('AspectRatio', None, FeedbackHandler)
```

Command	Value	Value	
Freeze	'On'	'Off'	

```
# Freeze examples
InterfaceName.Update('Freeze')
Value = InterfaceName.ReadStatus('Freeze')
InterfaceName.SubscribeStatus('Freeze', None, FeedbackHandler)
```

Command	Value	Value	
LED	'On'	'Off'	

```
# LED examples
InterfaceName.Update('LED')
Value = InterfaceName.ReadStatus('LED')
InterfaceName.SubscribeStatus('LED', None, FeedbackHandler)
```

Command	Value	Value	Value
Rotation	'0'	'90'	'180'
	'270'		

```
# Rotation examples
InterfaceName.Update('Rotation')
Value = InterfaceName.ReadStatus('Rotation')
InterfaceName.SubscribeStatus('Rotation', None, FeedbackHandler)
```

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
AspectRatio	'Normal (16:9)'	'Full (4:3)'	
`# AspectRatio example` `InterfaceName.Set('AspectRatio', 'Normal (16:9)')`			
Command	Value		
AutoFocus	None		
`# AutoFocus example` `InterfaceName.Set('AutoFocus', None)`			
Command	Value	Value	Value
Focus	'Far'	'Near'	'Stop'
Qualifier Key	Qualifier Value	Qualifier Value	
'Speed'	'0' – '14'	'Auto'	
`# Focus example` `InterfaceName.Set('Focus', 'Far', {'Speed': '0'})`			
Command	Value	Value	
Freeze	'On'	'Off'	
`# Freeze example` `InterfaceName.Set('Freeze', 'On')`			
Command	Value	Value	Value
Input	'Camera'	'HDMI 1'	'HDMI 2'
	'RGB'		
`# Input example` `InterfaceName.Set('Input', 'Camera')`			
Command	Value	Value	
LED	'On'	'Off'	
`# LED example` `InterfaceName.Set('LED', 'On')`			
Command	Value	Value	Value
Rotation	'0'	'90'	'180'
	'270'		
`# Rotation example` `InterfaceName.Set('Rotation', '0')`			
Command	Value	Value	Value
Zoom	'Wide'	'Tele'	'Stop'

Qualifier Key	Qualifier Value	Qualifier Value
'Speed'	'0' – '7'	'Auto'

```
# Zoom example
InterfaceName.Set('Zoom', 'Wide', {'Speed': '0'})
```

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	
AspectRatio	'Normal (16:9)'	'Full (4:3)'	

```
# AspectRatio examples
InterfaceName.Update('AspectRatio')
Value = InterfaceName.ReadStatus('AspectRatio')
InterfaceName.SubscribeStatus('AspectRatio', None, FeedbackHandler)
```

Command	Value	Value	
Freeze	'On'	'Off'	

```
# Freeze examples
InterfaceName.Update('Freeze')
Value = InterfaceName.ReadStatus('Freeze')
InterfaceName.SubscribeStatus('Freeze', None, FeedbackHandler)
```

Command	Value	Value	
LED	'On'	'Off'	

```
# LED examples
InterfaceName.Update('LED')
Value = InterfaceName.ReadStatus('LED')
InterfaceName.SubscribeStatus('LED', None, FeedbackHandler)
```

Command	Value	Value	Value
Rotation	'0'	'90'	'180'
	'270'		

```
# Rotation examples
InterfaceName.Update('Rotation')
Value = InterfaceName.ReadStatus('Rotation')
InterfaceName.SubscribeStatus('Rotation', None, FeedbackHandler)
```

Cable and Adapter Requirements

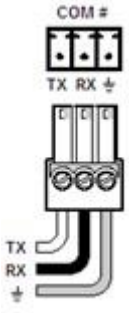
For details of the RS-232C cable, contact the dealer from whom you have purchased the PX-10/30.

Notes for the Device

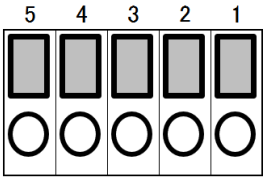
Serial communication

Port Type:	RS-232	**Parity:**	None
Baud Rate:	9600	**Stop Bits:**	One
Data Bits:	8	**Flow Control:**	None

Pin Assignments Diagram



Signal	Main Cable	Pin	Signal
TxD	→	2	RxD
RxD	←	3	TxD
GND	—	5	GND



Network communication

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

Port Type:	Ethernet
Default Port:	5136
Logon Credentials Supported:	No
Multi-Connection Capabilities:	Undetermined
Port Changeability:	No

Ethernet Module Configuration Description

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

Notes for the Device

Appendix A. Set Commands (Serial)

Aspect Ratio Full (4:3)	\x02@MNS;OIA;FULL\x03
Aspect Ratio Normal (16:9)	\x02@MNS;OIA;NORMAL\x03
Auto Focus None	\x02@BTN;AFS\x03
Focus Far Speed 0	\x02@BTN;MFS;FAR;0\x03
Focus Far Speed 14	\x02@BTN;MFS;FAR;14\x03
Focus Far Speed Auto	\x02@BTN;MFS;FAR;AUTO\x03
Focus Near Speed 0	\x02@BTN;MFS;NEAR;0\x03
Focus Near Speed 14	\x02@BTN;MFS;NEAR;14\x03
Focus Near Speed Auto	\x02@BTN;MFS;NEAR;AUTO\x03
Focus Stop Speed 0	\x02@BTN;MFS;STOP\x03
Focus Stop Speed 14	\x02@BTN;MFS;STOP\x03
Focus Stop Speed Auto	\x02@BTN;MFS;STOP\x03
Freeze Off	\x02@BTN;FRZ;OFF\x03
Freeze On	\x02@BTN;FRZ;ON\x03
Input Camera	\x02@BTN;SIN;CAM\x03
Input HDMI 1	\x02@BTN;SIN;HDMI1\x03
Input HDMI 2	\x02@BTN;SIN;HDMI2\x03
Input RGB	\x02@BTN;SIN;RGB\x03
LED Off	\x02@BTN;LSW;OFF\x03
LED On	\x02@BTN;LSW;ON\x03
Power Off	\x02@BTN;PWR;OFF\x03
Power On	\x02@BTN;PWR;ON\x03
Rotation 0	\x02@BTN;ROT;0\x03
Rotation 180	\x02@BTN;ROT;180\x03
Rotation 270	\x02@BTN;ROT;270\x03
Rotation 90	\x02@BTN;ROT;90\x03
Zoom Stop Speed 0	\x02@BTN;ZOM;STOP\x03
Zoom Stop Speed 7	\x02@BTN;ZOM;STOP\x03
Zoom Stop Speed Auto	\x02@BTN;ZOM;STOP\x03
Zoom Tele Speed 0	\x02@BTN;ZOM;TELE;0\x03
Zoom Tele Speed 7	\x02@BTN;ZOM;TELE;7\x03
Zoom Tele Speed Auto	\x02@BTN;ZOM;TELE;AUTO\x03
Zoom Wide Speed 0	\x02@BTN;ZOM;WIDE;0\x03
Zoom Wide Speed 7	\x02@BTN;ZOM;WIDE;7\x03
Zoom Wide Speed Auto	\x02@BTN;ZOM;WIDE;AUTO\x03

Appendix B. Update Commands (Serial)

Aspect Ratio	\x02@MNG;OIA\x03
Freeze	\x02@STG;FRZ\x03
LED	\x02@STG;LSW\x03
Rotation	\x02@STG;ROT\x03

Appendix C. Set Commands (Ethernet)

Aspect Ratio Full (4:3)	{ "aspect ratio" : "full" }
Aspect Ratio Normal (16:9)	{ "aspect ratio" : "normal" }
Auto Focus None	{ "focus" : "action" }
Focus Far Speed 0	{ "focus" : { "far" : 0 } }
Focus Far Speed 14	{ "focus" : { "far" : 14 } }
Focus Far Speed Auto	{ "focus" : { "far" : "auto" } }
Focus Near Speed 0	{ "focus" : { "near" : 0 } }
Focus Near Speed 14	{ "focus" : { "near" : 14 } }
Focus Near Speed Auto	{ "focus" : { "near" : "auto" } }
Focus Stop Speed 0	{ "focus" : "stop" }
Focus Stop Speed 14	{ "focus" : "stop" }
Focus Stop Speed Auto	{ "focus" : "stop" }
Freeze Off	{ "freeze" : "off" }
Freeze On	{ "freeze" : "on" }
Input Camera	{ "switch input" : "camera" }
Input HDMI 1	{ "switch input" : "hdmi1" }
Input HDMI 2	{ "switch input" : "hdmi2" }
Input RGB	{ "switch input" : "rgb" }
LED Off	{ "light switch" : "off" }
LED On	{ "light switch" : "on" }
Rotation 0	{ "rotation" : 0 }
Rotation 180	{ "rotation" : 180 }
Rotation 270	{ "rotation" : 270 }
Rotation 90	{ "rotation" : 90 }
Zoom Stop Speed 0	{ "zoom" : "stop" }
Zoom Stop Speed 7	{ "zoom" : "stop" }
Zoom Stop Speed Auto	{ "zoom" : "stop" }
Zoom Tele Speed 0	{ "zoom" : { "tele" : 0 } }
Zoom Tele Speed 7	{ "zoom" : { "tele" : 7 } }
Zoom Tele Speed Auto	{ "zoom" : { "tele" : "auto" } }
Zoom Wide Speed 0	{ "zoom" : { "wide" : 0 } }
Zoom Wide Speed 7	{ "zoom" : { "wide" : 7 } }
Zoom Wide Speed Auto	{ "zoom" : { "wide" : "auto" } }

Appendix D. Update Commands (Ethernet)

Aspect Ratio	`{ "aspect ratio" : "get" }`
Freeze	`{ "freeze" : "status" }`
LED	`{ "light switch" : "status" }`
Rotation	`{ "rotation" : "status" }`