

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 Scriptor Modules, refer to the "[Guide to Using Scriptor Modules](#)" document.

Device Specifications

Device Type: Display
Manufacturer: Sharp
Firmware Version: N/A
Model(s): LC-90LE657U, LC-60C6500U, LC-60C7500U, LC-60LE650U, LC-60LE655U, LC-60LE657U, LC-60LE755U, LC-60LE757U, LC-60LE857U, LC-70C6500U, LC-70C7500U, LC-70LE650U, LC-70LE655U, LC-70LE657U, LC-70LE755U, LC-70LE757U, LC-70LE857U, LC-80C6500U, LC-80LE650U, LC-80LE657U, LC-80LE757U, LC-80LE857U, LC-90LE650U

Tested on the Following Software and Firmware Versions

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

Version History

Module Version	Date	Notes
1_0_7_0	8/29/2018	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`
- If login credentials are required, devicePassword and deviceUsername must be set accordingly.
Example: `InterfaceName.devicePassword = 'extron'`

Supported Classes and Examples

SerialClass
<code>InterfaceName = ModuleName.SerialClass(ProcessorName, 'COM1', Model='LC-90LE657U')</code>
SerialOverEthernetClass
<code>InterfaceName = ModuleName.SerialOverEthernetClass('192.168.254.254', 2001, Model='LC-90LE657U')</code>
EthernetClass
<code>InterfaceName = ModuleName.EthernetClass('192.168.254.254', 10002, Model='LC-90LE657U')</code>

Control Commands

Format with Qualifier:

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

Format without Qualifier:

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

Command	Value	Value	Value
AspectRatio	'Side Bar'	'S.Stretch'	'Zoom [AV]'
	'Stretch [AV]'	'Normal [PC]'	'Zoom [PC]'
	'Stretch [PC]'	'Dot by Dot [PC]'	'Full Screen [AV]'
	'Auto'	'Original'	
# AspectRatio example InterfaceName.Set('AspectRatio', 'Side Bar')			
Command	Value		
AudioInput	None		
# AudioInput example InterfaceName.Set('AudioInput', None)			
Command	Value	Value	
AudioMute	'On'	'Off'	
# AudioMute example InterfaceName.Set('AudioMute', 'On')			
Command	Value		
ChannelDTVAir	'Channel'		
# ChannelDTVAirDiscrete example InterfaceName.Set('ChannelDTVAirDiscrete', 'Channel')			
Command	Value		
ChannelDTCableMajor	'Channel'		
# ChannelDTCableMajorDiscrete example InterfaceName.Set('ChannelDTCableMajorDiscrete', 'Channel')			
Command	Value		
ChannelDTCableMinor	'Channel'		
# ChannelDTCableMinorDiscrete example InterfaceName.Set('ChannelDTCableMinorDiscrete', 'Channel')			
Command	Value		
ChannelDTCable2	'Channel'		
# ChannelDTCable2Discrete example InterfaceName.Set('ChannelDTCable2Discrete', 'Channel')			
Command	Value		
ChannelDTCable3	'Channel'		
# ChannelDTCable3Discrete example			

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InterfaceName.Set('ChannelDTVCable3Discrete', 'Channel')			
Command	Value	Value	
ChannelStep	'Up'	'Down'	
# ChannelStep example InterfaceName.Set('ChannelStep', 'Up')			
Command	Value		
ChannelTV	'Channel'		
# ChannelTVDiscrete example InterfaceName.Set('ChannelTVDiscrete', 'Channel')			
Command	Value		
ClosedCaption	None		
# ClosedCaption example InterfaceName.Set('ClosedCaption', None)			
Command	Value		
Freeze	None		
# Freeze example InterfaceName.Set('Freeze', None)			
Command	Value	Value	Value
Input	'HDMI 1'	'HDMI 2'	'HDMI 3'
	'HDMI 4'	'Component'	'Video 1'
	'Video 2'	'PC'	'TV'
# Input example InterfaceName.Set('Input', 'HDMI 1')			
Command	Value	Value	Value
MenuNavigation	'Up'	'Down'	'Left'
	'Right'	'Menu'	'Enter'
	'Exit'		
# MenuNavigation example InterfaceName.Set('MenuNavigation', 'Up')			
Command	Value	Value	
Power	'On'	'Off'	
# Power example InterfaceName.Set('Power', 'On')			
Command	Value		
Volume	0 to 100 in steps of 1		
# Volume example InterfaceName.Set('Volume', 100)			

¹ Channel Ranges

- DTV Air: 100-9999
- DTV Cable 2: 0-9999
- DTV Cable 3: 0-6383
- Cable Major: 1-999

-
- Cable Minor: 0-999
 - TV: 0-135

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 AspectRatio	Value 'Side Bar' 'Stretch [AV]' 'Stretch [PC]' 'Auto'	Value 'S.Stretch' 'Normal [PC]' 'Dot by Dot [PC]' 'Original'	Value 'Zoom [AV]' 'Zoom [PC]' 'Full Screen [AV]'
<pre># AspectRatio examples InterfaceName.Update('AspectRatio') Value = InterfaceName.ReadStatus('AspectRatio') InterfaceName.SubscribeStatus('AspectRatio', None, FeedbackHandler)</pre>			
Command AudioMute	Value 'On'	Value 'Off'	
<pre># AudioMute examples InterfaceName.Update('AudioMute') Value = InterfaceName.ReadStatus('AudioMute') InterfaceName.SubscribeStatus('AudioMute', None, FeedbackHandler)</pre>			
Command ChannelDTVAirStatus	Qualifier Value 'String'		
<pre># ChannelDTVAirStatus examples InterfaceName.Update('ChannelDTVAirStatus') Value = InterfaceName.ReadStatus('ChannelDTVAirStatus') InterfaceName.SubscribeStatus('ChannelDTVAirStatus', None, FeedbackHandler)</pre>			
Command ChannelDTVCableMajorStatus	Qualifier Value 'String'		
<pre># ChannelDTVCableMajorStatus examples InterfaceName.Update('ChannelDTVCableMajorStatus') Value = InterfaceName.ReadStatus('ChannelDTVCableMajorStatus') InterfaceName.SubscribeStatus('ChannelDTVCableMajorStatus', None, FeedbackHandler)</pre>			

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Command ChannelDTCableMinorStatus	Qualifier Value 'String'		
# ChannelDTCableMinorStatus examples InterfaceName.Update('ChannelDTCableMinorStatus') Value = InterfaceName.ReadStatus('ChannelDTCableMinorStatus') InterfaceName.SubscribeStatus('ChannelDTCableMinorStatus', None, FeedbackHandler)			
Command ChannelDTCable2Status	Qualifier Value 'String'		
# ChannelDTCable2Status examples InterfaceName.Update('ChannelDTCable2Status') Value = InterfaceName.ReadStatus('ChannelDTCable2Status') InterfaceName.SubscribeStatus('ChannelDTCable2Status', None, FeedbackHandler)			
Command ChannelDTCable3Status	Qualifier Value 'String'		
# ChannelDTCable3Status examples InterfaceName.Update('ChannelDTCable3Status') Value = InterfaceName.ReadStatus('ChannelDTCable3Status') InterfaceName.SubscribeStatus('ChannelDTCable3Status', None, FeedbackHandler)			
Command ChannelTVStatus	Qualifier Value 'String'		
# ChannelTVStatus examples InterfaceName.Update('ChannelTVStatus') Value = InterfaceName.ReadStatus('ChannelTVStatus') InterfaceName.SubscribeStatus('ChannelTVStatus', None, FeedbackHandler)			
Command ConnectionStatus	Value 'Connected'	Value 'Disconnected'	
# ConnectionStatus examples Value = InterfaceName.ReadStatus('ConnectionStatus') InterfaceName.SubscribeStatus('ConnectionStatus', None, FeedbackHandler)			
Command Input	Value 'HDMI 1' 'HDMI 4' 'Video 2'	Value 'HDMI 2' 'Component' 'PC'	Value 'HDMI 3' 'Video 1'
# Input examples InterfaceName.Update('Input') Value = InterfaceName.ReadStatus('Input') InterfaceName.SubscribeStatus('Input', None, FeedbackHandler)			
Command Power	Value 'On'	Value 'Off'	
# Power examples InterfaceName.Update('Power') Value = InterfaceName.ReadStatus('Power') InterfaceName.SubscribeStatus('Power', None, FeedbackHandler)			
Command	Value		

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Volume	0 to 100 in steps of 1
<pre># Volume examples InterfaceName.Update('Volume') Value = InterfaceName.ReadStatus('Volume') InterfaceName.SubscribeStatus('Volume', None, FeedbackHandler)</pre>	

Cable and Adapter Requirements

Captive Screw to Female DB9 RS-232 Serial Cable

Notes for the Device

Serial communication

Port Type: RS-232

Baud Rate: 9600

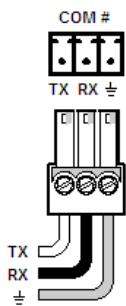
Data Bits: 8

Parity: None

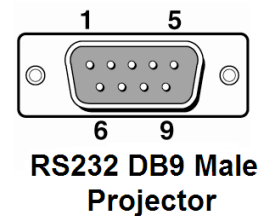
Stop Bits: One

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:	10002
Logon Credentials Supported:	Yes
Multi-Connection	No
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

Appendix A. Set Commands

Aspect Ratio Auto	WIDE10 \x0D
Aspect Ratio Dot by Dot [PC]	WIDE8 \x0D
Aspect Ratio Full Screen [AV]	WIDE9 \x0D
Aspect Ratio Normal [PC]	WIDE5 \x0D
Aspect Ratio Original	WIDE11 \x0D
Aspect Ratio S.Stretch	WIDE2 \x0D
Aspect Ratio Side Bar	WIDE1 \x0D
Aspect Ratio Stretch [AV]	WIDE4 \x0D
Aspect Ratio Stretch [PC]	WIDE7 \x0D
Aspect Ratio Zoom [AV]	WIDE3 \x0D
Aspect Ratio Zoom [PC]	WIDE6 \x0D
Audio Input None	ACHA0 \x0D
Audio Mute Off	MUTE2 \x0D
Audio Mute On	MUTE1 \x0D
Channel Step Down	RCKY35 \x0D
Channel Step Up	RCKY34 \x0D
Closed Caption None	CLCP0 \x0D
Freeze None	RCKY54 \x0D
Input Component	IAVD5 \x0D
Input HDMI 1	IAVD1 \x0D
Input HDMI 2	IAVD2 \x0D
Input HDMI 3	IAVD3 \x0D
Input HDMI 4	IAVD4 \x0D
Input PC	IAVD8 \x0D
Input TV	ITVD0 \x0D
Input Video 1	IAVD6 \x0D
Input Video 2	IAVD7 \x0D
Menu Navigation Down	RCKY42 \x0D
Menu Navigation Enter	RCKY40 \x0D
Menu Navigation Exit	RCKY46 \x0D
Menu Navigation Left	RCKY43 \x0D
Menu Navigation Menu	RCKY38 \x0D
Menu Navigation Right	RCKY44 \x0D
Menu Navigation Up	RCKY41 \x0D
Power On	POWR1 \x0D
Set Channel DTV Air None	DA2PChannel \x0D

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Set Channel DTV Cable Major None	DC2UChannel \x0D
Set Channel DTV Cable Minor None	DC2LChannel \x0D
Set Channel DTV Cable2 None	DC10Channel \x0D
Set Channel DTV Cable3 None	DC11Channel \x0D
Set Channel TV None	DCCHChannel \x0D
Volume 0	VOLM000 \x0D
Volume 100	VOLM100 \x0D

Appendix B. Update Commands

Aspect Ratio	WIDE????\x0D
Audio Mute	MUTE????\x0D
Channel DTV Air Status	DA2P????\x0D
Channel DTV Cable Major Status	DC2U????\x0D
Channel DTV Cable Minor Status	DC2L????\x0D
Channel DTV Cable2 Status	DC10????\x0D
Channel DTV Cable3 Status	DC11????\x0D
Channel TV Status	DCCH????\x0D
Input	IAVD????\x0D
Power	POWR????\x0D
Volume	VOLM????\x0D