

This document provides additional assistance with wiring your Extron IP Link® Pro Series enabled product 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 Extron IP Link® Pro Series enabled product or the controlled device manufacturer supplied documentation.

Device Specifications

Device Type: Video Conference
Manufacturer: Cisco
Firmware Version: N/A
Model(s): Webex Room Navigator

Tested on the Following Software and Firmware Versions

| | |
|---|----------------|
| GC (Plus, Pro) Version | 3.21.0.25 |
| IP Link Pro Control Processor Firmware | 3.17.0000-b002 |
| IP Link Pro Control Processor xi Firmware | 1.06.0000-b005 |
| IP Link Pro Control Processor Q xi Firmware | 1.06.0001-b001 |
| MediaLink Plus Controller Firmware | 3.04.0000-b001 |
| HC 400 Series Firmware | 2.11.0000-b015 |
| TLP Pro x25 and TLC Pro x26 Series Firmware | 3.09.0000-b002 |
| TLP Pro 300M Firmware | 1.04.0000-b003 |

Version History

| Driver Version | Date | Notes |
|----------------|------------|--|
| 1_2_0 | 9/8/2023 | Updated communication sheet notes on how the driver communicates with the device. |
| 1_0_2 | 10/20/2022 | Fixed Firmware Version status. |
| 1_0_1 | 2/22/2021 | Added support for IPCP Pro Q xi and xi controllers and ability to clear string for Text command. |
| 1_0_0 | 12/15/2020 | Initial version. |

Driver Notes

- User Defined command takes a string parameter and sends the string out of the port.
- Driver supports device firmware CE9.14.X or newer.
- This driver does not communicate directly with the Cisco Webex Room Navigator panel, but rather the Cisco codec the panel is connected to. Therefore, all serial and/or Ethernet communication settings in GCP must match those of the codec rather than the panel.

Driver Timings

- Recommended repeat rate for this driver is .1 seconds.

Room Navigator Commands:

- It is required that the control system initializes all used widgets on the Cisco Webex Room Navigator panel in the following situations:
 - When the video conference system restarts.
 - When the Extron Control System restarts.
- For details on how to initialize widgets, refer to the “How to initialize the Extron Cisco Webex Room Navigator driver” section below or the GCP template file on the Extron website.

| Cisco Widget Object | Extron Driver Command | Function | Control Direction |
|---------------------|-----------------------|--|--|
| Button | Button | Allows you to set button state on Cisco Webex Room Navigator. Active = Button On Inactive = Button Off | To Cisco Codec |
| Button | Button Event | Allows you to monitor the activity of a button event on the Cisco Webex Room Navigator. Pressed Released | To Extron Control System |
| Group Button | Group Button | Allows you to set mutually exclusive button states on the Cisco Webex Room Navigator. Do not modify Button ID from range 1 – 255 for module to work properly. i.g. 1 = Group 1 Selected 2 = Group 2 Selected 3 = Group 3 Selected 4 = Group 4 Selected | To Cisco Codec |
| Group Button | Group Button Event | Allows you to monitor the activity of a group button event on the Cisco Webex Room Navigator. Pressed Released | To Extron Control System |
| Slider | Slider | Allows you to set a range value on Cisco Webex Room Navigator. Allows you to monitor the current value of the Cisco Webex Room Navigator. 0 = minimum 255 = maximum | To Cisco Codec & Extron Control System |
| Spinner | Spinner | Allows you to set custom text to a label. | To Cisco Codec |
| Spinner | Spinner Event | Allows you to monitor the activity of increment and decrement button events on the Cisco Webex Room Navigator. Pressed Released | To Extron Control System |
| Text | Text | Allows you to set custom text to a label. | To Cisco Codec |

| | | | |
|--------|--------|---|--|
| Toggle | Toggle | Allows you to toggle button state on Cisco Webex Room Navigator. Allows you to monitor the current state of the Cisco Webex Room Navigator. On/Off = Button On/Off | To Cisco Codec & Extron Control System |
|--------|--------|---|--|

| Cisco Layout Object | Extron Driver Command | Function | Control Direction |
|---------------------|-----------------------|---|--------------------------|
| Page | Page Event | Allows you to monitor the activity of a Page event on the Cisco Webex Room Navigator. Opened Closed | To Extron Control System |
| Panel | Panel Event | Allows you to monitor the activity of a Panel event on the Cisco Webex Room Navigator. Clicked Released | To Extron Control System |

Panel ID:

Panel id can be found by selecting the area around the Title object to bring up the Panel id properties. Configure the Panel id to match the driver configuration for Clicked and Released event status.

In-Room configuration for WebexRoomKit - Edited

The screenshot displays the configuration interface for the IP Link Pro Series. The main panel is titled "Main Panel" and contains several interactive elements: a Toggle switch, two Buttons, a Slider, a Spinner, a Group of Buttons, and a Text field. The Properties panel on the right shows the configuration for the selected "Main Panel". The "Panel id" is set to "Main Panel". The "Panel position" is set to 2. The "Panel is available:" section shows three options: "Always" (selected), "Only out of call", and "Only in call". The "Icon" section shows a grid of icons, with the "Lightbulb" icon selected.

Page Event:

Page id can be found by selecting the Title object to bring up the Page id properties. Configure the Page id to match the driver configuration for Opened and Closed event status.

In-Room configuration for WebexRoomKit

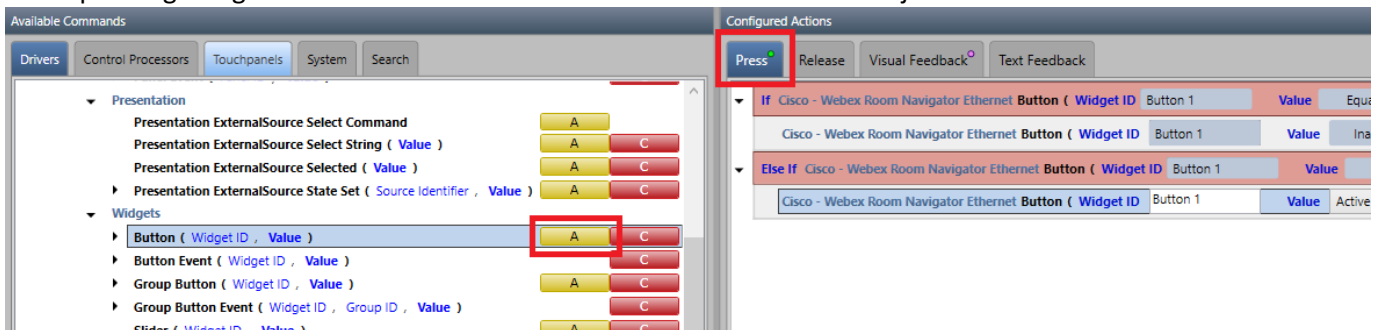
The screenshot displays the configuration interface for the IP Link Pro Series. The main workspace shows a 'Main Panel' highlighted with a red box. Below it are various widget categories: Toggle (with a blue toggle switch), Buttons (with two 'Button' widgets), SLider (with a slider control), Spinner (with a 'Value' field and up/down arrows), Group Buttons (with four button slots), and Text (with a 'Text' field). A '+' icon is at the bottom of the main panel. On the right, the 'Properties' panel is open, also with a red box around the 'Page id' field, which contains the text 'Main Page'. Below the 'Page id' field are 'Page style' and 'Hide row names' options. A 'Delete page' button is at the bottom of the properties panel. The top of the interface has navigation icons: a magnifying glass, left and right arrows, a refresh icon, and a menu icon.

Control Configuration Example:

This configuration example will send a command to the Cisco Webex Room Navigator and update the button state Active or Inactive.

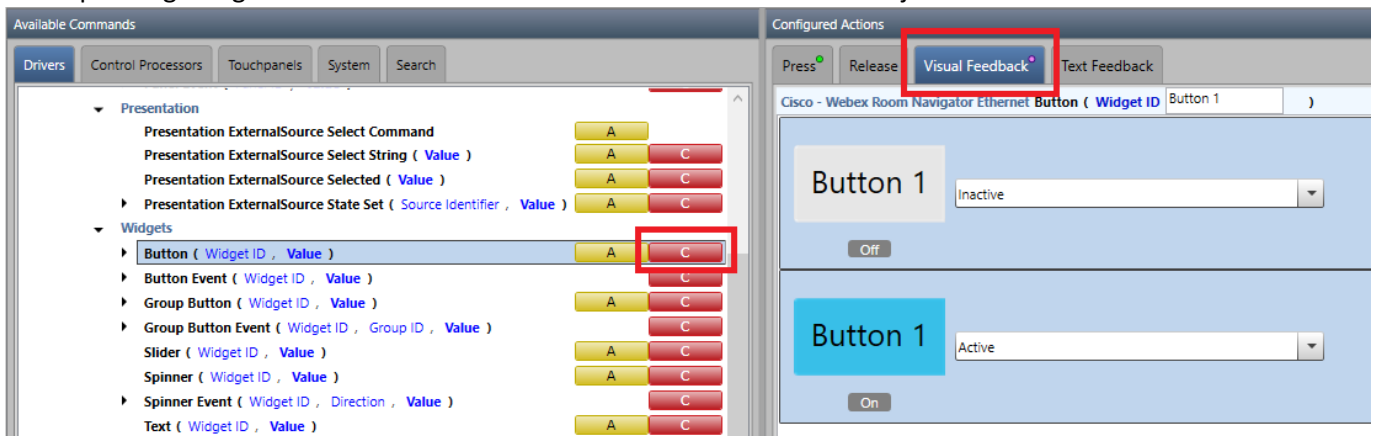
Step 1:

Click on the Button command and select the Press tab. Generate an auto toggle Button and fill in the corresponding Widget ID to match the Cisco UI Extensions Editor button object.



Step 2:

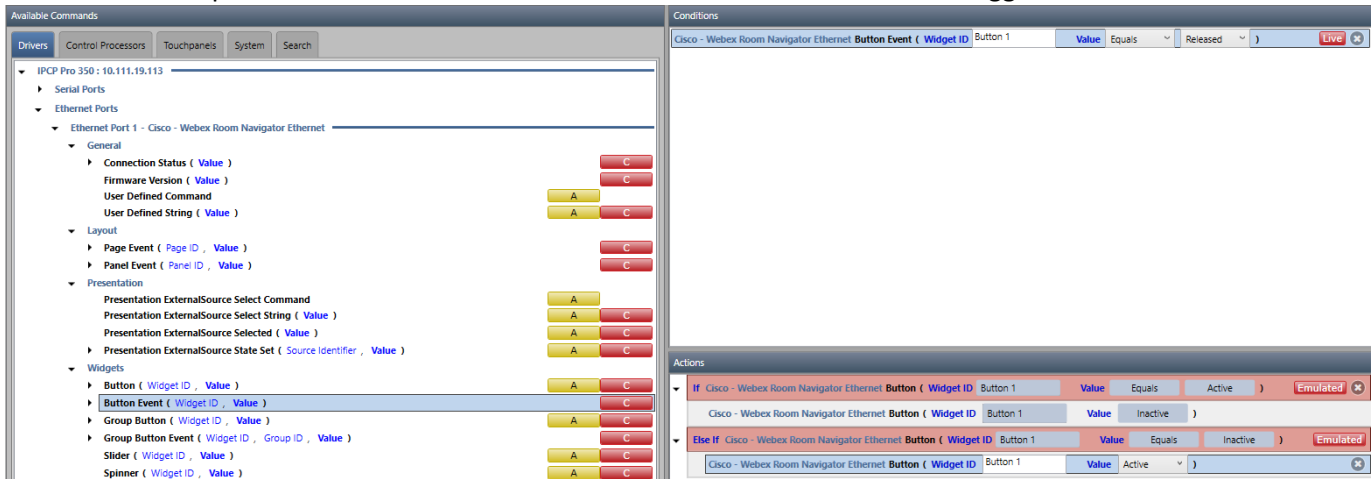
Click on Visual Feedback tab and configure the Button status of the Cisco Webex Room Navigator driver. Fill in the corresponding Widget ID to match the Cisco UI Extensions Editor button object.



Status Configuration Example:

The following example will demonstrate how to configure a monitor to update the status of a button on the Extron Control System when an event is triggered on the Cisco Webex Room Navigator. In practice you would configure the Actions window with the control system command that you want to trigger when the Cisco Webex Room Navigator panel button is pressed.

Below is an example on how to create a monitor based on the Released state to trigger an action event.



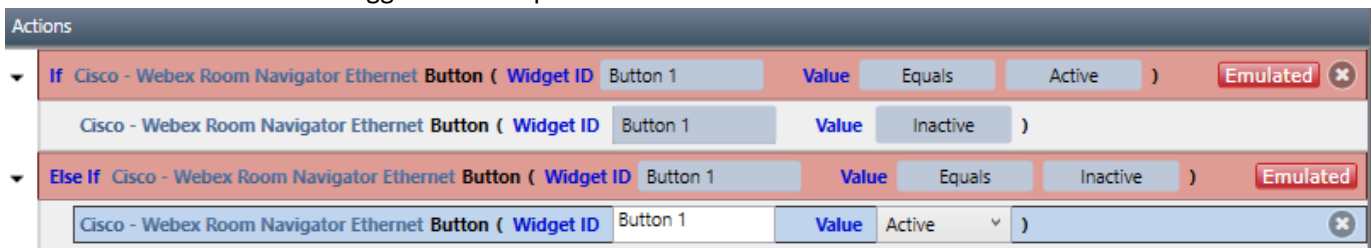
Step 1:

Create a monitor in GCP and add Button Event as the condition and select equals to Released. This monitor will trigger only when a button is Released.



Step 2:

Add an if/else statement to the Actions window with the same auto toggle conditions as shown below. The action of this event will trigger a button press based on its current status.



How to initialize the Extron Cisco Webex Room Navigator driver:

It is required to always initialize all commands to match the status of the Cisco Webex Room Navigator panel. If this is not done the Extron Control System and the Cisco Webex Room Navigator panel will be out of sync.

Below is an example on how to initialize the Extron Cisco Webex Room Navigator driver with a monitor.

The screenshot displays the IP Link Pro software interface. On the left, the 'Available Commands' tree is expanded to show 'Ethernet Port 1 - Cisco - Webex Room Navigator Ethernet'. Under the 'General' section, 'Connection Status (Value)' is selected. The right pane shows the 'Conditions' window with a rule: 'Cisco - Webex Room Navigator Ethernet Connection Status (Value) Equals Connected'. Below the conditions, the 'Actions' window shows a list of actions including Toggle, Button, Delay, Slider, Spinner, Group Button, and Text, each with its corresponding widget ID and value.

Step 1:

Create a monitor in GCP and add Firmware Version or Connection Status into the Conditions window.

The screenshot shows the 'Conditions' window in the IP Link Pro software. It displays a rule: 'Cisco - Webex Room Navigator Ethernet Connection Status (Value) Equals Connected'. The 'Live' button is visible in the top right corner.

Step 2:

All configured commands are set to a default value once the monitor event triggers

The screenshot shows the 'Actions' window in the IP Link Pro software. It displays a list of actions including Toggle, Button, Delay, Slider, Spinner, Group Button, and Text, each with its corresponding widget ID and value.

How to configure External Sources:

The external source(s) must be configured manually via control terminal software, such as Extron DataViewer software, before the driver is initialized. To do so, the “UserInterface Presentation ExternalSource Add” command will be used to establish and define an external source. Use the following command syntax and parameters to build the external source.

xCommand UserInterface Presentation ExternalSource Add ConnectorId: **ConnectorId** Name: “**Name**”
SourceIdentifier: **SourceIdentifier** Type: **Type**\r

ConnectorId: The ID of the codec connector to which the external switch is connected

Name: Name displayed on Webex Room Navigator

SourceIdentifier: A unique string ID used to identify this source when selecting or setting state

Type: Decides what icon is displayed on the Webex Room Navigator, choose between: pc, camera, desktop, document_camera, mediaplayer, other and whiteboard.

Example:

xCommand UserInterface Presentation ExternalSource Add ConnectorId: 3 Name: “Blu-ray” SourceIdentifier: bluray Type: mediaplayer\r

| Extron Driver Command | States | Notes |
|--|---------------------------------------|--|
| Presentation ExternalSource Select String | String | Builds the ConnectorId for Presentation ExternalSource Select Command |
| Presentation ExternalSource Select Command | None | Starts to present the selected source if it is in ready state and has a valid ConnectorId |
| Presentation ExternalSource State Set | Error Hidden Not Ready Ready | Ready is the only presentable state, hidden exists in the list but does not show in the sharetray. |
| Presentation ExternalSource Selected | String | Displays latest SourceIdentifier selected |

Track status of a Presentation External Source Selected using monitors along with local variables i.e.

Step 1:

Create local variables with True and False states

Step 2:

Create a monitor that triggers when the string contains or is equal to your unique source identifier

The screenshot shows the 'Conditions' and 'Actions' configuration panels. The 'Conditions' panel has a single condition: 'Cisco - Webex Room Navigator Ethernet Presentation ExternalSource Selected (Value Contains bluray)' with an 'Emulated' status. The 'Actions' panel has two actions: 'IPCP Pro 350 : 10.111.19.113 Source 1 (State True)' and 'IPCP Pro 350 : 10.111.19.113 Source 2 (State False)', both with 'Emulated' status.

Step 3:

Assign Visual Feedback to a button using the Local Variable

The screenshot shows the 'Configured Actions' interface. It has tabs for 'Press', 'Release', 'Visual Feedback', and 'Text Feedback'. The 'Visual Feedback' tab is active, showing two visual feedback configurations for 'Source 1'. The first configuration is 'Source 1 Select' with a 'False' state and an 'Off' button. The second configuration is 'Source 1 Select' with a 'True' state and an 'On' button. Both configurations are marked as 'Emulated'.

Control Commands & States

| | |
|---|---|
| Button | |
| Widget ID | String |
| Value | Active Inactive |
| Group Button | |
| Widget ID | String |
| Value | 1 – 255 |
| Presentation ExternalSource Select Command | |
| Value | None |
| Presentation ExternalSource Select String | |
| Value | String |
| Presentation ExternalSource Selected | |
| Value | String |
| Presentation ExternalSource State Set | |
| Source Identifier | String |
| Value | Hidden Ready Not Ready Error |
| Slider | |
| Widget ID | String |
| Value | 0 to 255 in steps of 1 |
| Spinner | |
| Widget ID | String |
| Value | String |
| Text | |
| Widget ID | String |
| Value | String |
| Toggle | |
| Widget ID | String |
| Value | On Off |
| User Defined Command | |
| Value | None |

| User Defined String | |
|---------------------|--------|
| Value | String |

Status Available

| | |
|--|--|
| Button | |
| Widget ID | String |
| Value | Active Inactive |
| Button Event | |
| Widget ID | String |
| Value | Pressed Released |
| Connection Status ^{RP} | |
| Value | Connected Disconnected |
| Firmware Version | |
| Value | String |
| Group Button | |
| Widget ID | String |
| Value | 1 – 255 |
| Group Button Event | |
| Widget ID | String |
| Group ID | 1 – 255 |
| Value | Pressed Released |
| Page Event | |
| Page ID | String |
| Value | Opened Closed |
| Panel Event | |
| Panel ID | String |
| Value | Clicked Released |
| Presentation ExternalSource Select String | |
| Value | String |
| Presentation ExternalSource Selected | |
| Value | String |
| Presentation ExternalSource State Set | |
| Source Identifier | String |
| Value | Hidden Ready Not Ready Error Source Identifier does not exist |

| | |
|----------------------------|---|
| Slider ¹ | |
| Widget ID | String |
| Value | 0 to 255 in steps of 1 |
| Spinner | |
| Widget ID | String |
| Value | String |
| Spinner Event | |
| Widget ID | String |
| Direction | Increment Decrement |
| Value | Pressed Released |
| Text | |
| Widget ID | String |
| Value | String |
| Toggle ¹ | |
| Widget ID | String |
| Value | On Off |
| User Defined String | |
| Value | String |

¹ For these commands to work properly, use Emulated status, not Live.

^{RP} Connection Status is based off of the following string: xgetxml /status/standby\r

Cable and Adapter Requirements

SX10: Please contact manufacturer.

SX20: Captive Screw to USB Type-A RS-232 Serial Cable Adapter

SX80: Captive Screw to Male DB9 RS-232 Serial Cable

Webex Room & Webex Board Series: Captive Screw to USB Type-A RS-232 Serial Cable Adapter

Notes for the Device

- Use the highest baud rate for the most optimal performance.
- For the driver to work, the “Require passphrase change on next user sign in” checkbox under Users → <USERNAME> must be unchecked within the devices embedded webpage.

Serial communication

Port Type: RS-232

Baud Rate: 115200, 38400 (SX20)

Data Bits: 8

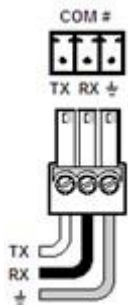
Parity: None

Stop Bits: One

Flow Control: None

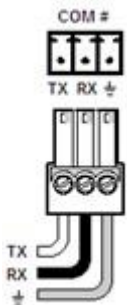
Pin Assignments Diagram

SX10, SX20, Webex Room & Webex Board Series:



Please contact manufacturer for pin assignments diagram and connector type.

SX80:



| Signal | Main Cable | Pin | Signal |
|--------|------------|-----|--------|
| TxD | | 2 | TxD |
| RxD | | 3 | RxD |
| GND | | 5 | GND |



Network communication

When configuring the Ethernet driver, be sure device settings match that of the GCP configuration.

| | |
|-------------------------------------|----------------|
| Port Type: | Ethernet (SSH) |
| Default Port: | 22 |
| Logon Credentials Supported: | Yes |
| Default Username: | admin |
| Multi-Connection | Yes |
| Capabilities: | |
| Port Changeability: | No |

Ethernet Driver Configuration Description

Please refer to user manual for settings and changes to the network communication parameters such as: Username and Password.

Notes for the Device

- Password is required for SSH communication to work. “SSH Mode” must be set to “On” by an admin to have open communication with the driver.
- For the driver to work, the “Require passphrase change on next user sign in” checkbox under Users → <USERNAME> must be unchecked within the devices embedded webpage.