Pathscape Config V6.0.0

User Guide

July 2025

Pathway® Connectivity Solutions

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⚠ WARNING ABOUT UNSECURED PROTOCOLS ⚠

Enabling an open protocol that does not use encryption or authentication - these protocols could be eavesdropped or spoofed by malicious parties. You are strongly encouraged to secure access to your network, both physically and technologically. To continue, you must acknowledge that you have read this statement and accept these risks.

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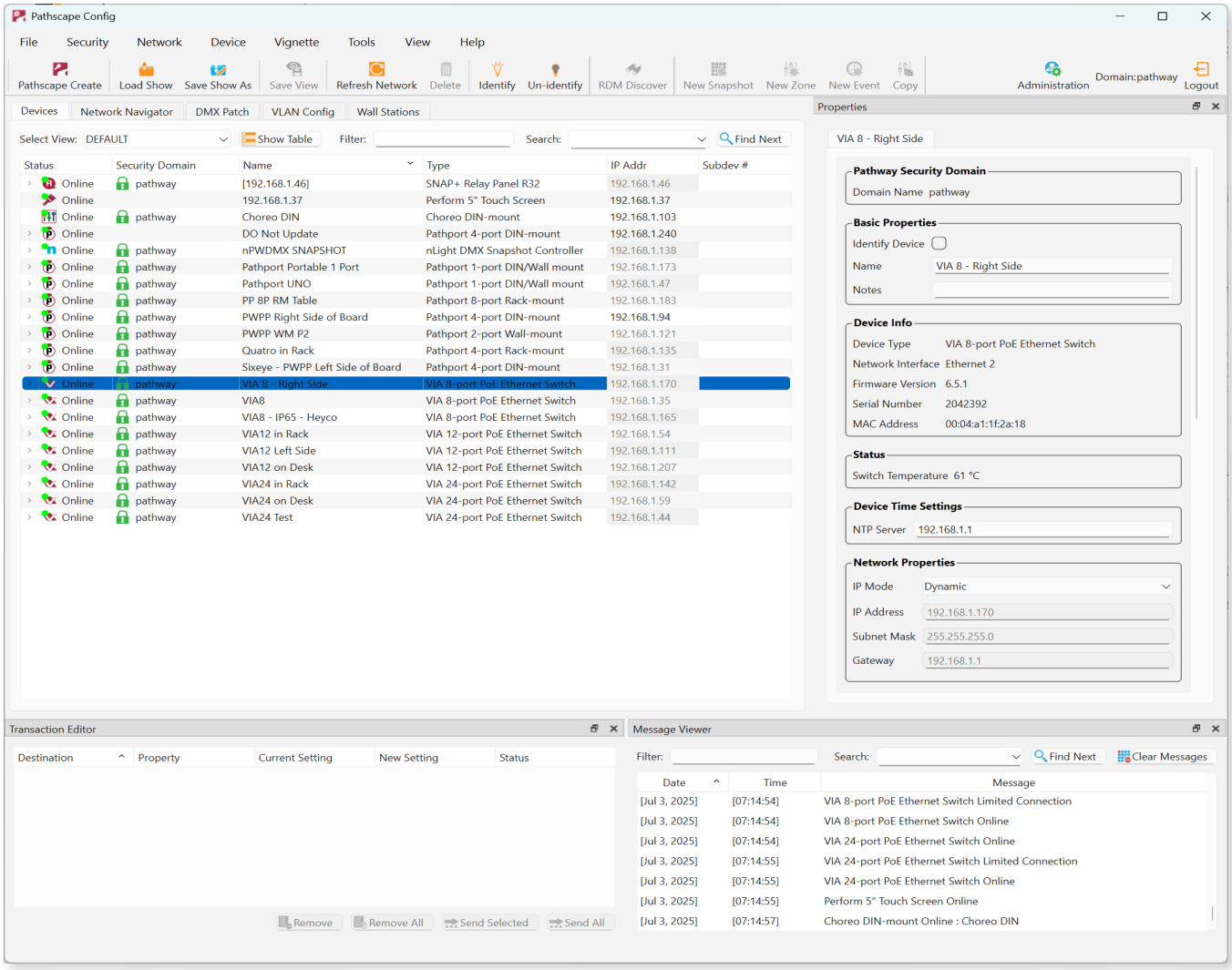
OVERVIEW

Pathway Connectivity's **Pathscape™ Config** is a software application that allows the discovery and configuration of the entire Pathway Ecosystem of devices.



The main window of the application has **five** tabs: **Devices, Network Navigator**, **DMX Patch**, **VLAN Config** and **Wall Stations**

- The **Device** tab shows all networked Pathway devices and allows for configuration of device properties in the Properties window
- The **Network Navigator** tab shows all networked Pathway devices in a map of how they are connected and allows for configuration of device properties in the Properties window
- The **DMX Patch** tab allows for patching of Pathport gateway ports to DMX Universes
- The **VLAN Config** tab allows for configuration of VLAN properties on VIA switches
- The **Wall Stations** Tab (new as of Pathscape 4.0) shows Wall Station (Vignette and NSB) devices in a graphical interface, allowing for intuitive configuration of buttons and sliders, as well as remote triggering

SUPPORTED DEVICES

This application is used to configure, monitor and troubleshoot Pathway's entire product line. Pathscape also adds enabled devices (**marked by ***) to the SixEye remote monitoring and management software.

This includes:

- **VIA Ethernet Switches**
  - PWVIA RM P12 RJ45EC [SFPSLOT/10GSFPP/1GSFP] NONPOE* (Formerly VIA12 - 6750)
  - PWVIA RM P12 RJ45EC [SFPSLOT/10GSFPP/1GSFP] POE* (Formerly VIA12 - 6750-P)
  - PWVIA RM P24 RJ45 [SFPSLOT/10GSFPP/1GSFP] POE*
  - PWVIA RM P12 RJ45EC DUO POE* (Formerly VIA12 TE - 6752-P)
  - PWVIA RM P12 RJ45EC QUAD POE* (Formerly VIA12 TE - 6754-P)
  - PWVIA DIN P8 RJ45 [SFPSLOT/10GSFPP/1GSFP] POE* (Formerly VIA8 - 6708)
  - PWVIA DIN P16 RJ45 [SFPSLOT/10GSFPP/1GSFP] POE* (Formerly VIA16 - 6716)
  - VIA12 - 6740, 6742
  - VIA10 - 6730
  - VIA5 - 6705, 6706
- **Pathport Gateways/Networking Devices**
  - PWPP RM P8 [XLR5F/TERM/RJ45EC/XLRTERM] [REAR/FRONT]* (Formerly OCTO - 6421, 6422, 6423, 6426, 6427)
  - PWPP RM P4 [XLR5F/TERM/RJ45EC] REAR* (Formerly QUATTRO - 6321, 6322, 6326)
  - PWPP WM P1 [XLR5M/XLR5F] [SS/BL] (Formerly UNO - 6101, 6102)
  - PWPP [TM/DT] P1 [XLR5M/XLR5F] (Formerly UNO - 6151, 6152, 6153, 6154)
  - PWPP HH P1 XLR5F (Formerly Pathport TE - Touring Edition - 6182)
  - PWPP WM P2 [XLR5F/XLR5M/XLR5MF] BL (Formerly C-SERIES - 6201, 6202, 6203)
  - PWPP DIN [P1/P2/P4/P8] DIN-mount Gateways (Formerly 6821, 6822, 6824)
  - PWINF DIN NFP Fade Processor (Formerly NFP+ - 6829)
  - PWELINK RM P2 RJ45EC REAR eLink Lighting Protocol Router (Formerly 6602)
  - MDG theONE
- **Control Products**

  (**Note**: Pathscape can discover and display base properties of Cognito^2 and Choreo devices, and allows you to set a name, but all other configuration must be done on the controller itself.)
  - PWCOG DT [S512/512/1024] Cognito^2 - All Models (Formerly 0700-7111, 0700-7112. 0700-7113)
  - PWCHOREO WM [512/1024] Choreo Wall-mount (Formerly 0700-7302, 0700-7303)
  - PWCHOREO DIN [512/1024] Choreo DIN-mount (Formerly 0700-7312, 0700-7313)
  - PWWSI NPOE [B2/B4/S1/S2/S3] [BL/WH] NSB PoE Wall Stations (Formerly 0700-5311, 0700-5312, 0700-5313, 0700-5314, 0700-5315)
  - PWGW DIN [N/NC8/NC16] NSB DIN-mount Architectural Gateways (Formerly 0700-5390, 0700-5392, 0700-5393)
  - PWWSI VPOE [B2/B4/S1/S2/S3] [BL/WH] Vignette PoE Wall Stations (Formerly 0700-5411, 0700-5412, 0700-5413, 0700-5414, 0700-5415)
  - PWGW DIN [V/VD2/VD2C8/VC16/VE/VE2C8] Vignette DIN-mount Architectural Gateways (Formerly 0700-5490, 0700-5491, 0700-5492, 0700-5493, 0700-5494, 0700-5495)
  - PWGW DIN CLK Vignette Clock* (Formerly 0700-5481)
  - PWCTRL DIN PERFORM [U1/U2/U4] Perform Controller*
  - nPWDMX ANIMATE [U1/U2/U4} nLight Animate Controller*
  - PWTS PERFORM [5IN/8IN] [BL/WH] Perform Touchscreen
  - nPWDMX SNAPSHOT nLight Snapshot

- **DIN-mount DMX Interfaces (using RDM)**
  - PWINF DIN CC Contact Closure (Formerly eDIN - 1003)
  - PWINF DIN D2A Demultiplexer (Formerly eDIN - 1004)
  - PWINF DIN A2D Analog to DMX (Formerly eDIN - 1006)
  - PWINF DIN [PWM4A/PWM6A] PWM DC Dimmer (Formerly eDIN - 1008, 1008-6A LED Dimmer/DC Driver)
  - PWREP DIN P4 RDM DMX/RDM Repeater (Formerly eDIN - 1009)
  - PWREP DIN P3 RDMHUB 3-Port DMX/RDM Hub/Merger (Formerly eDIN - 1017)
  - PWREP DIN P8 RDMHUB 8-Port DMX/RDM Hub/Merger (Formerly eDIN - 1016)
  - PWRLY [R8/R16] SNAP Relay Lighting Control Panel (Formerly 4850-8, 4850-16)

Pathscape may be used to apply firmware changes to **Pathport Gateways, VIA switches, and Pathway Wall Station controllers (NSB and Vignette)**.The firmware upgrade process on **Cognito² or Choreo** controllers is done from the device interface itself.

The set of device properties available for display and configuration in Pathscape is dependent on the type of device as well as that device's operating firmware. To ensure the best performance of the device and network, it is strongly recommended to ensure the latest device firmware releases are being used. See the **Upgrading Device Firmware** section below.

Pathscape is used to set up your network Security Domains, keeping your lighting network safe from malicious outside parties. See the **Security** section below.

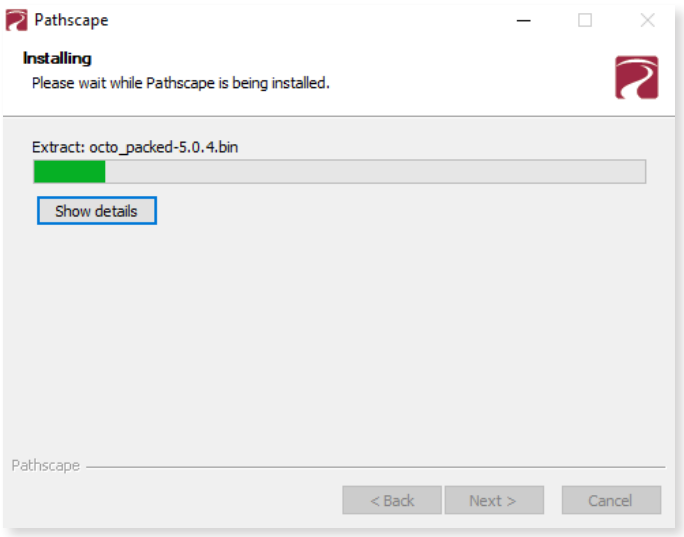
USAGE

Pathscape Config has been designed for use by a knowledgeable, but infrequent user. Most architectural and many entertainment networks are rarely reconfigured after initial commissioning. Pathscape shows information in a graphical manner where appropriate, and attempts to prevent, or at least warn the user prior to committing any changes that might break communication across the network. **Changes are only made on explicit user actions**.

If communication with a device is lost due to misconfiguration, those devices with front panel user interfaces may be factory defaulted to restore communication. Other devices have a recessed button which may be used to perform the factory default. See the Pathway website and search for **Factory Defaulting Ethernet Devices**.

INSTALLATION

Download and run the installer for either Windows (.exe) or MacOS (.pkg).



Follow the installer instructions, and then open Pathscape Config.

BEFORE YOU START

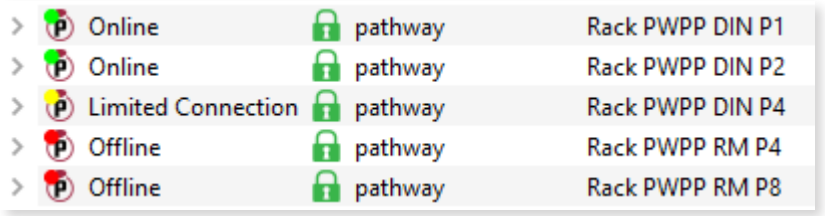
Plan your network layout, settings and numbering before making any changes to the hardware. We strongly recommend reviewing the worksheets in **Appendix 4** of this manual.

Ethernet networks require configuration of both switch-wide and port-specific functions. Further configuration can be applied to the individual Virtual Local Area Networks if VLANs are enabled. VLANs form an abstract layer that cross the physical hardware but may have independent logic and properties. For more information on VLANs, see **Appendix 3**.

During configuration, pay careful attention to the order in which configuration changes are sent. Straying from a specific order may break communication with portions of your network. For example, if your configuration PC is connected to a port on VLAN1 and the management of the switch is also on that VLAN, you would not want to change the port's VLAN from your PC as you lose communication with the VIA's management processor. Also, be careful not to plug your PC into a "Tagged" port on a VIA as configuring the NIC on your PC to accept tagged traffic is non-trivial. If either of these events occur, you may need to use the front panel menu to change the port back to VLAN 1, re-plug your PC into a port that you know is on VLAN 1 or reset the switch to the Factory Default and re-discover it.

INITIAL PROGRAM LAUNCH

If your network is configured correctly, devices should start to appear in the Devices tab upon launching the application. Devices should appear online and have a **green** dot on their icon. If the device is in a loaded show file, but is not online, it will have a **red** dot on its icon.



A **yellow** dot means that Pathscape can see the device and set some of its properties - but its IP setup should be modified to put it on the same subnet as the PC. Until this is done, some functions such as upgrading device firmware will not be possible.

If Pathscape does not discover the devices and they are confirmed to be powered up and connected, you may have your PC plugged into a port on a different VLAN than the ports the devices are connected to. In this case, you may want to default the VIA switch using its front panel or, if possible, manage its VLANs using Pathscape, putting the devices and you on the same subnet and VLAN.

Before you can change the properties of any device, you must set up a **Security Domain**. The green padlock icon above seen in the Security Domain column may show a red padlock with the text "**Ready to Secure**". See the **Security** section below.

⚠ WARNING ABOUT UNSECURED PROTOCOLS ⚠

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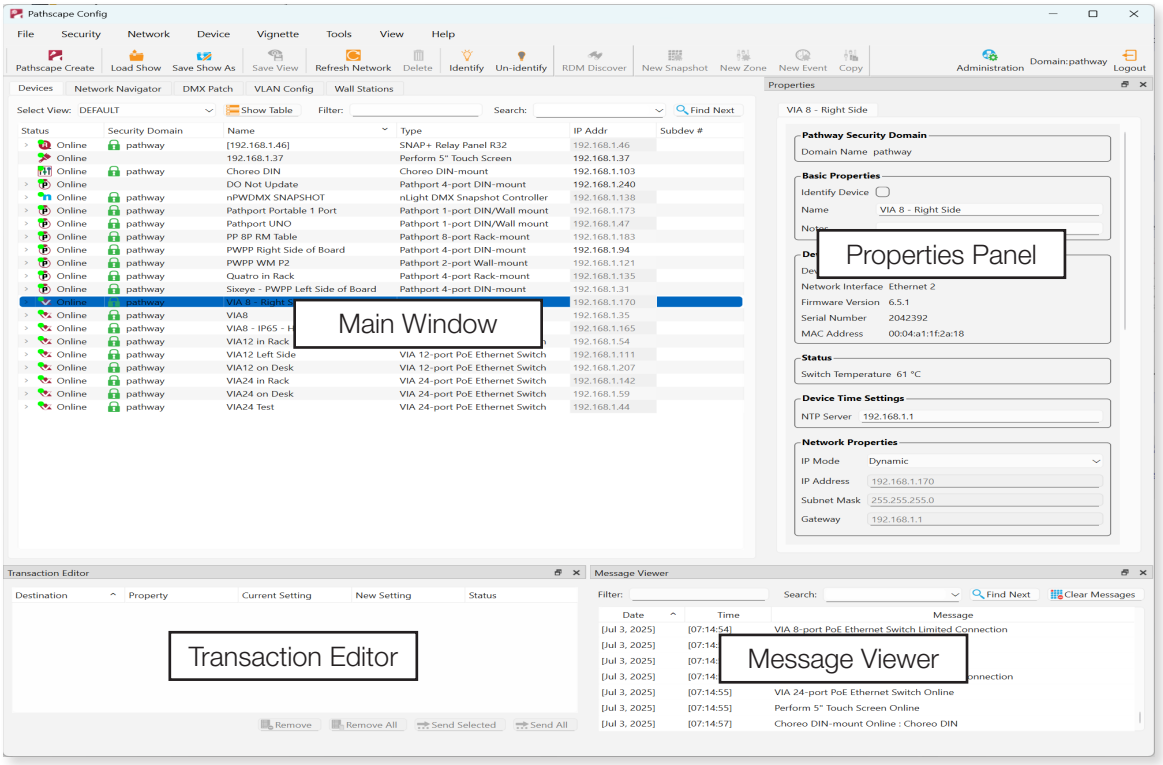
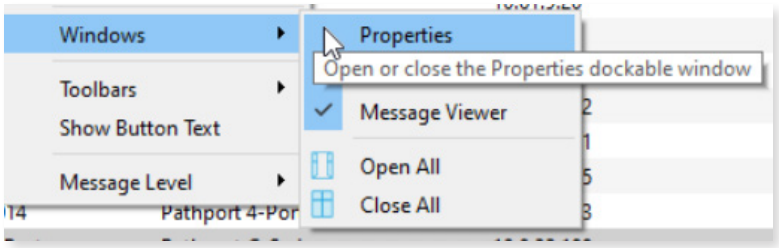
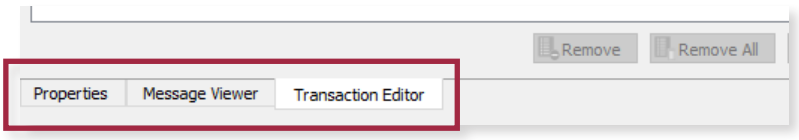
APPLICATION MAIN VIEW



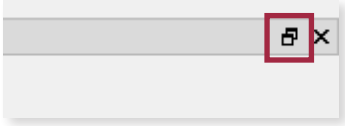


Except for the Main Window, all panes may be closed, rearranged, un-docked, resized, and closed. To restore a pane, click on the Window menu and then click on the missing pane to restore it. The dock-able panes may also be dropped on top of each other, creating a tabbed view of the stacked windows.

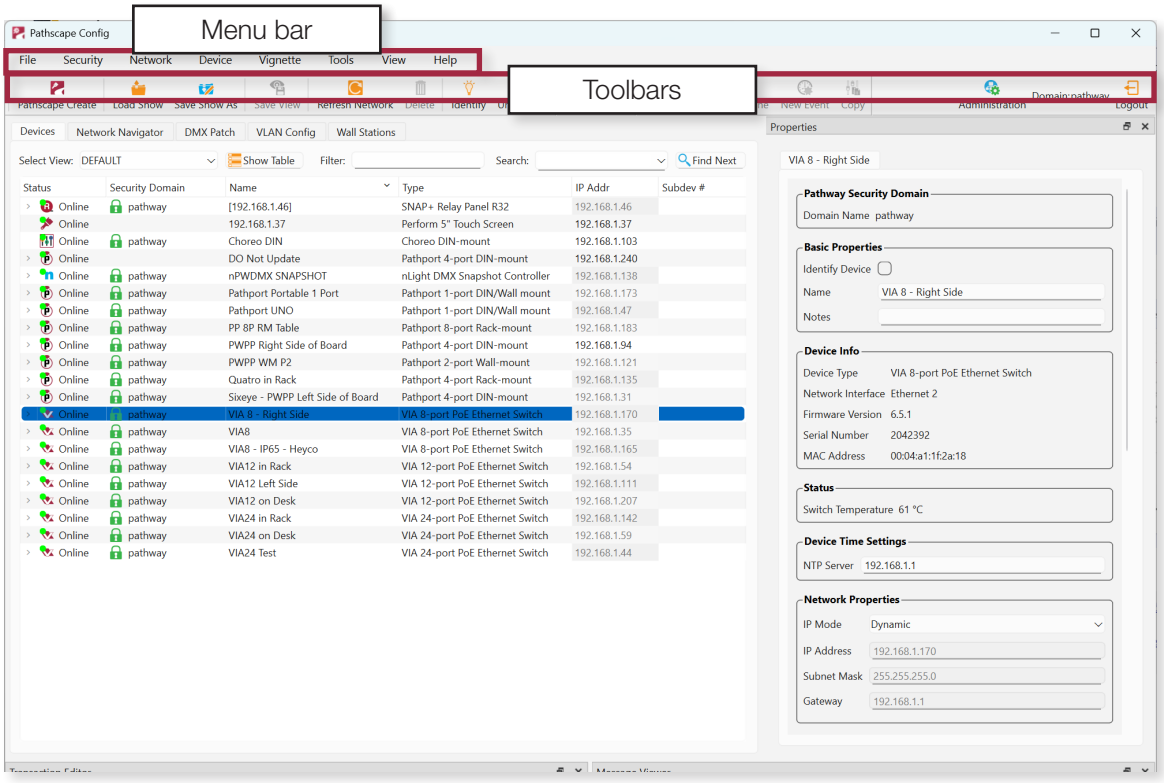


NOTE: If the Pathscape window is normalized (not maximized) and adjusted to be at its minimum width and/or height, it may not be possible to stack the dock-able panes this way. If you are experiencing this, try making the Pathscape window larger and try again.

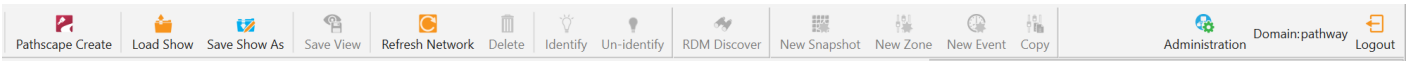
To un-dock a pane from the main window or from the tabbed view of stacked windows, click on the float button.



SCREEN LAYOUT AND NAVIGATION



The main screen layout of Pathscape Config is shown above. At the top of the window, below the menu bar, is the toolbar The toolbar is broken into 4 sections. The **Main Toolbar**, **RDM Toolbar**, **Vignette Toolbar** and **Security Toolbar**.



With version 6.0.0 of Pathscape you will now have a new item added to the Main Toolbar, The Pathscape Create icon. This icon will bring up Pathscape Create module to allow you to program the Pathway Perform Controller or nLight® Animate Controller

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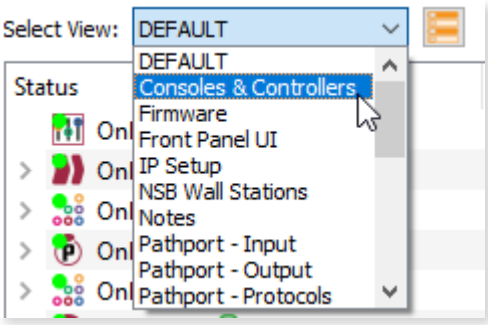
Pathway Create online guide located here.

https://pathway-support.acuitybrands.com/pathway-site-storage/pathscape-create/Content/Home.htm

Pathway Create getting started located here.

https://pathway-support.acuitybrands.com/pathway-site-storage/pathscape-create/Content/A-Introduction/1.1.0-Getting-Started.htm

The **Devices** view is the default view when Pathscape Config starts. The Device view displays information about the connected devices including Status, Security Domain, Device name and type, user notes, and more. There are a number of device property columns that can be shown or hidden as needed.



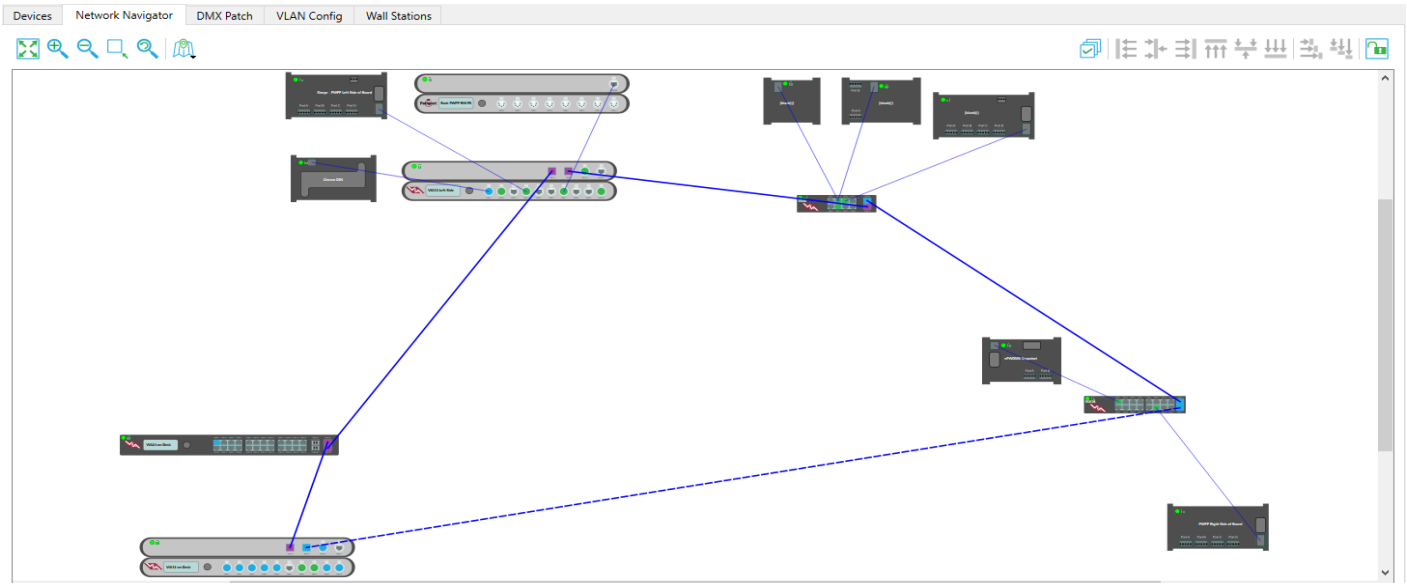
The **Select View** drop-down menu contains several view presets that will show relevant property columns and hide unneeded ones.

For example, when commissioning a system and setting up networking, selecting the “IP Setup” view will show all devices’ IP settings, along with serial numbers, and current firmware versions. When patching gateway outputs, using the “Pathport - Output” view will show only Pathport Output ports, and relevant information, hiding unneeded clutter.

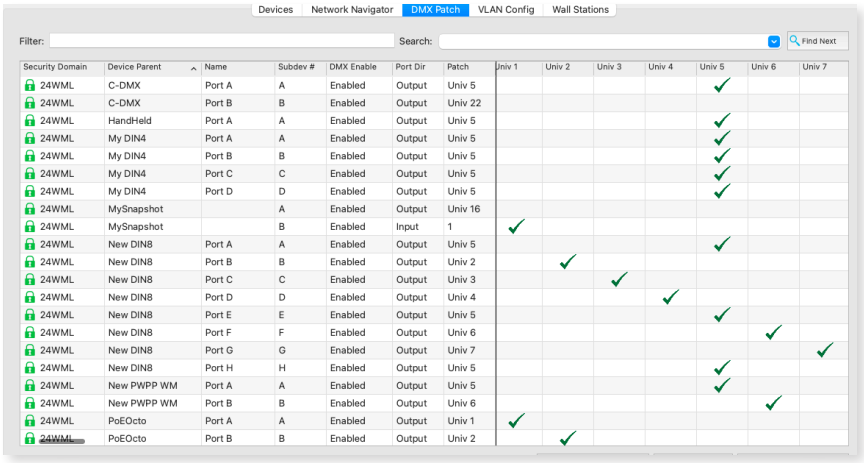
You can also customize what property columns are shown and save your own view preset for later recall. See the **Selecting Custom Views** section later in this manual.

There are four more tabs in the main window: **Network Navigator, DMX Patch**, **VLAN Config** and **Wall Stations**.

The **Network Navigator** tab provides a unique way of reviewing the network connected devices with the software automatically building the connection lines between device and populating them on the map. There are tools to align and distribute items and as you select devices or their ports, the properties box allows you to change the configuration as you would in the Devices tab. Other tools allow the placement of a background image, set its opacity and scale.

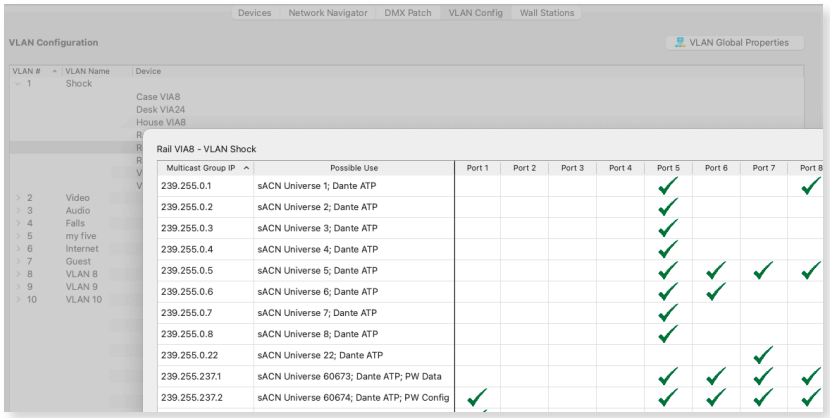


The **DMX Patch** view provides a grid-type patch window for configuring Pathport and eLink output patches. Check marks make it easy to reassign outputs, intputs and data paths. You can also launch the Costum Universe Editor.



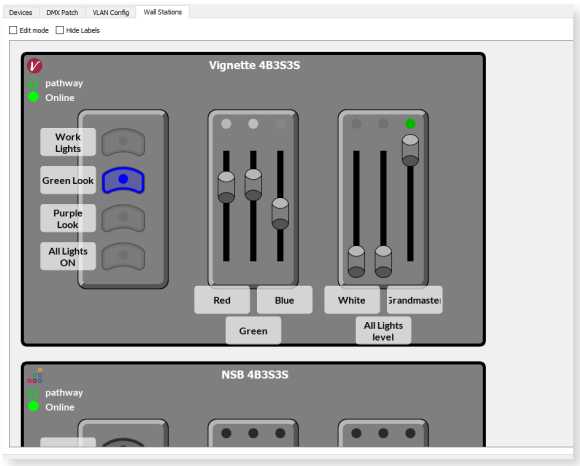
Security Domain	Device Parent	Name	Subdev #	DMX Enable	Port Dir	Patch	Univ 1	Univ 2	Univ 3	Univ 4	Univ 5	Univ 6	Univ 7
24WML	C-DMX	Port A	A	Enabled	Output	Univ 5					✓		
24WML	C-DMX	Port B	B	Enabled	Output	Univ 22							
24WML	HandHeld	Port A	A	Enabled	Output	Univ 5					✓		
24WML	My DIN4	Port A	A	Enabled	Output	Univ 5					✓		
24WML	My DIN4	Port B	B	Enabled	Output	Univ 5					✓		
24WML	My DIN4	Port C	C	Enabled	Output	Univ 5					✓		
24WML	My DIN4	Port D	D	Enabled	Output	Univ 5					✓		
24WML	MySnapshot		A	Enabled	Output	Univ 16							
24WML	MySnapshot		B	Enabled	Input	1	✓						
24WML	New DIN8	Port A	A	Enabled	Output	Univ 5					✓		
24WML	New DIN8	Port B	B	Enabled	Output	Univ 2		✓					
24WML	New DIN8	Port C	C	Enabled	Output	Univ 3			✓				
24WML	New DIN8	Port D	D	Enabled	Output	Univ 4				✓			
24WML	New DIN8	Port E	E	Enabled	Output	Univ 5					✓		
24WML	New DIN8	Port F	F	Enabled	Output	Univ 6						✓	
24WML	New DIN8	Port G	G	Enabled	Output	Univ 7							✓
24WML	New DIN8	Port H	H	Enabled	Output	Univ 5					✓		
24WML	New PWPP WM	Port A	A	Enabled	Output	Univ 5					✓		
24WML	New PWPP WM	Port B	B	Enabled	Output	Univ 6						✓	
24WML	PoEOcto	Port A	A	Enabled	Output	Univ 1	✓						
24WML	PoEOcto	Port B	B	Enabled	Output	Univ 2		✓					

The **VLAN Config** view provides information on and configuration of network VLAN properties and can show you advanced information on IGMP properties.



Multicast Group IP	Possible Use	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
239.255.0.1	sACN Universe 1; Dante ATP					✓			✓
239.255.0.2	sACN Universe 2; Dante ATP					✓			
239.255.0.3	sACN Universe 3; Dante ATP					✓			
239.255.0.4	sACN Universe 4; Dante ATP					✓			
239.255.0.5	sACN Universe 5; Dante ATP					✓	✓	✓	✓
239.255.0.6	sACN Universe 6; Dante ATP					✓	✓		
239.255.0.7	sACN Universe 7; Dante ATP					✓			
239.255.0.8	sACN Universe 8; Dante ATP					✓			
239.255.0.22	sACN Universe 22; Dante ATP							✓	
239.255.237.1	sACN Universe 60673; Dante ATP; PW Data					✓	✓	✓	✓
239.255.237.2	sACN Universe 60674; Dante ATP; PW Config	✓				✓	✓	✓	✓

The **Wall Stations** view shows a graphical layout of all Wall Stations (Vignette and NSB) on the network, providing a way to review their status, make edits and remotely trigger snapshots and zones more intuitively.



SECURITY

BACKGROUND INFORMATION

On **January 1, 2020**, California became the first state to enforce cybersecurity and IoT related legislation. Oregon, New York and Massachusetts are following suit. California's law is Title 1.81.26 "Security of Connected Devices" and mandates that we equip our products with security features that are appropriate to the nature and function of the device. By law, this encompasses all products that are assigned Internet Protocol addresses which can connect to the Internet directly or indirectly. Pathway Connectivity, a division of Acuity Brands, will only ship compliant devices regardless of the jurisdiction into which they are sold.

The law requires us to either supply a unique password for our products (see **Local Configuration Only** below) or requires the users to change the password before being able to use it (See **Creating a Security Domain** below). With Pathscape V3 and later, we provide features that protect our products from unauthorized access or use by enforcing passwords.

Pathway Connectivity does not collect or store personal information on our devices.

WHAT THIS MEANS TO YOU

1. When using products shipped after January 1, 2020, Pathscape will require a single password to allow configuration of all the devices on your network. Since the release of Pathscape V4, all Pathway Connectivity products can be upgraded to firmware version 6.x. It is suggested you upgrade your devices to take advantage of the most recent security improvements.

2. Products shipped before January 1, 2020, devices with version 3.x and 4.x firmware will continue to function without passwords using either Pathscape version 3 or 4.

3. All products shipped after January 1, 2020 may only be configured using Pathscape 4 or later.

4. Products shipped after January 1, 2020 cannot be downgraded to earlier password-free firmware.

   Using the **Tools >** **Firmware Updater** dialog (see later in the manual for instructions), devices manufactured before January 1, 2020 may show newer firmware versions, but using the **Select Latest** button will not select the latest. These devices do not have a method, like a front panel, to factory default them. You can manually select the latest firmware using the **Select Firmware** button, but do **not forget the new password** as you cannot factory default them.

   We highly recommend printing the Password Recover PDF when creating a Security Domain so you can reset lost passwords.

5. Products that are fully configurable from the front panel can enter **Local Configuration Mode** (**Read-Only mode**). This allows them to be configured locally, but not over the network.

6. You will be encouraged to print or save a recovery key in case you lose the password. Do so when setting up your Security Domain. It is the **only chance** you'll get to save/print/see this Recovery Key.

7. If you lose the password and lose the recovery key, you will manually have to factory default each device on the network. See the resource section of the Pathway website for a comprehensive document describing how to manually factory default all our devices.

8. The complete network configuration may be saved without a password before factory defaulting devices. Applying the saved configuration will require a new password to be set for the network.

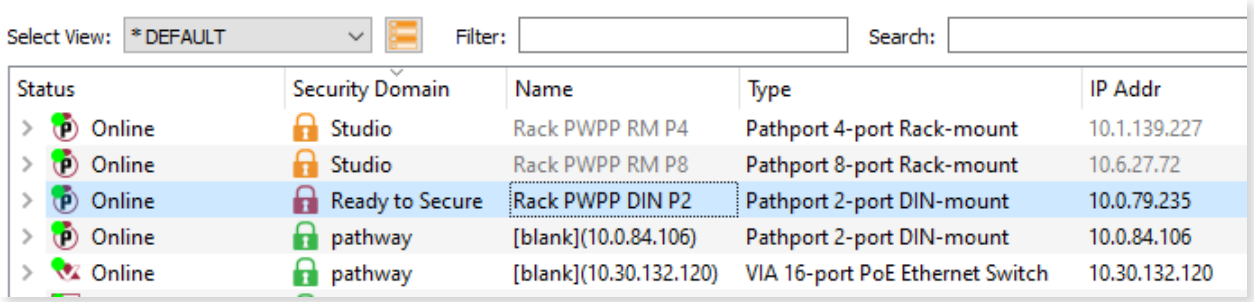
9. Configuring our devices to receive unsecured protocols such as sACN and Art-Net will require you to accept the risks. **See WARNING BOX regarding unsecured protocols below.**

   By default, all Pathway Connectivity products sent and/or receive Pathway ssACN which is an authenticated method of transporting the E1.31 protocol within a Security Domain.

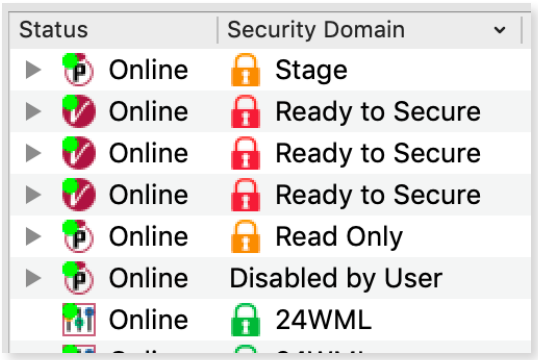
10. Pathway does not store personal information such as names or email addresses on our devices.
11. On products with a front panel display and encoder using firmware release 6.1, it is possible to opt out of the prescribed security features. See **Disabling Security** below.

SECURITY DOMAINS

To simplify the process of managing security on your network, Pathscape introduced the concept of a "**Security Domain**". Below we will describe how to create a Security Domain and add or remove devices from it. In the **Device** tab of Pathscape there is a column that shows you the name of the devices' domain and a **padlock icon** showing their current state.



There are several different ways a device can appear in the **Security Domain** column.



RED PADLOCK - "Ready to Secure"

Prior to Pathscape version 4.1, this was shown as "**Unsecured**".

Any device shipped after **January 1, 2020** will have version 5 or later firmware which includes security. These devices will report their type, name and firmware version **only**. All other properties cannot be read until you add them to a Security Domain (see below on creating domains).

AMBER PADLOCK - "Other Domain"

Devices that have been added to a security domain will appear with an amber padlock. These devices will allow you to read all their properties and even save a show file with the network setup, but the properties are Read-Only. You will have to login to the domain to set any properties. (See **Login procedure** below.)

AMBER PADLOCK - "Read Only"

Prior to Pathscape version 4.1, this was shown as "**Locally Secured**".

Read Only means the front panel was used to create a unique (and hidden) password to allow front-panel-only configuration. To gain read/write privileges with Pathscape, you **must Reset Security** settings from the front panel and then add it to the Security Domain using Pathscape.

GREEN PADLOCK - "My Domain"

Once you have logged into a Security Domain with a password, any device in your domain will appear with a green padlock and all their properties will be Read/Writable.

NO PADLOCK - “Disabled By User”

With the release of **firmware version 6.1 for rack-mount devices with a front panel display and encoder (PWPP RM P8, PWPP RM P4, VIA rack-mount only)**, it is possible to opt out of the security features altogether. This is designed primarily for the rental market where devices may be shipped to various locations for use by different end users, where Domain passwords and Recovery Keys may not be known.

Devices set to **Disabled by User** will behave like legacy devices and are fully Read/Writable by Pathscape without needing to be logged into a Domain.

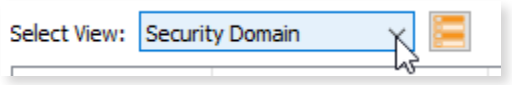
For information on opting out of security features, see **Disabling Security** below.

EMPTY SECURITY DOMAIN CELL

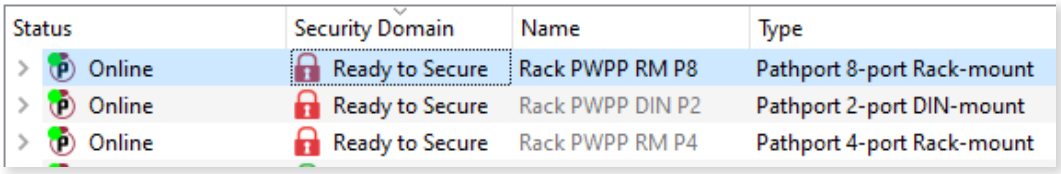
If the Security Domain cell is empty, this device is using Version 4 firmware and cannot be secured. Pathscape 4 will be able to read and write properties exactly like earlier versions of Pathscape. If you upgrade to version 5 or later firmware, the device will appear with a red padlock and you will need to add it to a domain before you can use it.

CREATING A SECURITY DOMAIN

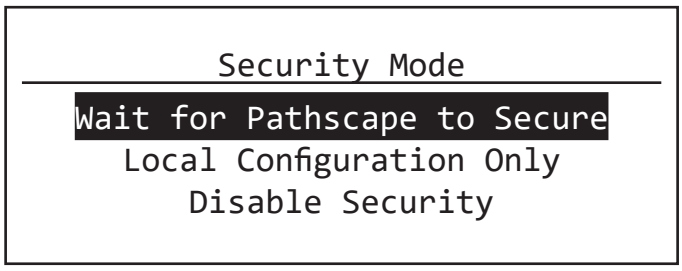
- After starting Pathscape, the online devices will populate the Device View.
- Choose the **Security Domain** view from the **Select View** dropdown

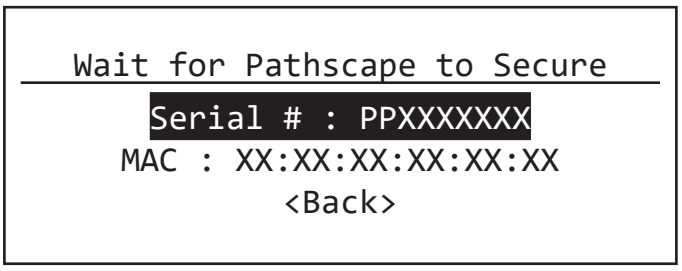


- Each device running V5 or later firmware will have a **Red "Ready to Secure"** value in the **Security Domain** column.



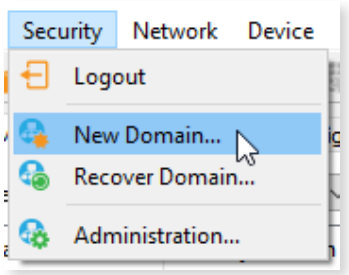
- **NOTE**: Rack-mount Pathport Gateways and VIA Switches running **V6.1 firmware or later** will show a **Security Mode** screen on the front panel LCD.



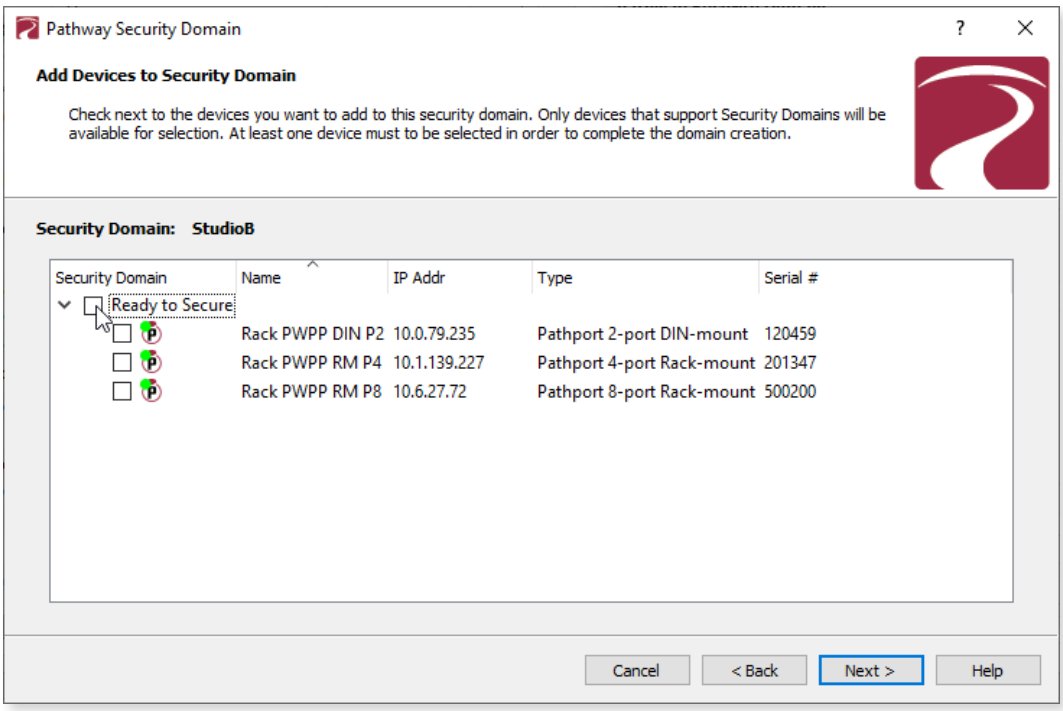


- **No action is required** here in order to add the device to Pathscape. Clicking the encoder knob to select **Wait for Pathscape to Secure** will show the device Serial Number and MAC Address, in cases where this may be helpful for device identification.
- If you want to configure your devices only via the front panel, choose **Local Configuration Only**. If you prefer to opt out of security and the needs for passwords on these devices, choose **Disable Security**.

  See the individual devices' manuals for further explanation of these options.
- If your devices have old firmware, you may update them to current firmware by going to the **Tools** menu in Pathscape and selecting **Firmware Updater**. Select the devices to upgrade, and choose **Select Latest**, then **Send Firmware**. (See the **Upgrading Device Firmware** section for more detail). The devices will go offline and come back with a **red padlock**.
- From the **Security** menu, choose **New Domain.**



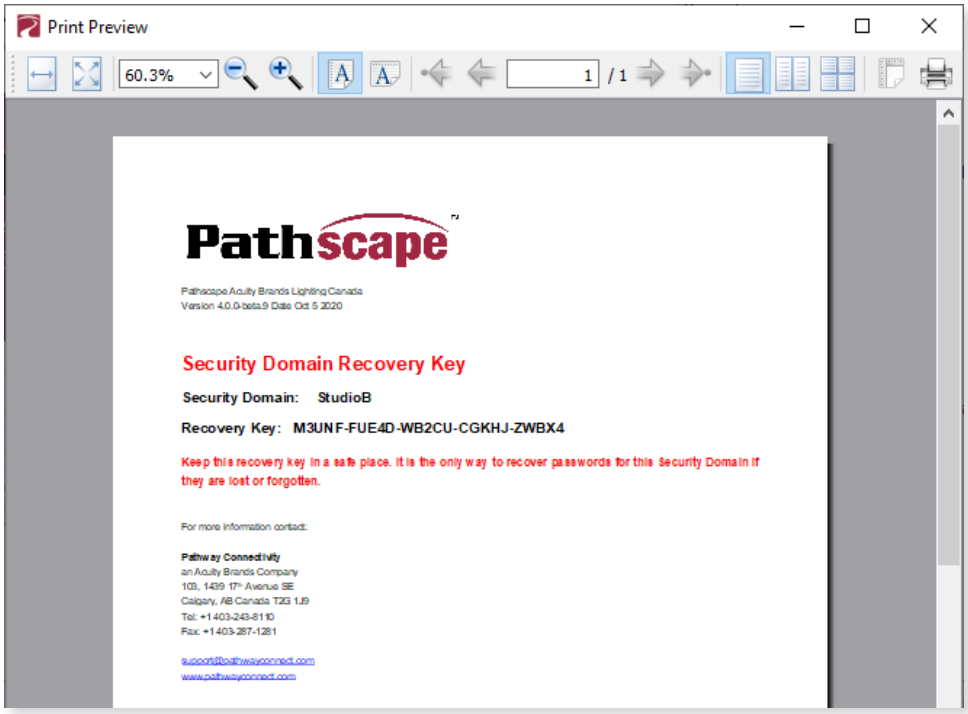
- Enter the new **Domain Name** and **Administrator** and **User passwords**, then click **Next.**
  - The **Administrator** can change passwords, change the Security Domain's name, factory default devices, manage Device Restore Points and add or remove devices from the domain.
  - The **User** can change device properties and save and restore show files, but cannot change domain passwords, factory default devices or add/remove devices. There is one User account password for all users.
- Add all the Ready to Secure devices on your network by checking the top checkbox labeled "**Ready to Secure**" and then click **Next**. If you wish to add some but not all devices to this domain, click on the checkbox next to each device you'd like to add, and then click **Add Devices**.



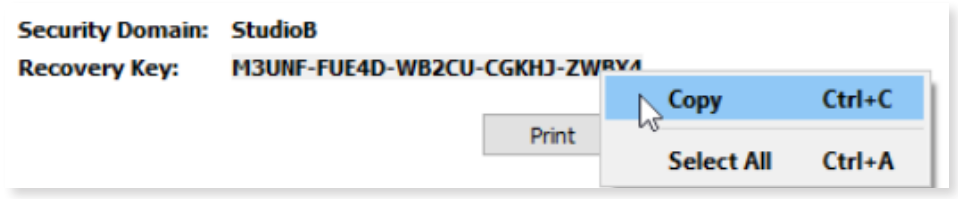
- The next window will show the **Recovery Key**. This key will allow you to recover Security Domain access should the passwords be lost or forgotten.

  It is extremely important to keep a record of this Recovery Key, as this is the only time it will be shown to you. Print the Recovery Key.

- Clicking the **Print** button will open a Print Dialog, from which you may choose a printer to print to.

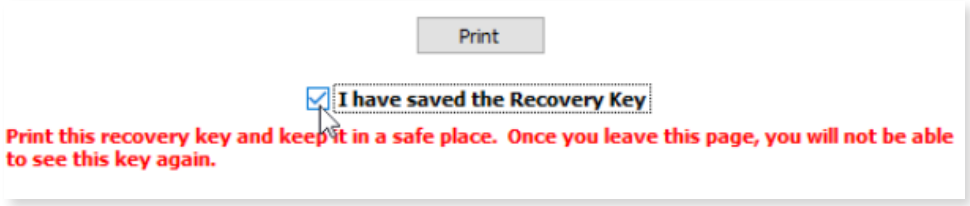


- You may also right-click on the Recovery Key, then **Select All** and **Copy** the key to the clipboard and store it in a safe place.

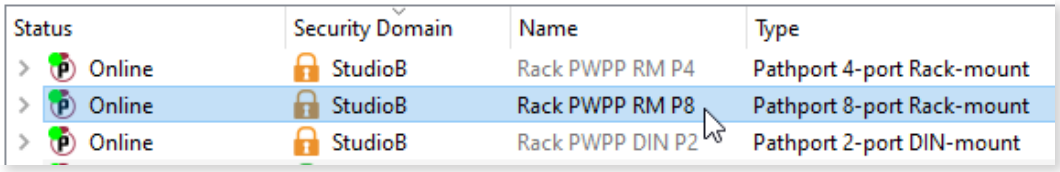


- In order to proceed, you **must click the checkbox** acknowledging you have printed or saved the Recovery Key in some way.

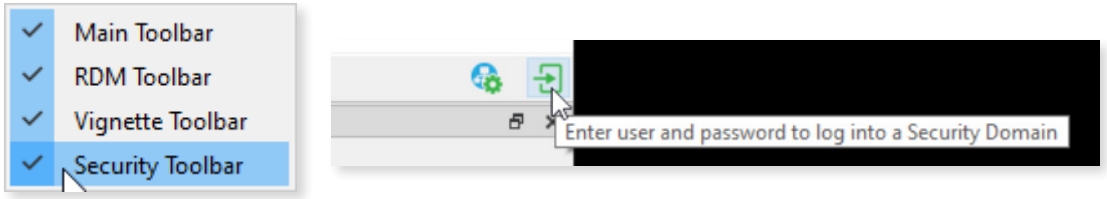
  Managers of the facility should store this key in a safe place, keeping in mind that anybody with this key can change both the Administrator and User passwords at any time.



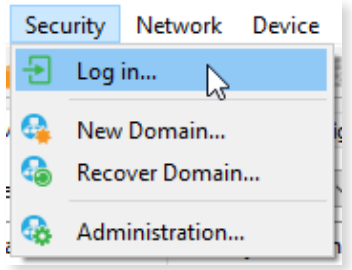
- Click **Finish** and the window will close, and the devices will be added to the domain. The devices will have an **amber padlock** and their properties will be read-only.



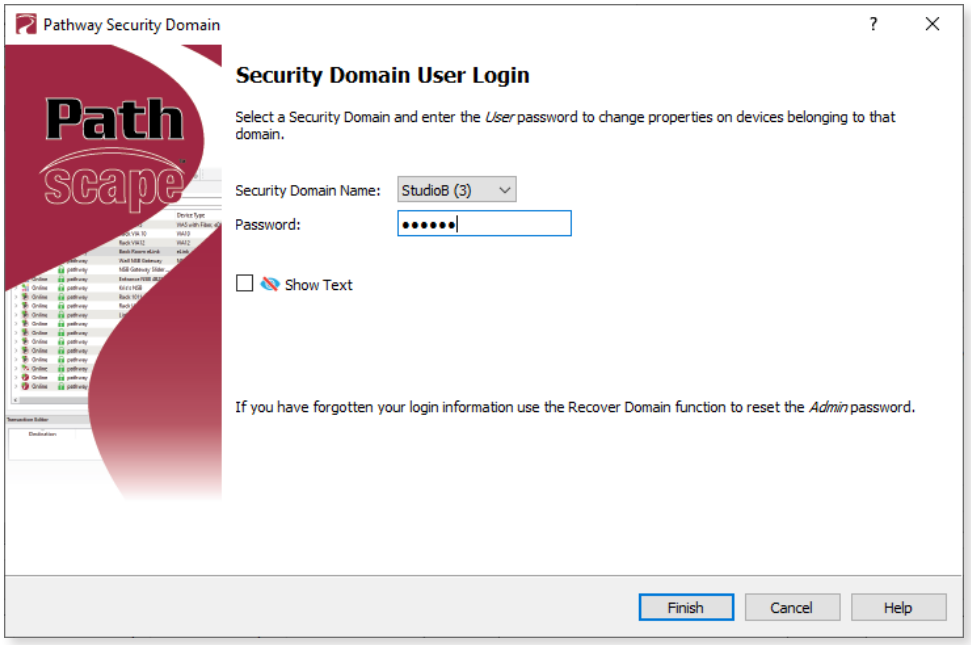
- To configure the devices, you must log in to the domain **as a user** by pressing the Log In button in the toolbar. **Note**: The **Security Toolbar** option under the **Window** menu must be checked.



You can also click on the **Security** menu and select the Log In menu item.

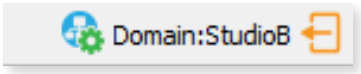


- Enter the **User** password for the Security Domain that was just created, and click **Finish**.



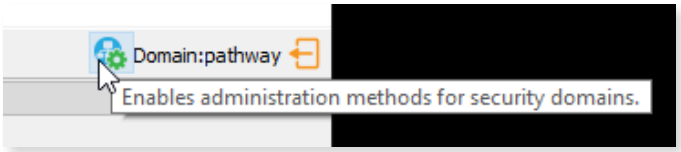
As security parameters are verified, the amber padlocks will turn **green** and the properties of those devices will be read/writable.

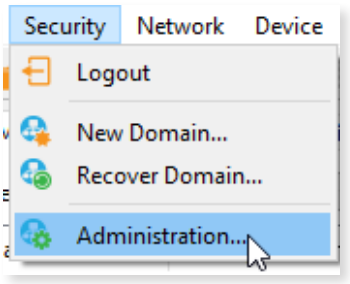
Once logged into a domain, the **Log In** button will change to the **Log Out** button, and the name of the domain currently logged into will appear next to it.



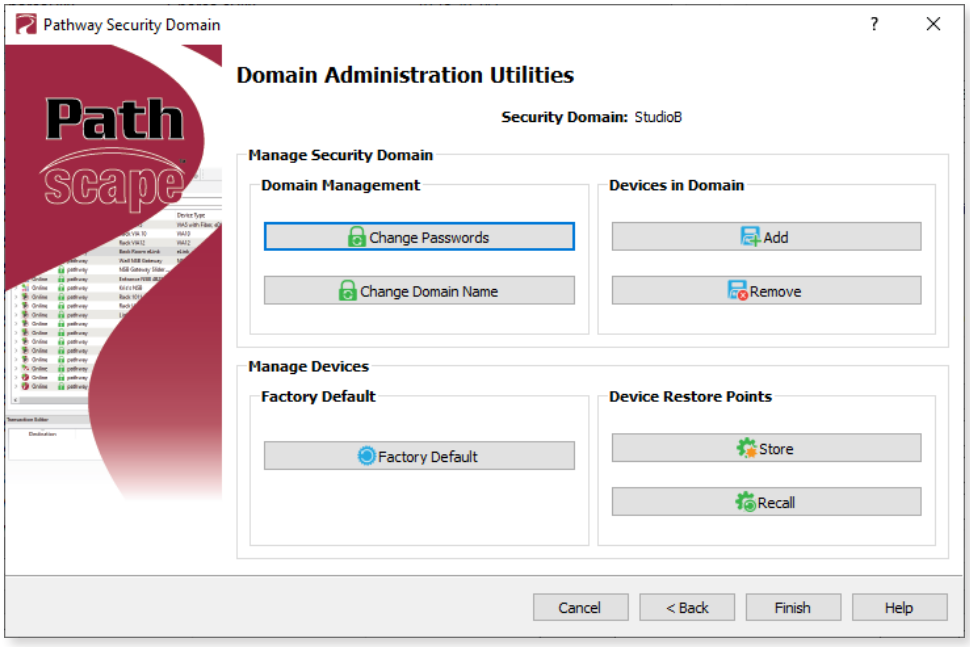
ADMINISTERING A DOMAIN

To administer a domain, click on the **Administration** button on the Security Toolbar, or click the **Security** menu and select **Administration**.





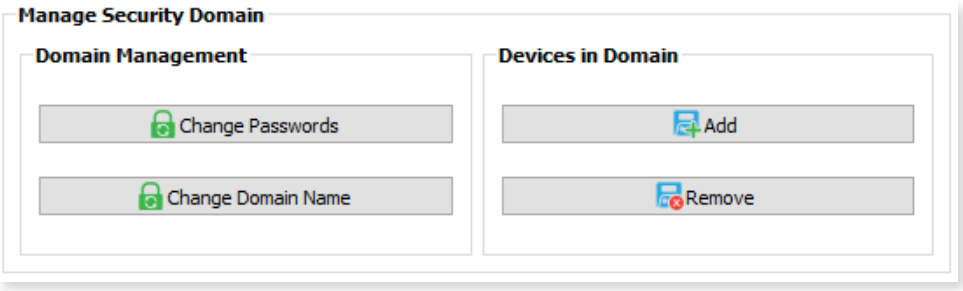
Enter the **Admin** password for the Security Domain, and the **Domain Administrator Utilities** window will appear.



The Domain Admin Utilities window is broken down into to main sections, **Manage Security Domain** and **Manage Devices**.

MANAGE SECURITY DOMAIN

This section is broken down further into functions that relate to **Domain Management**, including Domain Name and Passwords, and **Devices in Domain**, which allows you to add and remove devices in the Domain.



DOMAIN MANAGEMENT

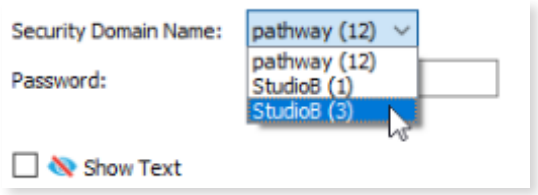
CHANGE PASSWORDS

If your staffing changes, it is a good idea to change the passwords on the domain. Click this button to change the current Security Domain Admin and User passwords. **All devices should be online when you change the password.**

Once you have entered both Admin and User passwords, click the **Change Passwords** button to confirm the changes.

Note: Changing the domain passwords does not generate a new Recovery Key. The original key is still valid, as it is only generated at the time of the Domain's creation.

Note: **If some devices are offline and you change the password**, when those devices come back online, they will coincidently have the same domain name, but will be using the old password. When logging in, there will be two domains with the same name.



You will have to remove the devices on the old domain, then add them to the new domain using the new password. You can remove them using the **Remove** button in the **Domain Administration Utilities** menu (see below for details).

The number in parentheses after the domain name is the number of devices that are in that domain. In the example above, there are 12 devices in the "pathway" domain.

This will help you identify which is the old domain. Log into the old domain using the old password and remove the devices. When they come back online, they will appear as **Ready to Secure**. Add them to the new domain using the new password.

CHANGE DOMAIN NAME

Click this button to change the name of the current Security Domain.

Enter a new name for the current domain, and click **Change Domain Name**.

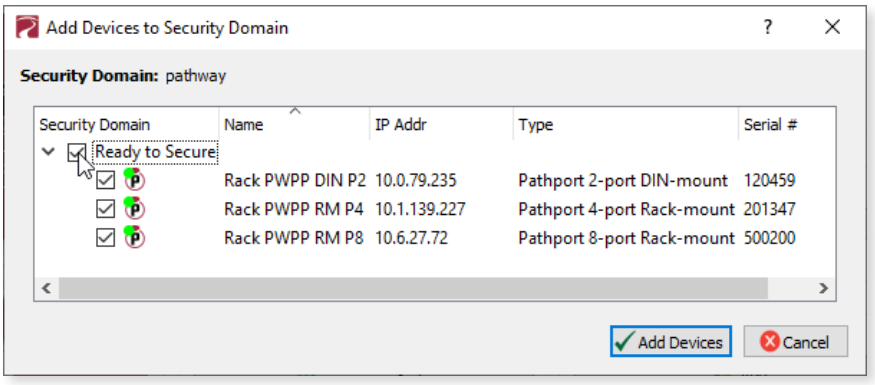
The window will close, and you will be logged out of the current domain, and the Domain Name will be changed to the new value. **You will have to log into the Domain again** to make any further changes.

Note that changing the domain name **does not** generate a new Recovery Key. The original key is still valid, as it is only generated at the time of the domain's creation.

DEVICES IN DOMAIN

ADD

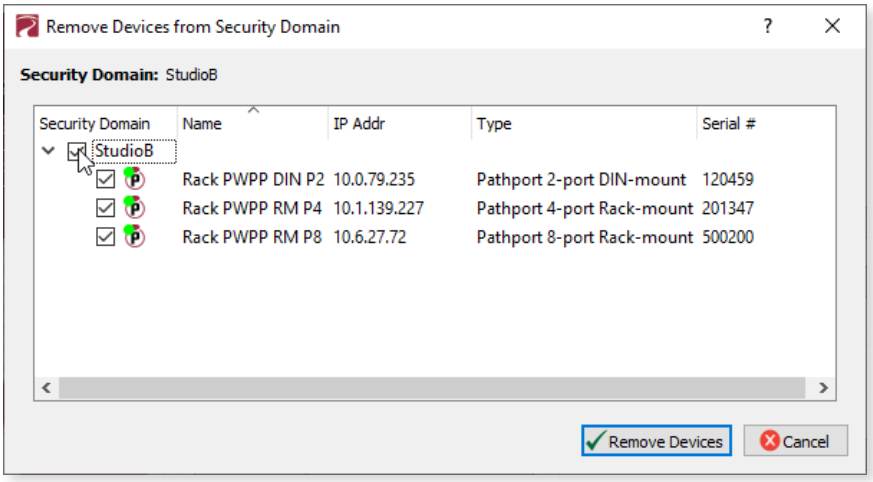
Clicking on this button will bring up the **Add Devices** window, where Ready to Secure devices can be added to the current Security Domain.



Click on the checkboxes next to the devices you want to add to the Domain, and click the **Add Devices** button. To add all the listed devices, click the top checkbox next to "Ready to Secure" which will auto-check all the devices' checkboxes.

REMOVE

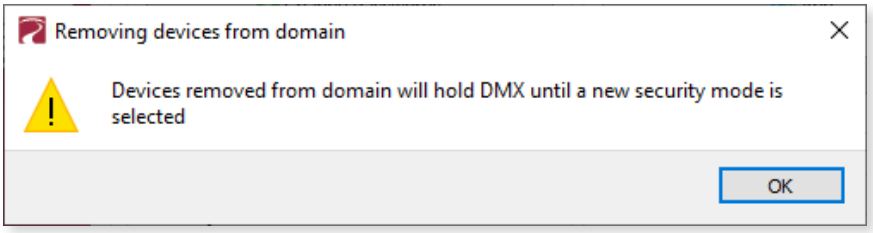
Click this button to remove devices from the current Security Domain.



Click on the checkboxes next to the devices you want to remove from the Domain, and click the **Remove Devices** button. To remove all the listed devices, click the top checkbox next to the Domain Name which will auto-check all the devices' checkboxes.

The devices will then be removed from the Security Domain, and will appear as **Ready to Secure**. The devices can then be added to another domain as needed.

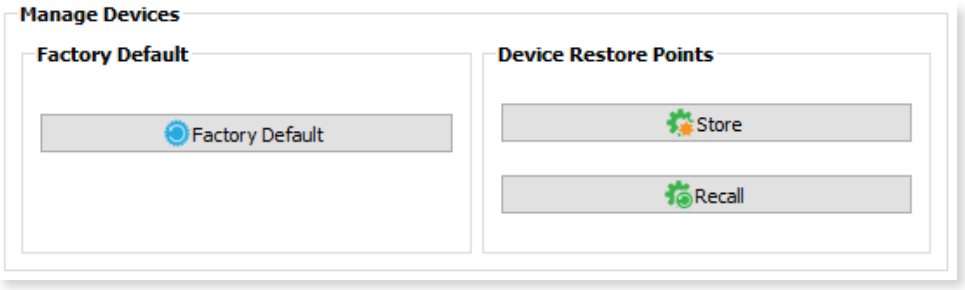
Note: When a device is removed from a domain, a window will appear reminding you that any active Network DMX levels will be held by that device until a new security mode is selected.



If all devices in a domain are removed from the domain, that domain is then deleted. This action cannot be undone. If you remove all devices from a domain and then want to add devices back to that domain, you will have to create a new domain with the same name, copy down the new Recovery Key, and add those devices again. **NOTE**: The original Recovery Key is now useless.

MANAGE DEVICES

This section is broken down further into functions that relate to **Factory Defaulting** devices as well as setting or restoring **Device Restore Points**.



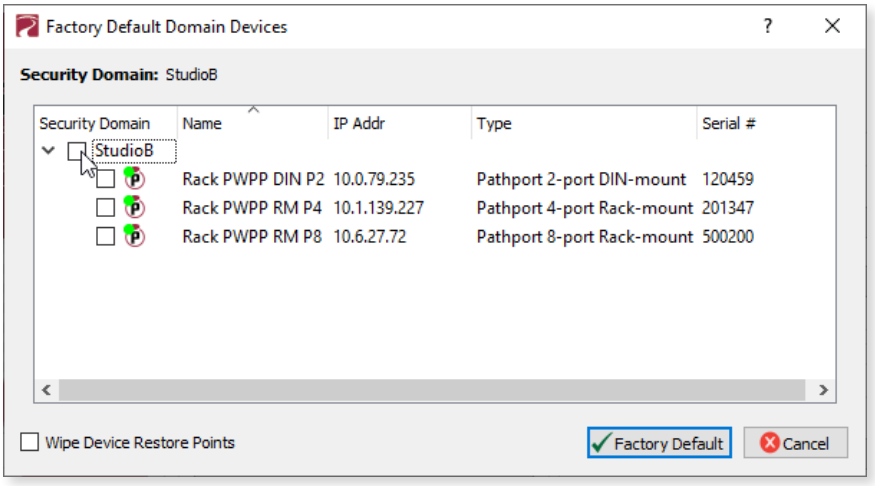
FACTORY DEFAULT

FACTORY DEFAULT

If you want to clear the settings of a device and return it to the factory defaults, click **Factory Default**.

Note that only devices in the Security Domain shown in this dialog box will be available to be defaulted. For devices running firmware V4 or below or devices that opted out of security, select the device and choose Factory Default in the Device menu.

Search the Pathway website for **Factory Defaulting Ethernet Devices** for detailed instructions.



At the bottom of the window, you may optionally **Wipe Device Restore Points** from all checked devices. See below for details on Device Restore Points.

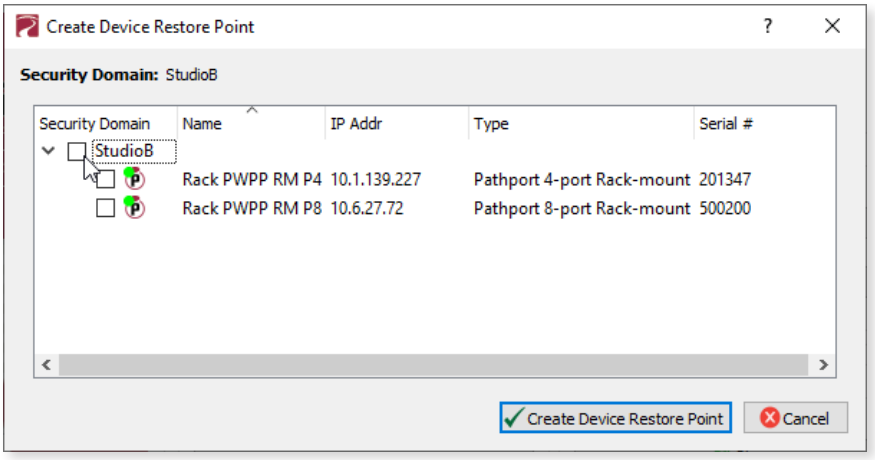
DEVICE RESTORE POINTS

With the release of firmware V6.0, certain Pathway products (Rack-mount VIA and Pathport models, Pathport DIN-mount 4-Port Gateway, eLink and Vignette Clock) will support Device Restore Points.

Creating a Device Restore Point saves the device's current configuration and settings to its internal memory, for later recall. This differs from a Pathscape show file, in that the show file is saved on a PC running Pathscape.

STORE

Click this button to open the **Create Restore Point** window.

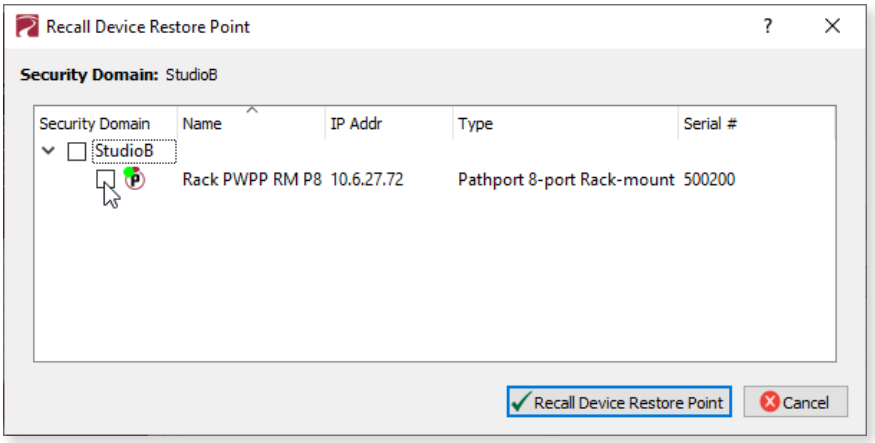


Click the checkbox next to each device on which you'd like to create a restore point. To check all devices, click the topmost checkbox. Click **Create Device Restore Point** to confirm.

Note that if there are no connected devices that support this feature, this button will be grayed out.

RECALL

Click this button to open the **Recall Restore Point** window.



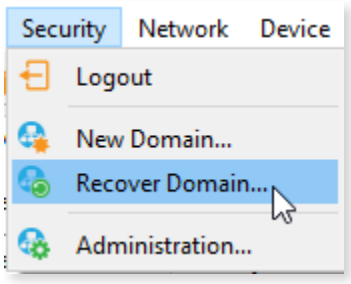
Click the checkbox next to each device on which you'd like to recall its restore point. To check all devices, click the topmost checkbox. Click **Recall Device Restore Point** to confirm.

Note that if there are no connected devices that support this feature, this button will be grayed out.

RECOVERING A DOMAIN

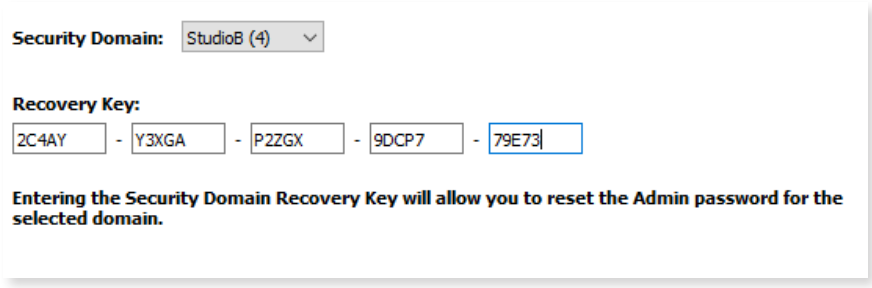
If you lose the Administrator password (or it was maliciously changed without your consent), you can recover the domain, retaining its configuration and set new passwords.

- From the menu, choose **Security >** **Recover Domain**.

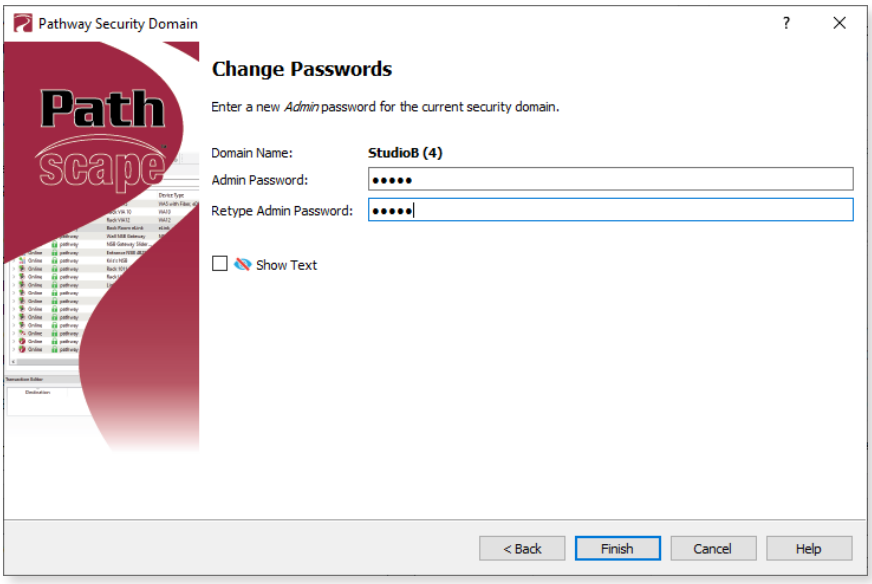


- The **Reset Device Security** window will open.

- Type in the 25-digit **Recovery Key** and press **Next**.



- Type in a new **Administrator Password**, and click **Finish**.



- Now you can log into the **Domain Administration Utilities** Panel using the new Admin password you just specified. At this point you can set a new user password as well, using the **Change Passwords** button, as explained above.

RETAINING DEVICE SETTINGS FROM UNKNOWN DOMAINS

In the unlikely event that you don't know the password of a Security Domain, but you'd like to retain all its configuration, try the following:

Without logging in to a Domain, all devices that appear with amber padlocks are **read-only**. Save a show file, and the configuration of all devices is saved. You can then factory default the devices using the prescribed method.

See the Pathway website, under **Resources > Pathway Product Hardware Resources > Factory Defaulting Ethernet Devices** for detailed instructions.

Once they reappear in Pathscape as **Ready to Secure**, add them to a Security Domain and log in. Once all devices appear with a **Green Padlock**, open the show file and **Send All Transactions** to restore the network configuration and patch.

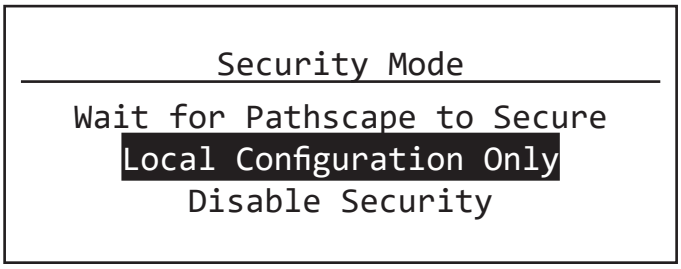
USING OLDER VERSIONS OF PATHSCAPE WITH NEW DEVICES

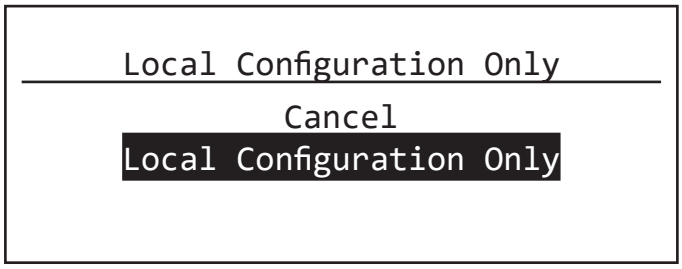
If you use Pathscape 1 or Pathscape 2 with devices shipped after **January 1, 2020 (Version 5 firmware or later)**, you will not be able to configure them. **You must use Pathscape 4 or later**. As a reminder, the device label will appear in the earlier versions of Pathscape as "**Use latest Pathscape PC software to secure**". Other properties will be shown correctly, but any attempts to change them will fail.

LOCAL CONFIGURATION ONLY

Using rack-mount VIA Switches, rack-mount and handheld Pathport Gateways, and eLink without Pathscape As they have a front panel user interface, the rack-mount Pathport Gateways can be configured as simple Input/Output gateways using standard universes without the need for Pathscape. Enter **Local Configuration** mode by selecting **Local Configuration Only** from the **Security Mode** menu.

This menu is shown upon bootup when no Security Mode has been set, i.e. when first received from the factory, or when the device has been factory defaulted or had its Security settings reset.





- From the **Security Mode** menu shown on the LCD, turn the encoder to select **Local Configuration Only**. In the submenu, confirm by selecting **Local Configuration Only** again. You will then have full access to the menus.
- In Local Configuration / Read Only mode, **Pathway ssACN** (Secure sACN) is not available. To use other standard (unsecured) protocols, you **must manually enable them**.

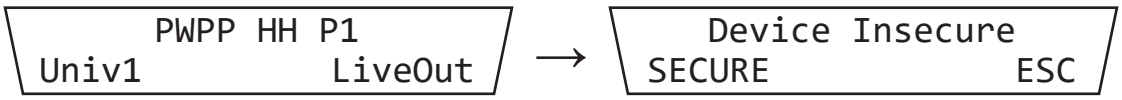
  In the **Protocol Support** menu, select the **Allow Unsecured RX** and choose **Accept the Security Risk** to enable unsecured protocols. **NOTE**: If you've disabled security (See **Disabling Security** below) the **Allow Unsecured RX** option is not available.
- Enable RX on the protocols you want to receive.
- On each port, set **Port Direction** to Input or Output and patch a standard universe (i.e., UNIV 1).

⚠ WARNING ABOUT UNSECURED PROTOCOLS ⚠

Enabling an open protocol that does not use encryption or authentication - These protocols could be eavesdropped or spoofed by malicious parties. You are strongly encouraged to secure access to your network, both physically and technologically. To continue, you must acknowledge that you have read this statement and accept these risks.

Like the rack-mount Pathport Gateways, the Pathport Handheld model can be configured as a simple Input/Output gateway using standard universes without the need for Pathscape. Enter **Local Configuration** mode by selecting **SECURE** from the main menu.

This menu is shown upon pressing any button twice, when no Security Mode has been set, i.e. when first received from the factory, or when the device has been factory defaulted or had its Security settings reset.

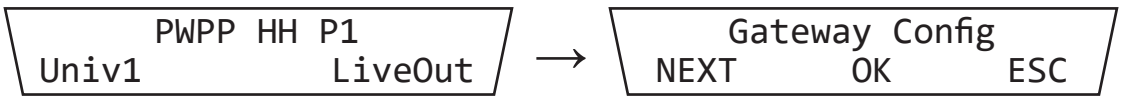


Main menu. Press any button twice to enter menu structure and see the Device Insecure screen.

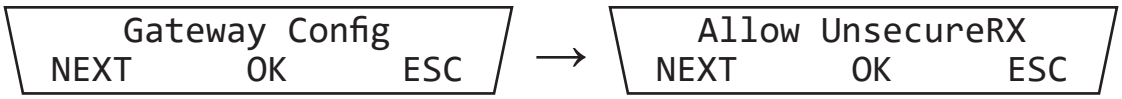
- From the **Device Insecure** menu shown on the LCD, press the left button to select **SECURE**. You will then have full access to the menus.
- In Local Configuration / Read Only mode, **Pathway ssACN** (Secure sACN) will not function.

  Pathway ssACN uses the **ssACN Password** to communicate with other devices on the same Domain. In Local Configuration Only mode, the device generates a random secret password that is never accessible by the user for its own “Local Domain”.

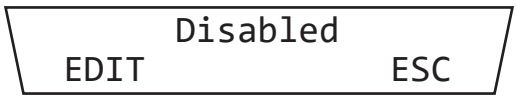
  The menu item for Pathway ssACN may still be displayed in this mode, and you may be able to set this item to “Enabled”, but note that **Pathway ssACN will not function in Local Configuration / Read Only mode**.
- To use other standard (unsecured) protocols, you **must manually enable them**.
  - Press any button twice to enter the main menu.



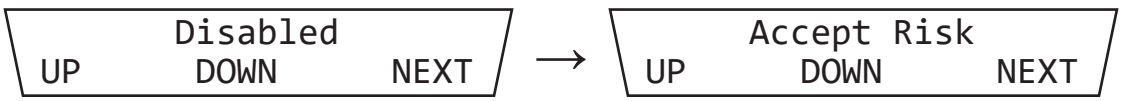
  - The first menu item will be **Gateway Config**. Press the **OK** (middle) button.
  - The first item shown in this menu will be Factory Default. Press the **NEXT** (left) button to go to the next menu item, **Allow UnsecureRX**, and press the **OK** button.



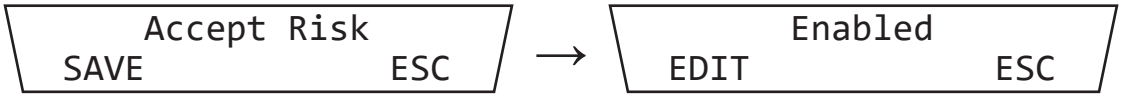
  - The next screen will show the current status of the Allow UnsecureRX property. By default, this is **Disabled**.



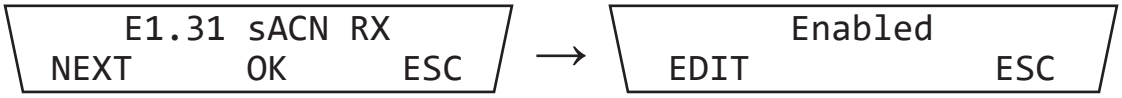
  - Press the **EDIT** (left) button. The current value will begin flashing, and the bottom row of the LCD will show the options **UP**, **DOWN** and **NEXT**. Press either the UP or DOWN buttons to change the current value to Accept Risk, then press the **NEXT** button.



- The next screen will allow you to **SAVE** the new value for this property, or **ESC** or cancel and return to the previous level.

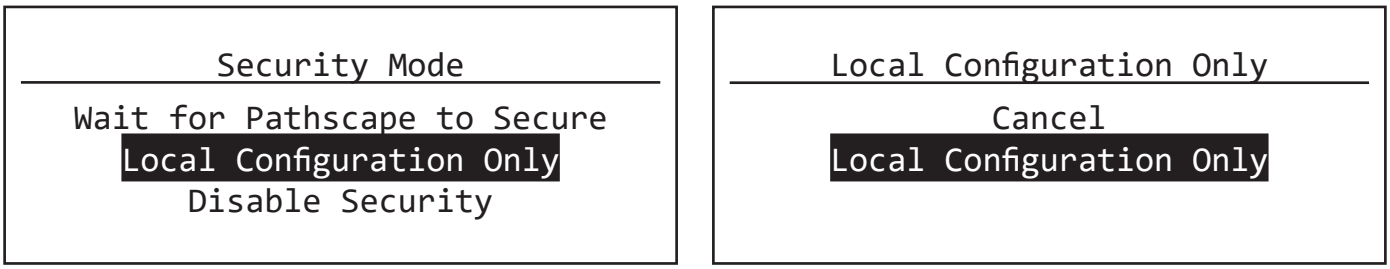


- Once saved, return to the **Gateway Config** menu and cycle through menu items to find the Receive Protocols you wish to enable: **Pathport RX**, **ShowNet RX**, **Art-Net RX**, and **E1.31 sACN RX**.



- Configure the **Port Direction** to Input or Output and patch a standard universe (i.e., UNIV 1). See the **Front Panel UI and Menu** section for details on how to use the other menu functions.

As they have a front panel user interface, VIA rack-mount switches may be secured without the need for Pathscape. Even though a computer network with a PC is not being used, the cybersecurity laws still require security to ensure “bad actors” do not later change your configuration remotely using a PC.



- From the **Security Mode** menu shown on the LCD, turn the encoder to select **Local Configuration Only**. In the submenu, confirm by selecting **Local Configuration Only** again. You will then have full access to the menus.

If you do open Pathscape, any devices secured this way shown as **Read Only**.

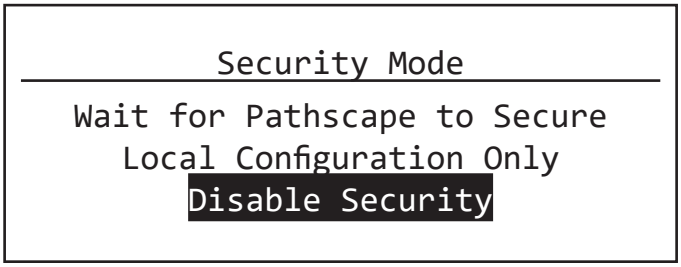
If you want to configure or patch custom universes to this device or use a PC for further configuration, you must use the front panel to **Reset Security** settings (or **Factory Default** the device if that option is not available), then use Pathscape to add it to a Security Domain.

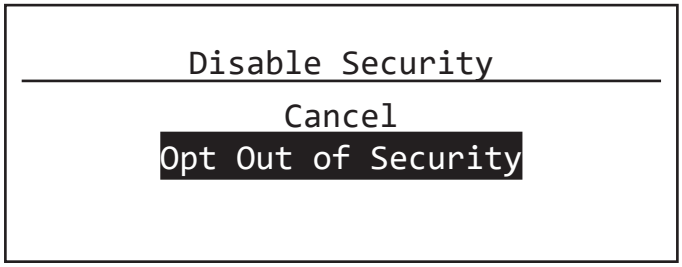
DISABLING SECURITY

With the launch of **firmware version 6.1 for devices with a front panel display and encoder (rack-mount Pathport Gateways, rack-mount VIA switches and eLink only)**, it is possible to opt out of the security features altogether. This is designed primarily for the rental market where devices may be shipped to various locations for use by different end users, where Domain passwords and Recovery Keys may not be known.

This mode of operation is not a recommended practice. However, if the production is on a dark network with a known crew, risk assessment may be weighed against convenience.

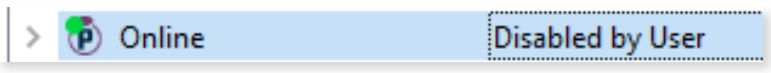
It is only possible to disable security settings from the front panel. **It is not possible to do this from Pathscape. You must perform this action from the Security Mode menu**, which is only shown when no other security mode has been set, i.e. when new from the factory, or after the device has been Factory Defaulted or had its Security Settings reset.





- From the **Security Mode** menu shown on the LCD, turn the encoder to select **Disable Security**. In the submenu, confirm by selecting **Opt Out of Security** again.
- You will then be able to access the menus. The device will appear in Pathscape with the Security Domain shown as "**Disabled by User**".

Devices set to **Disabled by User** will behave like legacy devices and are fully Read/Writable by Pathscape **without needing to be logged into a Domain**.



These devices will be fully configurable, resettable and rebootable from any PC that has network access, **including unauthorized parties**.

To re-enable Security on a device that has been **Disabled by User**, use the front panel to Reset Security settings, and add the device to Pathscape as explained above.

PATHWAY ssACN (Secure sACN)

Pathway ssACN (Secure streaming ACN) is a protocol developed by Pathway using much of ANSI E1.31, but adds a layer of authentication. This feature requires **device firmware version 6.0 or later**.

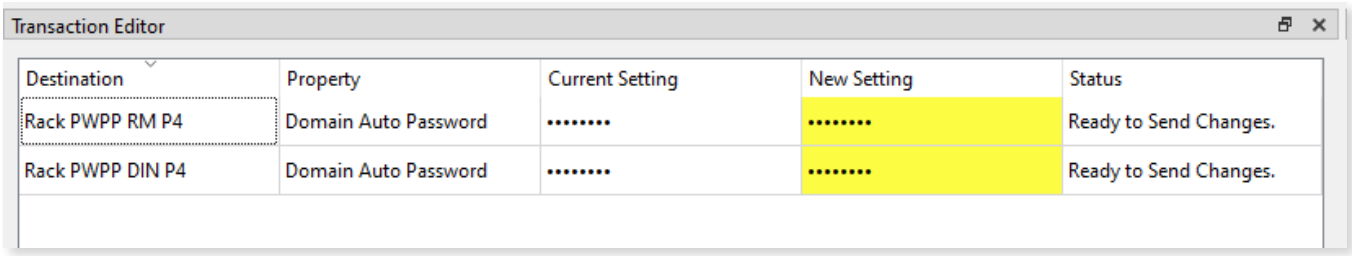
Receiving devices, like Pathport DMX/RDM gateways, share a **secret password** with known controllers in the venue, to verify the data source before driving the lighting rig. A cryptographic hash message is added to each E1.31 packet, verifying the authenticity of the source and the sequence of the data. Any invalid packets are ignored; only the correct lighting data is used during your performances.

If you have disabled security on a device, you will not be offered the ssACN protocol for Tx or Rx.

“Bad actors” cannot spoof a DMX source and send denial-of-service or ransomware attacks as the packets on their unsecured, un-authenticated protocols will be completely ignored by the lighting rig.

DOMAIN AUTO ssACN PASSWORD

When devices are added to a Security Domain, Pathscape generates a secret **Domain Auto ssACN password**, and creates transactions to send this data to each device in the domain. Each Security Domain will have a unique secret Domain Auto password created for it.



NOTE: these transactions will also appear for devices **already** part of a domain, after upgrading those devices to firmware version 6.0 or later.

NOTE that the **Domain Auto** password is **NOT** the same as the **Domain** password. Recall that the Domain password is the password **you chose** when creating the domain, used for logging in. Pathscape generates the Domain Auto password based on an algorithm. It is **NOT** possible to uncover the “•••••••” and see the value of the password, however all devices on the domain know what it is. This is how the authentication is possible.

CUSTOM ssACN PASSWORD

While in most scenarios the Domain Auto ssACN password will be all that is required, it is possible to specify your own custom ssACN password. See below for details on how to set custom TX (Transmit) and RX (receive) passwords.

This is useful in a few situations:

- **If you need to send DMX data across different Security Domains**: specify a custom **ssACN TX password**, and enter the same password on the receiving devices under **ssACN RX passwords**. The receiving devices will then be able to authenticate that data. Domain Auto passwords, as noted above, are unique per Domain, and will work only with devices on the same domain.
- **If you have a network with multiple consoles**: specify a different TX password for each console, and set the appropriate receiving devices to receive only one password or the other, effectively having them “listen” to traffic from the desired console only.

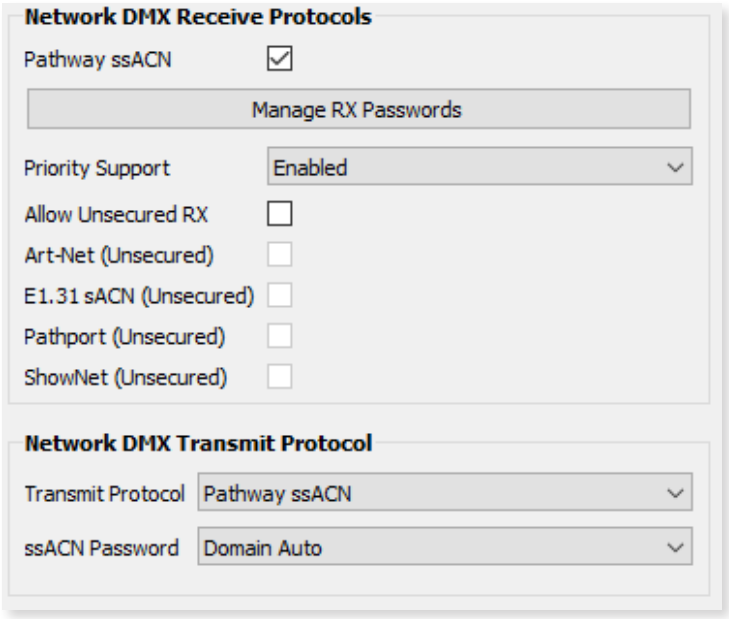
There may be other situations where a custom ssACN password is useful, but we recommend using the Domain Auto password for most systems unless you have unique requirements like the above.

If your console does not support Pathway ssACN and you still want to take advantage of the protocol's security features, consider inserting an eLink between the guest console and your installed network to wrap the generic sACN data for the Security Domain.

CHOOSING PATHWAY ssACN AS NETWORK PROTOCOL

To use Pathway ssACN and ensure the security of the entire network, you must specify all relevant devices to use Pathway ssACN.

In the relevant devices' **base device** properties, there are two sections called **Network DMX Receive Protocols** and **Network DMX Transmit Protocol**.

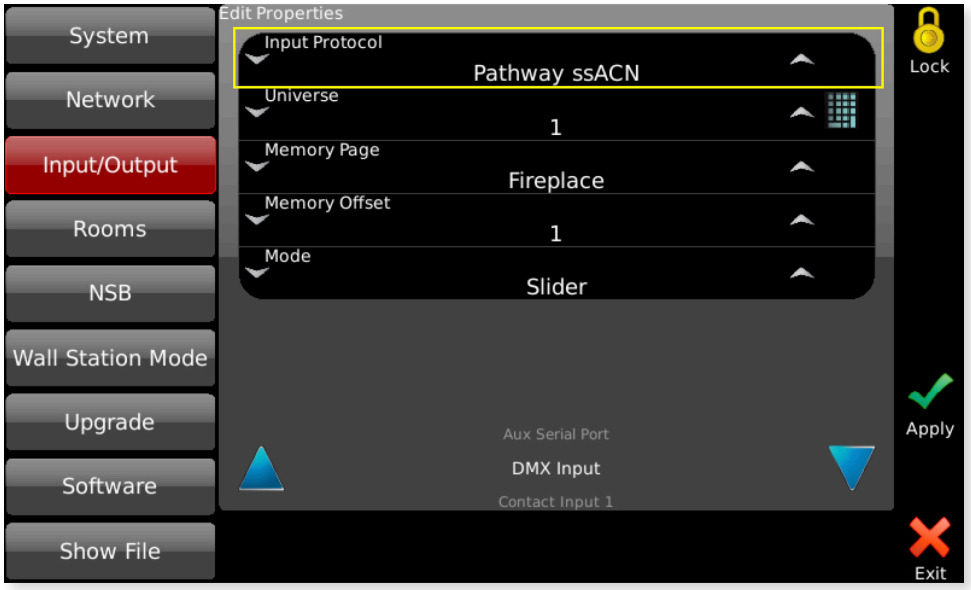


These are the same sections where you would specify your devices to use Network DMX protocols like E1.31 sACN or Art-Net, for example.

In the **Network DMX Receive Protocol** section, simply check the Pathway ssACN checkbox. We recommend unchecking the Allow Unsecured Protocols checkbox, if previously checked, since end devices can receive **both** ssACN and unsecured protocols if left checked.

This will ensure the receiving devices will only accept authenticated Pathway ssACN.

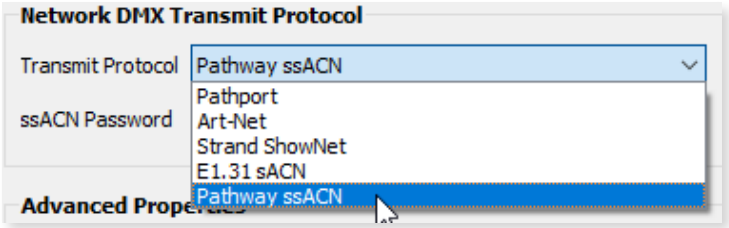
For **Choreo & Cognito**, navigate to the **Input/Output** page and scroll to the **DMX Input** section.



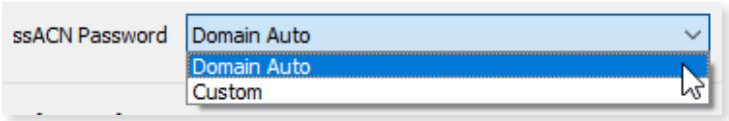
Under the **Input Protocol** field, select Pathway ssACN.

NOTE: Cognito and Choreo can only use the Domain Auto password.

In the **Network DMX Transmit Protocol** section, **Pathway ssACN** is simply added to the drop-down menu list of available TX protocols. Choose **Pathway ssACN** from the drop-down menu.

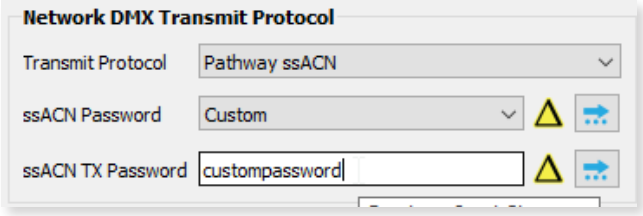


Once you select **Pathway ssACN**, the **ssACN Password** drop-down menu will appear.



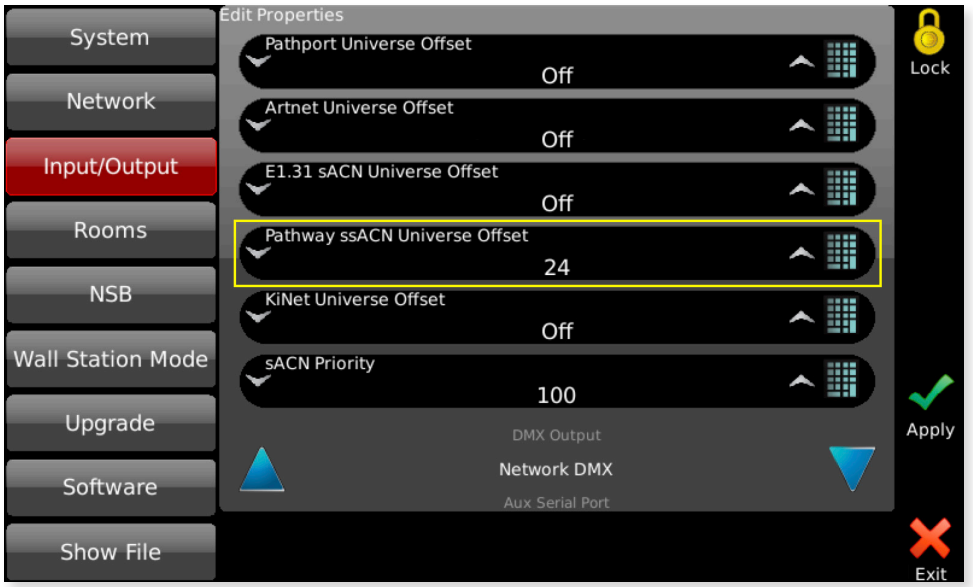
Specify here whether the device should use the generated **Domain Auto** password (default), or a custom user-set password.

If you choose **Custom**, the **ssACN TX Password** field will appear.



Enter a custom ssACN TX password for the device here. **NOTE**: this must be done on every device you wish to transmit a custom ssACN password with.

For Choreo & Cognito, navigate to the **Input/Output** page and scroll to the **Network DMX** section.



Under the **Pathway ssACN Universe Offset** field, choose the desired Universe to transmit Pathway ssACN.

NOTE: Cognito and Choreo can only use the Domain Auto password

More on managing ssACN Passwords below.

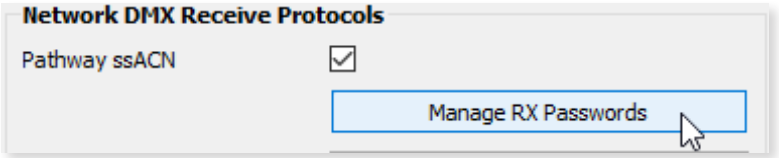
MANAGING PATHWAY ssACN PASSWORDS

In most situations, you will be using the Domain Auto password. In these cases, after configuring your devices to receive and transmit Pathway ssACN, you will not need to do any password management or further configuration.

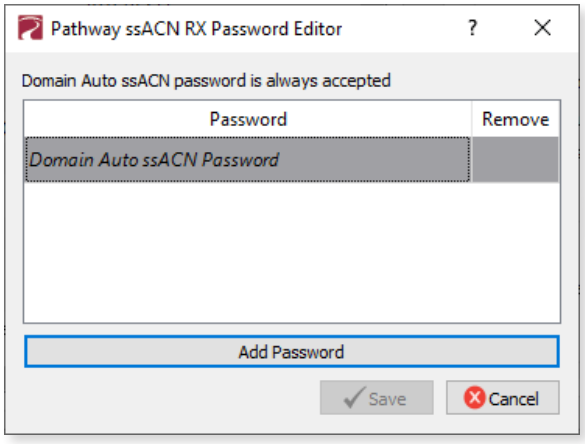
If you are using custom Pathway ssACN passwords, you will need to tell those devices transmitting Pathway ssACN what password to use, as well the devices that are receiving it what passwords to accept.

RX (RECEIVE) PASSWORDS

Under the checkbox for **Pathway ssACN**, there is the **Manage RX Passwords** button.

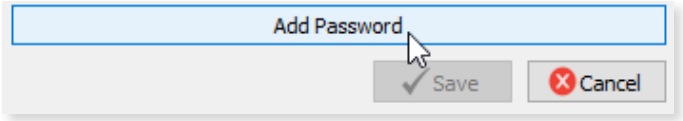


Click it to open the **Pathway ssACN RX Password Editor**.

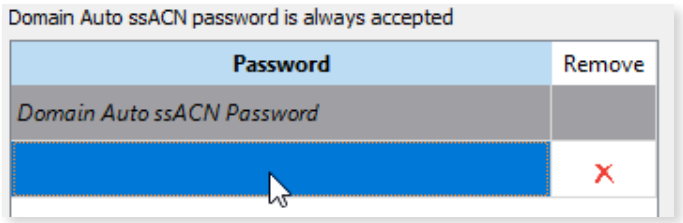


Use the Pathway ssACN RX Password Editor to add custom passwords the selected device should accept.

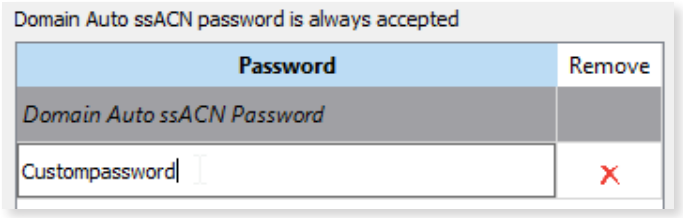
To enter a new password, click the Add Password button.



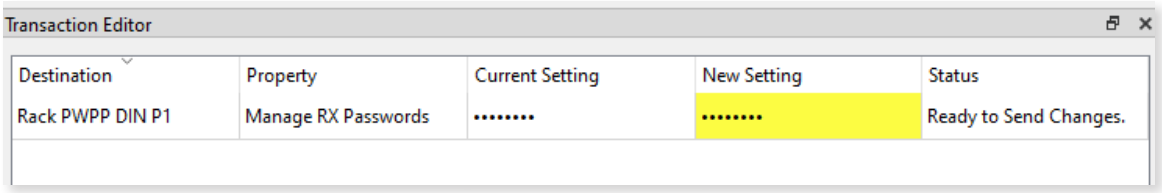
A blank entry will be added to the window.



Double-click on the row and enter your custom password into the text field.



To add additional passwords, repeat the steps above. To delete a password entry, click the ✕ next to the entry you wish to delete. To finish, click the Save button. A transaction will be queued in the Transaction Editor, which must be sent to save changes.

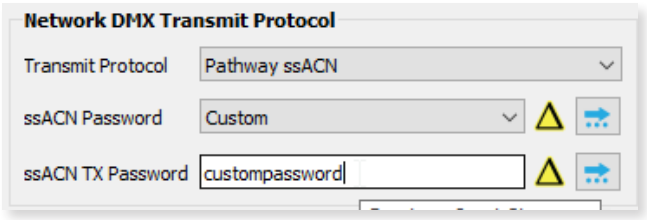


Click the Cancel button to close the window without saving any changes or edits made.

NOTE: the selected device will accept any source transmitting with a password listed in the password editor window. The Domain Auto password is always accepted.

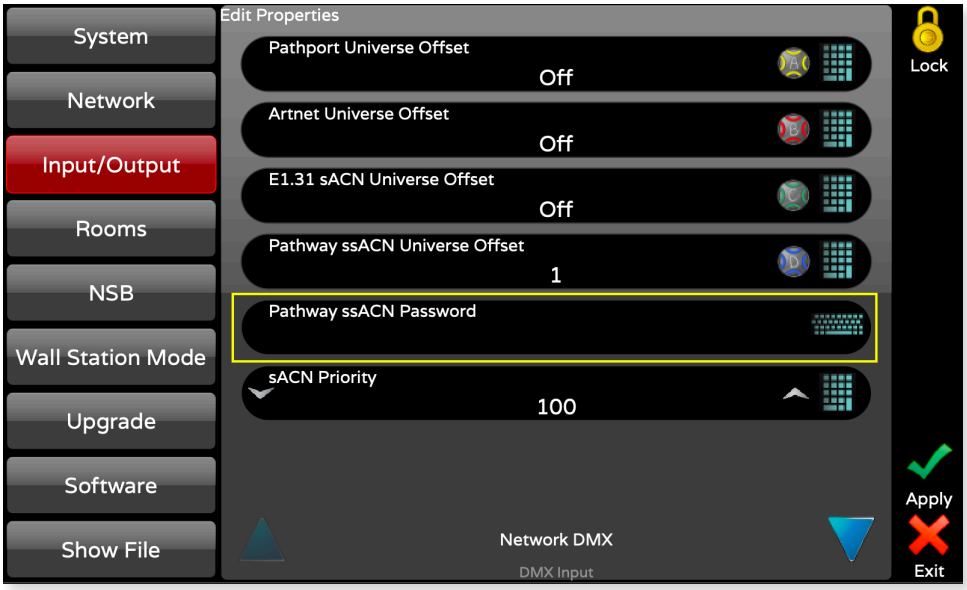
TX (TRANSMIT) PASSWORDS

Under the **Network DMX Transmit Protocol** , choose Custom under ssACN Password.



The **ssACN TX Password** field will appear. Enter the custom TX password you want this device to use.

For **CognitoPC Software**, it is possible to set up a Custom ssACN Password. Navigate to the **Input/Output** page, and scroll to the **Network DMX** section.



In the **Pathway ssACN Password** field, enter the custom ssACN Tx password.

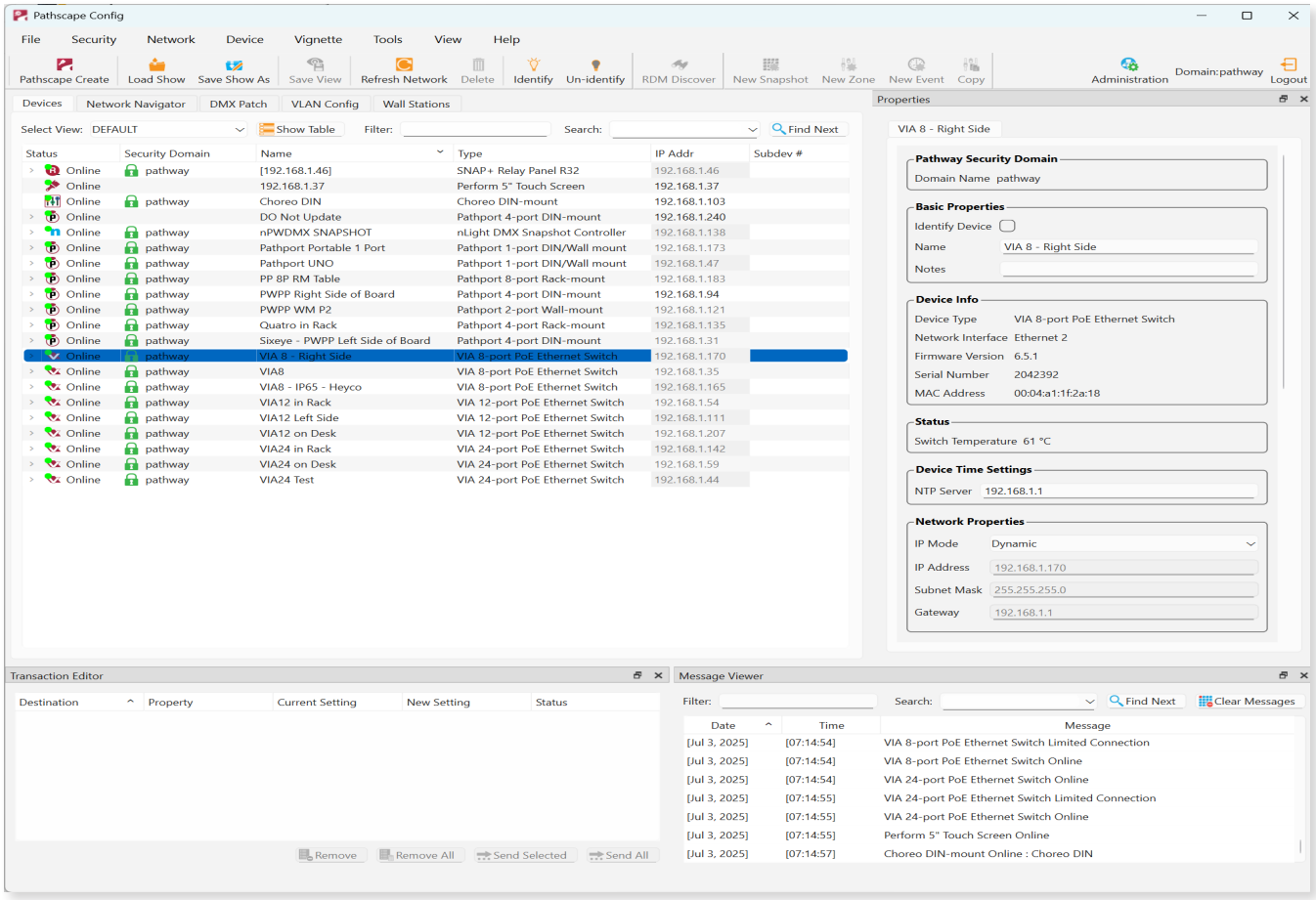
NOTES ABOUT PATHWAY ssACN

A device can only have one TX password at a time. You cannot transmit with multiple TX passwords.

However, receive devices, as shown above, can accept any number of different custom passwords. Choreo and Cognito will only receive using the Domain Auto password.

The **Network DMX Receive Protocol** and **Network DMX Transmit Protocol** properties are set on the base device and apply to all ports or subdevices. You cannot specify different protocols or passwords per port.

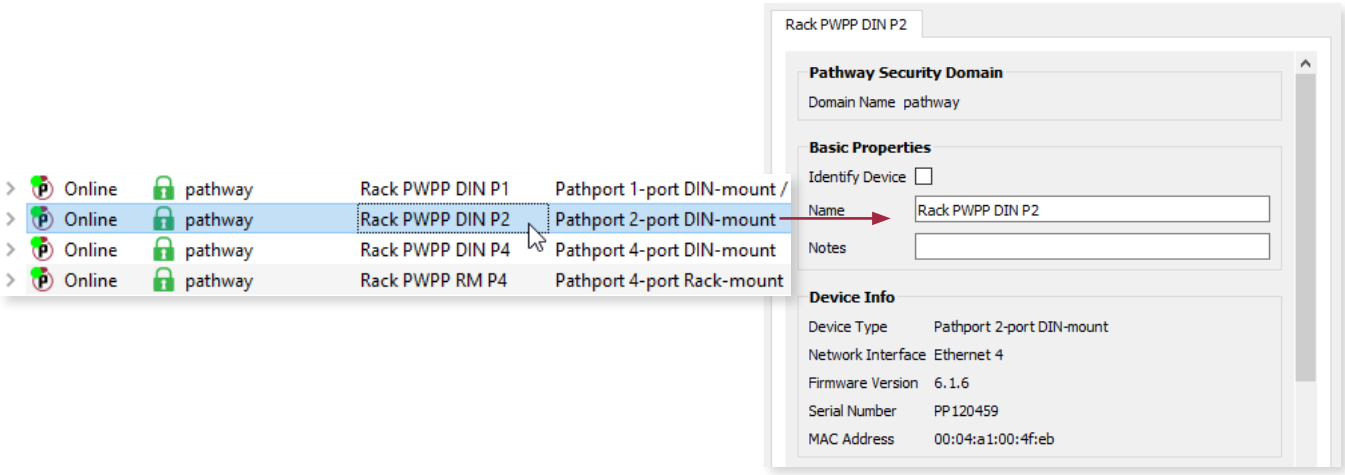
DEVICE VIEW



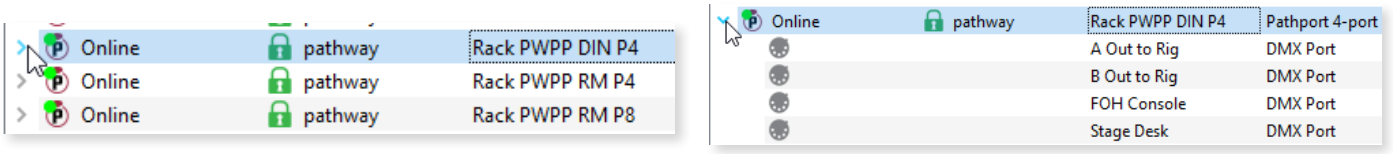
This tab shows all devices discovered on your network or configured in the show file.

SELECTING DEVICES

Click anywhere on a device row to select it and show its base properties in the Properties Pane.



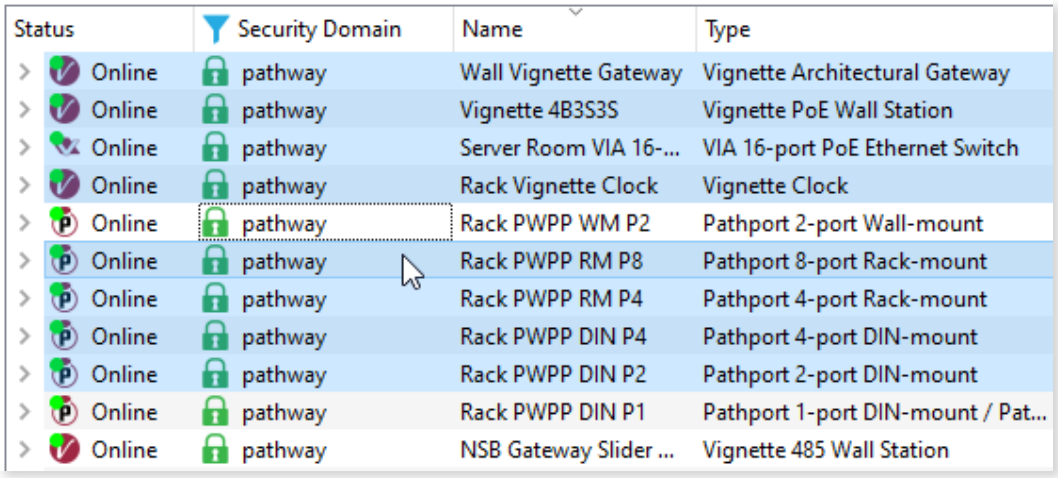
Double-click on the device icon or on the drop-down arrow to review individual subdevices (if applicable). Click on the subdevice row to see its properties.



Click on the drop-down arrow or double-click the device icon to show subdevices.

MULTI-SELECT DEVICES

In the Device View, it is possible to select multiple devices in order to set multiple properties to the same value, or to review the same properties across multiple devices.



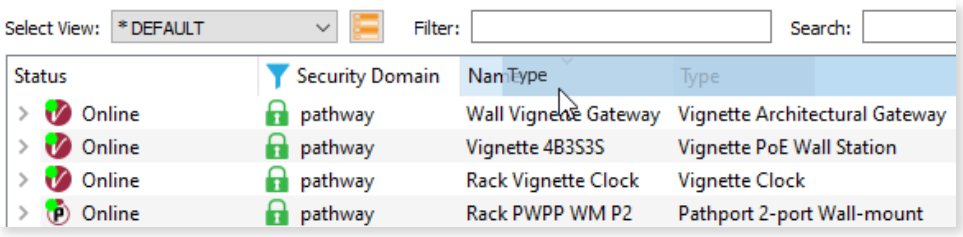
There are three ways to multi-select devices:

- **Click-and-drag**: Click on the first device you wish to select, and while holding down the mouse button, drag up or down to select the other devices, and release the mouse button.
- **Shift-Click**: Click on the first device you wish to select, and while holding down the **shift** key, click the last device you wish to select. All devices in between will be selected.
- **Control-Click**: Click on the first device you wish to select, and while holding down the **control** key, click additional devices. Use this method to select a non-contiguous list of devices. You may also control-click a selected device to un-select it, even if you selected multiple devices using either option above.

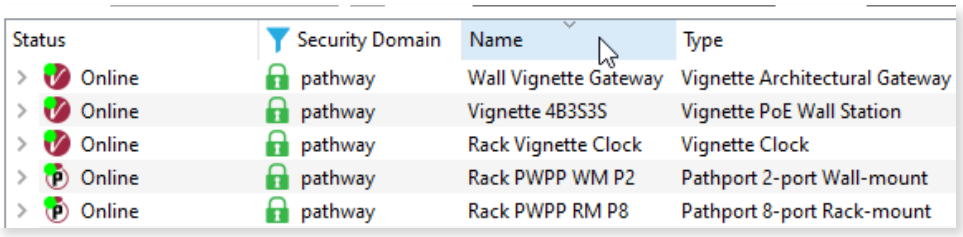
See below for more information on reading and writing properties when using multi-select.

REARRANGING COLUMNS

Columns can be rearranged by dragging and dropping them horizontally, and sorted by clicking on the column heading. An arrow on the column heading shows ascending or descending sort order.



Clicking a column and dragging horizontally to rearrange it.



Click the Column Heading to sort the list based on that column. Click again to change the sort direction.

DEVICE ICONS

With the release of Pathscape V4.0, the various device icons used in the main Device view have been updated.

Vignette family of devices (Vignette PoE Wall stations, Vignette 485 Gateways, and Vignette Clock)

Pathport family of devices (Pathport rack-mount, Wall-mount, Portable/Handheld, DIN-mount DMX/RDM Gateways)

VIA family of devices (VIA rack-mount and DIN-mount Ethernet Switches)

NSB family of devices (NSB PoE Wall stations and NSB 485 Gateways)

Cognito² and Choreo devices

eLink devices

CHANGING DEVICE PROPERTIES

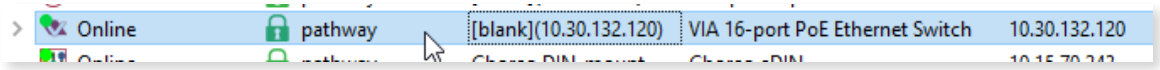
USING THE PROPERTIES PANE

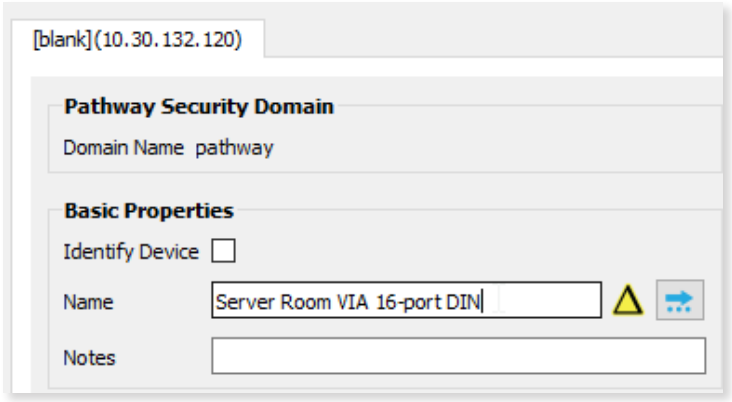
The Properties pane is the primary reporting and configuration tool of Pathscape. The options shown are dependent on selections made in the Main Window.

Each device has its own set of modifiable properties and they vary, depending on device or subdevice. Properties are modified with a variety of controls, depending on the property data type. Strings are edited using text boxes, flags are set with check boxes, and enumerated types are changed using drop down list controls.

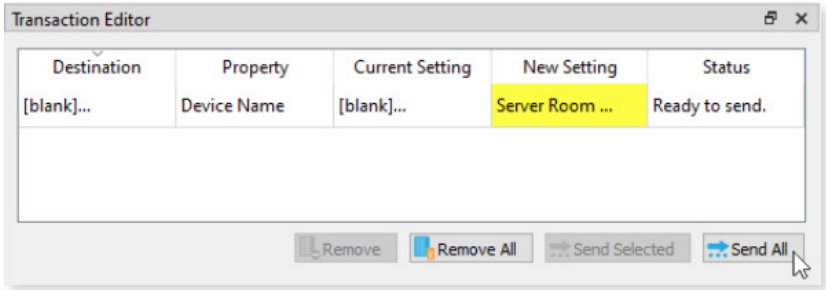
New devices or devices that have been Factory Reset will **use their IP address as their default name/label**. It should be changed to something meaningful, such as “Stage Left Outputs”, “Server Room Switch”, or another useful, descriptive name.

Click on the device in the main view, and in the Properties Pane, under “Device Name”, enter an appropriate name.

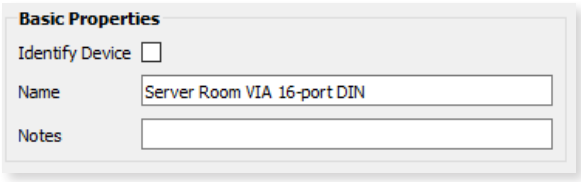




When a property has been edited, but not saved, **a yellow delta icon** will appear next to it, to indicate a change has been made. Next to it, a **Send Button** allows you to quickly save any changes to that property. You may also click the Send All button at the bottom of the Transaction Editor pane to send the changes to the device(s). This is helpful if editing a large amount of properties at once.

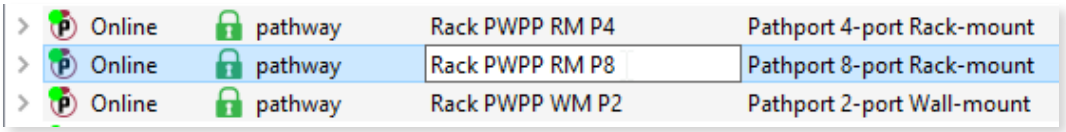


Once the transactions are sent and saved to the device(s), the transactions will be cleared from the list in the Transaction Editor and the field in the Properties pane will return to normal (**no** ⚠ **icon or** ••• **button**) , indicating the edits have been saved.

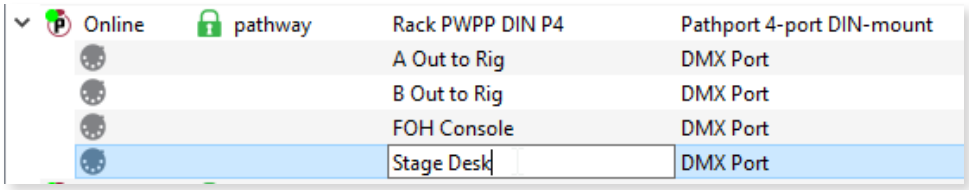


EDITING DEVICE PROPERTIES DIRECTLY IN DEVICE VIEW

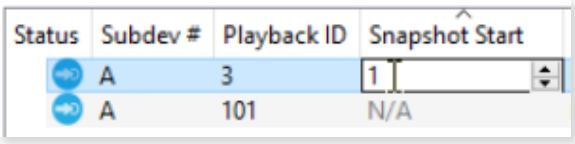
Device Properties are editable directly in the Device window itself. To edit a property, double-click it in the Device window, enter the new value, and click Send All to save changes. This goes for Devices as well as Subdevices; any property that is editable in a device or subdevice's Properties pane can be edited directly in the Device window if that Property Column is shown.



Double-click a property in the device window to edit it



Note: It is only possible to edit Properties in the main window if its text is **black**. Any property that is **grayed out** is not editable. Typically this is because the property is read-only, or because you are not logged into the Security Domain, or due to other prerequisite properties being disabled or incorrectly configured.

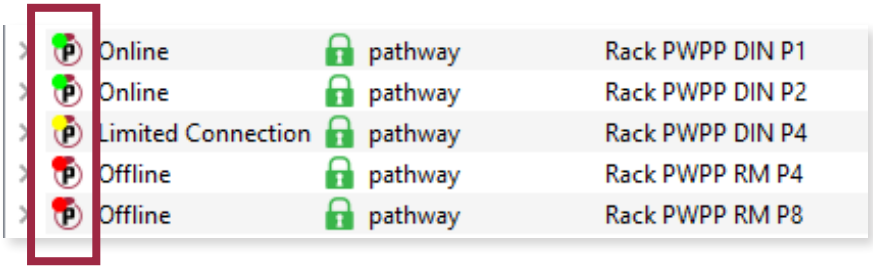


In the above example, the **Snapshot Start** field set to 1 is editable, since its text is **black**. The other fields in that column are **grayed out** and not editable.

ONLINE DEVICES

Devices that appear with a **green dot on their icon** are currently online, and their properties may be edited. A **red dotted** icon indicates communication with the devices has been interrupted for some reason, e.g. network problems, the device is rebooting, etc. A **yellow dotted** icon indicates **Limited Connection**, which typically indicates network addressing issues.

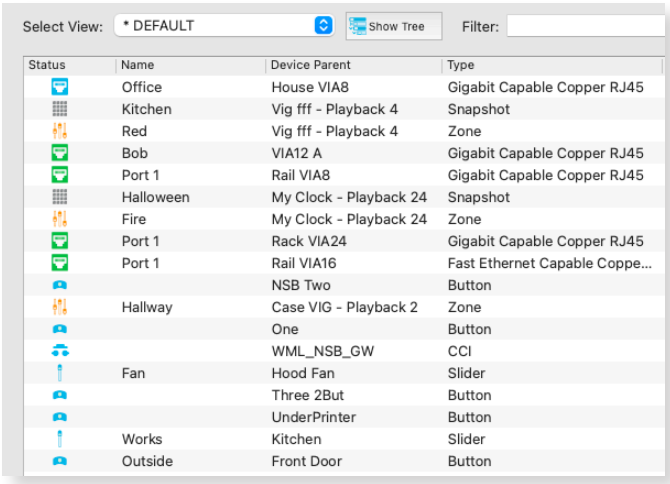
Many properties can still be set when the device has a yellow dot, such as its IP address. Once the networking issue has been resolved, you will have green dotted icons and full access to the device(s).



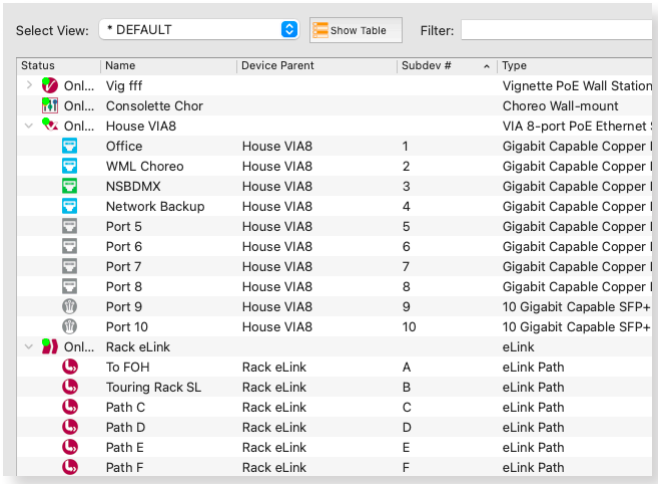
TREE VIEW / TABLE VIEW

In the Devices tab, there are two display options: Tree and Table views. In the Tree view, each main device has a chevron in the Status column to expand the children sub devices below it. In the Table view, there is not Parent:Child relationships. Using the column filters and column sort order, you can display the devices in specific ways that suit the task at hand. The View type is saved when you Save View.

Table View



Tree View



VIEWING SUBDEVICES

When in Tree View click on the drop-down arrow or double-click on the device icon to display individual **subdevices** or **ports** and their status (if applicable). Clicking on the base device name will also display the device properties in the Properties pane for editing.

Status	Security Domain	Name	Type	IP Addr	Subdev #
Online	pathway	Rack PWPP DIN P4	Pathport 4-port DIN-mount	10.1.143.13	
		Stage Desk	DMX Port		A
		FOH Console	DMX Port		B
		A Out to Rig	DMX Port		C
		B Out to Rig	DMX Port		D

Example of Pathport Subdevices (DMX Ports)

Some devices, such as switches and gateways, have subdevices called "**Ports**". eLinks have **"Paths"**. NSB and Vignette devices have "**Button**" and "**Slider**" subdevices. Vignette devices additionally have "**Playback**" subdevices. Subdevices may have a name as well. Expant the device to its subdevices by clicking the chevron to the left of its icon in the Status column.

Status	Security Domain	Name	Type	IP Addr	Subdev #
Online	pathway	Server Room VIA 16-po...	VIA 16-port PoE Ethernet Switch	10.30.132.120	
		Port 1	Fast Ethernet Capable Copper ...		1
		Port 2	Fast Ethernet Capable Copper ...		2
		Port 3	Fast Ethernet Capable Copper ...		3
		Port 4	Fast Ethernet Capable Copper ...		4
		Port 5	Fast Ethernet Capable Copper ...		5
		Port 6	Fast Ethernet Capable Copper ...		6
		Port 7	Fast Ethernet Capable Copper ...		7

Example of VIA Switch Subdevices (Ethernet Ports)

Status	Security Domain	Name	Type	IP Addr	Subdev #
Online	pathway	Vignette 4B3S3S	Vignette PoE Wall Station	10.61.9.12	
		Work Lights	Button		1
		Green Look	Button		2
		Purple Look	Button		3
		Allow Record	Button		4
		Red	Slider		5
		Green	Slider		6
		Blue	Slider		7
		White	Slider		8
		All Lights level	Slider		9
		Grandmaster	Slider		10
			Vignette Playback		A
		Working Lights	Snapshot		1
		Green Look	Snapshot		2
		Purple Look	Snapshot		3
		All Lights ON	Snapshot		4
		White	Snapshot		8
		Red LED	Zone		1
		Green LED	Zone		2
		Blue LED	Zone		3
		White LED	Zone		4

Example of Vignette Subdevices (Playback, Snapshots & Zones, and Buttons & Sliders)

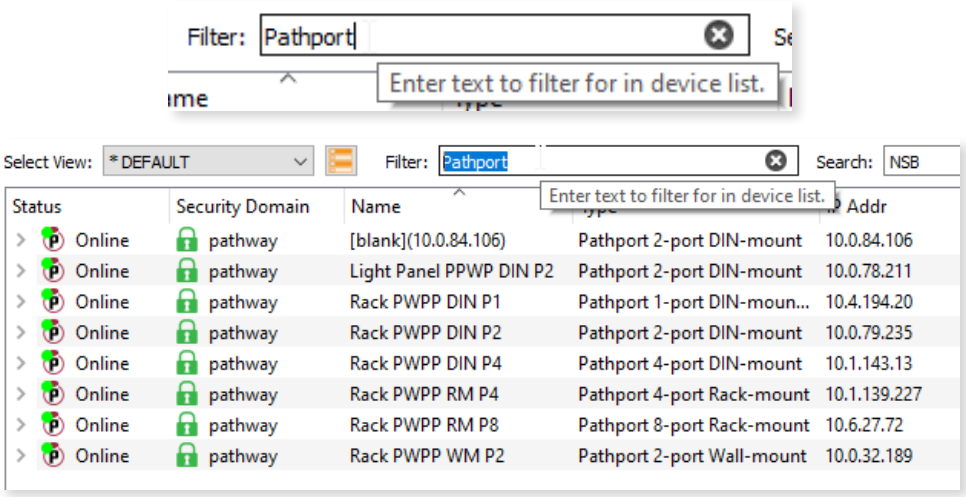
FILTERING AND SEARCHING FOR DEVICES

At the top of the Devices window, there are two fields, labeled "**Filter:**" and "**Search:**".

FILTERING

To filter the displayed devices in the Device view, enter text into the "**Filter:**" box. Pathscape will then only display devices matching the entered text.

For example, to display only Pathport Gateways, enter "Pathport" into the "**Filter:"** field.



As shown, only devices containing the text "**Pathport**" are displayed in the window. Note that you can filter based on any property. For example, you may filter based on:

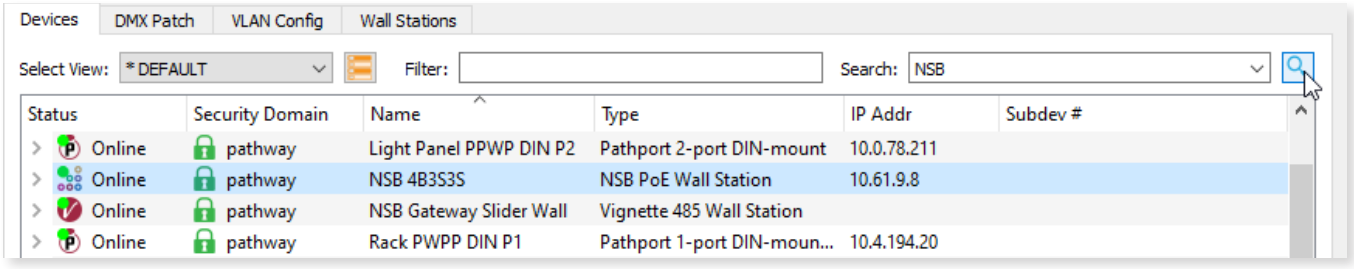
- Firmware Version
- IP Address
- Device Type (VIA, Pathport, NSB, etc.)
- PoE
- Link Status
- Subdevice Number or Name
- Notes (User-defined)
- Or any other property or value contained in any of the Device View columns.

To clear the filter, click the ⊗ inside the text field.

SEARCHING

The "**Search:**" field works in a different way. Enter some text to search for in the text box and click the 🔍 button. Pathscape will then highlight the first device that matches the search term.

Press the 🔍 button again to "Find Next" and highlight the next device that matches.

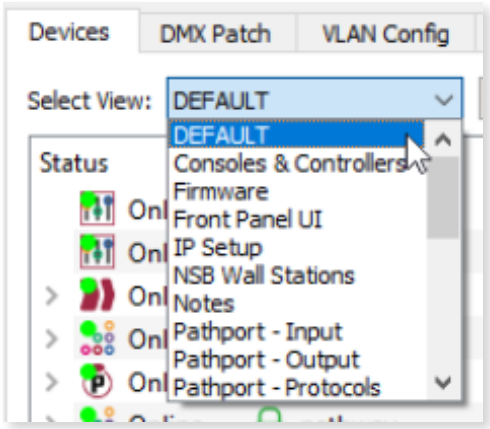


Like the Filter function, you can search for text from any of the device columns.

SELECTING CUSTOM VIEWS

Pathscape displays devices in the Device View, along with other device information, in several columns. These columns will display the device's Name, Type, IP Address, and so on. There are **dozens** of different Property Columns that Pathscape can display.

In order to keep the Device View uncluttered by Property Columns that may not be relevant to the current task, Pathscape has a custom view menu under the **Select View:** drop-down, to easily switch between different column views.



The first item in the list is the **DEFAULT** view. This is the view that is shown when Pathscape starts up for the first time. It consists of the following columns: **Status**, **Security Domain**, **Device Name**, **Device Type**, **IP Address**, **Subdevice Name** and **Subdevice #**. This is a good way to see a general overview of the network and connected devices, without overwhelming amounts of information on screen.

USING THE PRE-INSTALLED VIEWS

Below the default view item are several "canned" preset views that may be useful for quickly checking certain criteria across network devices.

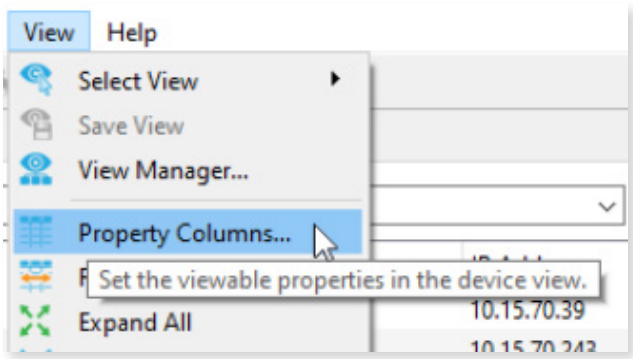
For example, the view named "NSB Wall Stations" will show only those NSB devices and modify the layout of property columns to **Status**, **Device Name**, **Subdevice Name**, **Subdevice #**, **Device Type**, **Position**, and **Family** (Filtered on the term "NSB Subdevice"). It also changes the Device View layout from **Tree View** to **Table View**. This makes it easy to see the status of all NSB devices on the network.

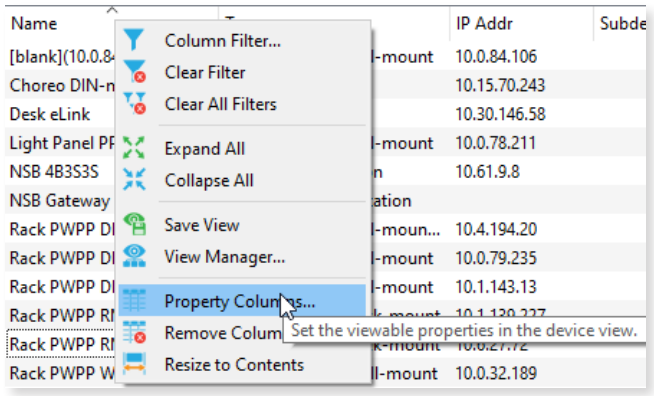
There are several other view presets for easier viewing of devices or properties. Click on the Select View drop-down menu and click on one of the listed presets to see the result.

To go back to the default view, simply select the DEFAULT view at the top of the menu.

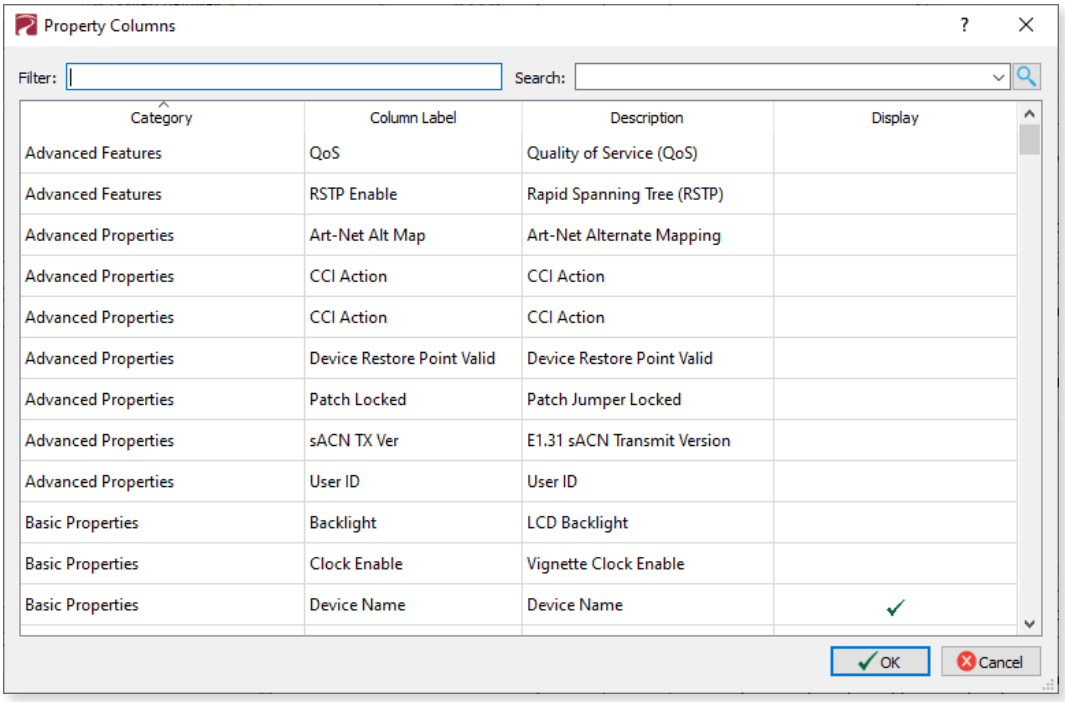
USER-DEFINED VIEWS

You can create your own custom views for your particular need. Click on the **View** menu and then select **Property Columns**. You can also right-click on any of the **Column Headings** in the main Device View window and then select **Property Columns** from there.

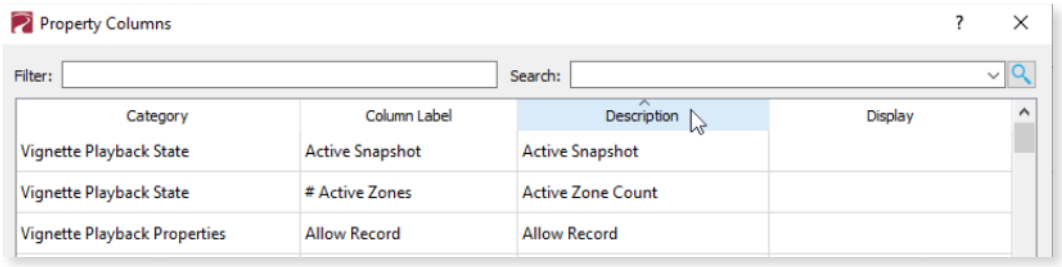




This will open the Property Columns window.



There are four columns in the Property Columns window: **Category**, **Column Label**, **Description**, and **Display**. By default, the columns are sorted by Category, ascending. To change the sort method, click the desired column header until the arrow is in the desired orientation (up for ascending, down for descending).



Click the column heading to sort based on that column

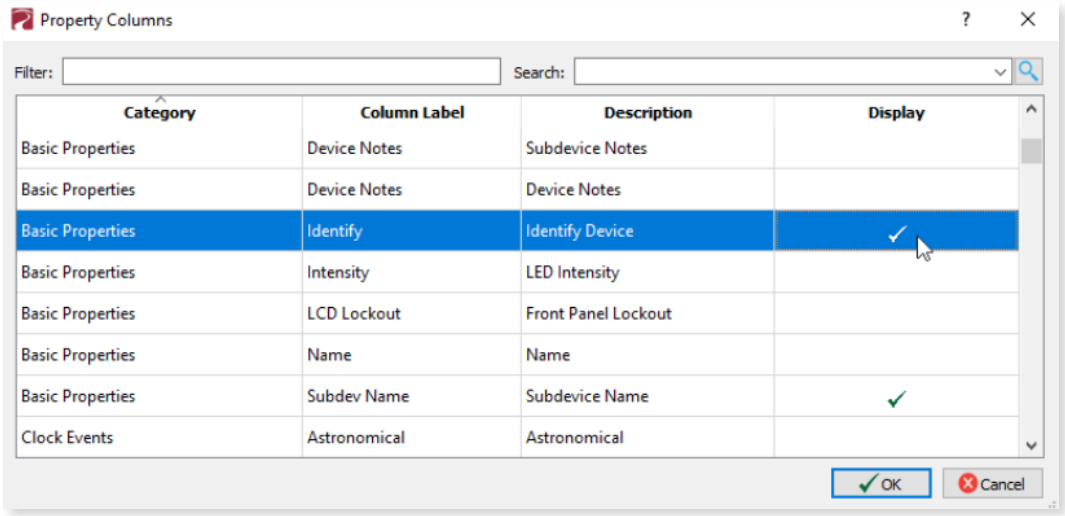
The **Category** column separates the different properties into general categories, e.g. Basic Properties, Advanced Properties, Device Info, DMX512 Port Properties, etc. For a full list of all Property Column labels and their descriptions, see **Appendix 1: Device Property Columns.**

The **Column Label** column lists the name or label of the individual property to be displayed, e.g. Device Name, Device Type, Serial Number, Port Direction, etc.

Like the Device window and Message Viewer, you may also **Filter** and **Search** the Property Columns window to quickly find the column property you're looking for:

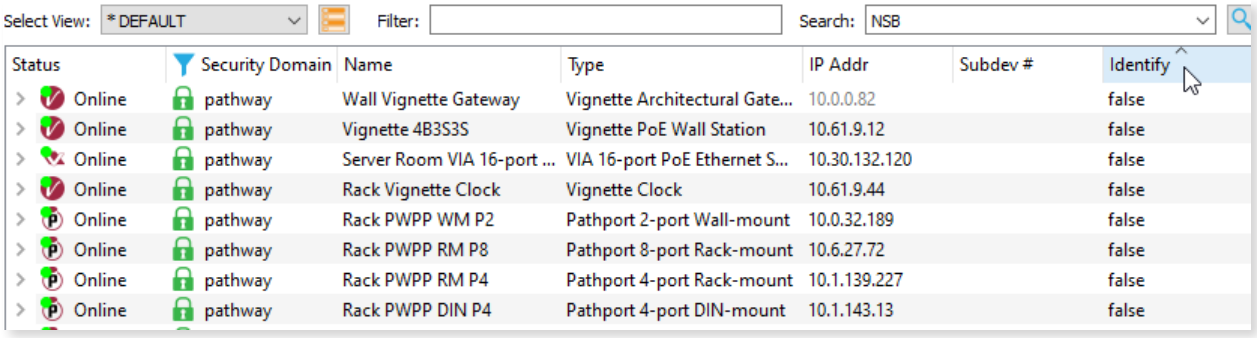
- Enter text in the "**Filter**" field to show only Properties matching that text. Clear the filter by clicking the ⊗ inside the field.
- Enter text in the "**Search**" field and click the 🔍 button to find and highlight the first occurrence of that search term. Click the 🔍 button again to find the next occurrence, and so on.

To display the desired property column in the Device View, click in the **Display** column so that property has a checkmark ✓.



Click again to remove the checkmark. Click the ✓ OK button to confirm changes, and the ⊗ Cancel to discard changes. The new columns will appear.

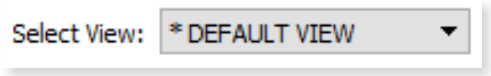
In the Device View, the newly selected column(s) will appear to the right of the preexisting columns. You may have to scroll the Device View horizontally to see the new column(s).



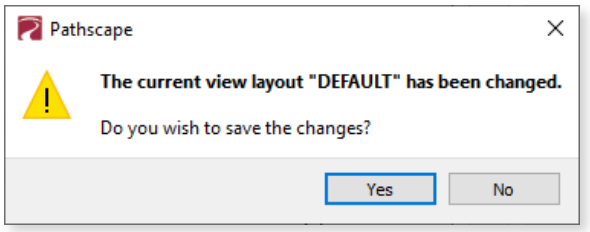
Once the new column properties are displayed, use the **Save View** function to save the layout for later use (see below).

MODIFYING EXISTING VIEWS

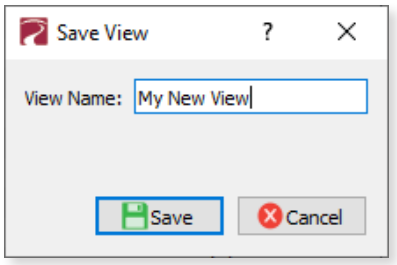
When a View has been modified in any way, including **re-sizing the column widths**, **adding** or **removing columns**, **rearranging column positions**, or **filtering columns**, the selected View will appear with an "*****" (asterisk) in front of its name in the Select View Menu, indicating a modified, unsaved view.

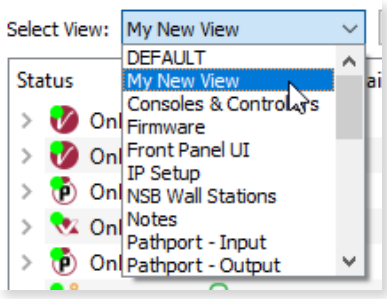


If you're done making changes and like your new view, remember to save it with the **Save View** function. If you attempt to select another view without saving the modified view, a confirmation dialog will appear.



Clicking **No** will discard the changes to the View. Clicking **Yes** will open the **Save View** dialog where you can give your new view a name.

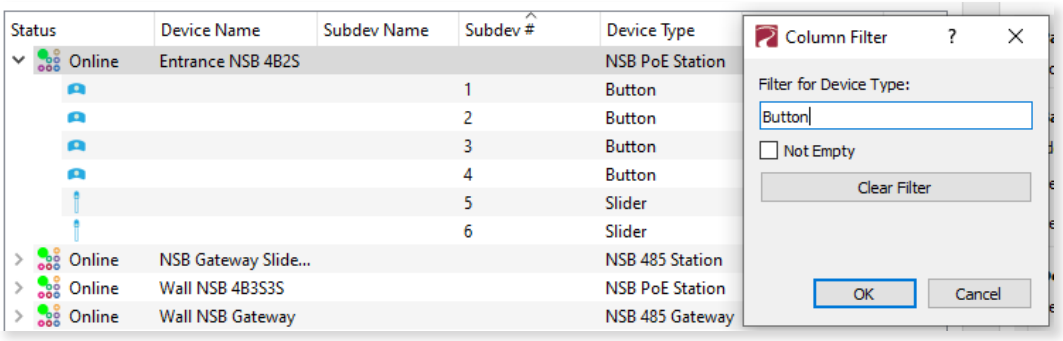




After saving your custom view, it will be added to the Select View menu.

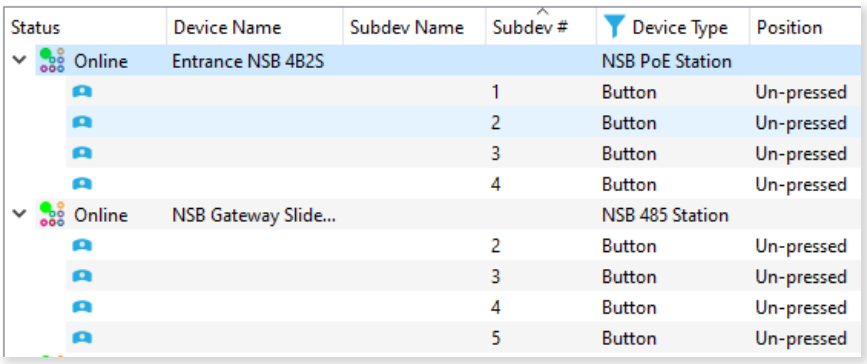
FILTERING COLUMNS

To further increase a custom view's focus, you may also filter individual Property Columns. Once your desired columns are being displayed, right-click the appropriate column and click Column Filter... and enter some text in the field to filter the selected Column.



In this example, we filter the "Device Type" column to display only Button devices

After entering the text to filter on, click the OK button to apply. The filtered column will then show the icon next to its heading, and the column will display only those properties that match.



Device Type column is filtered to show only devices matching the text "Button"

In the above example, the "NSB Wall Stations" view was showing all NSB stations, but if we wanted to see only the Button stations, we would filter the **Device Type** column on the term "Button" to display those (sub)devices with "Button" as their type.

CLEARING COLUMN FILTERS

To clear a column filter, right-click the column and click Clear Filter.

To clear all column filters, right-click on any column and click Clear All Filters.

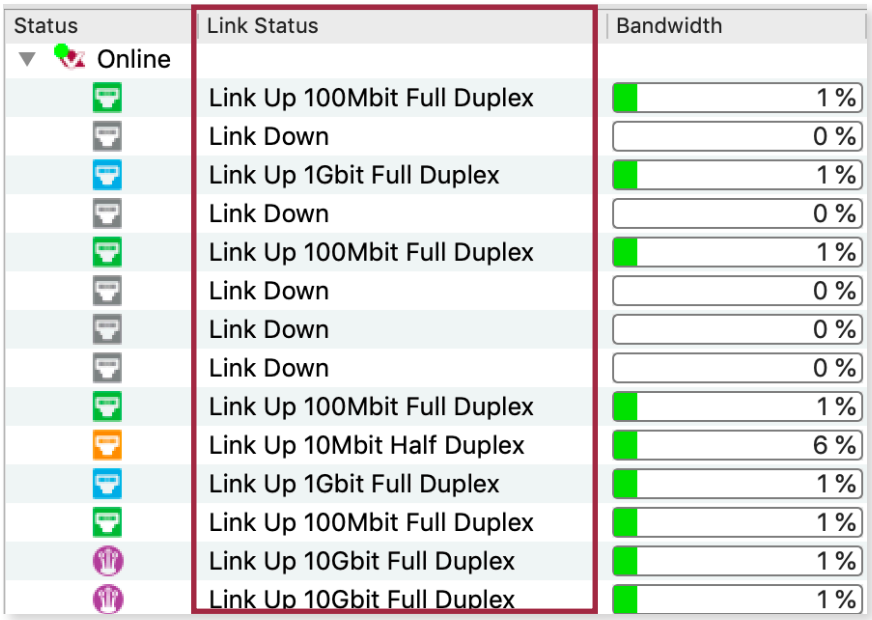
LIST OF PROPERTY COLUMNS

For a full list of the available Property Columns, see **Appendix 1: Device Property Columns**.

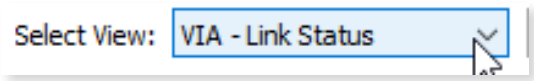
VIA SWITCH LINK SPEED AND STATUS

For switch ports, link speed and status is also indicated by the color of the port icon.

Icon	Status
Grey RJ45	Copper RJ4: Link Down (no downstream device connected)
Blue RJ45	Copper RJ45: 1 Gigabit
Green RJ45	Copper RJ45: 100 Megabit, full or half duplex
Orange RJ45	Copper RJ45: 10 Megabit full or half duplex
Grey Fiber	SFP/Fiber: Link Down (no downstream device connected)
Blue Fiber	SFP/Fiber: 1Gigabit
Purple Fiber	SFP/Fiber: 10Gigabit

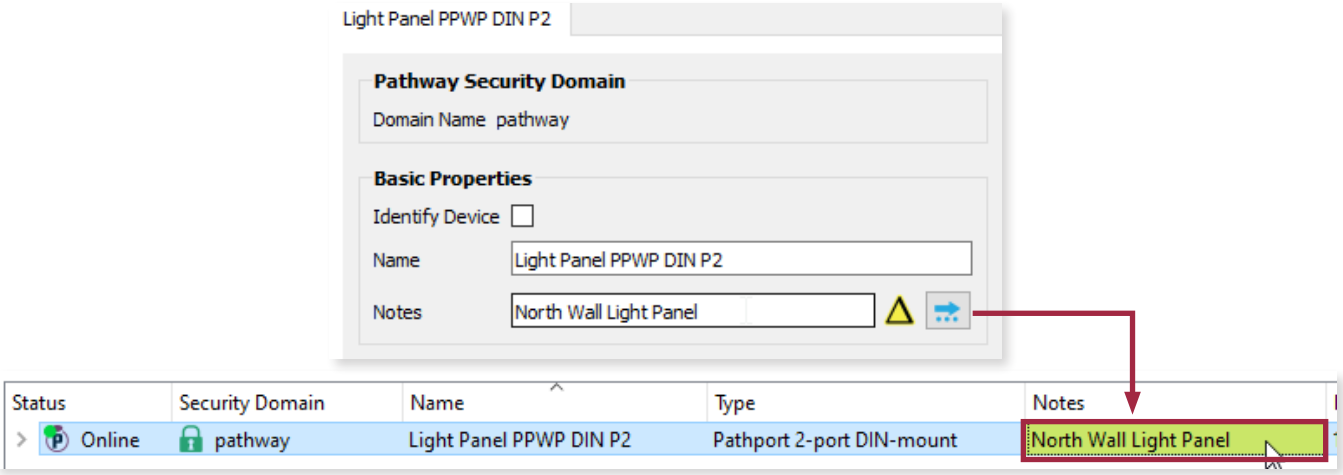


Note: to see the **Link Status** and **Bandwidth** column, choose the **VIA - Link Status** view or select them using the Property Columns window.



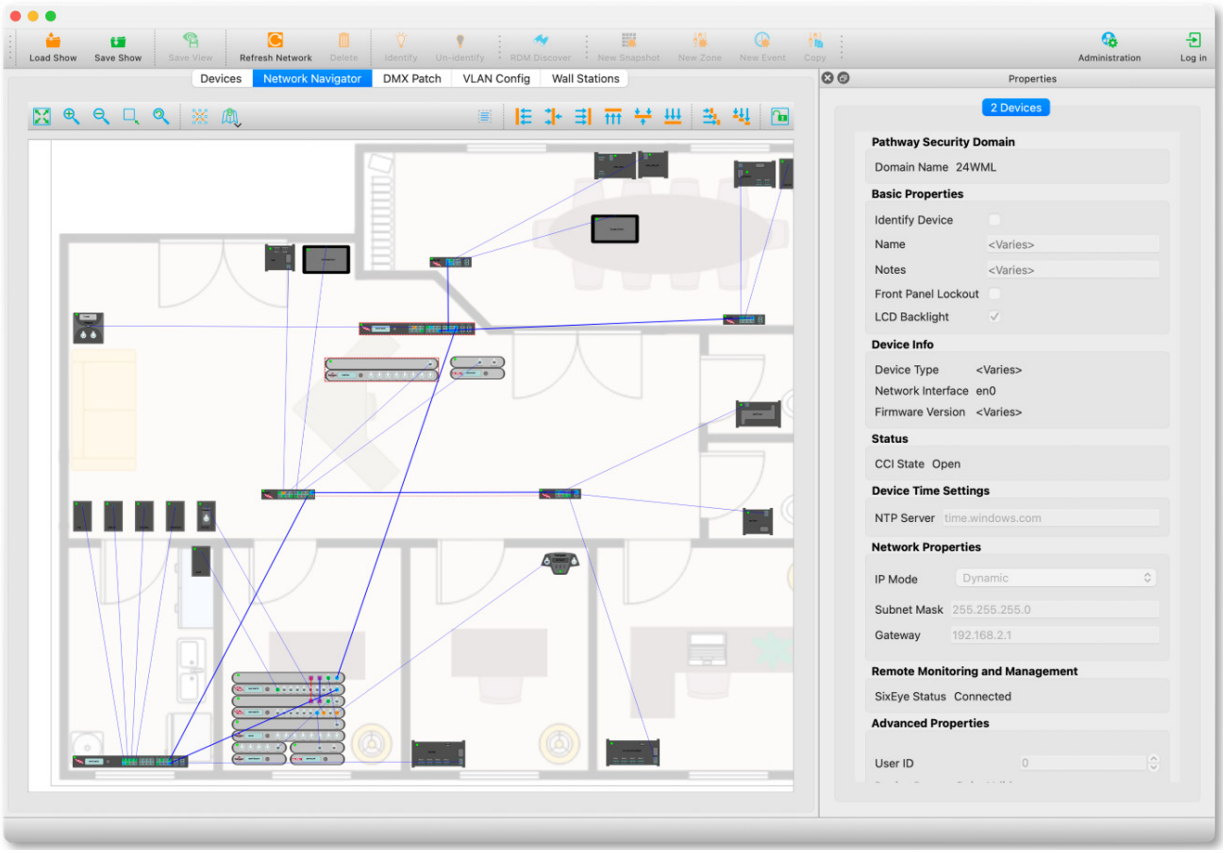
DEVICE NOTES

The Notes column shows any particulars for a device or subdevice recorded by the user in the Properties pane.



Note: to see the **Device Notes** column, you must display it using the Property Columns window.

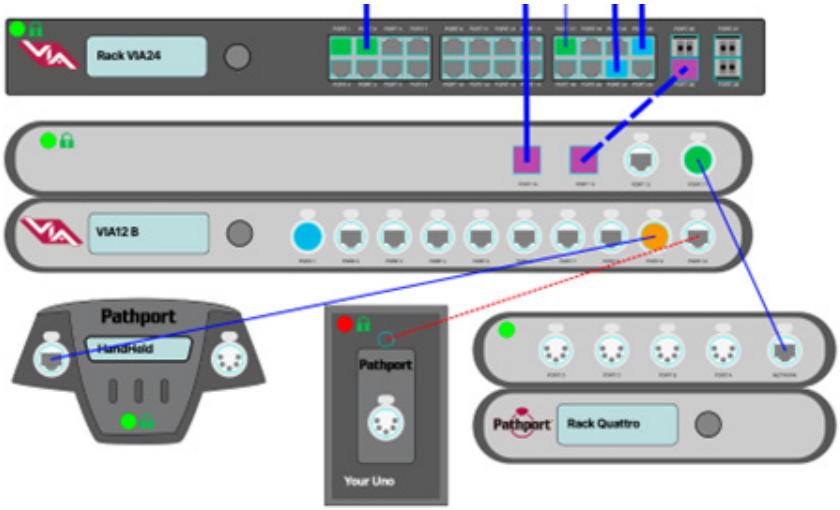
NETWORK NAVIGATOR



The Network Navigator tab offers a graphical view of all Pathway Connectivity devices as discovered on your network or from loaded show files. As devices are discovered, they are places in empty space on the Network Navigator tab. They are to scale (i.e., a PWPP RM P8 is 17” wide). If the placement is not locked, you can freely move and arrange in a way that makes sense to you. The Align and Distribute tools help make it easy to keep things neat and tidy. Once you are happy, add a background and then lock the device placement to prevent accidental movement. Selection of devices and ports is still possible when the placement is Locked.

When using VIA switches for the network backbone the devices are automatically ‘connected’ to the actual port on the VIA and connection lines are updated in real time as devices come and go. If you move a device from one port on a VIA to another, or even to another VIA, the connecting lines will automatically move. There is no need to build an “as-built” drawing; the Navigator tab is always up-to-date and as accurate as real life.

NAVIGATOR CONNECTING LINES



TAGGED PORTS

Thick blue lines are VLAN TAGGED connections between VIA switches. These connections carry data for all VLANs between switches.

EAPS BACKUP LINKS

Thick Dashed Blue lines are EAPS Ring Protection ports that are “Link Up” and standing by for any Ring Failure.

EAPS BACKUP LINKS Down

Thick Dashed Red lines are redundant EAPS Ring Protection ports that where “Link Up” and have themselves gone “Link Down”.

CONNECTED PORTS

Thin Blue lines are active connections between devices that are “Link Up” on the Management VLAN. Pathscape Config is not capable of drawing devices not on the current Management VLAN. If a device is on another VLAN, the VIA Port will be filled in with the current link speed color, but you won’t have visibility to what device is connected to that port.

DISCONNECTED PORTS

Thin Dotted Red lines show where a device was connected to the VIA, but the device is currently off-line. The device may be rebooting or unplugged.

ONLINE STATUS

○/●/●/●/ Each device has either a White, Red, Amber or Green dot to show its ONLINE status. This reflects the same as what is displayed in the Status column of the DEVICES tab. Red is Off line, Amber is limited connectivity (not on the same subnet), Green is On Line and on the same subnet as Pathscape Config and a White dot means the device is Off-line and loaded from a show file.

SECURITY DOMAIN

The padlock on the device will either be Red (Ready to Secure), Amber (in a Security Domain but Pathscape Config is not currently logged into this Security Domain) or Green which means it's either in the current, logged in Security Domain or security has been disabled by the user.

PORT COLOR

If the port is active, it will be filled in with a color depicting its current state. For VIA ports that will be the Link Status as shown in the table in the section of this manual called "VIA SWITCH PORTS". If the ports are on a Pathport, active Output ports are Green and Input ports are Amber.

DEVICE LABEL

Each device will display its Device Label.

SELECTION

Each device is easily selected by touching it. You can select the base device or sub devices (i.e., ports) As you select items, if the Properties Windows is open, you will see and be able to edit the properties of the selected device(s).

Selecting it in the Network Navigator tab selects the same device (or sub device/port) in the Devices tab. (Note, the current View Filters must be able to display the device(s). If they are filtered out, you will not see the selection in the Devices tab.) If you select a device in the Devices tab and switch to the Navigator tab, the view will be zoomed in and centered on the selected device(s).

MULTI SELECT

To select multiple devices/ports, hold down **CTRL** (Windows) or **CMD** (macOS). If you **CTRL/CMD** click a device that is already selected, it will be removed from the selection set and the properties box will remove its properties. Window selection is described below.

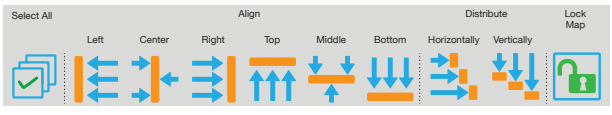
LEFT TO RIGHT WINDOW SELECTION

As you pull a window from the left to the right across a device, it will first select the surrounded Ports. If you fully surround a device when you let, go only the base device will be selected. If you fully surround more than one device, all included device will be selected and their ports will not be selected. If you fully surround a device and some other ports on a second device (but not fully that second device), the selection set will include ports and device and only coincidental properties will be displayed in the Properties Window.

RIGHT TO LEFT WINDOW SELECTION

Right to Left windowing will only select Base Devices, never Ports. Any device surrounded by the window and any device the window crosses will be selected. You can hold down **CTRL** (Windows) or **CMD** (macOS) to use multiple windows to grow the selection set.

ALIGNMENT TOOLBAR



This toolbar presents tools that will help neaten up the placement of your devices.

ALIGN

There are options for Aligning the selected device to the very left of the current selection set, its center, right, top, bottom or middle. If you only have one device selected, these tools are disabled. Furthermore, the device placement must be unlock to use these tools.

DISTRIBUTE

There are two tools to evenly distribute the current selection set either horizontally or vertically. If you only have one device selected, these tools are disabled.

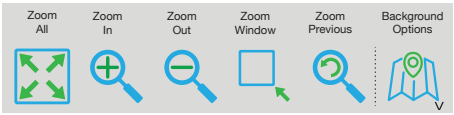
DEVICE PLACEMENT LOCK

Once the placement of devices is complete, Lock the devices in their location. Device and Port selection for Property editing is still possible when locked. Touch again to Unlock.

SELECT ALL

This tool selects all devices in the Network Navigator tab. This is useful when you need to center on a background image.

ZOOM TOOLBAR



If you select a device in the Devices tab and switch to the Navigator tab, the view will be zoomed in and centered on the selected device(s).

ZOOM HOTKEYS

If you are zoomed out seeing many devices but one or more is selected, pressing the **HOME** key will zoom in and center the display on just the selected device(s). Pressing the **END** key will zoom to show all devices. **PAGE UP** and **PAGE DOWN** zooms in and out. Holding down **CTRL/CMD** and rolling the mouse wheel will also zoom in and out centered on the mouse position.

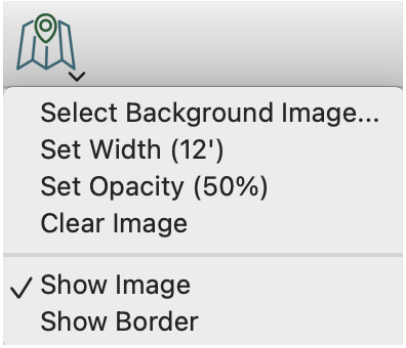
ZOOM TOOLBAR BUTTONS

This button will zoom the display to show all devices. There are also Zoom In and Zoom Out buttons, Zoom to a window selection and revert to the previous zoom level.

PANNING

To pan the display, hold down the **SPACE BAR** and click and drag the mouse hand. Mice with vertical and horizontal wheel gestures will also allow you to pan around without an key modifiers.

NAVIGATOR BACKGROUND IMAGE



Click the expand chevron to open the Background Image menu.

BACKGROUND IMAGE

This will open a dialog box where you can choose an image (.PNG, .BMP or .JPG) from your hard drive. Exporting to scale from third party drawing applications should be 72 DPI.

WIDTH

The selected image will always scale to fit the horizontal dimension. Keep in mind, the device are drawn to scale, so a rack mount device will draw 17” wide compared to a scaled background image at 72 DPI.

OPACITY

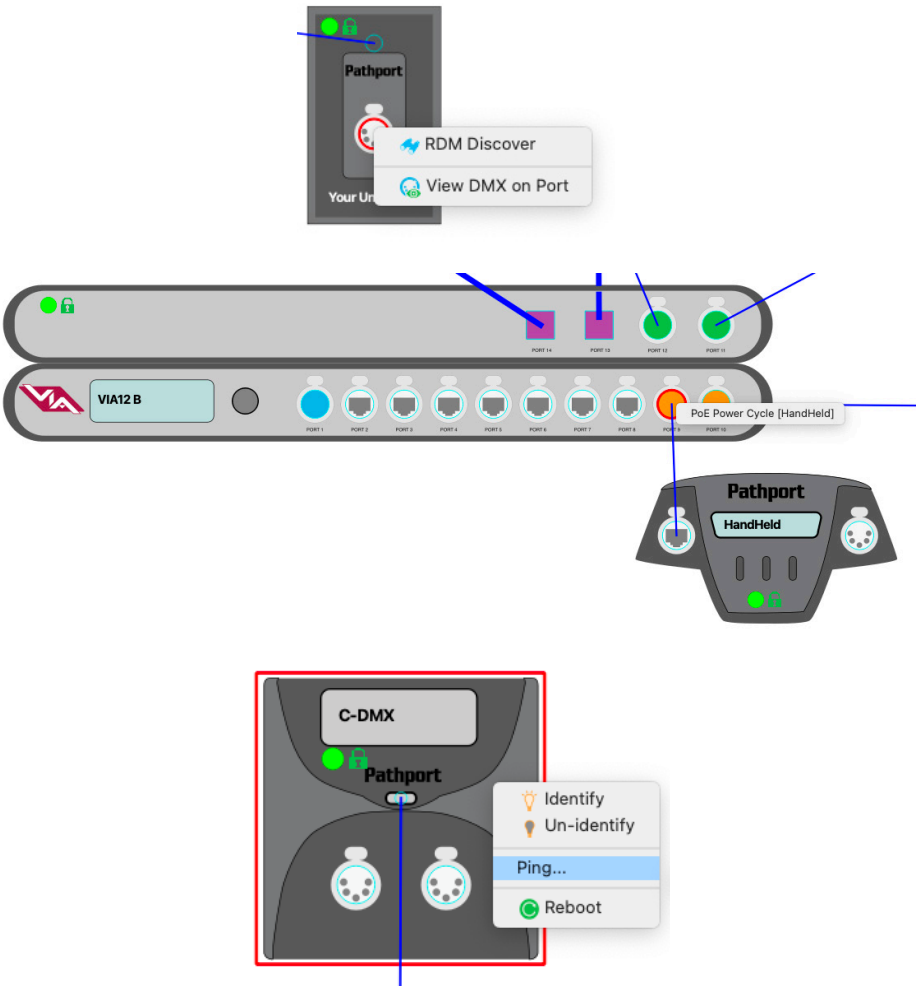
By default the opacity is 50%. For a vivid image set opacity closer to 100%, for a ghost background, set it closer to 0%.

IMAGE AND BORDER

These two option are toggle check marks where you can either turn on or off the selected item.

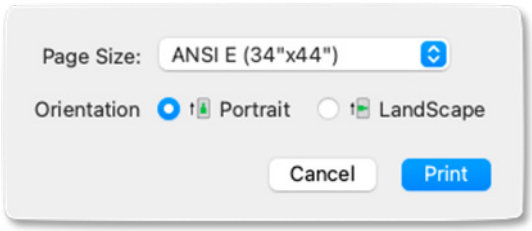
NAVIGATOR RIGHT CLICK MENUS

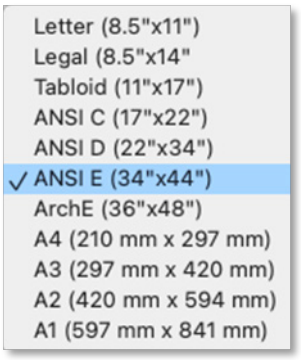
Below are some example of the context sensitive right click menus when selecting devices or ports.



PRINT NAVIGATOR

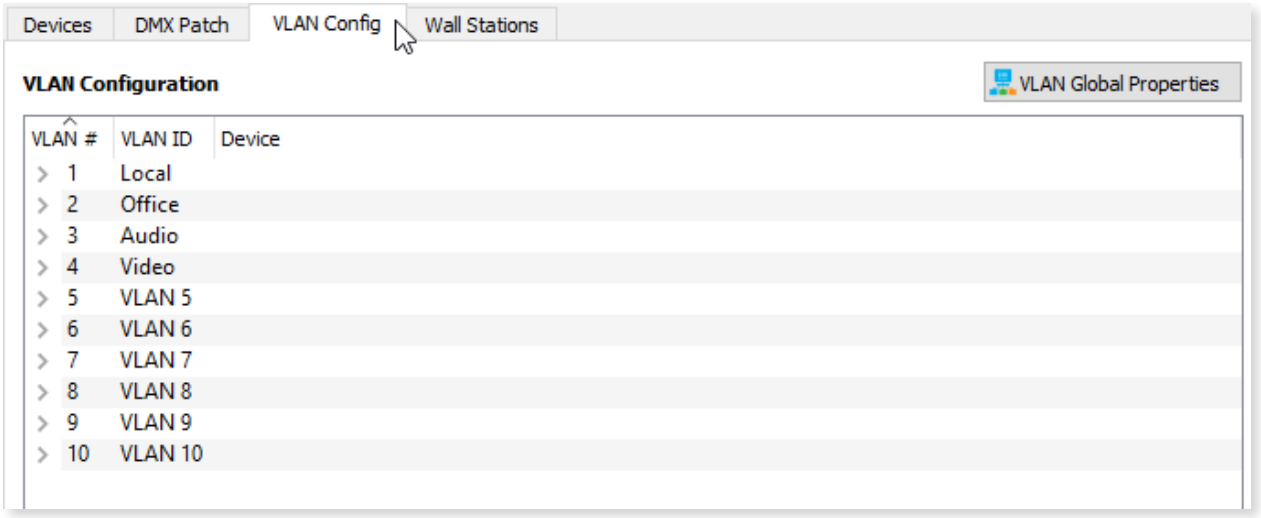
When the Navigator tab is visible, the main File Menu has a Print To PDF option. Printing is always Fit to Page based on the paper size and orientation selected.





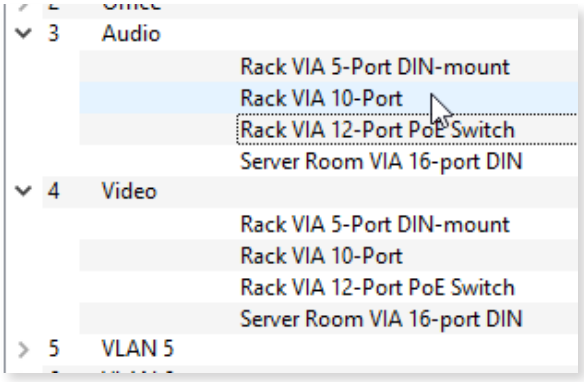
VLAN CONFIG

Use the **VLAN Config** tab to configure network VLANs. A **VLAN** (**V**irtual **L**ocal **A**rea **N**etwork) is a group of ports on the switch (or switches) that are configured to pass traffic to one another, but not to ports on any other VLAN. When VLANs are established, ports that connect switches to switches must be "tagged" to pass all VLAN traffic. See **Appendix 3: VLANs** for further details on how to use VLANs.



In the VLAN Configuration window, there are three columns: **VLAN #**, **VLAN Name**, and **Device**. By default, the VLAN ID will likely not have unique names as seen in the example above, but simply labeled "VLAN 1", "VLAN 2", etc.

Click on the arrow next to each VLAN to see the Devices (VIA Switches) available for configuration.



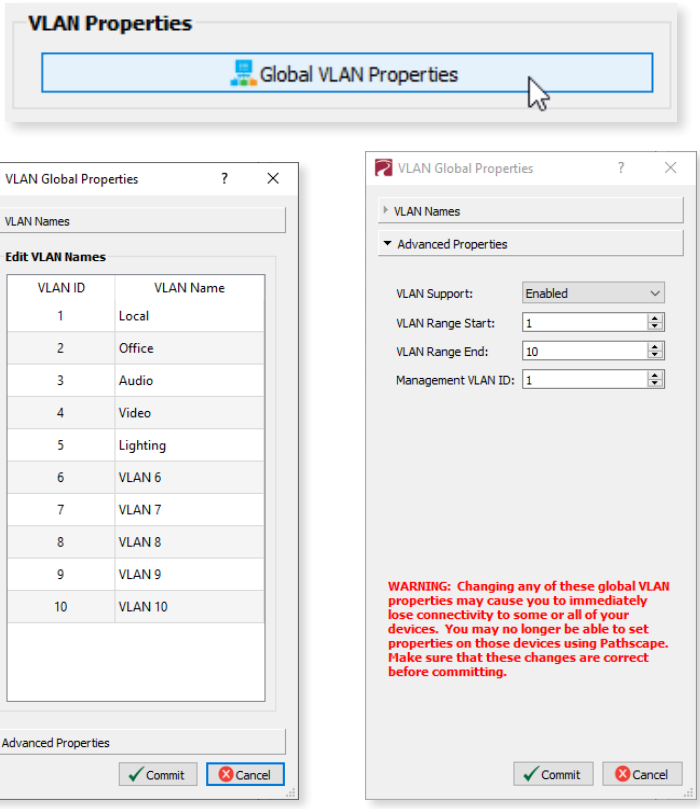
Note that every VIA Switch on the network will show up under every listed VLAN. VLAN ranges are configured Globally; it is not possible to assign a Switch to only one VLAN in this window. At the Subdevice/Port level, VLANs may be assigned as needed.

VLAN Properties such as **IP Address**, **DHCP** and **IGMP** settings are configured per VLAN per Switch. For example, to configure **VLAN 3** (Audio VLAN) on the "Rack VIA 12-Port PoE Switch" as illustrated above, expand **VLAN 3** and click on the "Rack VIA 12-Port PoE Switch" device, and edit its Properties in the Properties pane. To edit **VLAN 5** on the same switch, expand **VLAN 5** and click on "Rack VIA 12-Port PoE Switch" to edit **VLAN 5** on that device.

VLAN Properties are described below.

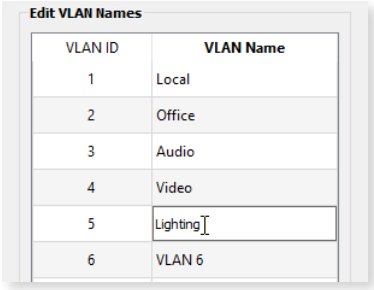
VLAN GLOBAL PROPERTIES

In order to use VLANs, **VLAN Support** must be enabled in **VLAN Global Properties**, which is accessed by clicking the VLAN Global Properties button in the top-right corner of the window. You can also click this button in the **VLAN Properties** section of the base device properties.



There are two sections to the VLAN Global Properties window, the **VLAN Names** panel, and the **Advanced Properties** panel.

In the **VLAN Names** panel you may edit the names of any of the available VLANs by double-clicking on the VLAN Name, editing it and then clicking the Commit button.



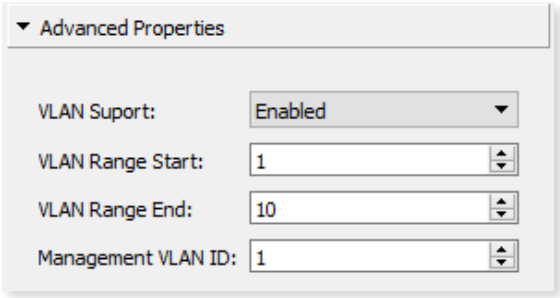
You will then see several transactions populate in the transaction editor, which will be automatically sent. To discard changes, click the Cancel button.

The **Advanced Properties** panel will allow for global configuration of VLAN Ranges, Management VLAN, and VLAN Support on and off.

⚠ WARNING ⚠

Changing any of these global VLAN properties may cause you to immediately lose connectivity to same or all of your devices. You may no longer be able to set properties on those devices using Pathscape. Make sure that these changes are correct before committing.

See Appendix 3: VLANs for further details on how to use VLANs.



The **VLAN Support** drop-down allows for enabling or disabling of VLANs.

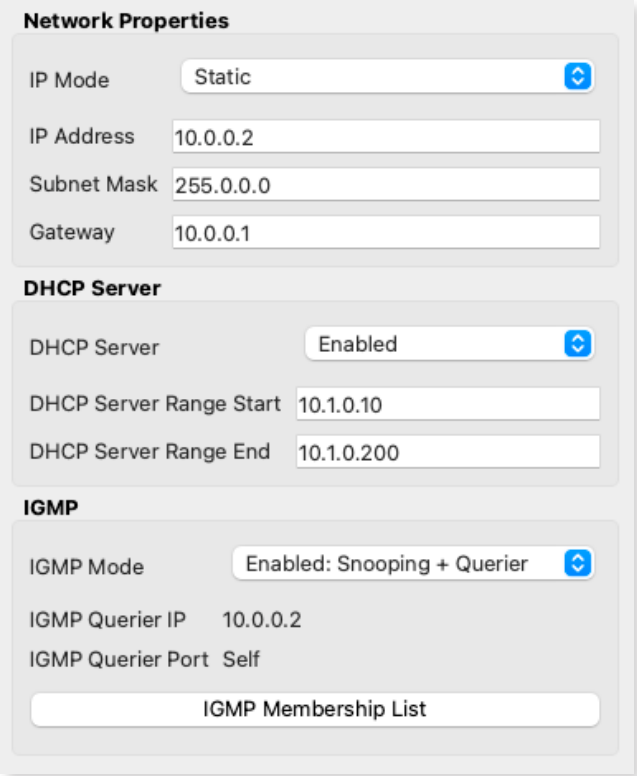
VLAN Range Start and **VLAN Range End** will determine the range of VLAN IDs available to use. Default is 1 and 10, respectively. To edit the start and end ID values, either type into the text fields or click on the up and down arrows to modify the value. To make the desired changes, click the Commit button. You will then see several transactions populate in the transaction editor, which will be automatically sent. To discard changes, click the Cancel button.

Management VLAN ID sets which VLAN is used by the switch management processor(s). Default is 1. **It is strongly recommended that the Management VLAN ID be set to the same value as the VLAN Range Start value. Care must be taken that the Management VLAN is used by at least one Normal/Untagged port on the switch, or the ability to configure the switch may be lost.**

See Appendix 3: VLANs for further details on how to use VLANs.

VLAN PROPERTIES/SERVICES

VLANs must be enabled prior to configuring these services. You will find the VLAN Enable/Disable Property in the **VLAN Global Properties Window** in the VLAN Config window or under the **Settings Menu**.



NETWORK PROPERTIES

IP MODE

Disabled: No IP assigned to this VLAN by this VIA

Static: IP settings manually set by user (default for VLAN ID#1 / management VLAN). You must set a Static IP address if you want to enable DHCP and/or IGMP on this VLAN.

Dynamic: IP settings obtained from DHCP server.

IP ADDRESS

User-configured Internet Protocol address (IPv4) for this switch on the selected VLAN.

SUBNET MASK

User-configured subnet mask applied to VLAN.

GATEWAY

Network traffic on this VLAN requesting addresses outside of the assigned subnet will be routed through this IP address.

DHCP PROPERTIES

DHCP SERVER

Dynamic Host Configuration Protocol (DHCP).

Disabled (default).

Enabled: Only one switch on a given VLAN may have an active DHCP service, and that VLAN must have a static IP itself. One switch with multiple VLANs may have multiple DHCP servers.

DHCP SERVER RANGE START

Sets start IP address in the DHCP pool. Pool must begin at an address higher than the IP address of the server.

DHCP SERVER RANGE END

Sets last available IP address in the DHCP pool. Cannot exceed the last valid IP value in the IP/Subnet Mask range.

IGMP

Intergroup Management Protocol (**IGMP**) allows for packet filtering and forwarding by the switch based on multicast groups. Networks using sACN or Pathway ssACN can take full advantage of IGMP by reducing the traffic on the link to the gateway to just the Network DMX Universes the gateway is configured to listen to.

IGMP Mode

Disabled (default).

Enabled: Snooping Only Allows switch to query and construct a forwarding-table based on end device subscriptions to multicast group addresses. (i.e., the Querier can tell that a 2-port DMX512 gateway is interested in Univ 8 and Univ 37, if so patched, and will route those sACN Universes, and only those, on the link on which the gateway is connected.)

Enabled: Snooping + Querier One querier is required be active on a given VLAN using IGMP. However, for reliability reasons, it is highly recommended to have two or more. The active Querier will automatically be determined by election with the VIA with the lowest IP address winning.

IGMP Querier IP

This read only property shows the active Querier for this VLAN on the select VIA. This IP address should be the same for all VIAs on the selected VLAN. If the value reads 0.0.0.0, then this VLAN has not found an active querier and this will render IGMP inactive on this switch. Rectify the situation by defining at least one swtich on the network as the IGMP Querier.

IGMP Querier Port

This read only property show the port on this VIA which leads to the IGMP Querier. The next switch may not be the querier itself, but this is the route to the active querier. If the value is “Self” then this VIA is the active querier and hence no external port is shown as it is internal to the swtich itself.

IGMP Membership List

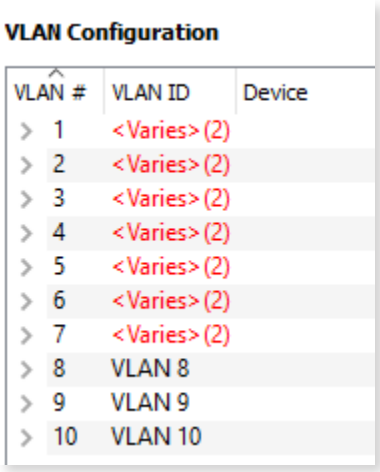
This button opens a dialog box showing which ports on this VLAN are currently forwarding multicast addresses. .

RESOLVING VLAN CONFLICTS

If you have set up your VLANs as described above, and you later add another VIA switch to your network that has different VLAN settings, you will likely see the following message in red at the bottom of the Pathscape window:

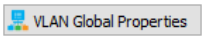
WARNING There are conflicting global VLAN property settings. Open the 'Network > VLAN Global Properties' menu item dialog to resolve the conflicts.

Go to the **VLAN Config** tab and you will see something like this:



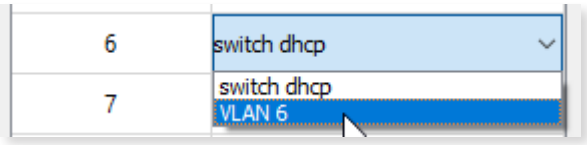
Because the VLAN properties are stored on each physical VIA switch, when a new switch comes online with different property values, Pathscape doesn't know which one(s) to use. For each VLAN ID that has multiple values associated with it, Pathscape will instead list the ID as "**<Varies> (X)**" with X being the number of different values found across all switches (see image to left).

As described above, Pathscape requires VLAN settings to be Global across the entire network, so only one set of VLAN properties (including ID, VLAN Enable/Disable, VLAN Range, and Management VLAN) may be used.

You will have to resolve the conflicts before you can continue. Click the 

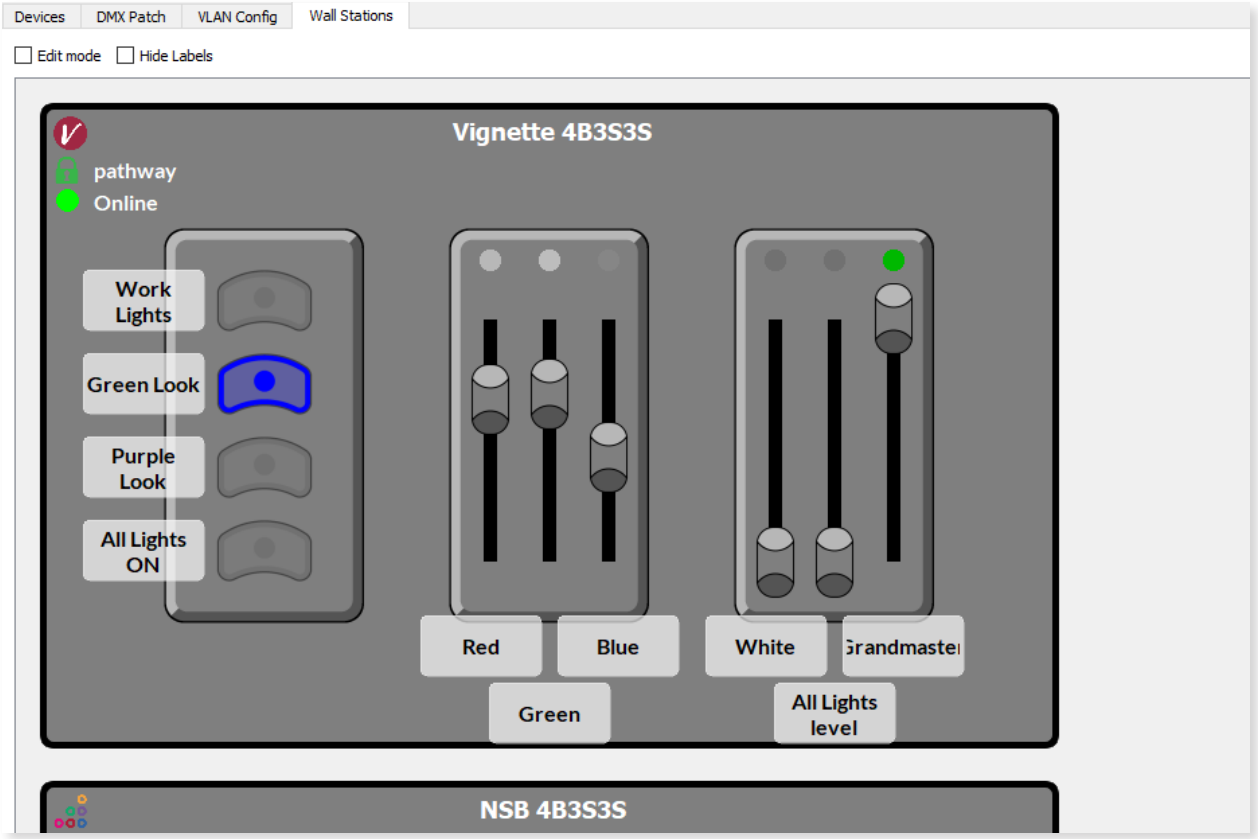
button, and the **Resolve VLAN Property Conflicts** window will open.

For each VLAN ID with conflicting properties, you will need to double-click on each instance of "**<Varies> (X)**" and then pick the correct VLAN ID from the drop-down menu.



Pathscape will then use the settings associated with those VLAN IDs chosen to clear the found conflicts.

WALL STATIONS



The **Wall Stations** tab is a graphical UI view that makes the configuration of Vignette and NSB Wall Stations more intuitive. All Wall Stations on the network are discovered and drawn in the window to reflect the way they are physically configured.

Not only are they editable in this window, but you can also trigger snapshots and specify zone levels (Vignette) or recall Memories on a Cognito[2] or Choreo (NSB) with the UI elements, making commissioning and testing a system significantly easier. The buttons' status and color, as well as the sliders' position and LED color & intensity will reflect their real-world counterparts.

Push a physical button on a Wall Station, and it will be updated in this view. Move a slider, and it will be updated in this view as well. Pushing a button in the virtual view will push those changes to the physical devices also. Unfortunately, since our Vignette and NSB hardware do not feature motorized faders, we cannot update the real-world slider positions based on changes from this view.

STATUS ICONS

In the top-left corner of each Wall Station, there are three icons.

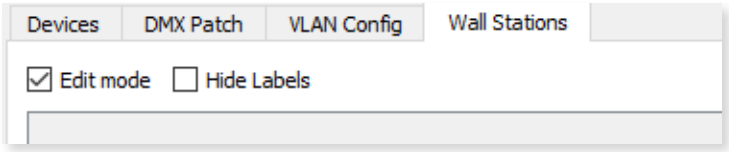
Indicates the device is a **Vignette**, while indicates the device is an **NSB**.

/// Mirrors the Security Domain column in the Device view. This will show whether the device is **Ready to Secure**, **Secured** but not part of the currently domain, or **Secured** and part of the current domain.

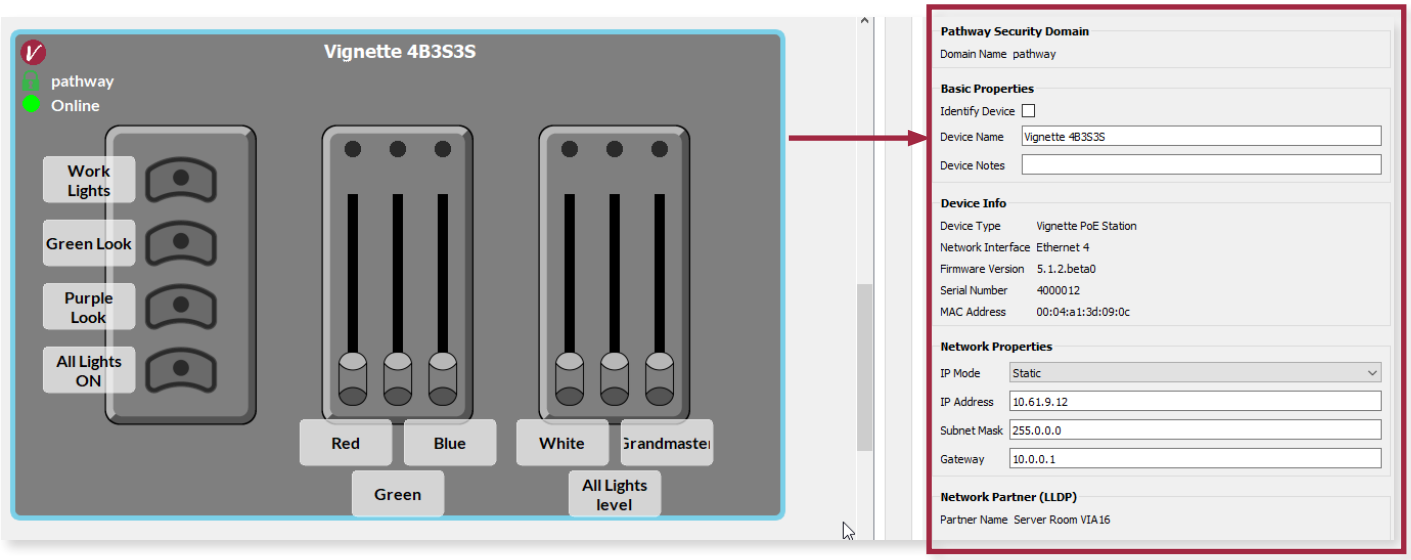
/// Mirrors the Status column in the Device view. This will show whether the device is **Online**, **Offline**, or has **Limited Connection**.

EDITING WALL STATIONS

To edit the properties of a Vignette or NSB Wall Station, click the **Edit Mode** checkbox in the top left corner of the tab.



Now, clicking on any station **Faceplate** will select that Device and show its properties in the **Properties Pane**. This is analogous to clicking the base Vignette or NSB device in the Device View. A selected device will be highlighted in **cyan**.



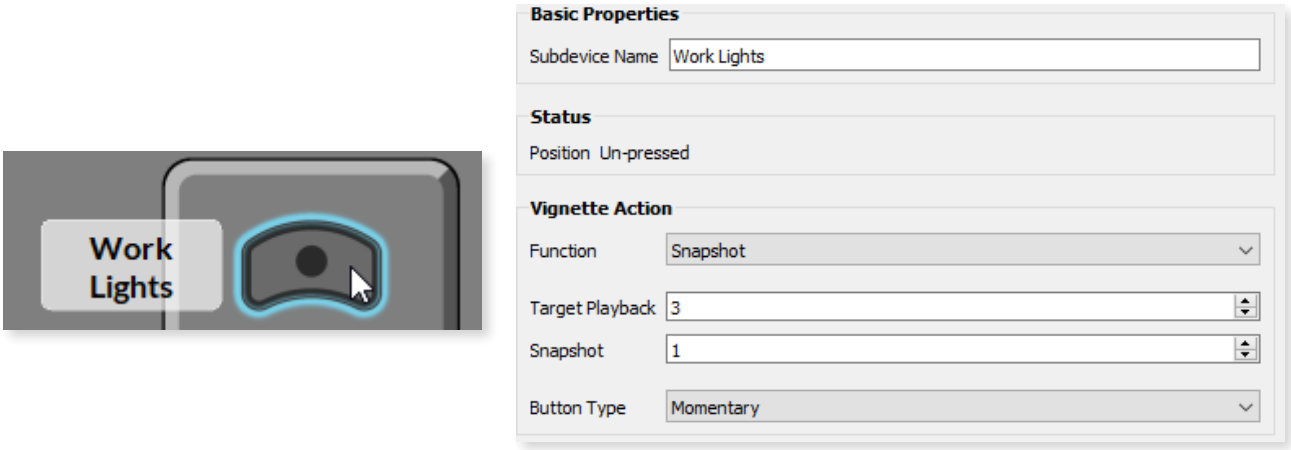
You may then configure the base Vignette or NSB device as described earlier in the manual.

EDITING BUTTONS & SLIDERS

This applies mainly to Vignette, as NSB Buttons & Sliders can only be configured on a Cognito^2 or Choreo console.

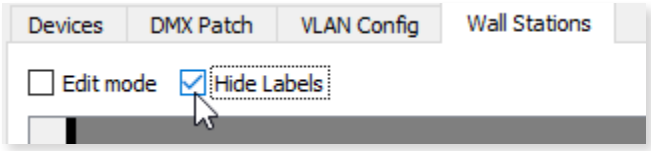
With **Edit Mode** checked, click directly on a **Button** or **Slider** element. The selected subdevice will be highlighted in **cyan**.

The subdevice (Button or Slider) properties will be shown in the Properties Pane. You may then configure the Buttons or Sliders as described earlier in the manual.



This is analogous to clicking on the subdevices in the Device view, but is much more intuitive since the buttons and sliders are in their real-world positions.

The **Subdevice Name** property will be shown next to each Button or Slider in the gray **label** box. To hide these labels, click the **Hide Labels** checkbox at the top of the tab, next to Edit Mode.



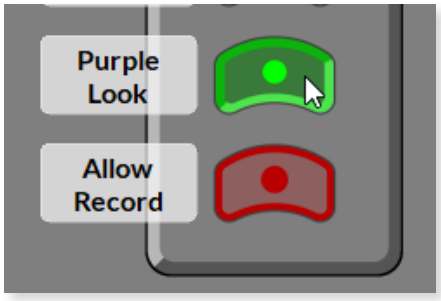
NOTE: In **Edit Mode**, Buttons' current status (color) will be off, and Sliders' level & LED status will be at zero. Once you leave Edit Mode, their status will be updated.

USING BUTTONS & SLIDERS FROM WALL STATION TAB

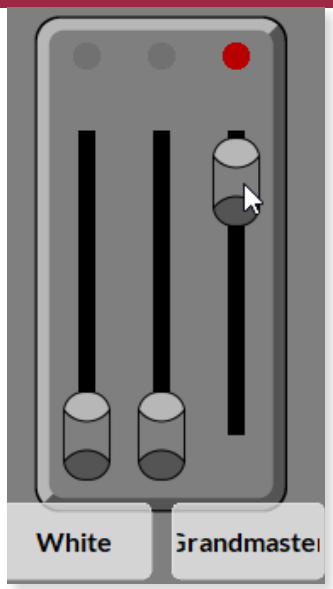
Using the Wall Station tab, you can manipulate the buttons & sliders of any Vignette or NSB Wall station as if you were in front of the physical hardware, pressing buttons and/or moving sliders.

To use a station, make sure **Edit Mode** is unchecked.

Simply use the virtual stations as you would a physical station. Click a button to activate its function (Snapshot, Non-Dim Zone, Allow Record, etc.). The button's color will change to reflect its status, as does the hardware. You can click-and-hold to record a Snapshot using the virtual station just as you would the physical button as well.



To move a slider, click and hold on the slider, move to the desired position, and release.

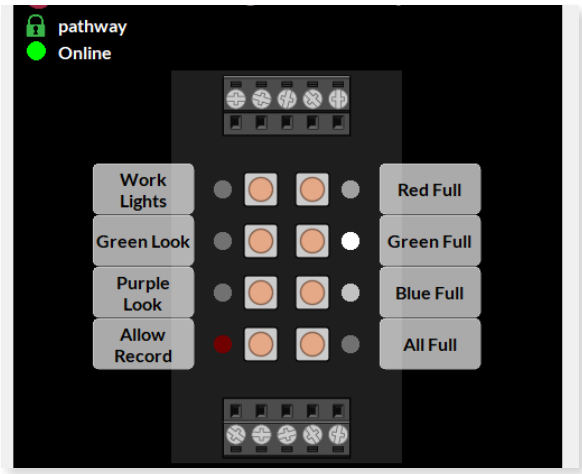


As noted above, since the Vignette and NSB hardware sliders are not motorized, so it is not possible to update the physical position of the sliders from the virtual station.

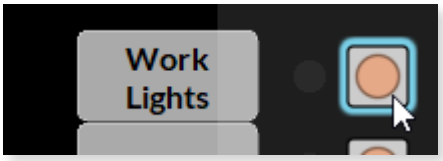
As a result, the sliders work on a **Latest-Takes-Precedence** scheme. If you move the physical slider, that level will be sent to the network; if you then move the virtual slider, that new level will be sent, even though their respective positions will be different.

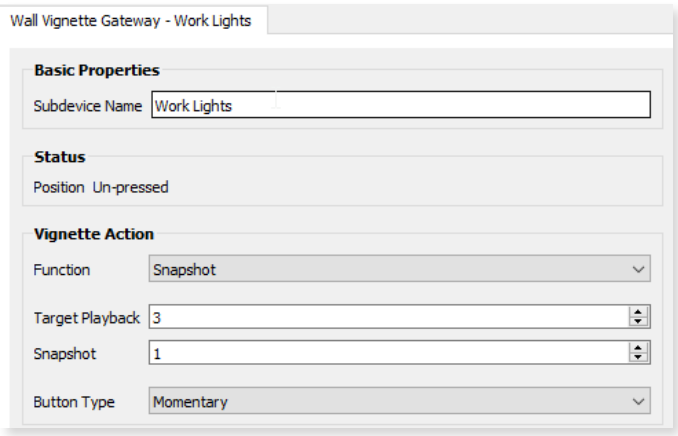
USING 485 GATEWAY BUTTONS

Some Vignette and NSB 485 Gateways include options with either 8 or 16 Contact Closure Inputs, with 8 or 16 buttons that are mappable to those inputs. These buttons are editable and trigger-able using the Wall Stations tab as well, just as those buttons are usable on the physical hardware for testing purposes.

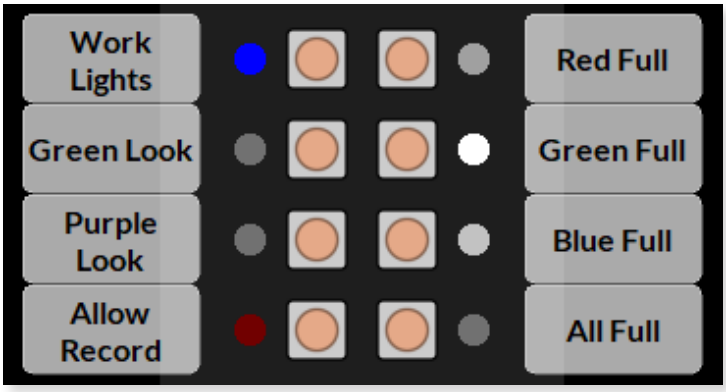


These 485 Station Buttons are edited and used in the same manner as described above. Click the Edit Mode checkbox and then click on a button to edit its properties. When selected, the button will be highlighted in **cyan**.





Once finished editing, uncheck the **Edit Mode** button. To activate a button's function, click it as you would the standard buttons shown above. The LED next to the button will show its status, like the backlight behind the standard buttons show their status.

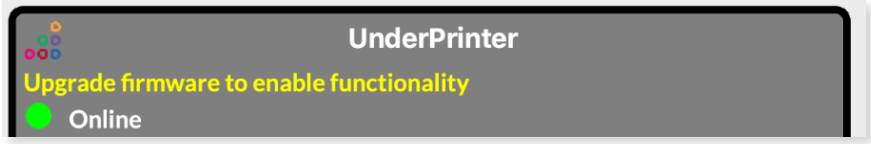


UPDATING WALL STATIONS

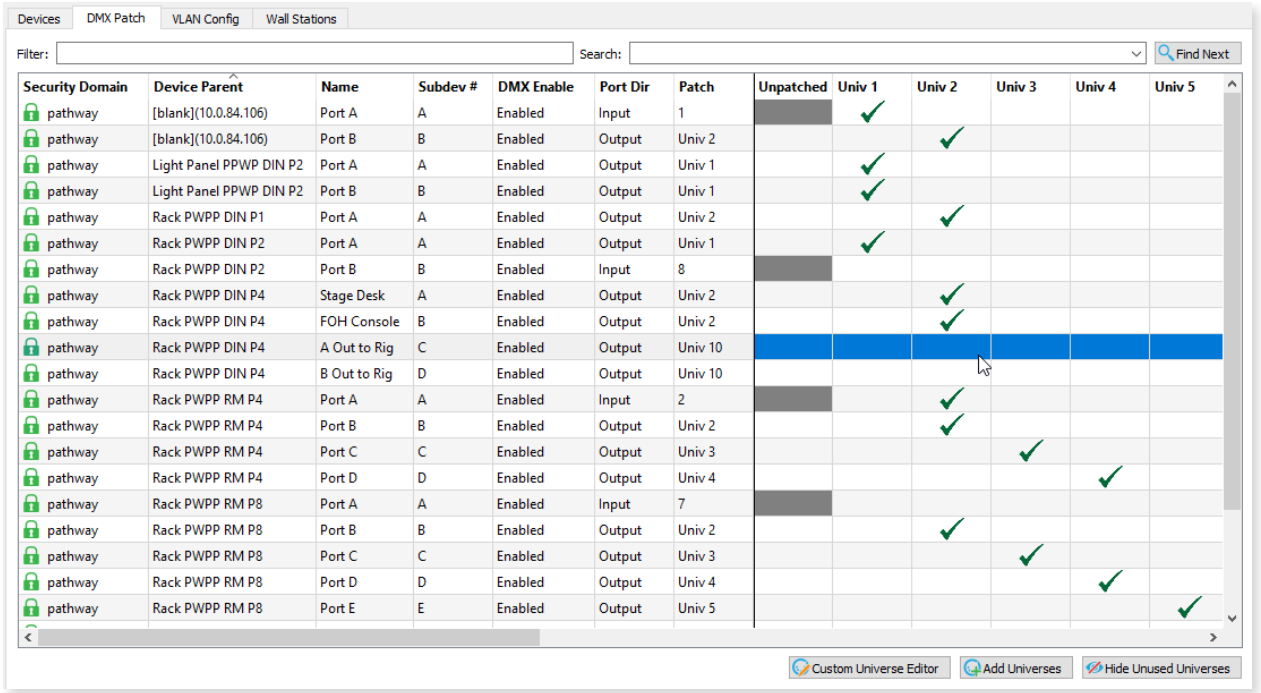
In order to use these new features in the Wall Stations tab, your NSB and Vignette hardware must be updated to firmware version **6.0** or later.

Devices running earlier versions of firmware will still be shown in the view, but you will be unable to use them in this view until updated.

A message stating "**Upgrade firmware to enable functionality**" will be shown under the device name.



DMX PATCH



Security Domain	Device Parent	Name	Subdev #	DMX Enable	Port Dir	Patch	Unpatched	Univ 1	Univ 2	Univ 3	Univ 4	Univ 5
pathway	[blank](10.0.84.106)	Port A	A	Enabled	Input	1		✓				
pathway	[blank](10.0.84.106)	Port B	B	Enabled	Output	Univ 2			✓			
pathway	Light Panel PPWP DIN P2	Port A	A	Enabled	Output	Univ 1		✓				
pathway	Light Panel PPWP DIN P2	Port B	B	Enabled	Output	Univ 1		✓				
pathway	Rack PWPP DIN P1	Port A	A	Enabled	Output	Univ 2			✓			
pathway	Rack PWPP DIN P2	Port A	A	Enabled	Output	Univ 1		✓				
pathway	Rack PWPP DIN P2	Port B	B	Enabled	Input	8						
pathway	Rack PWPP DIN P4	Stage Desk	A	Enabled	Output	Univ 2			✓			
pathway	Rack PWPP DIN P4	FOH Console	B	Enabled	Output	Univ 2			✓			
pathway	Rack PWPP DIN P4	A Out to Rig	C	Enabled	Output	Univ 10						
pathway	Rack PWPP DIN P4	B Out to Rig	D	Enabled	Output	Univ 10						
pathway	Rack PWPP RM P4	Port A	A	Enabled	Input	2			✓			
pathway	Rack PWPP RM P4	Port B	B	Enabled	Output	Univ 2			✓			
pathway	Rack PWPP RM P4	Port C	C	Enabled	Output	Univ 3				✓		
pathway	Rack PWPP RM P4	Port D	D	Enabled	Output	Univ 4					✓	
pathway	Rack PWPP RM P8	Port A	A	Enabled	Input	7						
pathway	Rack PWPP RM P8	Port B	B	Enabled	Output	Univ 2			✓			
pathway	Rack PWPP RM P8	Port C	C	Enabled	Output	Univ 3				✓		
pathway	Rack PWPP RM P8	Port D	D	Enabled	Output	Univ 4					✓	
pathway	Rack PWPP RM P8	Port E	E	Enabled	Output	Univ 5						✓

The DMX Patch window is a gridded view where patches are assigned.

DEVICES AND PORTS

Pathport devices and their respective ports are listed in a pane on the left side of the tab view.

Security Domain	Device Parent	Name	Subdev #	DMX Enable	Port Dir	Patch
pathway	Light Panel PPWP DIN P2	Port A	A	Enabled	Output	Univ 1
pathway	Light Panel PPWP DIN P2	Port B	B	Enabled	Output	Univ 1
pathway	Rack PWPP DIN P1	Port A	A	Enabled	Output	Univ 2
pathway	Rack PWPP DIN P2	Port A	A	Enabled	Output	Univ 1
pathway	Rack PWPP DIN P2	Port B	B	Enabled	Input	8
pathway	Rack PWPP DIN P4	Stage Desk	A	Enabled	Output	Univ 2
pathway	Rack PWPP DIN P4	FOH Console	B	Enabled	Output	Univ 2
pathway	Rack PWPP DIN P4	A Out to Rig	C	Enabled	Output	Univ 10
pathway	Rack PWPP DIN P4	B Out to Rig	D	Enabled	Output	Univ 10
pathway	Rack PWPP RM P4	Port A	A	Enabled	Input	2
pathway	Rack PWPP RM P4	Port B	B	Enabled	Output	Univ 2
pathway	Rack PWPP RM P4	Port C	C	Enabled	Output	Univ 3
pathway	Rack PWPP RM P4	Port D	D	Enabled	Output	Univ 4
pathway	Rack PWPP RM P8	Port A	A	Enabled	Input	7
pathway	Rack PWPP RM P8	Port B	B	Enabled	Output	Univ 2
pathway	Rack PWPP RM P8	Port C	C	Enabled	Output	Univ 3

The **Security Domain** is shown in the first column, followed by the **Device Parent** and the Subdevice **Name** (port name) and **Subdev #** in the next two columns.

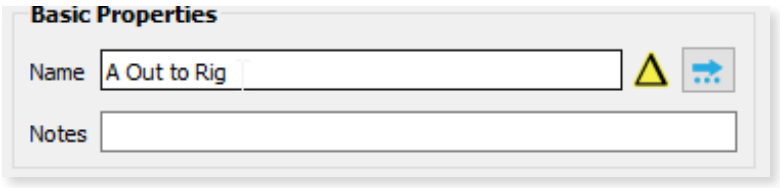
NOTE: You must be logged into the Security Domain to change settings on ports. If you are not logged into the device Security Domain, the **padlock icon in the Security Domain cell will be yellow**, and the rows corresponding to that device will be **grayed out**. You will be unable to click on them and change properties.

Security Domain	Device Parent	Name	Subdev #	DMX Enable	Port Dir	Patch	Unpatched	Univ 1	Univ 2
pathway	Rack PWPP DIN P4	Stage Desk	A	Enabled	Output	Univ 2			✓
pathway	Rack PWPP DIN P4	FOH Console	B	Enabled	Output	Univ 2			✓
pathway	Rack PWPP DIN P4	A Out to Rig	C	Enabled	Output	Univ 1		✓	
pathway	Rack PWPP DIN P4	B Out to Rig	D	Enabled	Output	Univ 2			✓

The above device is not part of the current security domain, so its rows are grayed out, and therefore not editable.

You can edit port names from the DMX Patch view: click on the port to highlight it, and edit the "**Subdevice Name**" field in the Properties pane.

Security Domain	Device Parent	Name	Subdev #	DMX Enable	Port Dir	Patch	Unpatched	Univ 1	Univ 2
pathway	Rack PWPP DIN P4	Stage Desk	A	Enabled	Output	Univ 2			✓
pathway	Rack PWPP DIN P4	FOH Console	B	Enabled	Output	Univ 2			✓
pathway	Rack PWPP DIN P4	A Out to Rig	C	Enabled	Output	Univ 1		✓	
pathway	Rack PWPP DIN P4	B Out to Rig	D	Enabled	Output	Univ 2			✓

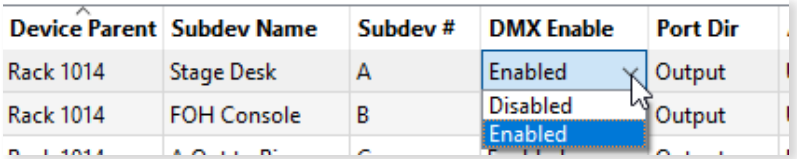


You can also double-click the Port Name in the DMX Patch view and edit it directly in the table.

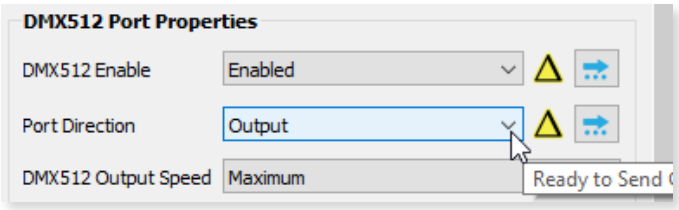
Security Domain	Device Parent	Name	Subdev #	D
pathway	Rack PWPP DIN P4	Stage Desk	A	E
pathway	Rack PWPP DIN P4	FOH Console	B	E
pathway	Rack PWPP DIN P4	A Out to Rig	C	E
pathway	Rack PWPP DIN P4	B Out to Rig	D	E

The **Subdev #** is listed in the next column, in case your subdevice names have been edited, and are missing the port number. These correspond to the physical ports on the device.

The following column is **DMX Enable**. This allows a port to be **Enabled** or **Disabled**. Double-click the cell, then click once more to show the drop-down menu, and choose **Enabled** or **Disabled**.



You can also select the port and change the properties in the Properties Pane.



Ports that have been **Disabled** are filled in **dark gray** in the Universe columns pane.

Security Domain	Device Parent	Name	Subdev #	DMX Enable	Port Dir	Patch	Unpatched	Univ 1	Univ 2
pathway	Rack PWPP DIN P4	Stage Desk	A	Enabled	Output	Univ 2			✓
pathway	Rack PWPP DIN P4	FOH Console	B	Enabled	Output	Univ 2			✓
pathway	Rack PWPP DIN P4	A Out to Rig	C	Disabled	Output	Univ 1		✓	
pathway	Rack PWPP DIN P4	B Out to Rig	D	Enabled	Output	Univ 2			✓

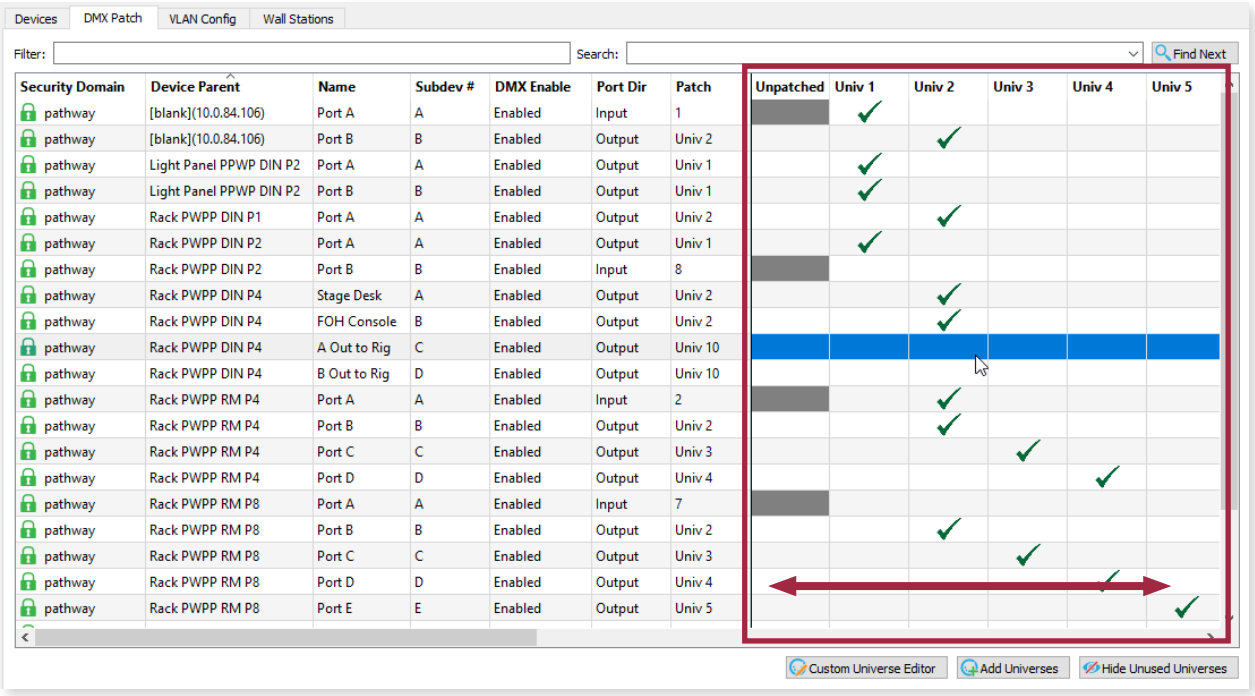
Next to the DMX Enable column is the **Port Dir** column, which allows you to specify the direction of the selected port. Options are **Input** or **Output**. To change the Port Direction, double-click the cell, then click once more to show the drop-down menu, and select the new value.

Device Parent	Name	Subdev #	DMX Enable	Port Dir	Patch
Rack PWPP DIN P4	Stage Desk	A	Enabled	Output	Univ 2
Rack PWPP DIN P4	FOH Console	B	Enabled	Input / Output	Univ 2
Rack PWPP DIN P4	A Out to Rig	C	Enabled	Output	Univ 1

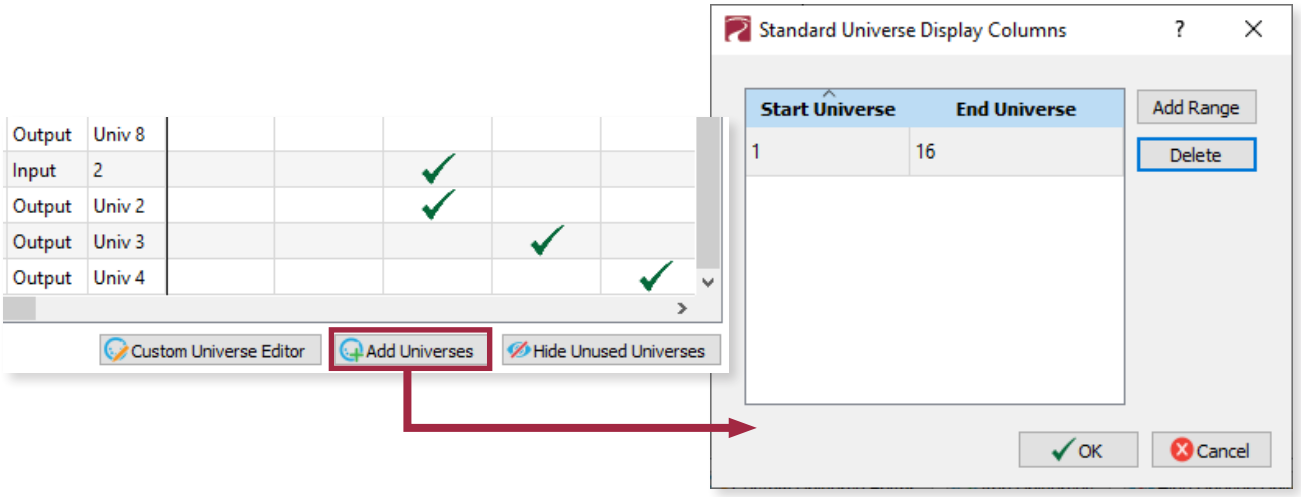
Next to the port number is the **Assigned** column, which shows the currently patched DMX universe, for at-a-glance verification.

UNIVERSE COLUMNS

To the right of the Device and Port columns are the Universe columns. This pane will **scroll horizontally** to show all available Universe columns.



These columns are configurable using the Add Universes button in the bottom right corner of the window.



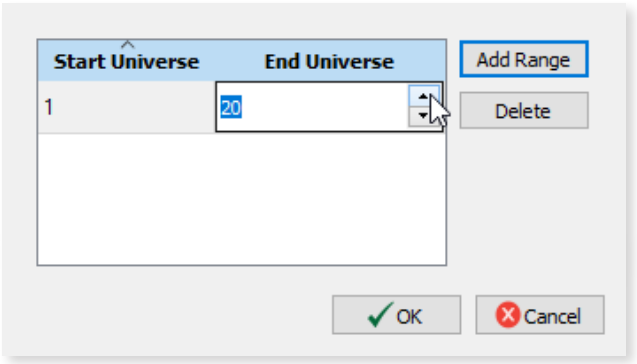
ADDING, EDITING OR DELETING UNIVERSES

Clicking the 

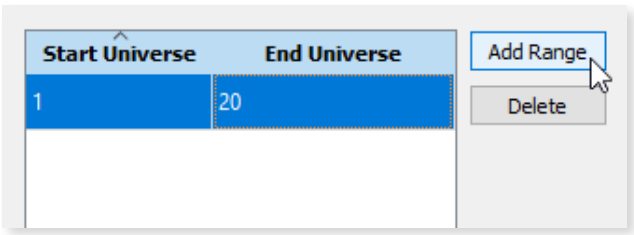
button will open the **Standard Universe Display Columns** window. Use this window to configure the ranges of the Universes you are using.

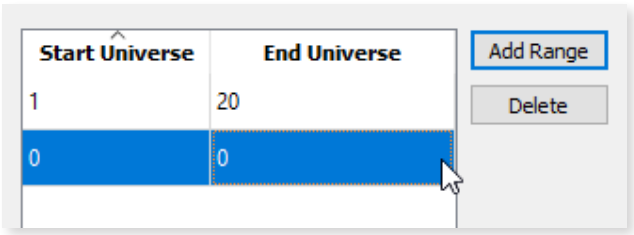
To edit an existing entry, double-click on the number you wish to change.

At this point you may either enter a new number into the fields, or use the up & down arrow buttons to configure the start and end values for each Universe range.

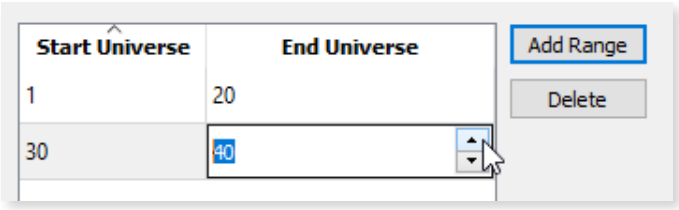


To add a new range of universes, click the **Add Range** button.

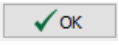




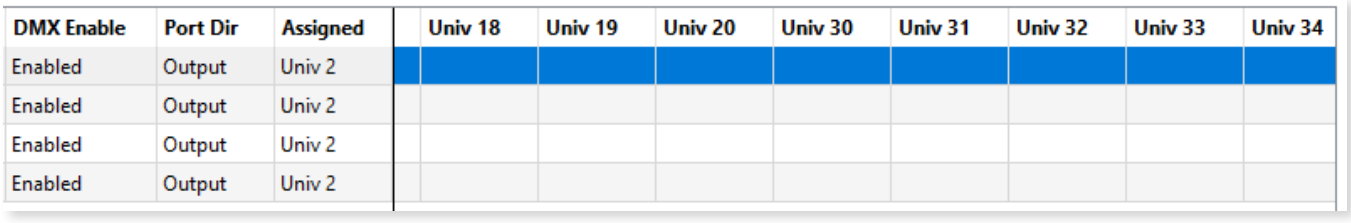
The new range will appear with default values of **0** for both the **Start Universe** and **End Universe** properties.



Edit the newly inserted range as previously shown.

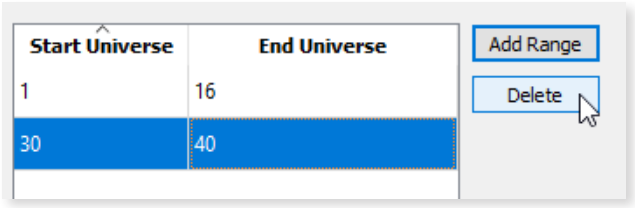
When finished, click the 

button and the specified Universes will be shown as columns in the pane on the right side of the tab view.



DMX Enable	Port Dir	Assigned	Univ 18	Univ 19	Univ 20	Univ 30	Univ 31	Univ 32	Univ 33	Univ 34
Enabled	Output	Univ 2								
Enabled	Output	Univ 2								
Enabled	Output	Univ 2								
Enabled	Output	Univ 2								

To **Delete** a range of Universes, click the corresponding row and click the **Delete** button.

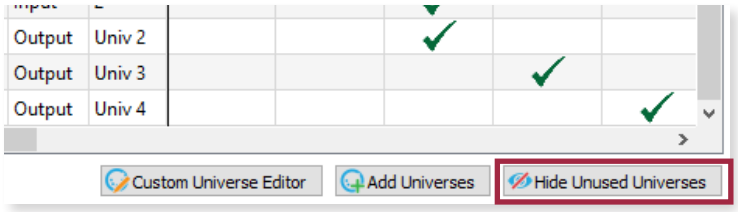


NOTE: If any Universes within the range you are attempting to delete are still assigned to a port, those Universe columns will **not** be deleted.

If you try to remove a range of Universes and some of them remain after re-opening the Standard Universe Display Columns window, they are still assigned to at least one port. Unpatch the relevant ports from the Universes you want to remove, then delete them using the button shown above.

HIDING UNUSED UNIVERSES

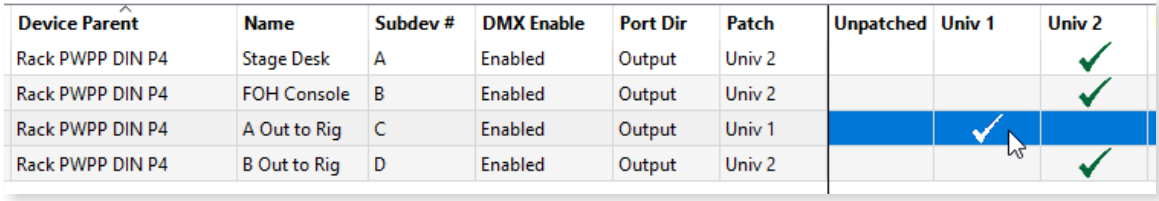
If you want to clean up the Universe columns to only show the universes your system is using, click the Hide Unused Universes button in the bottom-right corner of the tab.

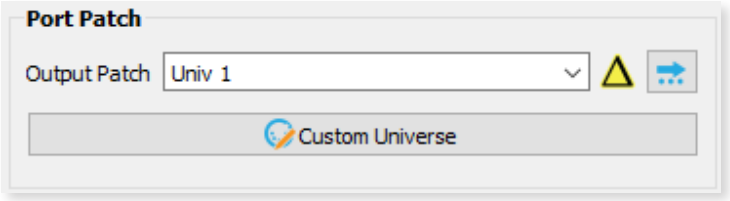


Pathscape will then remove any standard Universes that are **not currently used**. Custom Patches will remain, even if currently unused.

PATCHING DMX PORTS

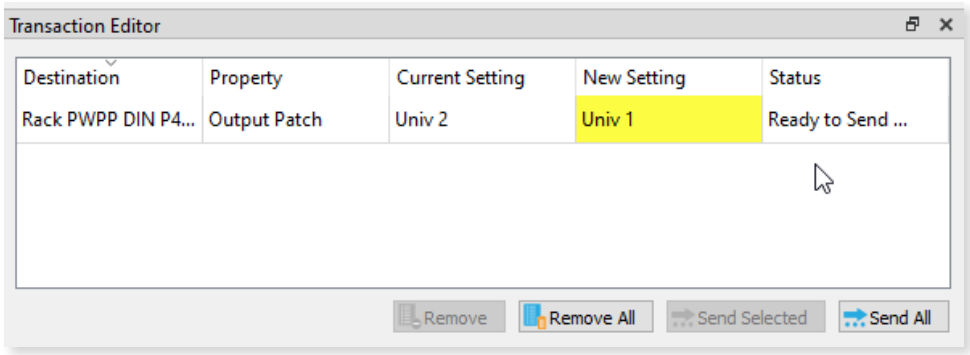
To patch a port to a universe, scroll the window horizontally (if necessary) to locate the universe column you wish to patch the port to. Double-click in the cell that intersects the desired Universe column and port to patch the port to that universe.





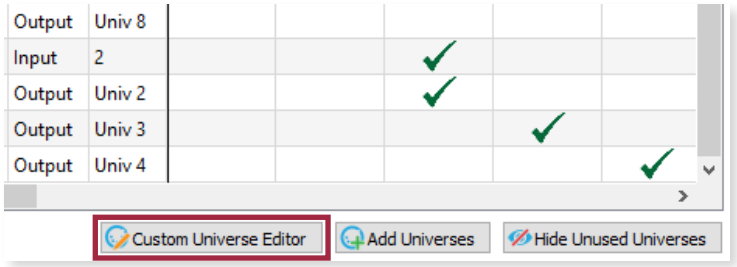
Once your selection is made, the transaction(s) will appear in the Transaction Editor. Click the Send All button to confirm changes.

NOTE that cells are grayed out if you cannot patch to them. This can happen because you're not logged into a Security Domain. Ports that have the direction set as **Input** cannot patch to custom universes.

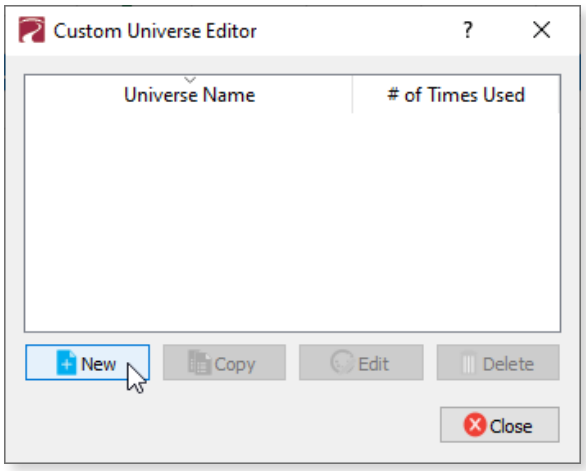


CUSTOM PATCH

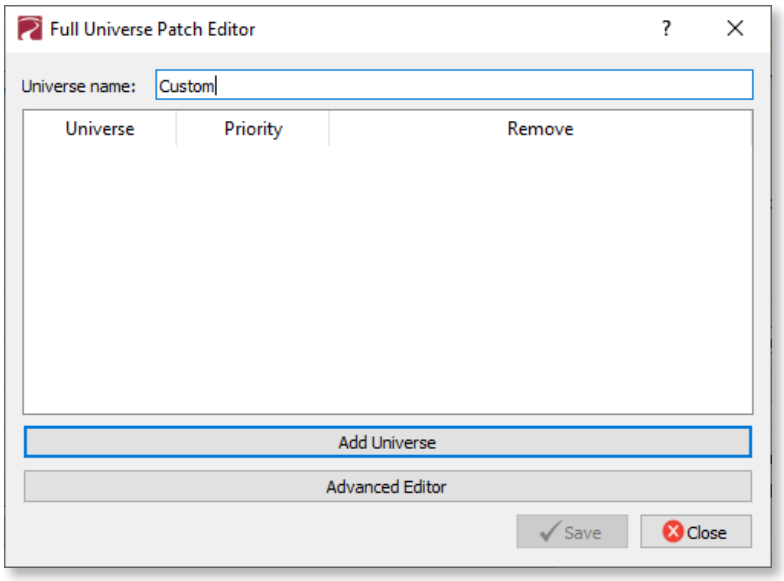
To create a custom patch for use by output ports, click the Custom Universe Editor button at the bottom of the **DMX Patch** window.



This will bring up the **Custom Universe Editor** window. To create a new Custom Universe, click the New button.



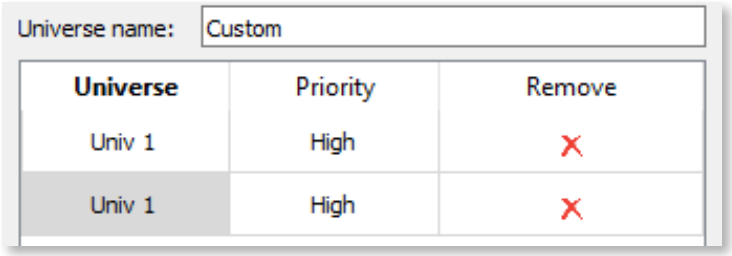
The **Full Universe Patch Editor** window will then open.



At the top of the window, enter a name for the custom Universe where it says **Universe Name:**. By default, the field is filled with the text “Custom”.

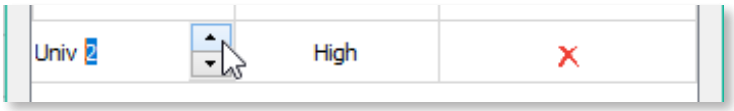
There are two buttons at the bottom of the window: **Add Universe** and **Advanced Editor**.

For simple custom patches, such as merging multiple universes, click the Add Universe button. This will add one Universe row with the following columns: **Universe**, **Priority** and **Remove**.

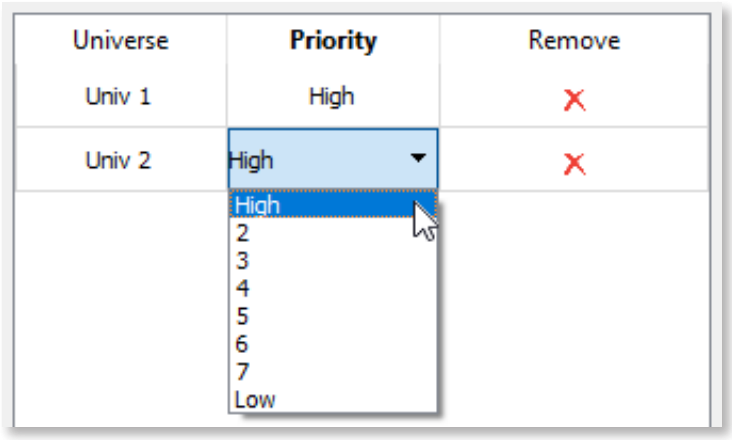


The **Universe** column shows the source Universe, the **Priority** column the Priority (default is High) and the **Remove** column allows you to click the X to delete an unwanted entry.

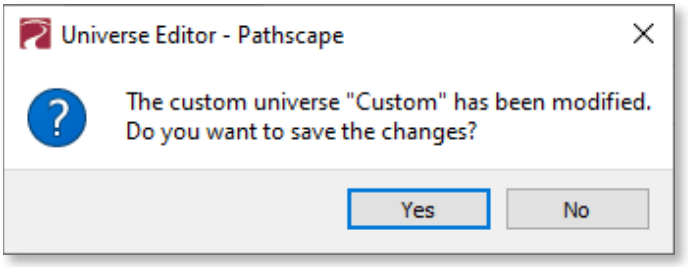
To select the desired Universe, double-click on the “**Univ 1**” cell. You can then use the up and down arrows to select the desired Universe. You may also directly type in the Universe number.



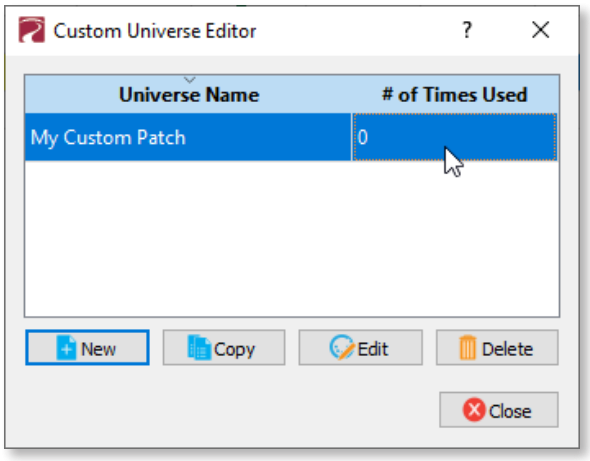
To select the Priority level of the source, double-click the **Priority** cell, marked with “High” by default. You may then choose a priority level in the drop-down menu.



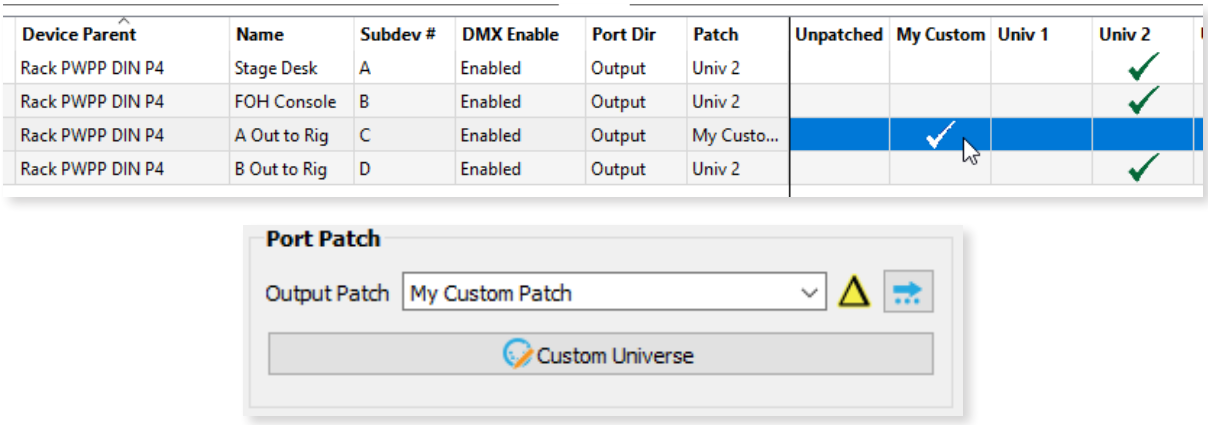
Once you are satisfied, click the Save button. To discard changes, click the Exit button. You will then have another chance to save changes, or discard them.



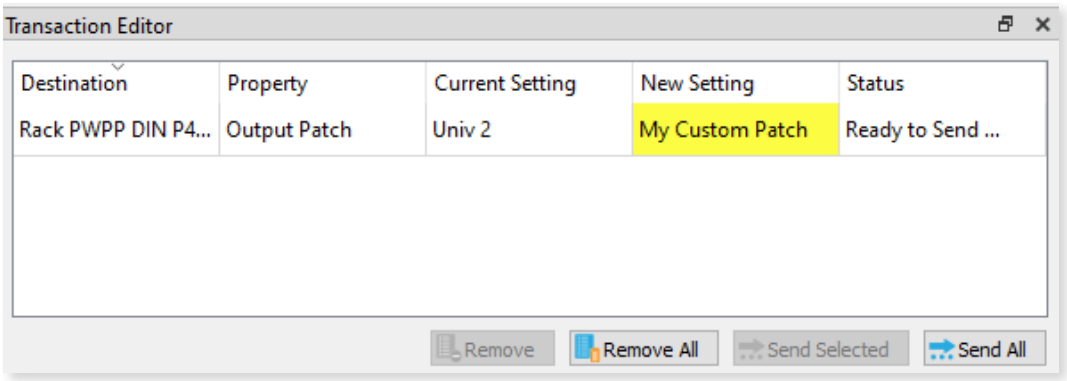
After clicking the Save button, you will be returned to the **Custom Universe Editor** window. Your new Custom patch will be shown, along with any other Custom patches that have been created. Click the Close button to return to the main Pathscape window.



The newly created Custom patch will be shown in the DMX Patch window, immediately after the “Unpatched” column and next to the first displayed Universe column.



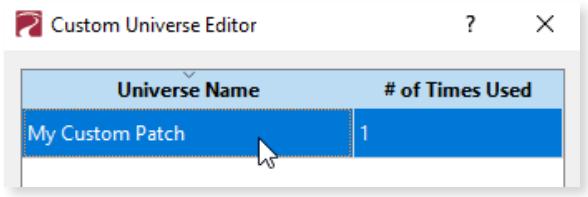
To complete the patch, click the desired device port where it intersects with the new Custom patch column, and click the Send All button to send the changes to the network.



COPYING, EDITING AND DELETING CUSTOM PATCHES

Once you have created a custom patch, you may wish to make changes to it, or make a copy of it and then make changes to that copy, or simply delete unneeded patches.

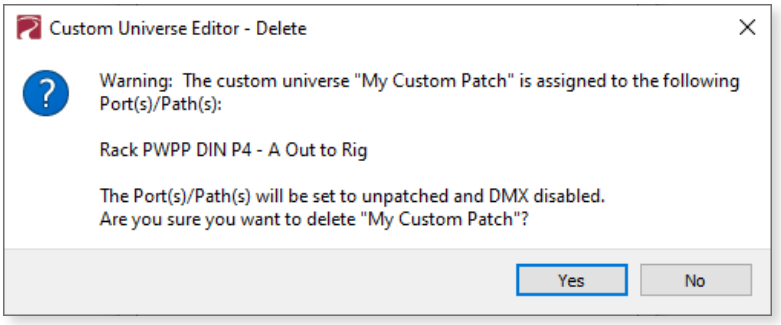
First, click the Custom Universe Editor button.



To **edit** an existing patch, click its name in the Custom Universe Editor window and then click the Edit button. This will open the Full Universe Patch Editor as shown above during the creation of the Custom patch. Make any necessary edits here, and click the Save button.

To **copy** a custom patch, click its name in the Custom Universe Editor window and then click the Copy button. This will create a copy of that patch, and open the Full Universe Patch Editor. Make any desired changes here, and give this copy a new **Name**.

To **delete** a patch, click its name in the Custom Universe Editor window and then click the Delete button. If the selected patch is currently assigned to a Port, a warning dialog will appear, asking for confirmation of deletion.



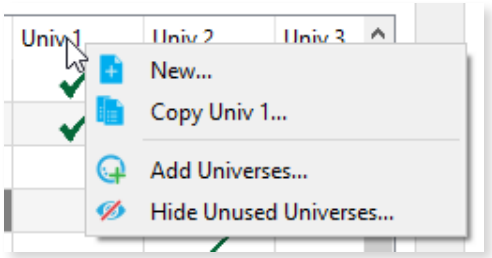
If the selected patch is not currently assigned, there is **no confirmation dialog** when clicking the Delete Patch button; it will be immediately deleted.

RIGHT-CLICK MENU

RIGHT-CLICK UNIVERSE COLUMN HEADER

There is a right-click menu for the Universe column headers, which allows faster access to a few functions.

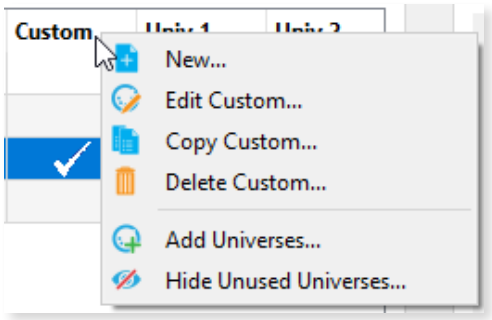
When **right-clicking a standard Universe column** header, the following menu is shown:



This allows you to:

- Add a **New** (custom) Universe, which will open the Full Universe Patch Editor;
- Create a new Custom Universe based off (**Copy** from) the selected Universe column;
- **Add** or Edit Universe columns; and
- **Hide Unused Universes**.

When **right-clicking a Custom Universe column** header, the following menu is shown:

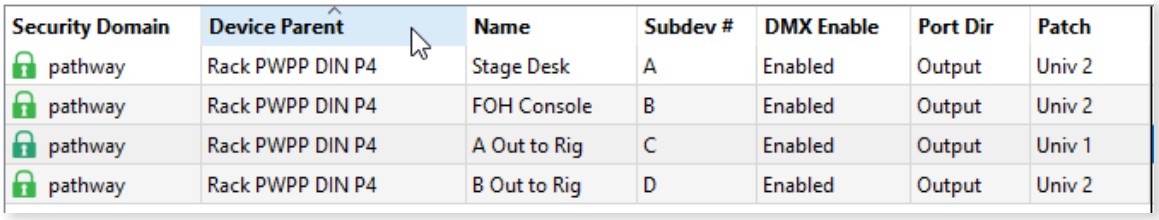


This allows you to:

- Add a **New** (custom) Universe, which will open the Full Universe Patch Editor;
- **Edit** the currently selected Custom Universe;
- Create a new Custom patch based off (**Copy** from) the selected Custom Universe columns;
- **Delete** the currently selected Custom Universe;
- **Add** or Edit Universe columns; and
- **Hide Unused Universes**.

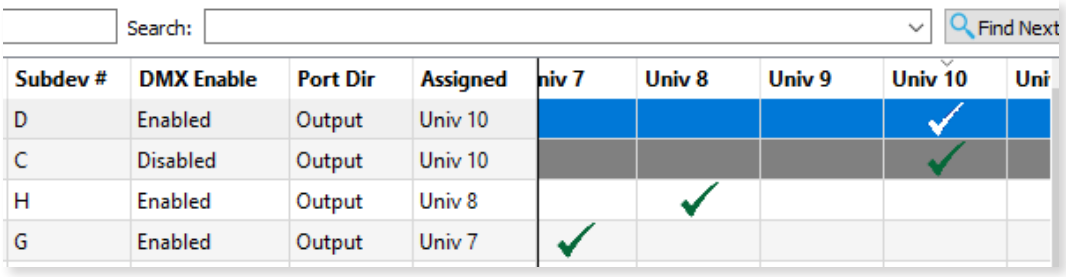
SORTING COLUMNS

Like the Device View, you can sort the displayed items in the DMX Patch view by clicking on each column header to sort by that column. Click on the column header to begin sorting, click it again to toggle the sorting method (ascending or descending). The small arrow indicates the current sort direction.



Security Domain	Device Parent	Name	Subdev #	DMX Enable	Port Dir	Patch
pathway	Rack PWPP DIN P4	Stage Desk	A	Enabled	Output	Univ 2
pathway	Rack PWPP DIN P4	FOH Console	B	Enabled	Output	Univ 2
pathway	Rack PWPP DIN P4	A Out to Rig	C	Enabled	Output	Univ 1
pathway	Rack PWPP DIN P4	B Out to Rig	D	Enabled	Output	Univ 2

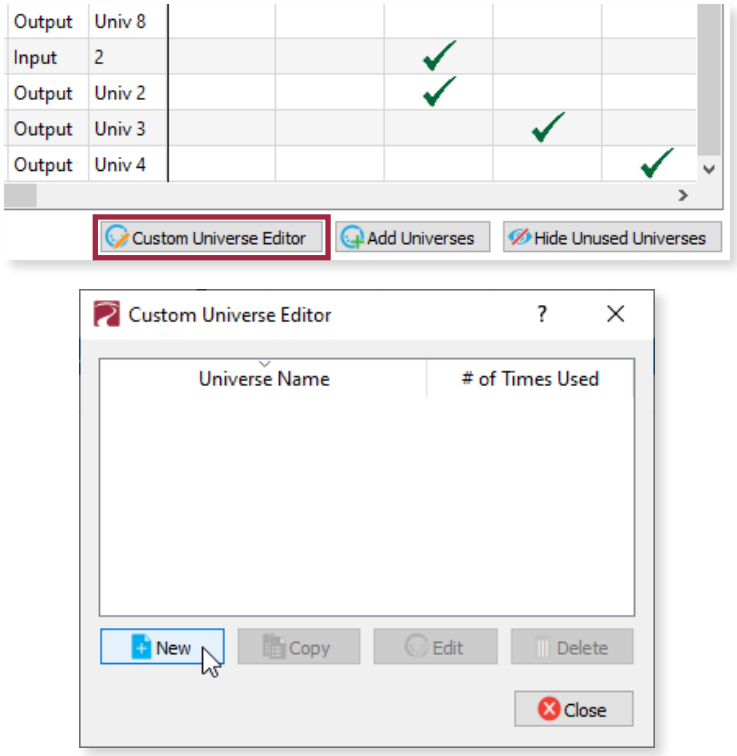
NOTE: you can also sort based on the Universe columns, if for example you want to always have ports patched to Universe 10 displayed at the top of the list, click the Univ 10 column header and sort it as needed.



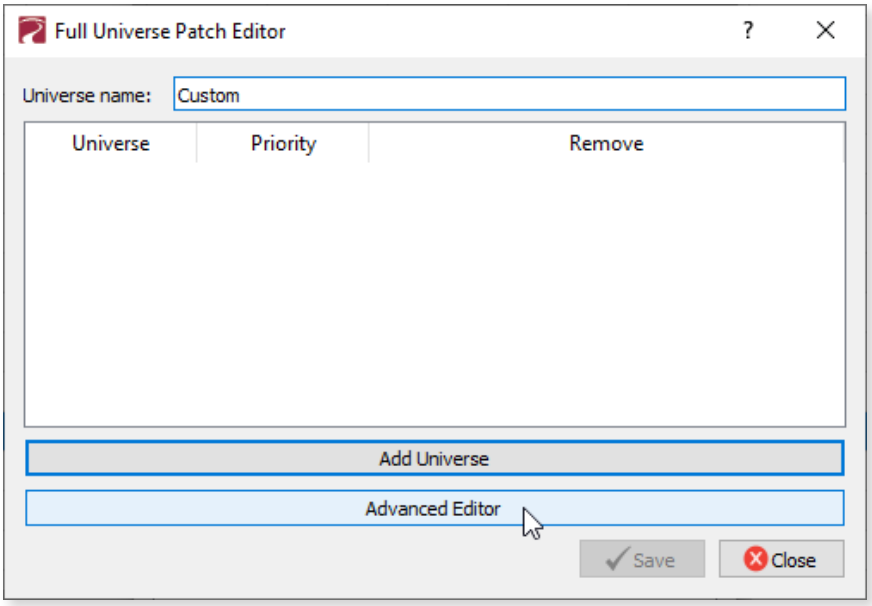
Subdev #	DMX Enable	Port Dir	Assigned	niv 7	Univ 8	Univ 9	Univ 10	Uni
D	Enabled	Output	Univ 10				✓	
C	Disabled	Output	Univ 10				✓	
H	Enabled	Output	Univ 8		✓			
G	Enabled	Output	Univ 7	✓				

ADVANCED PATCH EDITOR

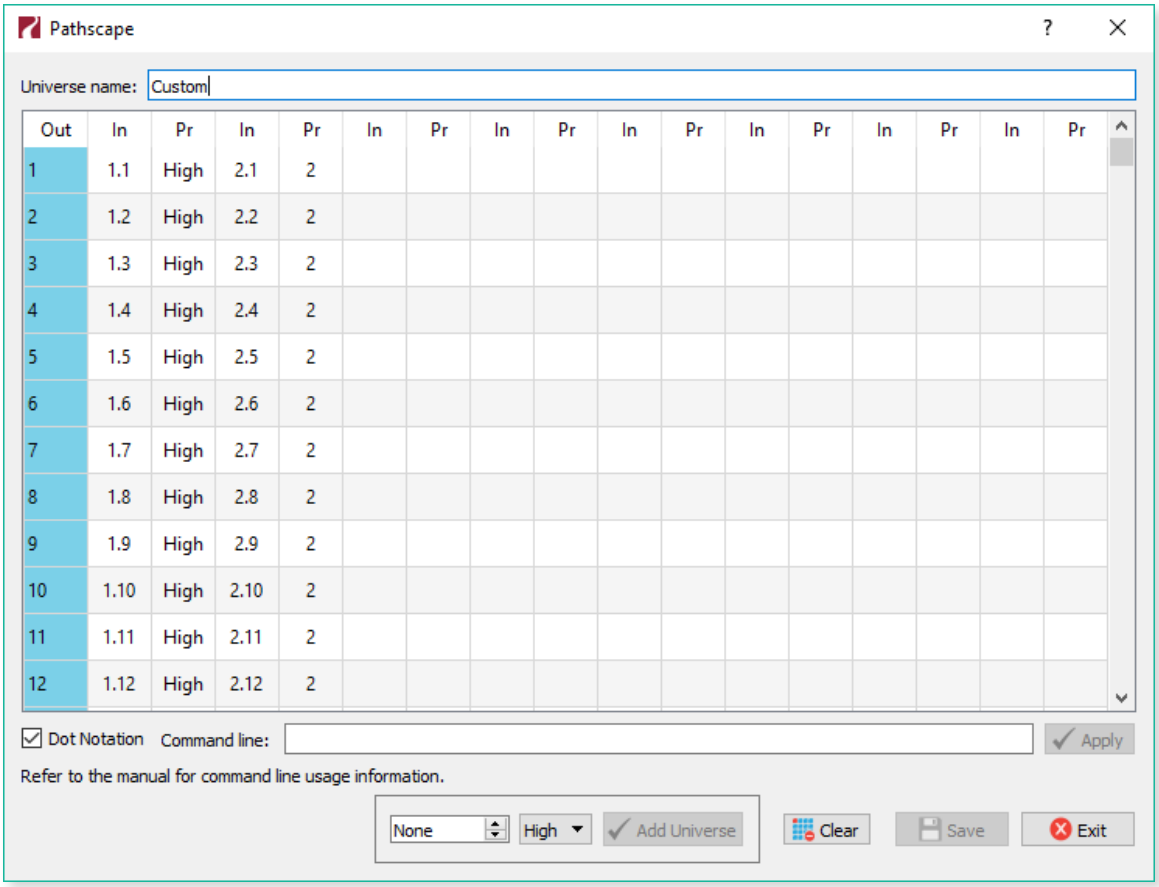
For more advanced custom patch editing, use the **Advanced Editor**. Click on the Custom Universe Editor button at the bottom of the DMX Patch window, then click the New button in the **Custom Universe Editor** window.



Then click the **Advanced Editor** button at the bottom of the Patch Editor window.



The **Advanced Editor** window will open.



The Advanced Editor will allow you to set priority on a channel-by-channel basis, as well as configure specific ranges of channels, e.g. non-contiguous ranges or small ranges of channels.

The Advanced Editor window has several columns: **Out**, and then **In** and **Pr**, repeating for a total of 8 possible input universes.

The **Out** column refers to the output of the patch, and has 512 rows, one for each slot.

The **In** column and **Pr** column work together. The **In** column is for specifying the input universe and channel, and the **Pr** column for setting the priority level of that channel, which is then patched to the output slot of the same row.

There are several ways to enter channel values.

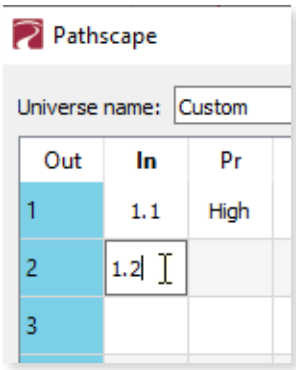
INPUTTING CHANNELS AND PRIORITIES

ENTERING VALUES MANUALLY

If you have only a handful of channels to configure, you can enter them manually typing them directly into the table cells. By default, the syntax is: "**Universe.Slot**", i.e. "1.1" is Universe 1, Slot 1 and "1.512" is Universe 1, Slot 512.

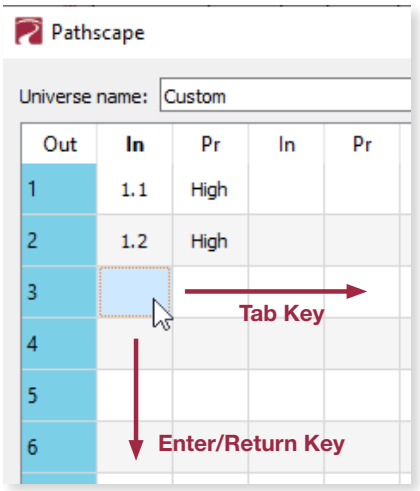
NOTE if you type a single number, it will convert it to the correct universe. For example, if you just type "3" it will change to "1.3". If you type "513", it will convert to "2.1".

Double-click on a cell, and type in the channel number.



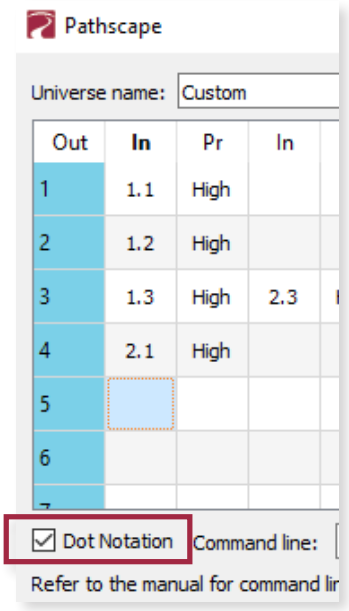
In this example we typed in channels 1 (first row) and 2 (second row) from Universe 1

You can also click on a cell to highlight it, and begin typing directly. Press the **Tab** key to accept your entry and move two cells to the **right** (one In/Pr pair to the right); press the **Enter/Return** key to accept your entry and move one cell **downwards**. Note that the default priority when typing any value into a cell is **High**.



Hitting the **Tab** key **without typing** any values into a cell will move the selected cell **one** space to the right. Hitting **Tab** at the end of a row will select the first cell of the next row downwards. Note that hitting the Enter/Return key without typing a value into a cell will do nothing.

To change the way Pathscape displays the channels, the Dot Notation checkbox is provided in the bottom-left corner of the window.

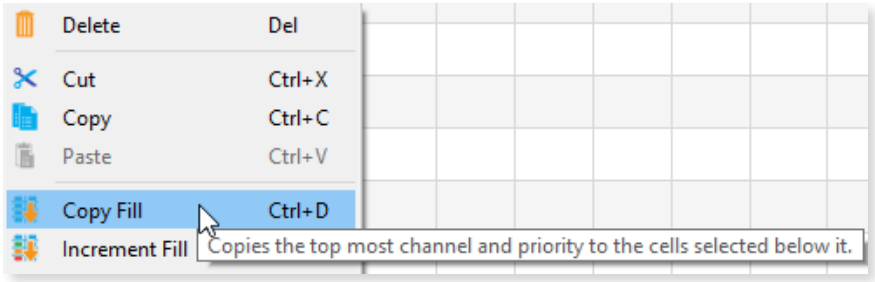


By default, it is checked; which displays the channels in the “Universe.Slot” format. Uncheck this box if you prefer to see the absolute channel number (1-512 for Universe 1, 513-1024 for Universe 2, and so on).

For example, to enter Universe 1 channel 1 into the first cell, click on the cell and type in “1.1”. You may also type in the absolute channel number. Pathscape will do the conversion for you, depending on the status of the Dot Notation item.

USING THE COPY FILL FUNCTION

There are two “Fill Channel” functions under the right-click menu, **Copy Fill** and **Increment Fill**.

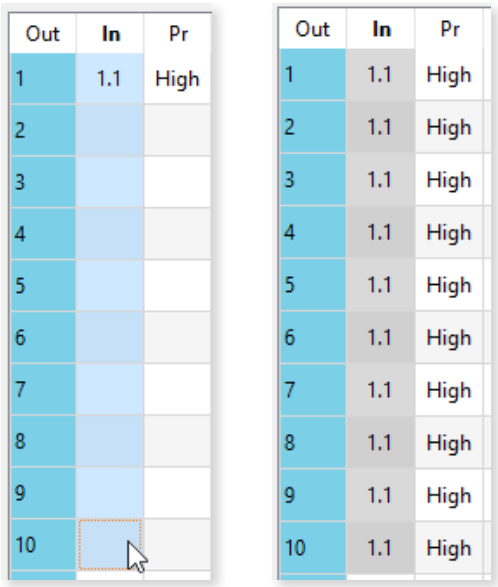


These are both useful to filling in several channels without having to manually enter them.

Both of these require at least one pre-existing value. For example, enter “1.1” in the first cell.

To extend the same channel patch to a range of outputs, select the first cell and shift-click to select a range of cells downward. In this example, rows 1 through 10 are selected.

With the selection made, right-click and select **Copy Fill**. This will copy the values from the first cell and apply them to all selected cells. If you need the same input channel to be patched to several outputs, this is a much faster method than manually entering them.



Out	In	Pr
1	1.1	High
2		
3		
4		
5		
6		
7		
8		
9		
10		

Out	In	Pr
1	1.1	High
2	1.1	High
3	1.1	High
4	1.1	High
5	1.1	High
6	1.1	High
7	1.1	High
8	1.1	High
9	1.1	High
10	1.1	High

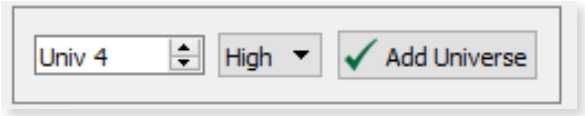
The **Increment Fill** is similar, but will increment each channel by 1. Using the same start value as the above example, but choosing **Increment Fill**, we get the following result.

Out	In	Pr
1	1.1	High
2	1.2	High
3	1.3	High
4	1.4	High
5	1.5	High
6	1.6	High
7	1.7	High
8	1.8	High
9	1.9	High
10	1.10	High

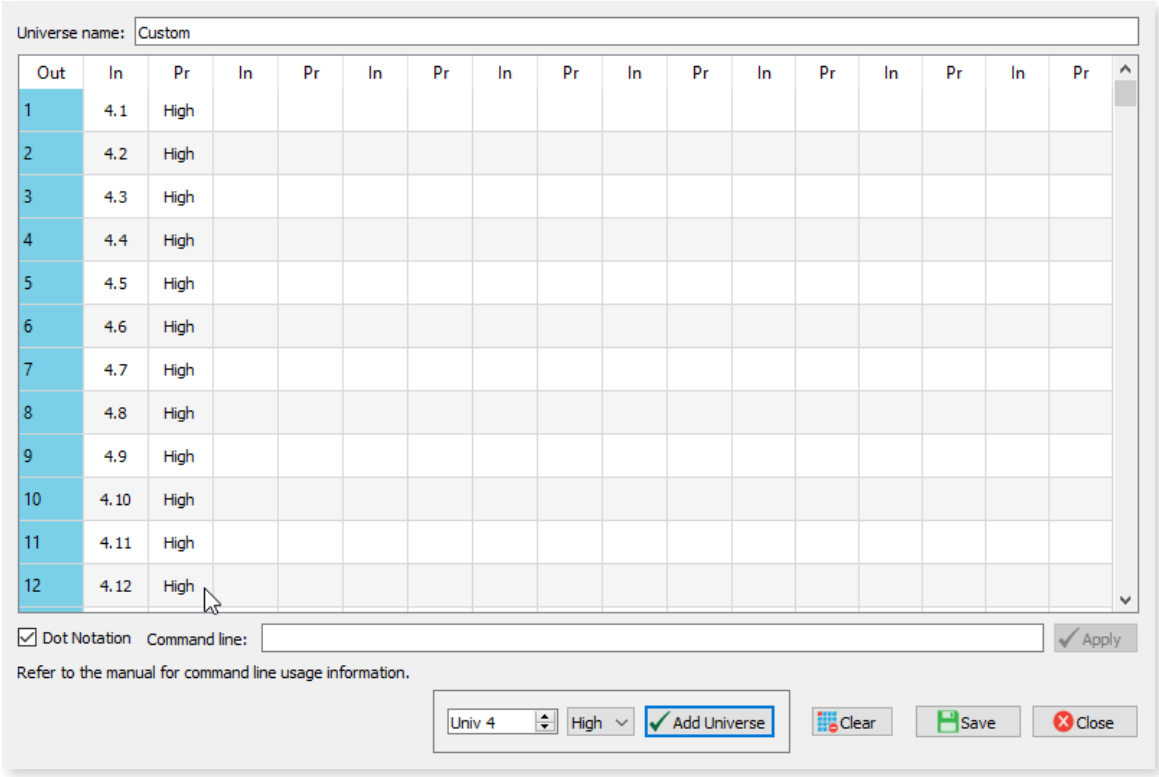
This is useful for filling in contiguous ranges of channels quickly without manually entering them.

USING THE ADD UNIVERSE FUNCTION

Another way to input channel ranges is using the **Add Universe** box at the bottom of the window.



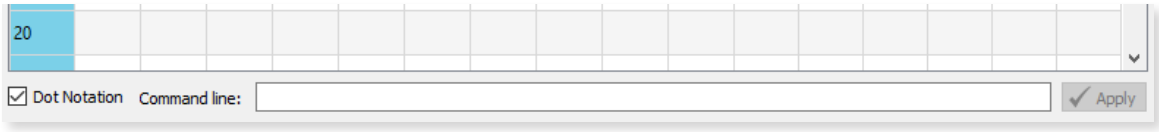
This works essentially the same as the basic Full Universe Patch Editor window. Select a Universe using the up and down arrows, or type it directly into the text field, select the priority level, and click the **Add Universe** button. This will fill the first available **In** and **Pr** columns with the selected channel and priority information.



At this point you may want to edit specific channels or channel ranges within that universe, which you can do manually or using the **Fill Channel** items.

USING THE COMMAND LINE

At the bottom of the window, above the **Add Universe** section, is the **command line**. This can be used to create entire patches in a single command.



The syntax for the command line is as follows:

Output Range AT Input Range [(At Equal Priority/At Next Lowest Priority)Additional Range]

This might look a little confusing but let's break it down.

Item/Character	Description
- (dash)	Used for ranges (optionally a range can have a starting value, then a dash and no ending value, if using the entire 1-512 slot range)
* (asterisk)	Used for AT
+ (plus sign)	Used to add next range at equal priority
/ (slash)	Used to delineate next lowest priority (note you cannot use the command line to specify a priority specifically)
, (comma)	Simple value separator
. (period)	Used to specify **Universe.Slot** notation
[ ] (square brackets)	Optional Entries

Output Range is the range of outputs to which we are assigning input slots. Let's use the full universe in this example (slots 1-512).

Input Range is the range of input slots we'd like to patch to those outputs (in the "**Universe.Slot**" format mentioned earlier). Let's use Universe 1 for this example, so our range would be **1.1-1.512**.

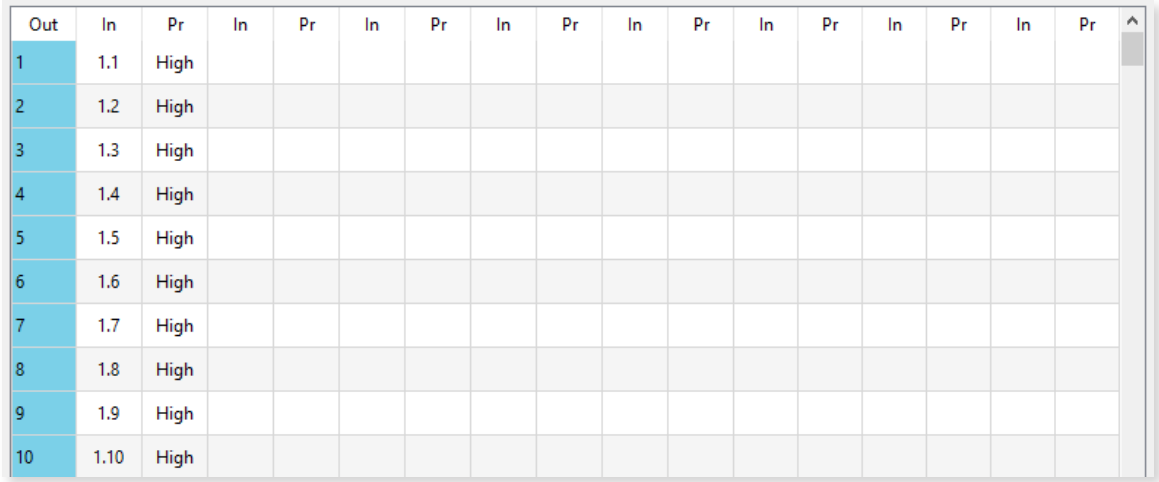
AT is an operator character, the "*****" (asterisk).

The elements inside the **square brackets** are optional, so let's forget them for now. Our command looks like this:

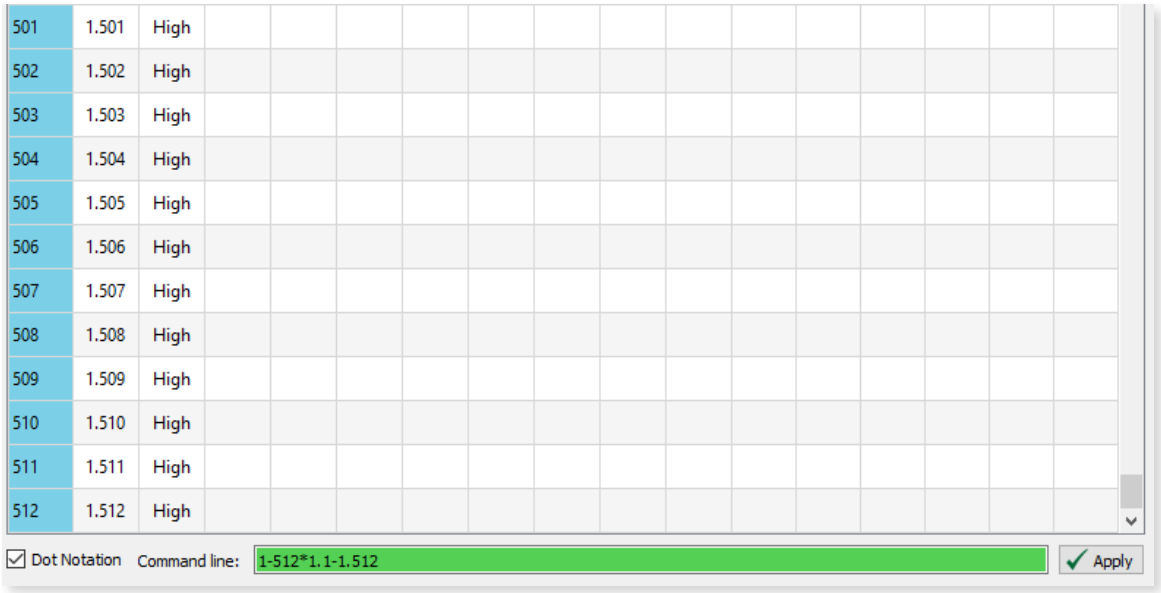
1-512*1.1-1.512

Hit the enter key or click the 

button to send the command. We should have something like this:



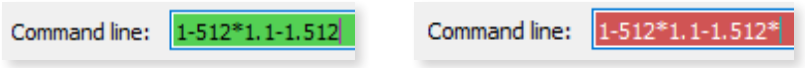
Out	In	Pr	In	Pr	In	Pr	In	Pr	In	Pr	In	Pr	In	Pr	In	Pr
1	1.1	High														
2	1.2	High														
3	1.3	High														
4	1.4	High														
5	1.5	High														
6	1.6	High														
7	1.7	High														
8	1.8	High														
9	1.9	High														
10	1.10	High														



(Middle of the window not shown)

The command should have entered 1.1 through 1.512 as the Input channels in the **In** column, and filled in the **Pr** column with the value **High**.

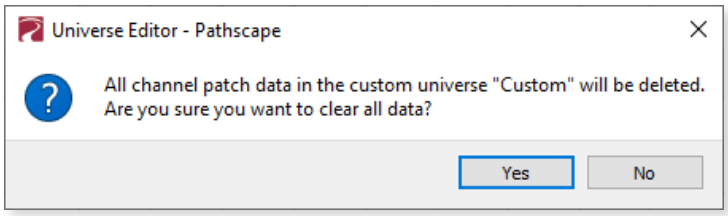
NOTE: the Command Line field will highlight in **green** if the command syntax is valid, and **red** if it is not valid.



Valid syntax (left), Invalid syntax (right)

To clear the entire patch window, click the 

button in the bottom-right corner. A confirmation dialog will appear.



Confirm by clicking **Yes**, so we can try another command.

To add additional ranges using the same command, use the "**+**" (plus sign) or the "**/**" (forward slash) characters.

The "**+**" character adds the next range of channels **at equal priority** as previous, while the "**/**" character adds the next range **at next lowest priority**.

Let's try another command and add 2 ranges to the initial example; Universe 2 at the same priority (using the "+" character) and Universe 3 at the next lowest priority (using the "/" character).

Our command would now look like this:

1-512*1.1-1.512+2.1-2.512/3.1-3.512

And our Patch Window should look like:

Out	In	Pr	In	Pr	In	Pr
1	1.1	High	2.1	High	3.1	2
2	1.2	High	2.2	High	3.2	2
3	1.3	High	2.3	High	3.3	2
4	1.4	High	2.4	High	3.4	2
5	1.5	High	2.5	High	3.5	2
6	1.6	High	2.6	High	3.6	2
7	1.7	High	2.7	High	3.7	2
8	1.8	High	2.8	High	3.8	2
9	1.9	High	2.9	High	3.9	2

502	1.502	High	2.502	High	3.502	2
503	1.503	High	2.503	High	3.503	2
504	1.504	High	2.504	High	3.504	2
505	1.505	High	2.505	High	3.505	2
506	1.506	High	2.506	High	3.506	2
507	1.507	High	2.507	High	3.507	2
508	1.508	High	2.508	High	3.508	2
509	1.509	High	2.509	High	3.509	2
510	1.510	High	2.510	High	3.510	2
511	1.511	High	2.511	High	3.511	2
512	1.512	High	2.512	High	3.512	2

☑ Dot Notation Command line: 1-512*1.1-1.512+2.1-2.512/3.1-3.512

With the one command, we added:

- Universe 1, channels 1 through 512 at High priority (the original "**1-512*1.1-1.512**" command)
- Universe 2, channels 1 through 512 at the same (High) priority (the "**+2.1-2.512**" part), and
- Universe 3, channels 1 through 512 at the next lowest priority (2) (the "**/3.1-3.512**" part).

In the command syntax, "range" can be any range of channels; it does not have to be the full universe of 1-512. We could change the ranges in the above example from 1-512 to 1-10 (and also change **1.1-1.512** to **1.1-1.10**, and so on for Universe 2 and 3) and we would patch only channels 1 through 10.

The command would then look like:

1-10*1.1-1.10+2.1-2.10/3.1-3.10

Out	In	Pr	In	Pr	In	Pr	In
1	1.1	High	2.1	High	3.1	2	
2	1.2	High	2.2	High	3.2	2	
3	1.3	High	2.3	High	3.3	2	
4	1.4	High	2.4	High	3.4	2	
5	1.5	High	2.5	High	3.5	2	
6	1.6	High	2.6	High	3.6	2	
7	1.7	High	2.7	High	3.7	2	
8	1.8	High	2.8	High	3.8	2	
9	1.9	High	2.9	High	3.9	2	
10	1.10	High	2.10	High	3.10	2	
11							
12							

☑ Dot Notation Command line: 1-10*1.1-1.10+2.1-2.10/3.1-3.10

The example from above with channels 1-512 changed to 1-10.

NOTE: if the full range of channels is going to be used (1-512), the second number is technically **not required**. For example, to specify the output range of **1-512**, we can simply drop the "512" and type "**1-**". Pathscape assumes we mean the full range of 1-512. We can do the same with the input range. Instead of typing "**1.1-1.512**" we can simply type "**1.1-**".

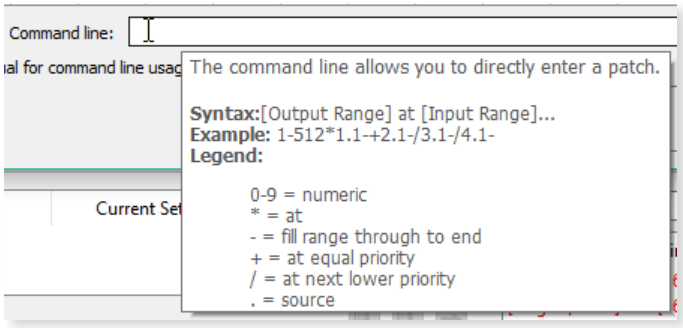
The command from the example on the previous page could then be written:

1-*1.1-+2.1-/3.1-

Which is much faster to type, but maybe a little harder to understand at a glance. Use whatever method you prefer.

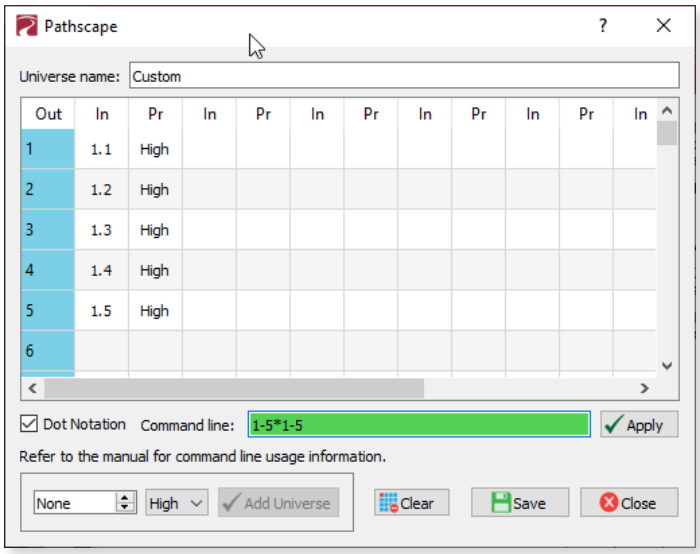
Keep in mind that if we want to use the command line to patch a range of channels **less** than the full 1-512 range, the second number is **required**.

NOTE if you hover the cursor over the Command Line field, a tool tip will pop up with a reminder of the syntax and an example command.

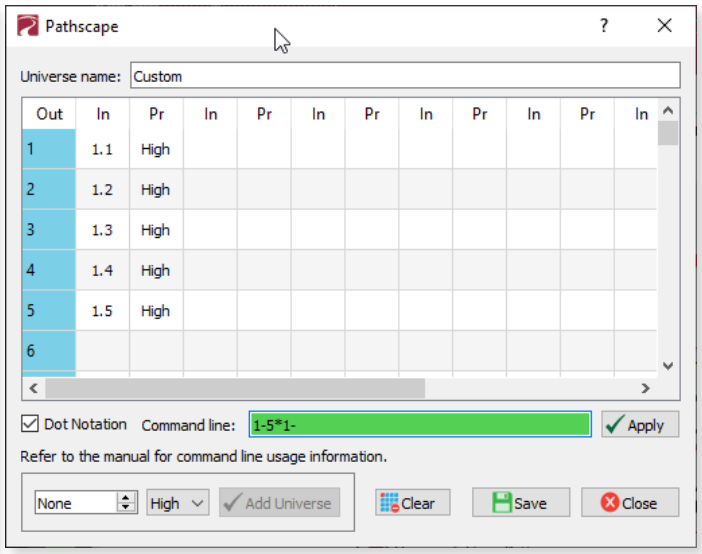


ADVANCED PATCH EDITOR EXAMPLES

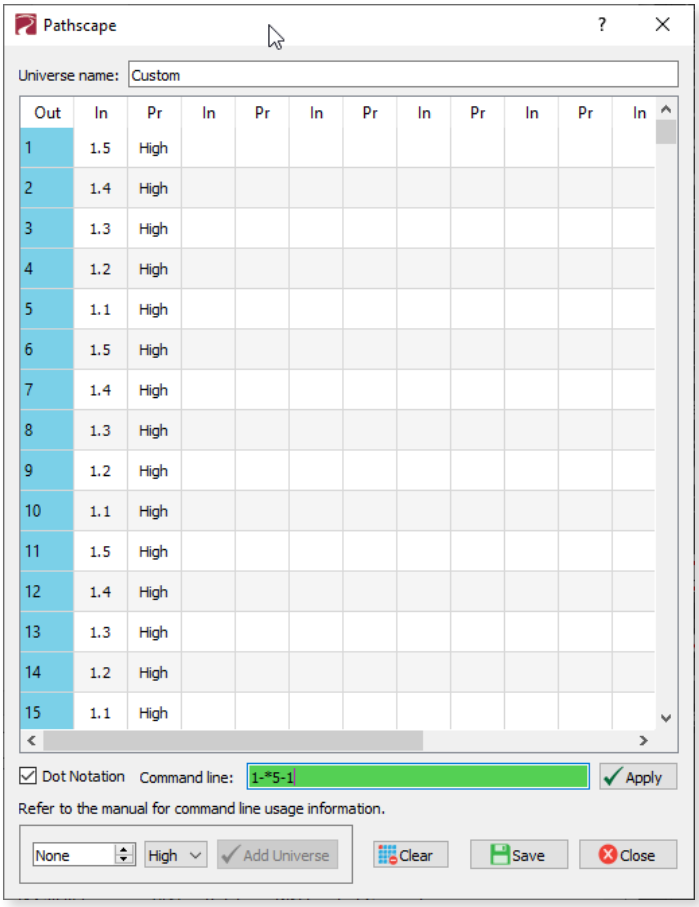
See below for some more examples of using the Advanced Patch Editor.



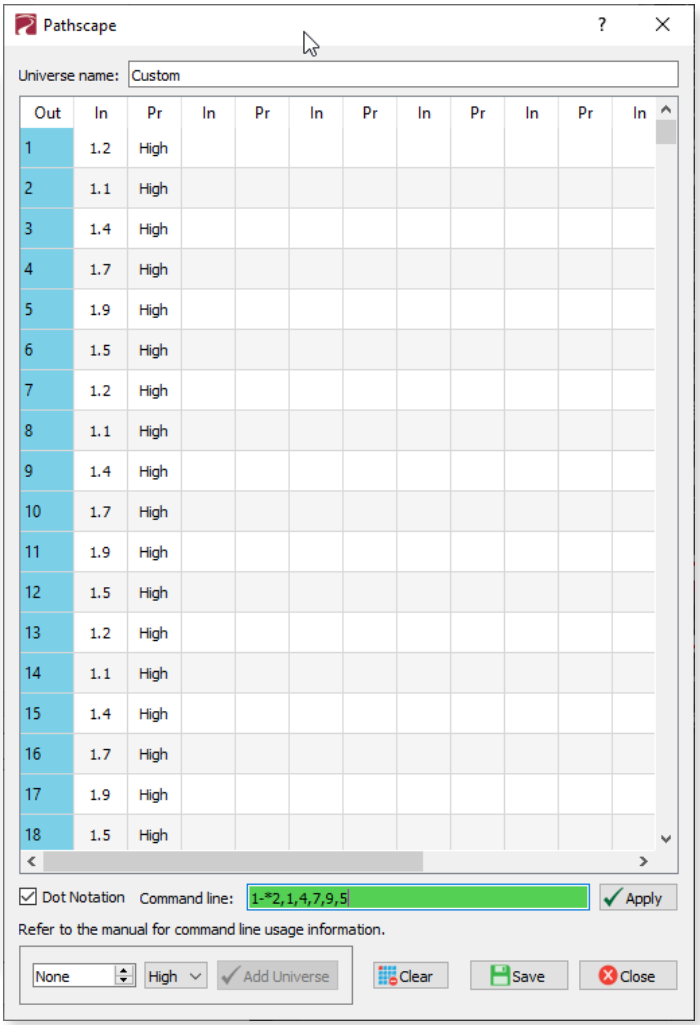
Command line: 1-5*1-5



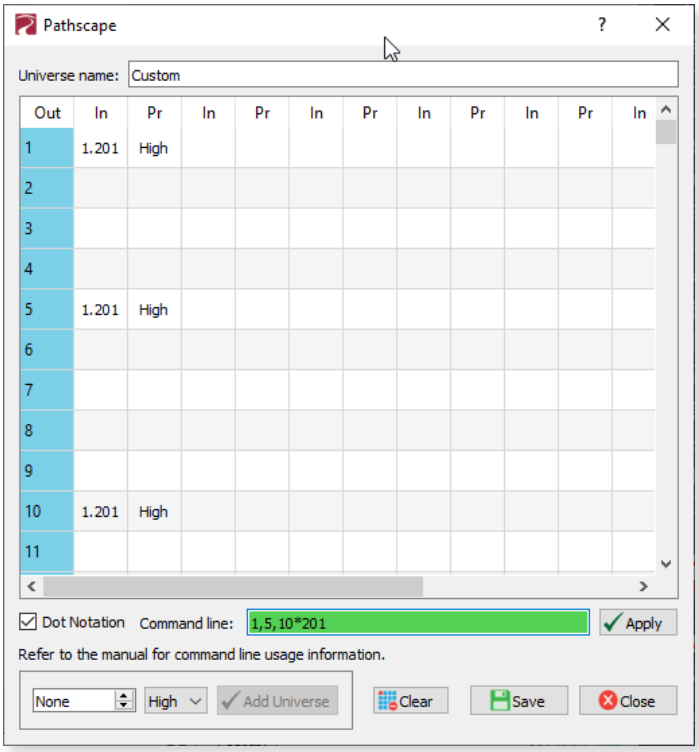
Command line: 1-5*1-



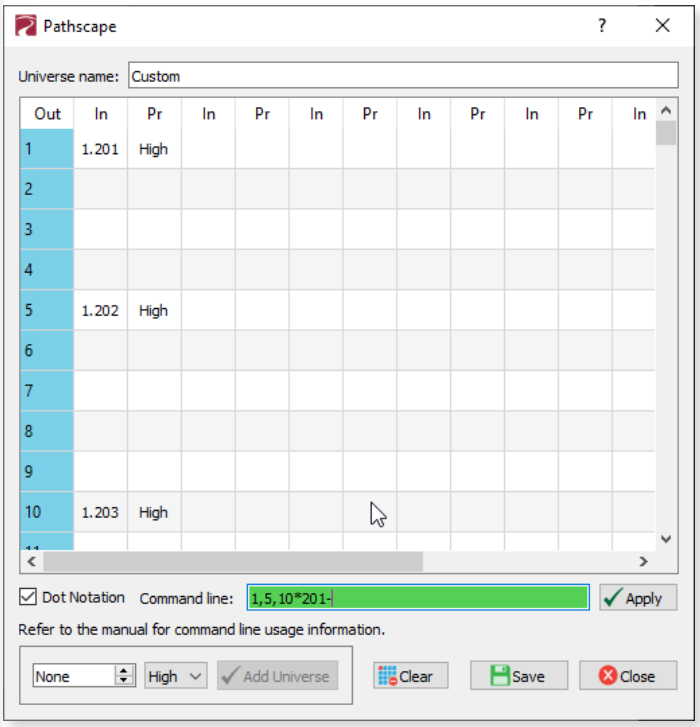
Command line: 1-*5-1



Command line: 1-*2,1,4,7,9,5



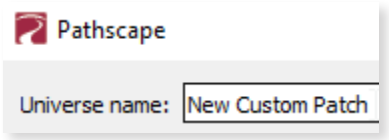
Command line: 1,5,10*201



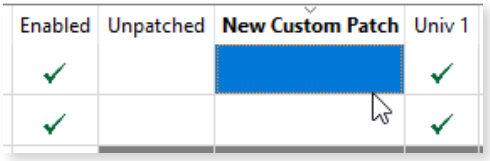
Command line: 1,5,10*201-

SAVING OR DISCARDING CUSTOM PATCH

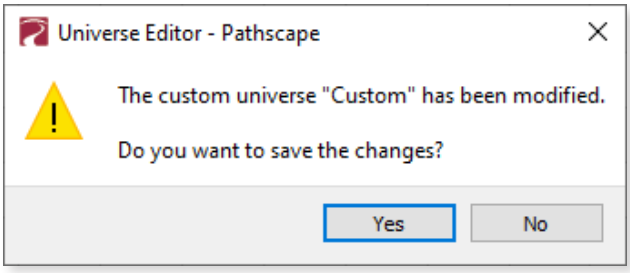
To save the custom patch, click the Save button in the bottom-right corner of the window. Make sure to give your custom patch a name at the top of the window.



Once saved, the Save button will become grayed out, and you may exit the window by clicking the Close button. Your new custom patch will be added to the DMX Patch grid.



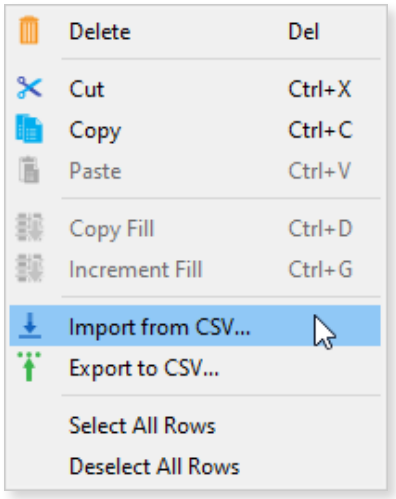
To discard the changes made and exit the Advanced Patch window without saving, click the Close button. A confirmation dialog will appear, giving you a last chance to save changes to the custom patch.



Click "**No**" to discard changes and return to the main Pathscape window. Clicking "**Yes**" will save the custom patch with its current name and settings.

USEFUL RIGHT-CLICK MENU ITEMS

In the Advanced Patch Editor, there are several helpful functions in the right-click menu. Right-click in the main channel grid area to see the menu.



Delete will delete any selected cells. You may also use the **DEL/Backspace** key. You can delete multiple cells by shift- or control-clicking to select multiple ranges, both contiguous and non-contiguous.

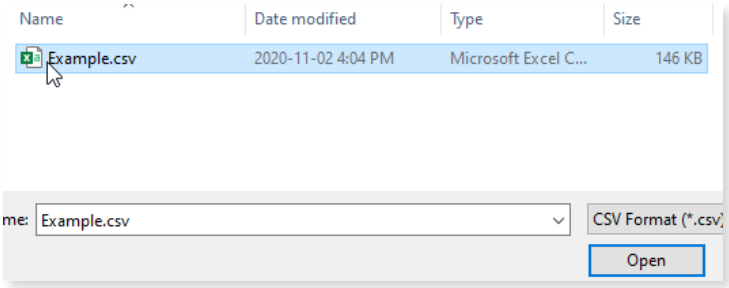
Cut will cut any selected cells for pasting elsewhere in the channel patch grid.

Copy will copy any selected cells for pasting elsewhere in the channel patch grid.

Paste will paste any copied/cut cell values, starting on the selected cell.

Copy Fill and **Increment Fill** are explained in the **Using the Copy Fill Function** section above.

Import from CSV... will import values from a Comma Separated Value (CSV) file generated from Pathscape and input them into the channel patch grid. Click this item and a **Open File Dialog** will appear. Choose a CSV file, and click the "**Open**" button.



	A	B	C	D	E	F	G	H	I	J
3	!patch	outChannel	inChannel1	inPri1	inChannel2	inPri2	inChannel3	inPri3	inChannel4	inPri4
4	patch	1	1	1	513	8	1025	4		
5	patch	2	2	1	514	8	1026	4		
6	patch	3	3	1	515	8	1027	4		
7	patch	4	4	1	516	8	1028	4		
8	patch	5	5	1	517	8	1029	4		
9	patch	6	6	1	518	8				

CSV Files Contents

Universe name: Example

Out	In	Pr	In	Pr	In	Pr	In	P
1	1.1	High	2.1	Low	3.1	4		
2	1.2	High	2.2	Low	3.2	4		
3	1.3	High	2.3	Low	3.3	4		
4	1.4	High	2.4	Low	3.4	4		
5	1.5	High	2.5	Low	3.5	4		
6	1.6	High	2.6	Low				
7	1.7	High	2.7	Low				
8	1.8	High	2.8	Low				
9	1.9	High	2.9	Low				
10	1.10	High	2.10	Low				
11	1.11	High	2.11	Low				
12	1.12	High	2.12	Low				

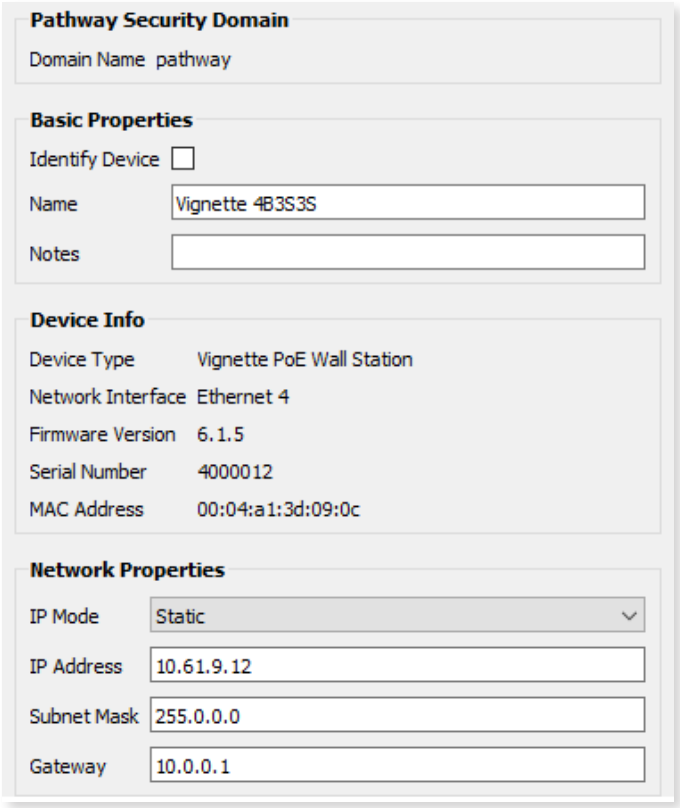
Advanced Editor fills in values from CSV File

Export to CSV... will export the current channel patch grid to a CSV file for importing onto a different machine. Click this item and a **Save File Dialog** will appear, enter a name for the file and click "**Save**".

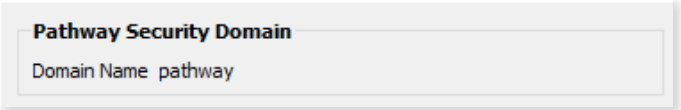
Select All Rows will select all rows and **Deselect All Rows** will deselect them.

VIGNETTE

Vignette has both PoE Wall stations and 485 Architectural Gateways which share similar properties.



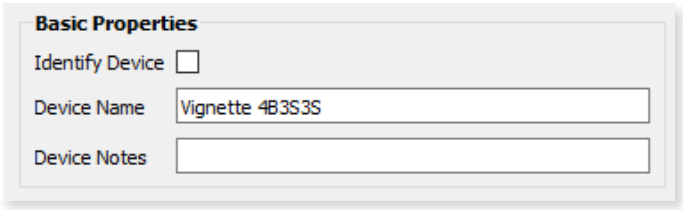
PATHWAY SECURITY DOMAIN



DOMAIN NAME

The name of the Security Domain the device is currently assigned to.

BASIC PROPERTIES



IDENTIFY DEVICE

Checking this box causes device to commence identify behavior (flashing Identify LEDs).

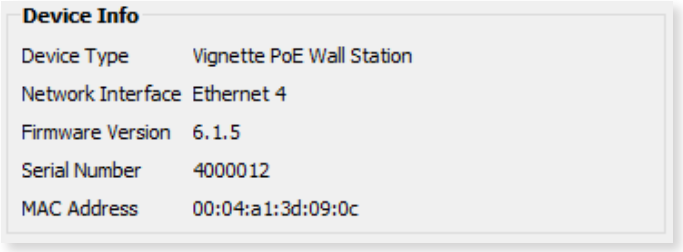
DEVICE NAME

A user-configured, soft label for the wall station or gateway. If left blank (and by default) the device name displayed will be the device's IP Address. Shown in the Device window and should refer to the device's physical location. (i.e., 'DIN Utility Room', 'South Hall').

DEVICE NOTES

A user-configured text description field, shown in the Device window.

DEVICE INFO



DEVICE TYPE

The device type for the currently selected device.

NETWORK INTERFACE

Shows the name of the NIC (Network Interface Card) the device is communicating to the machine running Pathscape on.

FIRMWARE VERSION

Shows current operating firmware version. See the **Firmware Update** section on how to update the firmware. Read-only.

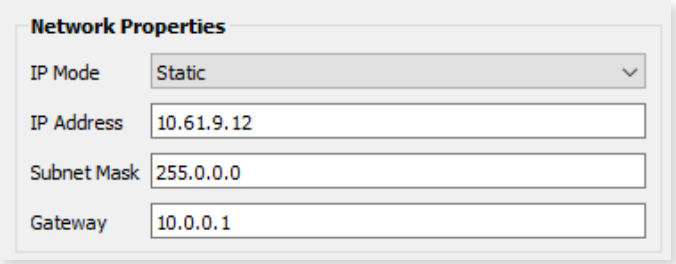
SERIAL NUMBER

Factory-set unique identifier. Read-only.

MAC ADDRESS

Factory-set hardware address. Read-only.

NETWORK PROPERTIES



IP MODE

Set the IP mode for the device. Options are **Disabled**, **Static** and **Dynamic**.

Disabled: No IP assigned to this device.

Static: IP settings manually set by user.

Dynamic: IP settings obtained from DHCP server.

IP ADDRESS

User-set Internet Protocol address (IPv4) for this device.

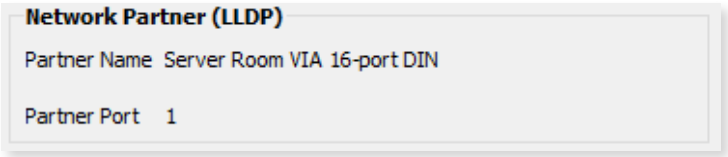
SUBNET MASK

User-set subnet mask.

GATEWAY

Rarely used on Vignette.

NETWORK PARTNER (LLDP)



PARTNER NAME

If the upstream switch supports Link Layer Discovery Protocol (LLDP), that device's name will appear here. Read-only.

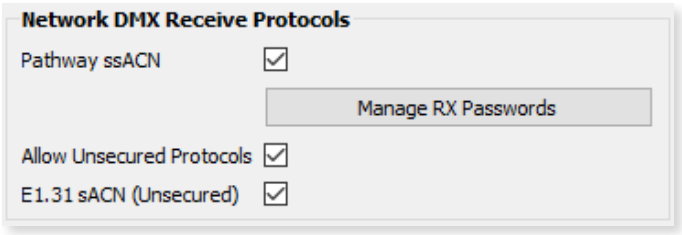
PARTNER MAC

The hardware MAC (Media Access Control) address of the LLDP Partner, if applicable. This property will be hidden if the above Partner Name is displayed, as it is less useful. If the Partner Name is not able to be discover, the Partner MAC will be shown. Read-only.

PARTNER PORT

If the upstream switch supports Link Layer Discovery Protocol (LLDP), the port the current device is connected to will be shown here. Read-only.

NETWORK DMX RECEIVE PROTOCOLS



PATHWAY ssACN

Check this box to enable **Pathway's Secure sACN (ssACN)**. Click the **Manage RX Passwords** button to configure ssACN Passwords. See the Security section earlier in the manual for details.

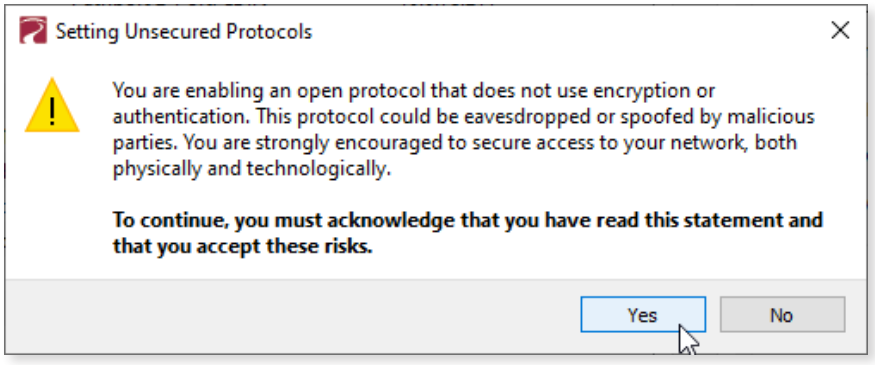
ALLOW UNSECURED PROTOCOLS

Check this box to enable the use of unsecured network protocols. **By default, this property is not enabled**. In order to use the Vignette device with standard (unsecured) sACN, **this must be enabled**.

⚠ WARNING ABOUT UNSECURED PROTOCOLS ⚠

Enabling an open protocol that does not use encryption or authentication - These protocols could be eavesdropped or spoofed by malicious parties. You are strongly encouraged to secure access to your network, both physically and technologically. To continue, you must acknowledge that you have read this statement and accept these risks.

After checking this box and sending the transaction, a dialog will appear warning you of the above and asking for confirmation.

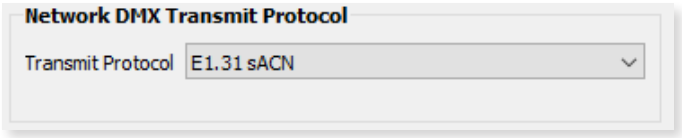


To continue, you must click the "**Yes**" button to confirm you understand the associated risks.

E1.31 sACN (UNSECURED)

Check this box to enable the receiving of E1.31 sACN. You must check both the **Allow Unsecured Protocols** checkbox and this checkbox to use standard E1.31 sACN.

NETWORK DMX TRANSMIT PROTOCOL



TRANSMIT PROTOCOL

Use the drop-down menu to select the network protocol the Vignette will transmit. Options are **E1.31 sACN** (default) and **Pathway ssACN**.

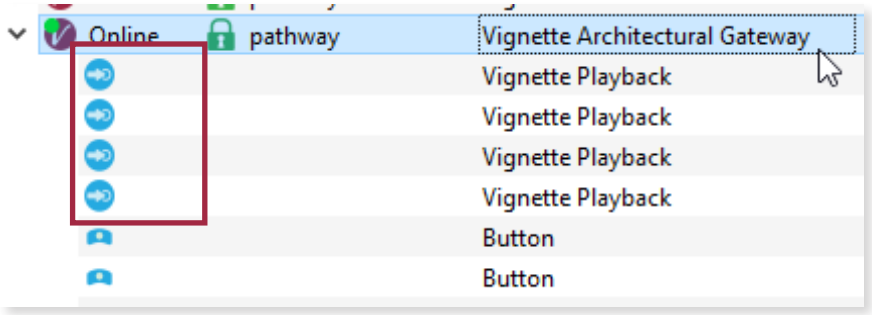
E1.31 sACN will use transmit using standard, unsecured E1.31 sACN.

Pathway ssACN will use Pathway's secured sACN for transmitting to the network.

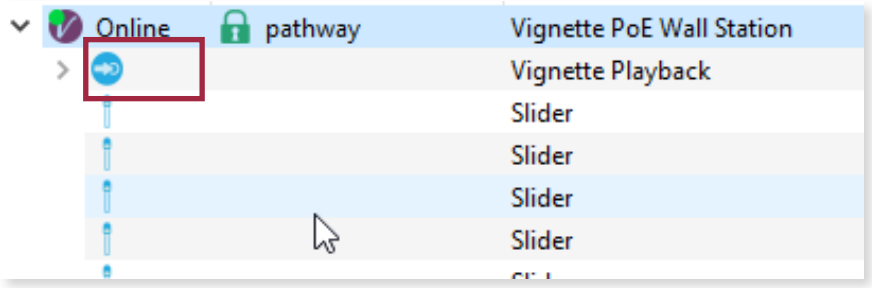
VIGNETTE PLAYBACKS

Each Vignette network of architectural controls needs at least one **Playback processor**. **Vignette 485 Architectural Gateways** have **four**, **Vignette Clocks** have **one** and each **PoE wall station** has **one**. Vignette 485 wall stations **do not** have a Playback. You must uniquely identify the Playbacks (see **Vignette Playback ID** below) as each Button and Slider you configure to Playback Snapshots or Zones will reference its Playback.

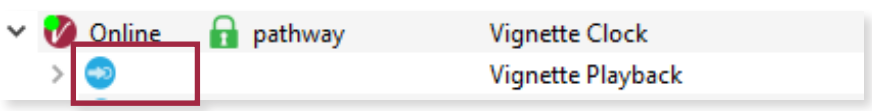
In the Device window, expand the Vignette device by double-clicking on it or clicking the arrow to show all its subdevices. The Playbacks are highlighted below:



Vignette 485 Gateway with 4 Playbacks



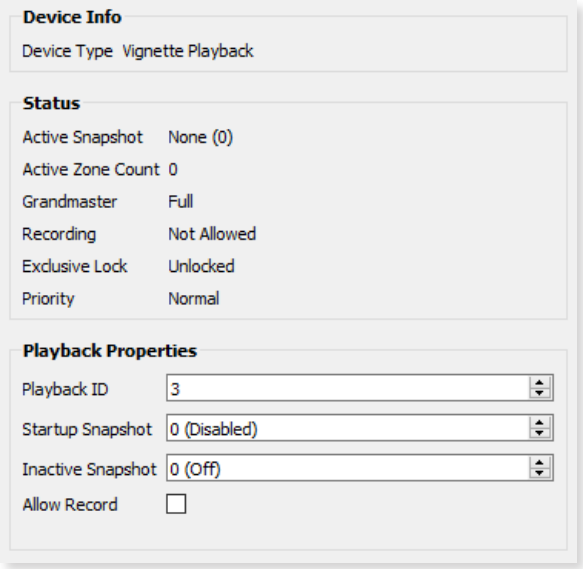
Vignette PoE Station with 1 Playback

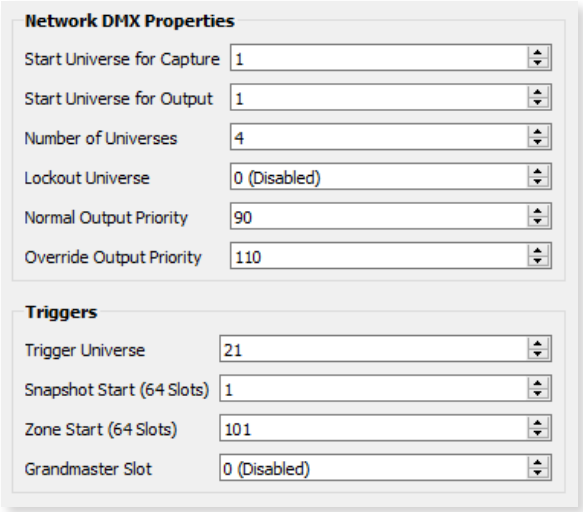


Vignette Clock with 1 Playback

VIGNETTE PLAYBACK PROPERTIES

When you click on a **Vignette Playback** subdevice in the Device window, its properties will appear in the Properties Pane. There are five sets of properties: **Device Info, Status, Playback Properties**, **Network DMX Properties**, and **Triggers.**





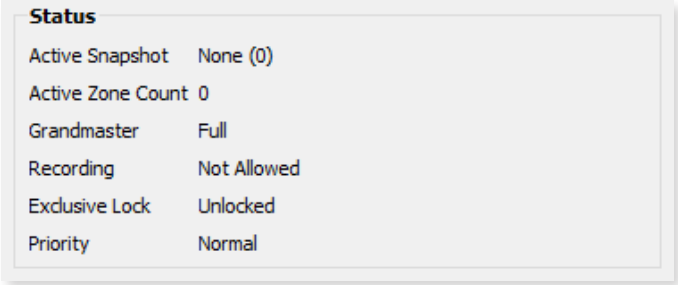
DEVICE INFO

DEVICE TYPE

The device type for the currently selected device.

STATUS

The properties in this section are all **read-only**; this section simply shows various applicable properties' statuses.



ACTIVE SNAPSHOT

Shows the name of the **currently active snapshot** on the Playback, with its associated ID in parenthesis.

ACTIVE ZONE COUNT

Shows the **number of currently active Zones** on the Playback.

GRANDMASTER

Shows whether the Grandmaster (if applicable) is currently **Full**, or **Inhibiting** the overall output.

RECORDING

Shows whether the Allow Record property is enabled (**Allowed**) or disabled (**Not Allowed**).

EXCLUSIVE LOCK

Shows whether the Exclusive Lock is currently enabled (**Locked**) or disabled (**Unlocked**).

PRIORITY

Shows whether the Playback is set to the **Normal** or **Override** Priority level.

PLAYBACK PROPERTIES

PLAYBACK ID

Each Playback on a Vignette network must have a **unique ID**. Valid ID numbers are between 1 and 255. If you set a Playback's ID number to 0 (zero), it will be **disabled**. This is not uncommon: with a network of Vignette PoE stations, you may have only one space and therefore only need one Playback, but have multiple wall stations in that space. Choose one of the wall stations to be the master Playback and disable all others.

When you record Snapshots to a Playback, only one Snapshot may be active at any one time. The buttons act as Radio/Toggle buttons: that is, if you activate a Snapshot, only that one Snapshot will be active; if another Snapshot is active on the same Playback, it will be deactivated. If you press the button of the active Snapshot again, it will deactivate that Snapshot, and the transmission of Network DMX will stop. (DMX512 may continue to be output from the Pathport Gateways depending on its signal loss behavior. Vignette can also have an "Inactive Snapshot" that outputs sACN when no Snapshots are active.)

If you have more than one space in your venue that are mutually exclusive to each other, you will need more than one Playback.

Plan your system so that every Playback on the network is either disabled or has a unique ID number. **If you have two Playbacks using the same number, any Button or Slider that references that ID will likely have flashing or "ping-pong" the LED backlight as the Playbacks are not synchronized.**

STARTUP SNAPSHOT

When the network is powered on or is recovering from a brownout, this Snapshot may be automatically activated. If this is not necessary, set this property to 0 (zero) and the Playback will boot without outputting anything.

INACTIVE SNAPSHOT

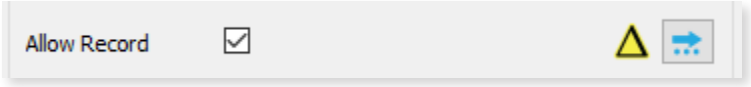
As described above, the buttons assigned as Snapshots on a Playback will act as Radio/Toggles. Only one Snapshot per Playback will be active at a time. If you press the active Snapshot's button again, it will be deactivated. With no Snapshot buttons pressed, this **Inactive Snapshot** will fade in.

Use this if you want your venue's light level to never go below a certain minimum, or perhaps to make sure aisle running lights stay on when users turn off the main lights. Note that when the Inactive Snapshot is on, no button LEDs will be lit up.

ALLOW RECORD

When you are ready to record a Snapshot, bring up the look on the lighting console or other DMX source. Make sure you are "listening" on the correct Network DMX Universes by setting **Start Universe for Capture** as described below. The look coming from the console should be **static**. If the values move during the record process, the highest value captured will be stored.

When the look is active, click this checkbox and **send the transaction** to allow recording to the Playback.



With the **Allow Record** enabled, go to a wall station and select a button to record the Snapshot to. Press and hold this button for **5 seconds**. The button will be blue while holding, and will turn bright green when the Snapshot is successfully recorded. If there is no Network DMX present in the specified Input Universes, the button will turn amber If there is more than one controller outputting on those Input Universes, the button will flash amber and the Snapshot will not be recorded.

Records will fail if the Playback is already playing back a Snapshot. This includes an "active" Inactive Snapshot. If you are using the Inactive Snapshot as described above, you must either perform a **Release All** (see **More Functions...** below) or simply disable the Inactive Snapshot by setting its value to **zero** and sending the transactions.

A Playback can, however, Snapshot its own active Zones. More information about Zones is below.

Once the first Snapshot is recorded successfully, you may then proceed to set up another look to record to other buttons, using the same process described above. When complete, uncheck the Allow Record checkbox to prevent accidental overwriting of Snapshots.

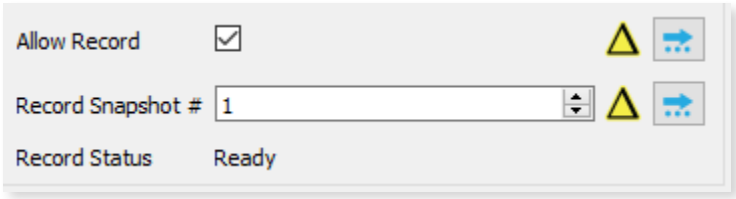
A wall station Button can be configured as a remote "**Allow Record**" toggle (see **More Functions...** below). It is recommended to do this to a station in a secure area or in facilities where the users understand the risks of recording Snapshots to Buttons.

Vignette 485 Architectural Gateways have a dedicated **Allow Record** button and indicator LED on the board itself. This is hard coded to the first Playback subdevice (subdevice A) on the gateway. To Allow Record on the remaining three Playbacks, Pathscape must be used as described above.

RECORD SNAPSHOT

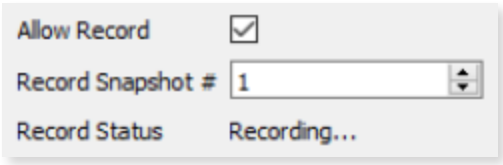
The common way to record a Snapshot is to set up the DMX source, **Allow Record** on the Playback, and **Press-and-Hold a button** as described above. However, if you are commissioning a system, or you simply don't have any Button stations (Sliders only), you may not want (or be able to) use a Button on the wall station to Record to.

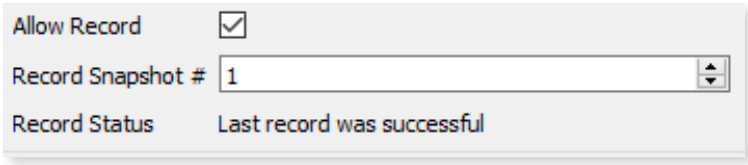
In these cases, you may use **Pathscape itself to trigger the Record process**. Set the **Record Snapshot #** field to the desired Snapshot number by typing into the field or using the up and down arrows, and then click the Send button to send the transaction.



This will record the DMX levels on the specified Input Universe to the Snapshot number entered into the field.

After a few seconds, the **Record Status** field will show "**Recording...**" and "**Last record was successful**" if the Snapshot was successfully recorded.





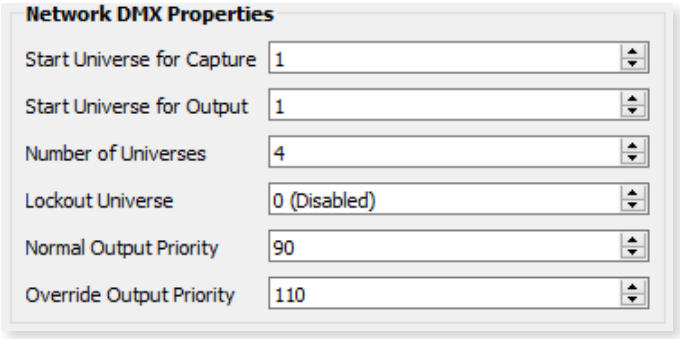
Repeat the above process to record additional Snapshots.

Records will fail if the Playback is already playing back a Snapshot. This includes an “active” Inactive Snapshot. If you are using the Inactive Snapshot as described above, you must either perform a **Release All** (see **More Functions...** below) or simply disable the Inactive Snapshot by setting its value to zero and sending the transactions.

A Playback can, however, Snapshot its own active Zones. More information about Zones is below.

NETWORK DMX PROPERTIES

These properties are only relevant if the Playback is Active (the Playback ID is set to a non-zero value).



PLEASE NOTE: The parent (base) device must either have “**Pathway ssACN**” or “**Allow Unsecured Protocols”** and “**E1.31 sACN**” properties be checked for Network DMX output to be active. See **NETWORK DMX RECEIVE PROTOCOLS** above under Vignette properties.

⚠ WARNING ABOUT UNSECURED PROTOCOLS ⚠

Enabling an open protocol that does not use encryption or authentication - These protocols could be eavesdropped or spoofed by malicious parties. You are strongly encouraged to secure access to your network, both physically and technologically. To continue, you must acknowledge that you have read this statement and accept these risks.

START UNIVERSE FOR CAPTURE

This property determines what Vignette will Snapshot during Record operations. Vignette always listen for sACN data on four universes starting with this number. The number of consecutive universes to be played back is on based on Number of Universes, described below. When editing Snapshots in the Snapshot subdevice Properties window, if the upper 2, 3 or 4 universes are not masked out during the record operation, you can mask them out when editing Snapshots.

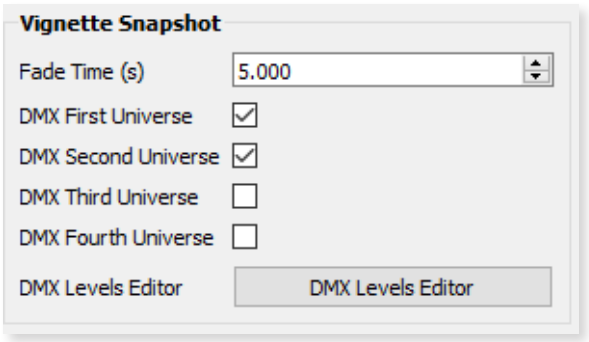
START UNIVERSE FOR OUTPUT

The sACN output universes need not be the same as the universes you captured on. You may be Snapshotting a console’s output from **Universe 1-4**, but for architectural reasons, play them back on **11-14** to gateways set up to listen on those universes.

NUMBER OF UNIVERSES

Set this number between **1 (minimum value)** and **4 (maximum value)** to set the consecutive sACN universes to playback. For example, if your **Start Universe for Output** is set to 11 and **Number of Universes** is set to 2, on playback of Snapshots you will see sACN Universe **11** and **12**.

Remember Vignette always Snapshots four consecutive Universes. If, at a later date, you want Universe 13 and 14 as per the example above, set the **Number of Universes** to 4 and check off the additional Universes in the **Snapshot subdevice** Properties, as seen below.



LOCKOUT UNIVERSE

In some situations, you may want to disable Vignette wall stations when another device, such as a console, comes on line.

It is typical in a theatrical environment that when the “board operator” is in the building, their console is on at a higher priority and is controlling the house lights. In that case, all the Vignette wall stations should go dark and become inactive.

To accomplish this, set the Lockout Universe value to a Universe number you know the console will be outputting to. That way, when it comes on line, even if its Grand Master is down, Vignette wall stations will become dark and inactive.

In this case, it’s desirable to setup the Pathport port’s property Crossfade Enable to TRUE so there is a subtle hand-off from the lower priority controller to the higher. NOTE: although the wall stations are inactive, the Vignette sACN will continue to output at its lower priority. Make sure the console’s sACN is at a higher priority to maintain control of the system.

Set this to 0 to disable the Universe Lockout. Alternately, there is a button function that locks out all but one wall station. This setup may be used on Stage Managers’ panels and toggled on during show situations versus the Lockout Universe method.

NORMAL OUTPUT PRIORITY

E1.31 sACN packets are tagged with a priority from **1 to 200**, where 200 is the highest (most important) priority. Gateways that respect the sACN Priority will arbitrate between multiple sources and the one with the highest priority will “win”.

Vignette’s default priority is **90**. Most lighting consoles will use the standard’s recommended priority of **100**. That means a gateway or device that is listening to a console and a Vignette using the same universes, Vignette will allow the console to “win” when the console is on, but the Vignette architectural controller will assert its levels when the console is not present.

If Vignette is the only controller in the space, this number is irrelevant. If you have more than one controller in your space, you may also configure the Lockout as described above.

It may be desirable for both Vignette and another controller to both have control. In that case, set this property to the same as the other device on the network and the Pathport gateways will resolve each data slot where the highest level take precedence.

OVERRIDE OUTPUT PRIORITY

You can configure a button on the Vignette network to toggle between the **Normal Output Priority** and an **Override Output Priority**. A typical scenario where this may be used is in emergency situations where it is necessary for Vignette to

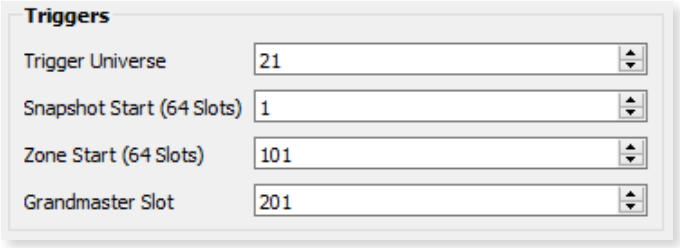
have control of the lights.

As described above, a theatrical console may have a higher priority than Vignette. If you set the **Override Output Priority** to 200 and activate it on a Vignette button or contact closure from the Fire Alarm Control Panel, then Vignette would "win" over the theatrical console.

NOTE: Lockout Universe, if set, still disables the Vignette's Playback, regardless of the sACN priority. Use one arbitration scheme, not both.

TRIGGERS

Any other controller on the network (including other Vignettes) can trigger events on this Playback if its Playback property is set to a non-zero number.



TRIGGER UNIVERSE

If you do not intend to trigger this Playback with another controller, leave this field **0 (Disabled)**. This reduces processing overhead on the Playback. If you want to trigger Snapshots, Zones or other Functions, set this number between 1 and 63,999, where you expect to see sACN data on the network.

NOTE: Triggers will be ignored when **Exclusive Lock** is set on by a wall station or **Lockout Universe** is active due to other sACN sources.

SNAPSHOT START (64 SLOTS)

Each Playback can store up to 64 Snapshots. Coordinate with the other controller which Universe and which slots (channels) will trigger Snapshots on this controller. The **lowest** slot with a **non-zero level** will activate the **corresponding Snapshot**.

For example, if this property is set to 1, and an external controller sends **0** values to slot 1, 2, 3, 5 through 64 and a **non-zero** level to slot 4, then **Snapshot 4** will fade in using its recorded fade time. If you then make channel **2** non-zero (and leave 4 at its present level), then **Snapshot 2** will fade in.

It's recommended that this value falls on a "**ones**" boundary to keep things straight. For instance, 1 or 101, or 201 etc. It's not mandatory, but why complicate things by using a start channel of 145 and having to do math? It is also recommended that if Zone or Function triggers are used, keep those start channels at least 64 slots away from this start channel. Better yet, start Zones at 101 to stay clear of the 64 zones and it keeps them on the "**ones**" boundary.

Set slots 1 to 64 to zero to disable all active Snapshots and go to the specified Inactive Snapshot, if applicable.

ZONE START (64 SLOTS)

The method of setting up Zone triggering is similar to Snapshot Start. Please refer to the paragraph above, heeding the warnings of keeping 64 slots between each trigger start channel. The main difference between Snapshots and Zones is that Zone control is scalar between levels of 0 and 255 and multiple Zones may be active at one time. If you don't intend to trigger Zones, leave this property **0 (Disabled)**.

Limit the number of Zones configured to those needed. Updating many Zones continuously will degrade the system's performance.

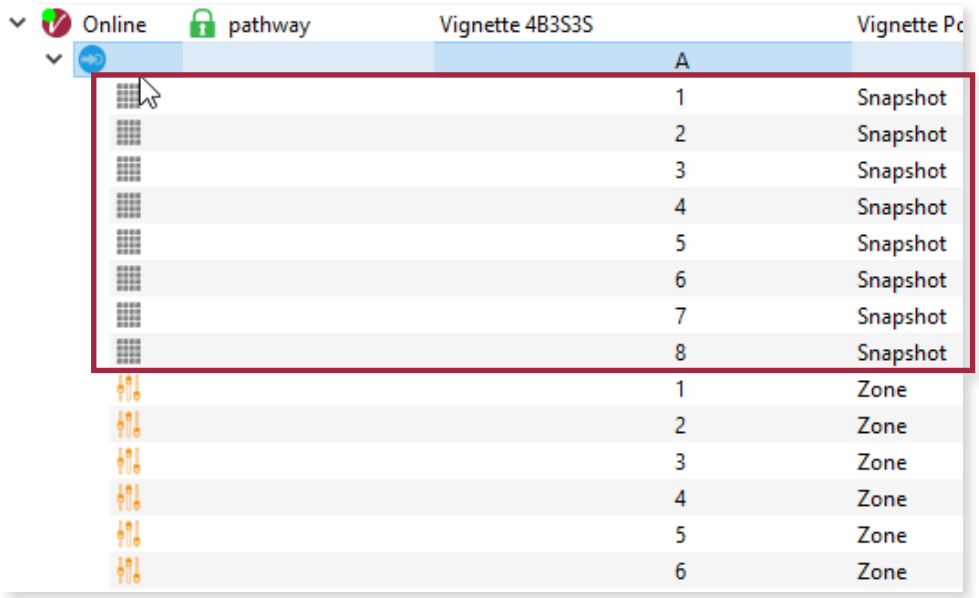
GRANDMASTER SLOT

Again, to understand how to setup this start channel and what to be cautious of if using Zone triggers or Snapshot triggers, please read the paragraph on Snapshot Start above. Leave this property at **0 (disabled)** if you don't intent to remotely control this Playback's Grand Master.

SNAPSHOTS

A single Playback can store up to **64 Snapshots**, so you may create new Snapshots as needed, Record to them, and then assign/un-assign them to Buttons or Sliders as needed. It is possible to have many more Snapshots stored than Buttons or Sliders available to use them.

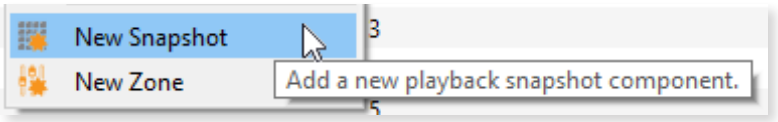
In the Device window, expand the Vignette Playback subdevice by double-clicking on it or clicking the arrow to show all its subdevices. The **Snapshots** are highlighted below:



CREATING, COPYING AND DELETING SNAPSHOTS

CREATING A NEW SNAPSHOT

To create a new Snapshot, click on the Playback and then click the **New Snapshot** button in the Toolbar (if visible), or right-click the Playback and select the New Snapshot menu item.

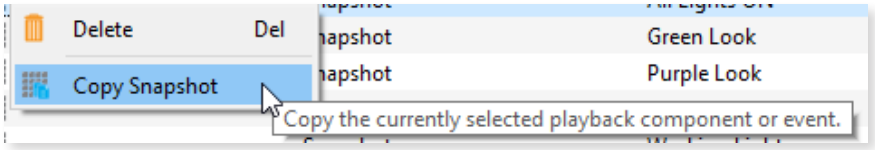


NOTE: When using the "**Vignette - Snapshots"** view, only Playbacks that currently have **at least one Snapshot** will appear. You may have to use the "**DEFAULT VIEW"** to select a Playback before you can use the "Vignette - Snapshots" view.

The new Snapshot will then be created in the Device window, with the next available subdevice number assigned to it.

COPYING AN EXISTING SNAPSHOT

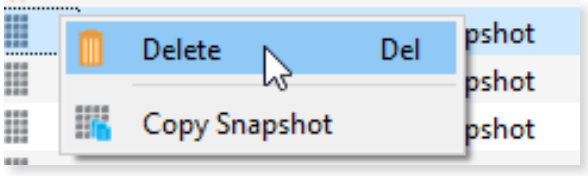
To copy an existing Snapshot, click on the Snapshot subdevice you wish to copy, and either click the **Copy Snapshot** button on the Toolbar (if visible), or right-click the Snapshot and select the Copy Snapshot menu item.



The Copy Snapshot function will create a New Snapshot with identical Name and DMX Levels as the source, with the next available subdevice number assigned to it. Note that there is no “paste” Snapshot function, as soon as it is copied, the new Snapshot is created. Once the new Snapshot is created, you may give it a new name, edit the DMX levels, etc. as needed.

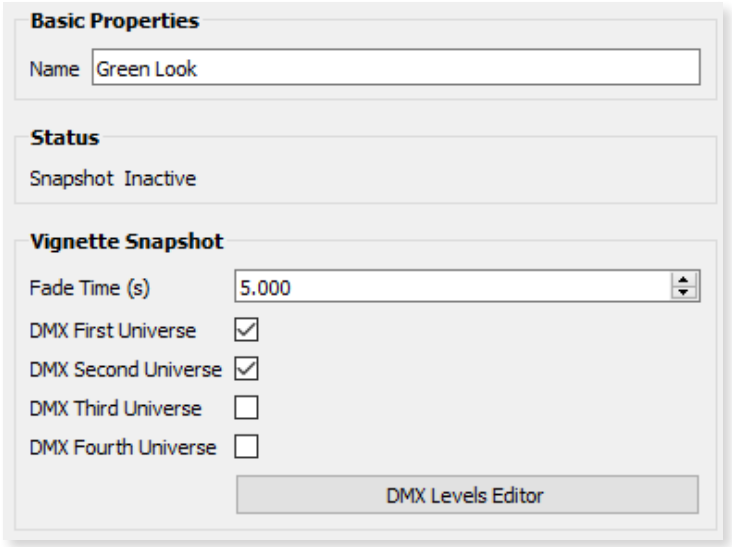
DELETING A SNAPSHOT

To delete an unwanted Snapshot, click the Snapshot subdevice and click the **Delete** button on the Toolbar (if visible), or right-click the Snapshot and select the Delete Snapshot menu item. Note that there is no dialog to confirm your choice when you hit this command.

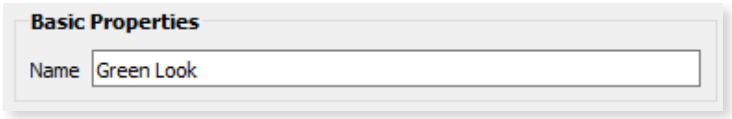


SNAPSHOT SUBDEVICE PROPERTIES

Buttons or Slider properties may reference a Playback and a specific Snapshot. See **Allow Record** and **Record Now** above for instructions on how to record a Snapshot. Once recorded, you may set a Slider's properties to reference that Snapshot. (There is no Press-And-Hold on a slider.) It is not necessary to keep one of the Buttons referencing the same Snapshot.

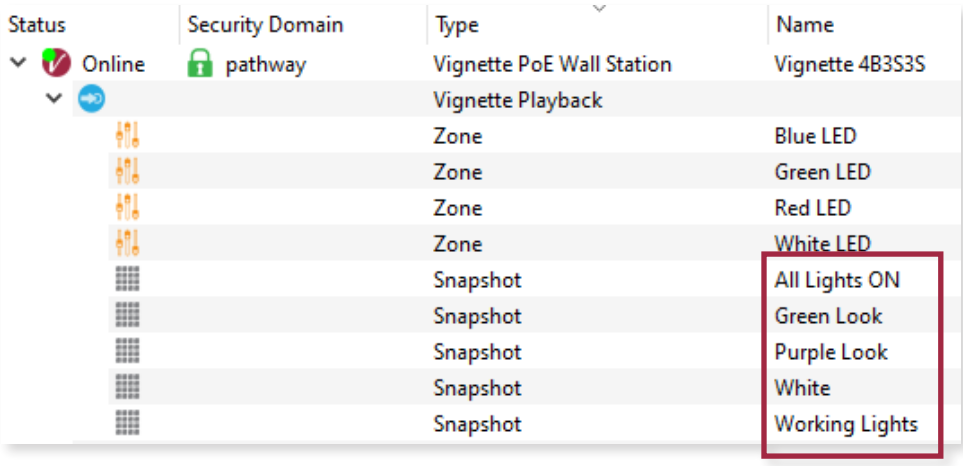


BASIC PROPERTIES

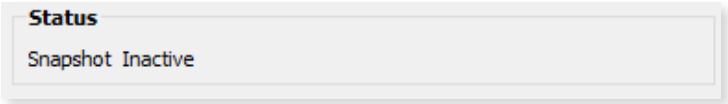


This section shows the user-configurable Name. Enter an appropriate name to describe the look or function of the Snapshot.

To show the Snapshot Name in the Device window, enable the "**Name**" Property Column in the **Property Columns window**, under the **Basic Properties** category.



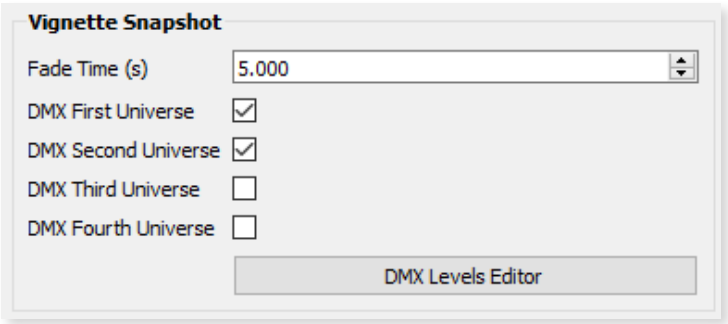
STATUS



SNAPSHOT

Shows whether the selected Snapshot is currently **Active** or **Inactive**.

VIGNETTE SNAPSHOT



These properties allow the configuration of Universes for the Snapshot, the Fade Time for the Snapshot, and a DMX Levels Editor for editing or manually programming the DMX Levels for the Snapshot.

FADE TIME

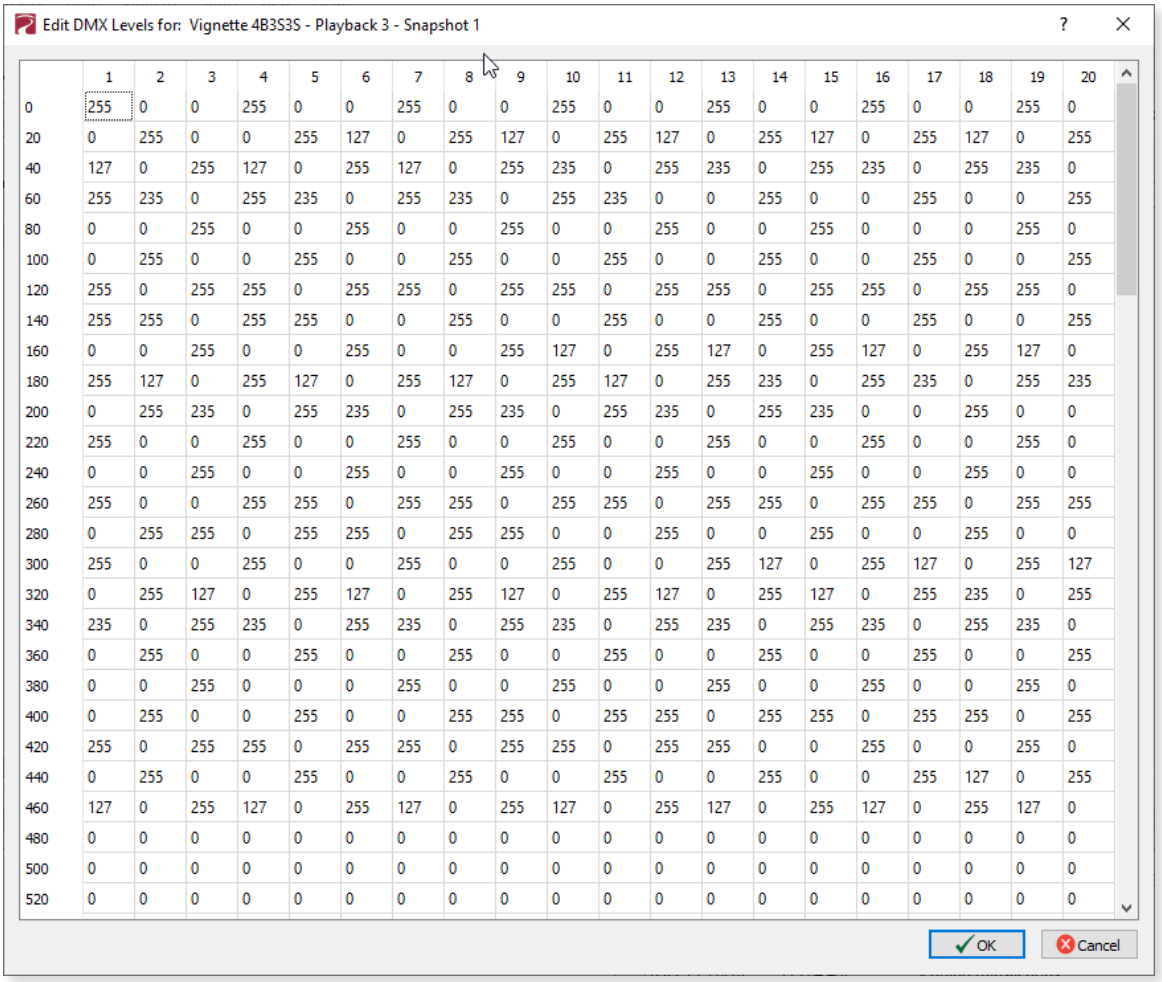
When Snapshots are recalled from Buttons, any active Snapshot on the same Playback will fade out as the new one fades in. Set this Fade Time here. Snapshots that are recalled from Sliders to not use the Fade Time.

DMX FIRST/SECOND/THIRD/FOURTH UNIVERSE

These checkboxes will enable or disable the Snapshot from outputting to those Universes. The term “First”, “Second”, etc. are in reference to the Vignette Playback **Start Universe for Output** value. For example, if the **Start Universe for Output** is set to 11, **DMX First Universe** will refer to Universe 11; **DMX Second Universe** will refer to Universe 12, and so on. Enable or disable the desired Universes as needed here.

DMX LEVELS EDITOR

This button will open a DMX Level Editor window for the specified Snapshot. Here you may make edits to a recorded Snapshot, or you may directly program DMX levels into this window to create a Snapshot without a source. This is also a good way to double-check that a Snapshot was recorded as desired.

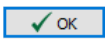


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0
20	0	255	0	0	255	127	0	255	127	0	255	127	0	255	127	0	255	127	0	255
40	127	0	255	127	0	255	127	0	255	235	0	255	235	0	255	235	0	255	235	0
60	255	235	0	255	235	0	255	235	0	255	235	0	0	255	0	0	255	0	0	255
80	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	0	255	0
100	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255
120	255	0	255	255	0	255	255	0	255	255	0	255	255	0	255	255	0	255	255	0
140	255	255	0	255	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255
160	0	0	255	0	0	255	0	0	255	127	0	255	127	0	255	127	0	255	127	0
180	255	127	0	255	127	0	255	127	0	255	127	0	255	235	0	255	235	0	255	235
200	0	255	235	0	255	235	0	255	235	0	255	235	0	255	235	0	0	255	0	0
220	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0
240	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0
260	255	0	0	255	255	0	255	255	0	255	255	0	255	255	0	255	255	0	255	255
280	0	255	255	0	255	255	0	255	255	0	0	255	0	0	255	0	0	255	0	0
300	255	0	0	255	0	0	255	0	0	255	0	0	255	127	0	255	127	0	255	127
320	0	255	127	0	255	127	0	255	127	0	255	127	0	255	127	0	255	235	0	255
340	235	0	255	235	0	255	235	0	255	235	0	255	235	0	255	235	0	255	235	0
360	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255
380	0	0	255	0	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0
400	0	255	0	0	255	0	0	255	255	0	255	255	0	255	255	0	255	255	0	255
420	255	0	255	255	0	255	255	0	255	255	0	255	255	0	0	255	0	0	255	0
440	0	255	0	0	255	0	0	255	0	0	255	0	0	255	0	0	255	127	0	255
460	127	0	255	127	0	255	127	0	255	127	0	255	127	0	255	127	0	255	127	0
480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The DMX Levels Editor is a 4-Universe (2048 slot) grid. There are 103 rows and 20 columns; the rows are labeled in increments of 20 DMX slots.

To edit a channel level, click on a cell and type in the 8-bit DMX value. Press the enter key or click outside the cell to commit the change.

Once editing a slot, you may also use the **Tab** key to advance one slot at a time. Hitting the Tab key if no cell is being actively edited will also move the selection by one cell to the right. Once at the end of row, the next cell selected will be the first cell of the next row.

To save changes to the Snapshot, click the 

button. To discard changes, click the 

button.

After saving changes, there will be a transaction queued up in the Transaction Editor; click 

to send the changes to the device.

VIGNETTE SNAPSHOT BUTTON COLORS

The buttons on a Vignette station can output a variety of colors in different situations. Here is a list of the most common colors and their associated actions.

Button Color	Description
Dark Grey	Snapshot is assigned to button, but not active.
Blue	Snapshot is active / Button is pressed during Press-and-Hold to Record.
Green	Snapshot recorded successfully.
Amber	Snapshot did not record successfully as no sACN source found on specified universes.
Light Blue	Snapshot fading in from inactive state (was dark grey).
Teal	Snapshot fading either in or out from another active snapshot.
Purple	Snapshot fading out to an inactive state.
Magenta	Snapshot was active, but a slider assigned to the same snapshot has changed its level. The snapshot level is neither 100% nor 0%.

Other button colors are described below under **BUTTON PROPERTIES**.

ZONES

Whereas Snapshots must originate from a DMX source like a console or video server (unless you program the DMX Levels manually using the Level Editor described above, a lengthly process), Zones can be programmed directly and quickly in Pathscape.

Zones are sets of Network DMX slots at levels. Sliders can be used to control a Zone proportionally, or a Button may be configured as a Non-Dim (on/off) Zone.

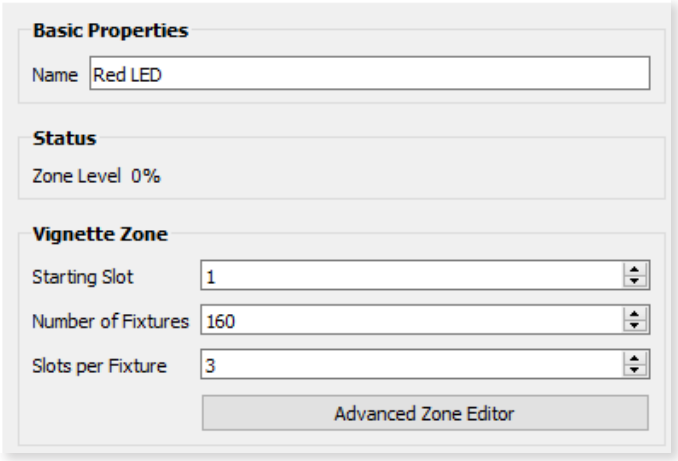
Zones are ideal for quickly programming a group of Sliders to control individual Red, Green and Blue channels of an RGB fixture, for example.

CREATING, COPYING AND DELETING ZONES

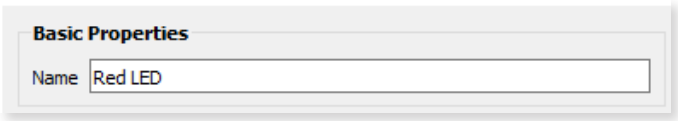
This process is identical to creating, copying and deleting Snapshots, as shown above. Use the New Zone and Copy Zone buttons/menu items instead. Delete remains the same for either scenario.

NOTE: When using the "**Vignette - Zones"** view, only Playbacks that currently have **at least one Zone** will appear. You may have to use the "**DEFAULT VIEW"** to select a Playback before you can use the "Vignette - Zone" view.

ZONE PROPERTIES

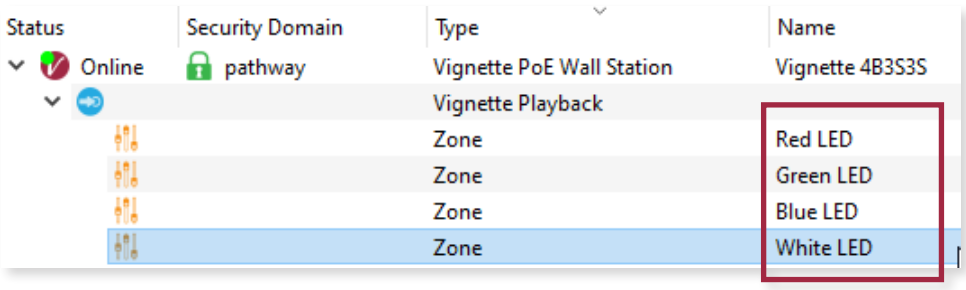


BASIC PROPERTIES

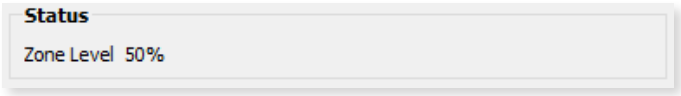


This section shows the user-configurable Name. Enter an appropriate name to describe the look or function of the Zone.

To show the Zone Name in the Device window, enable the "**Name**" Property Column in the **Property Columns window**, under the **Basic Properties** category.



STATUS

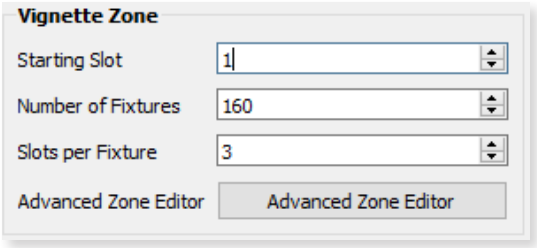


ZONE LEVEL

Shows the current level of the selected Zone, in percent (%).

VIGNETTE ZONE

These properties allow the configuration of the Starting Slot, Number of Fixtures and Slots per Fixture, as well as the Advanced Zone Editor for further customization.



STARTING SLOT

This specifies the starting slot or channel for the Zone. This is in reference to the Vignette Playback **Start Universe for Output** value. For example, if the **Start Universe for Output** is set to 11, a **Starting Slot** value of 1 will refer to Universe 11, Slot 1. A value of 513 will refer to Universe 12, slot 1.

NUMBER OF FIXTURES

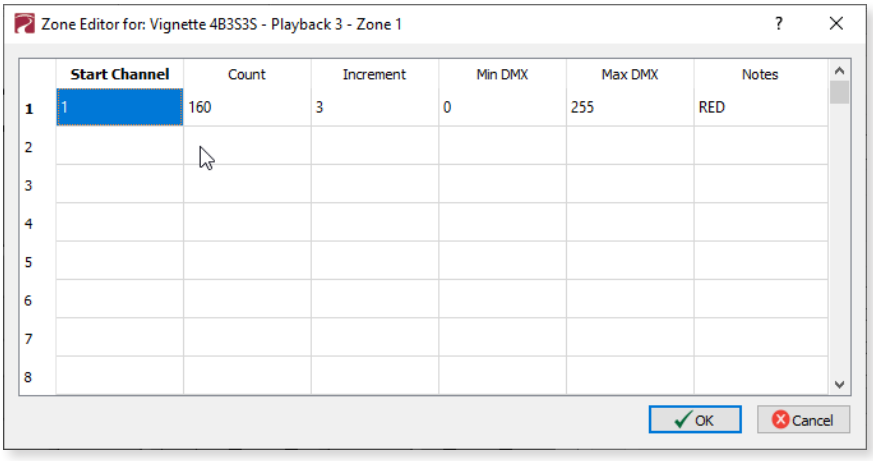
This specifies the number of fixtures for the Zone to control. For example, if we are wanting to control the Red channel of an RGB light with 100 individual addressable RGB fixtures in that light, we would enter 100.

SLOTS PER FIXTURE

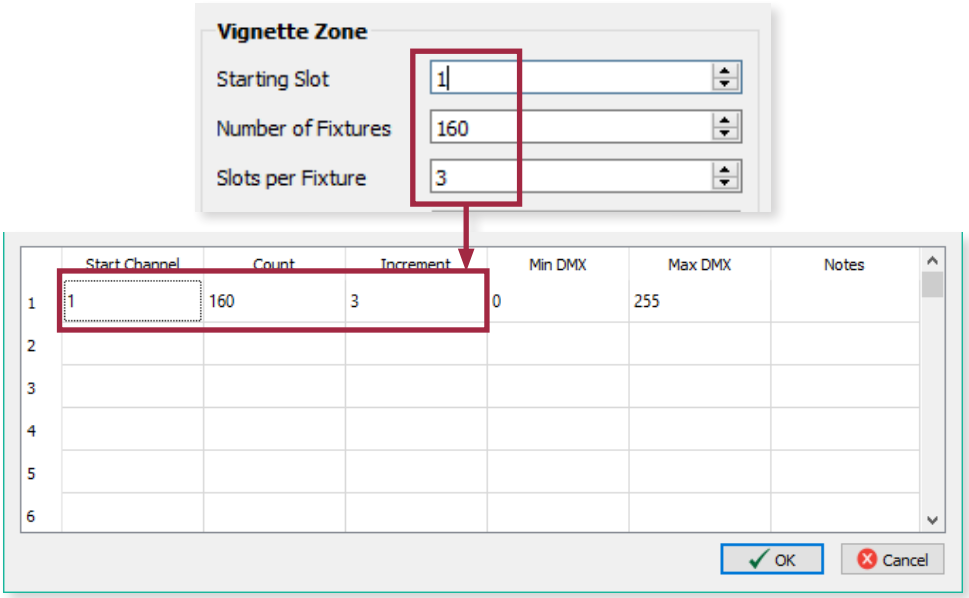
This specifies the number of individual slots per fixture. If each fixture is simply a single dimmer, then this value would be set to 1. If each fixture is an RGB fixture like our above example, we would enter 3. This configures the Zone to only affect every 3rd channel; manipulating the Red channel of the fixture but leaving the rest alone. For an RGBW light for example, the Slots per Fixture would be 4.

ADVANCED ZONE EDITOR

This opens the **Zone Editor** for the specified Zone. This is similar in concept to the DMX Levels Editor for Snapshots.



There are 128 rows to define a Zone. Most of the time, we will use only 1 or 2. When opening the Advanced Zone Editor, any Zone **already configured** using the basic fields described above will show that data in the first line of the Editor, with the addition of **Min DMX** and **Max DMX** Values. There is also an additional **Notes** column.



By default, the Min and Max DMX levels are set to 0 and 255, respectively. To change these, you must use the Advanced Zone Editor.

If for safety you must make sure lighting levels do not go below a certain level, raise the minimum. If you want to extend lamp life or save energy, lower the maximum value.

It is also possible to have the Min DMX **higher** than the Max DMX. This will invert the levels based on the Slider position. If you want one Slider to crossfade between a Red look and a Blue look, define a Zone like this:

	Start Channel	Count	Increment	Min DMX	Max DMX
1	1025	171	3	0	255
2	1027	170	3	255	0

Note that in this example the Start Channels are offset by two. 1025 is the first slot on the third Universe (red cell) and 1027 is the third slot on that Universe (blue cell). A setup like this gives you one Slider to set the color of the lights, but you will need to define a Grandmaster to affect the intensity of those lights as this Zone definition cannot be deactivated; even at the bottom of travel, the Zone is outputting levels (in this case, blue). See **Blackout Zones** for a workaround to this.

If you have overlapping channels between Zones, note that live changes to Zone levels are **Latest-Takes-Precedent**. That is, if one Slider is at full and the other is at Zero, when the second Slider comes off zero, the overlapping channels will quickly change from 100% to 1%.

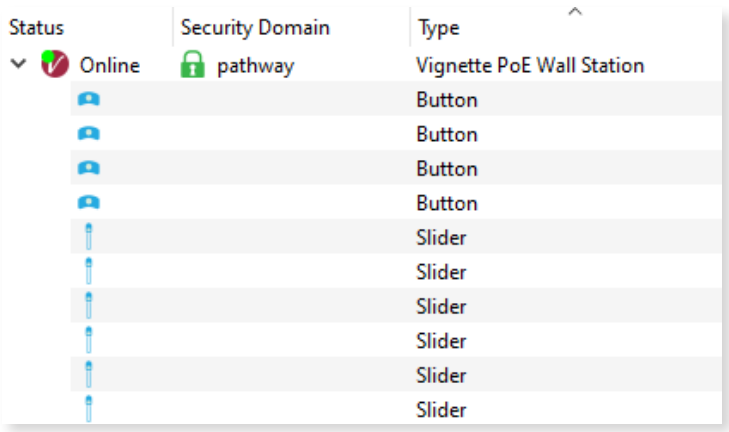
To save changes to the Zone, click the OK button. To discard changes, click the Cancel button. After saving changes, there will be a transaction queued up in the Transaction Editor; click Send All to send the changes to the device.

If a Zone at level of zero (on Slider) or off (on Non-Dim Button), the LED will be off. As the level gets closed to 100% it will get brighter. On a Non-Dim Button, when a Zone is “On”, the LED will be white.

BUTTONS AND SLIDERS

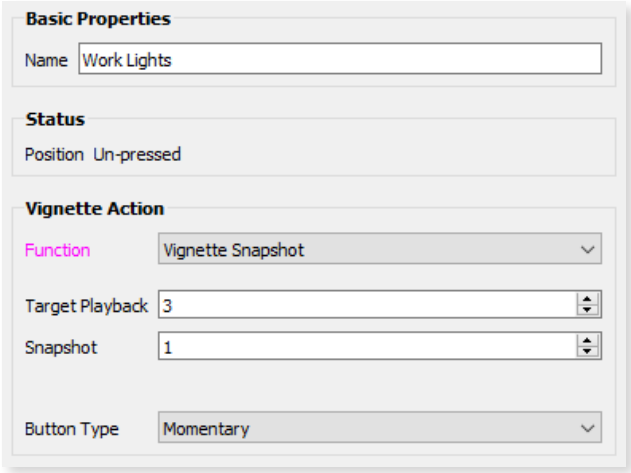
The physical Vignette hardware (**Buttons or Sliders**) are distinct subdevices from the Playback subdevices (Snapshots or Zones).

In the Device window, expand the Vignette device by double-clicking on it or clicking the arrow to show all its subdevices. The Buttons and Sliders are shown below:



BUTTON PROPERTIES

Buttons and Sliders have similar properties, except Buttons have a "**Button Type**" whereas Sliders have only one type. Buttons also have a Position of Pressed/Un-pressed where Sliders have a Position of 0 to 255 (level).



BASIC PROPERTIES

Here you may enter a Name for the Subdevice (Button).

STATUS

POSITION

Shows the current position of the selected device. For a Button, values are **Un-pressed** or **Pressed**.

VIGNETTE ACTION

FUNCTION

Use this drop-down menu to specify the behavior of the Button.

None will disable the Button, and cause it to have no function.

Vignette Snapshot. Button will trigger specified Target Playback to output specified Snapshot. Snapshots have Fade Times.

Vignette Non-Dim Zone. Button will turn on or off the specified Zone on the specified Target Playback. Non-Dims do not have a Fade Time.

With an nLight® SNAPSHOT on the network, Vignette Wall Station Buttons can trigger an nLight Wallpod or Scene. You must use SensorView to map the nLight® SNAPSHOT's Wallpods to local or global nLight channels and its Scene to local or global preset or profile Scenes.

More Vignette... this will display a secondary menu for additional functions: "**More Functions**":

Grandmaster. Button will act as a Dead Blackout for the specified Playback's output. There is no Fade Time associated with Grandmaster Buttons. When the Grandmaster is at full, the LED will glow green. When not at full, it will glow red

Allow Record. A Button can be configured to toggle the Allow Record property of a Playback as defined in Playback Properties. When active (bright red is active, dim red is inactive), the specified Playback will Snapshot incoming Network DMX Universes when a Snapshot button is held down for 5 seconds.

Exclusive Lock. This is useful during events (shows) where you do not want the general public accidentally taking control of the lighting system. You can set up different wall stations to have an Exclusive Lock button, but be cognizant that once activated, only that wall station will be able turn off the Exclusive Lock. In a theatre, you may have one Exclusive Lock in the booth and one at the Stage Managers' panel. In a ballroom, you likely want to have it on a wall station in a service corridor or facilities manager's office. Exclusive Lock Buttons will glow dark amber when configured but inactive, and bright amber when active.

Blackout Zones. As mentioned above, it is possible to define a Zone where its minimum level is above zero. In such a case, you cannot position a Slider or Non-Dim Button to turn off the Zone; once activated, it will continue to output levels. Pressing this Button will deactivate all Zone on the specified Playback, regardless of Slider position.

Define a button on the network to have the function Blackout Zone and it will be yellowish in color.

Goto Inactive. Use the Button to turn off any Snapshots that are active on the specified Playback. It will not affect Zones. If there is an Inactive Snapshot recorded (see Playback Properties above), this Snapshot will fade in when this Button is pressed. If no Inactive Snapshot is defined, only active Zones will be output. If no Zones are active, the Playback will cease outputting sACN once the active Snapshot has completely faded out.

Define a button on the network to have the function Goto Inactive and it will be yellowish in color.

Release All. This function turns off all active Zones and Snapshots, including the Inactive Snapshot if defined. Be careful, it will get dark!

Define a button on the network to have the function Release All and it will be yellowish in color.

Priority Override. In the Playback's properties, there are two sACN priorities: Normal Output Priority and Override Output Priority. Valid sACN priority values are between 1 (low priority) and 200 (high). A button defined as a Priority Override will toggle between the two values as defined in the Playback's properties. A typical theatrical setup may have Vignette's Normal Priority set to 90, below the theatrical console's priority of 100 and have an Override Priority set to 110, just over the console's. That way, when the console is on, it "wins", but if you toggle the Priority Override, Vignette will win back control.

When Priority Override is inactive (normal priority) the button will be sea foam in color. When active, it will be pink.

TARGET PLAYBACK

Specify the Playback for the Button function to operate on.

SNAPSHOT / NON-DIM

Specify the Snapshot number or the Non-Dim Zone number (depending on the Function set) which this Button will trigger.

BUTTON TYPE

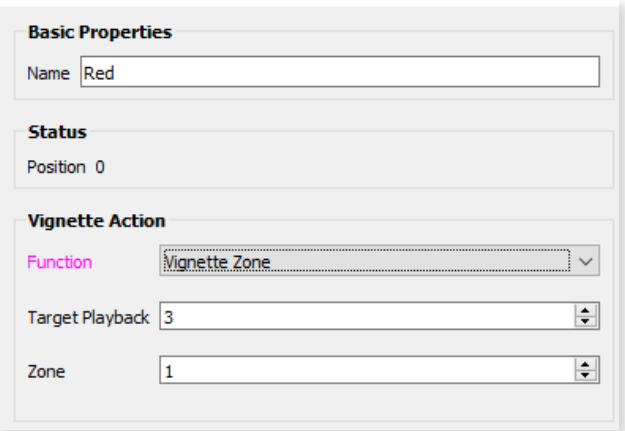
This drop-down menu allows you to choose the behavior of the Button. Options are **Momentary** (default) and **Maintained**.

Momentary Buttons act like the default Radio/Toggle, where one press will activate the Button Function, and another press will deactivate it.

Maintained Buttons will activate the associated Function only as long as the button is pressed down. Once it is released, it will cease.

SLIDER PROPERTIES

Buttons and Sliders have similar properties, except Buttons have a "**Button Type**" whereas Sliders have only one type. Buttons also have a Position of Pressed/Un-pressed where Sliders have a Position of 0 to 255 (level).



BASIC PROPERTIES

Here you may enter a Name for the Subdevice (Slider).

STATUS

POSITION

Shows the current position of the selected device. For a Slider, the value shown will be between **0 (off)** and **255 (full)**.

VIGNETTE ACTION

FUNCTION

Use this drop-down menu to specify the behavior of the Slider.

None will disable the Slider, and cause it to have no function.

Vignette Snapshot. Slider will trigger specified Target Playback to output specified Snapshot. Slider level will determine overall level of specified Snapshot. Snapshots have Fade Times.

Vignette Zone. Slider level will control the specified Zone on the specified Playback. Zones do not have a Fade Time.

With an nLight® SNAPSHOT on the network, Vignette Wall Station Sliders can act as a nLight Wallpod to set the level of an nLight channel. You must use SensorView to map the nLight® SNAPSHOT's Wallpods to local or global nLight channels.

More... this will display a secondary menu for additional functions, "**More Functions**":

Grandmaster. Slider will act as a Master for the specified Playback's output. When the Grandmaster is at full, the LED will glow green . When not at full, it will glow red .

TARGET PLAYBACK

Specify the Playback for the Button function to operate on.

SNAPSHOT / ZONE

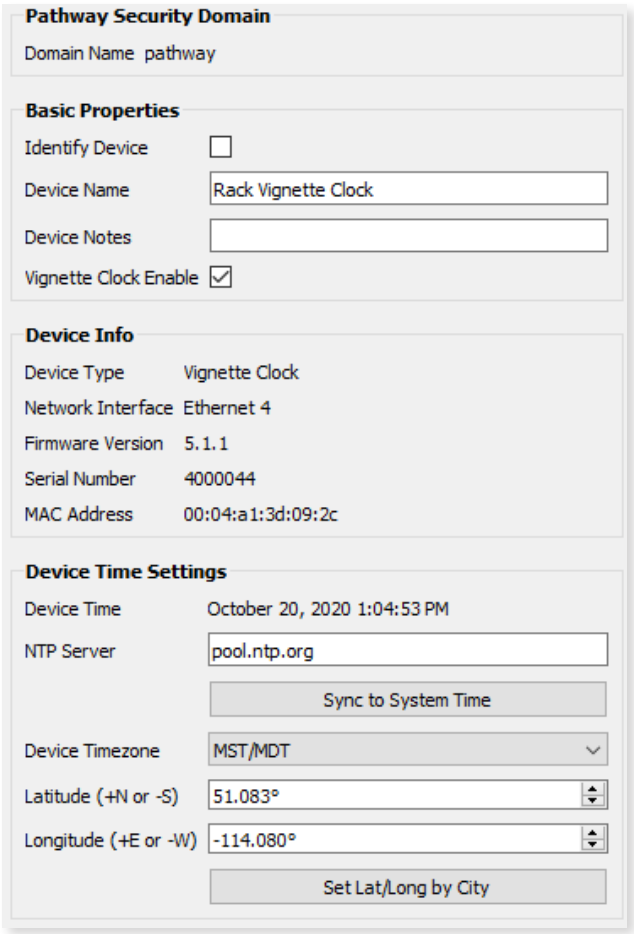
Specify the Snapshot number or the Zone number (depending on the Function set) which this Slider will trigger.

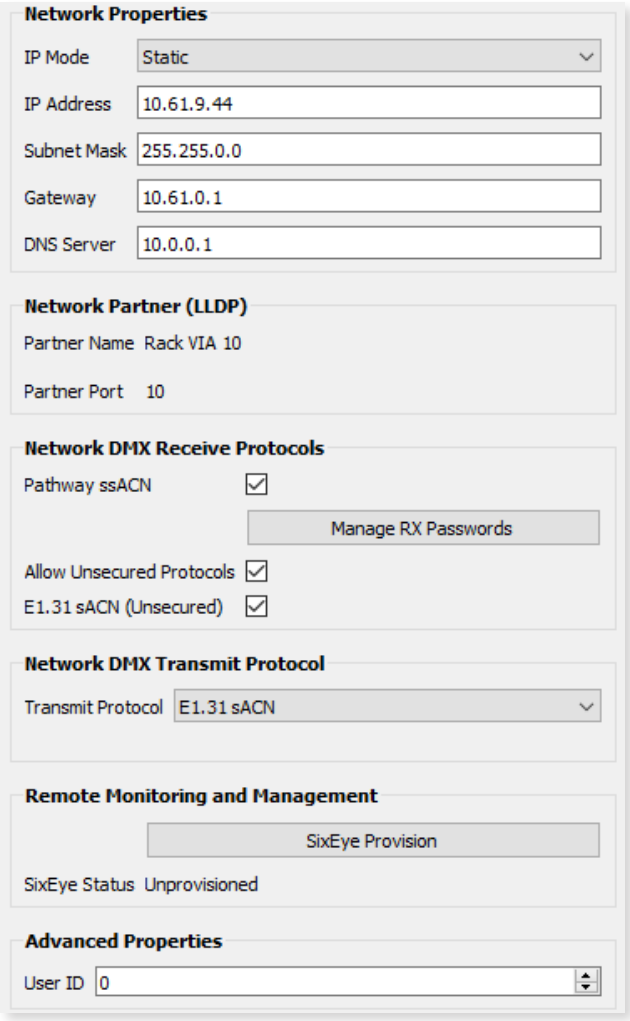
VIGNETTE CLOCK

Vignette Clock is a separate DIN form-factor Device that can trigger Vignette events based on a schedule or astronomical events. Each Clock has one Playback available to the network, but events defined in the schedule can trigger its own Playback or any other Playback on the network. Any function that a button can have may be triggered by the clock.

VIGNETTE CLOCK PROPERTIES

Many of the Basic and Network Properties for Vignette Clock are the same as other devices, but it has several properties unique to it.



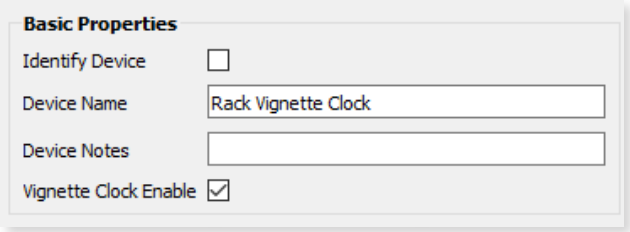


PATHWAY SECURITY DOMAIN

DOMAIN NAME

The name of the Security Domain the device is currently assigned to.

BASIC PROPERTIES



IDENTIFY DEVICE

Checking this box causes device to commence identify behavior (flashing Identify LED).

DEVICE NAME

Enter a Name here for the device (Vignette Clock).

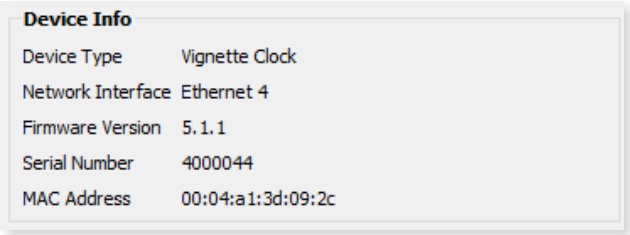
DEVICE NOTES

Enter some notes or descriptive text here.

VIGNETTE CLOCK ENABLE

This checkbox will enable or disable the Vignette Clock's internal Playback. This can be useful if you have a special event in your venue or you are actively commissioning a system and do not want the Clock to trigger events. The defined schedule for events will remain intact, but the Clock will not trigger any Playback until this is re-enabled.

DEVICE INFO



DEVICE TYPE

The device type for the currently selected device.

NETWORK INTERFACE

Shows the name of the NIC (Network Interface Card) the device is communicating to the machine running Pathscape on.

FIRMWARE VERSION

Shows current operating firmware version. See the **Firmware Update** section on how to update the firmware. Read-only.

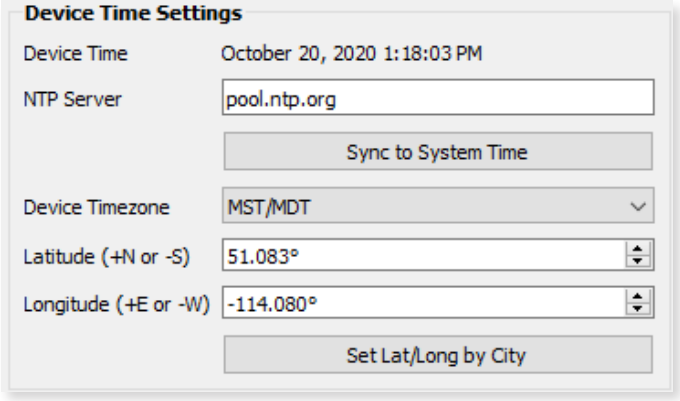
SERIAL NUMBER

Factory-set unique identifier. Read-only.

MAC ADDRESS

Factory-set hardware address. Read-only.

DEVICE TIME SETTINGS



DEVICE TIME

Since Vignette Clock can trigger events based on the time of day, or astronomical events, having an accurate time reference is important. The Device Time field shows the currently set time on the device.

NTP Server

Set the server for NTP (Network Time Protocol), if the Vignette Clock is on a network connected to the Internet. This is to ensure the device is always in perfect time and that security certificates are valid, when connecting to SixEye RMM. We recommend using **pool.ntp.org, time.windows.com, time.apple.com** or other publicly available servers**.**

If using the NTP server, ensure that the DNS Server and IP Gateway are set so the Clock knows how to get to the Internet to find a time server.

SYNC TO SYSTEM TIME

This button will read the system time of the machine running Pathscape and send it to the device for synchronization.

DEVICE TIMEZONE

The timezone of the device must be set as this handles Day Light Savings Time rules and properly offsets from universal time.

LATITUDE (+N or -S)

Set the latitude of the device's location. This can be entered manually, or automatically filled by using the **Set Lat/Long by City** button.

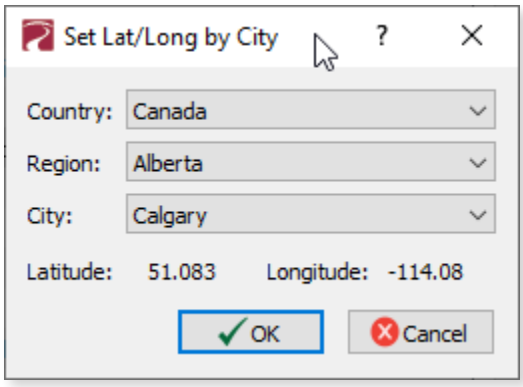
LONGITUDE (+E or -W)

Set the longitude of the device's location. This can be entered manually, or automatically filled by using the **Set Lat/Long by City** button.

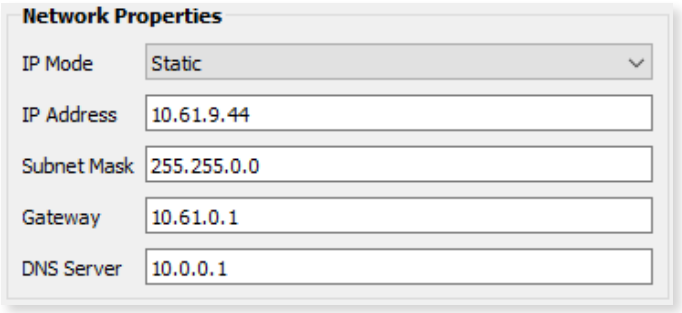
SET LAT/LONG BY CITY

This button will open a window where you can select the device's Country, Region, and City. This will automatically populate the Latitude and Longitude fields for the chosen city.

If your city is not listed, choose a nearby city in the same timezone, or look up your exact location for more accurate latitude and longitude values.



NETWORK PROPERTIES



IP MODE

Set the IP mode for the device. Options are **Disabled**, **Static** and **Dynamic**.

Disabled: No IP assigned to this device by the switch.

Static: IP settings manually set by user.

Dynamic: IP settings obtained from DHCP server.

IP ADDRESS

Set the IP Address here if using the Static IP Mode.

SUBNET MASK

Set the subnet mask here if using Static IP mode.

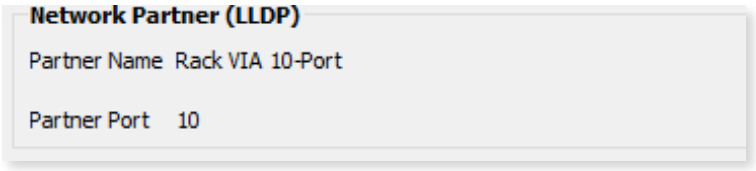
Gateway

Set the default gateway address here if using Static IP mode. This should be set to ensure the Vignette Clock can access the Internet if using an **NTP server** and/or **SixEye RMM**.

DNS Server

Set Domain Name Server for the device here. The DNS should be specified if using and **NTP server** and/or **SixEye RMM**.

NETWORK PARTNER (LLDP)



PARTNER NAME

If the upstream switch supports Link Layer Discovery Protocol (LLDP), that device's name will appear here. Read-only.

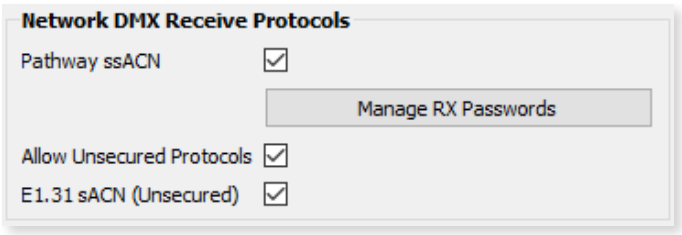
PARTNER MAC

The hardware MAC (Media Access Control) address of the LLDP Partner, if applicable. This property will be hidden if the above Partner Name is displayed, as it is less useful. If the Partner Name is not able to be discovered, the Partner MAC will be shown. Read-only.

PARTNER PORT

If the upstream switch supports Link Layer Discovery Protocol (LLDP), the port the current device is connected to will be shown here. Read-only.

NETWORK DMX RECEIVE PROTOCOLS



PATHWAY ssACN

Check this box to enable **Pathway's Secure sACN (ssACN)**. Click the **Manage RX Passwords** button to configure ssACN Passwords. See the Security section earlier in the manual for details.

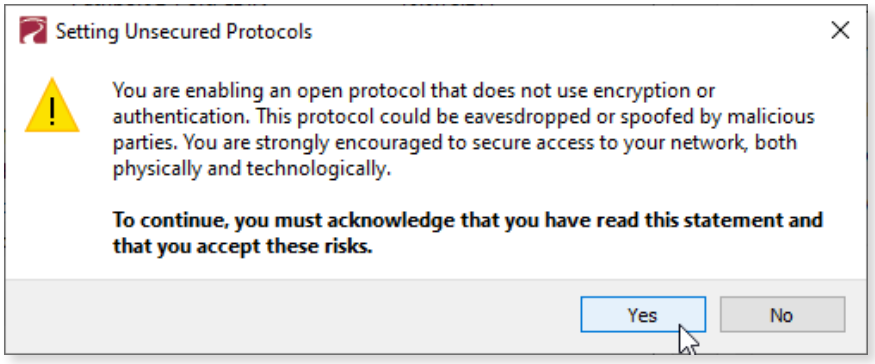
ALLOW UNSECURED PROTOCOLS

Check this box to enable the use of unsecured network protocols. **By default, this property is not enabled**. In order to use the Vignette Clock device with standard (unsecured) sACN, **this must be enabled**.

⚠ WARNING ABOUT UNSECURED PROTOCOLS ⚠

Enabling an open protocol that does not use encryption or authentication - These protocols could be eavesdropped or spoofed by malicious parties. You are strongly encouraged to secure access to your network, both physically and technologically. To continue, you must acknowledge that you have read this statement and accept these risks.

After checking this box and sending the transaction, a dialog will appear warning you of the above and asking for confirmation.

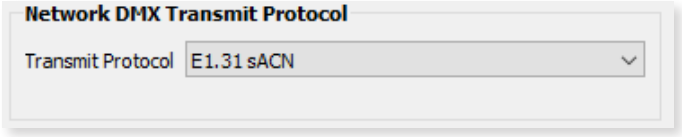


To continue, you must click the "**Yes**" button to confirm you understand the associated risks.

E1.31 sACN (UNSECURED)

Check this box to enable the receiving of E1.31 sACN. You must check both the **Allow Unsecured Protocols** checkbox and this checkbox to use standard E1.31 sACN.

NETWORK DMX TRANSMIT PROTOCOL



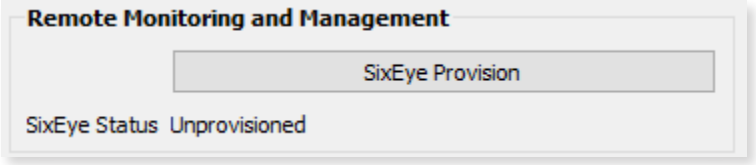
TRANSMIT PROTOCOL

Use the drop-down menu to select the network protocol the Vignette Clock will transmit. Options are **E1.31 sACN** (default) and **Pathway ssACN**.

E1.31 sACN will use transmit using standard, unsecured E1.31 sACN.

Pathway ssACN will use Pathway's secured sACN for transmitting to the network.

REMOTE MONITORING AND MANAGEMENT



For details on how to connect Pathway devices to a SixEye portal, see the section in this manual titled **SixEye PROPERTIES**.

SixEye PROVISION

This button will open the SixEye Provision window. In this field, paste the SixEye Device Key and click **Provision**.

SixEye STATUS

This shows the status of the SixEye connection.

ADVANCED PROPERTIES

USER ID

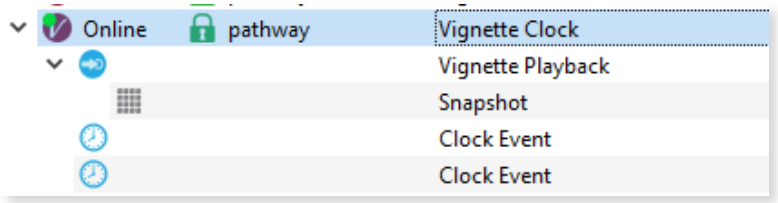
Custom numeric identification for external databases.

DEVICE RESTORE POINT VALID

Shows **True** of **False** depending on whether the current Device Restore Point is valid.

VIGNETTE CLOCK PLAYBACK PROPERTIES

If using the Clock's Playback, select the Playback subdevice A in the Devices window. It is identical to other Vignette Playbacks as far as configuration, described earlier in this manual.



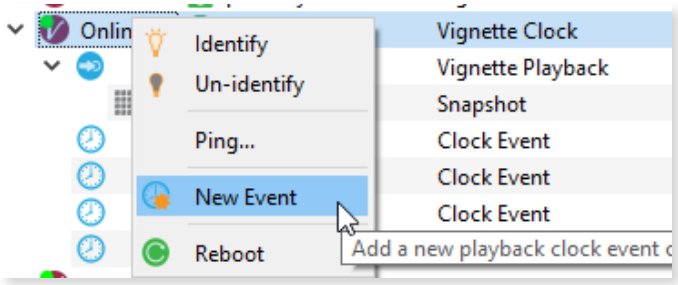
VIGNETTE CLOCK EVENTS

CREATING, COPYING AND DELETING CLOCK EVENTS

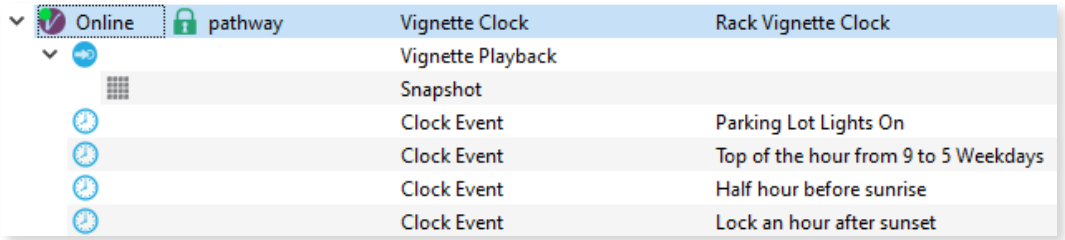
Clock events are subdevices of the main Vignette Clock device, like Snapshots or Zones are subdevices of Playbacks.

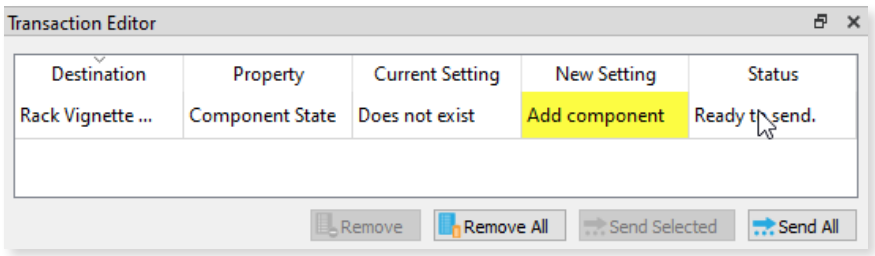
CREATING A NEW CLOCK EVENT

To create a new Clock Event, click on the Vignette Clock device and then click the **New Event** button in the Toolbar, or right-click the device and select the **New Event** menu item.



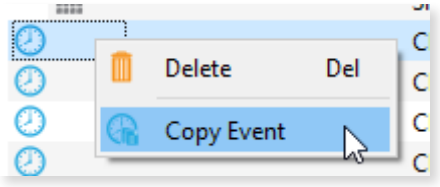
The new **Clock Event** will then be created in the Device window, with the next available subdevice number assigned to it. A transaction will also appear in the Transaction editor, which will have to be sent before the Clock Event will be saved.





COPYING AN EXISTING CLOCK EVENT

To copy an existing Clock Event, click on the Event subdevice you wish to copy, and either click the **Copy Event** button on the Toolbar, or right-click the Event and select the **Copy Event** menu item.

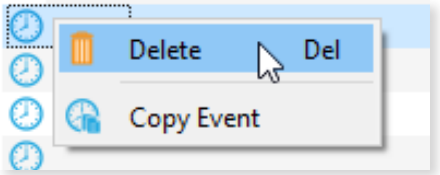


The Copy Event function will create a New Event, named “Copy of [Name of Source]”, with the next available subdevice number assigned to it. All other properties will be identical to the source.

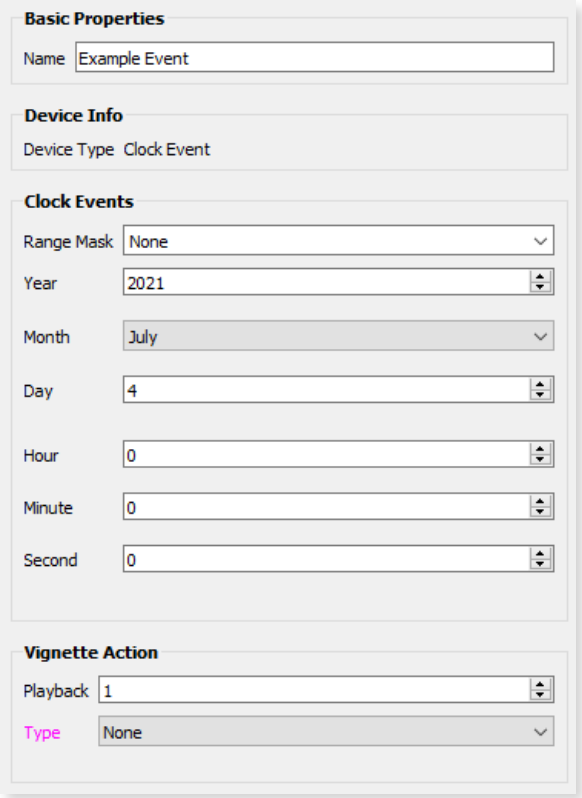
Note that there is no “paste” Event function: as soon as it is copied, the new Event is created. Another transaction will be created that must be sent to confirm creation of the new Event.

DELETING A CLOCK EVENT

To delete an unwanted Event, click the Event subdevice and click the **Delete** button on the Toolbar, or right-click the Event and select the **Delete** menu item. There will be a transaction that must be sent to confirm the change.



CLOCK EVENT PROPERTIES



BASIC PROPERTIES

NAME

A user-configured, soft label for the Clock Event. By default, Pathscape gives these a name of “New Event”.

DEVICE INFO

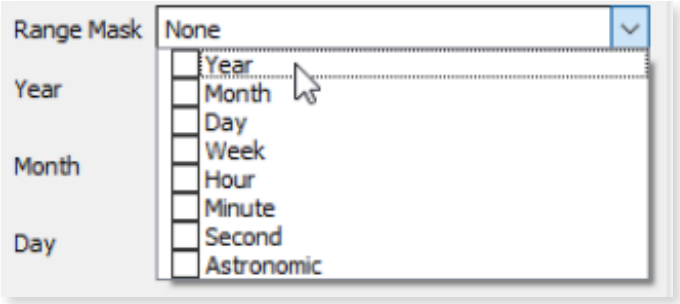
DEVICE TYPE

The device type for the currently selected device.

CLOCK EVENTS

RANGE MASK

This drop-down menu is used to set repeating schedules for the Clock Event. Use only if you need the Clock Event to trigger on more than one Year, Month, Day, Hour, Minute, Second etc. See **Clock Event Example Setups** below to better understand how the system works.



Default value is **None**, meaning the specified Clock Event will occur only once, based on the values set for the **Year**, **Month**, **Day**, **Hour**, **Minute** and **Second** properties below. Depending on the **Range Mask** values selected, the below Properties may change, or be unavailable entirely.

See **examples** below to better understand how to use the Range Mask and program the Clock Events appropriately.

YEAR RANGE: Specify a range of Years for the Clock Event to be active. Default is ***** (asterisk), meaning the Clock Event will trigger every year.

You may specify a single **range of years** using a dash or hyphen (e.g. **2020-2024**), a **series of individual years** separated by commas (e.g. **2020,2022,2025**), or a combination of the two (e.g. **2020-2022,2024**).

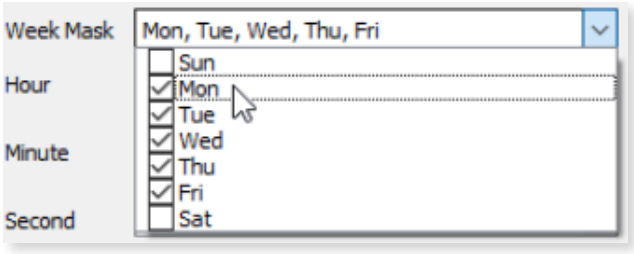
MONTH RANGE: Specify a range of months for the Clock Event to be active. Default is ***** (asterisk), meaning the Clock Event will trigger every month. **The months are represented in numerical format, i.e. January is 1, July is 7, December is 12, etc.**

You may specify a **range of months** using a dash or hyphen (e.g. **1-6** for January through June), a **series of individual months** separated by commas (e.g. **1,3,5** for January, March, and May), or a combination of the two (e.g. **1-6,10,12** for January through June, plus October and December).

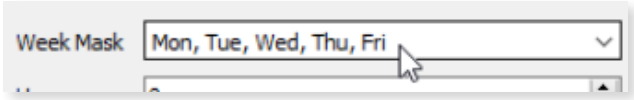
DAY RANGE: Specify a range of days on which the Clock Event will trigger. Default is ***** (asterisk), meaning the Clock Event will trigger every day.

You may specify a **range of days** using a dash or hyphen (e.g. **1-15** for the 1st through 15th of the month), a **series of individual days** separated by commas (e.g. **1,10,20** for the 1st, 10th, and 20th of the month), or a combination of the two (e.g. **1-10,20,25** for the 1st through the 10th, plus the 20th and 25th day of the month).

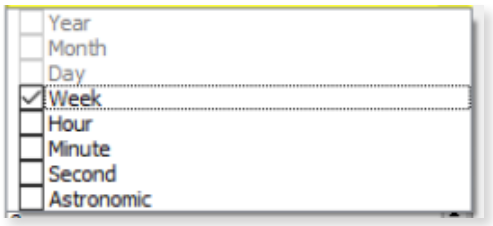
WEEK MASK: Specify a range of days of the week on which the Clock Event will trigger (Monday through Sunday), rather than specific dates.

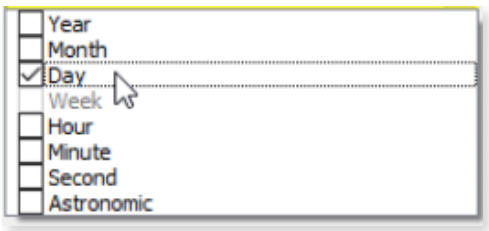


Select the desired days of the week in the drop-down checkboxes, and the list of days will be updated in the drop-down menu list.



NOTE: This menu will be unavailable if the **Year**, **Month** or **Day** options are chosen under **Range Mask**. Likewise, the Year, Month, and Day options are unavailable if this option is chosen.





HOUR RANGE: Specify a range of hours on which the Clock Event will trigger. Default is ***** (asterisk), meaning the Clock Event will trigger every hour. **Keep in mind the Hour property uses the 24-hour (military) clock.**

You may specify a **range of hours** using a dash or hyphen (e.g. **9-12** for 9 AM through noon), a **series of individual hours** separated by commas (e.g. **7,10,12** for 7 AM, 10 AM, and noon), or a combination of the two (e.g. **7-10,12,15** for 7 AM through 10 AM, noon, and 3 PM).

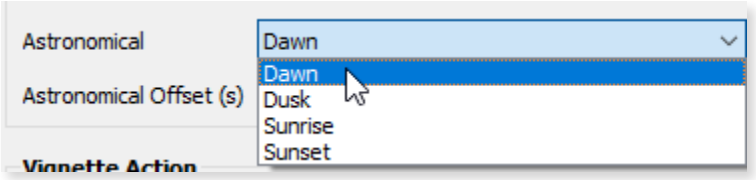
MINUTE RANGE: Specify a range of minutes on which the Clock Event will trigger. Default is ***** (asterisk), meaning the Clock Event will trigger every minute.

You may specify a **range of minutes** using a dash or hyphen (e.g. **0-15** for every minute, from on-the-hour through 15 minutes past the hour), a **series of individual minutes** separated by commas (e.g. **5,10,15** for 5-past, 10-past, and 15 minutes past the hour), or a combination of the two (e.g. **0-10,30,45** for on-the-hour through 10 minutes past, 30 minutes past and 45-minutes past the hour).

SECOND RANGE: Specify a range of seconds on which the Clock Event will trigger. Default is ***** (asterisk), meaning the Clock Event will trigger every second.

You may specify a **range of seconds** using a dash or hyphen (e.g. **0-10** for on-the-minute to 10 seconds past the minute), a **series of individual seconds** separated by commas (e.g. **0,15,30** for on-the-minute, 15 seconds past the minute, and 30 seconds past the minute), or a combination of the two (e.g. **0-15,30,45** for on-the-minute through 15 seconds past, 30 seconds past, and 45 seconds past the minute).

ASTRONOMIC: Specify an astronomical event on which to trigger the Clock Event. Options are Dawn, Dusk, Sunrise or Sunset.



These are calculated based on the devices' set system time and latitude/longitude for precise triggering throughout the year.

You may add an offset to the astronomical event but entering a value into the **Astronomical Offset** field. This value is expressed in seconds, and may be either **positive** (**delay** the Clock Event **past** the astronomical event by a certain time) or **negative** (start the Clock Event **early**, **before** the astronomical event by a certain time).

For example, to delay the triggering of the event an **hour** past sunrise, enter **3600** into the field (60 seconds/minute x 60 minutes = 3600 seconds).

To trigger the event **30 minutes before** sunset, enter **-1800** into the field (60 seconds/minute x 30 minutes = 1800 seconds).

YEAR

Specify the year during which the Clock Event will be triggered. If the **Range Mask** property above includes a Year, this field will change to reflect the **Year Range** (see above).

MONTH

Use the drop-down menu to specify the Month in which the Event will be triggered (month name). If the **Range Mask** property above includes a Month, this field will change to reflect the **Month Range** (number value).

DAY

Specify the day on which the Clock Event will be triggered. If the **Range Mask** property above includes a Day, this field will change to reflect the **Day Range**.

HOUR

Specify the hour during which the Clock Event will be triggered. If the **Range Mask** property above includes an Hour, this field will change to reflect the **Hour Range**.

MINUTE

Specify the minute on which the Clock Event will be triggered. If the **Range Mask** property above includes a Minute, this field will change to reflect the **Minute Range**.

SECOND

Specify the second on which the Clock Event will be triggered. If the **Range Mask** property above includes a Second, this field will change to reflect the **Second Range**.

VIGNETTE ACTION

PLAYBACK

Specify the Playback ID the Clock Event will operate on. This can be any Vignette Playback on the network, including the Clock's own.

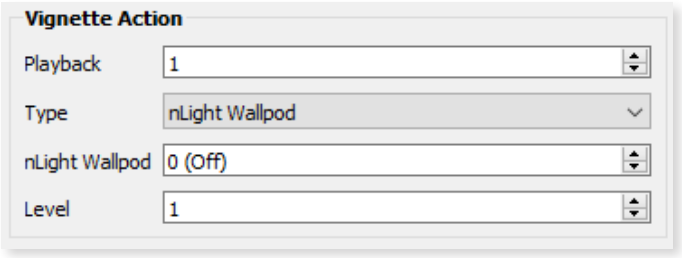
TYPE

Use the drop-down menu to specify the type of Vignette Function the Clock Event will trigger.

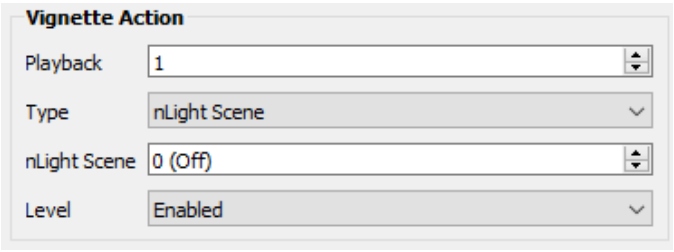
SNAPSHOT: Triggers the specified Snapshot on the specified Playback. Enter the Snapshot to trigger in the field below.

ZONE: Triggers the specified Zone on the specified Playback, at the specified level. Enter the Zone ID to trigger, and the 8-bit value for the desired level in the below fields.

nLight Wallpod: With an nLight® SNAPSHOT on the network, you can mimic a Wallpod to set the level of an nLight channel. Configuration of what channel the Wallpod affects must be done in SensorView.



nLight Scene: With an nLight® SNAPSHOT on the network, you can trigger an nLight local or global preset or profile scene. Setup of the scenes must be done in SensorView.

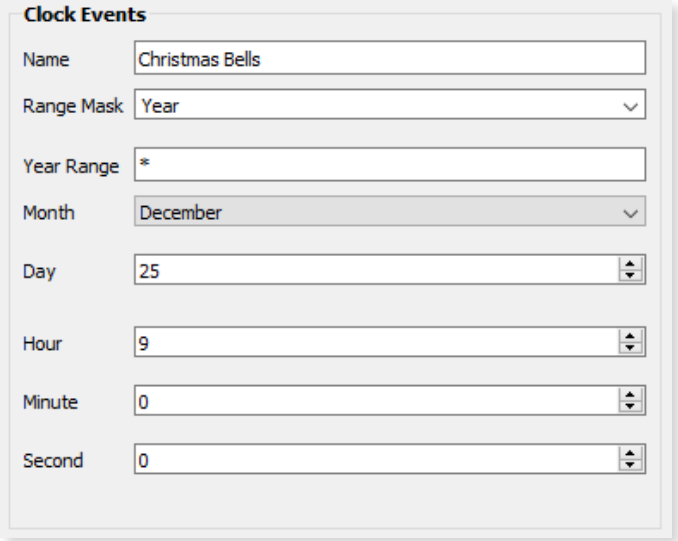


MORE...: Select from a list of additional Vignette functions. See the list under **Playback Properties** in the above section on Vignette **Buttons Properties** for details. These work in the same manner as when assigned to a Button, but will be triggered automatically at the specified time instead.

CLOCK EVENT EXAMPLE SETUPS

The best way to get used to how the Clock Event system works is by analyzing multiple examples.

EXAMPLE: EVERY CHRISTMAS DAY AT 9AM



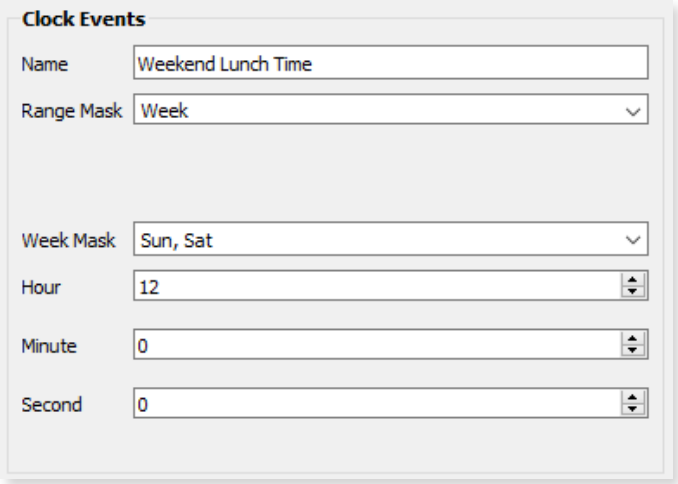
In this example Clock Event, we use the **Year Range Mask** and leave the field as ***** (asterisk), so this event will automatically trigger every year. No need to specify a list of years, unless there are certain years you want to skip or omit.

Next, we choose **December** from the **Month** drop-down, since we only want to trigger this event during December. There is no need to use **Month** under the **Range Mask**, unless we want to trigger this event during more than one month.

Then, we enter **25** into the **Day** field, since we want this event to happen **only on Christmas Day**. If we wanted it to trigger on multiple days, then we would again use **Day** under the **Range Mask** to specify multiple days.

Finally, we enter **9** into the **Hour** field, for 9 AM. We leave the **Minute** and **Second** fields as **0**, to instruct the Clock to trigger the Event at exactly 9:00:00 AM. Again, we could use **Hour** under the **Range Mask** if we wanted to repeat the Event on the same day but at another time.

EXAMPLE: WEEKEND LUNCH TIME

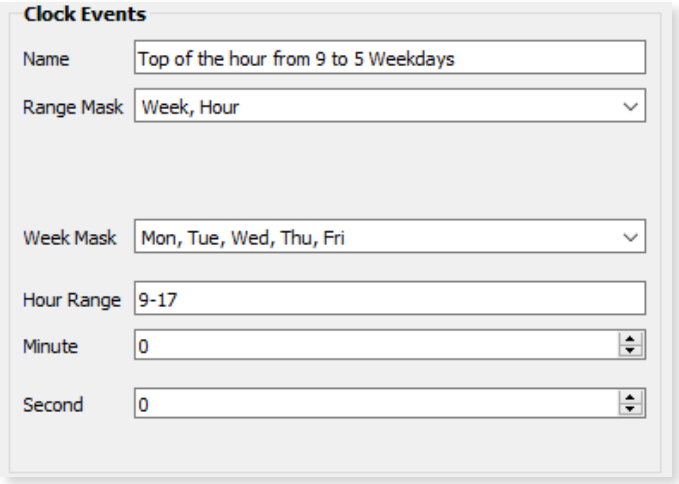


In this example, we use the **Week Range Mask** to specify multiple days of the week, on an ongoing schedule. In the drop-down, we select **Sunday** and **Saturday** and deselect the rest.

Notice that now we no longer have the **Year, Month or Day fields** present, since we are dealing with Days of the Week rather than specific dates.

In the **Hour** field, we enter **12** for noon, and leave the **Minute** and **Second** fields at **0** to trigger the Event at precisely 12:00:00 PM, every Saturday and Sunday.

EXAMPLE: TOP OF THE HOUR DURING WORK

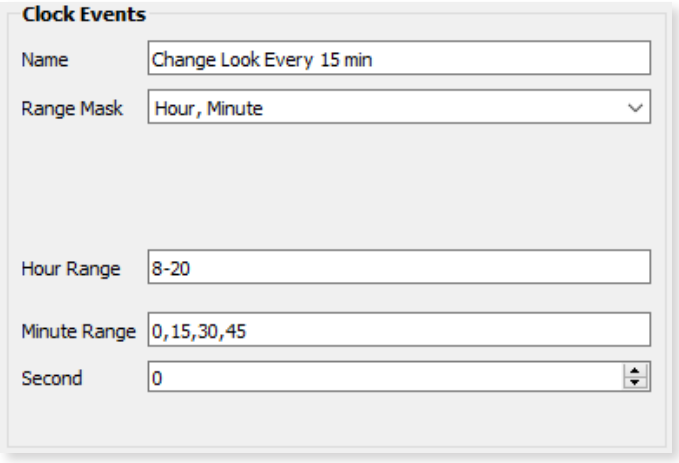


In this example, we use the **Week Range Mask** to specify multiple days of the week, on an ongoing schedule. In the drop-down, we select **Monday** through **Friday** and deselect the Saturday and Sunday.

Since we are going to trigger the event every hour during work hours, we will select the **Hour Range Mask** as well.

In the **Hour** field, we enter **9-17** for 9 AM through 5 PM (remember the Hours field uses the 24-hour clock), and leave the **Minute** and **Second** fields at **0** to trigger the Event at precisely on-the-hour, every hour during work hours (9 AM to 5 PM).

EXAMPLE: EVERY 15 MINUTES BETWEEN 8 AM AND 8 PM

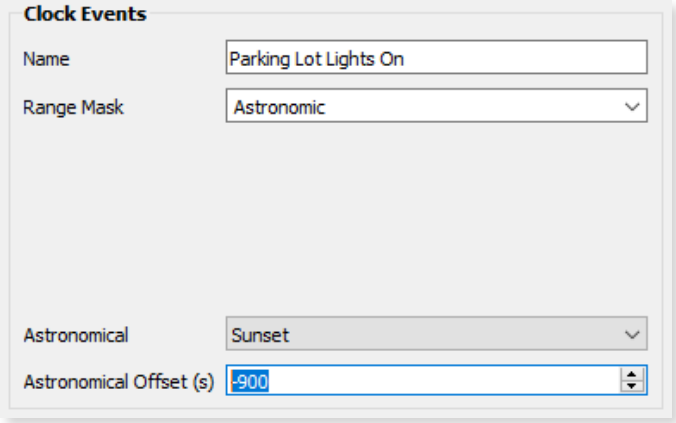


In this example, we use the **Hour** and **Minute Range Masks**, to specify the hours (8 AM to 8 PM) and minute range (every 15 minutes).

Note that we do not need to specify any Year or Day Range Mask, since we want this Event to trigger every day. By specifying an **Hour Range** but not a **Day Range**, this implies we want the Event to trigger every day. Likewise, if we specify a **Minute Range** and not an **Hour Range**, it implies we want to trigger the Event every hour.

However in this example, we do want to limit the Hour Range to 8 AM to 8 PM, so enter **8-20** into the Hour Range field. In the **Minute Range** field, we enter **0,15,30,45** for on-the-hour, 15, 30 and 45 minutes past the hour.

EXAMPLE: 15 MINUTES BEFORE SUNSET



In this example, we use the **Astronomic Range Mask**, and choose **Sunset**, and fill in the offset into the Astronomical Offset field. Remember this value is expressed in seconds, so for an offset of 15 minutes, we must use the value **900** (60 seconds/minute x 15 minutes = 900 seconds).

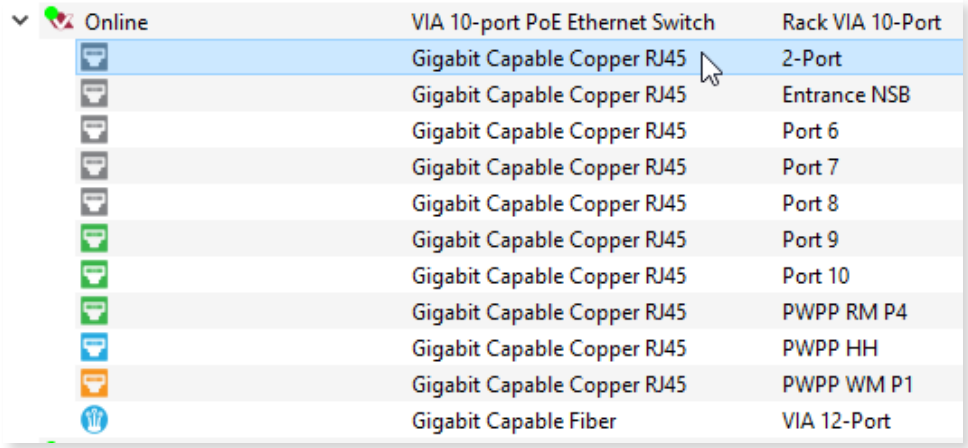
Remember for any offset you want to happen before the astronomical event, it must be negative. So, we add the minus sign in front for a final value of **-900**.

VIGNETTE VIDEOS

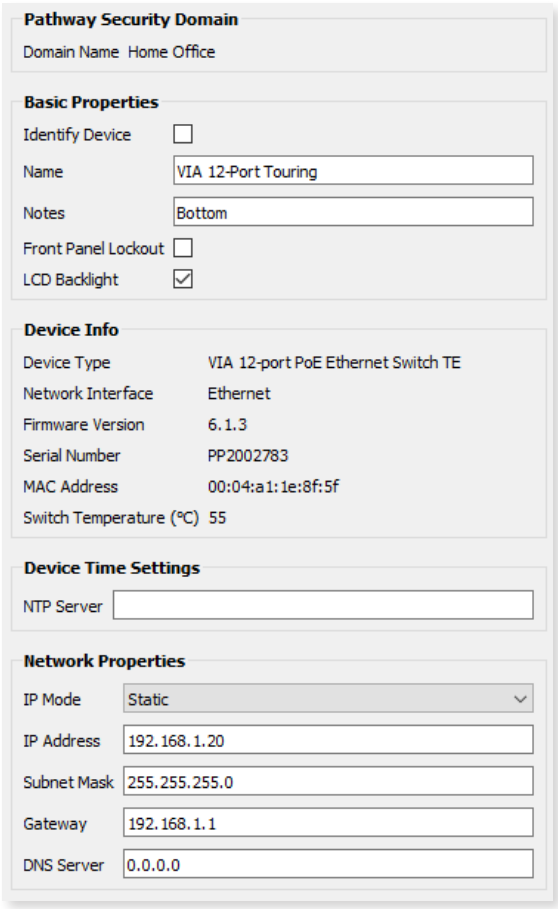
For the latest information and “how-to” videos for Vignette, check out the Vignette Videos on our YouTube channel at: https://www.youtube.com/user/pathwayconnectivity

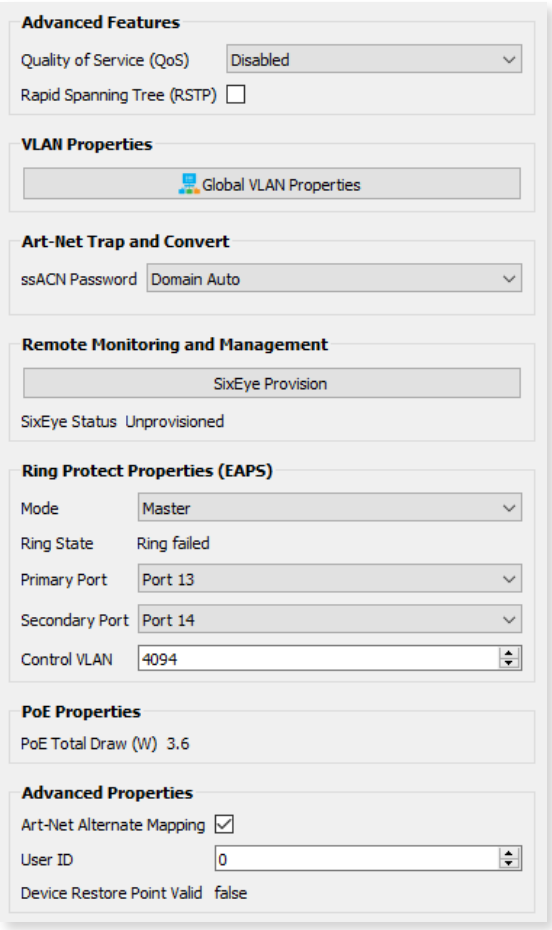
VIA SWITCHES

Not all properties are supported by all VIA models. Only the properties supported by the selected switch will be shown in the Properties Pane. Some properties are dependent on each other so if you see a property in this list but not in Pathscape, you may need to “enable” a parent property.



VIA PROPERTIES



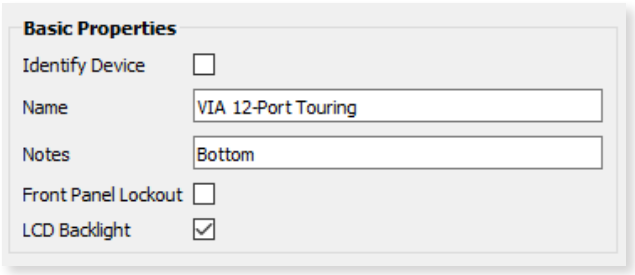


PATHWAY SECURITY DOMAIN

DOMAIN NAME

The name of the Security Domain the device is currently assigned to.

BASIC PROPERTIES



IDENTIFY DEVICE

Checking this box causes device to commence identify behavior (flashing LCD backlight).

DEVICE NAME

A user-configured, soft label for the device. If left blank (and by default) the device name displayed will be the device's IP Address.

Shown on the front LCD of VIA rack-mount models.

DEVICE NOTES

A user-configured text description field, shown in the Device view.

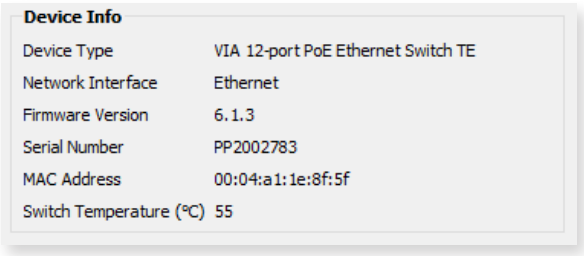
FRONT PANEL LOCKOUT

Checking this will lock the local controls on the front panel of the device (VIA rack-mount models only). Scrolling menus allow you to read properties, but changing properties is disallowed.

LCD BACKLIGHT

Checking this will enable the LCD backlight on the front panel of the device (VIA rack-mount models only).

DEVICE INFO



DEVICE TYPE

The device type for the currently selected device.

NETWORK INTERFACE

Shows the name of the NIC (Network Interface Card) the device is communicating to the machine running Pathscape on.

FIRMWARE VERSION

Shows current operating firmware version. See the **Firmware Update** section on how to update the firmware. Read-only.

SERIAL NUMBER

Factory-set unique identifier. Read-only.

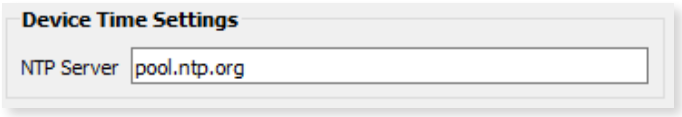
MAC ADDRESS

Factory-set hardware address. Read-only.

SWITCH TEMPERATURE (°C)

Displays the current internal switch circuitry temperature. Read-only.

DEVICE TIME SETTINGS

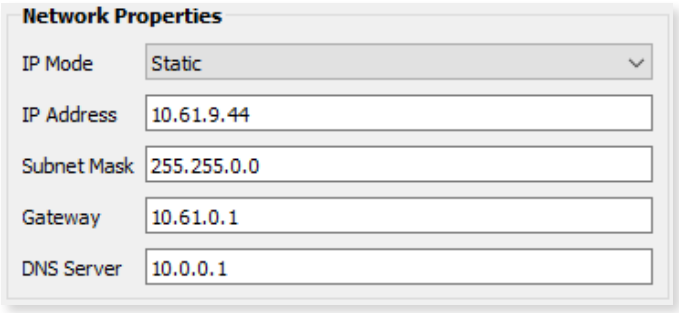


NTP SERVER

Set the server for NTP (Network Time Protocol). This is to ensure that security certificates are valid, when connecting to SixEye RMM. We recommend using **pool.ntp.org, time.windows.com, time.apple.com** or other publicly available servers**.**

If using the NTP server, ensure that the DNS Server and IP Gateway are set so the device knows how to get to the Internet to find a time server.

NETWORK PROPERTIES



IP MODE

Set the IP mode for the device. Options are **Disabled**, **Static** and **Dynamic**.

Disabled: No IP assigned to this device by the switch.

Static: IP settings manually set by user.

Dynamic: IP settings obtained from DHCP server.

IP ADDRESS

User-set Internet Protocol address (IPv4) for this switch. If VLANs are enabled, the IP address is applied by default to the Management VLAN ID#.

SUBNET MASK

User-set subnet mask. If VLANs are enabled, the subnet mask is used by default by the Management VLAN ID#.

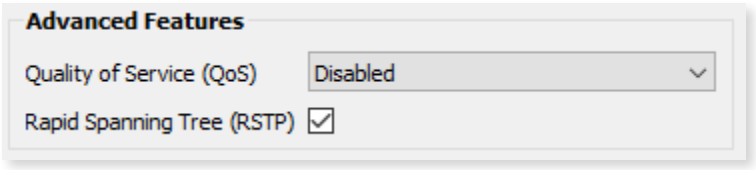
GATEWAY

Network traffic on this switch (or VLAN if enabled) requesting addresses outside of the assigned subnet will be routed through this IP address.

DNS Server

Set Domain Name Server for the device here. The DNS should be specified if using and **NTP server** and/or **SixEye RMM**

ADVANCED FEATURES



QUALITY OF SERVICE

Disabled (default).

Standard: Traffic is routed using a weighted algorithm to ensure timely delivery of high priority and eventual delivery of lower priority traffic.

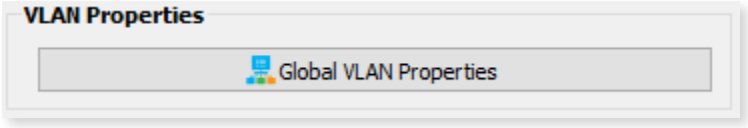
Dante Strict: Priority is strictly observed, using Dante-specific weighting. Lower priority traffic may be dropped or ignored to ensure delivery of Dante's high priority packets.

RAPID SPANNING TREE

Enables or **disables** RSTP (Rapid Spanning Tree Protocol). Rapid Spanning Tree Protocol automatically detects Ethernet loops (two Cat5 cables between the same two switches where the ports are on the same VLAN). Without RSTP on, networks with loops will have very poor performance.

RSTP should be enabled on all switches on the network and not be used in conjunction with EAPS Ring Protection.

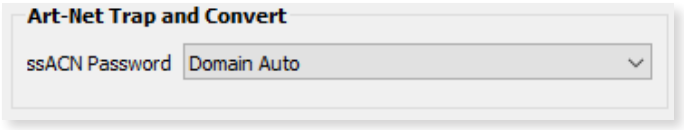
VLAN PROPERTIES



GLOBAL VLAN PROPERTIES

This button opens the VLAN Global Properties window for configuration of VLANs across the network. See the VLAN Config section for details.

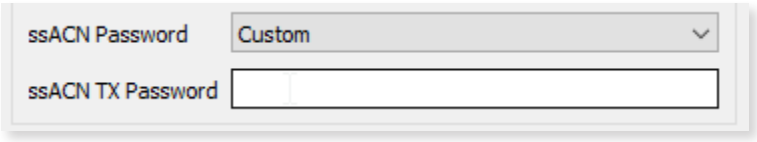
Art-Net TRAP AND CONVERT



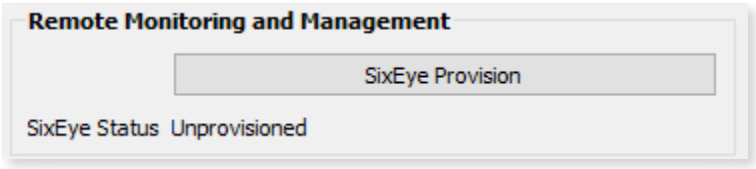
ssACN PASSWORD

Use the drop-down menu to select the either the ssACN **Domain Auto** password, or a **Custom** ssACN TX Password for converting from broadcast Art-Net.

If **Custom** is selected, enter the ssACN Password in the supplied field.



REMOTE MONITORING AND MANAGEMENT



For details on how to connect Pathway devices to a SixEye portal, see the section in this manual titled **SixEye PROPERTIES**.

SixEye PROVISION

This button will open the SixEye Provision window. In this field, paste the SixEye Device Key and click **Provision**.

SixEye STATUS

This shows the status of the SixEye connection. Values will be:

Unprovisioned (default).

No Internet Connection. There is a problem with the device finding an Internet connection. Check the device's IP Settings, specifically the Gateway.

DNS Failure. The device has found a connection, but there is a problem with resolving URLs. Check the device's DNS settings.

Invalid System Time. The device has connected to the Internet, but there is a problem with the System Time. Check the device's NTP server settings.

SixEye Init. The device is currently initializing a connection with SixEye.

SixEye Init Error. The device could not initiate a connection with SixEye.

Not Connected. The device is not currently connected to SixEye.

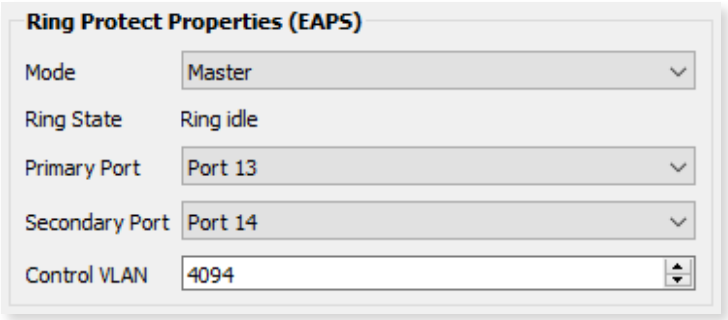
Connected. The device is connected to SixEye.

RING PROTECT PROPERTIES (EAPS)

Allows VIA switches to be connected in a physical wiring ring using EAPS (Ethernet Automatic Protection Switching. See **Appendix 5: Ring Protection** for details). Ring Protect is not supported by Legacy VIA DIN-mount 5-Port models.

Do not turn on RSTP at the same time as EAPS. While building a network for the first time, a good practice is to turn on RSTP to detect and heal any loops. Use the View called "**VIA - Link Status**" and check the "**Forwarding**" column for any links "**Blocked by RSTP**".

Once the network patching is stable, turn off RSTP on all switches and configure EAPS before hooking up the Secondary links for using Ring Protection.



MODE

Disable (default): Ring Protect is disabled. **When set to Disabled, the remaining Properties below are hidden**.

Transit: Sets the selected switch to act as a Transit switch.

Master: Sets the selected switch to act as the Master switch.

RING STATE

Shows the current state of the Ring. Values are:

Ring Idle. The ring is not currently doing anything; seen after enabling Ring Protect but before any attempt to initialize the ring has happened.

Ring Complete. The ring is initialized and working. The Master switch is monitoring the health of the ring.

Ring Failed. The ring integrity is broken.

Ring Initializing. The ring is currently initializing.

PRIMARY PORT

Select the port to be used as the Ring Primary Port. The Ring Primary Port must be one of the **last 4 ports** on the switch (or **last 3 ports** on legacy switch model 6730) and must be different from the Secondary Port.

VIA Rack-mount 12-Port Switches: Select from Ports 11, 12, 13 or 14.

VIA DIN-mount 16-Port Switch: Select from Ports 15, 16, 17 or 18.

VIA DIN-mount 8-Port Switch: Select from Ports 7, 8, 9 or 10.

Model 6730 (Legacy 10-Port Switch): Select from Ports 9, 10 or 11.

Models 6740, 6742 (Legacy 12-Port Switches): Select from Ports 11, 12, 13 or 14.

SECONDARY PORT

Select the port to be used as the Ring Secondary Port. The Ring Secondary Port must be one of the **last 4 ports** on the switch (or **last 3 ports** on legacy switch model 6730) and must be different from the Primary Port.

VIA Rack-mount 12-Port Switches: Select from Ports 11, 12, 13 or 14.

VIA DIN-mount 16-Port Switch: Select from Ports 15, 16, 17 or 18.

VIA DIN-mount 8-Port Switch: Select from Ports 7, 8, 9 or 10.

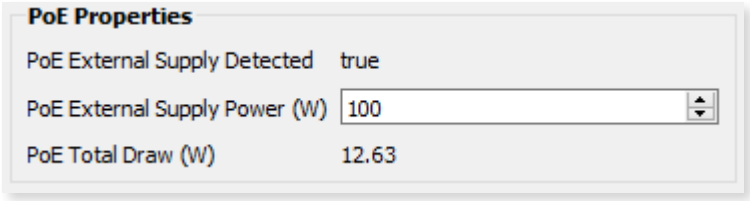
Model 6730 (Legacy 10-Port Switch): Select from Ports 9, 10 or 11.

Models 6740, 6742 (Legacy 12-Port Switches): Select from Ports 11, 12, 13 or 14.

CONTROL VLAN

Specifies dedicated Ring Protect VLAN. Valid range is 1 – 4095. Use of the default (4094) is strongly recommended. The Ring Protect VLAN **must to be outside of defined VLAN range**.

PoE PROPERTIES



PoE EXTERNAL SUPPLY DETECTED

Will show **true** if the VIA Switch detects an external PoE supply, **false** if it does not (if applicable). Read-only.

NOTE: Legacy VIA 10-Port Model 6730 Switches have 60W of internal PoE but can also accept external PoE supplies. If running a VIA 10-Port switch with only the internal supply, this will still show as **false** and the External Supply Power field is not required to be filled.

VIA Rack-mount models PWVIA RM P12 RJ45EC [xxxx] POE have 100W of internal PoE, but no support for external PoE supplies. These models will **not show** the PoE External Supply properties.

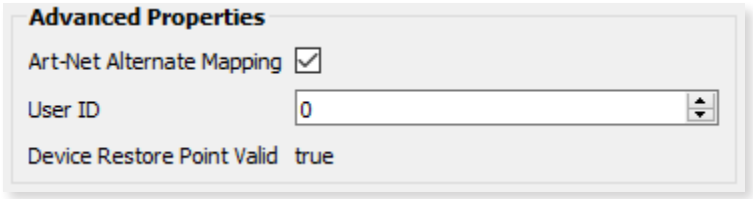
PoE EXTERNAL SUPPLY POWER (W)

When attaching an external PoE supply, the power rating in Watts **must be entered here** for the Switches' PoE to function properly.

PoE TOTAL DRAW (W)

Will display the total cumulative PoE power draw across all PoE-enabled ports, in Watts. Read-only.

ADVANCED PROPERTIES



ART-NET ALTERNATE MAPPING

Enabled (by default). Used in conjunction **with Art-Net Trap & Convert** (see **Port Properties**). When enabled, Art-Net Universe 0:0 is treated as Universe 1. When disabled, Art-Net universe 0:0 is ignored.

USER ID

Custom numeric identification for external databases.

DEVICE RESTORE POINT VALID

Shows **True** of **False** depending on whether the current Device Restore Point is valid.

Fan Mode (VIA24 only)

There are three modes of operation for the internal chip cooling fan in the PWVIA RM P24 devices.

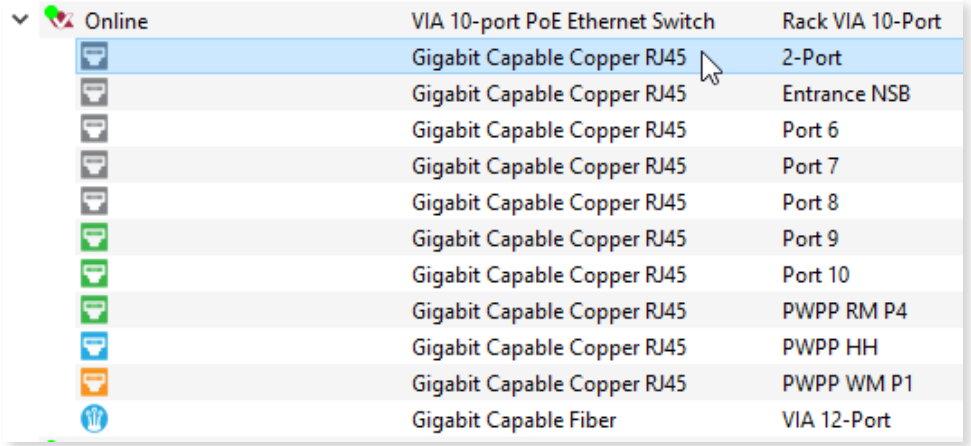
Automatic: The fan will only turn on when needed as the internal temperature exceeds 80 degrees Celsius

On: The fan remains on all the time.

Off: The fan will never come on. To protect the device, the first 20 ports will Auto-negotiate to speeds of up to 100M only. Ports 21 through 24 will Auto-negotiate to speeds up to 1G and Ports 25 through 28 up to 10G.

VIA SWITCH PORTS

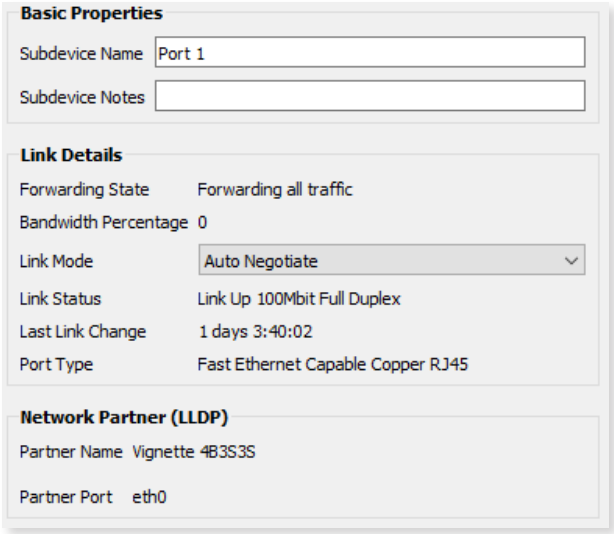
VIA Switch subdevices are Ethernet Ports, either copper RJ45 Ports or SFP/fiber ports. As described at the beginning of the manual, the color of the Port icon reflects its Link Status and Speed.

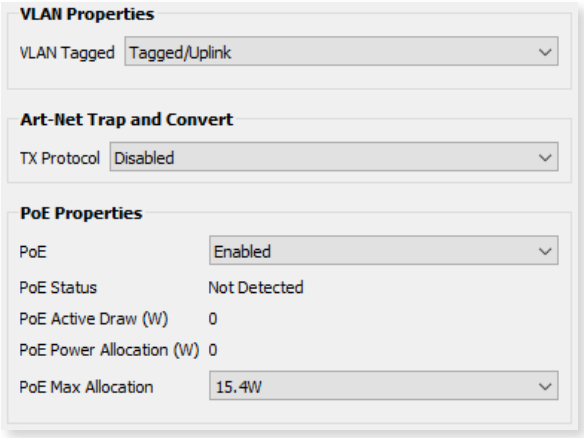


Icon	Status
Grey RJ45	Copper RJ4: Link Down (no downstream device connected)
Blue RJ45	Copper RJ45: 1 Gigabit
Green RJ45	Copper RJ45: 100 Megabit, full or half duplex
Orange RJ45	Copper RJ45: 10 Megabit full or half duplex
Grey Fiber	SFP/Fiber: Link Down (no downstream device connected)
Blue Fiber	SFP/Fiber: 1Gigabit
Purple Fiber	SFP+/Fiber: 10Gigabit

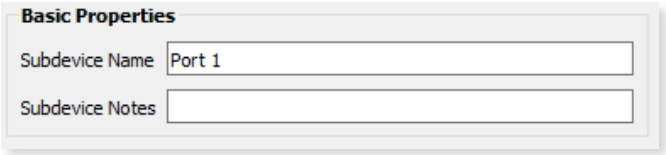
Not all properties are supported by all VIA models. Only the properties supported by the selected switch's port will be shown in the Properties Pane.

PORT PROPERTIES





BASIC PROPERTIES



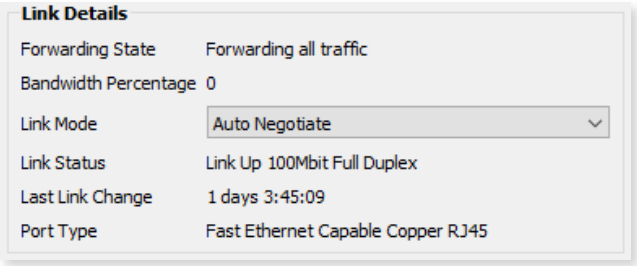
SUBDEVICE NAME

A user-configured, soft label for the subdevice/Port. Shown in the Device view and on the front panel display of the Switch (if equipped).

SUBDEVICE NOTES

A user-configured text description field, shown in the Device window.

LINK DETAILS



FORWARDING STATE

Status of RSTP and EAPS. Read-only.

Forwarding all Traffic: Normal state.

Blocked by RSTP: Loop detected and port blocked to stop feedback.

Blocked by EAPS: Ring using primary port.

BANDWIDTH PERCENTAGE

Reports a number between 0 and 100 based on Link Mode showing the amount of traffic going through the port. Readings are updated every few seconds. Read-only.

LINK MODE

Configures the Link Mode for the specified port.

Disable: Effectively turns port off.

Auto Negotiate (default): Link speed set by negotiation between switch and end device.

10Mbit Half Duplex

10Mbit Full Duplex

100Mbit Half Duplex

100Mbit Full Duplex

1Gbit Full Duplex (1Gbit Copper Ports Only))

10Gbit Full Duplex (SFP+ Ports Only)

LINK STATUS

Reports current link status and speed. Read Only.

LAST LINK CHANGE

Displays the time elapsed since the last change in the Port Link Status. Shown as **X Days, HH:MM:SS** (Hours:Minutes:Seconds). Useful for diagnostic or troubleshooting purposes to determine if a Port has gone down unexpectedly, for example.

SFP MODULE TYPE

Reports the detected type of SFP (Small Form-factor Pluggable) fiber optics adapter. Read Only. Applicable to:

- Ports 25 thruough 28 (VIA Rack-mount 24-Port Switches - PWVIA RM P24)
- Ports 17 and 18 (VIA DIN-mount 16-Port Switch - PWVIA DIN P16).
- Ports 13 and 14 (Legacy 12-Port Models 6740 and 6742)
- Port 11 (Legacy 10-Port Model 6730)
- Port 6 (Legacy 5-Port Model 6706)

SFP+ MODULE TYPE

Reports the detected type of SFP+ (enhanced Small Form-factor Pluggable) fiber optics adapter. Read Only. Applicable to:

- Ports 25 thruough 28 (VIA Rack-mount 24-Port Switches - PWVIA RM P24)
- Ports 13 and 14 (VIA Rack-mount 12-Port Switches - PWVIA RM P12)
- Ports 9 and 10 (VIA DIN-mount 8-Port Switch - PWVIA DIN P8)

See Appendix 7 for supported SFP modules.

PORT TYPE

Reports Port Type. Read-only.

Gigabit Capable Fiber

10 Gigabit Capable Fiber

Gigabit Capable Copper RJ45

Fast Ethernet Capable Copper RJ45

NETWORK PARTNER (LLDP)

PARTNER NAME

If the connected device supports Link Layer Discovery Protocol (LLDP), such as Vignette devices, Pathport gateways and other VIA switches, the connected device's name will appear here. Read-only.

PARTNER PORT

If the connected device supports Link Layer Discovery Protocol (LLDP), this will show the Port Number on that device that this port is connected to.

If the connected device is not a switch and has only one port, this will show "Eth".

VLAN PROPERTIES

Set VLAN Properties for the selected port.

VLAN TAGGED

When VLANs are enabled, set port as a **Tagged/Uplink** to transmit all VLANs' data between switches. Typically tagged ports are only used to connect a switch to a switch. Although it is possible to make a PC's NIC tagged, Pathway gateways and controllers do not used tagged NICs. If you cannot communicate with a gateway or controller, check that the port your PC is using and the port the devices is on are not tagged and on the same VLAN.

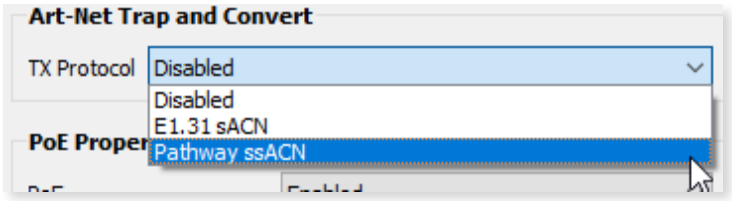
For most applications, **ports connected to end devices** should be set as **Untagged** (default).

VLAN

Sets the VLAN ID# used by the port. Only applies to untagged ports when VLANs have been enabled.

Art-Net TRAP AND CONVERT

See also **Art-Net Alternate Mapping** in VIA Properties, above.



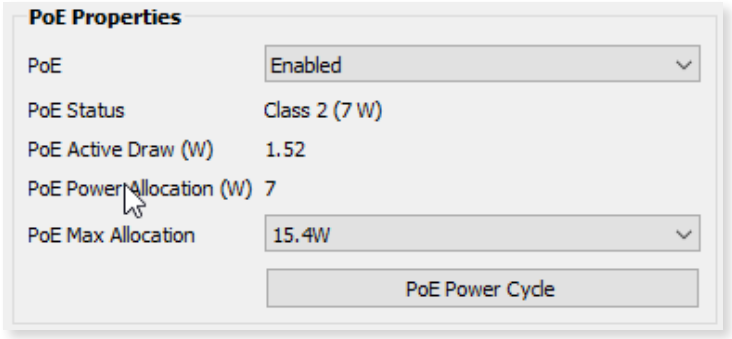
TX PROTOCOL

Disabled (default).

E1.31 sACN: Any inbound Art-Net broadcast packets are converted to **E1.31 sACN** multicast data packets using the same Universe number as originally transmitted. On large systems using sACN, you should enable IGMP to reduce network traffic.

Pathway ssACN: Any inbound Art-Net broadcast packets are converted to **Pathway Secure sACN (ssACN)** multicast data packets using the same Universe number as originally transmitted. On large systems using sACN, you should enable IGMP to reduce network traffic.

POE PROPERTIES



PoE

Enabled (default): Port will attempt to power any connected PoE-compliant device.

Disabled: PoE will not be provided to end devices.

PoE STATUS

PoE Class as reported by end device. Read-only.

- **Not Detected** (end device not PoE)
- **Class 0 (15.4W)**
- **Class 1 (5.4W)**
- **Class 2 (11.7W)**
- **Class 3 (15.4W)**

PoE ACTIVE DRAW (W)

Reports current PoE device draw in Watts. Read-only.

PoE POWER ALLOCATION (W)

Reports power allocation to port based on end device's reported PoE device classification. Read-only.

PoE MAX ALLOCATION

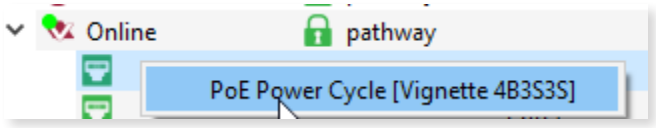
Sets power allocated to port. Allows switch to determine remaining PoE power pool available, but does not prevent end devices from requesting and utilizing power in excess of this value.

Values are **900mW, 1.8W, 2.7W, 3.6W, 4.5W, 5.4W, 6.3W, 7.2W, 8.1W, 9W, 9.9W, 10.8W, 11.7W, 12.6W, 13.5W, 14.4W and 15.4W**.

PoE POWER CYCLE

Clicking this button will disable and then re-enable PoE on the selected port, in order to power cycle the end device.

You can also right-click any VIA Port in the Device view and select PoE Power Cycle.



If the connected device supports LLDP, the device's name will appear so you know exactly what device you're power cycling.

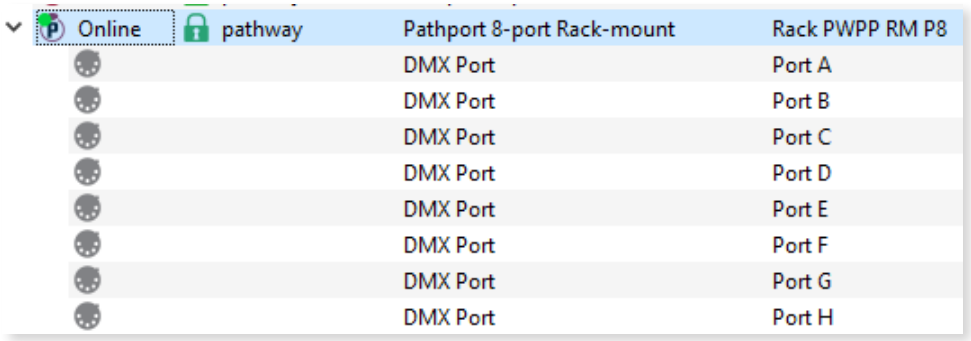
PATHPORT GATEWAYS

Pathway Connectivity's Pathport Ethernet gateway are intended for use primarily in entertainment lighting systems. They provide transparent transmission and receipt of the DMX512 lighting control standard, using a number of widely accepted protocols including **Pathport Protocol, sACN (E1.31)**, **Art-Net**, **Strand ShowNet**, and **Pathway ssACN (Secure sACN)**, across a standard Ethernet data network.

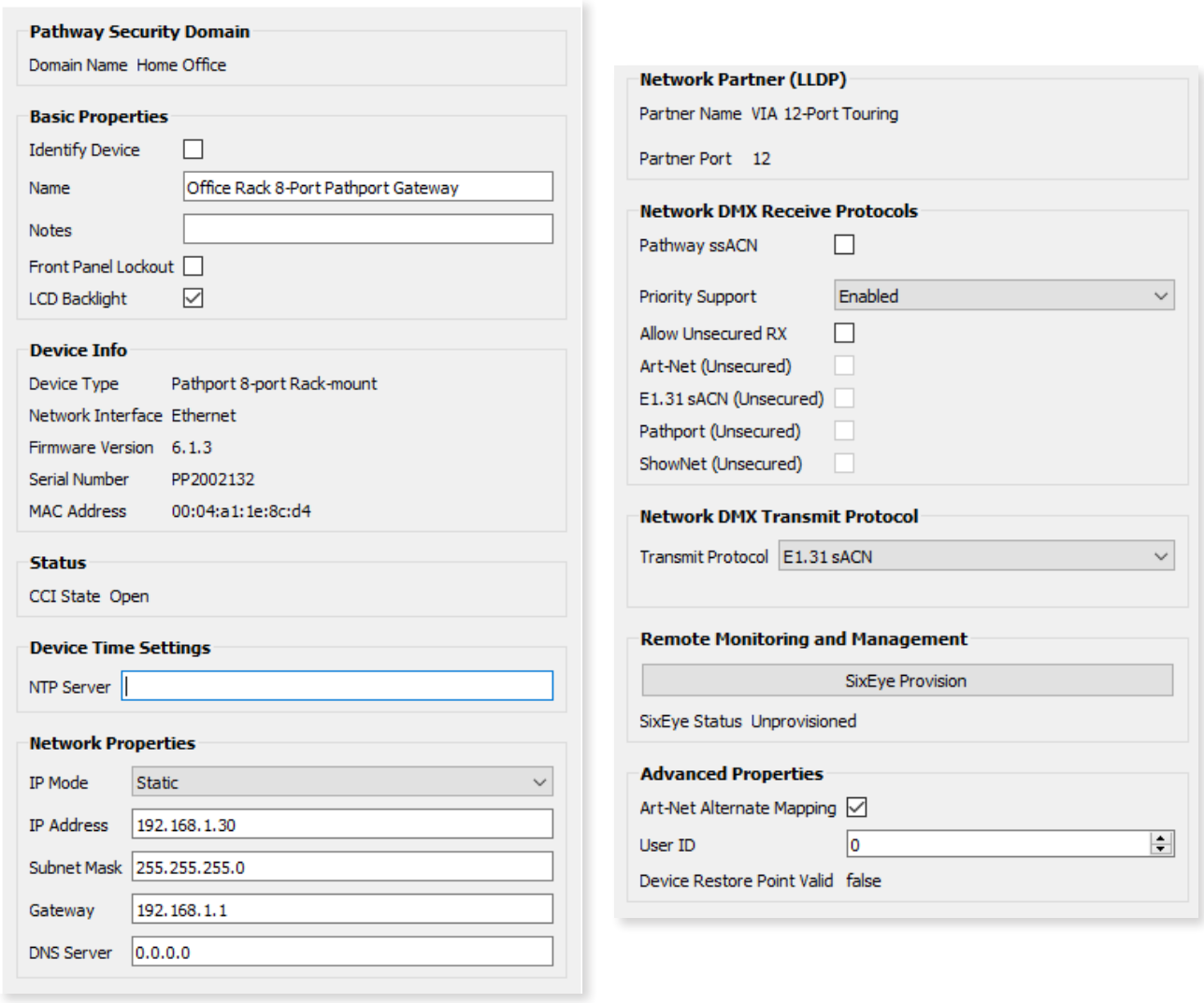
Pathports may be used alone, networked with other Pathport gateways, as well as with a number of other Ethernet-aware lighting control products, such as consoles and controllers.

The Pathport is a protocol routing device; taking in DMX512 and making Ethernet protocols or receiving Ethernet protocols and making DMX512 and RDM. It does not provide control over the protocols or the data being passed. It only provides control over the path the data takes, how multiple DMX sources are treated (merged or prioritized), and certain other routing characteristics including DMX transmission speed and signal loss behavior. For conversion of Ethernet to Ethernet protocols or routing of Ethernet protocols between physical LANs, see the eLink. The eLink's Data Paths share many of the properties of a Pathport's Port.

Only the properties supported by the selected device will be shown in the Properties Pane. For instance, LCD Backlight is not available on the DIN Pathports. This is an expanded view of the either port under a PWPP RM P8:



PATHPORT PROPERTIES

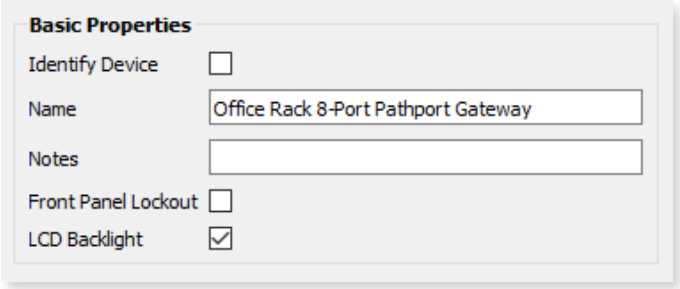


PATHWAY SECURITY DOMAIN

DOMAIN NAME

The name of the Security Domain the device is currently assigned to.

BASIC PROPERTIES



IDENTIFY DEVICE

Checking this box causes device to commence identify behavior (flashing LCD backlight, Identify LED).

DEVICE NAME

A user-configured, soft label for the device. If left blank (and by default) the device name displayed will be the device's IP Address. Shown in the Device window and on tge front displays if equipped.

DEVICE NOTES

A user-configured text description field, shown in the Device view.

FRONT PANEL LOCKOUT

Checking this will lock the local controls on the front panel of the device (**eLink, Pathport rack-mount and Hand Held models only**). Scrolling menus allow you to read properties, but changing properties is disallowed.

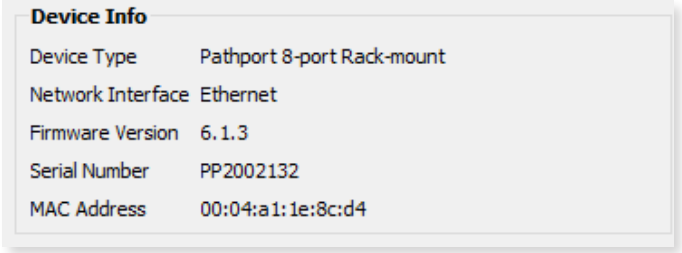
LCD BACKLIGHT

Checking this will enable the LCD backlight on the front panel of the device (**eLink, Pathport rack-mount and Hand Held models only)**.

LED INTENSITY

PWPP WM P1/PWPP DIN P1 (1-Port Gateway) Models only. Sets the brightness of the indicator LEDs. Values are **Dim** or **Bright**.

DEVICE INFO



DEVICE TYPE

The device type for the currently selected device.

NETWORK INTERFACE

Shows the name of the NIC (Network Interface Card) the device is communicating to the machine running Pathscape on.

FIRMWARE VERSION

Shows current operating firmware version. See the **Firmware Update** section on how to update the firmware. Read-only.

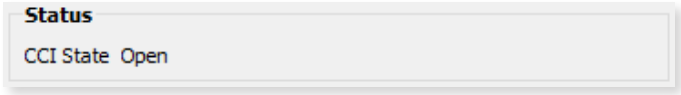
SERIAL NUMBER

Factory-set unique identifier. Read-only.

MAC ADDRESS

Factory-set hardware address. Read-only

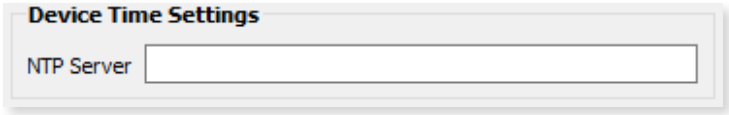
STATUS



CCI STATE

eLink, PWPP RM P8, PWPP RM P4 and PWPP DIN P4 models only. Shows the current state of the Contact Closure Interface (CCI) Input. Values are **Open** (inactive) or **Closed** (active). Configure the action of the CCI on each Port or Path's **Advanced Properties**.

DEVICE TIME SETTINGS

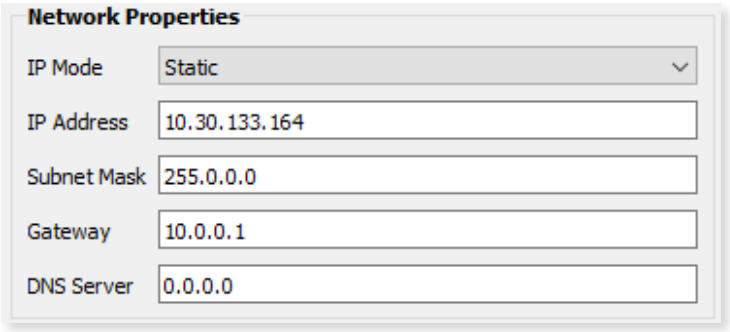


NTP SERVER

eLink, PWPP RM P8, PWPP RM P4 and PWPP DIN P4 models only. Set the server for NTP (Network Time Protocol). This is to ensure that security certificates are valid, when connecting to SixEye RMM. We recommend using **pool.ntp.org, time.windows.com, time.apple.com** or other publicly available servers**.**

If using the NTP server, ensure that the DNS Server and IP Gateway are set so the device knows how to get to the Internet to find a time server.

NETWORK PROPERTIES



IP MODE

Set the IP mode for the device. Options are **Disabled**, **Static** and **Dynamic**.

Disabled: No IP assigned to this device.

Static: IP settings manually set by user.

Dynamic: IP settings obtained from DHCP server.

IP ADDRESS

Internet Protocol address (IPv4) of the Gateway.

SUBNET MASK

User-configured subnet mask. Typically, 255.0.0.0 but must be set according to general networking rules.

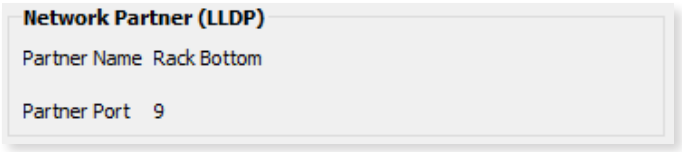
GATEWAY

Specify network gateway address if using **NTP server** and/or **SixEye RMM**.

DNS Server

eLink, PWPP RM P8, PWPP RM P4 and PWPP DIN P4 models only (when IP Mode is Static). Set Domain Name Server for the device here. The DNS should be specified if using an **NTP server** and/or **SixEye RMM**

NETWORK PARTNER (LLDP)



PARTNER NAME

If the upstream switch supports Link Layer Discovery Protocol (LLDP), that device's name will appear here. Read-only.

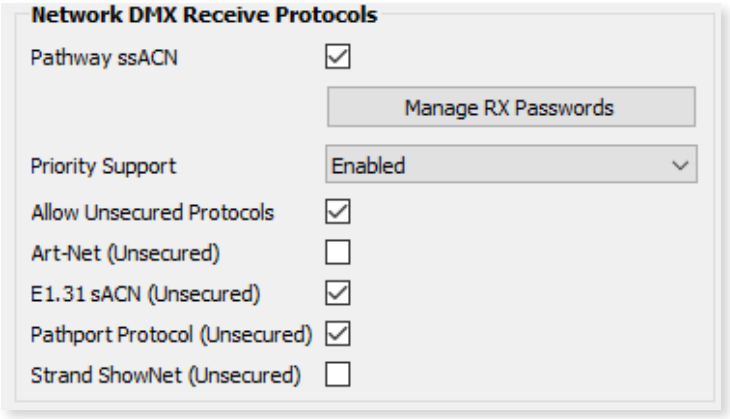
PARTNER MAC

The hardware MAC (Media Access Control) address of the LLDP Partner, if applicable. This property will be hidden if the above Partner Name is displayed, as it is less useful. If the Partner Name is not able to be discover, the Partner MAC will be shown. Read-only.

PARTNER PORT

If the upstream switch supports Link Layer Discovery Protocol (LLDP), the port the current device is connected to will be shown here. Read-only.

NETWORK DMX RECEIVE PROTOCOLS



PATHWAY ssACN

Check this box to enable **Pathway's Secure sACN (ssACN)**. Click the **Manage RX Passwords** button to configure ssACN Passwords. See the Security section earlier in the manual for details.

PRIORITY SUPPORT

Use the drop-down menu to choose whether the Pathport device respects the sACN priority (1-200) in the Universe header. Options are **Enabled** (default) or **Disabled**.

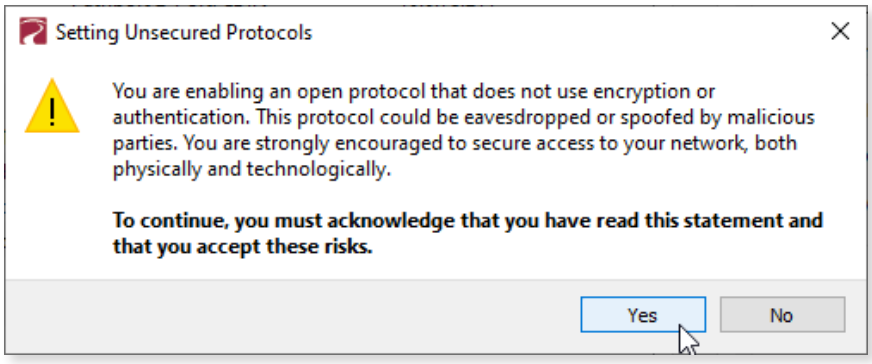
ALLOW UNSECURED PROTOCOLS

Check this box to enable the use of unsecured network protocols (Art-Net, E1.31 sACN, Pathport Protocol, ShowNet). **By default, this property is not enabled**. In order to use the Pathport gateway with standard (unsecured) protocols, **this must be enabled**.

⚠ WARNING ABOUT UNSECURED PROTOCOLS ⚠

Enabling an open protocol that does not use encryption or authentication - These protocols could be eavesdropped or spoofed by malicious parties. You are strongly encouraged to secure access to your network, both physically and technologically. To continue, you must acknowledge that you have read this statement and accept these risks.

After checking this box and sending the transaction, a dialog will appear warning you of the above and asking for confirmation.



To continue, you must click the "**Yes**" button to confirm you understand the associated risks.

Art-Net (UNSECURED)

Check this box to enable the receiving of Art-Net. You must check both the **Allow Unsecured Protocols** checkbox and this checkbox to use Art-Net.

E1.31 sACN (UNSECURED)

Check this box to enable the receiving of E1.31 sACN. You must check both the **Allow Unsecured Protocols** checkbox and this checkbox to use standard E1.31 sACN.

PATHPORT PROTOCOL (UNSECURED)

Check this box to enable the receiving of Art-Net. You must check both the **Allow Unsecured Protocols** checkbox and this checkbox to use Art-Net.

STRAND ShowNet (UNSECURED)

Check this box to enable the receiving of Strand ShowNet. You must check both the **Allow Unsecured Protocols** checkbox and this checkbox to use Strand ShowNet.

NETWORK DMX TRANSMIT PROTOCOL

TRANSMIT PROTOCOL

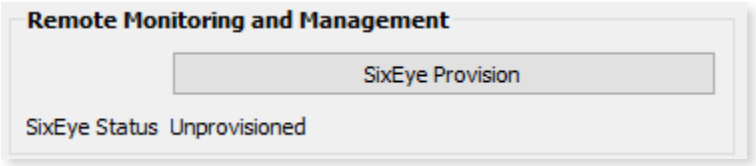
Use the drop-down menu to select the network protocol the Pathport gateway will transmit. Options are:

- **Pathport** will transmit using unsecured Pathport Protocol.
- **Art-Net** will transmit using unsecured Art-Net.
- **Strand ShowNet** will transmit using Strand ShowNet.
- **E1.31 sACN** will transmit using standard, unsecured E1.31 sACN.
- **Pathway ssACN** will use Pathway's secured sACN for transmitting to the network.

ssACN Password

Typically for networks which use eLink, Cognito, Choreo, Vignette or Snapshot to produce the Streaming ACN, they will be part of the same Security Domain. In this case, choose Domain Auto. If you want to type a human readable ssACN password, choose Custom and fill in ssACN TX Password edit box which will appear.

REMOTE MONITORING AND MANAGEMENT



For details on how to connect Pathway devices to a SixEye portal, see the section in this manual titled **SixEye PROPERTIES**.

SixEye PROVISION

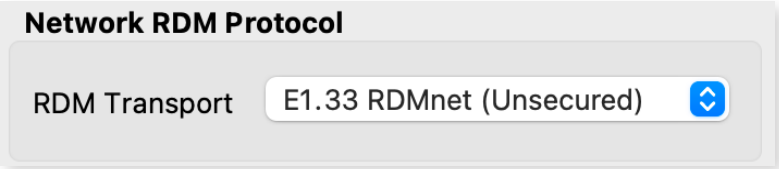
This button will open the SixEye Provision window. In this field, paste the SixEye Device Key and click **Provision**.

SixEye STATUS

This shows the status of the SixEye connection which will be one of:

- **Unprovisioned** (default).
- **No Internet Connection**. There is a problem with the device finding an Internet connection. Check the device's IP Settings, specifically the Gateway.
- **DNS Failure**. The device has found a connection, but there is a problem with resolving URLs. Check the device's DNS settings.
- **Invalid System Time**. The device has connected to the Internet, but there is a problem with the System Time. Check the device's NTP server settings.
- **SixEye Init**. The device is currently initializing a connection with SixEye.
- **SixEye Init Error**. The device could not initiate a connection with SixEye.
- **Not Connected**. The device is not currently connected to SixEye.
- **Connected**. The device is connected to SixEye

NETWORK RDM PROTOCOL



Pathports support two different protocols on the Ethernet side of the communications when acting as RDM controllers. The communication between the gateway and the lights is always E1.20, a protocol that sits on top of E1.11 DMX512-A. Choose the RDM Transport for the communication between the RDM Controller and the Pathport over the Ethernet network.

Pathway RDM

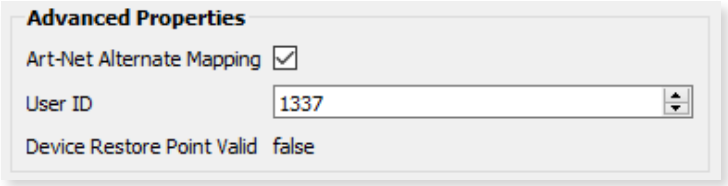
The Ethernet communication between Pathscape and the Pathport gateways will be secured using the current Security Domain. Pathscape will be the only controller software which can issue RDM commands.

E1.33 RDMnet

ANSI E1.33 is the ESTA authored open standard for controllers or control software to speak to gateway over Ethernet whereas the DMX/RDM gateways always use E1.20 to speak RDM to the end devices. E1.33 requires at least one RDMnet broker to be on the local network.

NOTE: Pathscape software will not be able to perform RDM functions with a Pathport when E1.33 RDMnet has been chosen.

ADVANCED PROPERTIES



PATCH JUMPER LOCKED

PWPP WM P1 and PWPP DIN P1 1-Port Gateway Models only. Shows the status of the DIP switches on the board for manually selecting Universe patch. **True** indicates a jumper has been set; **false** allows software configuration of the patch.

Art-Net ALTERNATE MAPPING

This property will only be visible if Art-Net is enabled under Network DMX Receive Protocols.

Enabled (by default). When enabled, Art-Net Universe 0:0 is treated as Universe 1. When disabled, Art-Net Universe 0:0 is ignored.

USER ID

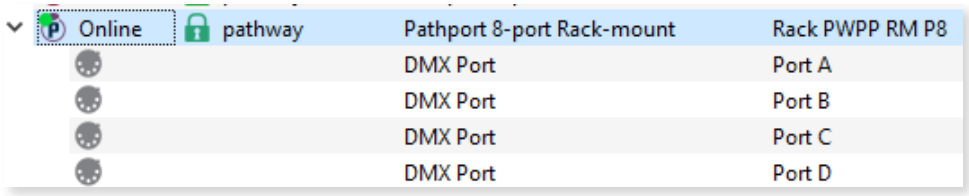
Custom numeric identification for external databases.

DEVICE RESTORE POINT VALID

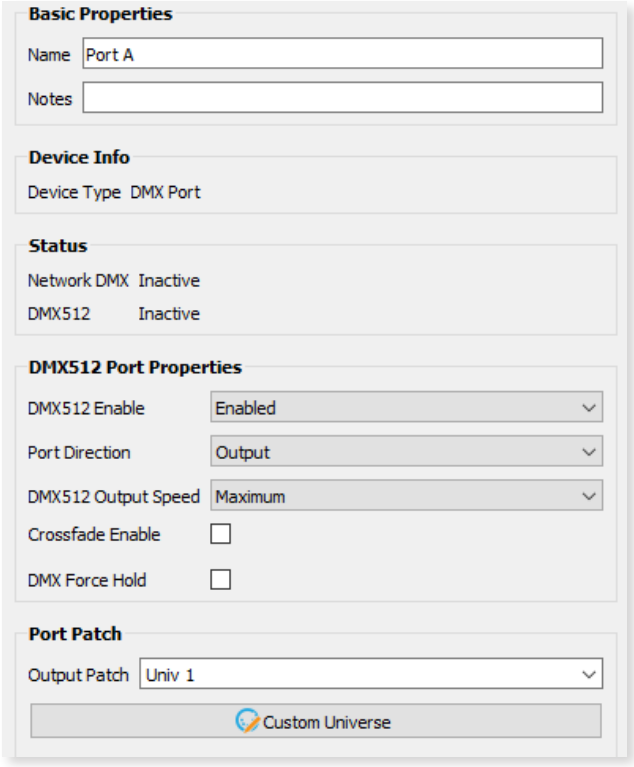
Shows **True** of **False** depending on whether the current Device Restore Point is valid.

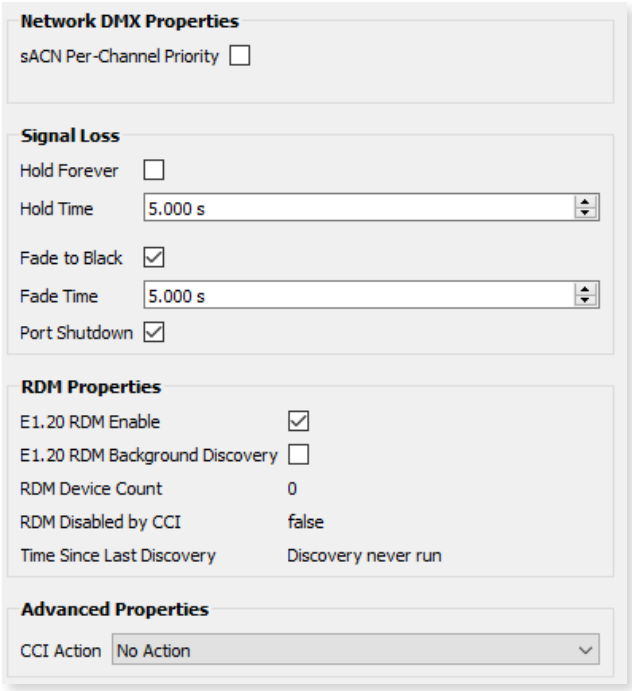
PATHPORT PORT PROPERTIES

Pathport Gateway subdevices are DMX Ports . Gateways have between 1 and 8 ports. Port Direction may be **Input** (receive DMX512 and put Network DMX on network) or **Output** (convert Network DMX from one of the four supported protocols to DMX512). Output ports may also be configured to be RDM controllers. There are two tables of properties based on Port Direction.

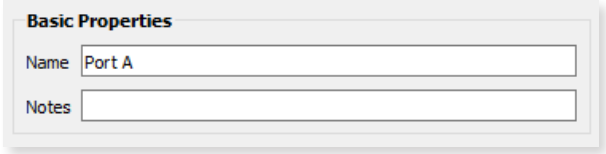


OUTPUT PORT PROPERTIES





BASIC PROPERTIES



NAME

A user-configured, soft label for the Port. By default, based on the number of Ports on a Gateway, the Ports are labeled A through H. It is good practice to label a Port based on where the DMX512 cable is going or its function. (i.e. “Stage Left

Boom" or "LEDs in House").

NOTES

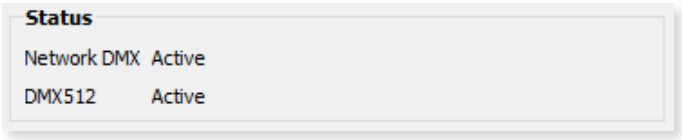
A user-configured text description field, shown in the Device window.

DEVICE INFO

DEVICE TYPE

The device type for the currently selected device (DMX Port).

STATUS



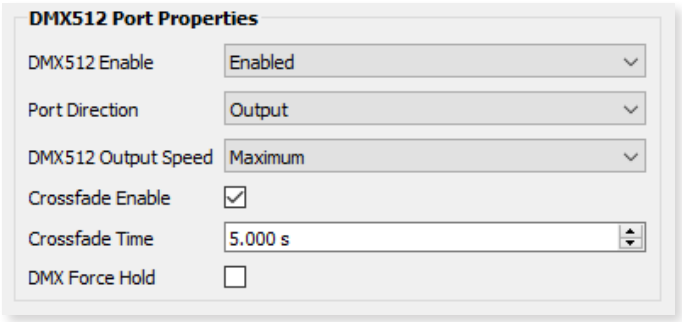
NETWORK DMX

Shows status of the Network DMX source for this Output Port. Will show **Active** when Network DMX stream is present, and **Inactive** if Network DMX stream is lost. Read-only.

DMX512

Shows activity of the hard DMX512 Port. Will show **Active** when actively transmitting DMX512, and **Inactive** when it is not. Read-only.

DMX512 PORT PROPERTIES



DMX512 ENABLE

For debugging purposes or otherwise, you may want to disable a DMX port. All other properties will remain unchanged. Apart from the fact that the line is still terminated, this is electrically equivalent to unplugging the DMX512 cable.

Use the drop-down menu to select **Enabled** or **Disabled**

PORT DIRECTION

Input or **Output**. This table shows the properties of an **Output** port.

DMX512 OUTPUT SPEED

ANSI E1.11 compliant devices should be able to receive at Maximum speed (44 Hz), but some devices may require you to lower the number of DMX512 packets per second. To support ANSI E1.20 RDM, the maximum refresh rate is 43 Hz.

Pathports support four speeds: **Maximum** (43 Hz) , **Fast** (40 Hz), **Medium** (37 Hz) and **Slow** (20 Hz).

CROSSFADE ENABLE

If a Priority changes either as defined by the Pathscape DMX Patch Priorities or the E1.31 sACN Priority, the Gateway will fade rather than snap to the new levels. The last frame of the old source is frozen during the fade.

CROSSFADE TIME (s)

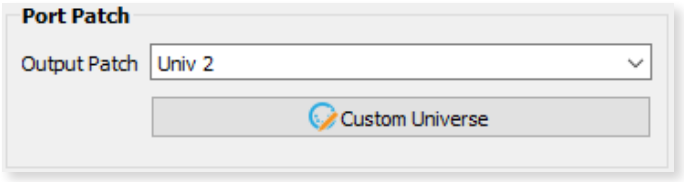
Sets the crossfade time, as defined above in **Crossfade Enable**.

DMX FORCE HOLD

Check this box to force the DMX512 port to snapshot the current DMX levels and maintain them indefinitely, ignoring any further changes. Useful to lock out any unintended changes once levels are set as desired.

Note: If the gateway reboots for any reason, e.g. commanded reboot, power outage, etc., the DMX levels that were being held will be lost.

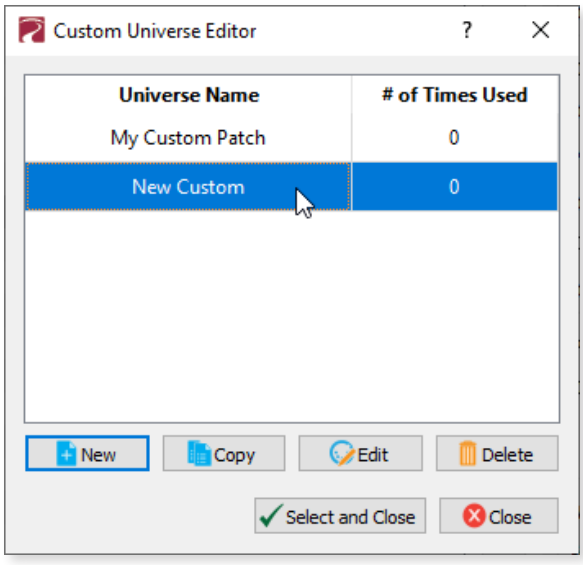
PORT PATCH



OUTPUT PATCH

Use the drop-down menu to select the output patch for the port. By **default**, the drop-down menu lists standard Universes 1-16, and Custom patches, even if not in use. To patch the port to a new standard Universe not in the list, simply type the Universe number into the field.

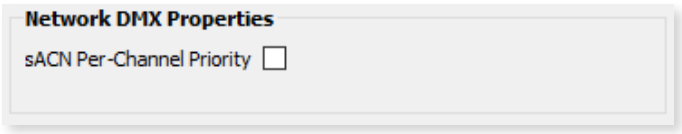
Click the **Custom Universe** button to open the Custom Universe Editor.



The **Custom Universe Editor** window is a quick way to **Add New Custom Universes**, and **Copy**, **Edit** or **Delete** existing ones, just like in the **DMX Patch** tab. Pathscape also will show **how many times** each Custom Patch is being used.

Select a Custom Patch name and click the Select and Close to set the port to that patch. Click the Close button to discard changes.

NETWORK DMX PROPERTIES

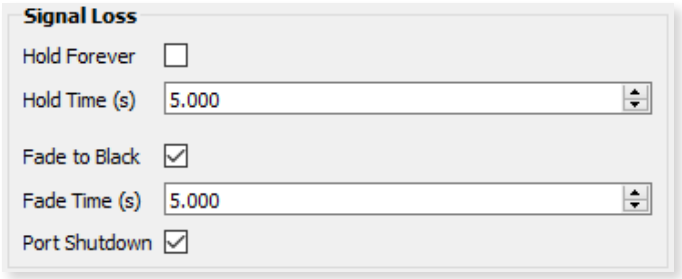


sACN PER-CHANNEL PRIORITY

In the base Gateway device's **Network DMX Receive Protocols**, there is a property **Priority Support** which determines if the Gateway respects the priority (1-200) in the Universe header. This property extends that to each slot in the universe. It is off by default.

Check this box to **enable** per-channel priority.

SIGNAL LOSS



HOLD FOREVER

If enabled, Signal Loss **Hold Time**, Signal Loss **Fade to Black** and Signal Loss **Port Shutdown** are not shown. The Path Output will continue outputting the last received packet indefinitely in the event of Network DMX Receive signal loss.

HOLD TIME (s)

The Path will continue transmitting its last packet it received until this time has expired.

FADE TO BLACK

If the Network DMX stream ceases, all 512 slots of the DMX512 will fade to a value of 0%.

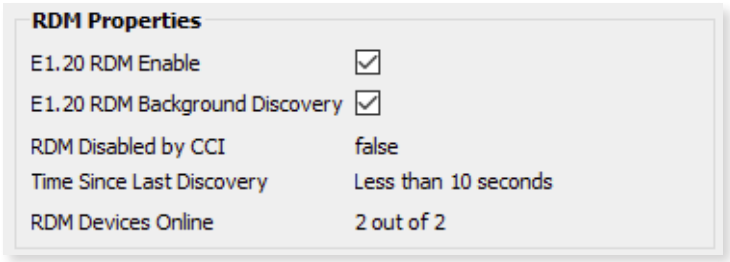
FADE TIME (s)

Applicable when **Fade to Black** is enabled. Defines the time over which the Fade to Black above will take place.

PORT SHUTDOWN

If the Network DMX Receive stream ceases and the Fade Time has expired, the Port Output will turn off. This is **enabled** by default.

RDM PROPERTIES



Pathscape is a powerful RDM controller that allows you to identify RDM devices and set properties like mode and starting address. For more information on using Pathscape with RDM devices, see the **RDM (E1.20 Remote Device Management)** section later in this manual. The communication over the Ethernet link may be either Pathway RDM or ANSI E1.33 RDMnet.

E1.20 RDM ENABLE

Enabled (Default).

When disabled, no Alternate Start Code packets will be sent on the DMX512 link. Non-RDM compliant devices may react badly to RDM packets.

E1.20 RDM BACKGROUND DISCOVERY

Depending on the number of RDM devices on this port, discovery can take anywhere from a second to several minutes. Turning **on** Background Discovery allows the Gateway to keep an up-to-date list of which devices are online vs. offline.

RDM DISABLED BY CCI

This will show the status of the **RDM Disable CCI function** (set in **Advanced Properties**, see below). Read-only.

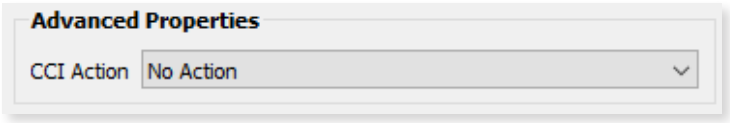
TIME SINCE LAST DISCOVERY

Will show the amount of time elapsed since the last RDM_GET commands were sent on this port. Read-only.

RDM DEVICES ONLINE

This will show the number of RDM devices currently online, out of the total number of RDM devices detected during discovery on the selected DMX Port. Read-only.

ADVANCED PROPERTIES



CCI ACTION

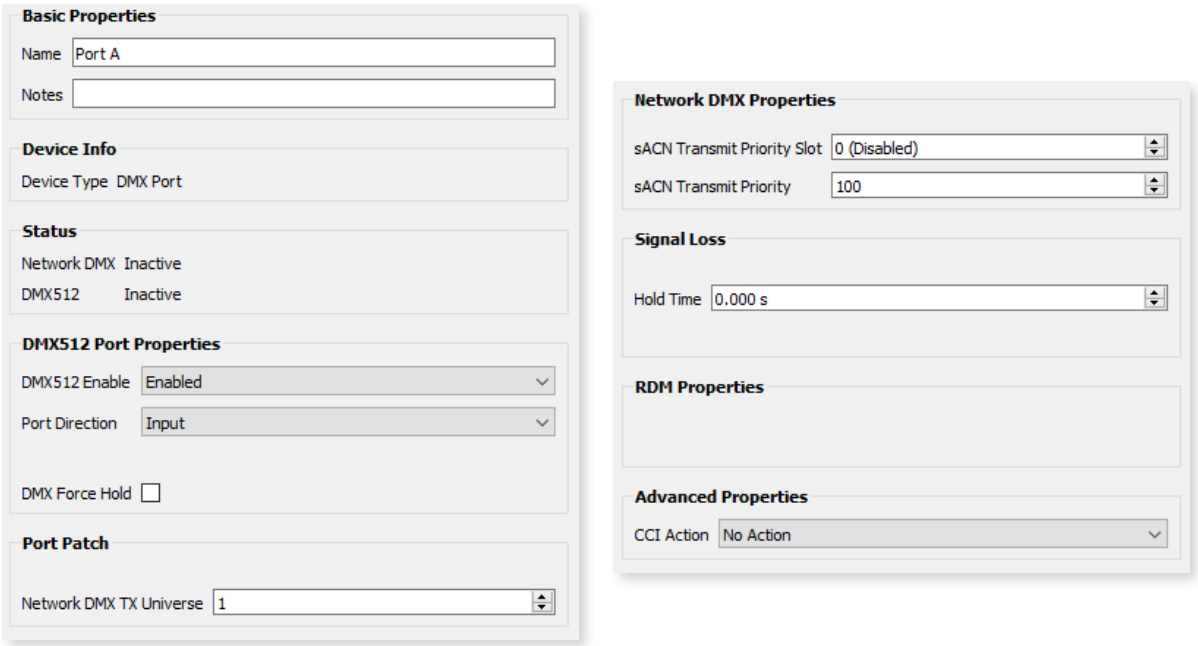
Choose the function of the CCI input, if desired. When the Contact Closure Interface is **closed** (activated), the chosen action will be performed on the selected port.

No Action: No action is taken.

DMX Force Hold: Forces the DMX512 port to snapshot the current DMX levels and maintain them indefinitely, ignoring any further changes. Useful to lock out any unintended changes once levels are set as desired. When the CCI input is opened, the DMX Force Hold will be deactivated.

RDM Disable: Suspends all RDM discovery (quick or background), RDM GET and SET commands. Useful in a show-mode setting where RDM could negatively impact network performance. No effect if used on an Input port.

INPUT PORT PROPERTIES



BASIC PROPERTIES

NAME

A user-configured, soft label for the port. By default, based on the number of ports on a gateway, the ports are labeled A through H. It is good practice to label a port based on where the DMX512 cable is coming from. (i.e. “Console Port 3”).

NOTES

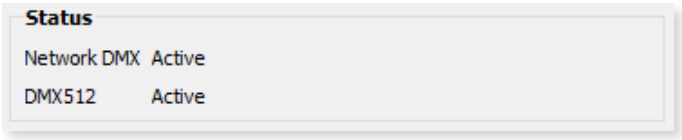
A user-configured text description field, shown in the Device window.

DEVICE INFO

DEVICE TYPE

The device type for the currently selected device (DMX Port).

STATUS



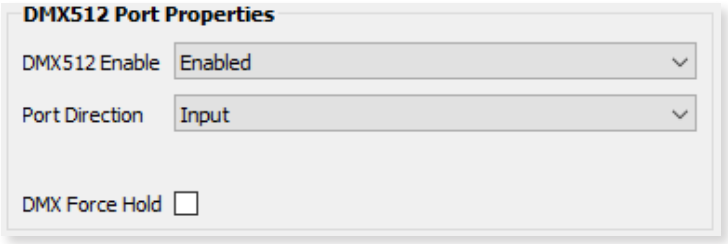
NETWORK DMX

Shows status of the Network DMX output (transmit onto network) for this Input Port. Will show **Active** when Network DMX stream is being output, and **Inactive** if Network DMX stream is not being output. Read-only.

DMX512

When **Active**, there is a valid source of DMX512 coming into the DMX512 port. When **Inactive**, there is no valid DMX512 source. Read-only.

DMX512 PORT PROPERTIES



DMX512 ENABLE

For debugging purposes or otherwise, you may want to disable a DMX port. All other properties will remain unchanged. Apart from the fact that the line is still terminated, this is electrically equivalent to unplugging the DMX512 cable.

Use the drop-down menu to select **Enabled** or **Disabled**.

PORT DIRECTION

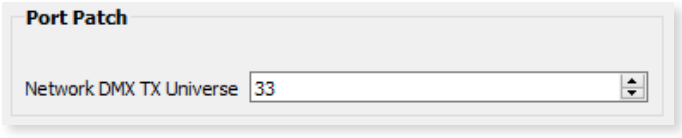
Input or **Output**. This table shows the properties of an **Input** port.

DMX FORCE HOLD

Check this box to force the DMX512 port to snapshot the current DMX levels and maintain them indefinitely, ignoring any further changes. Useful to lock out any unintended changes once levels are set as desired.

Note: If the gateway reboots for any reason, e.g. commanded reboot, power outage, etc., the DMX levels that were being held will be lost.

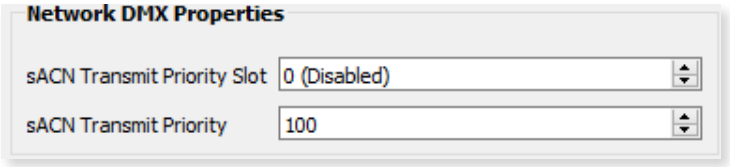
PORT PATCH



NETWORK DMX TX UNIVERSE

Specify the Network DMX Universe on which to transmit the DMX512 input.

NETWORK DMX PROPERTIES



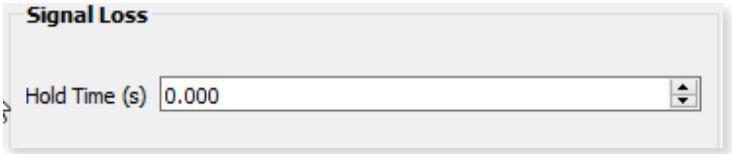
sACN TRANSMIT PRIORITY SLOT

You can allocate one of the 512 slots coming from your source to set the Transmit Priority as described below. Any value of d200 (about 78%) is converted to a priority of 200. Zero values are converted to priority 1, the lowest priority in E1.31.

sACN TRANSMIT PRIORITY

When DMX512 is put on the network as E1.31 sACN or Pathway ssACN as per the patch defined in the DMX Patch window, it must have a valid priority. At Output ports, multiple sources from different Input ports will HTP levels if their Priorities match, otherwise they will arbitrate. The default priority is 100. Valid priorities are between 1 and 200 where 200 is the highest priority possible.

SIGNAL LOSS



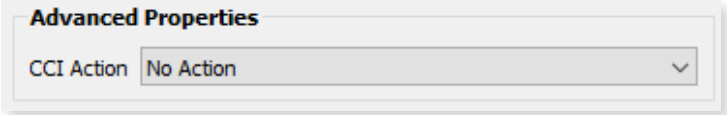
HOLD TIME (s)

If the DMX512 source ceases, the Network DMX will continue to be refreshed to the network using the levels from the last packet the gateway received until this timer expires.

RDM PROPERTIES

Not applicable to DMX Input Ports.

ADVANCED PROPERTIES



CCI ACTION

Choose the function of the CCI input, if desired. When the Contact Closure Interface is **closed** (activated), the chosen action will be performed on the selected port.

- **No Action:** No action is taken.
- **DMX Force Hold:** Forces the DMX512 port to snapshot the current DMX levels and maintain them indefinitely, ignoring any further changes. Useful to lock out any unintended changes once levels are set as desired. When the CCI input is opened, the DMX Force Hold will be deactivated.
- **RDM Disable:** Not applicable to Input ports.

eLink LIGHTING PROTOCOL ROUTER

The **Pathway eLink™** Lighting Protocol Router is designed for entertainment DMX-over-Ethernet systems. The eLink Lighting Protocol Router is intended specifically for signal routing between distinct Local Area Networks, while maintaining security and isolation between them. The eLink is able to convert between several popular DMX-over-Ethernet protocols, including **Pathport Protocol, sACN (E1.31)**, **Art-Net**, **Strand ShowNet**, and **Pathway ssACN (Secure sACN).** The eLink can also optionally loop back converted protocols on a single network, when physical isolation of data is not needed.

When you have two distinct networks and need to get data from one to the other, a simple solution is to connect them together with a switch. However, by doing this you no longer have two separate networks, but one larger network in which all multi-cast and broadcast data is present everywhere. This is almost always a bad idea. Care should be taken to avoid conflating traffic.

When using the eLink to connect the two networks, it acts as an Entertainment Lighting Protocol traffic cop. **Only the protocols, universes and slots you define are allowed to pass from one system to the other**.

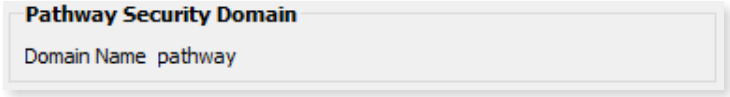
At its simplest, eLink is like having a network switch and four Pathport 8-port DMX/RDM Ethernet Gateways compressed into a compact 1/2 rack unit. The eLink supports 16 Data Paths, and five different entertainment lighting protocols simultaneously, each having priority rules to merge up to 128 sources in real-time.

eLink PROPERTIES

The following fields are shown in the Device Property Panel in Pathscape. Some are editable, while others are read-only.

NOTE: If all properties are read-only (grayed out and uneditable), make sure you are logged into the correct Security Domain.

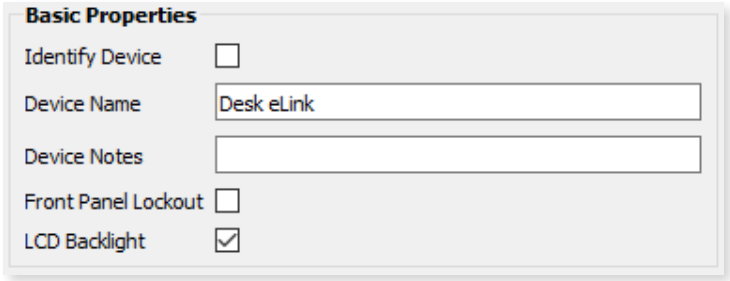
PATHWAY SECURITY DOMAIN



DOMAIN NAME

The name of the Security Domain the device is currently assigned to.

BASIC PROPERTIES



IDENTIFY DEVICE

Checking this box causes device to commence identify behavior (flashing LCD backlight).

DEVICE NAME

A user-configured, soft label for the eLink device shown in the Device window. If left blank (and by default) the device name displayed will be the device's IP Address. This label is also shown on the front LCD panel of the unit.

DEVICE NOTES

A user-configured text description field, shown in the Device window.

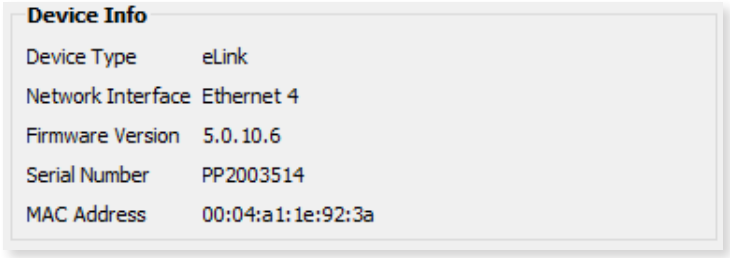
FRONT PANEL LOCKOUT

Checking this will lock the local controls on the front panel of the device. Scrolling menus allow you to read properties, but changing properties is disallowed. You can still make changes if you use the encoder within the first 30 seconds of booting the device.

LCD BACKLIGHT

Checking this will enable the LCD backlight on the front panel of the device.

DEVICE INFO



DEVICE TYPE

The device type for the currently selected device.

NETWORK INTERFACE

Shows the name of the NIC (Network Interface Card) the device is communicating to the machine running Pathscape on.

FIRMWARE VERSION

Shows current operating firmware version. See the **Firmware Update** section on how to update the firmware. Read-only.

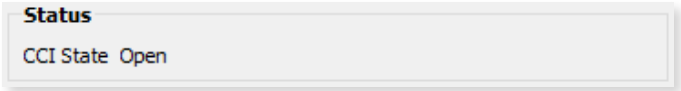
SERIAL NUMBER

Factory-set unique identifier. Read-only.

MAC ADDRESS

Factory-set hardware address. Read-only.

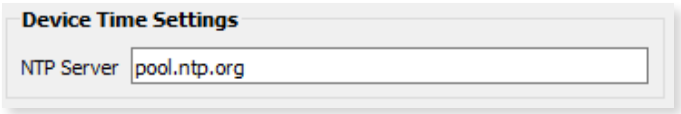
STATUS



CCI STATE

Shows the current state of the Contact Closure Interface (CCI) Input. Values are **Open** (inactive) or **Closed** (active).

DEVICE TIME SETTINGS

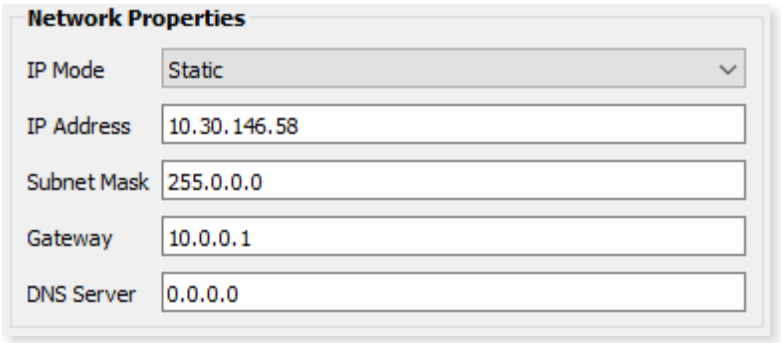


NTP SERVER

Set the server for NTP (Network Time Protocol). This is to ensure that security certificates are valid, when connecting to SixEye RMM. We recommend using **pool.ntp.org, time.windows.com, time.apple.com** or other publicly available servers.

If using the NTP server, ensure that the DNS Server and Gateway are set so the device knows how to get to the Internet to find a time server.

NETWORK PROPERTIES



IP ADDRESS

Internet Protocol address (IPv4) of the eLink.

SUBNET MASK

User-configured subnet mask. Typically, 255.255.255.0 but must be set according to general networking rules.

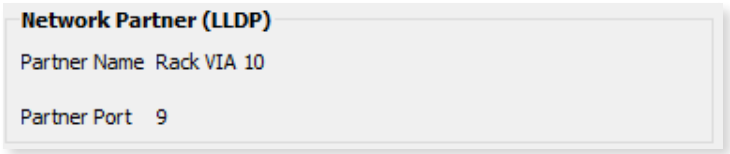
GATEWAY

Specify network gateway address if using **NTP server** and/or **SixEye RMM**.

DNS Server

Set Domain Name Server for the device here. The DNS should be specified if using and **NTP server** and/or **SixEye RMM**

NETWORK PARTNER (LLDP)



PARTNER NAME

If the upstream switch supports Link Layer Discovery Protocol (LLDP), that device's name will appear here. Read-only.

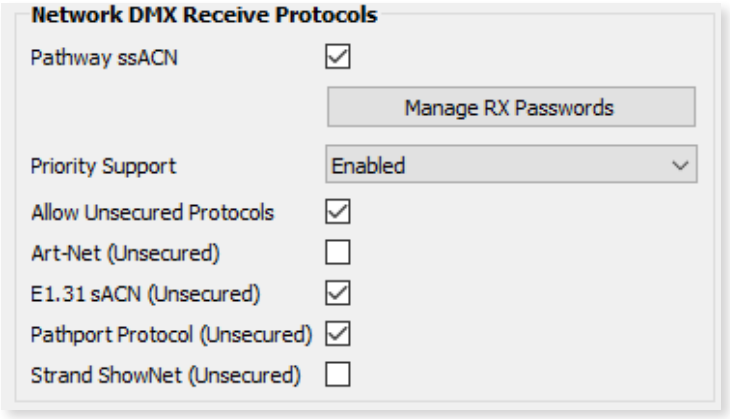
PARTNER MAC

The hardware MAC (Media Access Control) address of the LLDP Partner, if applicable. This property will be hidden if the above Partner Name is displayed, as it is less useful. If the Partner Name is not able to be discover, the Partner MAC will be shown. Read-only.

PARTNER PORT

If the upstream switch supports Link Layer Discovery Protocol (LLDP), the port the current device is connected to will be shown here. Read-only.

NETWORK DMX RECEIVE PROTOCOLS



PATHWAY ssACN

Check this box to enable **Pathway ssACN.**

Click the **Manage RX Passwords** button to configure ssACN Passwords.

PRIORITY SUPPORT

Use the drop-down menu to choose whether the eLink respects the sACN priority (1-200) in the Universe header. Options are **Enabled** (default) or **Ignored**. Applicable to sACN or ssACN only.

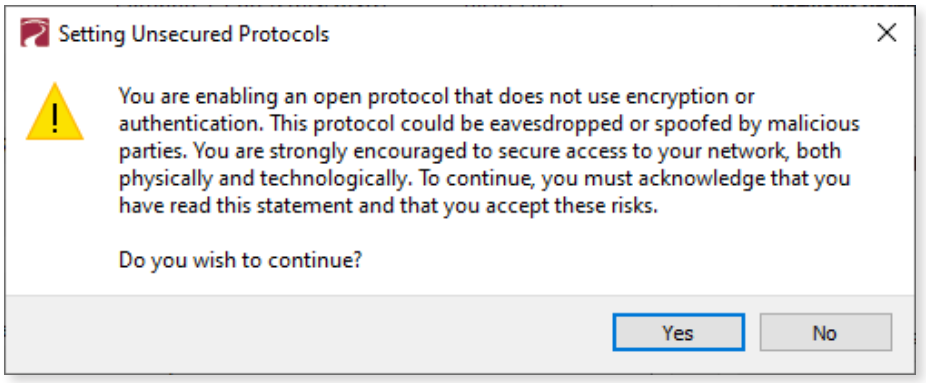
ALLOW UNSECURED PROTOCOLS

Check this box to enable the use of unsecured network protocols (Art-Net, E1.31 sACN, Pathport Protocol, ShowNet). **By default, this property is not enabled**. In order to use the eLink with standard (unsecured) protocols, **this must be enabled**.

⚠ WARNING ABOUT UNSECURED PROTOCOLS ⚠

You are enabling an open protocol that does not use encryption or authentication. These protocols could be eavesdropped or spoofed by malicious parties. You are strongly encouraged to secure access to your network, both physically and technologically. To continue, you must acknowledge that you have read this statement and accept these risks.

After checking this box and sending the transaction, a dialog will appear warning you of the above and asking for confirmation



To continue, you must click the "**Yes**" button to confirm you understand the associated risks.

Art-Net (UNSECURED)

Check this box to enable the receiving of Art-Net. You must check both the **Allow Unsecured Protocols** checkbox and this checkbox to use Art-Net.

E1.31 sACN (UNSECURED)

Check this box to enable the receiving of E1.31 sACN. You must check both the **Allow Unsecured Protocols** checkbox and this checkbox to use standard E1.31 sACN.

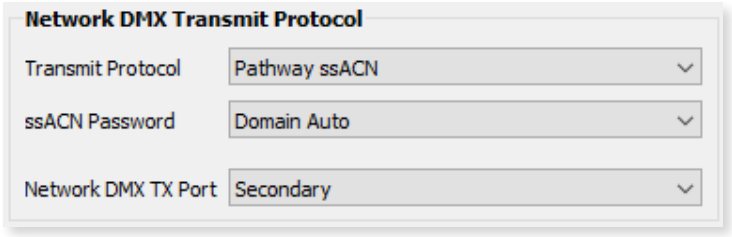
PATHPORT PROTOCOL (UNSECURED)

Check this box to enable the receiving of Art-Net. You must check both the **Allow Unsecured Protocols** checkbox and this checkbox to use Art-Net.

STRAND ShowNet (UNSECURED)

Check this box to enable the receiving of Strand ShowNet. You must check both the **Allow Unsecured Protocols** checkbox and this checkbox to use Strand ShowNet.

NETWORK DMX TRANSMIT PROTOCOL



TRANSMIT PROTOCOL

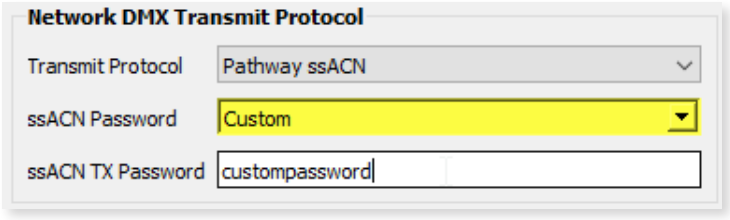
Use the drop-down menu to select the network protocol the eLink will transmit. Options are:

- **Pathport** will use transmit using unsecured Pathport Protocol.
- **Art-Net** will use transmit using unsecured Art-Net.
- **Strand ShowNet** will use transmit using standard, unsecured E1.31 sACN.
- **KiNet** will use transmit using Color Kinetics unsecure KiNet protocol. Per path you can transmist broadcast or Unicast to a specific IP (see Paths below)
- **E1.31 sACN** will use transmit using standard, unsecured E1.31 sACN.
- **Pathway ssACN** will use Pathway's secured sACN for transmitting to the network.

ssACN PASSWORD

Applies only if Pathway ssACN is chosen in the drop-down menu above.

Specifies whether to use the **Domain Auto** or a **Custom** ssACN Transmit password.



If **Custom** is selected, the ssACN TX Password field will appear, as shown.

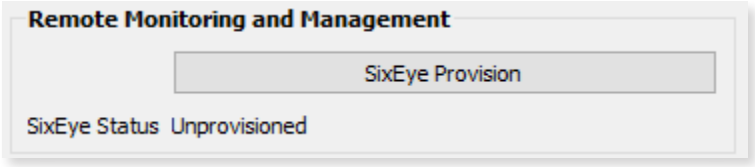
NETWORK DMX TX PORT

Specifies which **physical Ethernet port** to transmit outputs to: **Secondary** [Only], or **Primary & Secondary**.

The default value is **Secondary**. Input sources are on the Primary Port, are processed and transmitted on the **Secondary** port; the two sides are isolated from each other.

To loopback transmitted universes back onto the Primary NIC, choose **Primary & Secondary**. This is used in cases where network isolation is not required and more than likely, the Secondary NIC is not used at all.

REMOTE MONITORING AND MANAGEMENT



For details on how to connect Pathway devices to a SixEye portal, see the **SixEye PROPERTIES** section in the **Pathscape manual**.

SixEye PROVISION

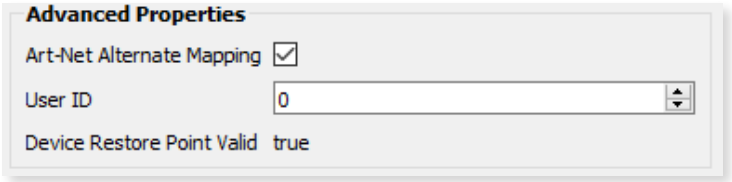
This button will open the SixEye Provision window. In this field, paste the SixEye Device Key and click **Provision**.

SixEye STATUS

This shows the status of the SixEye connection.

- **Unprovisioned** (default).
- **No Internet Connection**. There is a problem with the device finding an Internet connection. Check the device's IP Settings, specifically the Gateway.
- **DNS Failure**. The device has found a connection, but there is a problem with resolving URLs. Check the device's DNS settings.
- **Invalid System Time**. The device has connected to the Internet, but there is a problem with the System Time. Check the device's NTP server settings.
- **SixEye Init**. The device is currently initializing a connection with SixEye.
- **SixEye Init Error**. The device could not initiate a connection with SixEye.
- **Not Connected**. The device is not currently connected to SixEye.
- **Connected**. The device is connected to SixEye.

ADVANCED PROPERTIES



ART-NET ALTERNATE MAPPING

This property will only be visible if Art-Net is enabled under Network DMX Receive Protocols.

Enabled (by default). When enabled, Art-Net Universe 0:0 is treated as Pathscape Universe 1. When disabled, Art-Net universe 0:0 is ignored, and Art-Net Universe 1 is Pathscape Universe 1.

USER ID

Custom numeric identification for external databases.

DEVICE RESTORE POINT VALID

Shows **True** of **False** depending on whether the current Device Restore Point is valid.

eLink DATA PATH PROPERTIES AND CONFIGURATION

The eLink subdevices are called **Paths**. There are 16 Paths (outputs A through P), which can each support up to 8 input sources. They support all the same Pathport-style logic as described above. Path status and properties may be reviewed by expanding the device in the device tree, and clicking on the Subdevice/Path. The properties for that Path will then be shown in the Properties Panel.

Status	Name	Type	Subdev #
Online	Rack eLink	eLink	
	To FOH	eLink Path	A
	Touring Rack SL	eLink Path	B
	Path C	eLink Path	C
	Path D	eLink Path	D
	Path E	eLink Path	E
	Path F	eLink Path	F
	Path G	eLink Path	G
	Path H	eLink Path	H

The following fields are shown in the Subdevice/Path properties panel. Some are editable, while others are read-only.

BASIC PROPERTIES

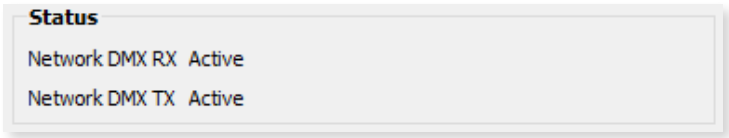
SUBDEVICE NAME

A user-configured, soft label for the Subdevice/Path. Shown in the Device view and on the front panel display of the eLink.

SUBDEVICE NOTES

A user-configured text description field, shown in the Device window

STATUS



NETWORK DMX RX

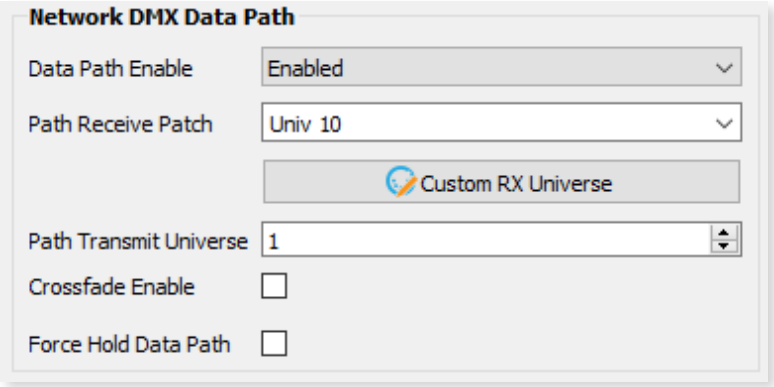
Shows status of the Network DMX source for this Path. Will show **Active** when Network DMX stream is present, and **Inactive** if Network DMX stream is lost. Read-only.

NETWORK DMX TX

Shows status of the Network DMX output of this Path. Will show **Active** when Network DMX stream is being output and **Inactive** if no Network DMX is being output. Read-only.

NOTE: In situations where source signal is lost, depending on signal loss properties (see below) it is possible for the Network DMX TX to be Active while the Network DMX RX is Inactive.

NETWORK DMX DATA PATH



DATA PATH ENABLE

For debugging purposes or otherwise, you may want to disable an eLink Network Path. All other properties remain unchanged.

Use the drop-down menu to choose **Enabled** (default) or **Disabled**.

PATH RECEIVE PATCH

Use the drop-down menu to select the receive Universe for the Path. By **default**, the drop-down menu lists standard Universes 1-16, and Custom patches, even if not in use. To patch the Path to a new standard Universe not in the list, simply type the Universe number into the field.

CUSTOM RX UNIVERSE

To create a custom patch for the receive Path, click the **Custom RX Universe** button to open the **Custom Universe Editor**.

See the section later in this manual under **Custom Receive Patch** for detailed instructions.

PATH TRANSMIT UNIVERSE

Enter the Universe number you wish to transmit this Path output to. See also: NETWORK DMX TX PORT above.

CROSSFADE ENABLE

If a Priority changes either as defined by the Custom RX Universe patch priorities or the E1.31 sACN/Pathway ssACN Priority, the output will fade rather than snap to the new levels. The last frame of the old source is frozen during the fade.

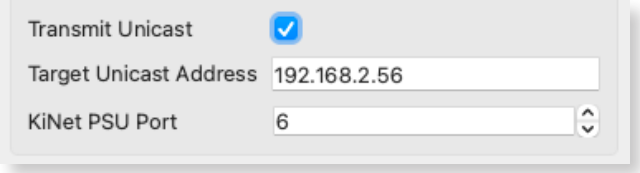
FORCE HOLD DATA PATH

Check this box to force the eLink path output to snapshot the current receive levels and maintain them indefinitely, ignoring any further changes. Useful to lock out any unintended changes once levels are set as desired.

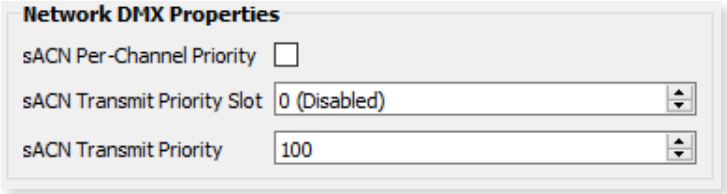
This property can be set by Pathscape, or configured to be controlled by the Contact Closure on the rear of the eLink (see **CCI Action** below), or through the SixEye cloud.

TRANSMIT KINET UNICAST

With the base device Transmit Protocol is set to KiNet, these additional properites are shown.



NETWORK DMX PROPERTIES



sACN PER-CHANNEL PRIORITY

In the base eLink device's **Network DMX Receive Protocols**, there is a property **Priority Support** which determines if the device respects the priority (1-200) in the Universe header. This property extends that to each slot in the universe. It is off by default.

Check this box to **enable** per-channel priority.

sACN TRANSMIT PRIORITY SLOT

You can allocate one of the 512 slots of the output patch to set the Transmit Priority as described below. Any value of d200 (about 78%) is converted to a priority of 200. Zero values are converted to priority 1, the lowest priority in E1.31.

sACN TRANSMIT PRIORITY

When E1.31 sACN or Pathway ssACN is put on the network, it will be tagged with a priority level. At output ports, multiple sources will HTP levels if their priorities match, otherwise they will arbitrate. The default TX priority per Path is 100. Valid priorities are between 1 and 200 where 200 is the highest priority possible.

This property is only visible if the above property **sACN Transmit Priority Slot** is set to 0 (disabled).

SIGNAL LOSS

HOLD FOREVER

If enabled, Signal Loss **Hold Time**, Signal Loss **Fade to Black** and Signal Loss **Port Shutdown** are not shown. The Path Output will continue outputting the last received packet indefinitely in the event of Network DMX Receive signal loss.

HOLD TIME (s)

The Path will continue transmitting its last packet it received until this time has expired.

FADE TO BLACK

If the Network DMX Receive stream ceases, all 512 slots of the Path Output will fade to a value of 0%.

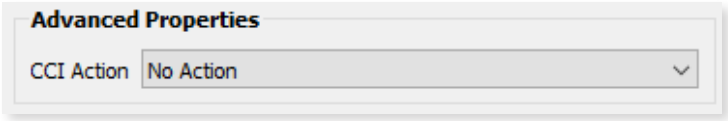
FADE TIME (s)

Applicable when **Fade to Black** is enabled. Defines the time over which the Fade to Black above will take place.

PORT SHUTDOWN

If the Network DMX Receive stream ceases and the Fade Time has expired, the Path Output will turn off. This is **enabled** by default.

ADVANCED PROPERTIES



CCI ACTION

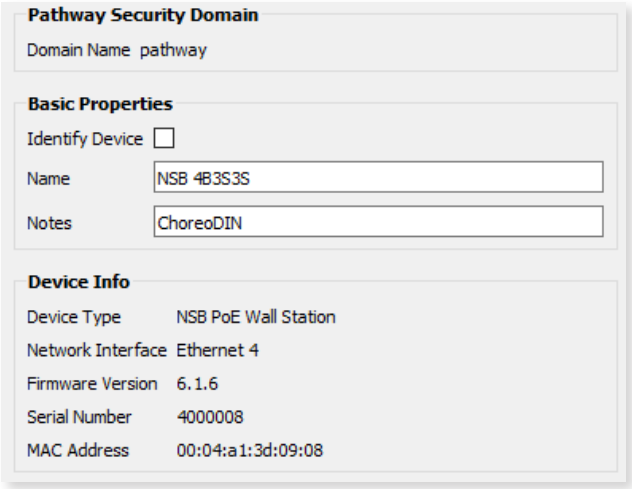
Choose the function of the CCI input, if desired. When the Contact Closure Interface is **closed** (activated), the chosen action will be performed on the selected port.

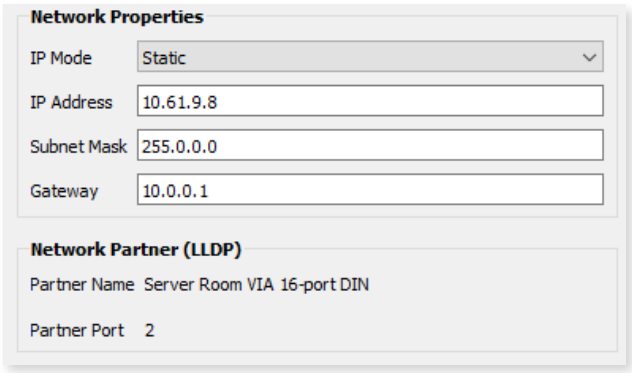
No Action: No action is taken.

Force Hold Data Path: Activates Force Hold Data Path on the specified Path, as described above. When the CCI input is opened, the Force Hold will be deactivated.

NSB WALL STATIONS AND GATEWAYS

NSB (Networked Sliders and Buttons) has PoE Wall stations and 485 Architectural Gateways which share similar properties.



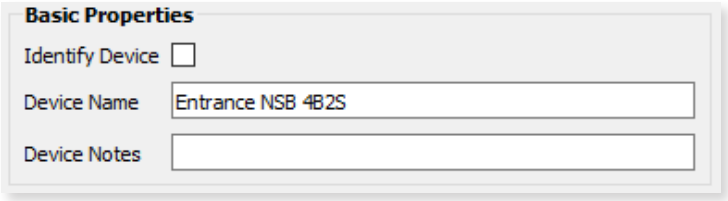


PATHWAY SECURITY DOMAIN

DOMAIN NAME

The name of the Security Domain the device is currently assigned to.

BASIC PROPERTIES



IDENTIFY DEVICE

Checking this box causes device to commence identify behavior (flashing Identify LEDs).

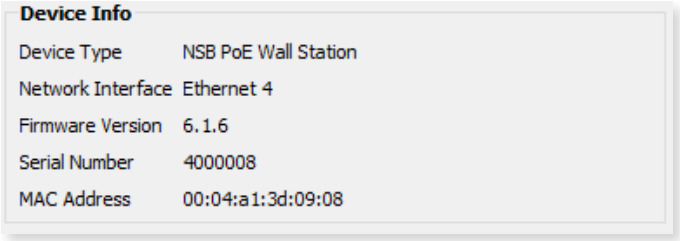
DEVICE NAME

A user-configured, soft label for the wall station or gateway. If left blank (and by default) the device name displayed will be the device's IP Address. Shown in the Device window and should refer to the device's physical location. (i.e., 'DIN Utility Room', 'South Hall').

DEVICE NOTES

A user-configured text description field, shown in the Device window.

DEVICE INFO



DEVICE TYPE

The device type for the currently selected device.

NETWORK INTERFACE

Shows the name of the NIC (Network Interface Card) the device is communicating to the machine running Pathscape on.

FIRMWARE VERSION

Shows current operating firmware version. See the **Firmware Update** section on how to update the firmware. Read-only.

SERIAL NUMBER

Factory-set unique identifier. Read-only.

MAC ADDRESS

Factory-set hardware address. Read-only.

NETWORK PROPERTIES

IP MODE

Set the IP mode for the device. Options are **Disabled**, **Static** and **Dynamic**.

- **Disabled**: No IP assigned to this device.
- **Static**: IP settings manually set by user.
- **Dynamic**: IP settings obtained from DHCP server.

IP ADDRESS

User-set Internet Protocol address (IPv4) for this device.

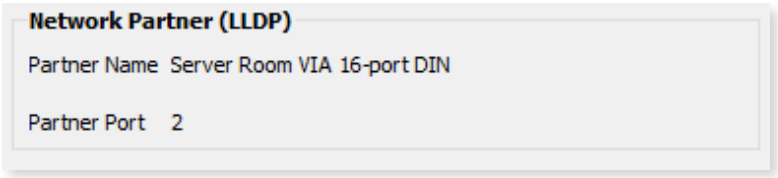
SUBNET MASK

User-set subnet mask.

GATEWAY

Rarely used on NSB.

NETWORK PARTNER (LLDP)



PARTNER NAME

If the upstream switch supports Link Layer Discovery Protocol (LLDP), that device's name will appear here. Read-only.

PARTNER MAC

The hardware MAC (Media Access Control) address of the LLDP Partner, if applicable. This property will be hidden if the above Partner Name is displayed, as it is less useful. If the Partner Name is not able to be discover, the Partner MAC will be shown. Read-only.

PARTNER PORT

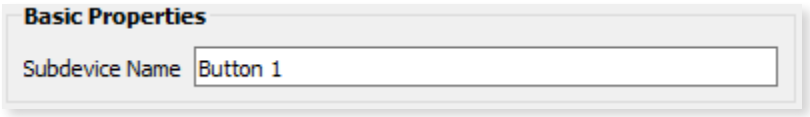
If the upstream switch supports Link Layer Discovery Protocol (LLDP), the port the current device is connected to will be shown here. Read-only.

NSB BUTTONS AND SLIDERS

NSB Buttons and Sliders have very few properties, since these devices are configured on either a Cognito^2 or Choreo console.

However, they have a user-assignable **Name** and **Status properties** visible in Pathscape.

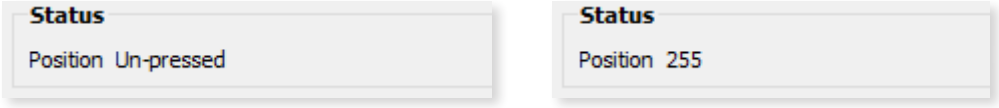
BASIC PROPERTIES



SUBDEVICE NAME

A user-configured, soft label for the NSB subdevice. Shown in the Device window, should be used to specify the location and function of the button or slider. **NOTE** that this property is set and shown in Pathscape only. NSB stations are configured using a Cognito^2 or Choreo console. Any name given to the subdevice in the console will **not** sync to Pathscape or vice versa.

STATUS



POSITION

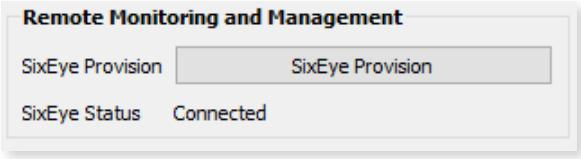
Shows the current state of the subdevice. For Buttons, it will show either **Pressed** or **Un-pressed**. For a Slider, it will show the 8-bit value of the slider's level (**0-255**).

SixEye PROPERTIES

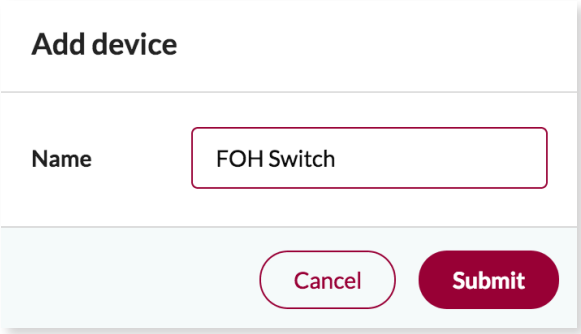
SixEye is a cloud-based remote management service that will be available on a select Pathway products (at this time PWPP RM P8, PWPP RM P4, PWPP DIN P4, PWVIA RM P12 Rack-mount VIA switches, PWVIA DIN P16 and PWVIA DIN P8 DIN-mount VIA Switches, and Vignette Clock), with more added in the future.

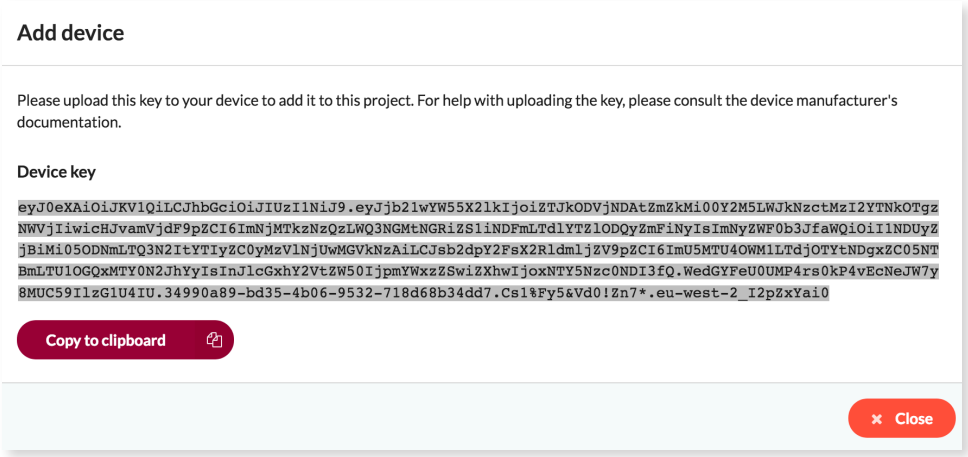
Since SixEye is available across several product families its properties will be listed separately here.

REMOTE MONITORING AND MANAGEMENT PROPERTIES



To connect your device to the SixEye Remote Management Portal, log into your Portal and select **Add Device**. Give it a name and you will receive a SixEye Device Key for that new device.

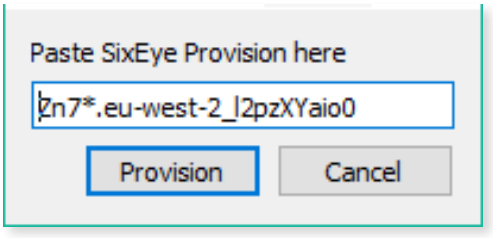




Click the **Copy to Clipboard** button to copy the Device Key to the system clipboard.

SixEye PROVISION

This button will open the SixEye Provision window. In this field, paste the previously copied Device Key and click **Provision**.



SixEye STATUS

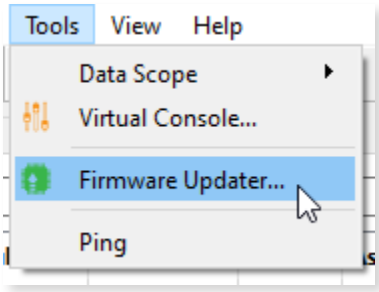
This shows the status of the SixEye connection.

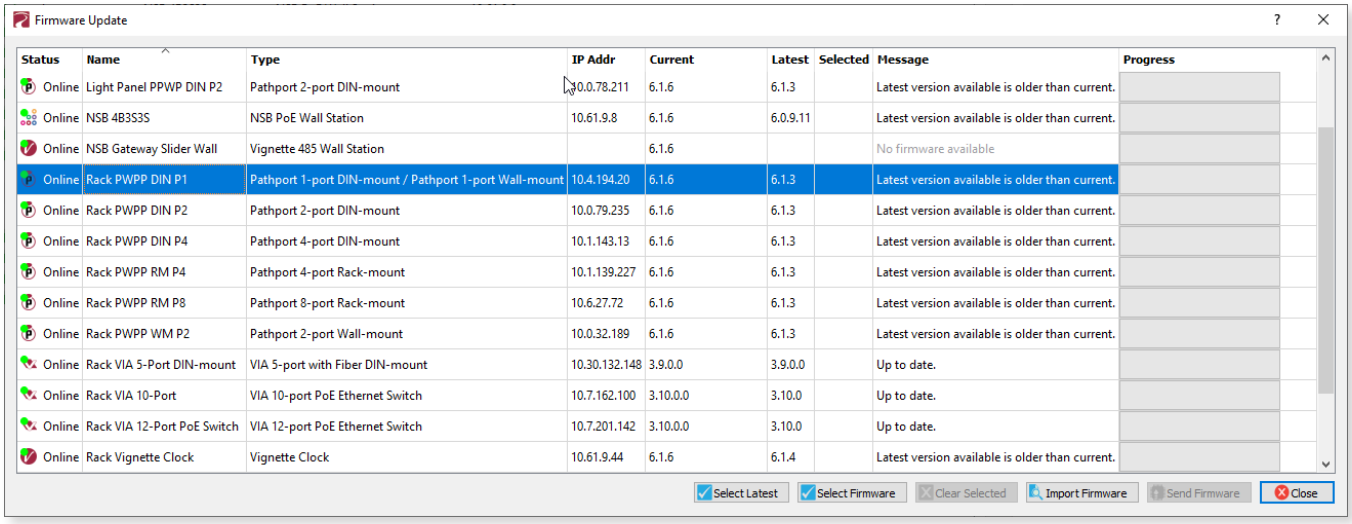
- **Unprovisioned** (default).
- **No Internet Connection**. There is a problem with the device finding an Internet connection. Check the device's IP Settings, specifically the Gateway.
- **DNS Failure**. The device has found a connection, but there is a problem with resolving URLs. Check the device's DNS settings.
- **Invalid System Time**. The device has connected to the Internet, but there is a problem with the System Time. Check the device's NTP server settings.
- **SixEye Init**. The device is currently initializing a connection with SixEye.
- **SixEye Init Error**. The device could not initiate a connection with SixEye.
- **Not Connected**. The device is not currently connected to SixEye.
- **Connected**. The device is connected to SixEye.

UPDATING DEVICE FIRMWARE

Pathscape is able to update the firmware on nearly all Pathway products. The most recent firmware files are usually included in the latest release of the software.

To open the Firmware Update window, click the Tools menu, and select the **Firmware Updater...** menu item.





The Firmware Update window has several columns: **Status**, **Name**, **Type**, **IP Address**, **Current**, **Latest**, **Selected**, **Message**, and **Progress**.

The **Status** column will display the Product Family icon and Online/Offline status. The **Name** column displays the name of each device, along with the device **Type** and **IP Address** in the next columns.

The columns **Current**, **Latest**, and **Selected** refer to the Firmware version for that device. The **Current** column displays the current firmware version of the device, and the **Latest** column shows the most recent version available in Pathscape. The **Selected** column will show the version number of the currently selected firmware file ready to send to the device for upgrading.

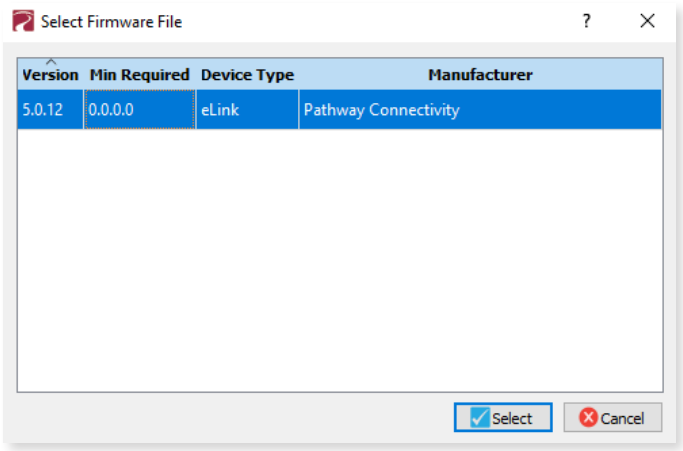
The Message column will display information about the current device. For example, it may show the current device's firmware is "**Up to date**", that there is a "**Newer version available**", that the "**Latest version available is older than current**", or that "**No firmware available**". During the upgrade, it will display "**Firmware Update in Progress**" and "**Transferring to [Device Name]**", and show status updates such as "**[Device Name] is restarting**".

The **Progress** column simply displays a progress bar while the firmware upgrade is in progress. When there is no activity, it will be gray.

UPGRADING A DEVICE

Select a device to upgrade with a more recent available firmware version by clicking on it to highlight it, and click the Select Latest button. The new version number will be filled into the "**Selected**" column.

You can also click the Select Firmware button to manually select a firmware version to load. It will bring up the **Select Firmware File** dialog.

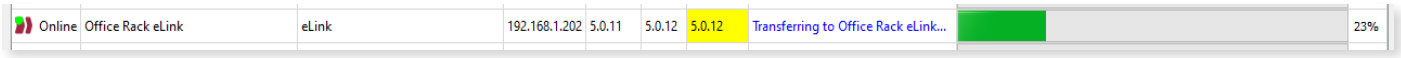


The Select Firmware File dialog itself has several columns: **Version**, **Min Required**, **Manufacturer** and **Device Type**.

The **Version** column displays the firmware version for all available firmware files, and the **Min Required** column will display the minimum required firmware version already on the device that is required in order to upgrade to that version. The **Manufacturer** will of course be Pathway Connectivity, and the **Device Type** will be the device you have currently selected.

Once the new firmware file has been selected, its version number will be shown in the "**Selected**" column.

To proceed with the firmware update, click the Send Firmware button.



The green progress bar in the Progress column will then begin to move, and the field in the Message column will show "**Firmware Update in Progress**" and "**Transferring to [Device Name]**", and finally "**[Device Name] is restarting**" once the firmware transfer is complete.

⚠ WARNING ⚠

Be careful when updating firmware on multiple devices at once.

It is strongly recommended that you do not update VIA Switches and connected PoE devices at the same time. It is possible for the firmware update process to reboot the Switch before the data has finished writing to the PoE devices' memory. If the VIA Switch reboots at this point, the connected PoE devices' power will be cut off, and could be rendered inoperable, in a "bricked" state.

It is advised to update the Switch first, wait for it to reboot, and then update the connected PoE devices, or vice versa.

CLEARING A FIRMWARE FILE

Once a firmware file has been selected using either the Select Latest or Select Firmware, but you wish to cancel the operation or select a different file, select the device by clicking the row anywhere in the window and then click the Clear Selected button.

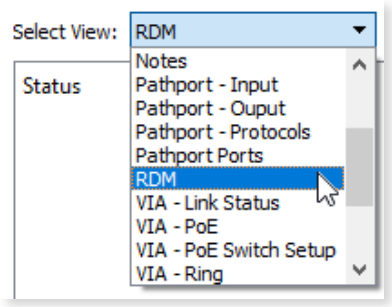
RDM (E1.20 REMOTE DEVICE MANAGEMENT)

Pathscape is a powerful RDM controller that allows you to identify RDM devices and set properties like mode and starting address.

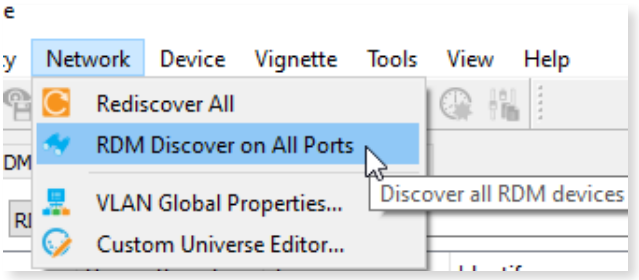
With **Pathscape 4.3 and device firmware 6.2 or later**, the RDM performance of Pathscape has been **overhauled and improved.**

RDM DISCOVERY

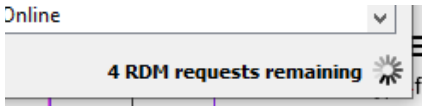
To get an easy, uncluttered view of your RDM Devices, we recommend choosing the **RDM** view from the **Select View** drop-down menu. This will set up the Device view columns in an ideal way. You may of course choose to use this view as a starting point and create your own Custom View from it.



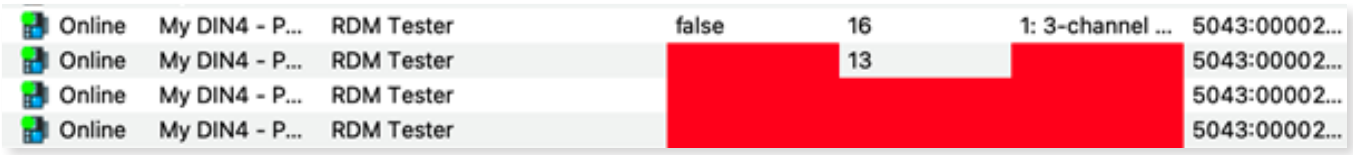
The Device window in this view should be **blank**, since we have not sent the **RDM Discover** command. To do this, click the **Network** menu and select **RDM Discover on All Ports**.



When Pathscape is performing the RDM discovery, the devices are first identified, then requests for additional properties are queued. With large rigs, this process is not instantaneous. To show progress, a "**RDM requests remaining**" message will appear in the bottom-right corner of the main Pathscape winow.



Until properties are fetched, the property cells in the Device table appear in red.



Once finished, the Device window will show all detected RDM devices on all Device Ports.

Status	Device Parent	Type	Identify	DMX Addr	Personality	RDM UID	Family
Online	Rack PWPP RM ...	DMX to Analog	false	100	1: 0 to 10 V (16 s...	5043:00002541	RDM
Online	Rack PWPP DIN...	DMX to Contact Closure	false	1	1: Maintained (...	5043:000003eb	RDM
Online	Rack PWPP DIN...	DMX to CV Driver	false	50	1: PWM (6 slots)	5043:00002326	RDM
Online	Rack PWPP RM ...	DMX/RDM Hub Rack-mount	false		1: RDM Splitter ...	5043:00000b95	RDM
Online	Rack PWPP RM ...	RDM Hub	false		1: RDM Hub (0 ...	5043:000036fd	RDM
Online	Light Panel PP...	RDM Tester	false	1	1: 1 (3 slots)	5043:858f7df1	RDM

If your **Message Level** is set to "**Show All**", you will see several messages in the Message Viewer about devices coming online.

After discovery, there are some properties under the **Pathport Port RDM Properties** that are populated.

Time Since Last Discovery	Less than 10 seconds
RDM Devices Online	2 out of 2

TIME SINCE LAST DISCOVERY

Will show the amount of time elapsed since the last RDM_GET commands were sent on the port. Read-only.

RDM DEVICES ONLINE

This will show the number of RDM devices currently online, out of the total number of RDM devices detected during discovery on the selected DMX Port. Read-only.

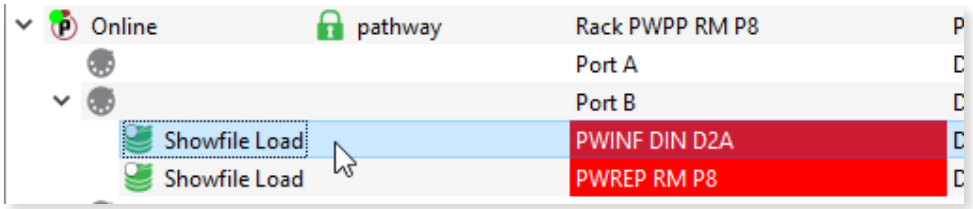
RDM DEVICE ONLINE STATUS

WIth Pathscape 4.3 and devices running firmware version 6.2 or later, RDM device online/offline status is detected and displayed.

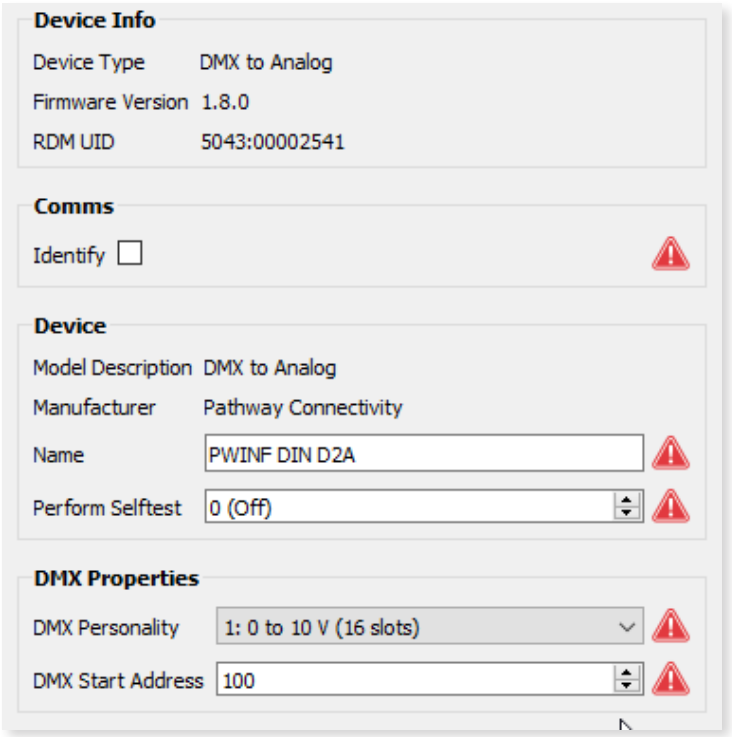
Status	Device Parent	Type
Online	Rack PWPP RM ...	DMX to Analog
Offline	Rack PWPP DIN...	DMX to Contac...
Offline	Rack PWPP DIN...	DMX to CV Driver
Online	Rack PWPP RM ...	DMX/RDM Hub...
Online	Rack PWPP RM ...	RDM Hub
Offline	Light Panel PP...	RDM Tester

Like with all other networked Pathway devices that appear in the Device view, online RDM devices will have a **green dot** next to their icon, and offline RDM devices will have a **red dot** next to their icon. Unlike Ethernet devices, **there is no Yellow / Limited Connection state** for RDM devices.

After loading a show file that has RDM devices in it, and before an RDM Discovery is done, the devices' status will not be known. In this case, the Status column will show the device icon with a **white dot**, and the Online/Offline status will show "**Showfile Load**", indicating this device is in the show file, but has not yet been discovered.



Until the device is Online (discovered), the Properties Pane will show a red triangle indicating that the pending transaction cannot be sent.

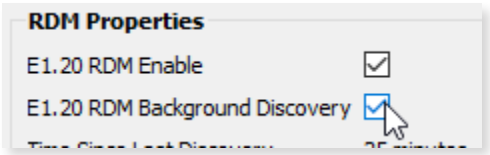


A port with RDM disabled with show all its RDM child devices as **offline**.

Note: any RDM devices connected to a Pathport gateway running firmware older than version 6.2 will be shown **without** any online/offline status (no red dot or green dot displayed).

SWAPPING RDM DEVICES BETWEEN PORTS

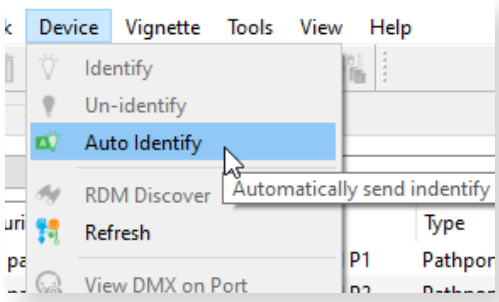
When swapping any RDM device(s) from one port to another, the RDM device(s) will be discovered on the new port. The device(s) will immediately disappear from the previous port, and if **E1.20 RDM Background Discovery** is enabled, they will immediately reappear on the new port.



With **E1.20 RDM Background Discovery** disabled, a manual RDM Discovery will be required on the new port before the RDM devices will appear.

CONFIGURING RDM DEVICE PROPERTIES

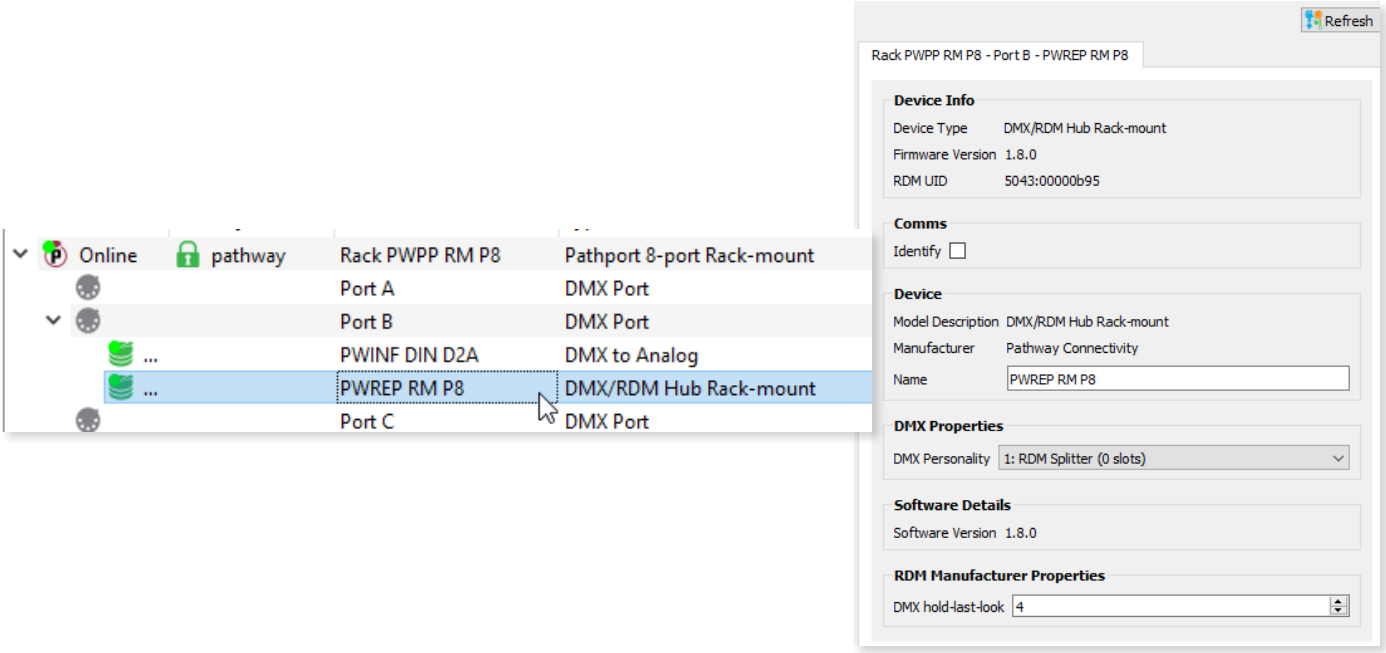
When RDM Devices are first discovered, only a few basic properties are retrieved. In order to see more information from the discovered RDM Devices, we recommend enabling **Auto Identify**. Enable this in the **Device Menu.**



Auto Identify will automatically send the Identify command to the selected RDM Device when you click it. When you click on another, the first one will stop ID'ing itself, and the newly clicked-on device will.

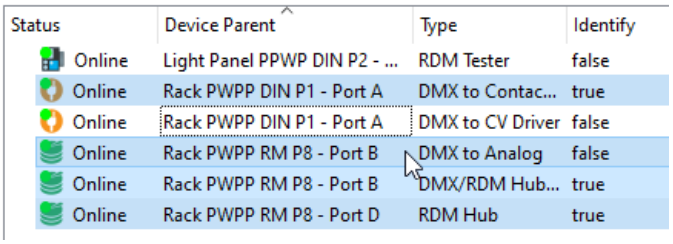
This makes it easy to reference what devices you're clicking on as you're setting up your network without having the additional steps of clicking the Identify checkbox and sending transactions.

As you click through devices, Pathscape automatically sends RDM_GET commands and the devices' properties will be loaded into the Properties pane. You may then review or edit them like any other Device.



You may also **multi-select multiple RDM devices** like you can with Ethernet devices. Shift-click to select contiguous ranges, or control-click to select individual / non-contiguous ranges of devices. Auto-Identify will work with multi-select, if you wish to

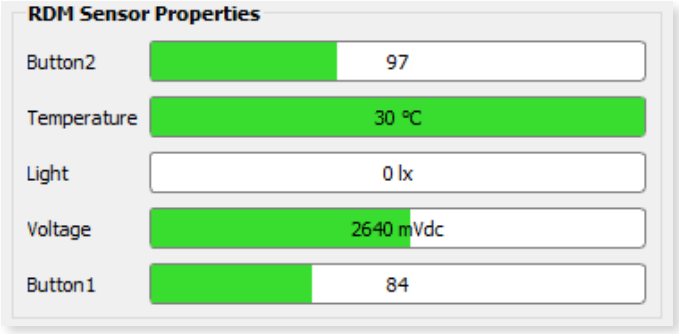
Auto-Identify multiple RDM devices as you are setting up your network.



Since RDM Devices vary greatly from device to device and manufacturer to manufacturer, we cannot list all possible RDM properties in this manual. Refer to the specific device's user guide for information on the different RDM properties, what they mean, and how to set them.

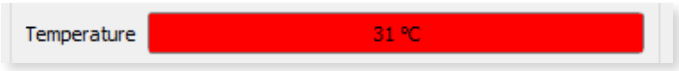
RDM SENSORS

With Pathscape 4.3 and later, RDM device sensors are now shown in real time at the bottom of the RDM device properties panel.



The sensor readings are displayed in a "Progress Bar" style, with minimum value for the property on the left and maximum value for the property on the right.

Some sensors, e.g. Temperature, may have a maximum recommended/safe value threshold, determined by the RDM device itself. In such cases where the polled sensor value exceeds this threshold, the bar will be rendered in **Red**, to help alert the user to a potential issue.

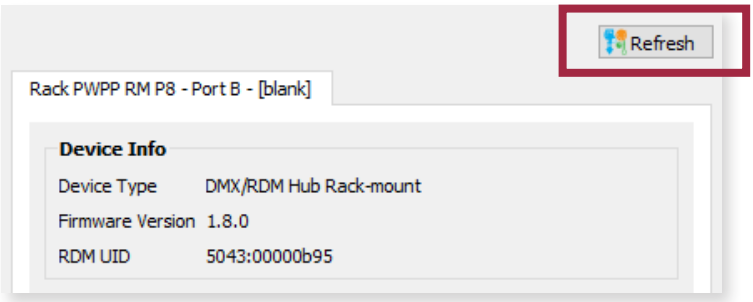


The sensors are polled at a dynamic interval determined by a Pathport algorithm, in order to maintain good DMX performance, and are continually polled even when **E1.20 RDM Background Discovery** is **disabled**, as long as the device has been discovered at least once during the session.

Like many RDM device properties, the sensors displayed by Pathscape are device dependent. Some may not be supported.

REFRESH

This button is located at the top right of the Properties Window when an RDM device is selected. It canalso be accessed under the Device menu.



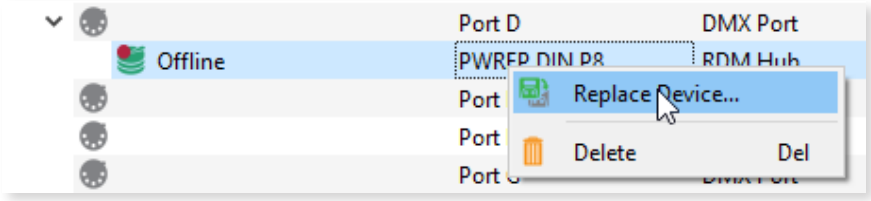
This command will send a request to GET all available RDM Properties from the selected device. The number and type of properties retrieved by this command will vary from device to device. If the device has a large number of properties, the GET ALL command could take several seconds.

Upon device selection, all GETs for all PIDs are sent and the values will be current. Use the Refresh button to poll for new values only if you do not want to change your currently selected device.

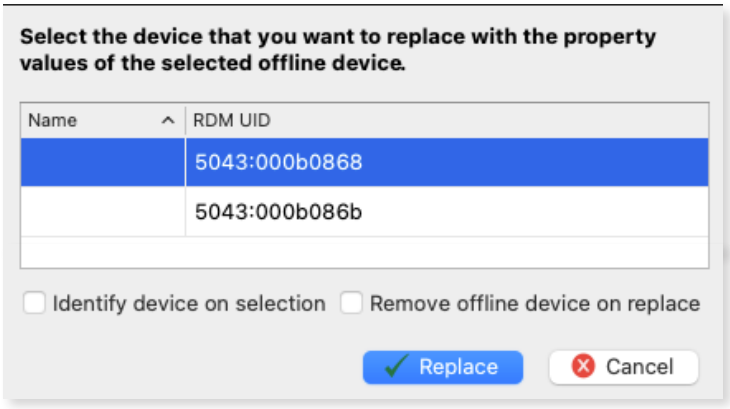
REPLACE DEVICE (RDM)

If your show file includes RDM devices which are no longer part of your network, they will show as **Offline**. In this case, you may want to replace that offline device with another online device, while keeping all the properties and settings from that now offline device.

Click on the offline device, and select the **Replace Device** menu item**.** You can also right-click the offline device and select Replace Device.



This will open the Replace Device window.



Select an available device, and click the **Replace** button. Note that unlike the Replace Device function for Ethernet devices, the RDM Replace Device window will list the RDM UID of the prospective replacement devices.

At the bottom of the window are some optional checkboxes, **Identify device on selection** and **Remove offline device on replace**.

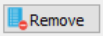
When checked, **Identify device on selection** will send the Identify command to the selected device in the Replace Device window. This is useful to confirm the correct device is being selected to replace the offline one.

When checked, **Remove offline device on replace** will delete the offline device from the Device View after Pathscape completes the device replace process.

After clicking 

Replace, A number of transactions will then be queued in the Transaction Editor, for each property that differs between the offline and online device.

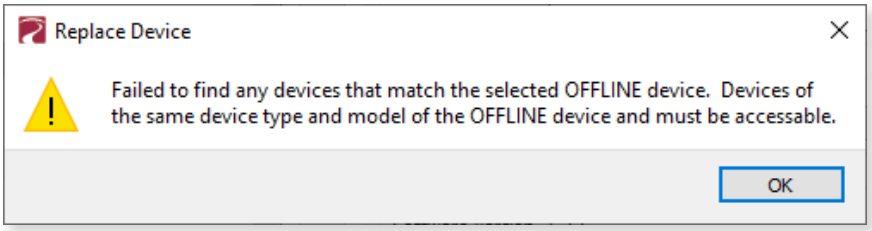
Before hitting 

, it is a good idea to review the list of changes, as there may be some you do not wish to change on the replaced device (such as IP address or Name). Click any transactions you wish to remove and click the 

button.

The online device will now have the same properties (minus any ones you did not wish to change, as above) configured as the offline device.

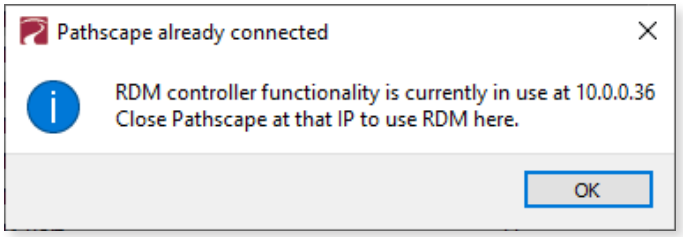
NOTE: In order to replace a device, there must be at least one online device of the same type and model. If there are no online devices that match the offline device, you will see the error window below.



USING RDM FROM MORE THAN ONE INSTANCE OF PATHSCAPE

There are no issues running multiple Pathscape PCs on a single network, but to avoid errors and unexpected RDM performance, Pathscape ensures that only one PC on the network at a time is able to be the RDM Controller (per gateway).

If attempting an RDM Discover All, you may find another user has already tied up one more specific Pathport gateways. In such a case, the following warning window will appear, showing which IP address is currently using RDM.

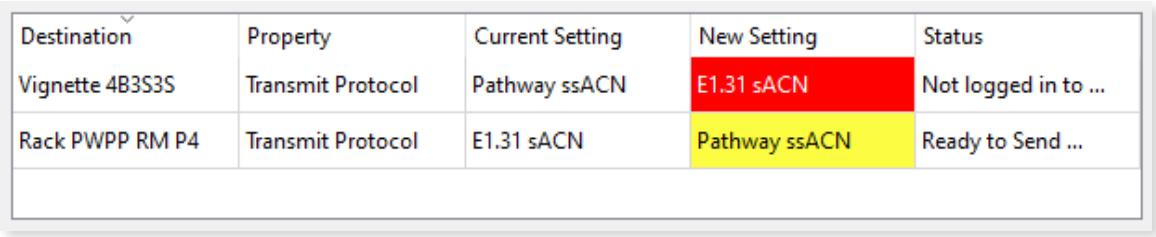


To use RDM on these gateways from the current instance of Pathscape, close or log out of Pathscape on the other network machine before continuing.

If you perform an RDM Discover on individual ports only (rather than RDM Discover All), you may manually avoid this collision with other users.

TRANSACTION EDITOR

When a change is made to a property, a “Transaction” is created and queued in the **Transaction Editor**.



Destination	Property	Current Setting	New Setting	Status
Vignette 4B3S3S	Transmit Protocol	Pathway ssACN	E1.31 sACN	Not logged in to ...
Rack PWPP RM P4	Transmit Protocol	E1.31 sACN	Pathway ssACN	Ready to Send ...

Until the transactions are sent, the new property in the property table will remain highlighted in **yellow**. Selected items in the queue can be deleted, or the entire queue can be flushed.

Transactions highlighted in **red** are **unable to be sent.** See below for each possible transaction status message.

The transaction editor has five columns:

- **Destination** - the device or subdevice that change will be sent to
- **Property** - the name of the property that will be changed
- **Current Setting** - the current value of the property
- **New Setting** - the new value of the property
- **Status** - the current status of the transaction. There are four possible status messages:
  * **Ready to send**: The transaction is queued and ready to send to the device
  * **Not logged into domain**: The transaction cannot be sent to the device, as it is not part of the current Security Domain. Log into the correct domain to finish sending the transaction(s).
  * **Domain user password mismatch**: This will be shown if loading a Show File that was saved with a different Domain User Password than the current. Any transactions flagged this way will not be send-able. You may have to look at the “New Setting” column and change the properties manually. Ensure all show files used are saved after updating any Domain passwords to avoid this problem.
  * **Device offline**: The transaction cannot be sent as the receiving device has gone offline. Check the device’s power or network connections and settings. If it is an RDM device, check that the **Pathport Output Port’s RDM is enabled** and perform an **RDM Discover** on that port.

There are four buttons below the table. The 

button will send the entire queued list of transactions to their respective destinations.

The transaction editor is a **multi-select** table. You may select rows by doing the following:

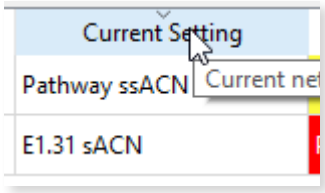
- Select **one** row by clicking on that row;
- Select **multiple contiguous or non-contiguous rows** by holding the control (Windows) or Command (Mac) key and clicking the desired rows;
- Select **multiple contiguous rows** by first clicking one row to select it, then holding the shift key and clicking the last row within the range you’d like to select

To **deselect** a row, hold the control (Windows) or Command (Mac) key and click it.

Once the desired rows are selected (highlighted), you may send those selected transactions by clicking the Send Selected button.

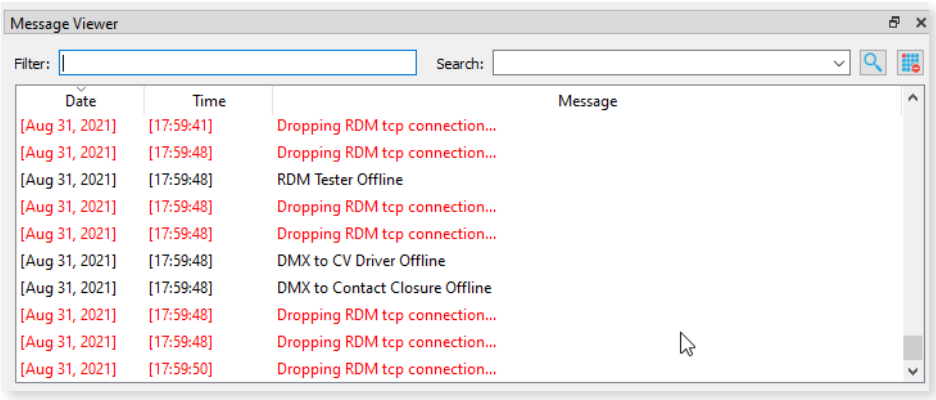
You may also delete those selected transactions by clicking the Remove button. To remove all transactions, simply click the Remove All button. No manual selecting of rows is required in this case.

Additionally, you can sort the columns in the Transaction Editor like in most other Pathscape windows: click on the column heading to begin sorting based on that column. Click again to change the sort direction.



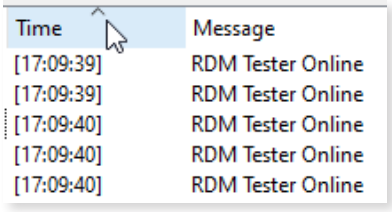
MESSAGE VIEWER

The **Message Viewer** displays confirmation of transactions committed in the Transaction Monitor, reports the discovery and loss of devices on the network, as well as error messages. The behavior of the Message Viewer is controlled by the **Message Level** menu item. If you are not seeing messages, the Message Level may be set to "**Error Only**". This setting shows only errors. Try changing the Message Level to "**Show All**" to see more detail.



The Message Viewer window consists of two text fields, two buttons, and the message table itself. The message table has three columns: **Date**, **Time**, and **Message**. Error and warning messages are in **red**.

You can sort the columns in the Message Viewer like in most other Pathscape windows: click on the column heading to begin sorting based on that column. Click again to change the sort direction.



Much like the Device window, you can either filter or search for a phrase within the messages. These function identically to those in the Device window.

MESSAGE FILTERING

To filter the messages to only display those messages matching a phrase, enter text in the "**Filter**" field. Pathscape will then show only those messages that match the entered text. To clear the filter, click the  inside the text field.

MESSAGE SEARCHING

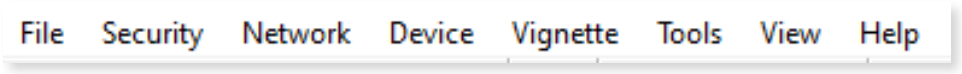
Enter some text to search for in the text box and click the  button. Pathscape will then highlight the first message that matches the search term.

Press the  button again to "Find Next" and highlight the next message that matches.

CLEARING MESSAGES

To clear all messages from the Message Viewer, click on the  button.

MAIN MENU



Note that the Main Menu has changed significantly from previous (3.X) releases of Pathscape.

FILE MENU

PATHSCAPE CREATE

This will open the Pathscape Create Module that programs the DMX functionality of the nLight Animate and Pathway Perform controllers.

LOAD SHOW

This will bring up the standard Open File dialog for your operating system and allow you to select a saved show file to load setup properties for your show.

LOAD RECENT

Brings up a flyout menu, listing the 10 most recently opened Show Files.

SAVE SHOW AS

This will bring up the standard Save File dialog for your operating system and allow you to save your current setup properties to a new file, for reloading later.

EXPORT TO CSV

Export the data in Pathscape to a CSV file.

PRINT TO PDF

Only active when the Network Navigator tab is displayed, this opens a dialog box to save the canvas to a PDF. Printing is always Fit to Page based on the paper size and orientation selected.

EXIT

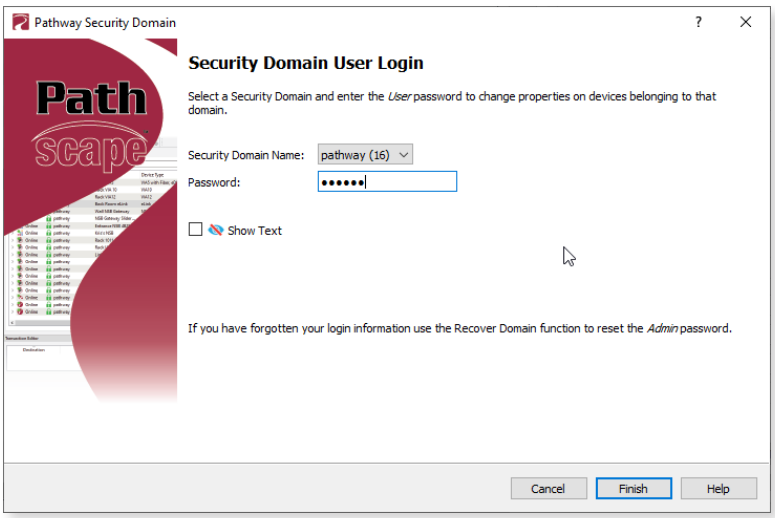
Exits Pathscape.

SECURITY MENU

LOG IN

(If not already logged into a Domain)

Opens the **Security Domain User Login** window. From this window, choose a previously created Security Domain, and enter its password to log in to that domain.



LOG OUT

(If currently logged into a Domain)

This will log you out of the current security domain.

NEW DOMAIN

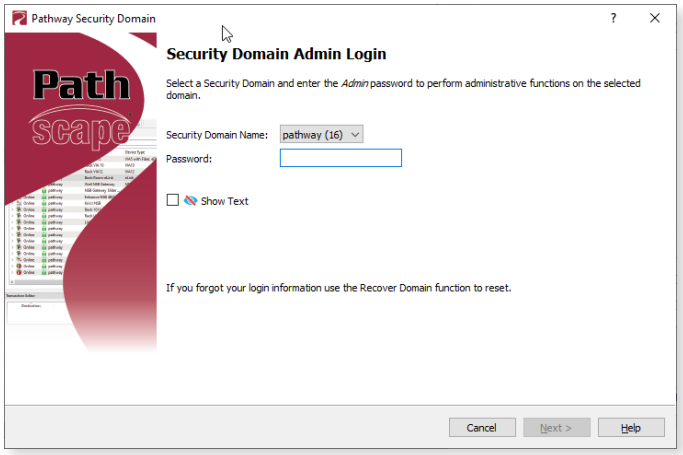
Opens the **New Security Domain** window. Give your new security domain a name, and configure the **Admin** and **User** passwords here.

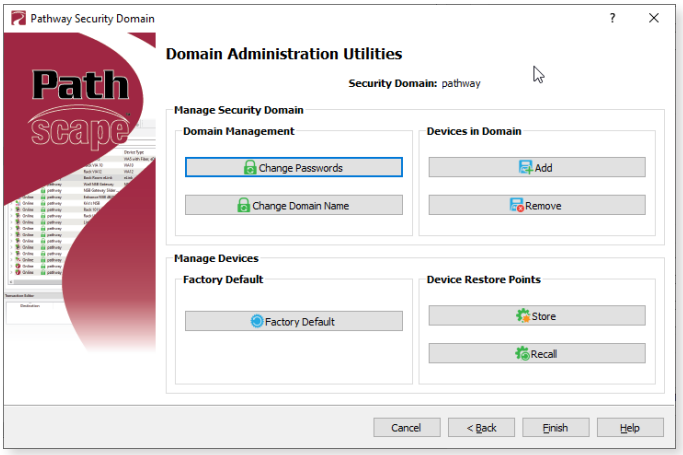
RECOVER DOMAIN

Opens the **Reset Device Security** window, where you can enter your stored **Recovery Key** to regain access to a security domain if the password to the domain has been lost.

ADMINISTRATION

Opens the **Security Domain Admin Login** window, after which you may make changes to your domain, such as **Adding Devices**, **Changing the Passwords** and **Factory Defaulting** those devices.





NETWORK MENU

REFRESH NETWORK

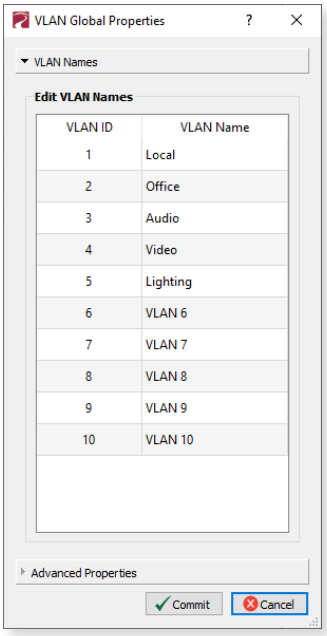
This will refresh all devices on the network and all device properties. Equivalent to closing Pathscape and re-opening it.

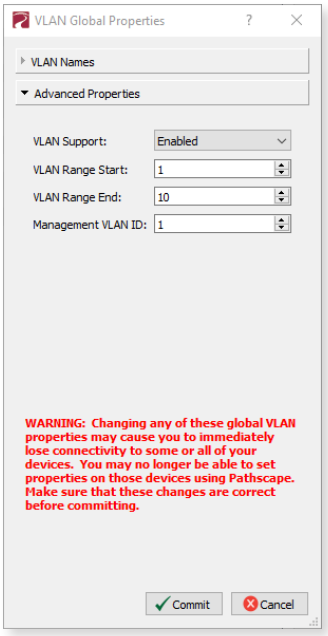
DISCOVER ON ALL PORTS

This will send RDM Discover signals on every Pathport output port on the network. Any discovered RDM devices will be populated as subdevices/children of those ports.

VLAN GLOBAL PROPERTIES

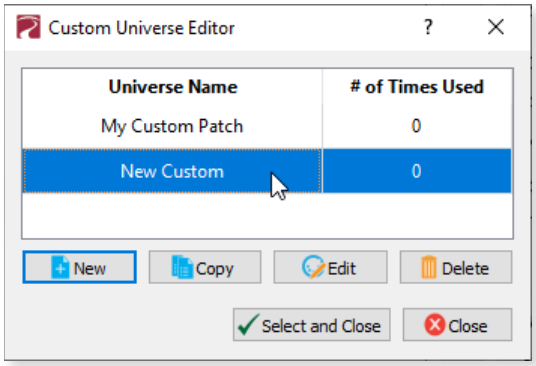
This opens up the VLAN Global Properties window. See **VLAN Config** for information on configuring VLANs.





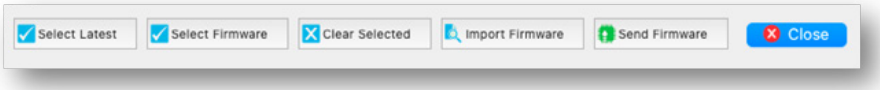
CUSTOM UNIVERSE EDITOR

This opens the **Custom Universe Editor**, where you can create or edit custom patches. See **Port Properties** under **Pathport Properties** for information on using the Custom Universe Editor.



Find Device by IP (Unicast)

This opens the **IP Address of Device to Add**, where you can use Pathscape Config over routed networks.You must upgrade your devices to firmware 6.5.2 for this feature to work. Use **Tools | Firmware Upgrader, Import Firmware**, then Select Firmware then highlight each device (or multiple devices of the same type) and choose 6.5.2 then **Send Firmware**.



Before continuing, it is suggested that all Pathway gear uses STATIC IP addressing.

There are three methods to start a connection from Pathscape to devices over Unicast UDP and through a VPNs.

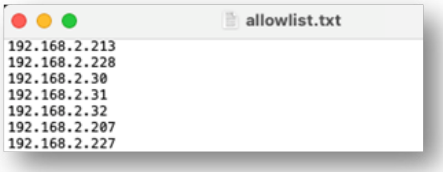
Method 1

Build a text file with the name

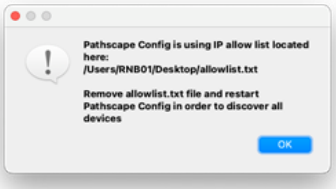
allowlist.txt

and save it to your desktop.

List all the devices by IP, one per line. This is what it may look like in a text editor



Then launch Pathscape. You will see this dialog box on startup.

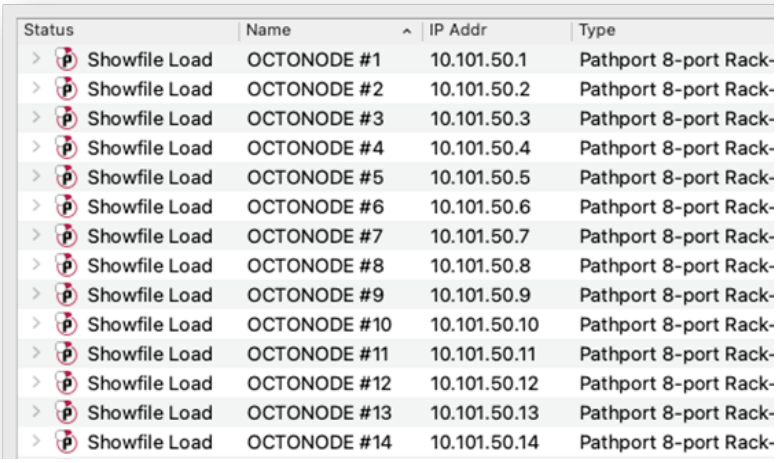


Pathscape will try to connect using Unicast UDP destination port 3792 to only those devices in the list. Note, Pathscape will ignore any local devices not in the list.

Method 2

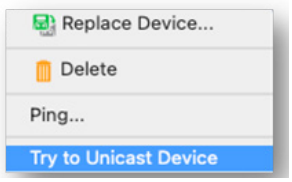
This method is useful when working with devices that you once had access to locally and can save a show file. To do this, you must first be on the local side of the VPN (i.e., in the building with the gear), start Pathscape and discover all devices per normal. Once everything is present, save the show file.

On the remote side of the VPN, load the show file. Devices should appear with a white-dot in the Status column and report “Showfile Load”.



Status	Name	IP Addr	Type
Showfile Load	OCTONODE #1	10.101.50.1	Pathport 8-port Rack-
Showfile Load	OCTONODE #2	10.101.50.2	Pathport 8-port Rack-
Showfile Load	OCTONODE #3	10.101.50.3	Pathport 8-port Rack-
Showfile Load	OCTONODE #4	10.101.50.4	Pathport 8-port Rack-
Showfile Load	OCTONODE #5	10.101.50.5	Pathport 8-port Rack-
Showfile Load	OCTONODE #6	10.101.50.6	Pathport 8-port Rack-
Showfile Load	OCTONODE #7	10.101.50.7	Pathport 8-port Rack-
Showfile Load	OCTONODE #8	10.101.50.8	Pathport 8-port Rack-
Showfile Load	OCTONODE #9	10.101.50.9	Pathport 8-port Rack-
Showfile Load	OCTONODE #10	10.101.50.10	Pathport 8-port Rack-
Showfile Load	OCTONODE #11	10.101.50.11	Pathport 8-port Rack-
Showfile Load	OCTONODE #12	10.101.50.12	Pathport 8-port Rack-
Showfile Load	OCTONODE #13	10.101.50.13	Pathport 8-port Rack-
Showfile Load	OCTONODE #14	10.101.50.14	Pathport 8-port Rack-

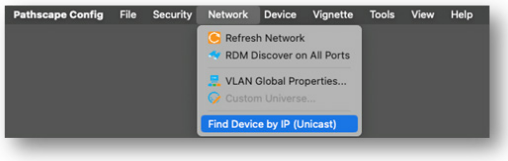
Right click on a device and choose “Try to Unicast Device”

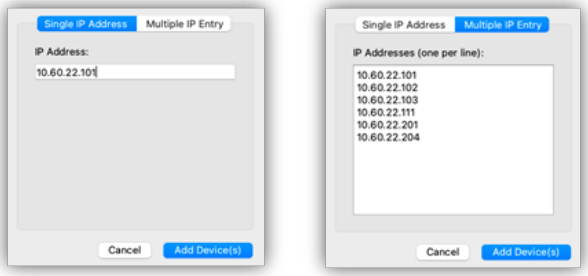


NOTE: you can press CTRL+A to select all devices loaded from show file before right clicking. Make sure your selection doesn’t already include devices with a green-dot reporting On Line. If it does, Ctrl-Click to remove from the selection set

Method 3

Load Pathscape and from the Network menu, choose “Find Device by IP (Unicast)”.





Enter valid IP address(es) and press “Add Device”.

DEVICE MENU

IDENTIFY

This will cause the currently selected device to ID itself by flashing its LCD panel backlight or Identify LEDs, to make identification among other connected equipment easy.

UN-IDENTIFY

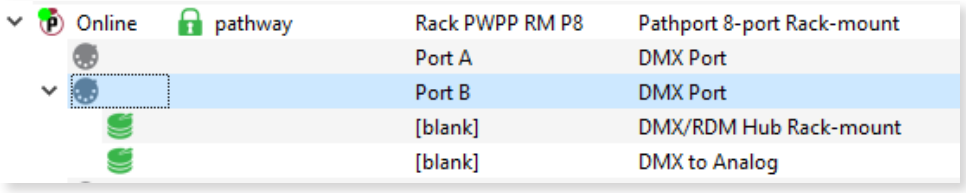
This will stop the Identify backlight or LED on the selected device.

AUTO IDENTIFY

This toggle-able menu item will enable or disable the automatic setting of the selected device into ID mode, causing it to flash its Identify LED or LCD backlight. Whatever device is currently selected will ID itself; clicking another device will cause the previous device to stop Identifying itself, and cause the newly selected device to start ID'ing itself.

RDM DISCOVER

Click on a Pathport gateway subdevice/port to select it, then click this menu item to send RDM Discover signals on that port. Any discovered RDM devices will then be populated as subdevices/children of that port.



REFRESH

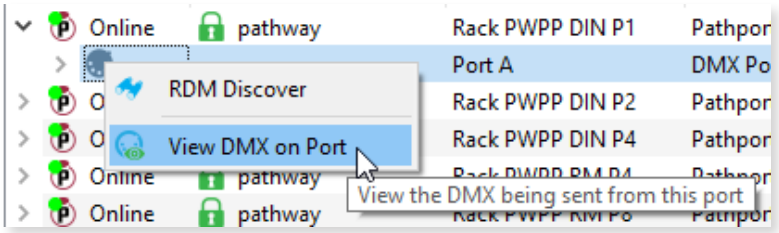
This will send a request to GET **all available** RDM Properties from the selected device. The number and type of properties retrieved by this command will vary from device to device. If the device has a large number of properties, the GET ALL command could take several seconds.

VIEW DMX ON PORT

This will open a simplified **Data Scope** window (see below under **Tools** Menu), showing the active DMX512 on the selected gateway DMX Port.

On an Output port, it will show the final merged DMX being sent out the wire. On an Input port, it will show the raw DMX512 input coming in on the wire.

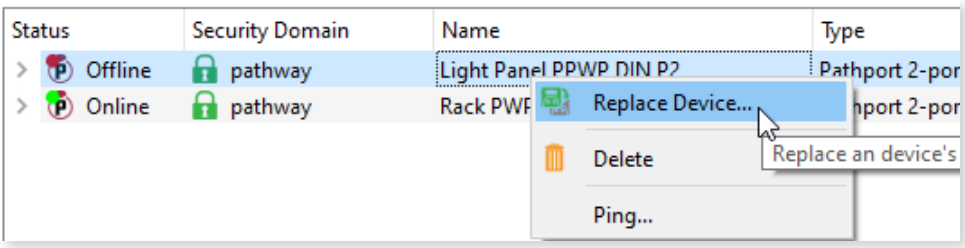
You can also right-click a gateway Port and select this from the right-click menu.



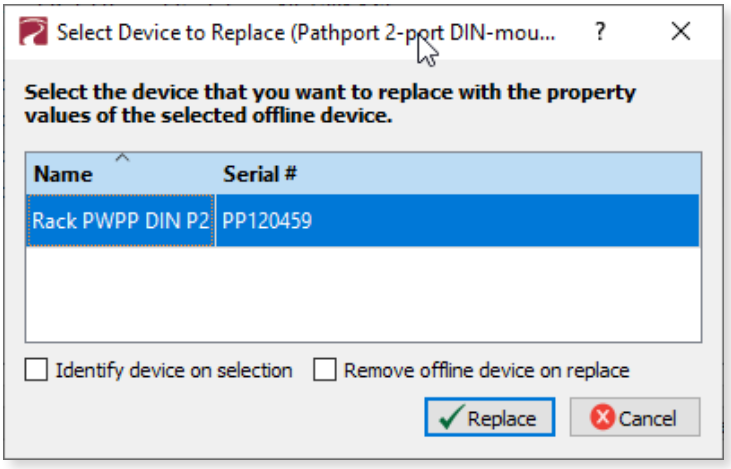
REPLACE DEVICE

If your show file includes devices which are no longer part of your network, they will show as **Offline**. In this case, you may want to replace that offline device with another online device, while keeping all the properties and settings from that now offline device.

Click on the offline device, and select the **Replace Device** menu item**.** You can also right-click the offline device and select Replace Device.



This will open the Replace Device window.

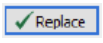


Select an available device, and click the **Replace** button.

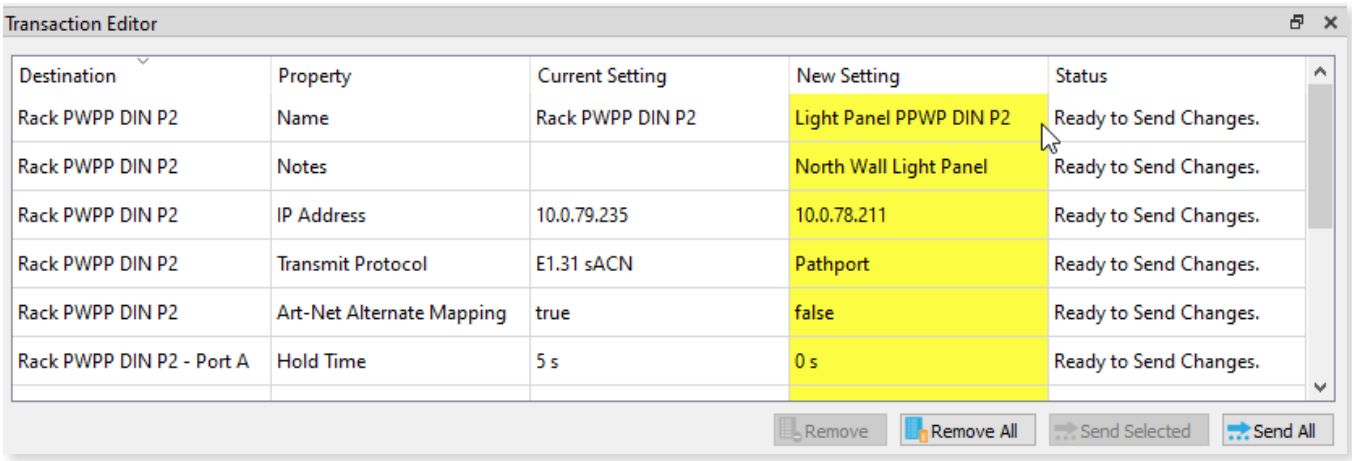
At the bottom of the window are some optional checkboxes, **Identify device on selection** and **Remove offline device on replace**.

When checked, **Identify device on selection** will send the Identify command to the selected device in the Replace Device window. This is useful to confirm the correct device is being selected to replace the offline one.

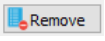
When checked, **Remove offline device on replace** will delete the offline device from the Device View after Pathscape completes the device replace process.

After clicking 

Replace, A number of transactions will then be queued in the Transaction Editor, for each property that differs between the offline and online device.



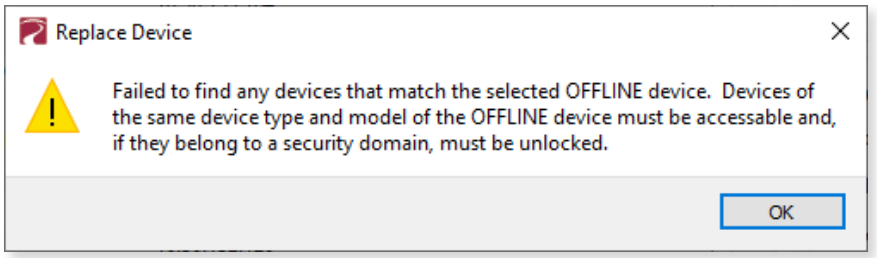
Before hitting 

, it is a good idea to review the list of changes, as there may be some you do not wish to change on the replaced device (such as IP address or Name). Click any transactions you wish to remove and click the 

button.

The online device will now have the same properties (minus any ones you did not wish to change, as above) configured as the offline device.

NOTE: In order to replace a device, there must be at least one online device of the same type and model, and be part of the same Security Domain. If there are no online devices that match the offline device, you will see the error window below.

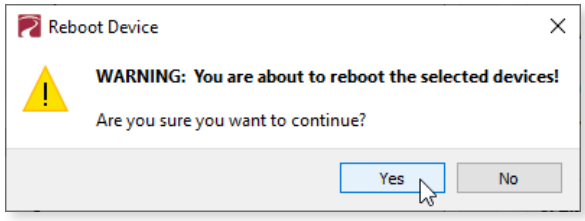


DELETE

Also available on the Main Toolbar, the **Delete** button is used to delete unwanted subdevices such as Vignette Zones or Snapshots, Clock Events, or Offline Devices that no longer belong in your Show File. Note that you cannot delete any Online devices.

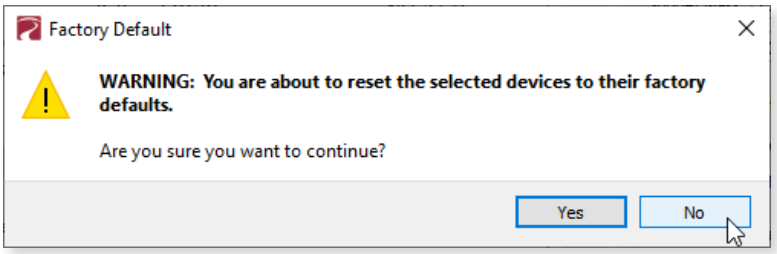
REBOOT

This will send a reboot command to the selected online device which will cause it to power cycle. A warning dialog will appear which allows you to cancel the reboot. Select **Yes** to continue or **No** to cancel the reboot.



FACTORY DEFAULTS

This will reset the selected device to its initial factory settings. A warning dialog will appear which allows you to cancel the factory default process. Select **Yes** to continue or **No** to cancel the reset.



VIGNETTE MENU

NEW SNAPSHOT

When a Vignette Playback is selected, this will create a new Snapshot as a subdevice/child of that Playback.

NEW ZONE

When a Vignette Playback is selected, this will create a new Snapshot as a subdevice/child of that Playback.

NEW EVENT

When a Vignette Clock (base device) is selected, this will create a new Clock Event as a subdevice/child of that device.

COPY SNAPSHOT/ZONE/EVENT

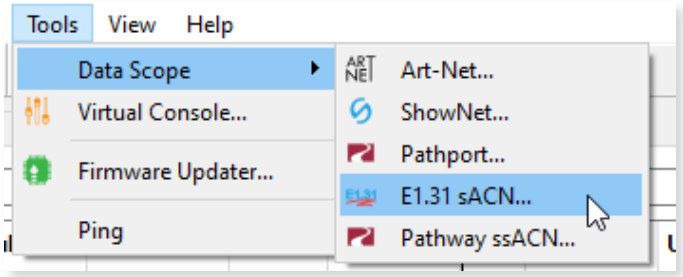
This menu item is contextual based on the selected Vignette Snapshot, Zone, or Clock Event.

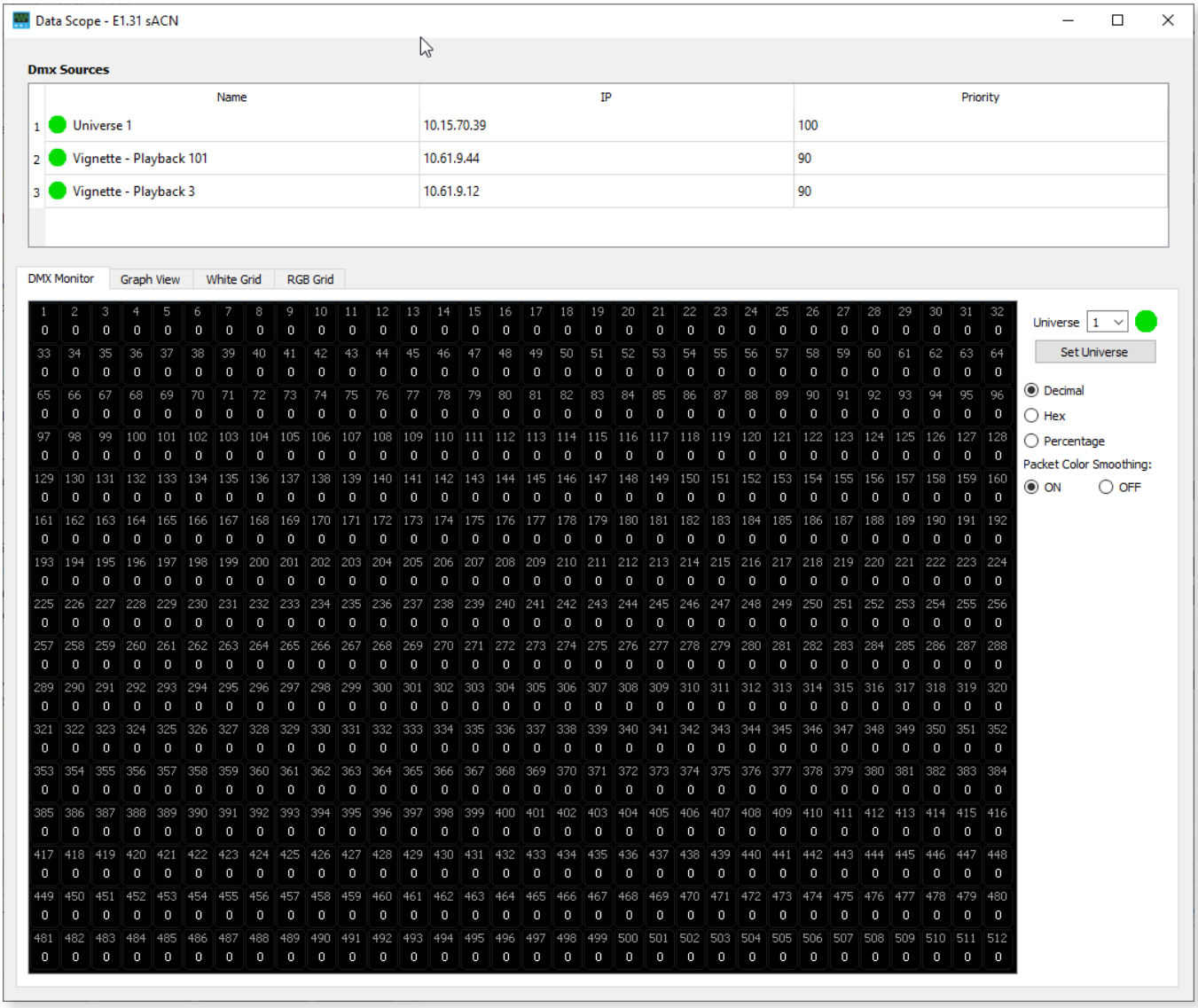
This will create a copy of that selected Snapshot, Zone or Clock Event as a subdevice/child of the appropriate Playback or Vignette Clock device, alongside the source Snapshot, Zone, or Clock Event with the next available subdevice # assigned to it.

TOOLS MENU

DATA SCOPE

This opens a flyout menu with a number of network DMX protocols to choose from. Clicking on one of the following will open a Data Scope window for that protocol (Art-Net, Show-Net, Pathport Protocol , E1.31 sACN and Pathway ssACN).

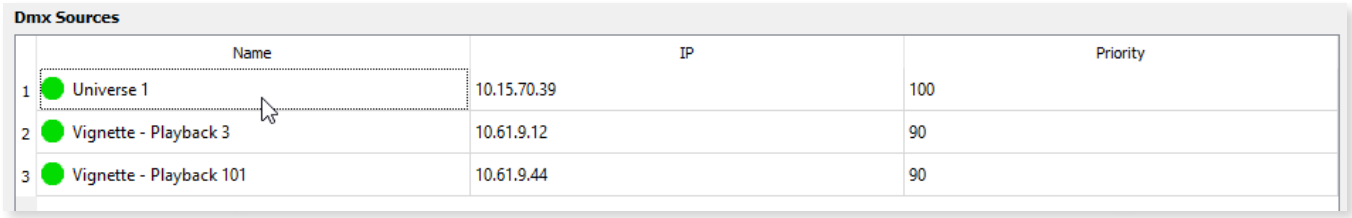




The Data Scope window allows for visual interpretation of the DMX data, which can be used for troubleshooting or network functionality testing. There are four methods of viewing DMX levels on the network: **DMX Monitor**, **Graph View**, **White Grid** and **RGB Grid**. The Data Scope looks identical for each protocol, but will show data belonging to that protocol **only**.

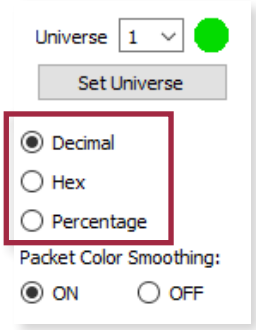
The **DMX Sources** pane on the top side of the window shows sources where Network DMX data is coming from. The **Name**, **IP Address** of the DMX source, and **Priority** level (for sACN/ssACN) will be displayed. For Pathway ssACN, there will be an additional column called **Authenticated**, which will show if the source's ssACN Password is accepted and working.

If the source is from a Vignette system, it will show "Vignette" and a Playback number instead of a Universe number under the "**Name**" column.



DMX MONITOR

The DMX Monitor view is the **default** view when opening the Data Scope and is shown above. In this view, each DMX channel and its value is shown on a grid. The displayed value can be displayed as a decimal (0-255), hex, or percentage (0-FL), using the radio buttons on the right side.



To display the desired Universe, select the **DMX source** in the panel at the top of the window, and then use the drop-down menu in the panel on the right. You may type directly into the field, or click the down arrow to select a Universe from the list.

After selecting the desired Universe, click the **Set Universe** button and the values for that Universe will be displayed.

The data values for each channel may change color depending on the direction the level is trending in. For example, when a channel is brought up, the channel's data value will be shown in **cyan**. Once the value has stopped increasing, the color will change to **magenta** and will flash with each new packet received. When the channel is brought down, the data values

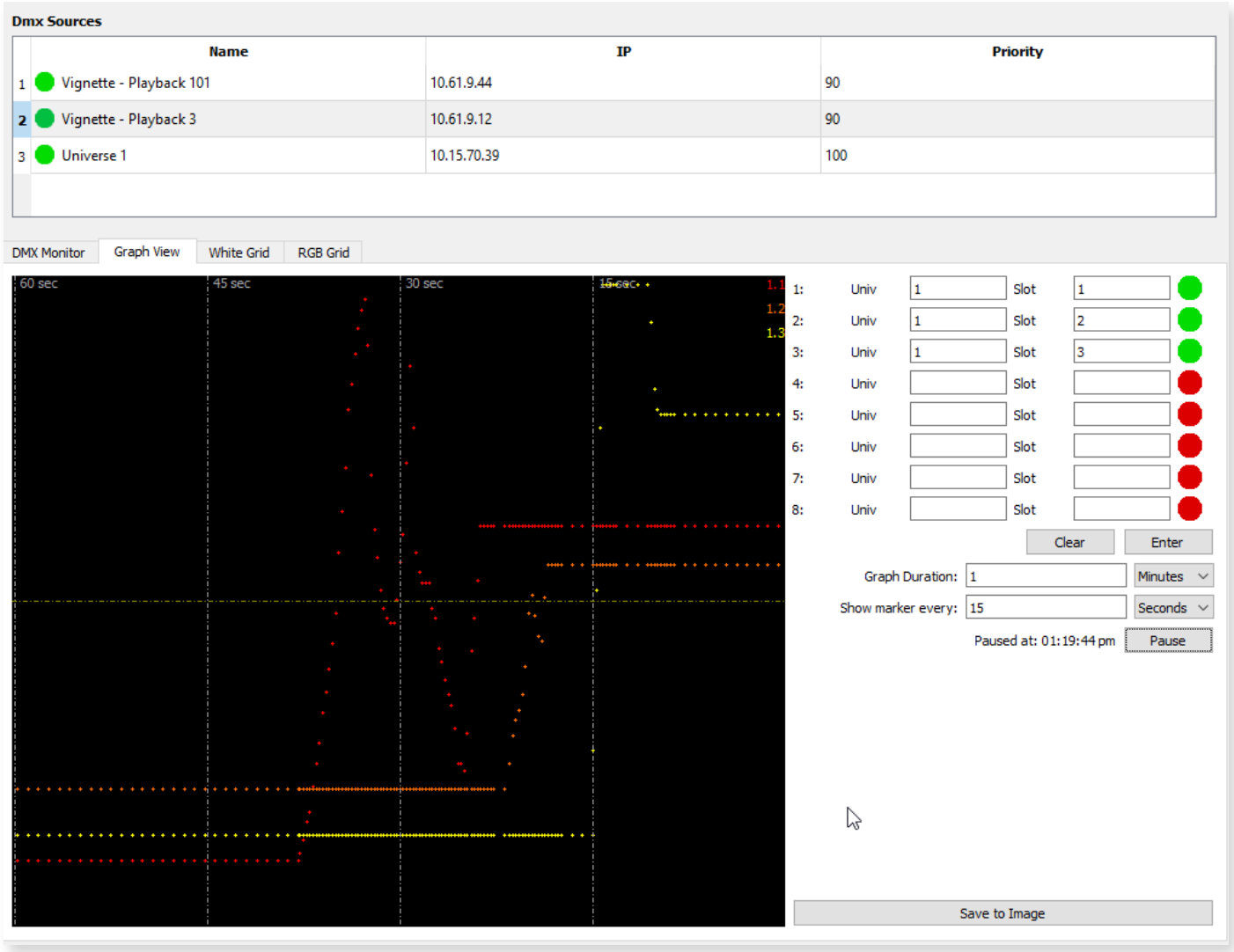
will be shown in **green**. When a channel level reaches 0, it will be shown in white, without any flashing.

The radio buttons under **Packet Color Smoothing** will control whether duplicate packets will be ignored while a channel is changing in level. With very slow fades, it is possible to get several packets in a row at the same level, even though the level is trending upward or downward.

With **Packet Color Smoothing** set to **OFF**, the packets with unchanged channel level would be shown in magenta and then change as soon as a the level increases or decreases, which could cause some unwanted color flickering of the displayed values during the fade. Turn the Packet Color Smoothing to **ON** to ignore duplicate packets until the level changes. Default is **ON**.

GRAPH VIEW

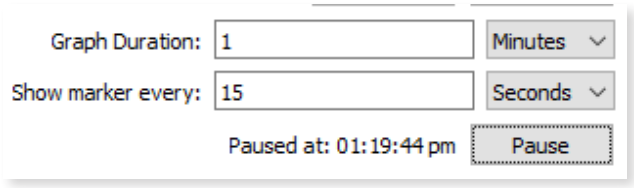
The graph view provides a method of viewing channel levels over a period of time. Channel level is shown vertically from 0 at the bottom, to 255 at the top. Data is read from **right-to-left**; the newest data values appear at the right edge of the graph and move to the left as time progresses.



You may enter up to 8 channels to monitor at one time in the Graph view. After you have entered the Universe and channel number of the channels you wish to monitor, click the **Enter** button. Additional channels will be shown in different colors on the graph to help differentiate them (legend shown in the top right corner of the graph window).

To clear all channels to a blank state, click the **Clear** button.

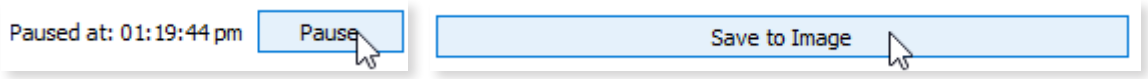
Under the Enter and Clear buttons, there is a section to edit the timing and vertical markers shown in the graph.



The **Graph Duration** field determines the horizontal time scale, or how long the data points will be on screen. By default, it is set at 1 Minute. To edit the duration, click on the drop-down menu to select either minutes or seconds, and enter a new value (integer, minimum 1 minute or second).

The **Show Marker Every** field will determine distribution of vertical marker lines. By default, this is set to 15 seconds. With the default Graph Duration of 1 minute, this will divide the Graph view into 4 sections. Edit the Marker spacing by clicking the drop-down menu to select either minutes or seconds, and enter a new value (integer, minimum 1 minute or second).

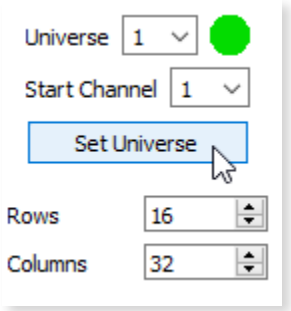
Click the **Pause** button to stop the graph from refreshing and displaying new data. This is useful for troubleshooting or in testing scenarios. Click the **Save to Image** button at the bottom of the window to open a standard Save dialog, for a convenient way to save a screen capture of the graph.



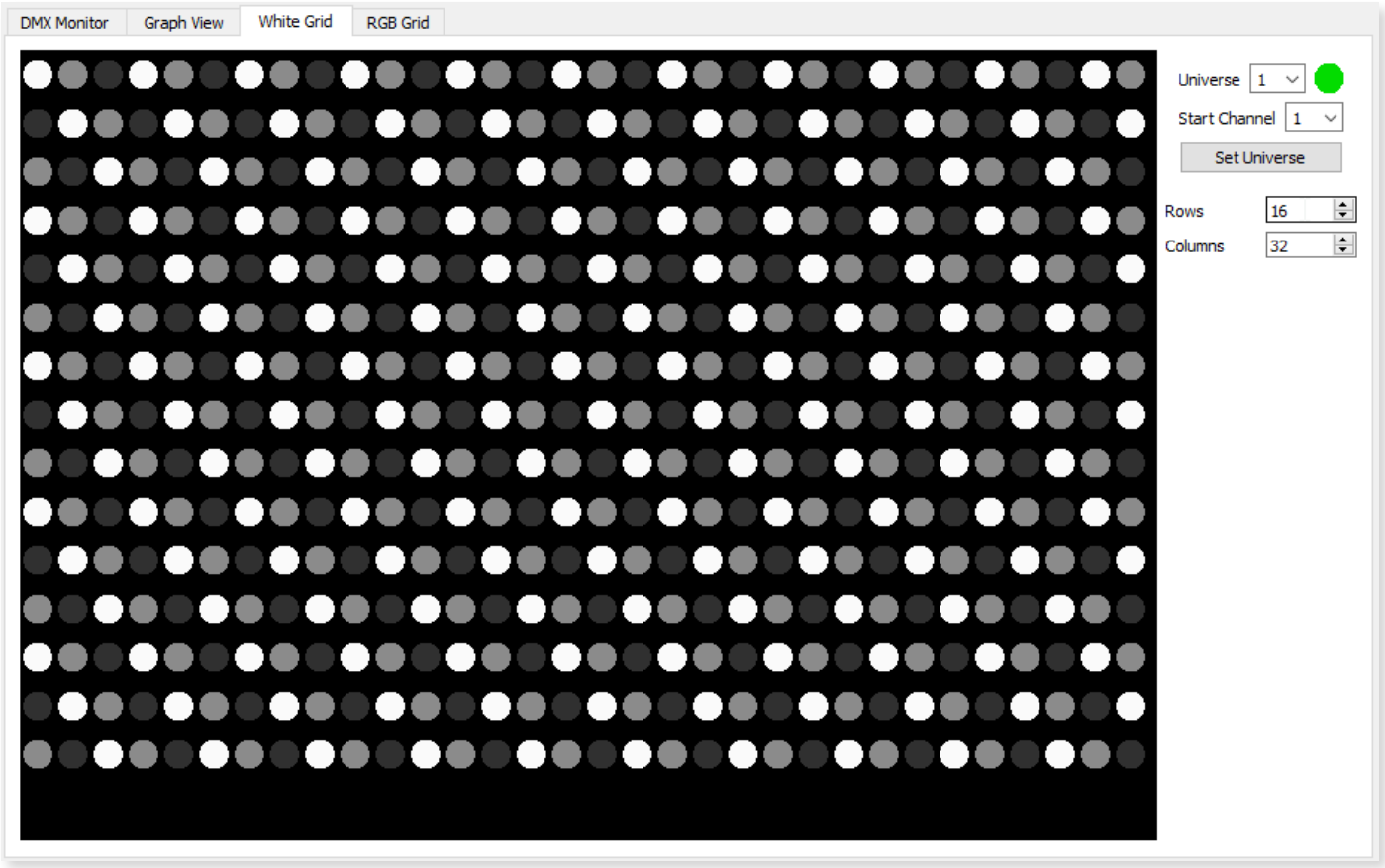
WHITE GRID

This view shows a grid of channels represented as circular white lights. The DMX value of each channel determines the brightness of each circle.

In the top panel, select a DMX Source. In the right panel, select a Universe to display by typing into the Universe field, or using the drop-down menu to select a Universe from the list.



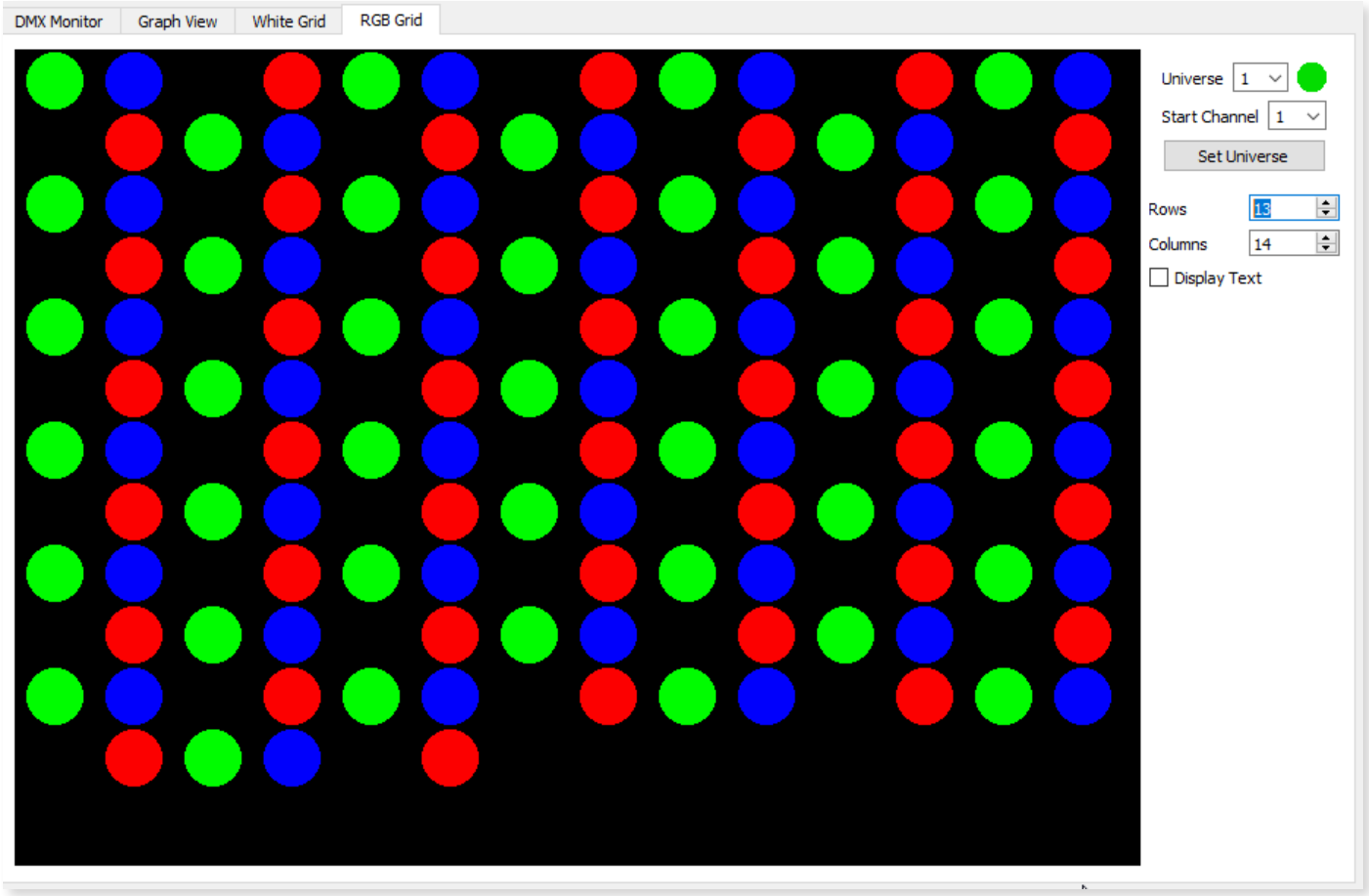
If desired, you may specify a start channel. Default is 1. To edit the start channel, type a new value into the field or use the drop-down to select a new value.



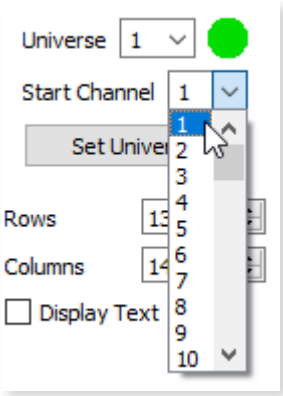
You may also customize the grid layout of lights by editing the **Rows** and **Columns** fields. The default values are 16 and 32, respectively. Adjust these values to display the light grid in a way that suits your particular scenario.

RGB GRID

The RGB Grid view combines every 3 DMX channels into a single virtual RGB fixture, similar to the previous White Grid view.



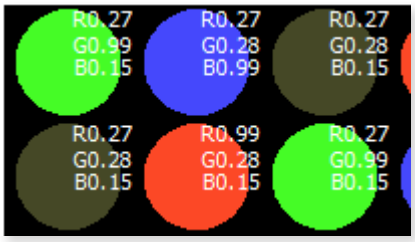
This view will assume that channel 1 is **Red**, channel 2 is **Green**, and channel 3 is **Blue** for virtual fixture **1**. Channels 4, 5 and 6 are Red, Green, and Blue for virtual fixture 2, and so on. The values for each of the 3 channels will determine the color and intensity of the colored circle.



Like all other views in the Data scope, select a **DMX source** in the top panel and the desired **Universe** and **Start Channel** in the right panel and then click the **Set Universe** button.

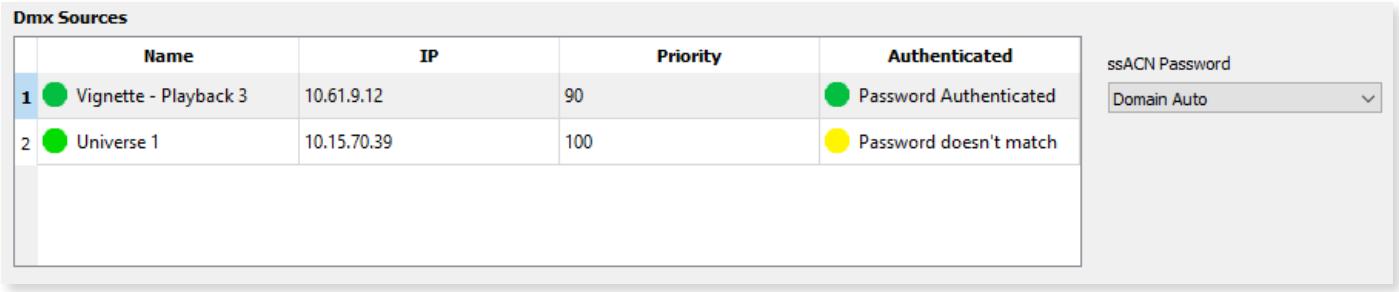
Just like the White Grid view, you may customize the layout of the grid by editing the **Rows** and **Columns** fields to values that work in your scenario.

Click the **Display Text** checkbox to display the individual Red, Green and Blue values for each virtual fixture. They are shown as "**R**X.XX **G**X.XX **B**X.XX" where the X.XX is a numerical value between **0.00 (0%)** and **1.00 (100%)**.



USING DATA SCOPE WITH PATHWAY ssACN

When using Data Scope with Pathway ssACN, as mentioned above, there is an additional column named "**Authenticated**". This shows the status of the particular ssACN Source and if its ssACN Password has been authenticated by the network.



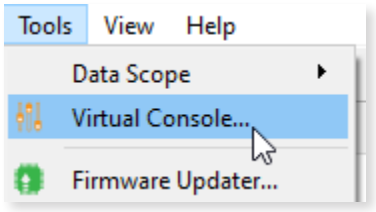
If using the auto-generated Domain Auto password and logged into the Security Domain, the source will always be authenticated.

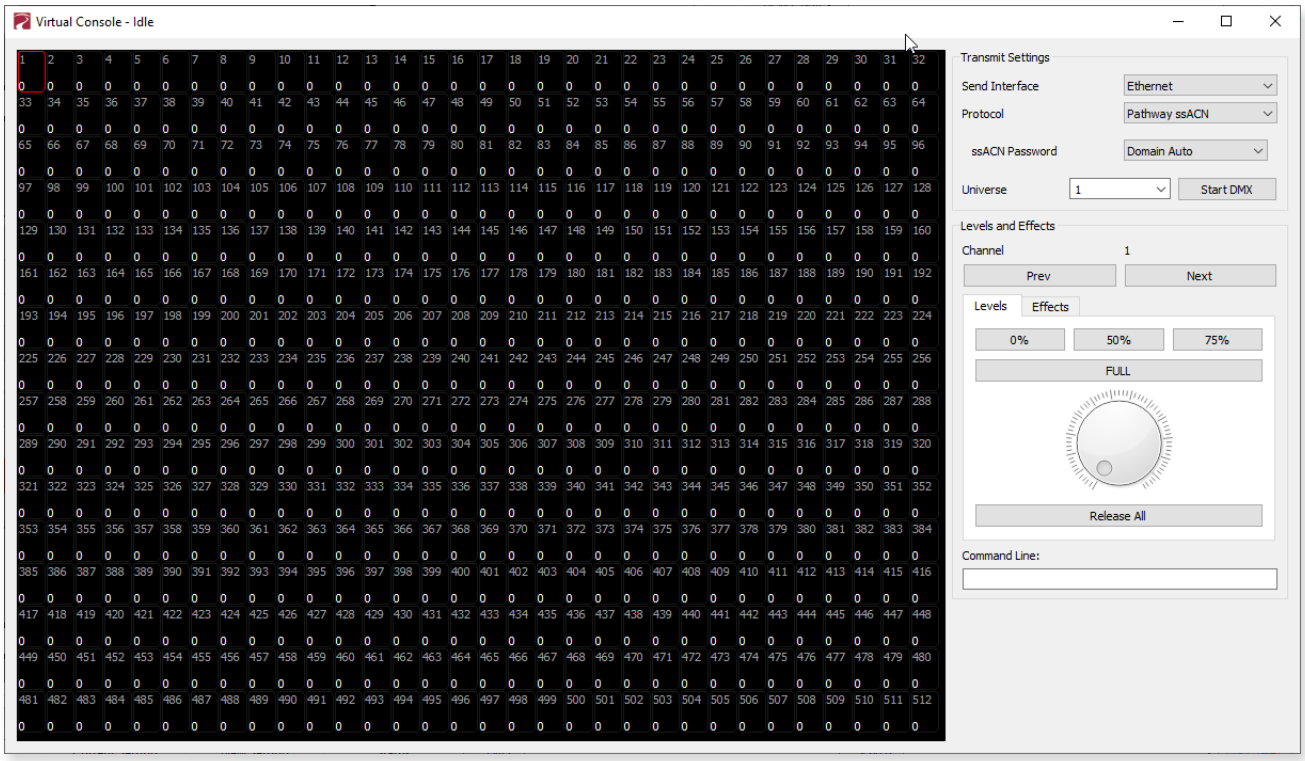
If using a Custom ssACN Password, you must specify that password in the ssACN Password drop-down menus in order for downstream devices to be able to decode the data. If your gateways are ignoring the DMX data being sent to them and you're not sure why, this could be the issue.

Data Scope will show you the Network DMX data **regardless** of the authentication status, but will show you if the "**Password doesn't match**". This should help you determine where you need to look in order to rectify the problem.

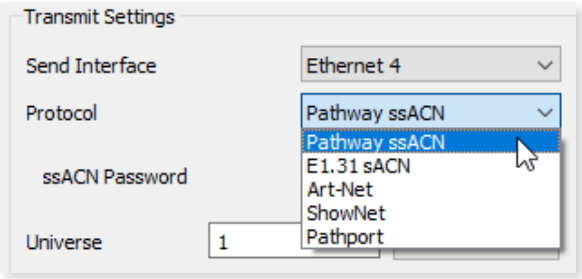
VIRTUAL CONSOLE

This opens a virtual Network DMX console window, capable of outputting to any universe with multiple protocols. This is intended to be used for testing purposes, but can also be used for setting scenes to be captured by Vignette.

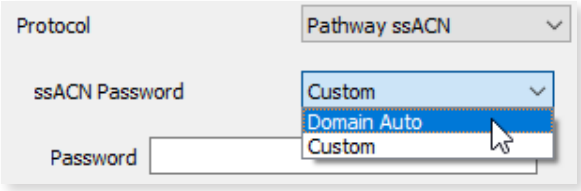




To begin, configure the **Transmit Settings** section by setting the appropriate **Send Interface** (network interface controller or NIC), **Protocol** and **Universe** using the drop-downs in the right panel.

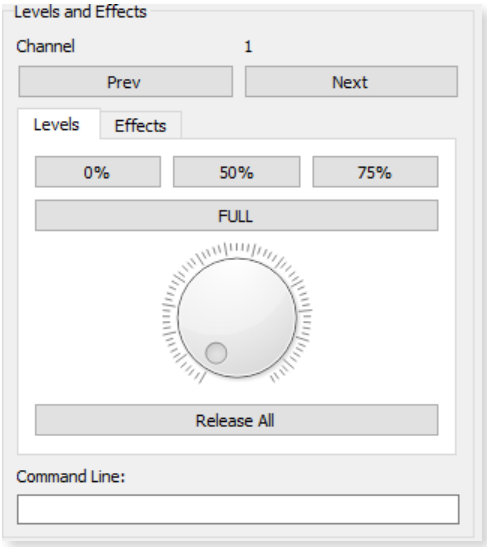


NOTE: if using Pathway ssACN, the ssACN Password drop-down menu will be shown. If using a Custom ssACN Password, enter it in the provided field.

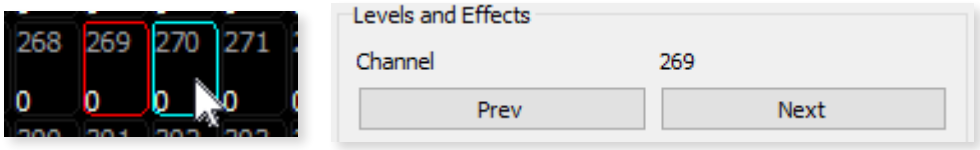


Choose the Universe you want to transmit and press Start DMX

sACN and Pathway ssACN will transmit with a priority of 100. You may now select a channel and manipulate it using the Levels and Effects section.



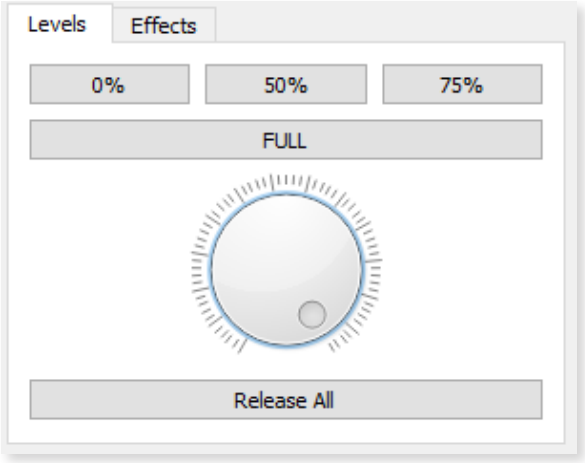
Click on a channel using the mouse to select it. The currently selected channel(s) are outlined in **red**, and the channel under the mouse cursor is outlined in **cyan**. You may also use the **Prev** and **Next** buttons to move one channel at a time in either direction.



To manipulate a channel, under the **Prev** and **Next** buttons are two tabs: **Levels** and **Effects**.

LEVELS

The levels panel is used to set a static level for the selected channel.

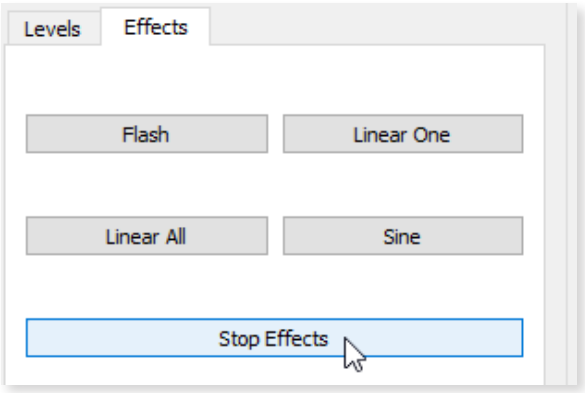


There are buttons for preset levels at **0%**, **50%**, **75%** and **FULL** (100%). Below these buttons is a **jog wheel**. Click and drag the mouse cursor around the edge of the jog wheel to adjust it to the desired level.

The the bottom of the tab is a **Release All** button. This will set all channels in the selected Universe to 0, and then stop sending DMX to the network.

EFFECTS

The effects panel has 4 preset effects which are useful for testing the network or troubleshooting purposes. They are **Flash**, **Linear One**, **Linear All**, and **Sine**.



The **Flash** effect will cycle the selected channel's level between 0 and FULL (255) at a rate of 1Hz, square wave.

The **Linear One** effect will fade the selected channel's level from 0 to FULL (255) and back down to 0 again, at a constant rate. The fade from 0 to FULL is approximately 8 seconds.

The **Linear All** effect is the same as the Linear One, except this is applied to all 512 channels on the selected Universe.

The **Sine** effect will cycle the selected channel's level between 0 and FULL (255) at a rate of 0.5 Hz, sine wave.

To stop any or all of the currently running effects, click the **Stop Effects** button.

COMMAND LINE

At the bottom of the panel, there is a command line. If you are used to using a command line for setting DMX levels this may be easier and faster to use. Also, it is possible to set multiple channel levels, even non-contiguous ranges, using the command line. **Note the syntax for this command line is different from that used in the Advanced Patch Editor**.

A command consists of (in order): A **channel specification**, **channel value** and a **terminator**.

A **channel specification** can be:

- A single channel number, e.g.: "**1**" or "**512**"
- A range of channel numbers, using a slash "**/**" as the "thru" token, e.g.: "**1/5**". This denotes channels 1 thru 5, inclusive.
- A token-separated list of channel numbers, using the "+" as the separator token, e.g.: "**1+3+5**". This denotes channels 1, 3, and 5, but not 2 and 4, i.e. non-contiguous channels.
- A combination of the two previous; being a contiguous range of channels separated by the "/" token, and non-contiguous channels separated by the "+" token, e.g.: "**1/5+30+40/50**". This denotes channels 1 thru 5, 30, and 40 thru 50.

A **channel value** is:

- The "*****" (asterisk) character followed by a single decimal number specifying the DMX value between 0 and 255, e.g.: "***127**". This denotes a value of 127 (50%).

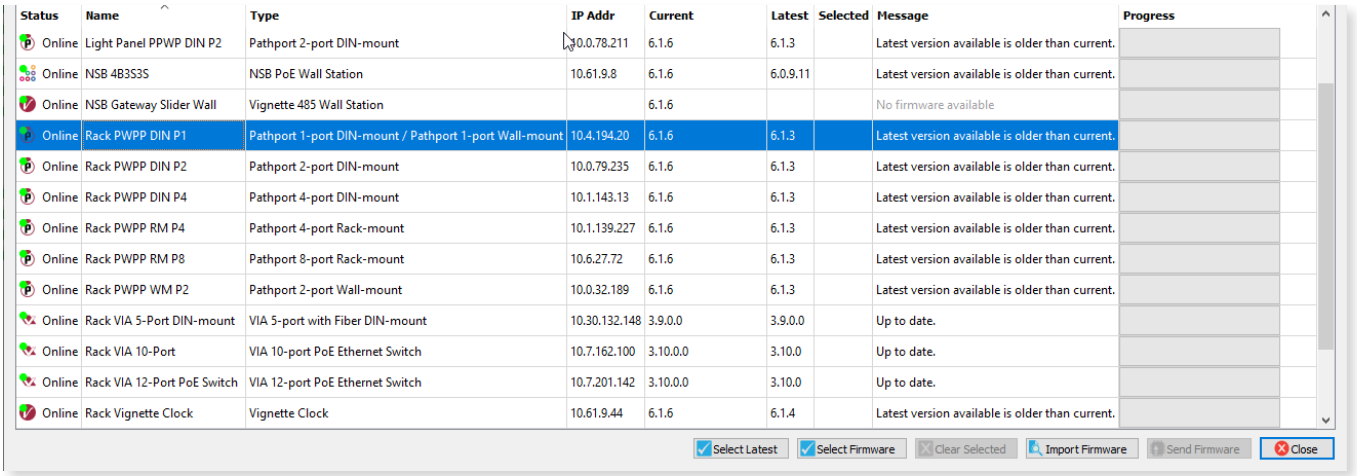
A terminator is simply the **carriage return character** (the **enter** or **return** key).

A few examples of commands:

- "**1*255<enter>**": this will set channel 1 to 255 (full).
- "**1/5*127<enter>**": this will set channels 1 thru 5 to 127 (50%).
- "**1+3+5*255<enter>**": this will set channels 1, 3 and 5 to 255 (full).
- "**1/5+30+40/50*127<enter>**": this will set channels 1 thru 5, channel 30, and channels 40 thru 50 to 127 (50%).

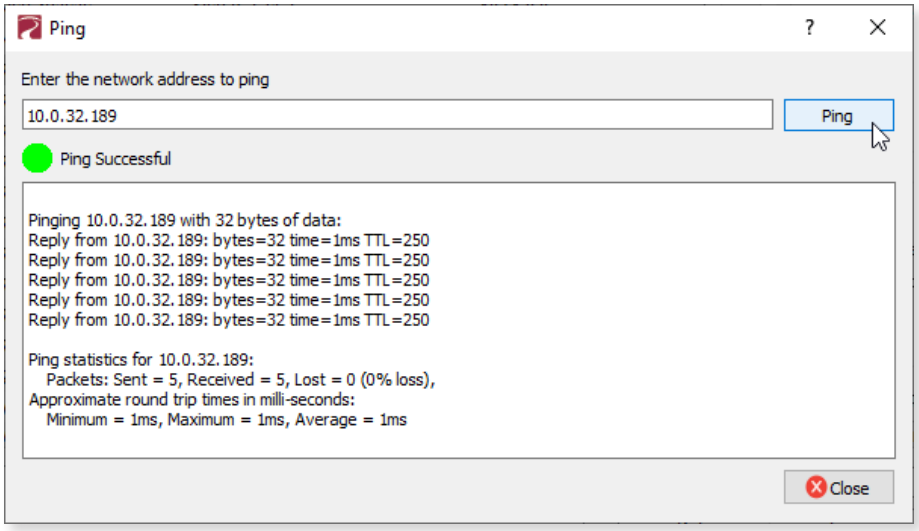
FIRMWARE UPDATER

This will open the **Firmware Updater** window. See the **Updating Device Firmware** section for detailed instructions on upgrading device firmware.



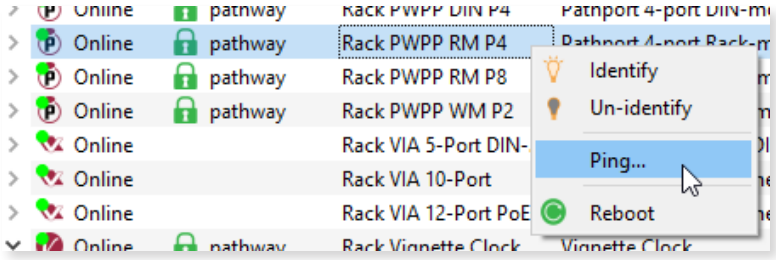
PING

Click on a device in the Device View and then choose this menu item to open the Ping window.



The device's IP address will be automatically entered in the IP field. Click the **Ping** button to perform a standard Ping command like you would from a terminal prompt. Use this for network verification or troubleshooting purposes without having to manually look up and type in device IP addresses into a separate terminal window.

You can also **right-click** a device in the Device View and choose **Ping** from the menu.



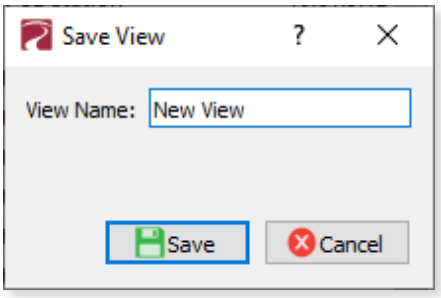
VIEW MENU

SELECT VIEW

Brings up a flyout menu, displaying a list of the Device view presets. The Pathscape Default View is listed first, followed by User-saved presets, followed by the included canned views.

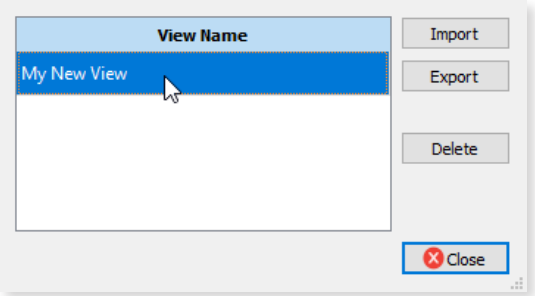
SAVE VIEW

This will bring up a dialog to save the current Device window column settings as a new view preset.



VIEW MANAGER

This brings up the **View Manager**. From this window, you can Import, Export or Delete user-created view presets.



PROPERTY COLUMNS

This brings up the Property Columns window, which is used to configure which device property columns are displayed in the Device window. These custom views can then be saved with the "**Save View**" menu item

RESIZE ALL COLUMNS

This will resize all visible columns in the Device View to fit their contents, e.g.. if a column's contents is not fully visible, it will expand that column to fit; if a column has extra white space after the contents, it will shrink that column to fit.

EXPAND ALL

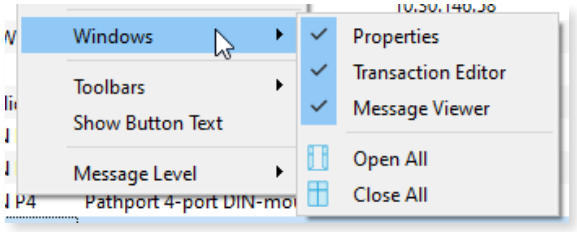
This will expand the device Tree View to show all loaded devices and their subdevices. Not applicable in Table View.

COLLAPSE ALL

This will collapse the device Tree View to hide all subdevices and show only parent devices. Not applicable in Table View.

WINDOWS SUBMENU

The windows menu is now a submenu under the View menu.



PROPERTIES

This checkbox item will show or hide the Properties Panel in the main window.

TRANSACTION EDITOR

This checkbox item will show or hide the Transaction Editor in the main window.

MESSAGE VIEWER

This checkbox item will show or hide the Message Viewer in the main window.

OPEN ALL

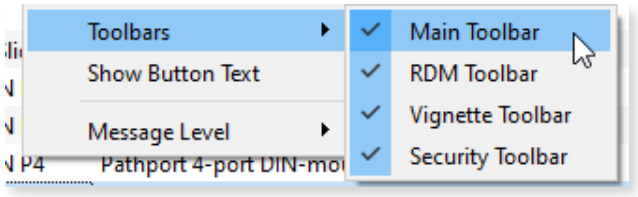
This menu item will show all three dock-able windows (Properties Panel, Message Viewer, and Transaction Editor) if any or all of them are hidden.

CLOSE ALL

This menu item will hide all three dock-able windows (Properties Panel, Message Viewer, and Transaction Editor) if any or all of them are open.

TOOLBARS SUBMENU

The Toolbars menu is now a submenu under the View menu.



MAIN TOOLBAR

This checkbox item will show or hide the Main Toolbar in the main window.

RDM TOOLBAR

This checkbox item will show or hide the RDM Toolbar in the main window.

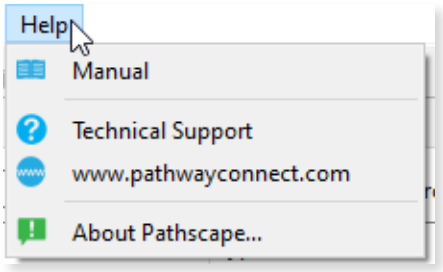
VIGNETTE TOOLBAR

This checkbox item will show or hide the Vignette Toolbar in the main window.

SECURITY TOOLBAR

This checkbox item will show or hide the Security Toolbar in the main window.

HELP MENU



MANUAL

This menu item will open the PDF version of this manual.

TECHNICAL SUPPORT

This will open a window with Pathscape version information as well as Technical Support contact information.

www.pathwayconnect.com

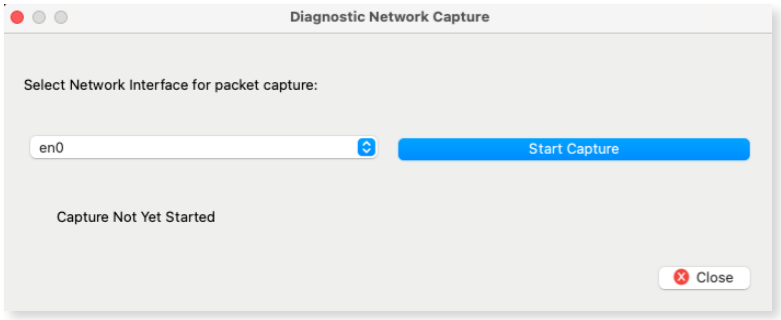
This menu item opens the default web browser and will connect you to the Pathway Connectivity website.

ABOUT PATHSCAPE

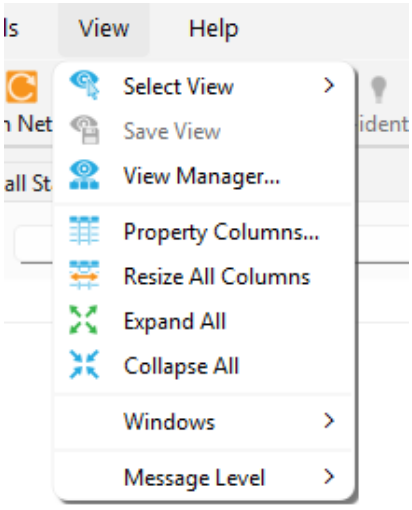
This menu item opens the About Pathscape information, including version number, date, and other applicable information.

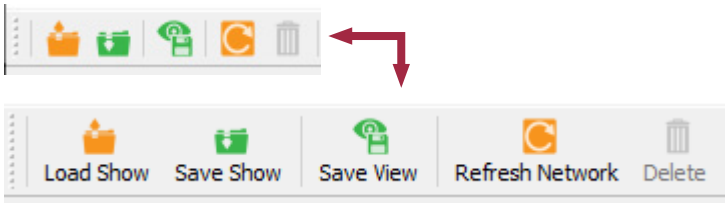
DIAGNOSTIC NETWORK CAPTURE (macOS ONLY)

This will launch a Diagnostic Network Capture window for network troubleshooting purposes. Typically used when receiving assistance from Pathway tech support.

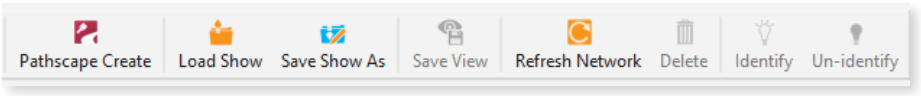


TOOLBARS





MAIN TOOLBAR



This toolbar contains often-used menu items: **Pathscape Create, Load Show File**, **Save Show File**, **Save View**, **Refresh Network**, **Delete** and **Identify / Un-identify**.

VIGNETTE TOOLBAR

This toolbar contains Vignette tools: **New Snapshot**, **New Zone**, **New Clock Event**, **Copy Clock Event**, **Copy Snapshot** and **Copy Zone**. The Copy Event/Snapshot/Zone items are context-dependent; they will change depending if the item selected is a Clock Event, Snapshot, or Zone.

RDM TOOLBAR

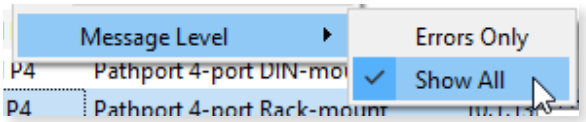
This toolbar contains RDM tools: **RDM Discover** (single port). To perform an **RDM Discover On All Ports**, you must use the menu item under the **Network** menu.

Note: if **E1.20 RDM Enable** is not checked (Disabled) on the selected port, this button will be grayed out.

SECURITY TOOLBAR

This toolbar contains Security tools: **Administration**, the name of the currently logged-into Security Domain, and the **Log In / Log Out** button.

MESSAGE LEVEL SUBMENU



This menu item opens a flyout menu with options for changing the level of detail of messages in the Message Viewer: **Errors Only**, and **Show All**.

ERRORS ONLY

This setting will display only warning and error messages.

SHOW ALL

This setting will display warning, error, info and system messages, including devices coming online and going offline. This is useful for debugging or tech support purposes. This is the default setting.

ENTER/EXIT FULL SCREEN

Choose this option to maximize Pathscape Config to fill the current display. When maximized, the menu changes to Exit Full Screen.

APPENDIX 1: DEVICE PROPERTY COLUMNS

Below is a list of all Device Property Columns in Pathscape.

Category	Column Heading	Full Name	Description
Advanced Properties	Patch Locked	Patch Jumper Locked	Shows status of DMX Universe Patch Jumper (PWPP WM P1 and PWPP DIN P1 models only). Values are true or false.
Advanced Properties	sACN Tx Ver	E1.31 sACN Transmit Version	Shows which version of E1.31 sACN the device (Pathport gateway models) is set to transmit. Values are ANSI Final Release or Prerelease Draft 20.
Advanced Properties	User ID	User ID	A user-assignable ID number (assignable in Device Properties window, under Advanced Properties)
Basic Properties	Backlight	LCD Backlight	Shows status of the LCD backlight of the device (PWPP RM P8, PWPP RM P4 and VIA rack-mount models only). Values are true or false
Basic Properties	Device Name	Device Name	The device's name (User-assignable in Device Properties window)
Basic Properties	Device Notes	Device Notes	The device's description / Notes (User-assignable in Device Properties window)
Basic Properties	Device Notes	Subdevice Notes	The Subdevice's description / notes (user-assignable in subdevice properties window)
Basic Properties	Device Time	Device time	Shows the current time stored by the device (Vignette Clock).
Basic Properties	Device Timezone	Device timezone	Shows the current timezone configured on the device (Vignette Clock).
Basic Properties	Device Type	Device Type	Shows the device type / model name.
Basic Properties	Firmware	Firmware Version	The device's firmware version (numerical value)
Basic Properties	Firmware	Firmware Version	The device's firmware version (text string value)
Basic Properties	Identify	Identify Device	Shows status of the Identify feature on the device. Values are true or false
Basic Properties	Intensity	LED Intensity	Shows status of the LED Intensity on the device (PWPP WM P1 and PWPP DIN P1 models only). Values are Bright and Dim.
Basic Properties	Last Link Change	Last Link Change	Show the current value for the Last Link Change property of VIA Switch ports. Shows the time since any change happened to Link Status. Read-only.
Basic Properties	Latitude	Latitude (+N or -S)	Shows the currently set Latitude for the device (Vignette Clock).
Basic Properties	LCD Lockout	Front Panel Lockout	Shows status of the Front Panel Lockout feature on the device (Pathport Rack-mount and VIA Rack-mount models only). Values are true or false

Category	Column Heading	Full Name	Description
Basic Properties	Link Mode	Link Mode	Shows the specified link mode for the subdevice (Ethernet Port). Values are Disable, Auto Negotiate, 10Mb Half Duplex, 10Mb Full Duplex, 100Mb Half Duplex, 100Mb Full Duplex, 1Gbit Full Duplex (copper RJ45 ports). Disable, Enable (for Fiber ports). Note that depending on switch model, 1Gbit on copper ports may not be available.
Basic Properties	Link Status	Link Status	Shows the current link status of the subdevice (Ethernet Port). Values are Link Down, Link Up 10Mbit Half Duplex, Link Up 10Mbit Full Duplex, Link Up 100Mbit Half Duplex, Link Up 100Mbit Full Duplex, Link Up 1Gbit Full Duplex. Note that depending on switch model, 1Gbit on copper ports may not be available.
Basic Properties	LLDP	LLDP Partner	Shows the name of the LLDP Partner Device, if it is a Pathway Connectivity device.
Basic Properties	LLDP MAC	LLDP Partner MAC	Shows the MAC address of any device connected to the subdevice (Ethernet Port) that supports Link Layer Discovery Protocol. If there is no supported device detected, it will show N/A.
Basic Properties	LLDP Port	LLDP Partner Port	Shows the Port number of any device connected to the subdevice (Ethernet Port) that supports Link Layer Discovery Protocol. If there is no supported device detected, it will show N/A.
Basic Properties	Longitude	Longitude (+E or -W)	Shows the currently set Longitude for the device (Vignette Clock).
Basic Properties	MAC Addr	MAC Address	The device's Ethernet address
Basic Properties	Name	Name	Shows the user-configured soft label of the Snapshot or Zone.
Basic Properties	Parent's Serial #	Parent's Serial Number	Shows the serial number of the parent device.
Basic Properties	Serial #	Serial Number	The device's serial number (numerical value)
Basic Properties	Serial #	Serial Number	The device's serial number (text string value)
Basic Properties	SFP Type	SFP Module Type	Shows the SFP Module type for the subdevice (SFP Port) detected by the device (VIA Switch). Values are Not Detected, Not Supported, 1000BASE-SX or 1000BASE-LX.
Basic Properties	SFP+ Type	SFP+ Module Type	Shows the SFP+ Module type for the subdevice (SFP+ Port) detected by the device (VIA Switch). Values are Not Detected, Not Supported, 10GBASE-SR, 1000BASE-LR or Dual Rate 1/10G Multi Mode
Basic Properties	Subdev Name	Subdevice Name	The Subdevice's name (user-assignable in subdevice properties window)

Category	Column Heading	Full Name	Description
Basic Properties	Type	Port Type	Shows the type of subdevice (Ethernet Port). Values are Fast Ethernet Capable Copper RJ45, Gigabit Capable Copper RJ45, or Gigabit Capable Fiber.
Clock Actions	Item	P Item	Shows the Snapsnot or Zone number if Clock Action is set to either of these. If set to a “More...” Function, shows the chosen function for the Clock Event.
Clock Actions	Level	Level	Shows the specified Level for the Clock Action, if applicable. Ie, if set to a Zone or Grandmaster, this will show the specified level. If set to a Snapshot, Blackout Zones, Goto Inactive, or Release All, this will show N/A as there is no associated level. If set to Record Allow, Exclusive Lock, or Priority Override, this will show the specified value, either Enabled or Disabled.
Clock Actions	Playback	Playback	Shows the specified Playback for the Clock Event to perform its Action on.
Clock Actions	Type	Type	Shows the specified Clock Action Type. Values are Snapshot, Zone, More... or None.
Clock Events	Astronomical	Astronomical	Shows the value (type) of Astronomical Event, if applicable. Values are Dawn, Dusk, Sunrise or Sunset. Shows N/A if Clock Event is not Astronomical type.
Clock Events	Astronomical Offset	Astronomical Offset	Shows the value of any Clock Event Astronomical Offset, in seconds.
Clock Events	Day	Day	Shows the value assigned to the Day field for the associated Clock Event, if applicable.
Clock Events	Day Range	Day Range	Shows the value assigned to the Day Range field for the associated Clock Event, if applicable.
Clock Events	Hour	Hour	Shows the value assigned to the Hour field for the associated Clock Event, if applicable.
Clock Events	Hour Range	Hour Range	Shows the value assigned to the Hour Range field for the associated Clock Event, if applicable.
Clock Events	Minute	Minute	Shows the value assigned to the Minute field for the associated Clock Event, if applicable.
Clock Events	Minute Range	Minute Range	Shows the value assigned to the Minute Range field for the associated Clock Event, if applicable.
Clock Events	Range Mask	Range Mask	Shows the value (type) of Astronomical Event, if applicable. Values are Dawn, Dusk, Sunrise or Sunset. Shows N/A if Clock Event is not Astronomical type.
Clock Events	Minute Range	Minute Range	Shows the value assigned to the Minute Range field for the associated Clock Event, if applicable.

Category	Column Heading	Full Name	Description
Clock Events	Range Mask	Range Mask	Shows the value(s) of the Range Mask field for the associated Clock Event.
Clock Events	Second	Second	Shows the value assigned to the Second field for the associated Clock Event, if applicable.
Clock Events	Second Mask	Second Mask	Shows the value assigned to the Second Mask field for the associated Clock Event, if applicable..
Clock Events	Subdev Name	Name	Shows the user-assigned soft label for the associated Clock Event.
Clock Events	Week Mask	Week Mask	Shows the value assigned to the Week Mask field for the associated Clock Event, if applicable.
Clock Events	Year	Year	Shows the value assigned to the Year field for the associated Clock Event, if applicable.
Clock Events	Year Range	Year Range	Shows the value assigned to the Year Range field for the associated Clock Event, if applicable.
Comms	Identify	Identify	Shows the status of the Identify property of the RDM device. User-configured in the Device Properties pane. Values are true or false.
Device	Manufacturer	Manufacturer	Shows the name of the manufacturer of the RDM device. For example, a Pathway device will show “Pathway Connectivity Inc.”. This is manufacturer-set.
Device	Model Desc	Model Description	A description of the RDM Device. For example, a Pathway PWM DC Driver (PWINF DIN PWM4A or PWM6A) will show “DMX to CV Driver”. This is manufacturer-set.
Device	Name	Name	User-configured soft label for the RDM device.
Device	RDM UID	RDM UID	Shows the RDM UID (Unique Identifier) for the device. This is manufacturer-set.
Device	Selftest	Perform Selftest	Shows the current Selftest number the RDM device is set to perform. This is manufacturer and device specific. 0 is disabled.
Device Info	Device Parent	Device Parent	Shows the name of the parent device of the subdevice.
Device Info	Family	Device Family	Shows the applicable Product Family the device belongs to. Values are DMX Gateway, VIA Switch, NSB, Vignette, Console)
Device Info	Subdev #	Subdevice Number	Shows the subdevice number for the subdevice. This may be a number or a letter depending on the device. For example, Pathport Gateway subdevice #’s are letters (DMX Ports A, B, C, D, etc). while VIA Switch subdevice #’s are numbers (Ethernet Ports 1, 2, 3, 4, etc).

Category	Column Heading	Full Name	Description
DHCP Server	DHCP End	DHCP Server Range End	Shows the configured end IP address for the range of available addresses to be assigned by the DHCP server of the device (VIA Switch).
DHCP Server	DHCP Server	DHCP Server	Shows the status of DHCP server on the device (VIA Switch). Values are Enabled or Disabled.
DHCP Server	DHCP Start	DHCP Server Range Start	Shows the configured start IP address for the range of available addresses to be assigned by the DHCP server of the device (VIA Switch).
DMX Port	Crossfade	Crossfade Enable	Shows whether the subdevice (DMX Port) will crossfade during Priority changes. Values are true or false.
DMX Port	Crossfade Time	Crossfade Time (s)	Shows the specified crossfade time, in seconds, for the subdevice (DMX Port) if Crossfade has been enabled. If not enabled, it will show N/A.
DMX Port	DMX Enable	DMX512 Enable	Shows the status of the subdevice (DMX Port) of a Pathport gateway device. Values are Enabled or Disabled.
DMX Port	DMX Speed	DMX512 Output Speed	Shows the selected DMX output speed of the subdevice (DMX Port) of a Pathport gateway device. Values are Maximum, Fast, Medium and Slow.
DMX Port	DMX Status	DMX512 Status	Shows the status of DMX on the subdevice (DMX Port) of a Pathport gateway device. Values or Active and Inactive.
DMX Port	DMX Force Hold	DMX Force Hold	Shows the status of DMX on the subdevice (DMX Port) of a Pathport gateway device. Values or Active and Inactive.
DMX Port	Output Patch	Output Patch	Shows the Universe number or Custom Patch name to which with the subdevice (DMX Port) of a Pathport gateway device is patched.
DMX Port	Port Dir	Port Direction	Shows the direction of the selected subdevice (DMX Port) of a Pathport gateway device. Values are Input or Output.
DMX Port	xDMX TX Univ	xDMX Transmit Universe	Shows the network transmit Universe number the subdevice (DMX Port) is set to receive as Input.
DMX Properties	DMX Addr	DMX Start Address	Shows the currently set DMX Start Address for the RDM device. User-configured in the Device Properties pane.
DMX Properties	Personality	DMX Personality	Shows the currently set DMX Personality for the RDM device. User-configured in the Device Properties pane.
E1.31 sACN	Override Prio	Override Output Priority	Shows the value specified for sACN Override Output Priority for the device.

Category	Column Heading	Full Name	Description
E1.31 sACN Properties	# of Univs	Number of Universes	Shows the specified number of Universes for a device (VIgnette Playback).
E1.31 sACN Properties	Capture Univ	Start Universe for Capture	Shows the currently assigned E1.31 sACN Universe the device (Vignette) is set to capture from.
E1.31 sACN Properties	Lockout Univ	Lockout with sACN Universe	Shows the Universe number configured as the Lockout Universe for the device (Vignette Playback). 0 is DIsabled.
E1.31 sACN Properties	Output Univ	Start Universe for Output	Shows the currently assigned E1.31 sACN Universe the device (Vignette) is set to output to.
E1.31 sACN Properties	sACN TX Prio	Normal Output Priority	Shows the value specified for sACN Normal Output Priority for the device.
E1.31 sACN Triggers	GM Slot	Grandmaster Slot	Shows the value of the Grandmaster Slot property of the device (Vignette Playback). 0 is Disabled.
E1.31 sACN Triggers	Snapshot Start	Snapshot start (64 slots)	Shows the value of the Snapshot Start property of the device (Vignette Playback). 0 is Disabled.
E1.31 sACN Triggers	Trigger Univ	Trigger Universe	Shows the value of the Trigger Universe property of the device (Vignette Playback). 0 is Disabled.
E1.31 sACN Triggers	Zone Start	Zone start (64 slots)	Shows the value of the Zone Start property of the device (Vignette Playback). 0 is Disabled.
IGMP	IGMP Querier	IGMP Querier	Shows whether the device (VIA Switch) has IGMP Querier enabled. Values are true or false.
IGMP	IGMP Snooping	IGMP Snooping	Shows whether the device (VIA Switch) has IGMP Snooping enabled. Values are true or false.
N/A	Status	Device Online	Shows the connectivity status of the device. This column is non-removable.
Network Properties	Bandwidth	Bandwidth Percentage	Shows the bandwidth percent of the subdevice (Ethernet Port), based on amount of traffic through the port. Values are 0 to 100.
Network Properties	BootP Enable	BootP Enable	Shows the status of the BootP Enable property of the device. Values are Disabled or Enabled. As of firmware version 6.2, BootP has been discontinued. All Pathport devices support Dynamic IP addressing.
Network Properties	DNS Server	DNS server	Shows the DNS server specified for the device (Vignette Clock).
Network Properties	Forwarding	Forwarding State	Shows the forwarding state of the subdevice (Ethernet Port). Values are Forwarding All Traffic, Blocked by RSTP, or N/A if there is no link.
Network Properties	Gateway	Gateway	The TCP/IP address of the device's default gateway

Category	Column Heading	Full Name	Description
Network Properties	IP Addr	IP Address	The device's TCP/IP address
Network Properties	IP Mode	IP Mode	Shows the IP mode of the device. Values are Static, Dynamic or Disabled.
Network Properties	Network	Network Interface	Name of the NIC the device is communicating to Pathscape on.
Network Properties	NTP Server	NTP server	Shows the NTP server specified for the device (Vignette Clock).
Network Properties	QoS	Quality of Service	Shows the Quality of Service mode for the device (VIA Switch). Values are Disabled, QoS Standard and Dante Strict.
Network Properties	RSTP Enable	Rapid Spanning Tree	Shows the status of the Rapid Spanning Tree feature on the device (VIA Switch). Values are true or false.
Network Properties	Subnet Mask	Subnet Mask	The device's TCP/IP subnet mask
Network Protocol Support	Art-Net -> sACN	Art-Net Trap and Convert Enable	Shows the status of the Art-Net Trap and Convert feature on the device (VIA Switch). Values are true or false.
Network Protocol Support	Art-Net Alt Map	Art-Net Alternate Mapping	Shows whether Art-Net Alternate Mapping is enabled on the device (Pathport gateways and VIA switches). Values are true and false. True refers to mapping Art-Net universe 0:0 as Univ 1. False refers to ignoring Art-Net 0:0.
Network Protocol Support	Insecure	Allow Unsecure	Shows whether the Allow Unsecure Protocols property is enabled. Values are true or false.
Network Protocol Support	RX Art-Net	Receive Art-Net	Shows whether the device (Pathport gateway models) is configured to receive Art-Net protocol for conversion to DMX. Values are true or false.
Network Protocol Support	RX Pathport	Receive Pathport Protocol	Shows whether the device (Pathport gateway models) is configured to receive Pathport protocol for conversion to DMX. Values are true or false.
Network Protocol Support	RX sACN	Receive E1.31 sACN	Shows whether the device (Pathport gateway models) is configured to receive E1.31 sACN protocol for conversion to DMX. Values are true or false.
Network Protocol Support	RX Shownet	Receive Shownet	Show whether the device (Pathport gateway models) is configured to receive Strand Shownet protocol for conversion to DMX. Values are true or false.
Network Protocol Support	sACN PCP	E1.31 sACN Per-Channel Priority	Shows the status of the sACN Per-Channel Priority property for the subdevice (DMX Port) of the Pathport gateway device. Values are true or false.

Category	Column Heading	Full Name	Description
Network Protocol Support	sACN Prio Slot	E1.31 sACN Transmit Priority Slot	Shows the value of the sACN Transmit Priority Slot for the subdevice (DMX Port) if it has been set. Values are 0 (Disabled) to 512.
Network Protocol Support	sACN RX Prio	E1.31 sACN Receive Priority	Shows status of the E1.31 sACN Receive Priority on the device (Pathport gateway models). Values are Enabled or Ignored.
Network Protocol Support	sACN TX Prio	E1.31 sACN Default Transmit Priority	Shows the value of the Default sACN Transmit Priority of the subdevice (DMX Port). Values are 0 (lowest priority) to 200 (highest priority)
Network Protocol Support	TX Protocol	Transmit Network Protocol	Shows the currently enabled Ethernet DMX protocol sent by this device (Pathport gateway models). Values are Pathport, Art-Net, Strand Shownet and E1.31 (Streaming ACN)
Network Protocol Support	xDMX Status	xDMX Status	Shows the status of network DMX for the subdevice (DMX Port) of the Pathport gateway device. Values are Active or Inactive.
Playback Properties	Allow Record	Allow Record	Shows whether the Vignette Playback is allowed to record or not. Values are true or false.
Playback Properties	Clock Enable	Vignette Clock Enable	Shows whether the Vignette Clock Playback is enabled or disabled. Values are true or false.
Playback Properties	Function	Function	Shows the specified function of the Vignette subdevice (Button or Slider). Values are None, Snapshot, Zone (for Sliders) or Non-Dim Zone (for Buttons), or More...
Playback Properties	Inactive Snapshot	Inactive Snapshot	Shows the Snapshot number configured as the Inactive Snapshot for the device (Vignette Playback). 0 is OFF.
Playback Properties	More Functions	More Functions	Shows the specified function of the Vignette subdevice (Button or Slider) when the base Function is set to “More...”. Values are Grandmaster, Allow Record, Exclusive Lock, Blackout Zones, Goto Inactive, Release All or Priority Override.
Playback Properties	Non-Dim	Non-Dim	Shows the Non-Dim Zone number the subdevice (Vignette Button) is configured to operate.
Playback Properties	Playback ID	Playback ID	Shows the currently assigned ID for the device (Vignette) playback.
Playback Properties	Record #	Record Snapshot #	When using Pathscape to record Vignette Snapshots, will show the specified Snapshot number while recording. Once recording is complete, will return to 0 (inactive).
Playback Properties	Record Status	Record Status	Shows current Record Status when recording a Vignette Snapshot with Pathscape.
Playback Properties	Snapshot	Snapshot	Shows which Snapshot number the subdevice (Vignette Button or Slider) is configured to operate.

Category	Column Heading	Full Name	Description
Playback Properties	Startup Snapshot	Startup Snapshot	Shows the Snapshot number configured on the device (Vignette Playback) that is activated at startup. 0 is disabled.
Playback Properties	Target Playback	Target Playback	Shows the specified Vignette Playback the Vignette subdevice (Button or Slider) is acting on.
Playback Properties	Zone	Zone	Shows which Zone number the subdevice (Vignette Slider) is configured to operate.
PoE Properties	PoE	PoE	Shows whether PoE is Enabled or Disabled on the subdevice (Ethernet Port).
PoE Properties	PoE Alloc	PoE Power Allocation (W)	Shows the current PoE Power Allocation of the subdevice (Ethernet Port), in Watts.
PoE Properties	PoE Draw	PoE Active Draw (W)	Shows the current PoE draw of downstream devices connected to the subdevice (Ethernet Port), in Watts.
PoE Properties	PoE Ext Detect	PoE External Supply Detected	Shows whether the device (VIA Switch) has detected an external PoE power supply. Values are true or false.
PoE Properties	PoE Ext Wattage	PoE External Supply Power (W)	Shows the value of the external PoE Power Supply, in Watts. This is configurable in the Device Properties Window.
PoE Properties	PoE Max Alloc	PoE Max Allocation	Shows the currently configured maximum PoE power allocation for the subdevice (Ethernet Port). This is user-configurable in the Device Properties window. Values are 900mW, 1.8W, 2.7W, 3.6W, 4.5W, 5.4W, 6.3W, 7.2W, 8.1W, 9W, 9.9W, 10.8W, 11.7W, 12.6W, 13.5W, 14.4W and 15.4W.
PoE Properties	PoE Status	PoE Status	Shows the PoE Class, Power Allocation and status of the subdevice (Ethernet Port). Values are Class 0 (15.4W), Class 1 (4W), Class 2 (7W) and Not Detected.
PoE Properties	PoE Total	PoE Total Draw (W)	Shows the VIA Switch's total cumulative PoE draw across all PoE-enabled ports, in Watts.
RDM Properties	RDM B/G Disc	E1.20 RDM Background Discovery	Shows the status of the RDM Background Discovery property of the subdevice (DMX Port) of a Pathport gateway device. Values are true or false.
RDM Properties	RDM Device Count	RDM Device Count	Shows the number of detected RDM devices on the selected subdevice (DMX Port) of a Pathport Gateway device.
RDM Properties	RDM Enable	E1.20 RDM Enable	Shows whether E1.20 RDM is enabled on the subdevice (DMX Port) of a Pathport gateway device. Values are true or false.
Remote Monitoring and Management	SixEye Status	SixEye Status	Shows the status of the SixEye connection of the device.

Category	Column Heading	Full Name	Description
Ring Protect Properties	Ring Ctrl VLAN	Ring Protect Control VLAN	Shows the device's (VIA Switches') configured Ring Protect Control VLAN. This is user-configurable in the Device Properties Window.
Ring Protect Properties	Ring Mode	Ring Protect Mode	Shows the currently selected mode for the Ring Protect feature on the device (VIA Switch). Values are Disable, Transit and Master. This is user-configurable in the Device Properties Window.
Ring Protect Properties	Ring Pri Port	Ring Protect Primary Port	Shows the device's (VIA Switches') configured Ring Protect Primary Port. This is user-configurable in the Device Properties Window.
Ring Protect Properties	Ring Sec Port	Ring Protect Secondary Port	Shows the device's (VIA Switches') configured Ring Protect Secondary Port. This is user-configurable in the Device Properties Window.
Ring Protect Properties	Ring State	Ring State	Shows the status of the Ring Protect mode on the device (VIA Switches).
Security	Security Domain	Security Domain Name	Shows the device's current security domain (if applicable) and status (red padlock for unsecured, yellow padlock for secured but in a different domain, or green padlock for secured in the current domain).
Signal Loss	Fade on Loss	xDMX Loss Fade	Shows whether the subdevice (DMX Port) has been configured to fade to zero in the event of xDMX loss.
Signal Loss	Fade Time	xDMX Loss Fade Time (s)	Shows the specified time (in seconds) for the subdevice (DMX Port) over which the last received xDMX levels will be faded to zero. Values are true or false.
Signal Loss	Hold Forever	xDMX Loss Hold Forever	Shows whether the subdevice (DMX Port) has been configured to hold the last received xDMX levels forever in the event of xDMX loss. Values are true or false
Signal Loss	Hold Time	xDMX Loss Hold Time (s)	Shows the specified time (in seconds) for the subdevice (DMX Output Port) that the last received xDMX levels will be held for in the event of xDMX loss
Signal Loss	Input Hold Time	Input DMX512 Loss Hold Time (s)	Shows the specified time (in seconds) for the subdevice (DMX Input Port) that the last received xDMX levels will be held for in the event of xDMX loss
Signal Loss	Port Shutdown	xDMX Loss Port Shutdown	Shows whether the subdevice (DMX Port) has been configured to shut itself down in the event of xDMX loss. Values are true or false.
Software Details	S/W Version	Software Version	Shows the current operating software version of the RDM device. For a Pathway device, this is the same as the Firmware version.
Status	Button Type	Button Type	Shows how the NSB or Vignette Button subdevice is configured. Values are Mometary or Maintained.

Category	Column Heading	Full Name	Description
Status	State	State	Shows the state of the subdevice (NSB or Vignette Button or Slider). Values are Pressed or Un-pressed (Buttons), or the 8-bit value of 0-255 (Sliders).
Status	Type	Type	Shows the type of subdevice (NSB or Vignette). Values are Button or Slider.
Vignette Snapshot	1st Univ	DMX First Universe	Shows the status of the DMX First Universe property for the Snapshot. Values are true or false.
Vignette Snapshot	2nd Univ	DMX Second Universe	Shows the status of the DMX Second Universe property for the Snapshot. Values are true or false.
Vignette Snapshot	3rd Univ	DMX Third Universe	Shows the status of the DMX First Third property for the Snapshot. Values are true or false.
Vignette Snapshot	4th Univ	DMX Fourth Universe	Shows the status of the DMX First Fourth property for the Snapshot. Values are true or false.
Vignette Snapshot	Fade Time	Fade Time (s)	Shows the specified Fade Time for the Vignette Snapshot, in seconds.
Vignette Zone	# of Fixtures	Number of Fixtures	Shows the value of the Number of Fixtures for the Zone.
Vignette Zone	# of Slots	Slots per Fixture	Shows the value of the Number of Slots for the Zone.
Vignette Zone	Start Slot	Starting Slot	Shows the value of the Start Slot property for the Zone.
VLAN Properties	Mgmt VLAN	Management VLAN	Shows the device's (VIA Switches') currently configured value for the Management VLAN ID property. This is user-configurable in the VLAN Global Properties Window.
VLAN Properties	Tagged	VLAN Tagged	Shows whether the subdevice (Ethernet Port) is a Tagged/Uplink Port or Untagged.
VLAN Properties	VLAN	VLAN	Shows the subdevice's (Ethernet Port's) currently assigned VLAN Name.
VLAN Properties	VLAN End	VLAN Range End	Shows the device's (VIA Switches') currently configured value for the VLAN Range End property. This is user-configurable in the VLAN Global Properties Window.
VLAN Properties	VLAN Start	VLAN Range Start	Shows the device's (VIA Switches') currently configured value for the VLAN Range Start property. This is user-configurable in the VLAN Global Properties Window.
VLAN Properties	VLAN Support	VLAN Support	Shows whether the device (VIA Switch) has VLAN Support enabled. Values are Enabled or Disabled. This is user-configurable in the VLAN Global Properties Window.

APPENDIX 2: VIA SWITCH DEFAULT SETTINGS

The following settings reflect the current firmware for all VIA Switch Models.

Note that some of these properties may or may not be displayed based on hardware revision, firmware version or model of VIA switch.

Factory Default Settings	
Base Switch Properties	
IP Mode	Static.
IP Address	10.x.x.x - based on serial number
Subnet Mask	255.0.0.0
Default Gateway	10.0.0.1
Quality of Service (QoS)	Disabled
Rapid Spanning Tree (RSTP)	Disabled
DNS Server	10.0.0.1
NTP Server	[Blank]
VLANs	Disabled
VLAN Range Start	1
VLAN Range End	10
Management VLAN ID	1
Art-Net Alternate Mapping	Enabled
Ring Protect Mode	Disabled
Ring Protect Control VLAN	4094
Ring Protect Primary Port	Depends on switch model. Default is [highest port number -1]; ie. **13** for VIA 12-Port models (12 RJ45 + 2 SFP = 14 ports). Not applicable to Legacy VIA DIN-mount 5-Port models; Ring Protect not supported.
Ring Protect Secondary Port	Depends on switch model. Default is [highest port number]; ie. **14** for VIA 12-Port models (12 RJ45 + 2 SFP = 14 ports). Not applicable to Legacy VIA DIN-mount 5-Port models; Ring Protect not supported.
PoE External Power (W)	0

Factory Default Settings	
Switch Subdevice (Port) Properties	
Link Mode	Auto Negotiate
VLAN Tagged	Untagged
VLAN	VLAN 1
Art-Net Trap and Convert Enable	Disabled
PoE	Enabled
PoE Max Allocation	15.4W
Switch VLAN Properties	
IP Mode	VLAN 1: Static All others: Disabled
IP Address:	Set to same IP Address as Base Switch IP Address
Subnet Mask	Set to same Subnet Mask as Base Switch. Default is 255.0.0.0
Gateway	Set to same Gateway as Base Switch. Default is 10.0.0.1
DHCP Server	Disabled
IGMP Querier	Disabled
IGMP Snooping	Disabled
Fan Mode (VIA 24)	Automatic

APPENDIX 3: VIRTUAL LOCAL AREA NETWORKS (VLANs)

A VLAN (Virtual Local Area Network) is a group of ports on the switch (or switches) that are configured to pass traffic to one another, but not to ports on any other VLAN. When VLANs are established, ports that connect switches to switches must be tagged to pass all VLAN traffic.

This feature allows the user to arrange lighting consoles, gateways and other network gear into groups of equipment. The usual purpose is to minimize unnecessary traffic to the equipment, or to segregate different types of equipment (lighting, audio, video) so that the network subnet setups do not collide and the local networks do not get flooded with irrelevant data.

DEFINITIONS

Normal/Untagged ports belong to a specific VLAN as configured by the user, and will only pass traffic that belongs to that VLAN. These ports are typically connected to end devices.

Uplink/Tagged ports pass all network traffic with VLAN "tags" within the VLAN range established for that switch (see Range Configuration below). Typically, you would use tagged ports to connect switches together.

Tag refers to the marker added to (or removed from) the data packet as the packet enters or exits from a Normal/Untagged port on the switch. The "tag" determines which VLAN the data packet is assigned to.

Management VLAN refers to the VLAN that the switch's management processor is assigned to use. Care must be taken that the Management VLAN is used by at least one Normal/Untagged port on the switch, or the ability to configure the switch may be lost. It is strongly recommended that the Management VLAN be identical to the VLAN Range Start value.

VLAN ID (ID#) is assigned to Normal/Untagged ports and determines which VLAN that port operates within.

A Normal/Untagged port may only be associated with one VLAN ID# at a given time.

When using software to configure the switch, make sure your computer is connected to a Normal (Untagged) port set to the same VLAN ID# as used by the management processor. Failure to do so will prevent configuration from being applied.

VLAN GUIDELINES

Plan the VLAN layout first. The creation of a map of the network, showing which devices to associate with which VLAN, is strongly recommended prior to configuration.

Generally speaking, ports connected to end devices will be configured as Normal/Untagged and given a VLAN ID#.

Ports connected to other VIA switches will typically be set as Uplink/Tagged, so multiple VLANs may be forwarded between switches, or when a VLAN must be forwarded through an intermediate switch (where that VLAN is not in use) on to a third switch beyond. It is possible to set the ports that connects to another switch as Normal/Untagged, and given a VLAN ID#, in cases where it's desirable to pass only one VLAN to downstream switches.

When configuring VLANs, remember that each switch must be uniquely identified on each VLAN in use on that switch. By default, only the management VLAN is automatically assigned an IP and subnet mask. All other VLANs default to a null IP address value (0.0.0.0). Use the Network Configuration options available from the VLAN configuration screen to configure the desired IP settings for each VLAN.

APPENDIX 4: PLANNING CHARTS

VLAN PLANNING CHART

VLAN ID #	1	2	3	4
Label				
IP Address				
Subnet Mask				
Default Gateway				
IGMP Snooping				
IGMP Querier				
DHCP Server (IP must be static)				
DHCP Pool Start				
DHCP Pool End				

VLAN ID #	5	6	7	8
Label				
IP Address				
Subnet Mask				
Default Gateway				
IGMP Snooping				
IGMP Querier				
DHCP Server (IP must be static)				
DHCP Pool Start				
DHCP Pool End				

VLAN ID #	9	10	11	12
Label				
IP Address				
Subnet Mask				
Default Gateway				
IGMP Snooping				
IGMP Querier				
DHCP Server (IP must be static)				
DHCP Pool Start				
DHCP Pool End				

VLAN ID #	13	14	15	16
Label				
IP Address				
Subnet Mask				
Default Gateway				
IGMP Snooping				
IGMP Querier				
DHCP Server (IP must be static)				
DHCP Pool Start				
DHCP Pool End				

SWITCH PLANNING CHARTS

SWITCH LABEL:		
Serial Number:	MAC Address:	Switch Model:
Base IP:	Subnet Mask:	Gateway:
QoS (Disabled/Standard/Dante Strict)	VLANs (Enabled/Disabled)	VLAN Range:
Management VLAN:	Art-Net Alternate Mapping (Enabled/ Disabled)	Ring Protect (Enabled/Disabled)
Ring Protect Control VLAN:	Ring Protect Primary Port:	Ring Protect Secondary Port:
PoE External Supply Power (W):	Additional Notes:	

PORT	1	2	3	4	5	6	7	8	9
Connected Device									
Normal/ Tagged(Uplink)									
VLAN ID#									
ArtNet to sACN									
PoE Max Allocation									
Link Mode									
SFP Type									

PORT	10	11	12	13	14	15	16	17	18
Connected Device									
Normal/ Tagged(Uplink)									
VLAN ID#									
ArtNet to sACN									
PoE Max Allocation									
Link Mode									
SFP Type									

APPENDIX 5: EAPS & RSTP - “RING PROTECTION”

Ethernet wiring schemes are based on a ‘star’-wiring topology. Ring (or loop) data wiring – where the last device in a chain is wired back to the first device without RSTP or EAPS setup will quickly ‘break’ your network. Only one data path between any two devices is allowed.

Pure star-wiring layouts leave your network prone to a single point of failure. Unlike DMX512 networks, passive data “thru” connections are not possible with Ethernet. A severed cable or power loss to a switch can mean the loss of some or even all show control.

Ring Protection allows the deliberate – and designed – use of a ring wiring system for Ethernet communications. With EAPS or RSTP enabled, VIA switches ignore data traffic on one segment of the ring, while monitoring the integrity of the remaining connections. If an interruption is detected, the unused ring segment is activated and full communication is restored.

Ethernet Automatic Protection Switching (EAPS) uses dedicated tagged ports whereas **Rapid Spanning Tree Protocol (RSTP)** can use any two ports on a switch. Fail-over time when using EAPS on dedicated ports is between 50 and 75 milliseconds, or two to four DMX packets. Using RSTP, the healing process can take a second or two.

REQUIREMENTS AND LIMITATIONS

VLANs must be enabled to use Ring Protection. EAPS uses a dedicated VLAN to monitor the integrity of the ring. By default, VLAN 4095 is used. The Ring Protection VLAN must be outside of the established VLAN range.

Only ports 11 through 14 (**PWVIA RM P12 models and Legacy VIA 12-Port Switch models 6740, 6741, 6742**), ports 9, 10 and 11 (**Legacy VIA 10-Port Switch model 6730**), ports 15 through 18 (**PWVIA DIN P16**), and ports 7 through 10 (**PWVIA DIN P8**) and ports 23 through 28 (**PWVIA RM P24**) may be used with this feature. This feature is not supported by the Legacy DIN-mount 5-Port 6705 or 6706 VIA models.

EAPS works with VIA switches only. Switches from other manufacturers can co-exist on the network, but should not be placed in-line with the ring.

DEFINITIONS FOR EAPS

Master switch monitors the integrity of communications. **Only one switch on the network may be configured as the master.**

Transit switches receive and forward the ring monitoring packets. **All switches other than the Master must be set as transit switches.**

Primary port is the main (active) UPLINK connection link on the Master switch, joining to the rest of the network. All transit switches must also have one port configured as the primary. Only ports 11 through 14 are available to be used as the primary port. (Ports 15 through 18 on the VIA DIN-mount 16-Port switch).

Secondary port is an UPLINK port “ignored” (logically blocked) by the Master switch to break the ring topology. All transit switches also must have one port configured as the secondary port. The secondary port is actively used on transit switches. Only ports 11 through 14 are available to be used as the secondary port.

Control VLAN is a unique VLAN ID dedicated to monitoring the health of the network. All switches must use the same control VLAN. The default is VLAN ID **4094**.

Note: Ring Protection wiring topology is not structured. Primary ports can be connected to either the Primary or Secondary port on the next VIA.

SOFTWARE CONFIGURATION OF RING

- Start with the redundant wiring segment unplugged.
- Connect the computer running Pathscape to one of the end switches, in the wiring chain.
- Configure the switch that is physically furthest away on the chain. Work backwards until reaching the closest switch.
- Now plug in the redundant wiring segment. Check the message on the LCD of the switch, which should change within a few seconds from “Ring Failed” to Ring Complete”. **For DIN-mount VIA models (PWVIA DIN P16 & P8), Pathscape must be used to verify the Ring state**.
- If the “Failed” message does not clear, unplug the redundant segment and check the port settings of each switch for misconfiguration.

⚠ WARNING EAPS and RSTP ⚠

RSTP is not VLAN aware and it is only suggested if VLANs are disabled. Every VIA switch on the network should have RSTP enabled or disabled; don’t have some with RSTP on and some off.

EAPS requires VLANs and uses dedicated ports. Not all VIA switches must have EAPS enabled nor do they all have to be part of the ring.

Use either RSTP or EAPS - not both at the same time!

APPENDIX 6: ALLOWLIST

In normal operation, all devices present on every network interface of your local computer will be discovered and shown in Pathscape Config’s devices view.

A feature of Pathscape is to use the existence of a simple text file on your Desktop named “allowlist.txt”. This file may list the IP addresses of the specific devices you want to be discovered. This has been used on extremely large networks to limit the number of devices discovered and reduce network traffic. If you enter only one line in the file which has “1.1.1.1” and save it, when you start Pathscape, it will not discover anything on your network. This may be handy if you want to be in the venue and on the network, but work with a different Pathscape Config showfile offline. Only the devices in the loaded show file will be displayed. You can then set properties and work on the placement of images and devices in the Network Navigator tab without seeing more than what is on disk. When starting with an “allowlist.txt” on your desktop, Pathscape Config warns you of its existence.

APPENDIX 7: SUPPORTED SFP MODULES

Many SFP and SFP+ Fiber Optic Transceiver Modules that are tagged for use with Enterprise Ethernet Switches such as Cisco, are not compatible with VIA. Fiber modules compatibility should be listed as Generic.

- LX (1G Single Mode fiber 5km) SFP (LC Duplex - two fibers)
- SX (1G Multi Mode fiber 550m) SFP (LC Duplex - two fibers)
- LR (10G Single Mode fiber 5km) SFP+ (LC Duplex - two fibers)
- SR (10G Multi Mode fiber 550m) SFP+ (LC Duplex - two fibers)
- BX (1G Single Mode fiber 5km) SFP (LC Simplex - one fiber)
- DAC Passive (10G Direct Attach Cable - 7m) SFP+
- DAC Active (10G Direct Attach Cable - 15m) SFP+

Fiber Optic Cable Recommendations

- 1GB (SFP): OM3
- 10GB (SFPP): OM4

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3 - Term. Each party's obligations under the Transaction Records and this EULA will be binding upon their execution and shall continue for as long as there is any active License Term, as defined herein. The "License Term" shall begin on the date the Transaction Records are executed. The License Term shall continue for the period identified as the License Term. The License Term may be perpetual or may be tied to ownership of a particular piece of hardware. Otherwise, a License Term will automatically renew for an additional period equal to the prior License Term unless either party provides notice of its intent not to renew no less than sixty (60) days before expiration of the prior License Term. Any renewal, regardless of whether automatic or agreed to in a Transaction Record, will be considered a License Term. This EULA will continue in full force throughout the stated License Term unless the License Term is terminated earlier as set forth herein. Either party may terminate a License Term for cause upon written notice to the other party, provided that the terminating party provided the other party with written notice detailing that party's failure to comply with its obligations hereunder and provided that party with thirty (30) days to cure if the breach is of the type that is capable of cure. All License Terms will automatically terminate should Licensee voluntarily or involuntarily become subject to the jurisdiction of any bankruptcy court. Any unpaid fees for a License Term shall become immediately due and payable upon termination and Licensee shall only be relieved of its obligation to pay through the end of the License Term where the License Term is terminated for Licensor's uncured breach. Upon termination of a License Term for any reason, Licensee will immediately cease using the Software and return any and all related documentation to Licensor, or, at Licensor's discretion, Licensee will permanently destroy all copies of the related documentation in Licensee's possession or control. Upon termination or expiration of this EULA all sections of this EULA which by their nature should survive will continue

in full force and effect, including without limitation Sections 3 - 28.

4 - Fees. Any fee for the Software will be set forth on the Transaction Records. There may be no separate fee for the Software, such as where the Software is provided as part of hardware. When there is an automatic renewal under Section 3 the renewal fee will be equal to the fees for the prior License Term plus the net change in the Consumer Price Index for All Urban Consumers (CPI-U) as reported by the U.S. Bureau of Labor and Statistics over the previous License Term. Unless stated otherwise on an Transaction Record signed by Licensor, all fees shall be due within thirty (30) days of invoice. All fees not paid when due shall be subject to interest at a rate equal to the lesser of one percent (1%) per month or the highest rate allowable by law. In addition to any other rights Licensor may have under this EULA, Licensor may suspend any or all Software for any account with fees that are more than thirty (30) days past due.

5 - Changes to Functionality or Ongoing Access. Licensor will remain obligated to continue providing the Software to Licensee through the end of any existing License Term. Otherwise, Licensor retains the right, in Licensor's sole discretion and at any time, to update and modify the Software, replace the Software with another product or Software, and discontinue making the Software available.

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10 - License to Licensee's Data. Licensee hereby licenses Licensor the right to utilize Licensee's Data for the purpose of performance of Licensor's obligations to Licensee under this EULA and for the purpose of allowing Licensor to develop, test, and provide the Software and underlying software and documentation. Additionally, Licensee hereby licenses Licensor to use Licensee's Data to contact Licensee regarding other products and Software that Licensor may offer on its own behalf or on

behalf of others. Additionally, Licensee hereby licenses Licensor the right to extract from Licensee's Data certain information that, either alone or in conjunction with other information which Licensor may decide to include, can be used to make up anonymized data sets which Licensor may use for any lawful purpose in perpetuity. For the purposes of this license, anonymized data sets may include any of Licensee's Data on an aggregated basis except (a) Licensee's information which is protected by a separate license agreement between Licensee and Licensor, (b) information that can readily be used to identify a specific individual's identity (or as otherwise protected by applicable law), either alone or when combined with other information from another source, (c) protected health information which has not been de-identified in accordance with 45 CFR 164.514 or other applicable law, prior to incorporation in the anonymized data set, or (d) information which can be used to easily identify Licensee as the source.

11 - Publicity. Licensee grants Licensor the right to use Licensee's name and logo (in accordance with any brand guidelines provided by Licensee in writing) in (a) its lists of Licensor's customers on its website and in promotional and marketing materials, and (b) communications intended for internal distribution.

12 - Confidential Information. If Licensee and Licensor have entered into a separate Mutual Nondisclosure Agreement, then that document will supersede this Section 12, provided that the parties agree that the term of that Mutual Nondisclosure Agreement shall be automatically extended to be coterminous with the License Term.

Licensee acknowledges and agrees that the software, Software, and all documentation and other information related thereto or disclosed or delivered to Licensee in relation to this EULA represent Licensor's confidential and proprietary information. Licensor acknowledges and agrees that the information entered into the Software by or on behalf of Licensee represents Licensee's confidential and proprietary information. Each party agrees to keep the other's confidential and proprietary information secret by exercising the necessary care required to prevent its disclosure and to only use that information in furtherance of the rights and obligations expressly authorized by this EULA. Such obligations with respect to information deemed "trade secrets" under applicable law will remain in effect for as long as the information remains a trade secret. Obligations with respect to information that is not deemed to be a trade secret will remain in effect throughout the License Term and for a period of three (3) years thereafter. Should either party is subject to subpoena or public disclosure laws that require that party to disclose Confidential Information, if allowable by law that party will notify the other party of any orders or requests for disclosure of Confidential Information within a reasonable period so as to allow the other party to challenge such disclosure if the other party should choose to do so. The party challenging disclosure shall be responsible for any costs associated with such challenge.

13 - Warranty; General Disclaimer. Licensor warrants that (a) Licensor will perform its obligations under this agreement in a professional and workmanlike manner in keeping with the standards of those of the industry, (b) the Software will operate in material conformity with the then-current documentation, and (c) Licensor's performance of its obligations hereunder shall be in accordance with all applicable laws. Licensee warrants that Licensee will be solely responsible for any representations or warranties it makes with respect to the Software and shall not represent or otherwise suggest otherwise, (b) Licensee shall comply with all laws applicable to it and its use of the Software, and (c) Licensee shall ensure that the Software will not be exported to, or used by, nor will the data gained therefrom be exported to, transshipped or re-exported to any nation, organization, or individual outside of the U.S. in violation of any applicable export laws. Without limiting the foregoing, Licensee agrees that Licensor and its officers, directors, agents, and employees, will have no liability for errors or omissions in (a) the output of the Software, such outputs including, without limitation, the quality or accuracy of any screen displays or reports, (b) the operation of third party equipment controlled by the Software, and (c) the transmission and reception of data. Licensor does not represent or warrant that the Software will operate continuously or error free. Licensor is not responsible for the operation of any technology not controlled by or on behalf of Licensor, including the Internet. Licensee expressly accepts that the installation, establishment, and maintenance of proper safety controls and procedures and proper monitoring and operation of all equipment within Licensee's control is Licensee's responsibility and not that of Licensor, and hereby waives any claims of liability of Licensor to any damages that may result from such operation. Reliance upon the Software will not be considered a basis for transferring any portion of such responsibility to Licensor nor a basis for contributory or comparative liability.

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16 - Indemnification. Each party (the "Indemnifying Party") shall indemnify, defend, and hold harmless the other party and its officers, directors, employees and agents (each, an "Indemnified Party") against any and all liabilities (including, but not limited to, losses, damages, expenses and reasonable attorneys' fees) arising from any claim brought by an unrelated third party alleging injury, in whole or in part, resulting from (a.) the negligence or willful misconduct of the Indemnifying Party, its officers, directors, employees, and agents, (b.) the Indemnifying Party's materials (e.g., the Software and documentation for Licensor; the Licensee's Data for the Licensee) violates a trademark, copyright, patent, or privacy right of any unrelated third party, except to the extent that such claim is alleged to arise from a modification of the materials by anyone other than the Indemnifying Party, the use of the materials in combination with intellectual property not approved by the Indemnifying Party, materials which were delivered pursuant to the Indemnified Party's specific requirements, or use of the materials in a way not in accordance with any documentation or restrictions supplied by the Indemnifying Party to the Indemnified Party. The event of a claim under part (b.) of this Section, the Indemnifying Party shall, at its sole option and expense, have the right to procure for Indemnified Party the right to continue the use of the materials without interruption, replace or modify the materials to make their use non-infringing while being substantially capable of performing the same function, or accept return of the materials and refund a pro-rata portion of the fees for those materials. In all cases the Indemnified Party shall promptly provide the Indemnifying Party written notification of the assertion of any claim (although failure to do so shall only excuse liability to the extent that material prejudice results from the delay) and provide reasonable support in aiding the Indemnifying Party in any defense to a claim, at the Indemnifying Party's reasonable cost. The Indemnifying Party shall have sole control over the defense or settlement of any claim, provided that neither Party shall agree to any settlement that places any financial or public burden upon the other Party. This Section states the entire liability of the Parties and each Party's sole remedy with respect to any claim for infringement.

17 - Verification. On the reasonable request of Licensor, Licensee will furnish Licensor with a signed statement that the Software and the Program Concepts are being used pursuant to the terms and conditions of this EULA. If Licensor has reason to believe that the Software or the Program Concepts are not being used in accordance with the terms and conditions of this EULA, Licensee will permit Licensor to review Licensee's relevant records and inspect Licensee's facilities to ensure compliance with this EULA. Licensor will conduct such inspection during normal business hours in a manner that does not unreasonably interfere with Licensee's business operations. If such audit shows that Licensee has exceeded the license set forth in Section 1, in addition to other rights it may have, Licensor will be entitled to invoice, and Licensee will promptly pay, an amount equal to one-hundred-andfifty percent (150%) of the fees beyond those paid which would have been payable to Licensor from the beginning of the License Term for a suitable license.

18 - U.S. Government Restricted Rights. The following applies to all acquisition of the software by or for the U.S. government or by any prime contractor or subcontractor under any contract, grant, or other activity with the U.S. government. The software and the Software related to such software provided to Licensee hereunder are "commercial items" as that term is defined at 48 C.F.R. 2.101 (October 1995) consisting of "commercial computer software" and "commercial computer software documentation" as such terms are used in 48 C.F.R. 12.212 (Sept. 1995) and other applicable acquisition regulations and are provided to the U.S. Government only as a commercial item. Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202 (June 1995), all U.S. Government users and licensees acquire the software and its associated documentation with only those rights and subject to the restrictions set forth in this EULA. Notwithstanding the foregoing, the software may not be acquired by the U.S. government pursuant to a contract incorporating clauses prescribed by FAR Subpart 27.4 (June 1987) or DFARS Subpart 227.4 (Oct. 1988). If this EULA is inadequate to meet the government's needs or is inconsistent in any respect with Federal law, the government should return the software, unused, to Licensor.

19 - Injunctive Relief. Licensee acknowledges that remedies at law will be inadequate to provide Licensor with full compensation in the event of Licensee's material breach of this EULA, and that Licensor will therefore be entitled to injunctive relief in the event of any such material breach without the need to post bond or prove the inadequacy of monetary damages. Regardless of any provisions to the contrary, Licensor will have no obligation to allow Licensee to cure Licensee's breach prior to seeking injunctive relief and will be entitled to seek such injunctive relief in any jurisdiction regardless of any choice of law or venue provisions.

20 - Governing Law/Jurisdiction for Government Contracts. If Licensee is (a) a state or local governmental agency, (b)

legally required by a law or regulation issued by a state or local governmental agency only to accept that state's law for the purposes of this EULA, or (c) is legally required by a binding contract with a state or local government agency only to accept that state's law for the purposes of this EULA, then this EULA will be construed and governed in accordance with the laws of the state where that governmental agency is located. Neither the Uniform Commercial Code, any part of the Uniform Computer Information Transactions Act (if adopted), nor the United Nations Convention on the International Sale of Goods will apply to the Software or this EULA. Additionally, if such courts are willing to accept jurisdiction, Licensee and Licensor agree to submit all disputes hereunder to the personal and exclusive jurisdiction of the state and federal courts located in the capital city of the state where that governmental agency is located.

21 - Governing Law/Jurisdiction for Non-Government Contracts. Unless Section 20 applies to Licensee this EULA will be construed and governed in accordance with the laws of the State of Delaware in the United States of America, without regard to its rules regarding conflicts of law. Neither the Uniform Commercial Code, any part of the Uniform Computer Information Transactions Act (if adopted), nor the United Nations Convention on the International Sale of Goods will apply to the Software or this EULA. If such courts are willing to accept jurisdiction, Licensee and Licensor agree to submit all disputes hereunder to the personal and exclusive jurisdiction of the state and federal courts located in and around Wilmington, Delaware, in the United States of America and waive any right to object to such venue.

22 - Legal Expenses. Unless governing law explicitly prohibits either party from recovering such costs or fees, in which case both parties agree that neither shall be entitled to such costs and fees, the prevailing party in any dispute proceeding or litigation hereunder shall be entitled, in addition to such other relief as may be granted, to recover reasonable related fees and the costs incurred. For purposes of the foregoing: (a) "prevailing party" means (i) in the case of the party initiating the enforcement of the rights or remedies, that it recovered substantially all of its claims; and (ii) in the case of the party defending against such enforcement, that it successfully defended substantially all of the claims made against it; and (b) if no party is a "prevailing party" within the meaning of the foregoing, then no party will be entitled to recover its fees and costs pursuant to this Section.

23 - Onsite Services. Licensor may agree to provide ancillary professional services as part of providing the Software (e.g., setup of a technology environment, configuration of software, data migration), possibly for an additional

fee. All such ancillary professional services will be governed by Licensor's Terms and Conditions for Field Software, available at https://www.Acuitybrands.com/support/warranty/terms-and-conditions.

24 - Compliance with Laws and Export Rules. Licensee will be solely responsible for ensuring that Licensee's use of the software, Software, documentation, and Licensee's Data is in full compliance with all applicable laws and without violation of the rights of third parties. Without limiting the forgoing, Licensee represents and warrants that the Software and documentation will not be exported to, or used by, nor will the data gained therefrom be exported to, transshipped or re-exported to (a) any individual located in any nation to which export, transshipment, or re-export is prohibited by U.S. law or regulation at that time (collectively, the "Restricted Nations"); (b) any business or organization owned, controlled by or acting on behalf of an individual, business or organization in a Restricted Nation; (c) the governments of a Restricted Nation or any business or organization owned, controlled by or acting on behalf of a government of a Restricted Nation; or (d) any individual, group or organization on the U.S. Department of Treasury's Office of Foreign Assets Control's list of Specially Designated Nationals or the U.S. Department of Commerce's Bureau of Export Administration's List of Denied Persons, as each may be amended from time to time.

25 - Waiver / Severability. The failure of to exercise or enforce any right or provision of this EULA will not constitute a waiver of such right or provision. Should any court or legal authority hold any provision of this EULA unenforceable or invalid for any reason, then Licensee and Licensor agree that such court or authority will attempt to craft an acceptable provision most closely resembling the intent of the offending provision, and if such court or authority is unable or unwilling to do so then this EULA will be construed as if such provision were never contained in this EULA.

26 - Assignment. Licensee cannot assign, sublicense, or transfer this EULA without the prior written consent of Licensor. Any attempt by Licensee to sublicense, assign, or transfer any rights, duties, or obligations hereunder is null and void. Licensor may assign, sublicense, or transfer this EULA, in whole or in part, at will and without prior notice to Licensee.

27 - Notice. All notices or approvals hereunder shall be in writing and sent by certified or registered mail, postage prepaid, return receipt requested (or similarly evidenced overnight delivery), and shall be deemed to have been given upon receipt. Notices shall be provided to Licensee at the address set forth on the Transaction Records. Notices for Licensor such notice shall be addressed to the attention of the Senior Vice President, Enterprise Software, with a copy to its General Counsel, both at One Lithonia Way, Conyers, GA 30012. Either Party may change its address for such communications by giving notice thereof. Rejection or other refusal to accept, or the inability to deliver because of un-notified changed address, shall be deemed to be receipt of the notice sent as provided above.

28 - Order of Precedence. In the event that there is a conflict between this EULA and any other document, the following

order of precedence shall apply: 1. any document signed by both an authorized representative of Licensor and an authorized representative of Licensee, provided that the document expressly and unambiguously states that this EULA, by specific reference, are subservient to the terms set forth in that document, then 2. this EULA, then 3. any Transaction Record signed by Licensor. Otherwise, neither party shall be bound by any terms or conditions set forth in any other document, and all such terms are expressly rejected, such as those on a purchase order or invoice, even where they may have been otherwise enforceable based upon contractual concepts such as “acceptance by performance” and similar concepts.

29 - Merger. This EULA, along with the Transaction Records identified in Section 28, comprise the entire agreement between Licensee and Licensor with respect to the Software and documentation, and supersedes any other agreement or discussion, oral or written.