

SHARP

NaViSet Administrator 2

NaViSet Administrator SE

USER'S GUIDE

English



NA2 Version: 2.1



NASE Version: 2.5

Software Updates

Occasionally, updates and enhancements to the *NaViSet Administrator* software will be made available. Use the *Check for updates* feature in the software to automatically see if a newer version is available (Internet connection required).

Technical Support and Feedback

For technical support with *NaViSet Administrator*, please check for any Frequently Asked Questions that may help to solve the issue. For additional help, please contact your SHARP representative, or use the online feedback forms available at business.sharpusa.com/navisetadministrator2 in the US and Canada, and www.sharpdisplays.eu/naviset in Europe.

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USA and Canada: business.sharpusa.com/navisetadministrator2

Europe: www.sharpdisplays.eu

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Revision 260206

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Precautions

Important: This document outlines the features and functionality of both the *NaViSet Administrator 2* and *NaViSet Administrator SE Console* applications. Unless otherwise noted, the user interfaces for both applications are identical, and they will be collectively referred to as *NaViSet Administrator*, except when discussing specific unique features.



NaViSet Administrator 2



NaViSet Administrator SE Console

- **The *NaViSet Administrator* applications allows many advanced display features and settings to be changed and reset. Care should be taken when making any adjustments to avoid mis-adjustment.**
 - **The *NaViSet Administrator* applications provides controls to remotely shut down and restart Windows based computers without warning the currently logged in users. Unsaved files may be lost as a result. Extreme care should be taken when using these controls.**
-

Tip: This document is intended to be used together with the User Manual for each display model, and is not intended as a substitute. Please see the display's User Manual for descriptions of how to use each control.

Supported Devices

NaViSet Administrator supports the following devices:

- **NEC device models**
 - NEC desktop display models
 - NEC large-screen display models (see *Note* below)
 - NEC projector models with a LAN or RS232 connection
- **PJLink compatible devices with a LAN connection**
- **Sharp device models**
 - Sharp desktop displays (2024 models or newer)
 - Sharp large-screen display models (see *Readme file*)
 - Sharp AIO dvLED displays
 - Sharp projectors (2024 models or newer)
- **NovaStar H series controllers for communicating to connected Sharp or NEC dvLED displays¹**

 **Tip:**

- NEC E series of large-screen display models *without* a built-in LAN connection are *not* supported.
 - Please see the [NaViSet Administrator web page](#) for the current list of supported models.
 - Supported features and functionality will depend on model.
-

¹ Support for NovaStar H series controllers for communication to dvLED displays is available in NaViSet Administrator SE only

System Requirements

 **Tip:** This document covers both the Windows and macOS versions of the *NaViSet Administrator* software. The majority of the User Interface images in this document show the Windows version. The features, functions, and layout of both versions are identical unless otherwise noted.

NaViSet Administrator 2

NaViSet Administrator 2 has the following system requirements:

	 Windows	 Mac
Operating System	64-bit Windows 10 and 11 Windows Server 2019 / 2022 / 2025	macOS version 10.13 or higher on: <ul style="list-style-type: none"> • Apple silicon Mac computers • Intel-based Mac computers
LAN	Standard TCP/IP LAN interface. Static IP addresses required for most displays connected directly to LAN, unless name resolution (hostname) support is provided.	
System Resources	At least 300MB available hard-disk space for installation. Approximately 100MB per 100 devices hard-disk space required for database storage. At least 4GB RAM (8GB recommended)	
Software	Adobe Reader X or higher is recommended for viewing the User's Guide. Microsoft Excel for viewing output spreadsheets (optional). "Open Hardware Monitor" or "Libre Hardware Monitor" (optional) for monitoring computer temperature and fan status. See Appendix D on page 261 for details.	Microsoft Excel or Apple Numbers for viewing output spreadsheets (optional).

NaViSet Administrator SE

NaViSet Administrator SE has the following system requirements:

	 NASE Configuration Utility Core Service and Web Server	 NASE Console App	
Operating System	64-bit Windows 10 and 11 Windows Server 2016 or later	64-bit Windows 10 and 11 macOS version 10.13 or higher on: <ul style="list-style-type: none"> • Apple silicon Mac computers • Intel-based Mac computers 	
LAN	Standard TCP/IP LAN interface. Static IP addresses required for most displays connected directly to LAN, unless name resolution (hostname) support is provided.		
System Resources	3.6 GHz processor At least 300MB available hard-disk space for installation. Approximately 100MB per 100 devices hard-disk space required for database storage. At least 16GB RAM		
Software	Adobe Reader X or higher is recommended for viewing the User's Guide. Microsoft Excel for viewing output spreadsheets (optional). "Open Hardware Monitor" or "Libre Hardware Monitor" (optional) for monitoring computer temperature and fan status. See Appendix D on page 261 for details.		
Browsers	The latest of one the following for access via the web client: <ul style="list-style-type: none"> • Google Chrome (desktop or mobile) • Mozile Firefox (desktop) • Microsoft Edge (desktop) • Apple Safari (desktop or mobile) 		
Web client access		For connecting to the web client, the system must be running: <ul style="list-style-type: none"> • Desktop system: Windows, macOS, or Linux variant running one of the supported browsers listed above. • Mobile devices: iOS or Android running one of the supported browsers listed above. 	

1 Introduction to NaViSet Administrator

Introduction

NaViSet Administrator is a network based control and asset management system for Sharp or NEC display products. It supports the asset reporting, monitoring, and control of the following types of displays:

- **Sharp or NEC large-screen displays connected to a LAN via the built in LAN connection.**
- **Sharp or NEC large-screen displays connected to a networked Windows based computer via RS232.**¹
- **Sharp AIO dvLED displays connected to a LAN via the built in LAN connection.**
- **Sharp or NEC projectors connected directly to a LAN via the built in LAN connection.**
- **Sharp or NEC projectors connected to a networked Windows based computer via RS232.**
- **Sharp or NEC dvLED displays connected to the NovaStar H series controllers via LAN**²
- **Desktop displays connected to a networked Windows computer via a standard video connection such as VGA, DVI, or DisplayPort.**³

The *NaViSet Administrator* application is designed to run from a central location and provides monitoring, asset management, and control functionality of remote displays and Windows computers¹. It can run continuously to provide automatic monitoring and control of devices through the use of automated tasks and alerts, which can be run manually or set to run at specific times and intervals.

The application provides controls for accessing and adjusting many of the controls and settings on the various types of supported displays. Most controls available via the *On Screen Display (OSD)* of a display monitor are available via the *NaViSet Administrator* application. These controls can be adjusted interactively, or be made to perform customized operations at specific times via the use of *Tasks*. This allows powerful automation functions to be performed easily.

Tasks are operations that can query or perform commands to one or more devices. Tasks can be scheduled to run at particular times or on demand, and to continue running for a specific period of time and interval.

Tasks can be used to perform conditional queries on devices, which can in turn be used to provide alerts for abnormal conditions or events. Notification emails can be automatically sent to multiple recipients in the event of an alert condition.

Custom Reports can be created, of all connected devices, that contain information about each device and its configuration and settings.

¹ **Not accessible via WMI in NaViSet Administrator 2 on macOS.**

² **Support for NovaStar H series controllers for communication to dvLED displays is available in NaViSet Administrator SE only**

³ **This feature is not available in NaViSet Administrator 2 on macOS. All other versions of NaViSet Administrator support adding Windows computers with connected monitors to the application database**

Features

Communications

Communications with the displays is achieved either via the built in LAN connection (available on most large-screen and projector models), or via a host Windows computer that acts as an interface between the connected displays and the network.

See "Configuring Devices" on page 73 for a complete description of each of the different supported connection types and configurations.

Adding Devices

Display devices and Windows computers¹ can be easily added to the NaViSet Administrator database using a variety of different methods:

- Many projector and large-screen display models can be automatically detected on the network.
- Devices can be added by specifying an IP address range.
- Devices can be added one at a time by entering their host names or IP addresses
- Any type of device can be imported from a list in either a delimited text file or Excel spreadsheet, as well as from another NaViSet Administrator file.
- Windows computers can be added by querying an Active Directory Server, or enumerating the Windows network.¹

Database

NaViSet Administrator uses a database to store information about the remote devices, access credentials, operation history, and logging information. The databases for different projects and networks can be loaded, saved, and transferred between different computers.

As devices are added and queried, the information gathered for each device is automatically stored in the internal database. The application includes database query functionality to generate reports about the devices. For example, at the most basic level it can be used for asset tracking, such as compiling a list of the model names and serial numbers of displays. This can be expanded to include more information, such as the number of hours each display has been in use, the carbon savings and energy cost, and even the non-volatile Asset Tag string stored in each device.

Reports can be exported to Excel or delimited text files to facilitate the easy transfer of data for use with other applications.

Advanced Computer Monitoring and Control

For displays that are connected to a Windows computer¹, *NaViSet Administrator* can gather useful information about the computer and even control the computer power state. For example, the computer make, model, serial number, available memory, OS version, CPU type, usage, and many more parameters can be collected and reported. A computer can even be restarted, shut down, and woken remotely from within the application. These operations can be scheduled to occur at specific times or intervals.

NaViSet Administrator supports the popular *Open Hardware Monitor* and *Libre Hardware Monitor* applications to gather additional useful information about a remote computer, such as the internal mainboard, CPU and GPU temperatures and fan speeds. These parameters, just like any other monitor related parameter, can be used to

¹ **This feature is not available in *NaViSet Administrator 2* on macOS. All other versions of *NaViSet Administrator* support adding Windows computers with connected monitors to the application database**

create a conditional alert to inform an administrator of an abnormal situation, such as overheating or fan failure. These alerts are displayed as an alert condition within the application, or sent out as a notification email.

 **Tip:** Remote display and computer devices do not broadcast events back to the *NaViSet Administrator* application. All information is acquired by polling the device. Therefore, alert conditions are discovered by periodically polling devices to query their condition.

Speed

In order to achieve a high operational speed when performing multiple operations on different remote devices, operations to different devices are performed in parallel. The software supports multiple simultaneous network connections to different devices, and operations are automatically queued and performed as soon as a connection is available.

The maximum number of simultaneous network connections can be configured in the *Preferences* settings for **NaViSet Administrator 2**.



The maximum number of simultaneous network connections and any other network or database settings must be configured using the **NaViSet Administrator SE Configuration Utility** application. Full instructions for using the Configuration Utility are available in the web based help accessed from the *Help* menu in that application.

Benefits of using NaViSet Administrator

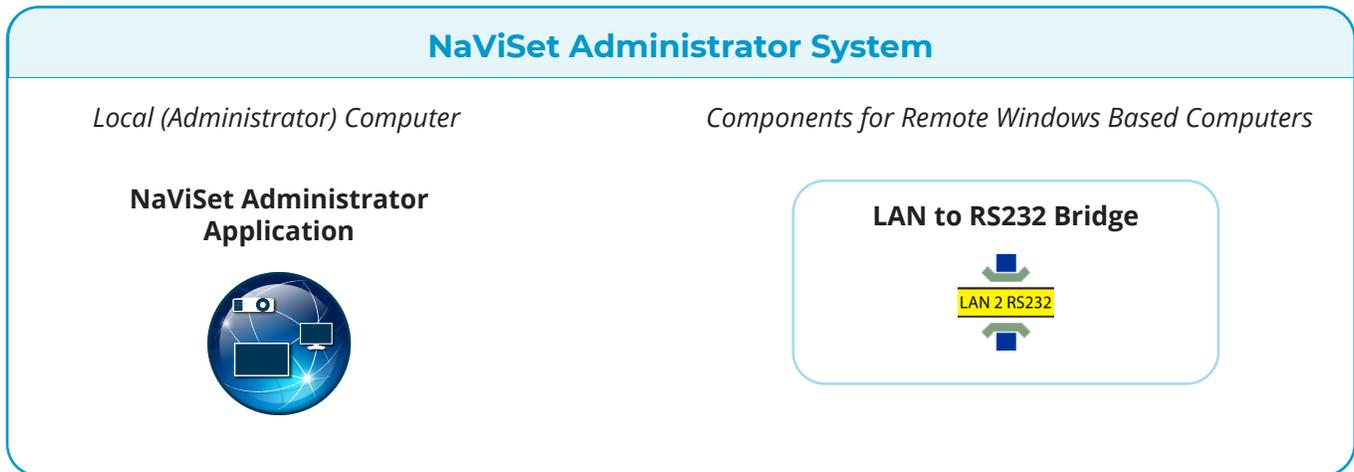
Some of the benefits of using *NaViSet Administrator* are:

- Unified support for Sharp or NEC desktop displays ¹, large-screen displays, and projectors, as well as Windows computers ¹ and non-Sharp or NEC desktop displays ¹.
- Reduction in technical support times and costs by accessing configuration settings for displays remotely over the network, allowing many problems to be diagnosed and corrected without having to physically access the device.
- Reduction in total power consumption by providing remote power management functions in order to turn displays on or off. This feature can be fully automated so that the power state for multiple displays can be controlled at specific times of the day.
- Settings and parameters can be read directly from a display, thus providing detailed information about the display and its usage, such as its current settings and status. For example, the total time that a display has been powered on, or in a power saving mode, can be read and compiled into a report along with many other items such as the model name, serial number, and date of manufacture.
- Powerful asset management with the use of an electronic Asset Tag that allows a text string to be permanently stored within the display's memory. This text string could, for example, be a conventional asset tracking code, company name, department name, phone number, etc. This can then be read by *NaViSet Administrator* and used for asset tracking over a network. It can normally only be altered or erased with the use of *NaViSet Administrator*, thus providing a more secure method of asset tracking than conventional physical asset tags.
- The current setting values of all of the available controls in a display can be read, stored in the database, and reported, thus providing a convenient snapshot of the configuration of each display.
- Configuring the settings in multiple displays to a standard can be done easily by creating a task with the required setting values, thus providing a simple way to deploy a large number of displays with a standard set of settings.
- Unauthorized or unintended adjustment of display monitors can be reduced by disabling the On Screen Display (OSD) control buttons on a display.
- Alert conditions can be automatically generated if a parameter on a device goes outside a specified range or value. For example, an administrator can be notified via email if a projector's lamp is reaching the end of its operational lifetime or has failed.
- Alert conditions can be followed up with automatic actions to change the settings. For example, if the internal temperature reaches a certain limit, then turn on the cooling fans.
- Basic information about displays connected to Windows computers via standard video connections such as VGA, DVI, and Display Port, can be read even without installing any additional software. This includes the make, model, serial number, resolution, and date of manufacture. The computer can also be shut down, restarted, and a Wake-on-LAN command issued. ¹
- *Proof Of Play* events can be read from supported large-screen displays, allowing detailed logging of events that may impact the video or audio output of the display such as loss of signal, or a change in video input selection.
- Non-Sharp or NEC devices can be monitored, and controlled to a limited degree, using the PJLink protocol.

¹ ***This function is not available in NaViSet Administrator 2 on macOS. All other versions of NaViSet Administrator support communications and control of displays connected to Windows computers, as described in this manual.***

Installing NaViSet Administrator 2

The *NaViSet Administrator* system includes the necessary remote software components to facilitate the various connection methods to different devices. These components are included on the install media and are available from the auto-run menu system, or by running the corresponding setup application directly.



NaViSet Administrator application: The main application should be installed on the administrator's computer, and will store the configurations and all of the information gathered from the various remote devices in a local database file.

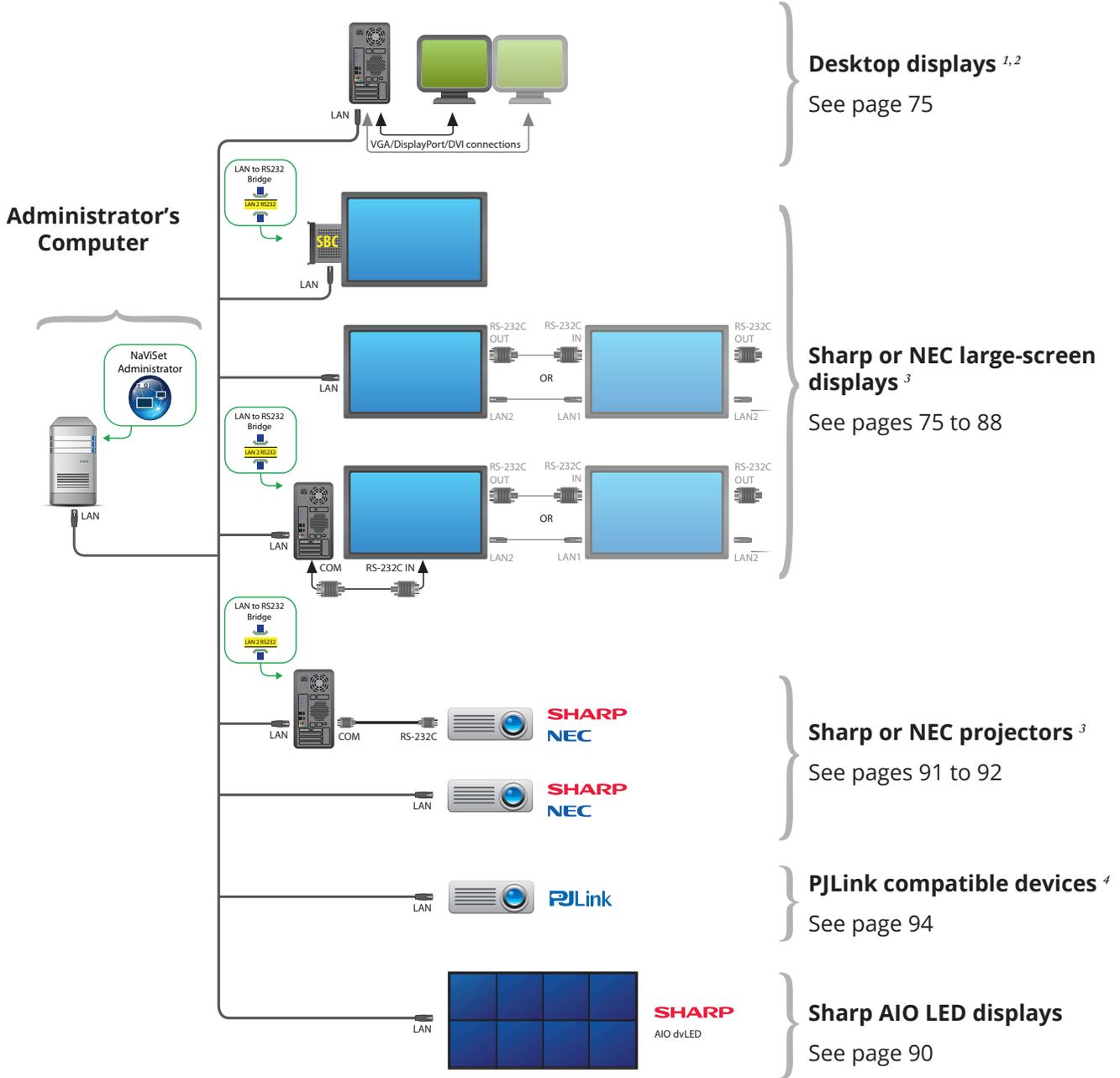
Components for Remote Windows Based Computers

LAN to RS232 Bridge: Is a utility that provides two-way communications via LAN to Sharp or NEC large-screen displays or projectors that are connected to the remote computer via an RS232 connection. See Appendix E on page 263 for more information.

Please see the README files included with each component for detailed information on the system requirements and configuration settings.

Configuration Overview

The following diagram shows the basic different configurations of devices supported by *NaViSet Administrator 2* and the related components that must be installed.



1 Includes limited support for Sharp or NEC large-screen displays. See Appendix A on page 256 for details.

2 Accessible from the NaViSet Administrator 2 Windows version only.

3 Uses TCP port 7142 for non-WMI connections.

4 Uses TCP port 7352.

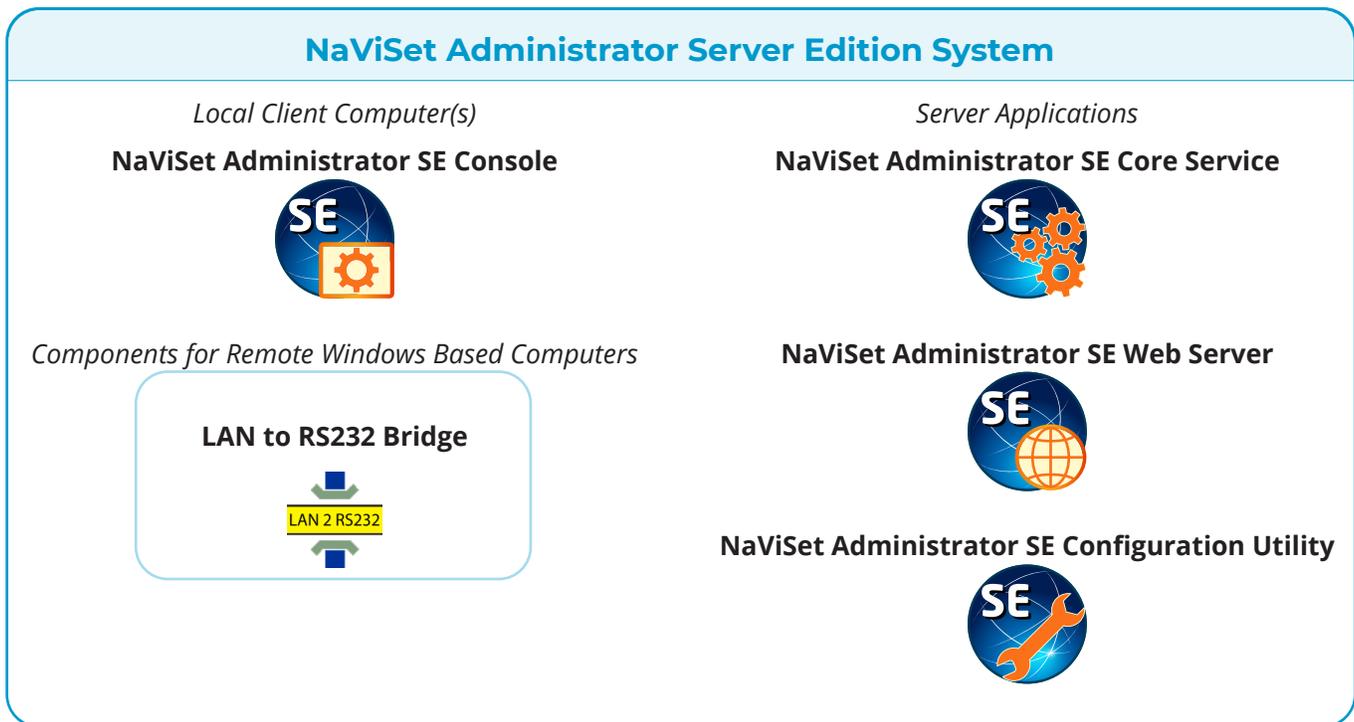
Installing NaViSet Administrator SE



NaViSet Administrator Server Edition provides secure, multi-user access and runs as a service on a centralized server. It offers both web-based and Windows application interfaces, along with secure remote access to managed devices.

If you are interested in a trial version of the software to access these and other unique features of the Server Edition version, please go to business.sharppusa.com/naviset-administrator

The *NaViSet Administrator SE* system includes the necessary remote software components to facilitate the various connection methods to different devices. These components are included on the install media and are available from the auto-run menu system, or by running the corresponding setup application directly.



Components for Remote Windows Based Computers

LAN to RS232 Bridge: Is a utility that provides two-way communications via LAN to Sharp or NEC large-screen displays or projectors that are connected to the remote computer via an RS232 connection. See Appendix E on page 263 for more information.

 **Tip:** Please see the README files included with each component for detailed information on the system requirements and configuration settings.

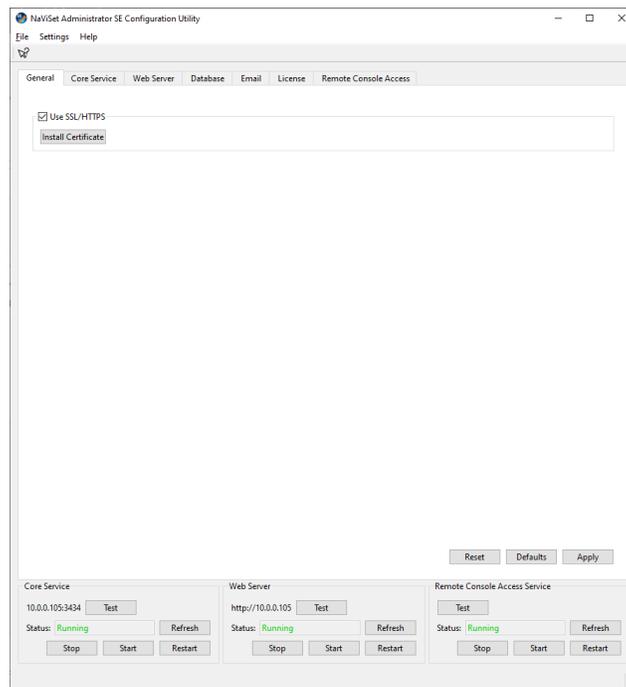
Basic installation and initial configuration settings

 **Tip:** For new installs, an internet connection is required to automatically start the 90 day trial. If no internet connection is available, the trial must be started manually. The instructions for offline trial activation are available in the *Configuration Utility* help file for the License Tab.

1. Run **nec_naviset_administrator_se_setup.exe**. Since this is a new install, use the default values for all settings.

While other languages are available for the installer, the applications are only in English at this time.

2. Upon completion, the **NaViSet Administrator SE Configuration Utility** will start automatically.



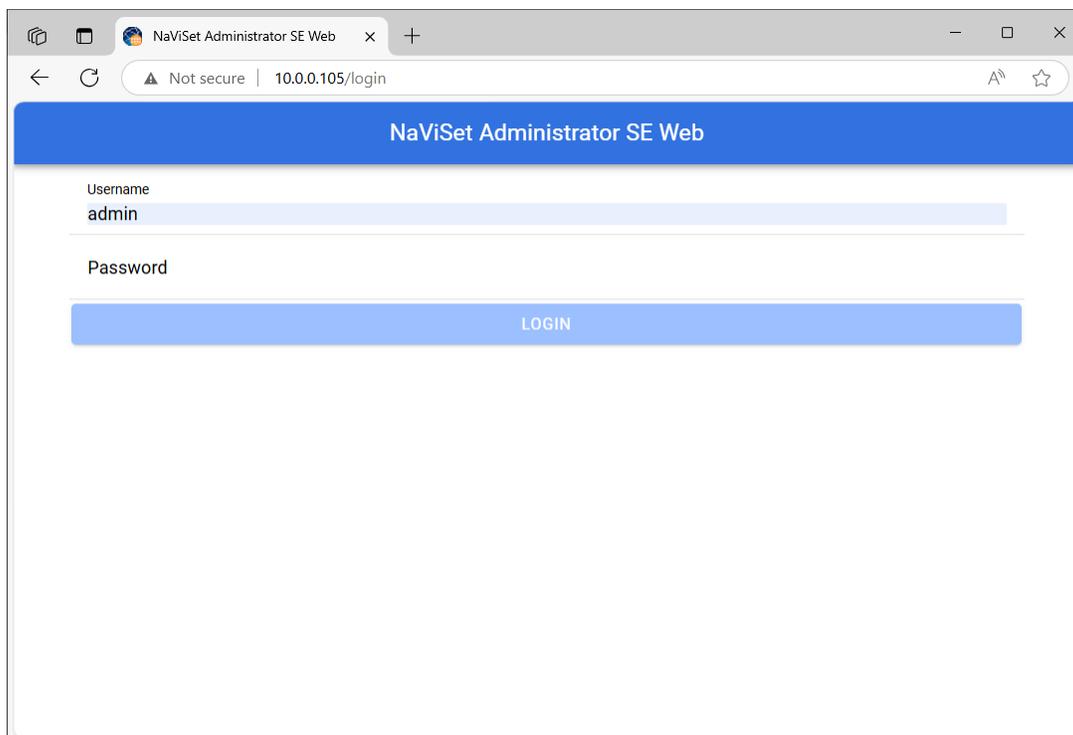
 **Tip:** While making changes, you may be asked periodically to restart *Core Service* and/or *Web Server*. To save time, you can click “No” each time and when the configuration utility is closed, they will be restarted or you can manually restart them before closing the Configuration utility.

3. When the *Configuration Utility* launches:

1. Go to the **Database** tab and set the full path of the database file using one of the following methods:
 - **Select an existing database** – Existing users of NaViSet Administrator 2 (NA2) can select an existing .ndb file.
 - Make a backup copy of this file before opening it in NASE. As soon as it is opened by NASE, it will be made secure and will no longer be compatible with NA2.
 - **Create a new database** – Select a folder and enter a filename to create a new, empty database. The database will be created with one user account and the following credentials:
 - Username: admin
 - Password: password

- **Do nothing** – A new, empty database will be created using the default path, file name, and user account shown above.
2. Click **Apply** if you changed the database path.
 3. Go to the **Core Service** tab and:
 - Verify the IP Address or hostname shown is the IP address or hostname of the computer on which *Core Service* is installed (this computer).
 - Note the IP address or hostname. You need to add the server the first time you open the Console application on each computer where it is installed.
 4. Click **Apply** if you changed any of the settings in the *Core Service* tab.
 5. Go to the **Web Server** tab and:
 - Verify the IP Address or hostname shown is the IP address or hostname of the computer the *Web Server* is installed on (this computer).
 6. Click **Apply** if you changed any of the settings in the Web Server tab.
 7. Click the **License** tab and verify that it has a number of days left. If it doesn't, make sure there is an active internet connection and that the application can get through the firewall or you will have to manually start a trial. Directions with images can be found in the *Offline Trial* section in *Configuration Help*.
 8. Click the **X** in the upper right to close the config tool.

If *Core Service* and/or *Web Server* need to be restarted, they will automatically be restarted now.
4. To run the **NaViSet Administrator SE Web** application, open a supported web browser and enter the following URL:



http://{your_ip_address_or_hostname}:{your_port}

- If you used port 80 above, then navigate to the following address: http://{your_ip_address_or_hostname}
 - If a secure site (https) is needed, refer to the Help section “General: Install Certificate” in the Configuration Tool for registering a certificate.
5. Enter the username “admin” and the password “password”
 6. To run the *Console* application, double click on the below desktop icon, and in the login screen enter and enter the username “admin” and the password “password”.



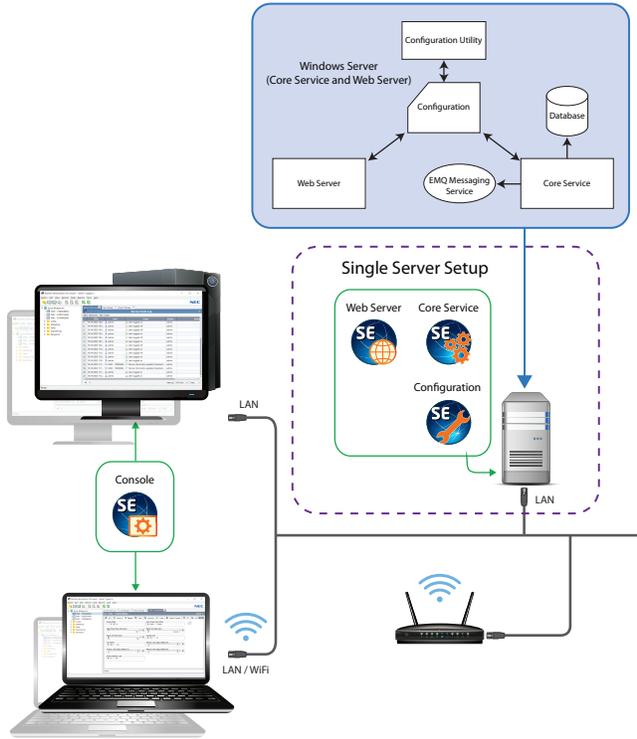
7. To run the *Configuration Utility*, double click on the desktop icon:



8. We strongly recommend that you immediately change the password for the admin account. See page 174.

System Overview - Single Server Configuration

Features of a single server setup (below)	Features of a single server setup (next page)
<ul style="list-style-type: none"> • Single server runs web and core services • Suitable for most installations 	<ul style="list-style-type: none"> • Separate servers for web and core services • Support for web access via a separate network • Increased load capacity for large installations

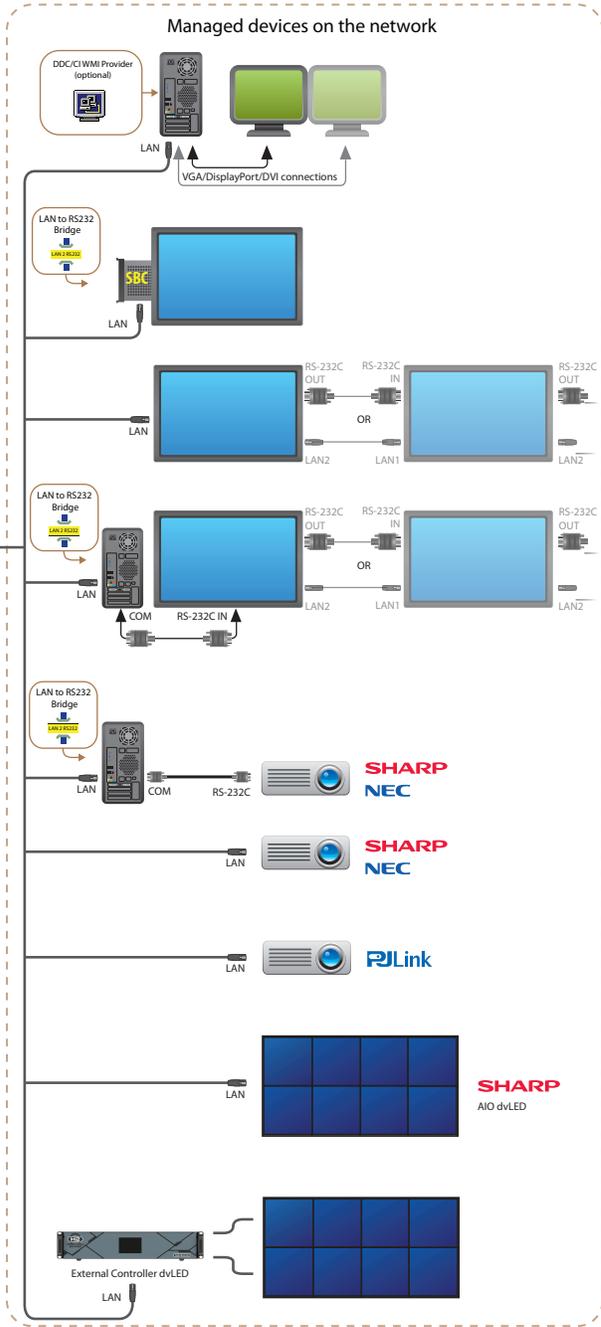


NaViSet Administrator SE Web UI

Supported browsers
 Chrome
 Firefox
 Edge
 Safari

Note: Windows desktop and laptop computers can use the Console application (if installed) or the Web UI via a web browser

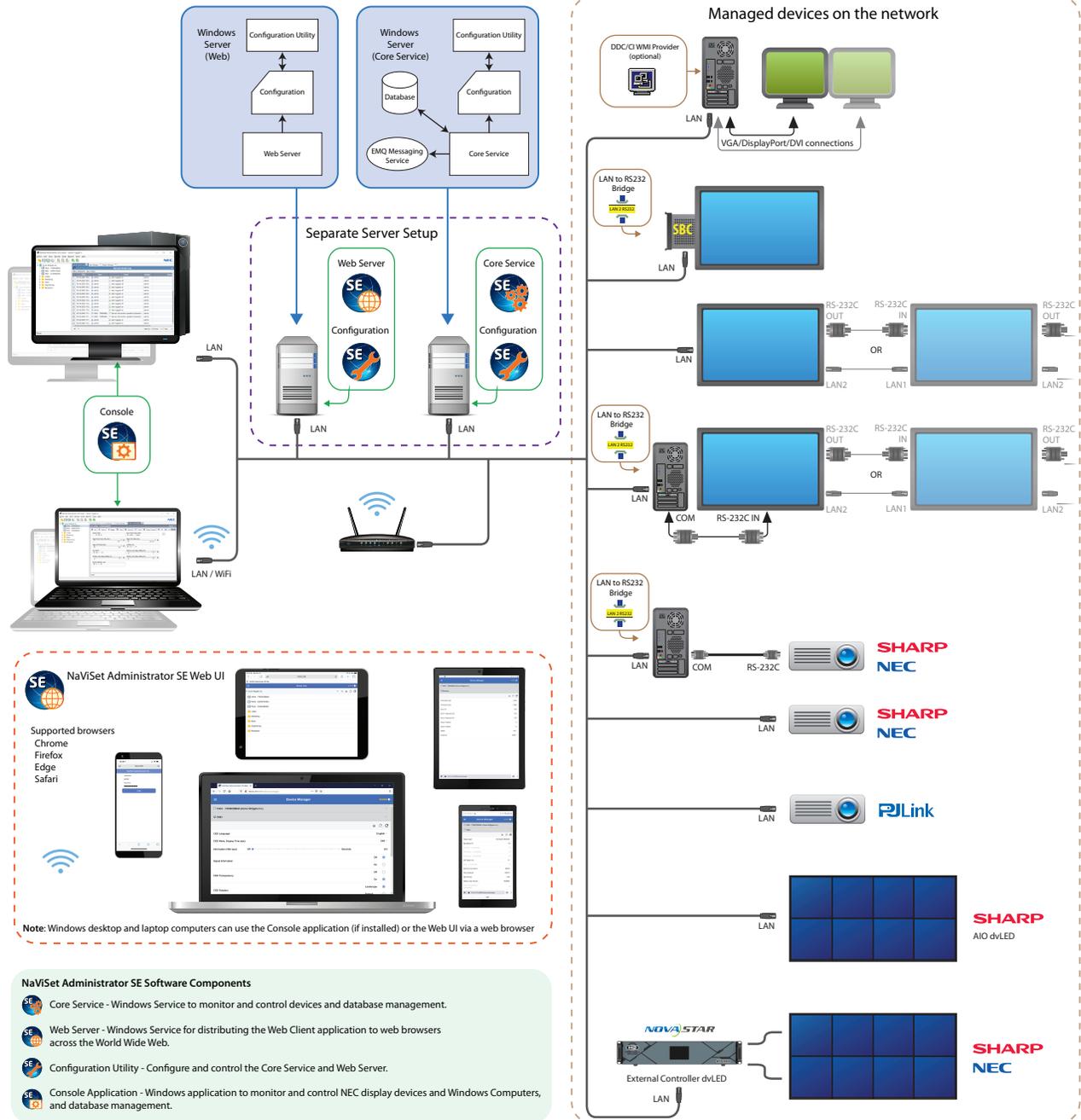
- NaViSet Administrator SE Software Components**
- Core Service - Windows Service to monitor and control devices and database management.
 - Web Server - Windows Service for distributing the Web Client application to web browsers across the World Wide Web.
 - Configuration Utility - Configure and control the Core Service and Web Server.
 - Console Application - Windows application to monitor and control NEC display devices and Windows Computers, and database management.



- NaViSet Administrator 2 Device Software Components**
- DDC/CI WMI Provider – Enables control and advanced functions of desktop displays connected to a Windows PC.
 - LAN to RS232 Bridge – Translates LAN control into RS232 for legacy displays with only RS232 control connectivity.

System Overview - Separate Server Configuration

Features of a separate server setup (below)	Features of a single server setup (previous page)
<ul style="list-style-type: none"> • Separate servers for web and core services • Support for web access via a separate network • Increased load capacity for large installations 	<ul style="list-style-type: none"> • Single server runs web and core services • Suitable for most installations



NaViSet Administrator SE Web UI

Supported browsers
 Chrome
 Firefox
 Edge
 Safari

Note: Windows desktop and laptop computers can use the Console application (if installed) or the Web UI via a web browser

- NaViSet Administrator SE Software Components**
- Core Service - Windows Service to monitor and control devices and database management.
 - Web Server - Windows Service for distributing the Web Client application to web browsers across the World Wide Web.
 - Configuration Utility - Configure and control the Core Service and Web Server.
 - Console Application - Windows application to monitor and control NEC display devices and Windows Computers, and database management.

- NaViSet Administrator 2 Device Software Components**
- DDC/CI WMI Provider - Enables control and advanced functions of desktop displays connected to a Windows PC.
 - LAN to RS232 Bridge - Translates LAN control into RS232 for legacy displays with only RS232 control connectivity.

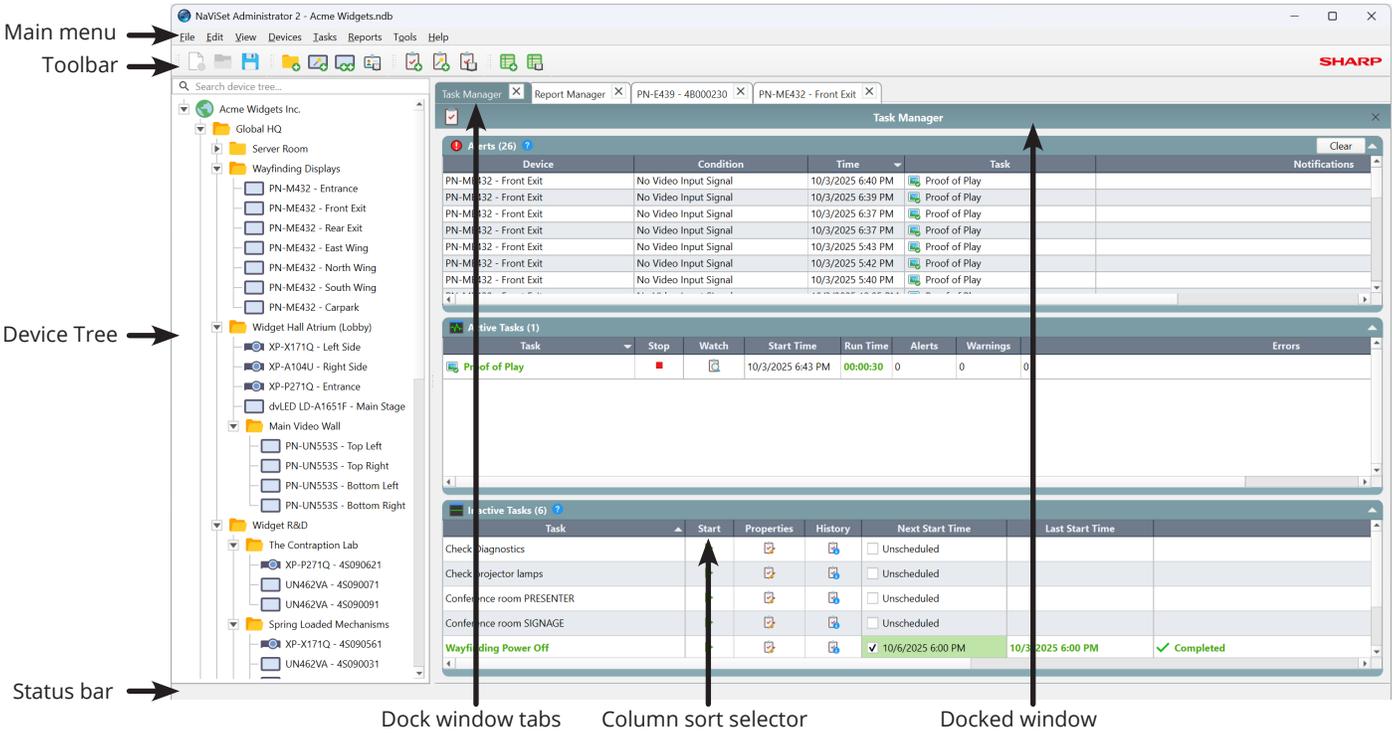
2 User Interface Overview

Main Window

The main application window is divided into a *Device Tree* on the left and a *Dock Window Area*, containing dock windows, on the right. Multiple dock windows are stacked on top of one another and tabbed so they can be easily identified and selected.

By default *NaViSet Administrator 2* opens with two dock windows, *Report Manager* and *Task Manager*, *NaViSet Administrator SE Console* opens with three dock windows, *Report Manager*, *Task Manager*, and *Service Event Log*.

There are several other types of function-related dock windows that use this area and all are described in the appropriate sections of this document.



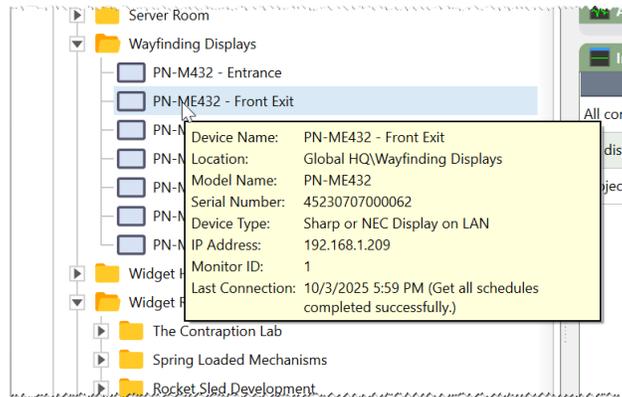
A toolbar at the top of the main window provides convenient shortcuts to many of the functions. See "Menus" on page 31 for a description of each, or mouse over the toolbar icons to see the tooltip descriptions.



A status bar at the bottom of the main window shows descriptions of menu items when selected. If enabled in the application *Preferences*, the status bar also shows information about connections to devices that are currently being processed and waiting to be processed. See "General Settings" on page 217 for more information.

Device Tree

The Device Tree on the left of the main window represents all of the displays and computers that are in the current database. Extra information on each device in the tree is shown in tooltips, which can be seen by mousing over each item.

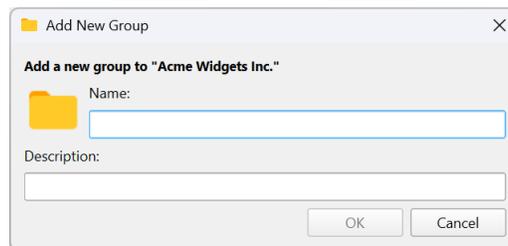


Tip: The **NaViSet Administrator 2** application's User Interface can be displayed in English, German, French, Japanese, or Chinese (Simplified). The default language will be selected automatically based on the computer's language settings. The language can be changed via the "Language" page in the "Preferences in NaViSet Administrator 2" dialog. See "Language" on page 226 for more information.

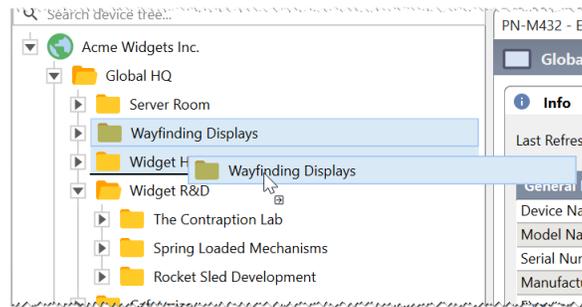
Groups

Devices can be grouped to help organize collections of displays and computers, such as physical location (for example, by building and floor), or organizational groups (for example, "Sales" and "Marketing").

Creating Groups: Groups can be created by either selecting **Add Group...** from the **Devices** menu, or by right-clicking in the Device Tree and selecting **Add Group...**. Groups will be added as a new branch directly under the currently selected item in the Device Tree.

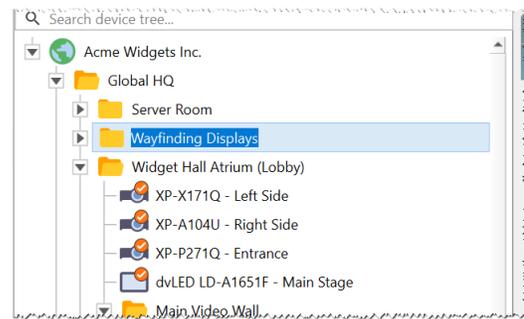
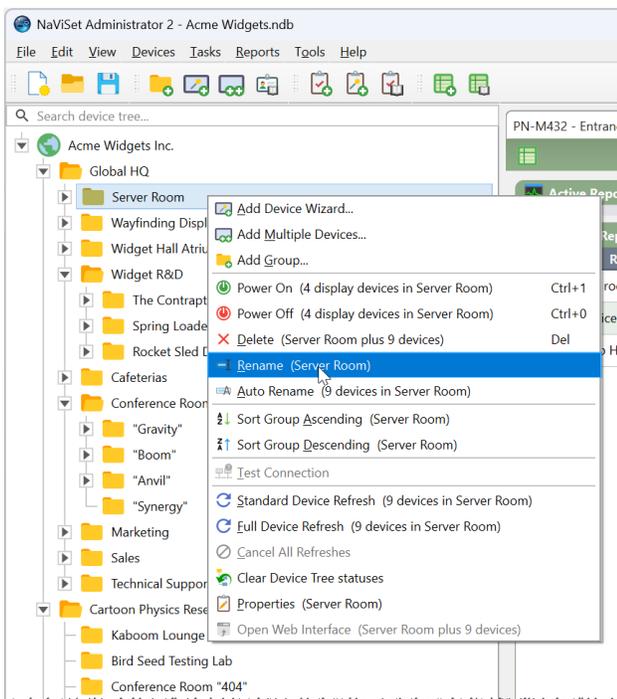


Rearranging Groups: Groups can be rearranged by clicking and dragging a Group's folder icon to another part of the Device Tree.



Renaming Groups: Groups can be renamed by either:

- Double-clicking the group in the Device Tree
- Right-clicking a group in the device tree and selecting **Rename**.
- Selecting **Rename** from the *Edit* menu while the group to be renamed is currently selected.



Expanding Groups: Groups can be expanded (▶) and collapsed (▼) by clicking the arrow icon next to the group name.

Devices

Each device in the Device Tree is represented by an icon as shown in the following table:

Icon	Description	Default Device Name Format
	Single Sharp or NEC large-screen display	Model name - Asset tag or Serial number ²
	Daisy chain host: A virtual device for daisy chained Sharp or NEC large-screen displays. See page 46 for a full description.	"Daisy Chain Host"
	Sharp or NEC large-screen display connected in a daisy chain	Model name (ID #) # = Monitor ID number of the connected display
	Sharp or NEC projector	Model name - Asset tag
	PJLink Compatible Device	Model name - Device name
	Desktop display connected to a Windows computer ¹	Model name - Asset tag or Serial number ²
	Windows computer ¹	Host name
	dvLED Controller ³	Model name - Device name
	Single Sharp or NEC large-screen display via a Local NaViSet Secure connection	Model name - Device name
	Single Sharp or NEC large-screen display via a Remote NaViSet Secure connection	Model name - Device name
<p>1 This feature is not available in NaViSet Administrator 2 on macOS. All other versions of NaViSet Administrator support adding Windows computers with connected monitors to the application database</p> <p>2 Large-screen displays and desktop displays are shipped with no asset tag set. The serial number will be used when the asset tag is blank</p> <p>3 Support for NovaStar H series controllers for communication to dvLED displays is available in NaViSet Administrator SE only</p>		

Device Connection Status

The status of the network connections between *NaViSet Administrator* and devices can exist at different levels, and are shown in the device tree using the following indicators:

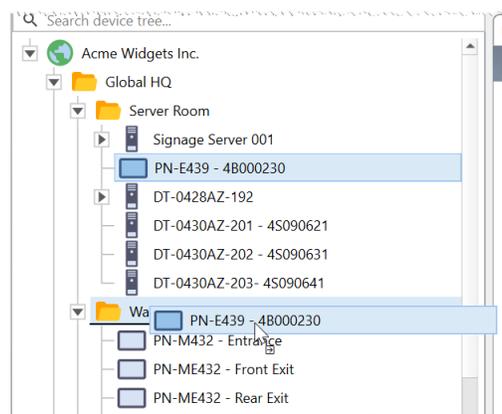
Status	Device Indicator	Description
None (Normal)		No activity between the device and the system since the database was opened.
Powered On		The device is powered on and the last operation between the system and the device was successful.
Powered Off		The device is powered off and the last operation between the system and the device was successful.
Error		The last operation failed. Any containing folder will also show the error icon.

Status	Device Indicator	Description
Cancelled		The last operation was canceled by the user.
Insert location		Position in the device tree where new device(s) will be inserted.
Confirmed		The device has a valid connection, but the database does not yet contain the information needed to fully control it. A Standard Refresh will be required to change the device to Normal status.
Unconfirmed		Not an actual device, but a temporary placeholder for one consisting of a proposed device type and IP address or host name. A Standard Refresh will be required to confirm the device and change it to Normal status.
Refreshing		A standard device refresh or a full device refresh is in progress.
Operation Pending		An operation has been placed in a queue until a connection slot becomes available.
Opening/Sending		The system is in the process of establishing a connection and changing control settings in the device.
Connection Retry Pending		The previous attempt to connect to the device was unsuccessful. The system is waiting a specified time before resubmitting the operation request into the queue.

Tip: Right-click on a device and select **Clear Device Tree statuses** to remove all status overlays from device icons in the device tree list.

Adding Devices: Devices are added to the Device Tree by using either the **Devices** menu, or right-clicking an item in the device tree and selecting either **Add Device Wizard...** or **Add Multiple Devices...** See page 38 for how to add different devices.

Rearranging Devices: A device can be moved between different groups by clicking the device and dragging it onto a different folder.



Renaming Devices: Devices can be renamed by either:

- Right-clicking on the device in the device tree and selecting **Rename**.
- Selecting **Rename** from the **Edit** menu while the device to be renamed is currently selected.

Tip: Changing the *Asset Tag* portion of the device name in the tree will not change the *Asset Tag* stored in the display. To change the *Asset Tag* of the display, select **Asset Tag** from the **Display Device Information** list group in the controls shown in the **Custom** tab of the *Device Properties* window.

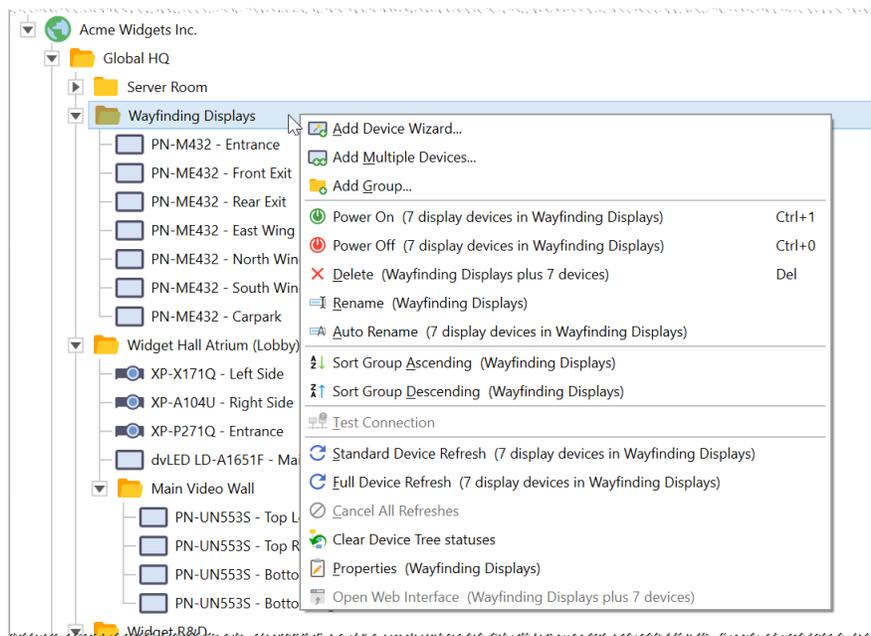
Automatically Renaming Devices: One or more devices can be renamed at a the same time automatically using the default device name format (described in the "Devices" table on page 27).

To rename one or more devices automatically, select the devices, or the groups containing the devices, and either:

- Right-click on one of the selected items and select **Auto Rename Device**
- Select **Auto Rename Device** from the **Edit** menu

The devices selected that require renaming will be highlighted and a message will be displayed asking for confirmation.

Opening a Device Properties Window: Double-clicking a device in the device tree will open the device's properties window in the dock window area. The device properties window can also be opened by right-clicking the device and selecting *Properties* from the context menu.



There is no limit to the number of device properties windows that can be opened and docked at the same time.

Dock Window Area

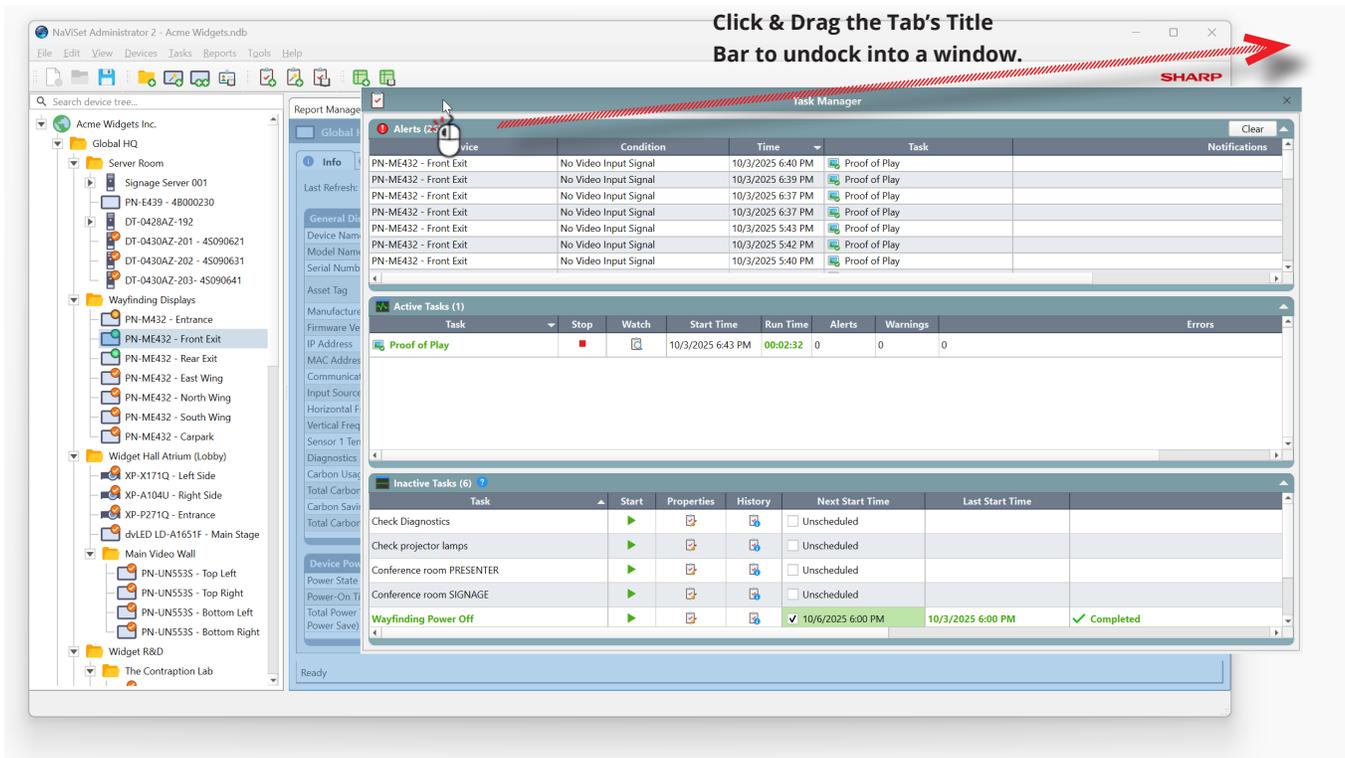
The dock window area on the right side of the main window can contain any number of Dock Windows. By default, *NaViSet Administrator* shows the *Task Manager* and *Report Manager*. Examples of other dock windows are *Device Properties Windows* and the *Task History Viewer*.

Device Properties Windows are opened by either double-clicking a device icon in the device tree, or right-clicking a device and selecting *Properties* from the menu.

Docked windows can be moved outside the dock window area by double-clicking on the title bar, or moved to anywhere on the desktop by clicking and dragging the window's title bar. Windows that are no longer docked are

called floating windows. Floating windows can be moved back into the dock window area by double-clicking on the title bar, or by clicking and dragging the title bar to move the window over the dock window area.

The ability to move dock windows to anywhere on the desktop provides a lot of flexibility, maximizes efficient use of the available desktop, and allows individual items to be given prominence on the desktop if desired.

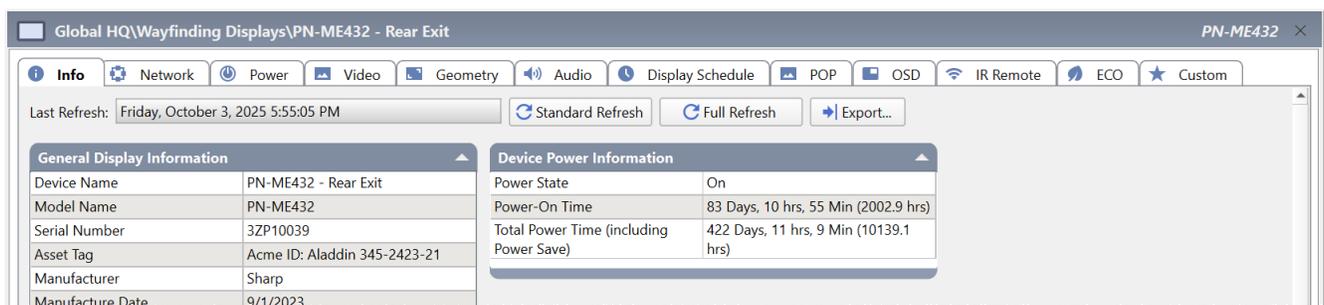


Docked windows can be closed by clicking the **X close** button on the tab list, or the **X close** button in the dock window's title bar.

Both docked windows and floating windows can be hidden or shown by selecting them from the **View** menu.

Device Properties Window

Each Device Properties Window consists of a series of tabs which divide the device information, network settings, and numerous controls into logical categories, similar to those in the device's OSD (On Screen Display).



The number and types of tabs that appear for a device will depend on the capabilities of the device. Controls on the tabs allow changes to be made to the device settings in real-time. Most frequently used controls are shown on

individual tabs such as **Video**, **Audio**, and **Power**, etc. More infrequently used controls are available on the *Custom* tab.

See "Controlling Devices" on page 129 for a complete description of the device property tabs.

Task Manager Window

The *Task Manager* window shows:

- Tasks that are currently inactive (not currently being processed/executed)
- Tasks that are currently active (being processed/executed)
- Any alert conditions that have occurred while running any tasks

See "Tasks" on page 178 for more information on Tasks and the Task Manager.

Report Manager Window

The *Report Manager* window shows:

- Inactive Reports that are not currently being run
- Active Reports that are currently being run

See "Reports" on page 206 for more information on Reports and the Report Manager.

Device Views (NaViSet Administrator SE)

The *Device Views* window provides the option to:

- Monitor and control multiple devices from a single window.
- Add multiple Devices Views, to define small groups of devices to monitor, control, and query.

See "Device Views (NaViSet Administrator SE)" on page 31 for more information about creating and using Device Views.

Service Event Log (NaViSet Administrator SE)

The *Service Event Log* provides a detailed record of the application's activity on the network, capturing user logins, alerts, system errors, and application tasks. It is a tool for viewing what is happening in the system; for example, data that includes the date/time an event occurred, and the item it relates to, such as a user, task, or device. The events displayed depend on the role of the logged-in user. The log can be hidden or shown by selecting it from the **View** menu.

Menus

File menu (NaViSet Administrator 2)

-  **New** - Creates a new database file.
-  **Open...** - Opens an existing database file.
-  **Save** - Saves the current database file.

 **Save As...** - Saves the current database to a different file name.

Admin menu (NaViSet Administrator SE)

-  **Manage Accounts** - Allows for adding and removing user access to the NaViSet Administrator SE server. See page 174.
-  **Switch User/Site** - Logs the current user from the current server and shows the NaViSet Administrator SE Console login window to select a different *Site connection* or log in as a different *Username*. See page 174.
-  **Change Password** - Opens a prompt to change the password for the currently logged in user. See page 174.
- Reload Tree** - Refreshes the device tree list.
- Exit** - Completely closes the NaViSet Administrator SE Console application.

Edit menu

-  **Copy** - Copies data from the currently selected table to the system clipboard.
-  **Power On** - Sends the command to power on the selected display(s), or to all displays in a selected group.
-  **Power Off** - Sends the command to power off the selected display(s), or to all displays in a selected group.
-  **Delete** - Deletes the currently selected group or device in the device tree.
-  **Rename** - Renames the currently selected group or device(s) in the device tree.
-  **Auto Rename Device** - Renames the currently selected devices and the devices in any selected groups using the default device names.
-  **Sort Group Ascending** - Sorts the devices and groups within the currently selected group in the device tree. Does not sort sub-groups. *NaViSet Administrator 2 only*
-  **Sort Group Descending** - Reverse sorts the devices and groups within the currently selected group in the device tree. Does not sort sub-groups. *NaViSet Administrator 2 only*
-  **Standard Device Refresh** - Performs a Standard Refresh on the currently selected device(s) tree items.
-  **Full Device Refresh** - Performs a Full Refresh on the currently selected device(s) in the device tree.
-  **Cancel All Refreshes** - Cancels all Standard or Full Refreshes that are currently being performed on any devices.
-  **Properties** - Opens the Device Properties Window for the currently selected device in the device tree.
-  **Site Management** - Used with NaViSet Secure devices. *NaViSet Administrator SE only*.
-  **Restore/Edit Network Connection** - Provides options for changing the connection type for NaViSet Secure equipped connected devices.
-  **Open Web Interface** - Opens the monitor's HTTP web server in the computer's default web browser. Refer to the product manual for navigating and modifying the settings in this web interface.
-  **Create Device View** - Allows for monitoring and controlling multiple devices from a single window. *NaViSet Administrator SE only*

View menu

- Status Bar** - Hides or shows the status bar at the bottom of the main window.
- Toolbars** - Hides or shows the toolbar buttons.

Task Manager - Hides or shows the Task Manager dock window.

Report Manager - Hides or shows the Report Manager dock window.

Proof of Play Event Log - Hides or shows the Proof of Play Event Log dock window.

Service Event Log - Hides or shows the Service Event Log dock window. NaViSet Administrator SE only.

Devices menu

 **Add Device Wizard...** - Adds a new device to the database. See "Adding Single devices" on page 38.

 **Add Multiple Devices...** - Adds several devices to the database. See "Adding Multiple Devices" on page 55.

 **Add Group....** - Adds a new Group to the device tree. See "Groups" on page 25.

 **Test Connection** - Tests the connection to a device to make sure it is accessible on the network.

 **Credential Library...** - Opens the Credential Library. See "Credential Library" on page 171.

Device Views menu

 **Create Device View** - Opens the Create a New Device View window for saving the selected devices in the tree to a Device View group. See "Device Views (NaViSet Administrator SE)" on page 31.

Tasks menu

 **New Task...** - Creates a new task. See "About Tasks" on page 178.

 **Task Builder Wizard...** - Creates a new task using a wizard interface.

 **Task Library...** - Opens the Task Library. See page 179.

 **Proof of Play...** - Opens the Proof of Play task properties dialog. See page 197.

 **Show/Hide Alerts** - Shows or hides the Alerts list. See page 181.

 **Show/Hide Active Tasks** - Shows or hides the Active Tasks list. See page 180.

 **Show/Hide Inactive Tasks** - Shows or hides the Inactive Tasks list. See page 180.

Reports menu

 **New Report...** - Creates a new Report. See "About Reports" on page 206.

 **Report Library...** - Opens the Report Library. See page 206.

 **Show/Hide Active Reports** - Shows or hides the Active Reports list. See page 208.

 **Show/Hide Inactive Reports** - Shows or hides the Inactive Reports list. See page 207.

Tools menu

 **Preferences** - Opens the application Preferences window. See "Preferences in NaViSet Administrator 2" on page 217 or "Preferences in NaViSet Administrator SE Console" on page 227.

Help menu

 **Quick Start Guide** - Opens the *NaViSet Administrator Quick Start Guide* using the default PDF viewer. The **Quick Start Guide** will be displayed in the language *NaViSet Administrator* is currently using. See "Language" on page 226 for instructions on setting the language.

 **User's Guide** - Opens this document using the default PDF viewer.

 **Check for Updates** - Checks with the software update system to see if a newer version is available. An Internet connection is required.

About NaViSet Administrator... - Displays the software and database version information.

3 Devices

Supported Devices

NaViSet Administrator supports the following basic types of networked devices:

- Sharp or NEC large-screen displays
 - Sharp AIO dvLED (All-In-One Direct View LED) displays
- Sharp or NEC projectors
- PJLink compatible devices
- Windows computers and connected display(s), Sharp or NEC and other manufacturers¹
- dvLED (Direct View LED) controllers²

A more detailed description of each of these device types is given below.

Sharp or NEC large-screen displays

Sharp or NEC large-screen displays using one of the following connection types:

- A Sharp or NEC large-screen display that is connected via the built in LAN connection.
 - See page 81 for full details.
- A Sharp or NEC large-screen display that is connected via the built in LAN connection, and daisy chained to other large-screen displays via RS232 or LAN.
 - See page 79 for details on configuring the displays.

 **Tip:** Daisy chained large-screen displays are added as a single device using *Add Device Wizard* in the *Devices* menu.

- A Sharp or NEC large-screen display that is connected via RS232 to a Windows computer, which is running the LAN to RS232 Bridge application.¹
 - See page 82 for details on configuring the displays.
- A Sharp or NEC large-screen display that is connected via RS232 to a Windows computer, which is running the LAN to RS232 Bridge application, and daisy chained to other large-screen displays via RS232. ¹
 - See page 82 for details on configuring the displays.

 **Tip:** Daisy chained large-screen displays are added as a single device using *Add Device Wizard* in the *Devices* menu.

- A Sharp or NEC large-screen display with an SBC (Single Board Computer) that is connected via the LAN connection on the SBC.
 - See page 88 for details on configuring the displays.

¹ **This feature is not available in NaViSet Administrator 2 on macOS. All other versions of NaViSet Administrator support adding Windows computers with connected monitors to the application database.**

² **Support for NovaStar H series controllers for communication to dvLED displays is available in NaViSet Administrator SE only**

- A Sharp or NEC large-screen display with an SBC (Single Board Computer) that is connected via the LAN connection on the SBC, and is also daisy chained to other large-screen displays via RS232.
 - See page 86 for details on configuring the displays.

 **Tip:** Daisy chained large-screen displays are added as a single device using *Add Device Wizard* in the *Devices* menu.

Sharp AIO dvLED display

A Sharp AIO dvLED display, connected directly to the lan.¹

- See "Adding a single Sharp AIO dvLED display" on page 47 for full details.

Sharp or NEC projectors

A Sharp or NEC projector connected to LAN using one of the following connection types:

- A Sharp or NEC projector that is connected via the built in LAN connection.
 - See page 91 for full details.
- A Sharp or NEC projector that is connected via RS232 to a Windows computer that is running the *LAN to RS232 Bridge* application.
 - See for full details.

PJLink compatible devices

A PJLink compatible device connected directly to the LAN.

- See page 94 for full details.

Windows computers

A networked Windows computer that is using the WMI (Windows Management Instrumentation) protocol to communicate information about the connected displays. WMI support is built into Windows.²

- See Appendix F on page 267 for a description of WMI.

dvLED controllers (NaViSet Administrator SE only)

NovaStar H series controller connected to LAN for communications with Sharp and NEC dvLED displays (not applicable to Sharp AIO dvLED displays).

- See page 94 for full details.

¹ Sharp AIO dvLED displays are supported in **both** NaViSet Administrator 2 and NaViSet Administrator SE.

² This option is not available in **NaViSet Administrator 2 for macOS**. All other versions of NaViSet Administrator support adding Windows computers with connected monitors to the application database.

Adding Devices

Devices can be added to the device tree individually or multiples added simultaneously. When adding a large number of devices it is recommended to use the *multiple devices* methods.

One exception is when adding multiple large-screen displays daisy chained via RS232. In this case all of the displays are added simultaneously as one connection device, known as the "Daisy Chain Host", and *must* be added as a single device.

- See "About Daisy Chain Hosts" on page 46.

 **Tip:** For the best results when adding devices, the computers and/or displays should be powered on. This will ensure all of the information that is necessary for *NaViSet Administrator* to provide full functionality is read and stored in the database.

- "Adding Sharp or NEC large-screen display(s)" on page 44
- "Adding a single Sharp AIO dvLED display" on page 47
- "Adding a single Sharp or NEC projector" on page 49
- "Adding a single PLink device" on page 51
- "Adding a single Windows computer" on page 52
- "Adding a single dvLED controller" on page 54

Adding Single devices

To add single devices to the device tree use either the **Devices** menu, or right-click an item in the device tree and select **Add Device Wizard...**, or click the  toolbar button. The **Add Device Wizard** dialog will appear.

All devices added through this method require its main power to be turned on, and it must have a communication connection setup as described in the connection diagrams section of this user's guide starting on page 73.

 **Tip:** Devices added using this method will be inserted in the first valid row below the currently selected item, indicated by the  icon.

Using the Add Device Wizard

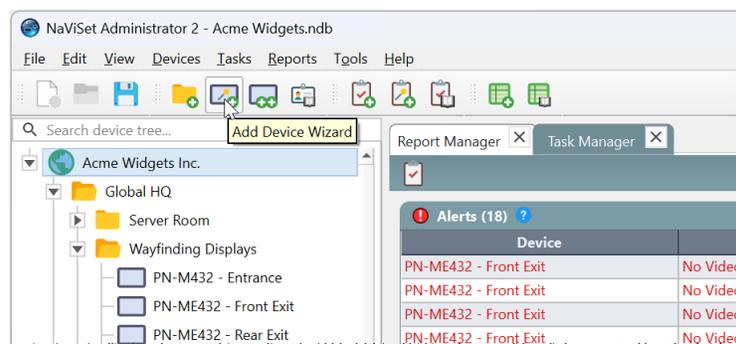
The Add Device Wizard is a guided process designed to help seamlessly add a new device to the device tree. You can add compatible displays, projectors, or Windows computers on a local network, or displays in remote locations (*NaViSet Administrator SE only*).

The following steps are a basic outline for adding a device from a local network.

 **Tip:** The instructions below outline the main steps for using the "Add Device Wizard" to add a single device. Refer to the device-specific instructions on the subsequent pages for the available import options for each device type.

- "Adding Sharp or NEC large-screen display(s)" on page 44
- "Adding a single Sharp AIO dvLED display" on page 47
- "Adding a single Sharp or NEC projector" on page 49
- "Adding a single PLink device" on page 51
- "Adding a single Windows computer" on page 52
- "Adding a single dvLED controller" on page 54 (*NaViSet Administrator SE only*)

1. Click on the **Add Device Wizard** icon.



2. Select **Local** for the network, **Standard local network connection** for the connection type, and then choose the type of device you want to add. Click **Next**.

Add Device Wizard

Welcome to the *Add Device Wizard*

Use this wizard to add displays, projectors and Windows computers to your device tree.

Is the device on the local network or a remote network?

Local Remote ?

What type of connection do you want to use?

Standard local network connection ?

NaViSet Secure connection ?

What type of device do you want to add?

Sharp or NEC large-screen display ?

Sharp or NEC projector ?

PJLink device ?

Windows computer (includes attached display devices) ?

dvLED controller ?

Click **Next** to continue.

Next > Cancel



The options for adding devices on a remote network, or connecting to NaViSet Secure compatible devices on a local or remote network, is only available in the **NaViSet Administrator SE Console** application. The NaViSet Secure functionality is described on page 102.

If you are interested in a trial version of the software to access this and other unique features of the Server Edition version, please go to business.sharppusa.com/naviset-administrator

A screenshot of a software dialog box titled "Add Device Wizard". The dialog has a close button (X) in the top right corner. The main text reads: "Welcome to the Add Device Wizard" followed by "Use this wizard to add displays, projectors and Windows computers to your device tree." Below this is a section titled "Is the device on the local network or a remote network?" with two radio buttons: "Local" (unselected) and "Remote" (selected). The next section is titled "What type of connection do you want to use?" and contains three radio buttons: "Standard local TCP connection" (unselected), "NaViSet Secure connection" (selected, with a green lock icon), and "NaViSet Secure Gateway connection" (unselected, with a green lock icon). At the bottom, it says "Click Next to continue."

- In the Search window, input the display's IP address, then hit Enter on the keyboard.

Alternatively, leave the field blank and click the search button to start a broadcast search. Any compatible devices found are shown, select the device you want to add then click on **OK**.

Add a local Sharp or NEC large-screen display using a standard TCP connection.

Use for all large-screen displays with a LAN connection. For best results the device should be powered on.

Enter the device network address (IP or hostname)

If unknown, try locating using ?

Network search for local devices

Device Confirmation

Enter a name for the device

< Back Next > Cancel

Search this network subnet

Advanced Search

NOTE: Not all models support network search.

	Network Address	Monitor Name	MAC Address
2	192.168.1.183	E437Q	74-3A-65-C9-A0-CC
3	192.168.1.147	M431-2	8C-52-19-49-66-77

Hide existing displays

- Click the arrow button to continue to device confirmation.

5. The selected display's general information is shown in the confirmation window. Review and confirm it is the correct device, then click **Yes**.

Optionally, input a unique name for the display (the default name is the display's model and its serial number), then click **Next**.

Add a local Sharp or NEC large-screen display using a standard TCP connection.

Use for all large-screen displays with a LAN connection. For best results the device should be powered on.

Enter the device network address (IP or hostname)

If unknown, try locating using

Device Confirmation

Status: Device Found

Type: Large-Screen Display on LAN
 Model Name: E437Q
 Serial Number: SN8A0017PP
 IP Address: 192.168.1.182
 MAC Address: 74-3A-65-C9-A0-CC

Is this the correct device?

Enter a name for the device

Add a local Sharp or NEC large-screen display using a standard TCP connection.

Use for all large-screen displays with a LAN connection. For best results the device should be powered on.

Enter the device network address (IP or hostname)

If unknown, try locating using

Device Confirmation

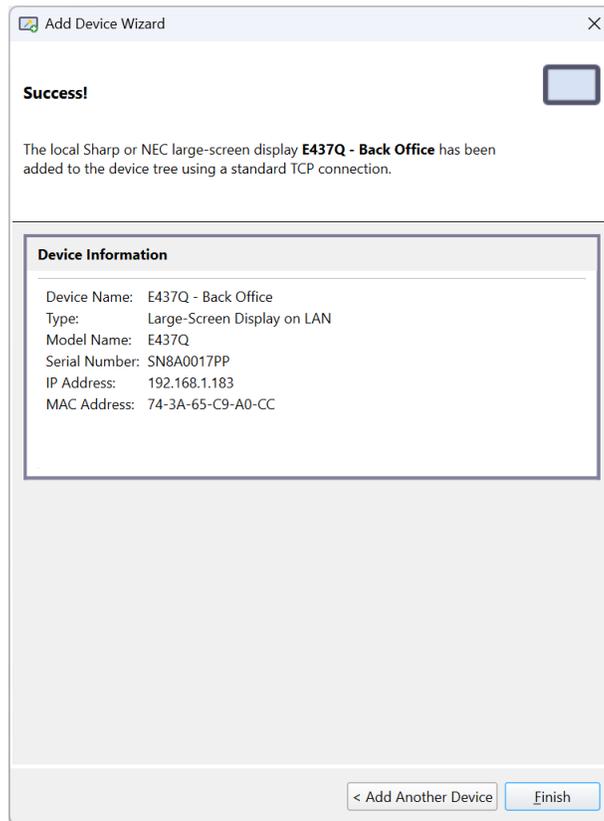
Status: Device Found

Type: Large-Screen Display on LAN
 Model Name: E437Q
 Serial Number: SN8A0017PP
 IP Address: 192.168.1.182
 MAC Address: 74-3A-65-C9-A0-CC

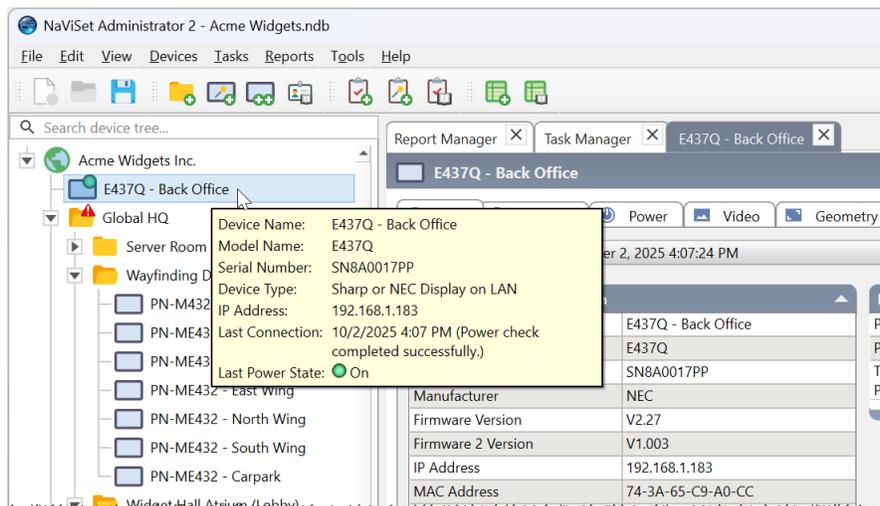
Enter a name for the device

Click Next to add this device to the network tree.

- Click **Finish** on the confirmation screen.



- The device you added is now available in the device tree.



Adding Sharp or NEC large-screen display(s)

Welcome to the *Add Device Wizard*

Use this wizard to add displays, projectors and Windows computers to your device tree.

Is the device on the local network or a remote network?

Local Remote ?

What type of connection do you want to use?

Standard local network connection ?
 NaViSet Secure connection ?

What type of device do you want to add?

Sharp or NEC large-screen display ?
 Sharp or NEC projector ?
 PLink device ?
 Windows computer (includes attached display devices) ?
 dvLED controller ?

Click **Next** to continue.

Next > Cancel

Select **Sharp or NEC large-screen display** then click **Next**.

Enter the IP address or hostname of the large-screen display, or click the *search* button to view and select a large-screen display currently available on the LAN. If the *LAN to RS232 Bridge* is being used, enter the computer name or IP address of the Windows computer to which the large-screen display is connected.

Add a local Sharp or NEC large-screen display using a standard TCP connection.

Use for all large-screen displays with a LAN connection. For best results the device should be powered on.

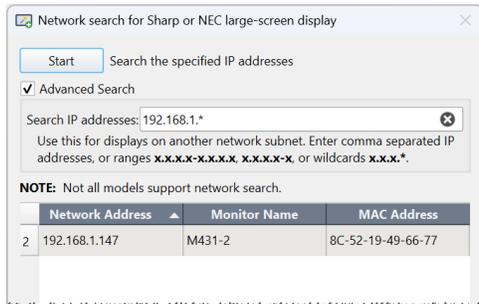
Enter the device network address (IP or hostname)

>

If unknown, try locating using ?

Device Confirmation

Search for Sharp or NEC Large-Screen Display Dialog



If using the *search* function, the **Network Search for Sharp or NEC Large-Screen Display** dialog will attempt to automatically detect any large-screen displays that are available on the LAN.

1. Click the **Start** button to start the detection process. Any detected displays will be listed by *IP address* and *Model Name*.
2. Select the desired display in the list and click **OK**.

Not all large-screen display models support the automatic network enumeration feature.

Click the right  arrow to confirm the network connection and display detection.

- If the connection for a single display is successful, the model name will be automatically entered into the Device Name using the default device naming format. If the connection for multiple displays is successful, *"Daisy Chain Host"* will be automatically entered as the device name. The **Device Name** is the name used to identify the display in the device tree, and can be edited if desired before it is added to the device tree, or later on by renaming the device in the device tree.

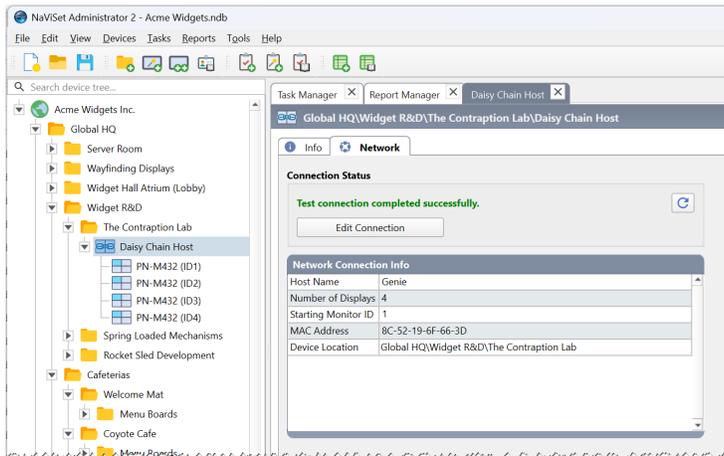
 **Tip:** Changing the *Asset Tag* portion of the device name will not change the *Asset Tag* stored in the display. To change the *Asset Tag* of the display, select **Asset Tag** from the **Display Device Information** list group in the controls shown in the **Custom tab** of the **Device Properties** window.

If the test connection is successful, click **OK** to add the display(s) to the device tree.

Troubleshooting

If an error occurred when performing the *Test* operation, see the troubleshooting steps "Problem: Unable to communicate with a Sharp or NEC large-screen display" on page 254.

About Daisy Chain Hosts



When daisy chained large-screen displays are added, a virtual device called a **"Daisy Chain Host"** is created in the *device tree* with the  icon. All of the actual daisy chained displays are branches from this device with the icon .

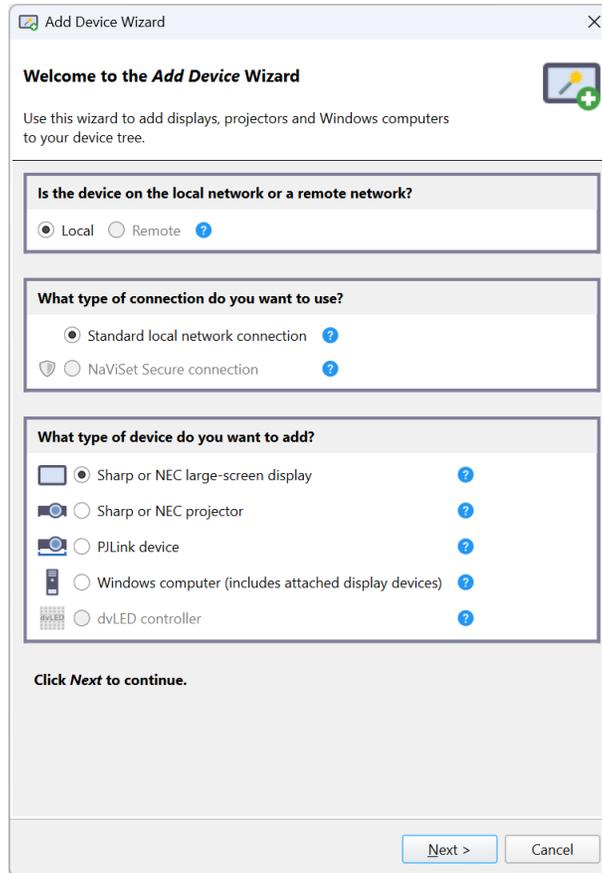
The *Daisy Chain Host* device is a placeholder for the connectivity information for the entire daisy chain as follows:

- IP Address or Hostname of the LAN connection on the first display on the daisy chain
- Lowest Monitor ID in the daisy chain
- Total number of displays in the daisy chain

The Monitor IDs for each display will be included in parenthesis in the device names.

Adding a single Sharp AIO dvLED display

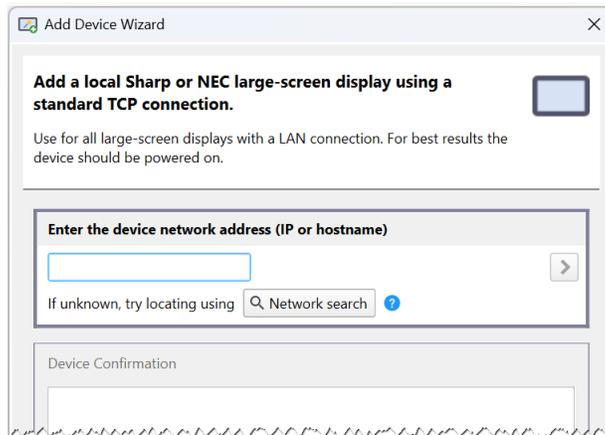
The Sharp AIO dvLED displays connect directly to the LAN and do not need an additional third-party controller for communications. Because of this, this display type is added in the NaViSet Administrator applications using the **Sharp or NEC large-screen displays** method.



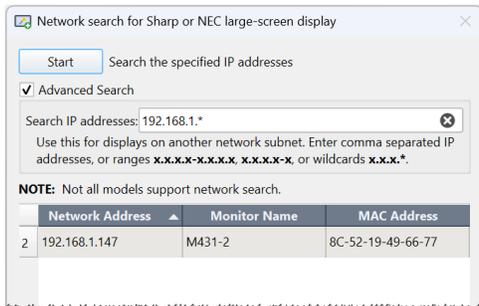
Select **Sharp or NEC large-screen display** then click **Next**.

Tip: the AIO dvLED displays must be connected directly to the LAN, they cannot be connect to a Windows computer.

Enter the IP address or hostname of the AIO dvLED display, or click the *search* button to view and select an AIO dvLED display currently available on the LAN.



Search for Sharp or NEC Large-Screen Display Dialog



If using the *search* function, the **Network Search for Sharp or NEC Large-Screen Display** dialog will attempt to automatically detect any large-screen or AIO dvLED displays that are available on the LAN.

1. Click the **Start** button to start the detection process. Any detected displays will be listed by *IP address* and *Model Name*.
2. Select the desired display in the list and click **OK**.

Click the right  arrow to confirm the network connection and display detection.

- If the connection for a single display is successful, the model name will be automatically entered into the Device Name using the default device naming format. The **Device Name** is the name used to identify the display in the device tree, and can be edited if desired before it is added to the device tree, or later on by renaming the device in the device tree.

 **Tip:** Changing the *Asset Tag* portion of the device name will not change the *Asset Tag* stored in the display. To change the *Asset Tag* of the display, select **Asset Tag** from the **Display Device Information** list group in the controls shown in the **Custom tab** of the **Device Properties** window.

If the test connection is successful, click **OK** to add the display(s) to the device tree.

Adding a single Sharp or NEC projector

Welcome to the *Add Device Wizard*

Use this wizard to add displays, projectors and Windows computers to your device tree.

Is the device on the local network or a remote network?

Local Remote ?

What type of connection do you want to use?

Standard local network connection ?
 NaViSet Secure connection ?

What type of device do you want to add?

Sharp or NEC large-screen display ?
 Sharp or NEC projector ?
 PJLink device ?
 Windows computer (includes attached display devices) ?
 dvLED controller ?

Click **Next** to continue.

Next > Cancel

Select **Sharp or NEC projector** then click **Next**.

Enter the *IP address* or *hostname* of the projector, or click the *search* button to automatically detect projectors that are connected directly to the LAN.

Add a local Sharp or NEC projector using a standard TCP connection.

Use for all projectors, including those connected to a computer using the **LAN to RS232 Bridge** application.

Enter the device network address (IP or hostname)

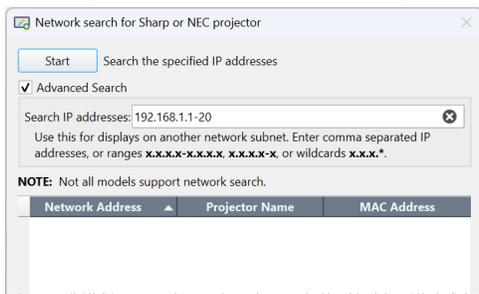
If unknown, try locating using ?

Device Confirmation

If the *LAN to RS232 Bridge* is being used, enter the computer name or IP address of the Windows computer.

 **Tip:** Projectors connected to a computer by RS232 and using the *LAN to RS232 Bridge* are not able to be detected using the *Browse* function. Not all projector models support the automatic network enumeration feature. In both cases the projector or computer IP address / computer name must be entered manually.

Search for Sharp or NEC Projector Dialog



If using the **Search** function, the **Network Search for Sharp or NEC Projector** dialog will attempt to automatically detect any projectors that are available on the LAN.

1. Click the **Start** button to start the detection process. Any detected projectors will be listed by *IP address* and *Projector Name*.
2. Select the desired projector in the list and click **OK**.

Not all projector models support the automatic network enumeration feature.

Click the right arrow  to confirm the network connection.

- If the connection is successful, the model name of the projector will be automatically entered into the *Device Name* together with its *Asset Tag* text (also known as *Projector Name*). The *Device Name* is the name used to identify the projector in the device tree. If desired, it can be edited before it is added to the device tree or later on by renaming the device in the device tree.

If the test connection is successful, click **OK** to add the projector to the device tree.

 **Tip:** Changing the *Asset Tag / Projector Name* portion of the device name will not change the *Asset Tag / Projector Name* stored in the projector. To change the *Asset Tag / Projector Name* of the projector, select **Asset Tag** from the **Display Device Information** list group in the controls shown in the **Custom** tab of the **Device Properties** window.

Troubleshooting

If an error occurred when performing the *Test* operation, see the troubleshooting steps "Problem: Unable to communicate with a Sharp or NEC projector" on page 255.

Adding a single PJLink device

Select **PJLink device** then click **Next**.

Enter the *IP address* or *hostname* of the PJLink device.

If the device requires a password, input the password or click the **Select** button to use an existing Library Credential, if the credentials have already been added to the *Credential Library*. See page 171 for more information on using the *Credential Library*.

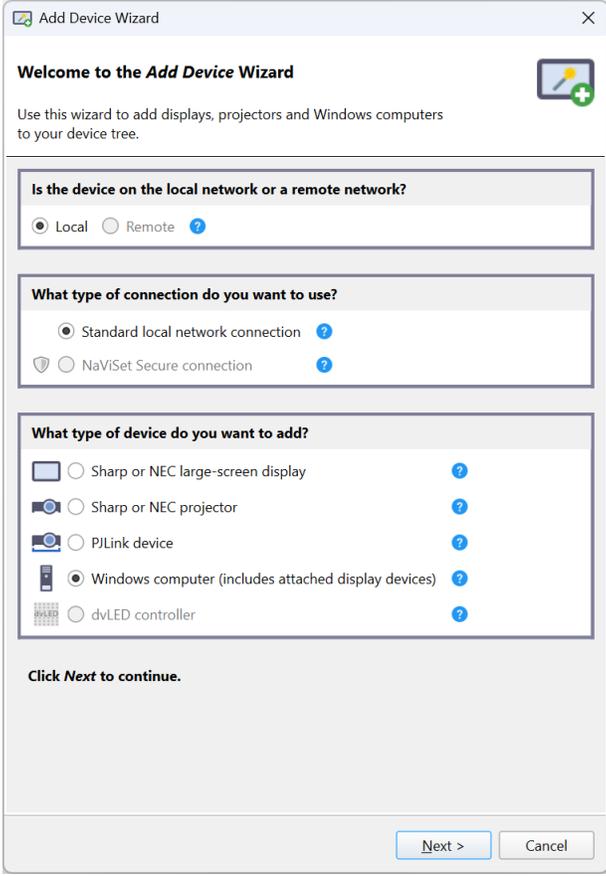
Click the right arrow  to confirm the network connection.

- If the connection is successful, then the device's name will be automatically entered into the *Device Name field*. The *Device Name* is the name used to identify the device in the device tree and can be edited if desired before it is added to the device tree, or later on by renaming the device in the device tree.

If the test connection is successful, click **OK** to add the PJLink device to the device tree.

Adding a single Windows computer

 **Tip:** This option is not available in **NaViSet Administrator 2** for macOS. **NaViSet Administrator 2** for Windows and the **NaViSet Administrator SE Console** for Windows and macOS support adding Windows computers with connected monitors to the application and interacting with the devices as described in this manual.



Add Device Wizard

Welcome to the **Add Device Wizard**

Use this wizard to add displays, projectors and Windows computers to your device tree.

Is the device on the local network or a remote network?

Local Remote ?

What type of connection do you want to use?

Standard local network connection ?

NaViSet Secure connection ?

What type of device do you want to add?

Sharp or NEC large-screen display ?

Sharp or NEC projector ?

PJLink device ?

Windows computer (includes attached display devices) ?

dvLED controller ?

Click **Next** to continue.

Next > **Cancel**

Select **Windows computer (includes attached display devices)** then click **Next**.

Enter the computer's network name or IP address.

Input user credentials that have access to the remote computer, or click the **Select** button to use an existing Library Credential, if the credentials have already been added to the *Credential Library*. See page 171 for more information on using the *Credential Library*.

Click the right arrow  to confirm the network connection.

- If the connection is successful, then the computer's name will be automatically entered into the *Device Name*. The *Device Name* is the name used to identify the computer in the device tree and can be edited if desired before it is added to the device tree, or later on by renaming the device in the device tree.

If the test connection is successful, click **OK** to add the Windows computer to the device tree. Any displays connected to the Windows computer will be detected automatically and added to the device tree under the computer node.

Troubleshooting

If an error occurred when performing the *Test* operation see the troubleshooting steps "Problem: Unable to connect to a Windows Computer via WMI" on page 254.

Adding a single dvLED controller



This function is only available in the **NaViSet Administrator SE Console** application.

If you are interested in a trial version of the software to access this and other unique features of the Server Edition version, please go to business.sharppusa.com/naviset-administrator

Select **dvLED controller** then click **Next**.

Enter the controller's IP address, then click the right arrow  to detect the controller.

Confirm the controller information then click **Finish** to add it.

Adding Multiple Devices

If there are several devices to be added, adding them using the *Add Multiple Devices* dialog is easier and more efficient than adding one by one using the *Add Device Wizards* function.

To add multiple devices to the device tree, use either the **Devices** menu, or right-click an item in the device tree and select **Add Multiple Devices...**, or click the  toolbar button. The **Add Multiple Devices** dialog will appear. Select the type of display and connection to be added from the tabs at the top.

 **Tip:** Large-screen displays that are daisy chained via RS232 must be added as a single device, and cannot be added using *Multiple Devices*.

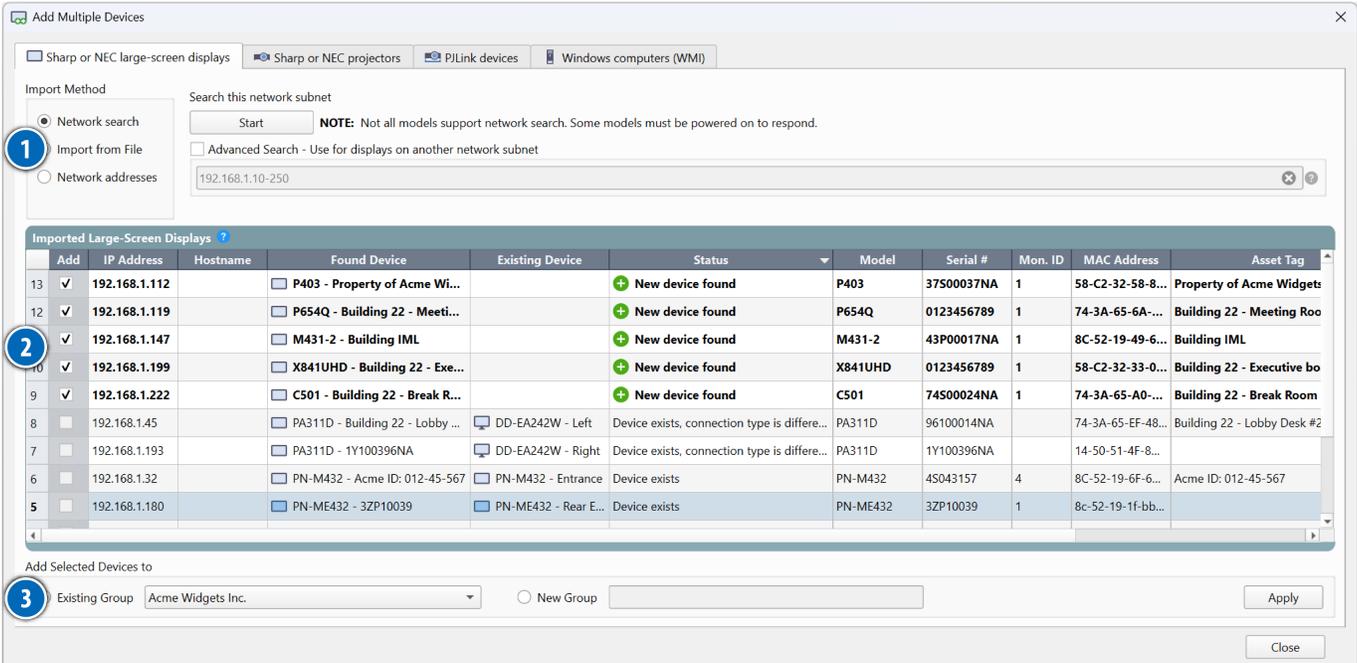
The Add Multiple Devices dialog consists of a tab page for each supported device type:

- "Importing multiple Sharp or NEC large-screen displays" on page 57
- "Importing multiple Sharp or NEC projectors" on page 59
- "Importing multiple PLink devices" on page 61
- "Importing multiple Windows computers (WMI)" on page 62'

Begin by selecting the tab for the type of device to be added.

The procedure for adding multiple devices can be divided into 3 main steps:

1. Import a list of potential devices
2. Select the devices to add to the device tree
3. Choose a location in the tree and add the devices



Imported Large-Screen Displays

Add	IP Address	Hostname	Found Device	Existing Device	Status	Model	Serial #	Mon. ID	MAC Address	Asset Tag
<input checked="" type="checkbox"/>	192.168.1.112		<input type="checkbox"/> P403 - Property of Acme Wi...		+ New device found	P403	37500037NA	1	58-C2-32-58-8...	Property of Acme Widgets
<input checked="" type="checkbox"/>	192.168.1.119		<input type="checkbox"/> P654Q - Building 22 - Meeti...		+ New device found	P654Q	0123456789	1	74-3A-65-6A-...	Building 22 - Meeting Roo
<input checked="" type="checkbox"/>	192.168.1.147		<input type="checkbox"/> M431-2 - Building IML		+ New device found	M431-2	43P00017NA	1	8C-52-19-49-6...	Building IML
<input checked="" type="checkbox"/>	192.168.1.199		<input type="checkbox"/> X841UHD - Building 22 - Exe...		+ New device found	X841UHD	0123456789	1	58-C2-32-33-0...	Building 22 - Executive bo
<input checked="" type="checkbox"/>	192.168.1.222		<input type="checkbox"/> C501 - Building 22 - Break R...		+ New device found	C501	74500024NA	1	74-3A-65-A0-...	Building 22 - Break Room
<input type="checkbox"/>	192.168.1.45		<input type="checkbox"/> PA311D - Building 22 - Lobby ...	<input type="checkbox"/> DD-EA242W - Left	Device exists, connection type is differ...	PA311D	96100014NA		74-3A-65-EF-8...	Building 22 - Lobby Desk #2
<input type="checkbox"/>	192.168.1.193		<input type="checkbox"/> PA311D - 1Y100396NA	<input type="checkbox"/> DD-EA242W - Right	Device exists, connection type is differ...	PA311D	1Y100396NA		14-50-51-4F-8...	
<input type="checkbox"/>	192.168.1.32		<input type="checkbox"/> PN-M432 - Acme ID: 012-45-567	<input type="checkbox"/> PN-M432 - Entrance	Device exists	PN-M432	45043157	4	8C-52-19-6F-6...	Acme ID: 012-45-567
<input type="checkbox"/>	192.168.1.180		<input type="checkbox"/> PN-ME432 - 3ZP10039	<input type="checkbox"/> PN-ME432 - Rear E...	Device exists	PN-ME432	3ZP10039	1	8c-52-19-1f-bb...	

Add Selected Devices to: Existing Group: Acme Widgets Inc. New Group

1 This option is not available in *NaViSet Administrator 2 for macOS*. All other versions of *NaViSet Administrator* support adding Windows computers with connected monitors to the application database.

Step 1: Importing Devices

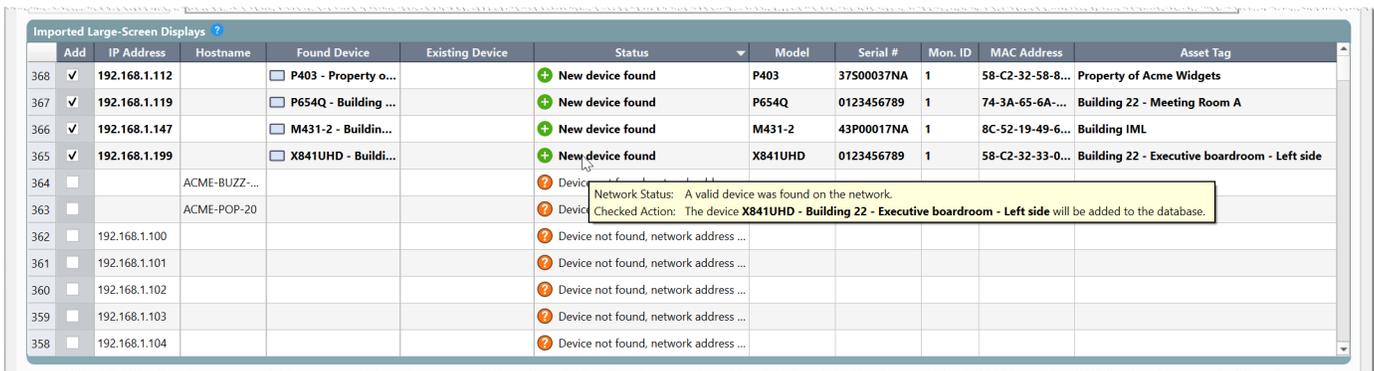
Importing devices involves populating the **Imported Devices** table with a list of potential devices to be added.

Import Method - There are several methods provided for establishing the list of devices to import. These methods vary depending on the types of devices, and are explained in detail in the following sections:

- Sharp or NEC large-screen displays - See "Importing multiple Sharp or NEC large-screen displays" on page 57.
- Sharp or NEC projectors - See "Importing multiple Sharp or NEC large-screen displays" on page 57.
- PJLink devices - See "Importing multiple PJLink devices" on page 61.
- Windows computers¹ - See "Importing multiple Windows computers (WMI)" on page 62.

Step 2: Selecting the Devices to Import

Once the list of potential devices has been imported, the **Imported Devices** table is used to select the devices to be added to the device tree.



Add	IP Address	Hostname	Found Device	Existing Device	Status	Model	Serial #	Mon. ID	MAC Address	Asset Tag
368	✓ 192.168.1.112		<input type="checkbox"/> P403 - Property o...		➕ New device found	P403	37500037NA	1	58-C2-32-58-8...	Property of Acme Widgets
367	✓ 192.168.1.119		<input type="checkbox"/> P654Q - Building ...		➕ New device found	P654Q	0123456789	1	74-3A-65-6A-...	Building 22 - Meeting Room A
366	✓ 192.168.1.147		<input type="checkbox"/> M431-2 - Buildin...		➕ New device found	M431-2	43P00017NA	1	8C-52-19-49-6...	Building IML
365	✓ 192.168.1.199		<input type="checkbox"/> X841UHD - Buildi...		➕ New device found	X841UHD	0123456789	1	58-C2-32-33-0...	Building 22 - Executive boardroom - Left side
364		ACME-BUZZ-...			⚠ Device not found, network address ...					
363		ACME-POP-20			⚠ Device not found, network address ...					
362		192.168.1.100			⚠ Device not found, network address ...					
361		192.168.1.101			⚠ Device not found, network address ...					
360		192.168.1.102			⚠ Device not found, network address ...					
359		192.168.1.103			⚠ Device not found, network address ...					
358		192.168.1.104			⚠ Device not found, network address ...					

The **Imported Devices** table has the following columns:

Add - Contains the checkbox used to either include or exclude the device. Typical connections that were detected without conflicts will be checked by default, whereas any uncommon connection conditions will not be checked.

 **Tip:** A context menu, providing operations to check or uncheck multiple devices at a time, can be opened by right-clicking on the device list.

IP Address and **Hostname** - Depending on the network configuration for the device, either the IP Address or Hostname column will show the device's information.

Found Device - This column displays the device icon, model name, and identifier. If the device has an assigned asset tag, the asset tag appears after the model name as the identifier; otherwise, the serial number is shown. For newly found devices, this representation (device icon, model name, and identifier) indicates how the device will appear in the tree once added. The device name can be edited after it's been added to the database by right-clicking and selecting "Rename" from the device tree's context menu.

Existing Device - For new devices, this column remains empty. For existing devices, it shows the current name as it appears in the device tree.

Status - Indicates the import status of the device. A detailed tooltip for each device will provide up to five additional pieces of information regarding the device's status and connection.

¹ This option is not available in **NaViSet Administrator 2 for macOS**. All other versions of **NaViSet Administrator** support adding Windows computers with connected monitors to the application database.

- **Network Status** - The result of the test connection.
- **Database Status** - Reports if this connection is being used by another device in the tree, or if the device found on the LAN already exists in the tree.
- **Checked Action** - Describes how the device will be added to the tree, or any connection changes that will take place.
- **Device Found** - The default device name of the device found on the LAN at this connection.
- **Database Device** - The device name of a device in the tree that is already using this connection.

Model - The model name read from the device.

Serial - The serial number read from the device.

Mon. ID - The monitor ID of the display.

Asset Tag - The asset tag string read from the device.

Step 3: Adding the Devices to the Device Tree

Before adding the selected devices to the tree, the destination group can be verified and changed if necessary.

The screenshot shows a dialog box titled "Add Selected Devices to". It contains two radio buttons: "Existing Group" (which is selected) and "New Group". Next to the "Existing Group" radio button is a dropdown menu currently displaying "Acme Widgets Inc.". To the right of the "New Group" radio button is an empty text input field. On the far right of the dialog is an "Apply" button.

Select **Existing Group** and choose a group from the drop-down list to add the devices to an existing group.

To create a new group, select **New Group** and enter a name for the group. The new group will be added to the bottom of the tree as a child of the top group (My Network).

Tip: The insertion position will be indicated with a **+** icon in the device tree.

Once the destination group is established, click **Apply** to add the devices to the tree.

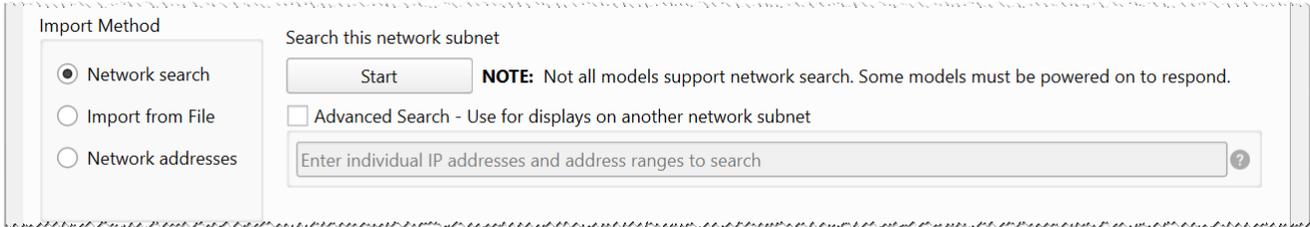
Importing multiple Sharp or NEC large-screen displays

Multiple large-screen displays can be imported in three different ways:

- Method 1: "Network search"
- Method 2: "Import from File"
- Method 3: "Network addresses"

Tip: The *Monitor ID* of each display is detected automatically if the display is reachable.

 **Tip:** This is *not* the proper procedure for adding multiple displays that are daisy chained using RS232. For these configurations, the entire daisy chain must be added as a single **Daisy Chain Host** device via the **Add Device Wizard** dialog.



Import Method

Network search

Import from File

Network addresses

Search this network subnet

Start **NOTE:** Not all models support network search. Some models must be powered on to respond.

Advanced Search - Use for displays on another network subnet

Enter individual IP addresses and address ranges to search

➤ Method 1: Add Sharp or NEC large-screen displays using “Network search”

Newer models of large-screen displays that are connected directly to LAN are capable of being automatically identified. A special identification message will be broadcast and list any displays that responded.

- **Start** - Performs a broadcast search on the network.
- **Advanced Search** - Input multiple individual IP addresses or specify an IP address range; can be used to search for devices on a different network subnet.

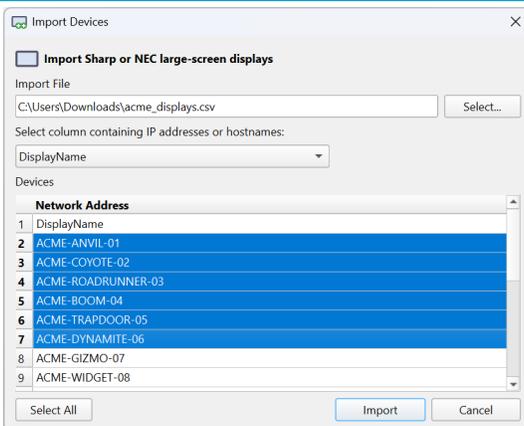
➤ Method 2: Add Sharp or NEC large-screen displays using “Import from File”

A list of IP addresses can be imported from any of the following file types:

- A column of an Excel spreadsheet file
- A delimited text file
- Another *NaViSet Administrator 2* database file

Select **Import from File** and click the **Select File...** button to open the *Import Devices* dialog.

Import Devices Dialog - Sharp or NEC large-screen displays



Import Devices

Import Sharp or NEC large-screen displays

Import File
C:\Users\Downloads\acme_displays.csv Select...

Select column containing IP addresses or hostnames:
DisplayName

Devices

	Network Address	Display Name
1		ACME-ANVIL-01
2		ACME-COYOTE-02
3		ACME-ROADRUNNER-03
4		ACME-BOOM-04
5		ACME-TRAPDOOR-05
6		ACME-DYNAMITE-06
7		ACME-GIZMO-07
8		ACME-WIDGET-08
9		

Select All Import Cancel

Import File: - Shows the file name selected to import the list from.

Select... - Selects the file to import from.

Select column containing IP addresses or hostnames - Lists the column names from the first row of data. Select the column to use as the IP address.

Devices - Shows all items, or rows in the currently selected column.

Import - Closes this dialog and adds the selected displays to the Imported Large-Screen Displays table.

➤ Method 3: Add Sharp or NEC large-screen displays using “Network addresses”

Supported large-screen displays can be added by entering any combination of individual IP addresses, IP address ranges, or hostnames.

The screenshot shows a dialog box titled 'Import Method'. On the left, there are three radio buttons: 'Network search', 'Import from File', and 'Network addresses', with 'Network addresses' selected. On the right, there is a text input field containing the following text: '192.168.1.100-200', '192.168.2.*', '192.168.3.30-40', 'ACME-BUZZ-18', and 'ACME-POP-20'. Above the input field, it says 'Enter any mix of individual IP addresses, address ranges, and hostnames to import. Each network address will be queried.' To the right of the input field is a blue question mark icon and an 'Import' button.

Click **Import** to add all of the specified devices to the **Imported Large-Screen Displays** table.

Importing multiple Sharp or NEC projectors

Multiple projectors can be imported in the following different ways:

- Method 1: "Network search"
- Method 2: "Import from File"
- Method 3: "Network addresses"

The screenshot shows a dialog box titled 'Import Method'. On the left, there are three radio buttons: 'Network search', 'Import from File', and 'Network addresses', with 'Network search' selected. On the right, there is a 'Start' button and a 'NOTE: Not all models support network search. Some models must be powered on to respond.' Below the 'Start' button is a checkbox labeled 'Advanced Search - Use for displays on another network subnet'. At the bottom, there is a text input field with the placeholder text 'Enter individual IP addresses and address ranges to search' and a blue question mark icon.

➤ Method 1: Add Sharp or NEC projectors using “Network search”

Many models of Sharp or NEC projectors that are connected directly to LAN are capable of being automatically identified. A special identification message will be broadcast and list any projectors that responded. Any projectors that were identified will be added to the list below.

- **Start** - Performs a broadcast search on the network.
- **Advanced Search** - Input multiple individual IP addresses or specify an IP address range; can be used to search for devices on a different network subnet.

 **Tip:** Projectors connected to a computer by RS232 and using the *LAN to RS232 Bridge* are not be able to be detected using the *Network search* function. Not all projector models support the automatic network enumeration feature.

➤ Method 2: Add Sharp or NEC projectors using “Import from File”

A list of IP addresses can be imported from any of the following file types:

- A column of an Excel spreadsheet file
- A delimited text file
- Another *NaViSet Administrator 2* database file

Select **Import from File** and click the **Select File...** button to open the *Import Devices* dialog.

Import Devices Dialog - Sharp or NEC projectors

Import File: - Shows the file name selected to import the list from.

Select... - Selects the file to import from.

Select column containing IP addresses or hostnames - Lists the column names from the first row of data. Select the column to use as the IP address.

Devices - Shows all items, or rows in the currently selected column.

Import - Closes this dialog and adds the selected projectors to the **Imported Projectors** table.

➤ Method 3: Add Sharp or NEC projectors using “Network addresses”

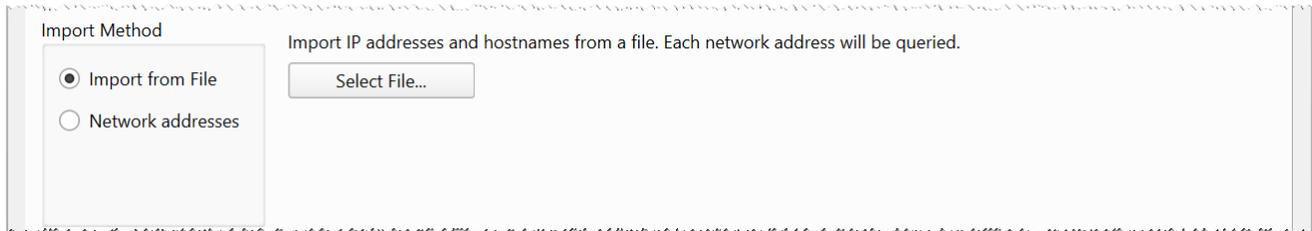
Supported projectors can be added by entering any combination of individual IP addresses, IP address ranges, or hostnames.

Click **Import** to add all of the specified devices to the **Imported Projectors** table.

Importing multiple PJLink devices

Multiple PJLink devices can be imported in the following different ways:

- Method 1: "Import from File"
- Method 2: "Network addresses"



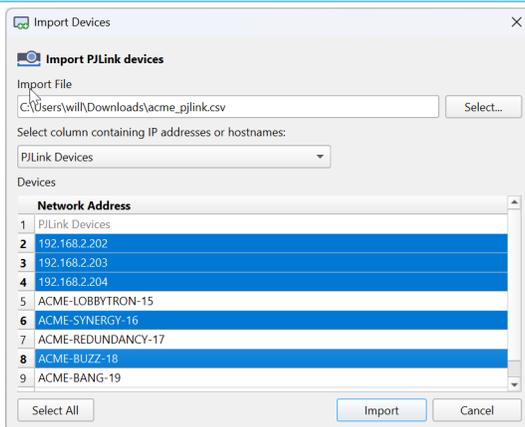
➤ Method 1: Add PJLink devices using "Import from File"

A list of IP addresses can be imported from any of the following file types:

- A column of an Excel spreadsheet file
- A delimited text file
- Another *NaViSet Administrator 2* database file

Select **Import from File** and click the **Select File...** button to open the *Import Devices* dialog.

Import Devices Dialog - PJLink Devices



Import File: - Shows the file name selected to import the list from.

Select... - Selects the file to import from.

Select column containing IP addresses or hostnames - Lists the column names from the first row of data. Select the column to use as the IP address.

Devices - Shows all items, or rows in the currently selected column.

Import - Closes this dialog and adds the selected devices to the **Imported PJLink Devices** table.

➤ Method 2: Add PJLink devices using “Network Addresses”

Supported PJLink devices can be added by entering any combination of individual IP addresses, IP address ranges, or hostnames.

Import Method

Import from File

Network addresses

Enter any mix of individual IP addresses, address ranges, and hostnames to import. Each network address will be queried.

192.168.1.100-200
192.168.2.*
192.168.3.30-40
ACME-BUZZ-18
ACME-POP-20

Import

Click **Import** to add all of the specified devices to the **Imported PJLink Devices** table.

Importing multiple Windows computers (WMI)

Tip: This option is not available in *NaViSet Administrator 2* for macOS. All other versions of *NaViSet Administrator* support adding Windows computers with connected monitors to the application database.

Windows computers can be imported in several different ways:

- Method 1: "Active Directory"
- Method 2: "Network Enumeration"
- Method 3: "Import from File"
- Method 4: "Network Addresses"

Import Method

Active Directory

Network Enumeration

Import from File

Network addresses

Enter any mix of individual IP addresses, address ranges, and hostnames to import. Each network address will be queried.

ACME-HQ-FS01
ACME-HQ-DC01
ACME-HQ-PRINT02
ACME-NYC-LAP123
ACME-NYC-DESK045
ACME-CHI-SRV07

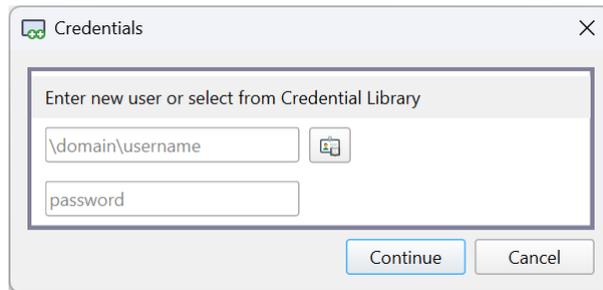
Import

When computers are imported using any of the above methods, a *Credentials* dialog will be displayed. Access credentials to the computer must be specified using one of the following options:

- The currently logged in user's credentials
- An existing credential from the *Credential Library* (see page 171 for more information)
- A device-specific credential to be entered and optionally added to the *Credential Library*

If you enter new credentials and do not choose to add them permanently to the *Credential Library*, they are stored with the device to maintain communication with that device. The credentials used for that

device are not saved in the library and cannot be used to connect to new devices unless you re-enter the credentials.



Tip: The same access Credentials are applied to all of the computers imported together. To use different credentials on different computers, add them separately by repeating this procedure.

➤ Method 1: Add computers using “Active Directory”

If the Windows network is part of a domain with an *Active Directory* server, then the server can be queried to retrieve a list of computer names in the domain. This is a fast and reliable way to add computers. The names of computers that are currently not available on the network can be retrieved via the Active Directory.

Select **Active Directory** and click the **Query...** button to open the *Active Directory Query* dialog.

Active Directory Query Dialog

ADSI Object Binding - Defines the address and credentials used to connect to the Active Directory Server. Select *Use Default* unless connecting to a different domain or credentials than the default.

Query - Sends a query to the Active Directory Server and lists the results.

Wildcard Filters - Allows the query results to be filtered by applying text wildcards to the Computer Name, Description, Operating System, and OS Version columns.

Import Selected and **Import All** - Adds the items to the table, after the access credentials have been specified.

➤ Method 2: Add computers using “Network Enumeration”

Windows computers that are currently online on the LAN can be enumerated and added in the same way network devices are found and shown in the Windows Network list. A computer must typically be running and have been connected to the LAN for several minutes in order to appear in the *Network Enumeration* list. The network enumeration can take up to several minutes to perform depending on the number of devices on the network.

Select **Network Enumeration** and click the **Enumerate...** button to open the *Network Enumeration* dialog.

Network Enumeration Dialog

Name: - Defines the domain or workgroup to enumerate. The current domain/workgroup will be used if none is entered.

Enumerate - Starts the network enumeration process and lists the results.

Wildcard Filters - Allows the query results to be filtered by applying text wildcards to the Computer Name, Description, and Operating System.

Import Selected and **Import All** - Adds the items to the table, after the access credentials have been specified.

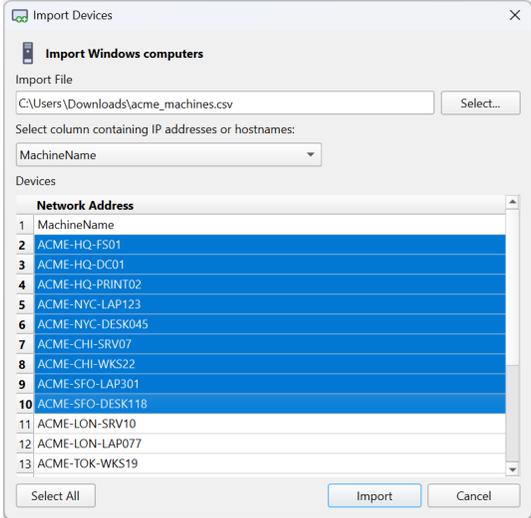
➤ Method 3: Add computers using “Import from File”

A list of IP addresses and/or computer names can be imported from any of the following file types:

- A column of an Excel spreadsheet file
- A delimited text file
- Another *NaViSet Administrator 2* database file

Select **Import from File** and click the **Select File...** button to open the *Import Devices* dialog.

Import Devices Dialog - Windows computers



Import File: - Shows the file name selected to import the list from.

Select... - Selects the file to import from.

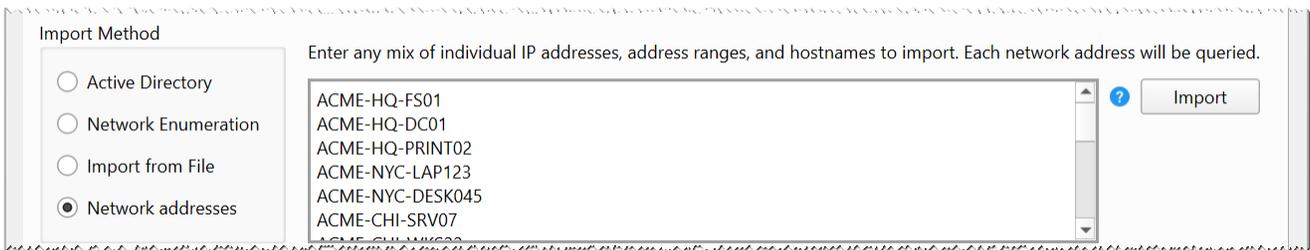
Select column containing IP addresses or hostnames - Lists the column names from the first row of data. Select the column to use as the IP address or hostname (computer name).

Devices - Shows all items, or rows in the currently selected column.

Import - Closes this dialog and opens the Credentials dialog. Once the access credentials have been entered, the selected computers are added to the Imported Computers table.

➤ Method 4: Add computers using “Network addresses”

Computers can be added by entering any combination of individual IP addresses, IP address ranges, or hostnames.



Click **Import** to open the **Credentials** dialog. Once the access credentials have been entered, all of the IP addresses in the specified range will be added to the **Imported Computers** table.

4 Device Views



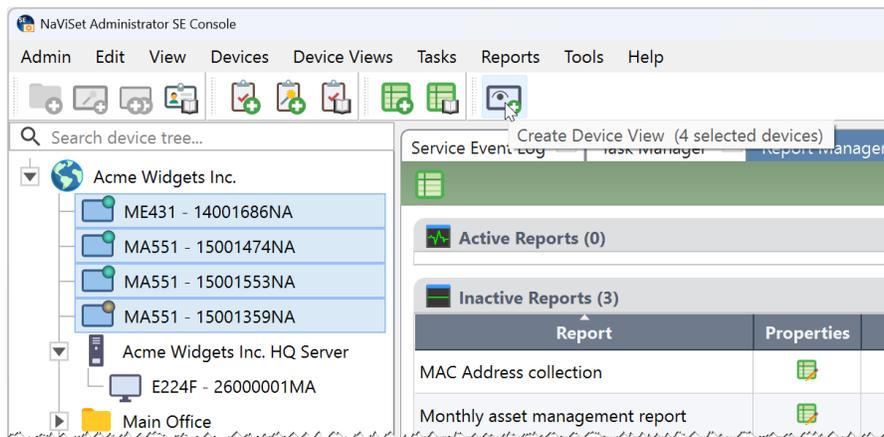
This function is only available in the **NaViSet Administrator SE Console** application.

If you are interested in a trial version of the software to access this and other unique features of the Server Edition version, please go to business.sharppusa.com/naviset-administrator

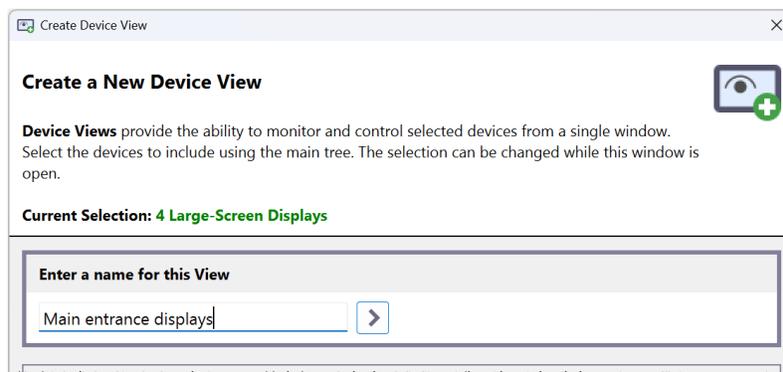
Device Views lets you create custom groups of specified devices for easier management. Devices can be grouped based on your preferences, such as by type, location, or operational purpose, making it easier to monitor, control, and query a specific group. Device Views allows for targeted monitoring and easier management of a smaller number of devices rather than viewing all devices in the database in a single list.

Creating a Device View

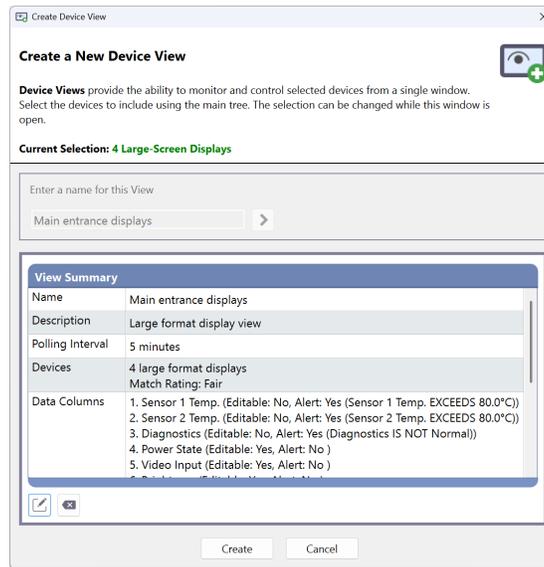
1. In the device tree, hold down the CTRL key and select the devices and device folders you want to group into a device tree.
Note that you can only add devices of a similar type (such as only large-screen displays or only projectors).
2. Click on the **Create Device View** button.



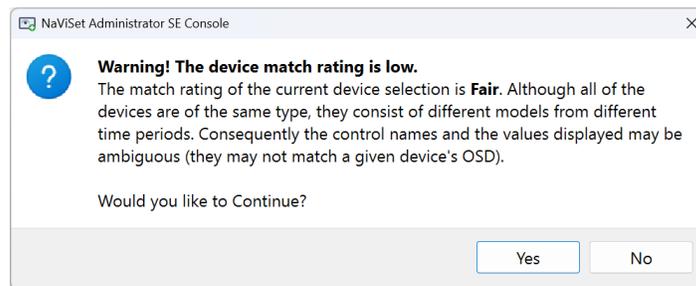
3. Input a name for this group of devices (this is the name that will show in the list of Device Views list).



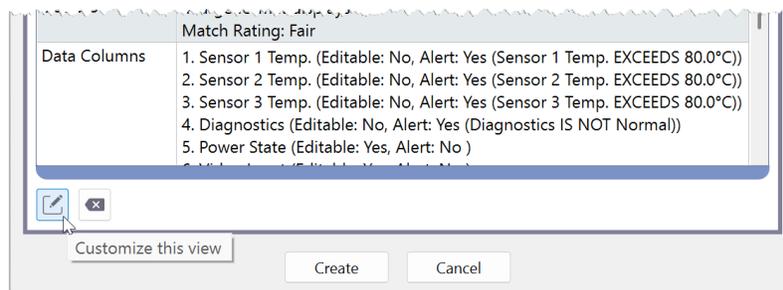
4. Click on **Create**.



 **Tip:** When the selected devices have too many dissimilar features between models, you will see a message on-screen indicating a low device match rating. You can choose to continue at that time.



5. *Optional:* Before clicking on **Create** in the last step of the instructions, you can click on the Edit button to Customize the Device View settings.



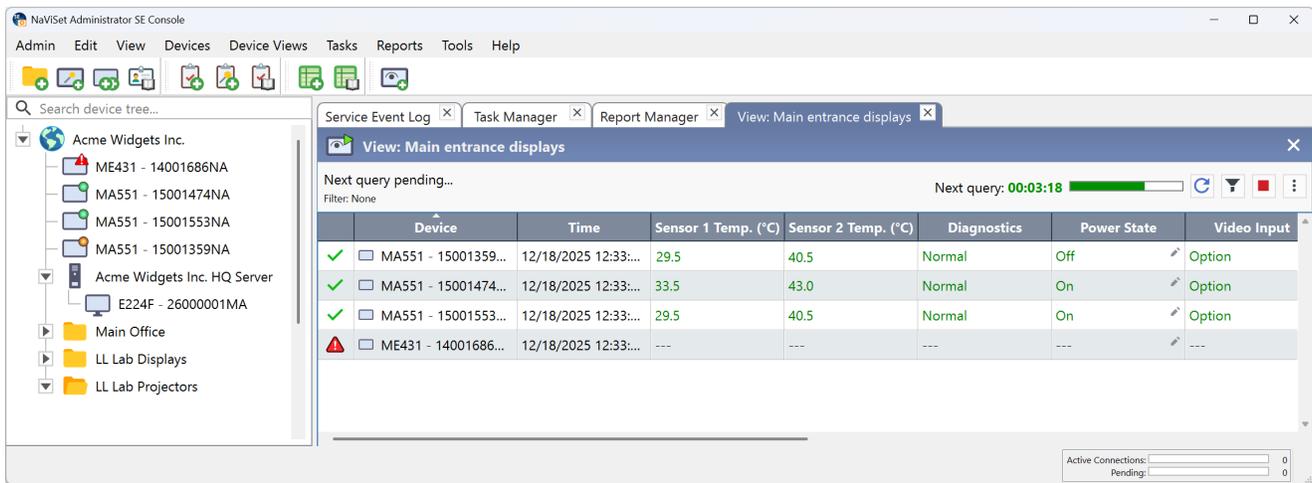
6. The new Device View will now be in the Device Views list.



Editing a Device View

Device Views can be customized to show specific information and various controls for easy access, such as input, volume, and power. The controls available are those accessible when managing devices in NaViSet Administrator; however, keep in mind that not all controls are present on every device, and the information shown may not match each device's specific OSD data when a mismatch occurs.

Unless the Device View is manually stopped, it will automatically update periodically to show the current status of the selected devices. The default interval is five minutes; however, this can be adjusted in the Properties after creating the Device View.



You must first stop the Device View monitoring before customizing the information shown in the Device View, adding devices, changing settings—including the query interval—and setting notifications.

Icons

-  **Query Now** - Immediately queries all devices and resets the query duration interval, if it is running.
-  **Filters...** - Enables you to choose which data to show in the Device View.
-  **Start/Stop** - Starts and stops the automatic querying.
-  **More...** - Shows a menu to open Properties for customizing the Device View, viewing the query results history, or deleting the Device View.

Settings tab

Select the **Settings** tab to configure the general settings for the Device View.

The screenshot shows a dialog box titled "Device View Properties - Main entrance displays" with a close button (X) in the top right corner. The dialog has five tabs: "Settings", "Devices", "Query Items", "Notifications", and "Summary". The "Settings" tab is selected and contains the following sections:

- Device View Name and Description:** Two text input fields. The "Name" field contains "Main entrance displays" and the "Description" field contains "Large format display view".
- Device Query Interval:** A label "Query devices every" followed by a spin box containing the number "5" and a dropdown menu set to "minutes".
- Query History Duration:** A label "Save query data for" followed by a spin box containing the number "2" and a dropdown menu set to "days".
- Misc. Settings:** Three unchecked checkboxes:
 - Show "device powered-off" warning messages
 - Show "control not supported" warning messages
 - Show "unable to read control" warning messages

At the bottom right of the dialog are "OK" and "Cancel" buttons.

Device View Name and Description - Change the name and description of the Device View in the fields provided.

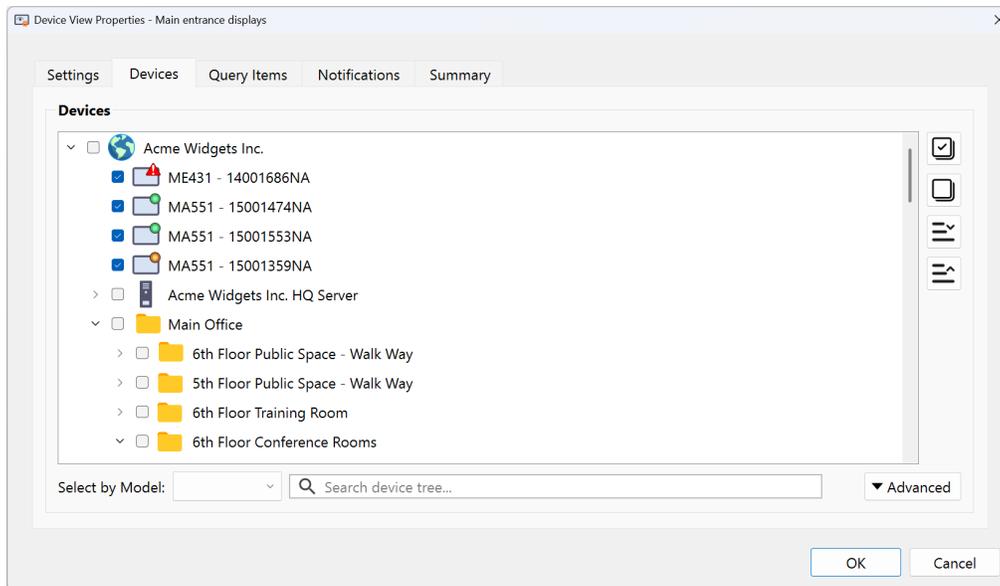
Device Query Interval - Set the frequency at which the application queries the selected devices in the Device View. The maximum number you can select in the spin box is 100, meaning the highest query interval is 100 days. The minimum number is 1, so the shortest query interval is 1 second.

Query History Duration - Set the amount of time the application should keep data before automatically deleting it. The maximum is 100 days, and the minimum is 1 day.

Misc. settings - Select which warning messages to display.

Devices tab

Select the **Devices** tab to add or remove devices for the Device View. Selecting a group will automatically select all of the devices within that group.



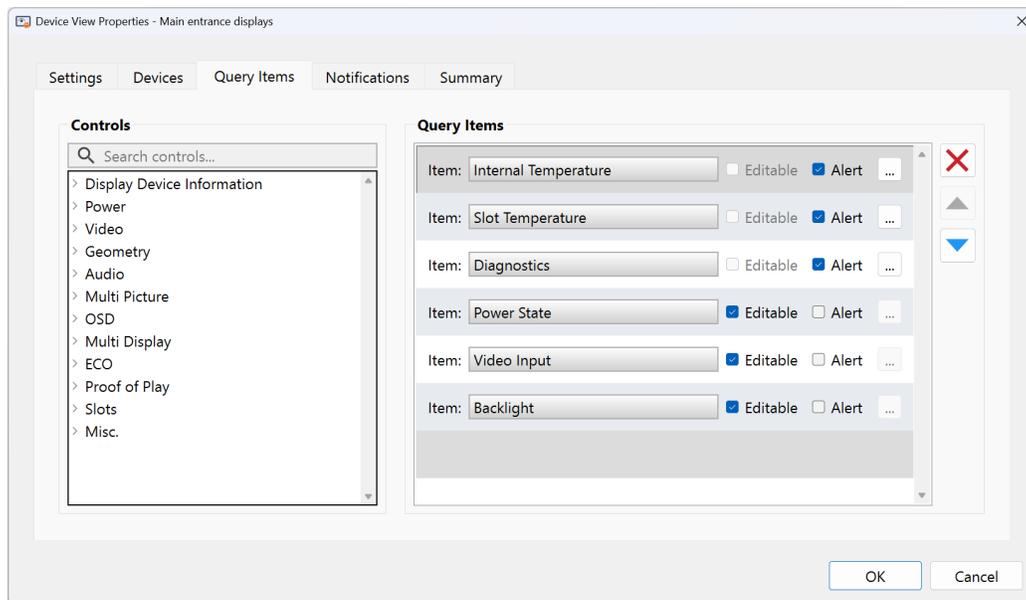
Devices can also be selected by model using the **Select by Model** listbox. Selecting a model in the list will select all matching devices in the device tree.

- button will select all devices, and the
- button will clear all selected devices
- button will expand the list of devices
- button will collapse the list of devices

Clicking the **Advanced** button shows additional settings for handling devices in the view.

Query Items tab

Select the **Query Items** tab and select device controls that are to be monitored.



Tip: The same limitations on control values as described in the Note on page 185 applies to the control values read from devices. The values shown may be different from the On Screen Display values.

Notifications tab

Select the **Notifications** tab to configure the settings to be notified via email about the devices' status.

Tip:

- **NaViSet Administrator Server Edition** - The Outbound Email Settings must be configured in the Config Utility. Please see "Email Settings for NaViSet Administrator SE" on page 231.
- The instructions for setting notifications in the Device View Properties are the same as Reports and Tasks. Please see "Notifications Tab" on page 189 for instructions.

Summary tab

Select the **Summary** tab to review the Device View settings. Click **OK** to save your changes to the Device View.

If you opened the Device View Properties while creating a new Device View, it will now show in the Device Views menu.

5 Configuring Devices

This chapter covers how to configure the various supported devices so that *NaViSet Administrator* can successfully connect to, query, and control them.

Sharp or NEC Large-Screen Displays

Identify the type of connection available on the model of Sharp or NEC large-screen display being used, by referring to "Configuring and connecting Sharp or NEC large-screen displays" on page 75. This section explains the different types of connections and daisy chain options available.

For specific information on each type of connection available on Sharp or NEC large-screen displays, see:

- "Sharp or NEC large-screen display(s) using direct LAN connection" on page 79
- "Sharp or NEC large-screen display(s) with LAN hub using direct LAN connection" on page 81
- "Sharp or NEC large-screen display(s) using LAN to RS232 Bridge" on page 82
- "Sharp or NEC large-screen display(s) with LAN hub using LAN to RS232 Bridge" on page 84
- "Sharp or NEC large-screen display(s) with SBC and dual LAN connections" on page 86
- "Sharp or NEC large-screen display with SBC and single LAN connection" on page 88

Sharp AIO dvLED Displays

Sharp AIO dvLED displays contain the necessary components for direct connection on a LAN without having to use a third-party controller for communications. This allows the displays to connect to NaViSet Administrator 2 and NaViSet Administrator SE using the same connection method as the Sharp and NEC Large-Screen Display models for direct LAN connection.

For Sharp AIO dvLED displays only, see:

- "Sharp AIO dvLED displays using direct LAN connection" on page 90

Sharp or NEC Projectors

For Sharp or NEC projectors, see:

- "Sharp or NEC projector using direct LAN connection" on page 91
- "Sharp or NEC projector connected via Windows Computer to LAN" on page 92

PJLink Devices

For PJLink compatible devices, see:

- "PJLink compatible device using direct LAN connection" on page 94

Desktop Displays

For desktop displays, see:

- "Desktop display(s) connected to a Windows Computer" on page 96

dvLED Displays via NovaStar H series Controllers (NaViSet Administrator SE only)

For Sharp and NEC dvLED displays that are not Sharp AIO dvLED display models, see:

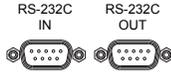
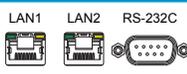
- "dvLED displays connected via 3rd party controllers to LAN" on page 98

Configuring and connecting Sharp or NEC large-screen displays

Sharp or NEC large-screen displays can be connected to the network in a variety of ways using RS232 or LAN, depending on the model.

Also, depending on the model, displays can be daisy chained together using RS232 or LAN cables. Daisy chaining displays can simplify cable wiring, and allows more than one display to be controlled from one access connection, as well as minimizing the lengths and number of cable runs.

The following table shows the types of daisy chains available depending on the connection configuration of the display model being used.

Display connection configuration	Connection description	Daisy chain type	Input connection from network to first display in daisy chain
	RS-232C IN and OUT	RS232	RS232 ¹
	RS-232C IN, OUT, and LAN	RS232	LAN or RS232 (selectable) ¹
	RS-232C (IN), LAN 1, and LAN2	LAN	LAN or RS232 ¹
	RS-232C (IN) and LAN	Not available	LAN or RS232 ¹ <i>(Daisy chaining is not available for this display configuration)</i>

1 RS232 input connection from network requires a Windows computer

To determine the correct display connection configuration for the display models being used:

- Look at the physical connections on the display.
- Refer to the display's User's Manual.

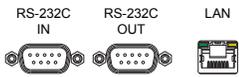
About Monitor IDs

- Each display has a Monitor ID number that is used to individually identify and address it when used in a daisy chain.
- Each display in a daisy chain must have a unique Monitor ID (except for LAN daisy chain connections where the Auto ID function is not used).
- The Monitor ID is configured via the display's OSD (all displays) or in the embedded web page (LAN displays).
- Models that support LAN daisy chains can also have the Monitor ID set automatically using the Auto ID function in the OSD, or via the embedded webpage. See "Using the Auto ID function with a LAN daisy chain" on page 78 and the display User's Manual for more information.
- The Monitor ID configured in *NaViSet Administrator* must match the Monitor ID on each display.
- Monitor IDs also allow displays to be individually controlled from a single IR remote control. See the display User's Manual for more information on using the IR Remote with multiple displays.

The following sections describe each of the 3 basic connection types for connecting multiple large-screen displays:

- Connecting Directly to LAN
- Connecting via an RS232 Daisy chain
- Connecting via a LAN Daisy chain

Connecting Directly to LAN

Supported display connection configurations		
	RS-232C IN, OUT, and LAN	
	RS-232C (IN), LAN 1, and LAN 2	
	RS-232C (IN) and LAN (daisy chain not supported)	

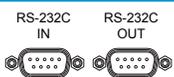
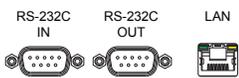
Models that have an RJ45 LAN connection can be individually connected directly to a LAN via a hub or switch instead of daisy chaining displays together. This may require more wiring since each display is individually connected directly to a central LAN hub or switch. The advantages of using this method is that communications to other displays will still function even if:

- A display is removed from the video wall without bridging the daisy chain.
- A display loses AC power or is turned off via the display's main power switch.
- A display fails.
- There is a fault in cabling to an individual display.
- A display enters standby power mode and the LAN POWER setting is set to OFF (models that support LAN daisy chain only).

Important points to note:

- Each display must have a unique IP address.
- Since each display is addressed by the combination of IP address and Monitor ID, each display can have the same or unique Monitor IDs.

Connecting via an RS232 Daisy chain

Supported display connection configurations		
	RS-232C IN and OUT	
	RS-232C IN, OUT, and LAN	

Models that have two RS232 connections (not including any RS232 connections on OPS devices), support RS232 daisy chaining. The connection labeled IN is the input to the display from a host computer or previous display in the daisy chain. The other connection labeled OUT is the output to connect to the IN on the next display in the daisy chain.

Important points to note:

- When using RS232 to connect displays using a daisy chain, each display on the chain must have a unique Monitor ID (set via the display's OSD).

- Displays must be connected using an RS232 serial NULL modem cable (also known as a “crossover” cable).
- The first display in the daisy chain can be connected to a host computer either via RS232, or by LAN if the model has an RJ45 LAN connection (not including any RJ45 LAN connections on OPS devices). When connected via LAN, the first display can forward commands received over LAN to other displays in the RS232 daisy chain.
- The RS232 connection from a host computer must connect to the RS232 IN on the first display.
- Communications via both LAN and RS232 are not supported at the same time. The type of communications link used to connect to the display (RS-232C or LAN) must be selected in the EXTERNAL CONTROL option of the OSD.

Connecting via a LAN Daisy chain

Supported display connection configurations



Models that have two RJ45 LAN connections (not including any RJ45 LAN connections on OPS devices) support LAN daisy chaining. The RJ45 LAN connection labeled LAN1 should be used as an input to the display from the network. The other LAN connection labeled LAN2 is the output to connect to the LAN1 on the next display in the daisy chain.

The display functions as a two port LAN hub for LAN traffic.

Important: The LAN hub function only works when AC power is applied to the display and the LAN interface is powered on. By default the *LAN POWER* setting is set to turn off when the display enters a standby power mode. This will prevent communications with other devices along the LAN daisy chain. To prevent this, change the *LAN POWER* setting to *ON* via the *OSD*. This setting can also be automatically set to *ON* when the device is added to *NaViSet Administrator* if the preference setting is selected - see "Devices" on page 225.

Displays in a LAN daisy chain that are connected to a LAN network can be addressed in two different ways:

➤ **Option 1 - Direct (recommended):**

Each display in a LAN daisy chain can also be added to *NaViSet Administrator* as an individual large-screen display, rather than as part of a daisy chain, by adding each display by its IP address and Monitor ID.

NaViSet Administrator will communicate directly to each display via its IP address.

➤ **Option 2 - Via Translation:**

The first display in a LAN daisy chain can act as a host for commands it receives for any of the other displays further along the daisy chain. It will translate and forward to the relevant display any commands received via the LAN2 connection sent to its IP address, but with Monitor IDs for other displays in the daisy chain.

In order to do this, the Auto ID function must be successfully performed on the first display. The Auto ID function is used to identify all displays along the LAN daisy chain and assign them sequential Monitor IDs. The first display in the LAN daisy chain stores a table of the IP addresses and assigned Monitor IDs for all of the other displays in the daisy chain.

To use this type of addressing, the displays must be added using the **Add Device Wizard** dialog and selecting **This is the first display in a daisy chain**. See "Adding Sharp or NEC large-screen display(s)" on page 44 for more information.

Important: Using direct addressing for each Sharp or NEC large-screen display is highly recommend when using NaViSet Administrator since it allows simultaneous communications with multiple displays, rather than having to wait for the first display to process communications for each display in turn within the daisy chain.

Therefore, when adding Sharp or NEC large-screen displays that are daisy chained via LAN, it is recommended to add them individually by IP address rather than treating them as a daisy chain.

See the following for more information on using the Auto ID function.

Using the Auto ID function with a LAN daisy chain

- The LAN2 RJ45 (output) of a display must connect to the LAN1 RJ45 (input) on the next display in a daisy chain.
- Each display must have a unique IP address assigned.
- Network hub devices must not be used to create multiple branches of displays along the LAN daisy chain. All displays must be connected sequentially.
- The LAN2 RJ45 of the last display in the daisy chain must not be connected back to the network (do not form a network loop).
- Monitor IDs are automatically assigned sequentially starting at Monitor ID 1.
- Monitor IDs are assigned based on the physical LAN cable connection order - not the IP address assignment order.
- All displays must be powered on when performing the Auto ID function.
- The Auto ID function should only be performed from the first display in the daisy chain. Do not perform Auto ID from displays further along the daisy chain.

Sharp or NEC large-screen display(s) using direct LAN connection

Supported Display Connection Configurations

	RS-232C IN, OUT, and LAN
	RS-232C (IN) and LAN (daisy chain not supported)

Configuration Overview

Large-screen display connected directly to the LAN and using one IP address.

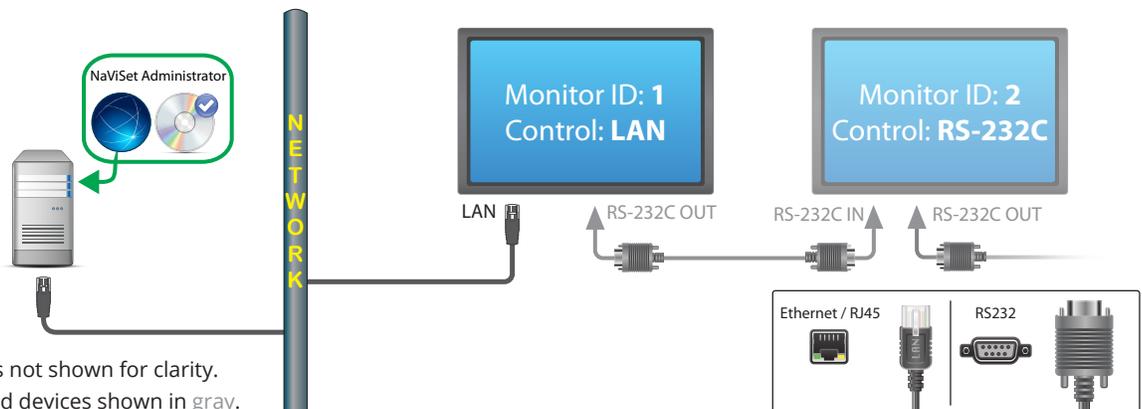
Configuration Features

- Additional displays can be daisy chained from the LAN-connected display via RS232 (if supported).
- Operates without a computer.

Adding device(s) to NaViSet Administrator

Select the device type **Sharp or NEC large-screen display** when adding devices. See the restrictions below.

Connection Diagram



Note: Video connections not shown for clarity.
Optional connections and devices shown in gray.

Restrictions

- Each display on the daisy chain must have a unique Monitor ID.
- Monitor IDs for daisy chained displays do not have to start at 1, but must be consecutive.
- The first display must be configured to use LAN. Others must be configured to use RS-232C control.
- RS-232C cables must be crossover / NULL modem type.

- If displays are daisy chained, they must be added to the device tree using **Add Device Wizard...** and selecting ***This is the first display in a daisy chain.***
- RS232 splitters or Y connections are not permitted on any connection.

Sharp or NEC large-screen display(s) with LAN hub using direct LAN connection

Supported Display Connection Configurations

	RS-232C (IN), LAN1, and LAN2
---	------------------------------

Configuration Overview

Large-screen display with internal LAN hub connected directly to the LAN.

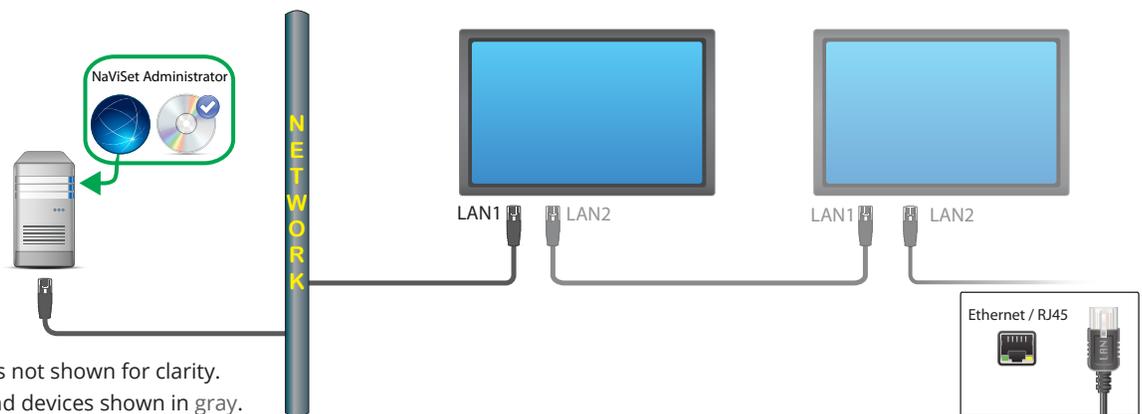
Configuration Features

- Additional displays can be daisy chained from the first display via LAN using the internal LAN hub.
- Operates without a computer.

Adding device(s) to NaViSet Administrator

Select the device type **Sharp or NEC large-screen display** when adding devices.

Connection Diagram



Note: Video connections not shown for clarity.
Optional connections and devices shown in gray.

Restrictions

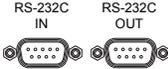
- Each display must have a unique IP address.
- Monitor IDs can be the same or unique for each display.
- If the Auto ID function is used, Monitor IDs will be assigned automatically starting at ID 1 on the first display. See "Using the Auto ID function with a LAN daisy chain" on page 78 for more information.

Notes

- For maximum operation speed, it is highly recommended to treat each display as an individually connected LAN display in *NaViSet Administrator*, rather than as a daisy chain. See page 55 for more information.

Sharp or NEC large-screen display(s) using LAN to RS232 Bridge

Supported Display Connection Configurations

	RS-232C IN and OUT
	RS-232C IN, OUT, and LAN
	RS-232C (IN) and LAN (daisy chain not supported)

Configuration Overview

Windows computer with one COM port using the "LAN to RS232 Bridge" utility, and connected to a large-screen display via RS232.

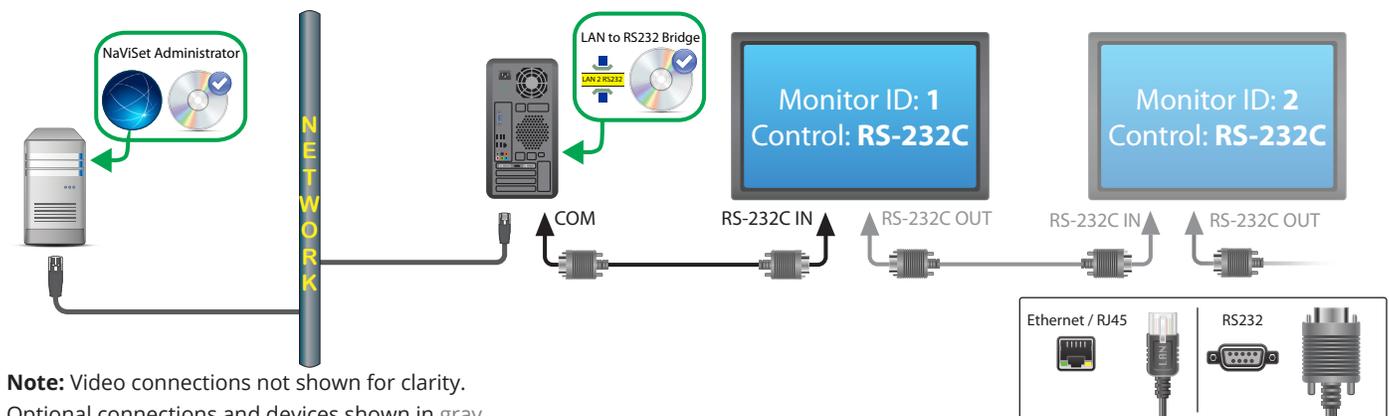
Configuration Features

- Uses one COM port on the host computer.
- Additional displays can be daisy chained via RS232 (if supported).
- Fast command operation.

Adding device(s) to NaViSet Administrator

Select the device type **Sharp or NEC large-screen display** when adding devices. See the restrictions below.

Connection Diagram



Note: Video connections not shown for clarity.
Optional connections and devices shown in gray.

Restrictions

- Monitor IDs for daisy chained displays do not have to start at 1, but must be consecutive.
- Displays must be configured to use RS-232C control.
- RS-232C cables must be crossover / NULL modem type.
- If displays are daisy chained, they must be added to the device tree using **Add Device Wizard...** and selecting ***This is the first display in a daisy chain.***

Notes

- Configure the COM port in the "*LAN to RS232 Bridge*" utility. Select 9600 Baud Rate.
- The Windows computer must be running and the user logged-in in order to communicate with displays.
- The computer can also be added separately as ***Windows computer on LAN (WMI)*** to provide shutdown, restart, Wake-on-LAN, and monitoring of computer parameters.

Sharp or NEC large-screen display(s) with LAN hub using LAN to RS232 Bridge

Supported Display Connection Configurations

	RS-232C (IN), LAN1, and LAN2
---	------------------------------

Configuration Overview

Windows computer with one COM port using the "LAN to RS232 Bridge" utility, and connected to a large-screen display via RS232.

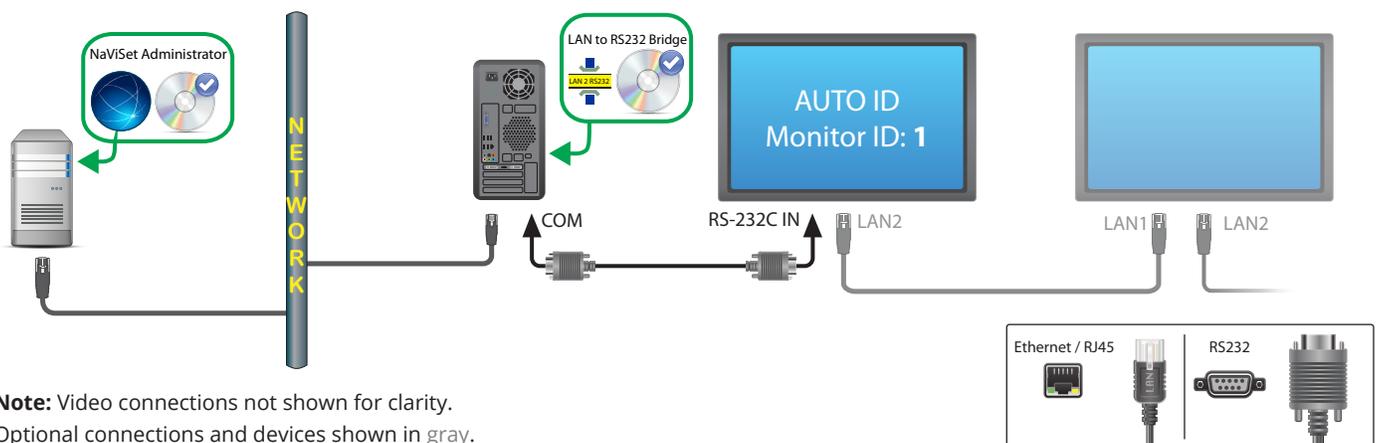
Configuration Features

- Uses one COM port on the host computer.
- Additional displays can be daisy chained via LAN.
- Fast command operation.

Adding device(s) to NaViSet Administrator

Select device type **Sharp or NEC large-screen display** when adding devices. See the restrictions below.

Connection Diagram



Note: Video connections not shown for clarity.
Optional connections and devices shown in gray.

Restrictions

- Auto ID must be performed on the first display via the display's OSD.
- RS-232C cable must be crossover / NULL modem type.
- If the displays are daisy chained and the IP address settings are set to AUTO, the displays will assign themselves IP addresses automatically. Alternatively, IP addresses can be assigned manually via the OSD.

- If displays are daisy chained, they must be added to the device tree using **Add Device Wizard...** and selecting ***This is the first display in a daisy chain.***

Notes

- Configure COM port in the "*LAN to RS232 Bridge*" utility. Select 9600 Baud Rate.
- The Windows computer must be running and the user logged-in in order to communicate with displays.
- The computer can also be added separately as ***Windows computer on LAN (WMI)*** to provide shutdown, restart, Wake-on-LAN, and monitoring of computer parameters.

Sharp or NEC large-screen display(s) with SBC and dual LAN connections

Supported Display Connection Configurations

	RS-232C IN, OUT, and LAN
	RS-232C (IN) and LAN (daisy chain not supported)

Configuration Overview

Large-screen display with SBC (Single Board Computer) connected to the LAN. The large-screen display is also connected to the LAN directly.

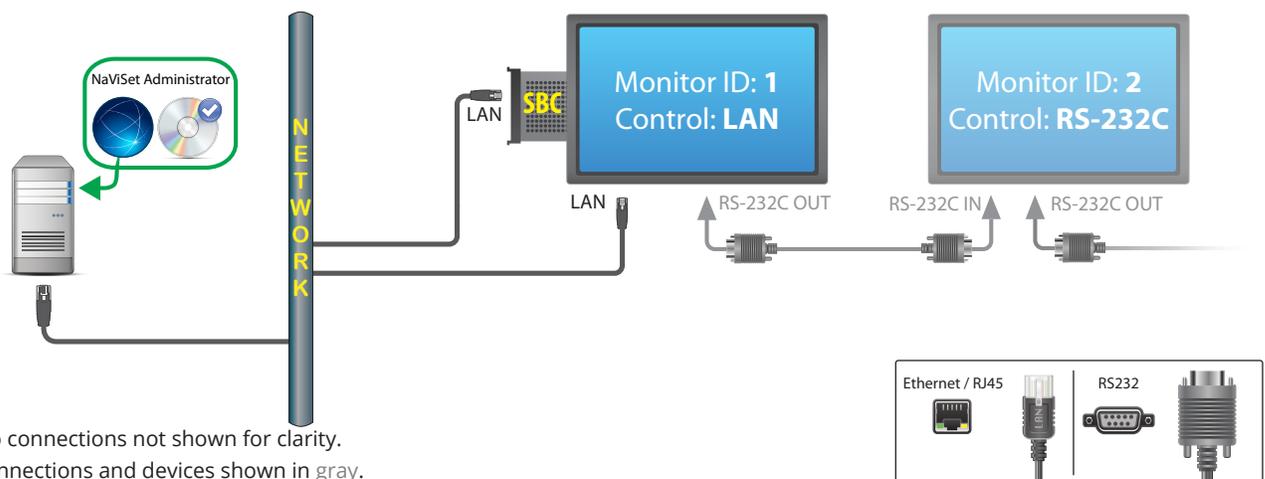
Configuration Features

- Displays can be controlled even if the SBC is shut down or non-functional.
- Displays can be daisy chained (if supported).
- The SBC can run operating systems other than Windows.

Adding device(s) to NaViSet Administrator

Select device type **Sharp or NEC large-screen display** when adding devices. See **the restrictions** below.

Connection Diagram



Note: Video connections not shown for clarity. Optional connections and devices shown in gray.

Restrictions

- SBC is accessible from Windows version of *NaViSet Administrator* only.

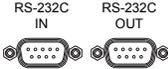
- Each display on the daisy chain must have a unique Monitor ID, and Monitor IDs must be consecutive.
- The first display must be configured to use LAN. Others must be configured to use RS-232C control.
- RS-232C cables must be crossover / NULL modem type.
- If displays are daisy chained, they must be added to the device tree using **Add Device Wizard...** and selecting ***This is the first display in a daisy chain.***

Notes

- Monitor IDs do not have to start at 1.
- Two IP addresses are required (one for the SBC, and one for the display).
- The SBC can be added separately to the device tree as **Windows computer on LAN (WMI)** to provide shutdown, restart, Wake-on-LAN, and monitoring of computer parameters.

Sharp or NEC large-screen display with SBC and single LAN connection

Supported Display Connection Configurations

	RS-232C IN and OUT
	RS-232C IN, OUT, and LAN
	RS-232C (IN), LAN1, and LAN2
	RS-232C (IN) and LAN

Configuration Overview

Large-screen display with SBC (Single Board Computer) connected to LAN, also using the internal RS-232C connection to the SBC for communications.

Configuration Features

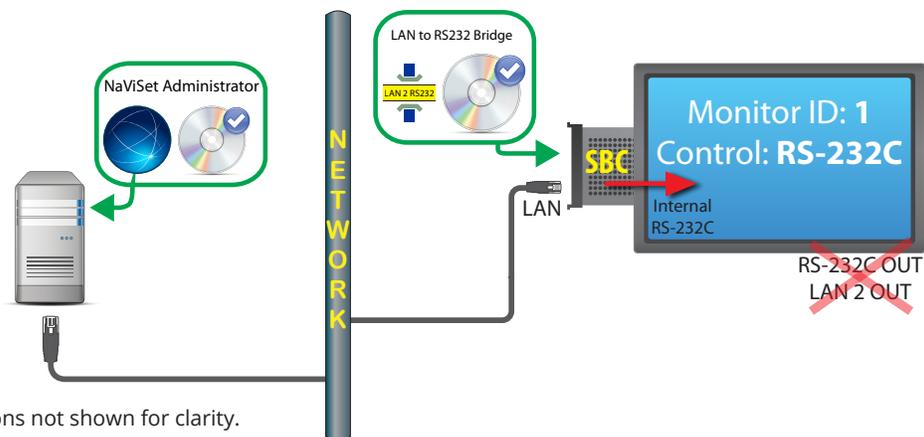
- Single LAN connection using one IP address.

Adding device(s) to NaViSet Administrator

When adding devices, select device type:

Sharp or NEC large-screen display

Connection Diagram



Restrictions

- WMI connections are not available on the macOS version of NaViSet Administrator 2.
- The "*LAN to RS232 Bridge*" must be used.
- Additional displays cannot be daisy chained from the RS232 OUT or LAN 2 (output) when using the SBC's internal RS-232C connection.
- The display must be configured to use RS-232C control unless the display model supports LAN based daisy chains (Models supporting LAN based daisy chains have RS-232C IN, LAN1 and LAN2 connectors).

Notes

- Monitor ID does not have to be 1.
- One IP address is required.
- The SBC must be running Windows and be operational in order to communicate with the display(s).

Sharp AIO dvLED displays using direct LAN connection

Supported Display Connection Configurations

	LAN (IN), and RS-232C (IN)
---	----------------------------

Configuration Overview

AIO dvLED (All-In-One Direct View LED) displays connected directly to the LAN.

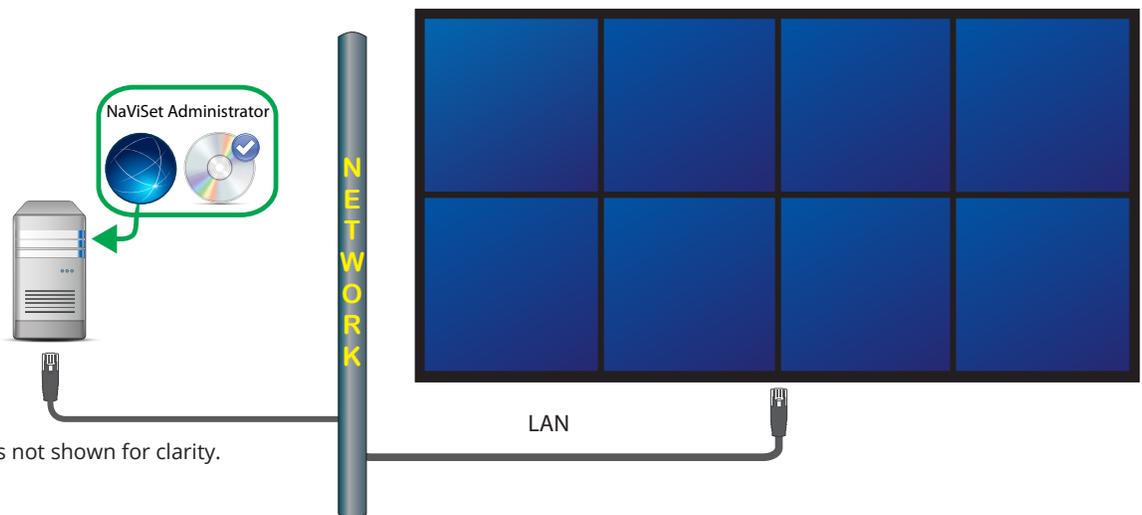
Configuration Features

- Single LAN connection using one IP address.
- Operates without a computer.

Adding device(s) to NaViSet Administrator

Select the device type **Sharp or NEC large-screen display** when adding devices.

Connection Diagram



Note: Video connections not shown for clarity.

Sharp or NEC projector using direct LAN connection

Configuration Overview

Sharp or NEC projector connected directly to a wired or wireless LAN.

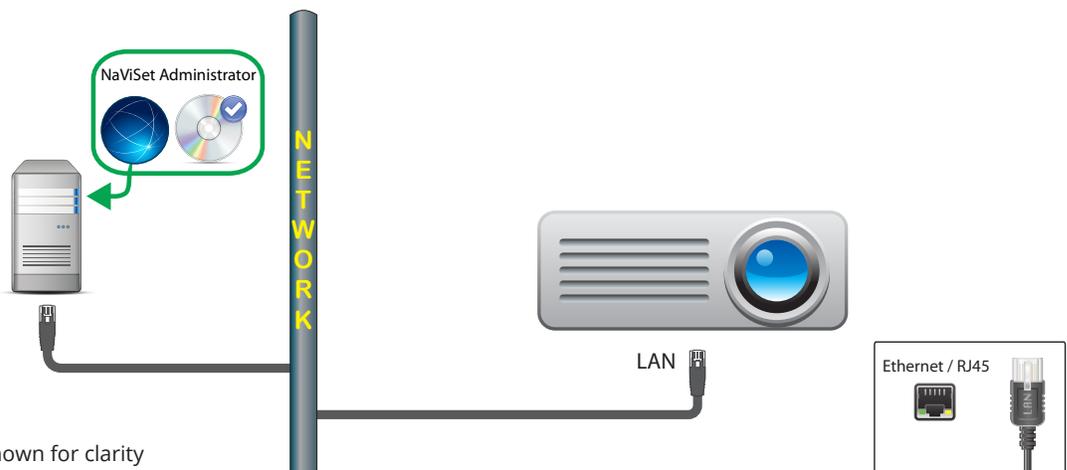
Configuration Features

- Single LAN connection using one IP address.
- Operates without a computer.

Adding device(s) to NaViSet Administrator

Select device type **Sharp or NEC projector** when adding devices.

Connection Diagram



Note: Video connections not shown for clarity

Notes

- Some projector models require the communications setting to be manually configured between RS232 and LAN via the On Screen Display. Select **LAN** for this configuration.

Sharp or NEC projector connected via Windows Computer to LAN

Configuration Overview

Sharp or NEC projector connected to a Windows computer via RS-232C, and the computer is running the "LAN to RS232 Bridge" utility.

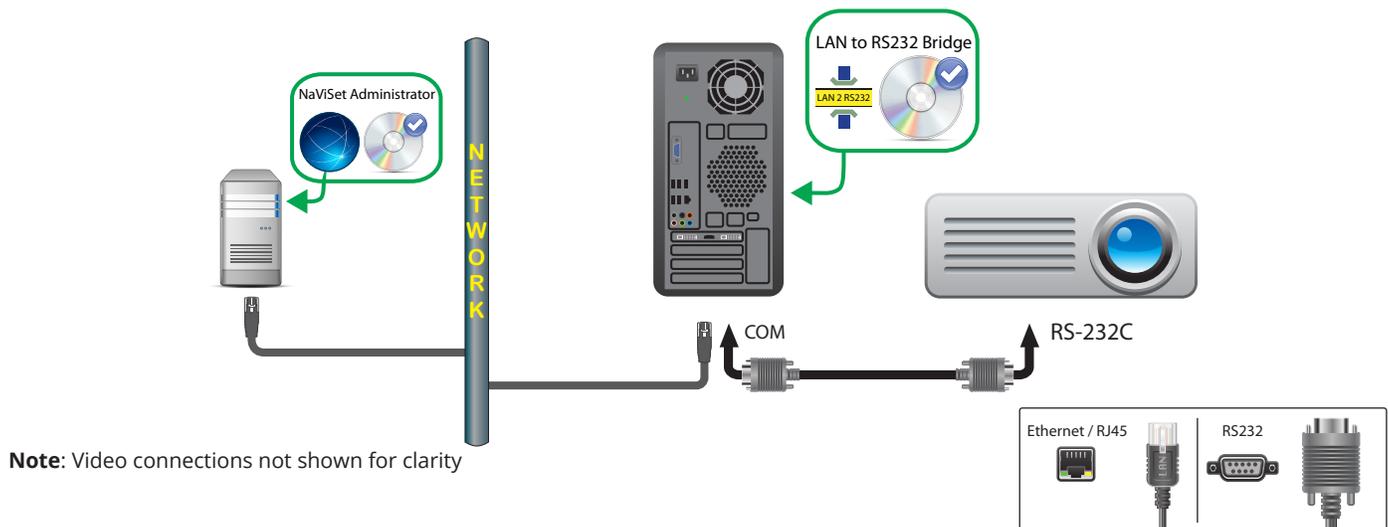
Configuration Features

- Shared LAN connection using one IP address.
- Supports projector models without LAN interface.

Adding device(s) to NaViSet Administrator

Select device type **Sharp or NEC projector** when adding devices.

Connection Diagram



Restrictions

- Configure the Baud rate in the *LAN to RS232 Bridge* utility to match that of the projector. Available rates are 9600, 19200, and 38400 baud.
- Some projector models require the communications setting to be manually configured between RS232 and LAN via the On Screen Display. Select **RS232** for this configuration.
- Configure the RS232 COM Port in the *LAN to RS232 Bridge* utility to the COM port used on the computer.
- Computers running the *LAN to RS232 Bridge* utility are not able to provide network enumeration of the connected projector. The projector *cannot* be automatically identified on the network using the projector **Enumerate** function in *NaViSet Administrator*. The IP address or hostname of each computer must be manually entered instead.

- RS-232C cable must be crossover / NULL modem type.

Notes

- The Windows computer can also be added separately as **Windows computer on LAN (WMI)** to provide shutdown, restart, Wake-on-LAN, and monitoring of computer parameters. WMI connections are accessible from Windows version only.
- The computer must be running and the user logged-in in order to communicate with the projector.

PJLink compatible device using direct LAN connection

Configuration Overview

PJLink compatible device connected directly to a wired or wireless LAN.

Tip: Refer to the device's user guide for instructions on how to configure the network connection and enable the PJLink functionality.

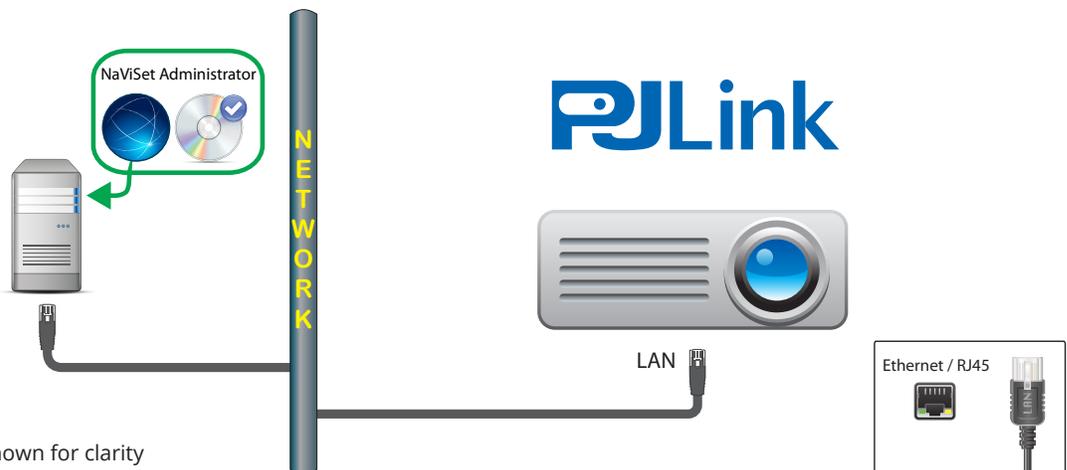
Configuration Features

- Single LAN connection using one IP address.
- Operates without a computer.

Adding device(s) to NaViSet Administrator

Select device type **PJLink device** when adding devices.

Connection Diagram



Note: Video connections not shown for clarity

Available Functions

Depending on the features of the connected device, *NaViSet Administrator* can access the following:

- Device information (Manufacturer, Model, Device name)
- Change the power state
- Change the video input signal
- View the lamp usage
- View diagnostic information (e.g. error status)

- Mute or unmute the audio and video
- Network password

Restrictions

- The device serial number cannot be read via PJLink.
- This connection type is not intended for use with Sharp or NEC devices. Please refer to the previous sections for instructions on connecting to Sharp or NEC display devices.

Desktop display(s) connected to a Windows Computer

Configuration Overview

One or more desktop displays connected to a Windows computer with a standard video cable.

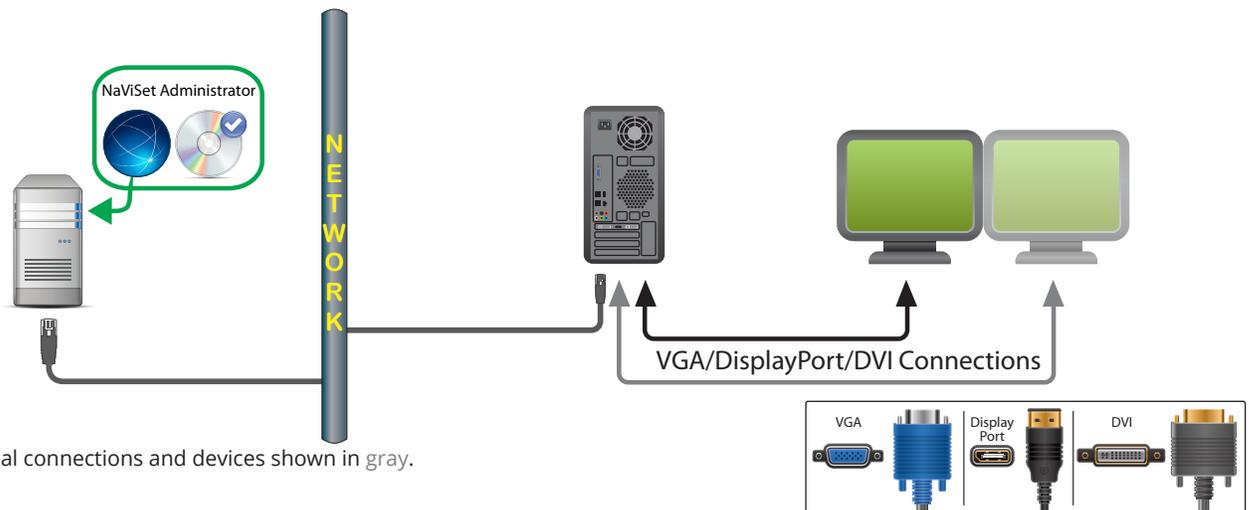
Configuration Features

- Basic information about the main display, such as Model Name and Serial Number.
- Communications with the display(s) via the video graphics card and standard video cables, so no additional cabling is required.

Adding device(s) to NaViSet Administrator

Select the device type **Windows computer (includes attached display devices)** when adding devices. See **the restrictions** below.

Connection Diagram



Note: Optional connections and devices shown in gray.

Restrictions

- Remote connection to a Windows computer supported on Windows version of *NaViSet Administrator* only.
- KVM (Keyboard / Video / Mouse) switches, splitters, and long video cables (>3m) are not supported.

Notes

- Basic display information available for both Sharp or NEC and third party desktop displays is available.

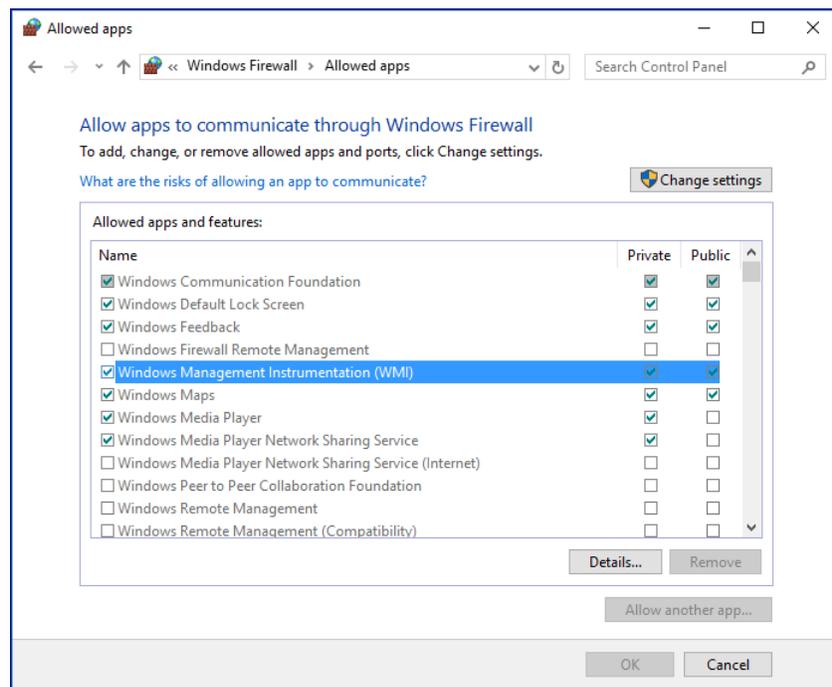
- Support for Windows computer Shutdown, Restart, Wake-on-LAN, and monitoring of computer parameters is provided automatically.

Windows Computer on LAN connections via WMI

When connecting to remote Windows computers via WMI, the following important points must be verified to ensure a successful connection:

- The Windows user account used to access the remote computer must have sufficient access privileges to WMI (specifically the ROOT\CIMV2 namespace). Typically Administrator accounts have sufficient access privileges by default.
- The password for the account used to access the remote computer must not be a blank password.
- The Windows Firewall on both the local and remote computers must allow remote access to WMI. The default Windows Firewall settings typically block access to WMI, thus preventing remote access to a computer.

The Windows Firewall settings for WMI can also be manually changed from the Windows Control Panel, as shown below, in order to allow remote access:



If the Windows computers on the network are part of a Windows *Workgroup* and not a *Domain*, the default UAC (User Account Control) security settings will not allow access to WMI, even if the Firewall is disabled.

dvLED displays connected via 3rd party controllers to LAN



This function is only available in the **NaViSet Administrator SE Console** application. If you are interested in a trial version of the software to access this and other unique features of the Server Edition version, please go to business.sharppusa.com/naviset-administrator

Configuration Overview

Sharp or NEC dvLED displays connected to the NovaStar H series controller connected directly to a wired LAN.

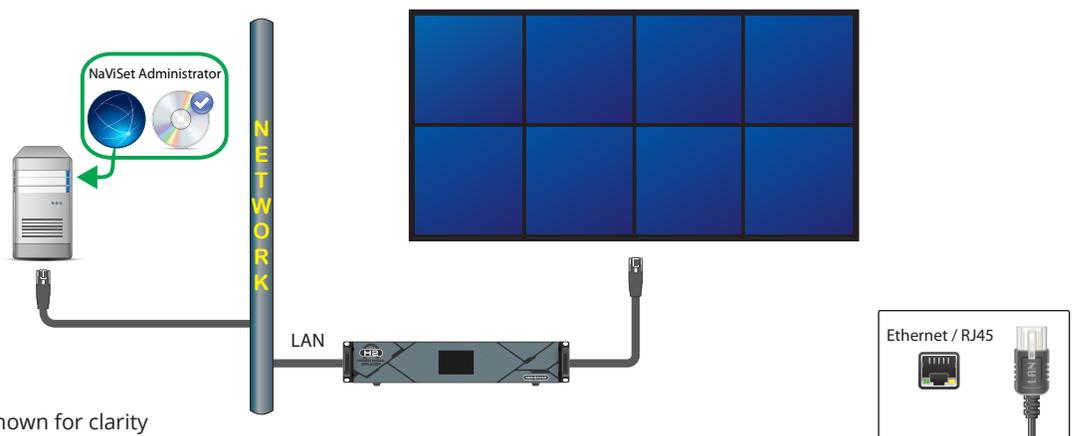
Configuration Features

- Single LAN connection using one IP address.
- Operates without a computer.

Adding device(s) to NaViSet Administrator

Select device type **dvLED controller** when adding devices.

Connection Diagram



Note: Video connections not shown for clarity

Restrictions

The dvLED controllers require specific configuration settings after they are added to the NaViSet Administrator SE Console application. Additionally, there are certain settings unique to dvLED that are not covered in other sections of this guide. Please refer to section "8 Adding and Configuring dvLED Controllers in NaViSet Administrator SE" on page 143 for more information.

6 NaViSet Secure



This function is only available in the **NaViSet Administrator SE Console** application. If you are interested in a trial version of the software to access this and other unique features of the Server Edition version, please go to business.sharpsusa.com/naviset-administrator

Technology Overview

NaViSet Secure is an innovative technology that is being included in some of the new models of Sharp and NEC large-screen LCD displays and monitor control software, such as NaViSet Administrator Server Edition. It provides exciting and powerful new features for device access security and remote control and management.

The main aims of the NaViSet Secure technology are as follows:

1. Provide a secure way to access and manage display devices over a network and prevent unauthorized device access and control, while at the same time allowing the same level of network access and control functionality as traditional non-secure connection methods.
2. Provide a secure and robust way to remotely access display devices from other networks via the Internet.
3. Keeping all device data, settings, logs, etc. completely on premises with no device or user data stored on Cloud-based servers or SHARP servers.

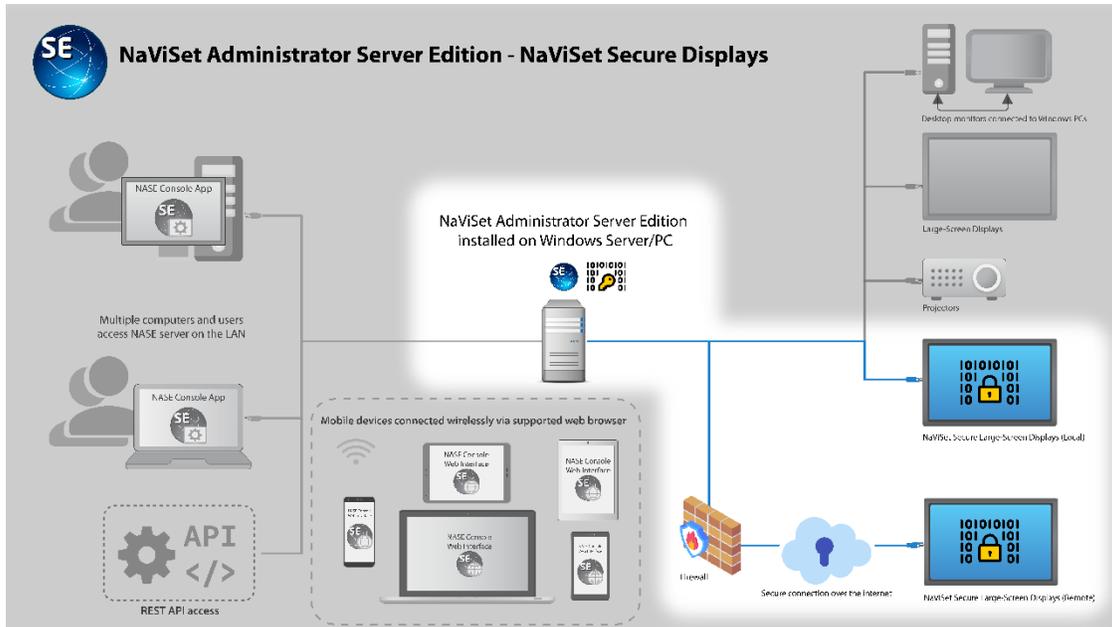


Figure: NaViSet Secure Local and Remote Displays

Benefits and use cases

Using the NaViSet Secure functionality on a LAN provides peace of mind that it limits the security risk of anyone with access to the network from being able to access display devices directly. All access to controlling the display must be completed via a secure connection and management software, such as NaViSet Administrator Server Edition.

The reliance on infrastructure such as VLANs or a physically separate network to provide more secure display management can also be eliminated.

The ability to securely access displays on another network via the Internet –without the need for VPNs or other network infrastructure or configuration –opens new possibilities for low-cost and expanded remote management and control of displays anywhere in the world, using just an Internet connection and standard router. For example, access can be granted for an external 3rd party to provide remote display management, while still maintaining local access for day-to-day control.

Typical Applications

- Securing display devices on a LAN to prevent unauthorized access and control, where access to the network is either not tightly controlled or where people with authorized access to the network could possibly intentionally or unintentionally access unwanted settings and features.
- Remote monitoring and control of displays installed with a limited network infrastructure, such as:
 - Convenience stores, QSRs, transportation, digital signage kiosks, etc.
- Providing access for different groups within an organization who may not have a WLAN.
- Access to an external 3rd party for providing device monitoring and diagnostics as a service.
- Remote diagnostics and service by an authorized SHARP service provider or technical support personnel.

How it works

At the simplest level, the NaViSet Secure feature is a secure network tunnel between the display and the user of a software application paired with the display. The existing control protocols of the display, such as PCControl, HTTP, and PJLink, can be sent through this secure tunnel. This feature does not require an Internet connection and can be used 100% locally on a LAN. The traditional (non-tunneled) protocols can be disabled on the display, thus preventing access via non-secured methods. This will allow secure control and management of displays using tools such as the NaViSet Administrator Server Edition.

Remote

NaViSet Secure can create a secure network tunnel to a remote display via the Internet, so it can be accessed as if it were a local device without needing additional network configuration or VPNs.

When using the remote access feature, a cloud-based server facilitates the initial connection between the paired control software and the remote display. Once established, traffic between the display and the control software passes directly between the two endpoints and, typically, sends no data via the server*.

The display will automatically register itself with the cloud-based server so that the paired control software can authenticate and request a connection to the display. Multiple levels of security are present to ensure that unauthorized entities cannot connect to the display or even request a connection.

** In some cases where a network firewall prevents the necessary ports from being opened, the system may relay traffic via a cloud-based server – however, the contents are encrypted and cannot be accessed by other than the paired recipient.*

Pairing

The pairing process between the display and an instance of a software application creates a cryptographically protected key-pair, which is stored in the display. Each instance of a software application will have a unique key so that the pair created is unique for each installation.

After completing a display-to-software pair, it is possible to remotely invite other users/software applications to pair with a display. This is done via the software application, allowing a 3rd party to access a display. These pairings can be managed remotely.

The actual pairing is accomplished via a pairing code shown on the display's OSD, which is then entered into the device management of the control software. This is true for both displays on the local network and a remote network. The pairing code will remain valid for 72 hours – allowing pairing to the display when convenient within that timeframe, so long as the monitor has power, a network connection, and remains open for pairing.

If access to the LAN is trusted, performing a local pairing without using a pairing code to facilitate easier pairing is an option.

NaViSet Secure Displays

This section provides an overview of how to use the NaViSet Secure feature available on select SHARP display models to pair with and be controlled by the NaViSet Administrator SE Console application.

Requirements

- NaViSet Administrator Server Edition software version 2.2 and higher.
- A supported display model.

M431 ¹	ME431 ¹	PN-M431-2	PN-M322	PN-ME432	PN-P436	LD-A1381F	
M491 ¹	ME501 ¹	PN-M501-2	PN-M432	PN-ME502	PN-P506	LD-A1651F	
M551 ¹	ME551 ¹	PN-M551-2	PN-M502	PN-ME552	PN-P556		
M651 ¹	ME651 ¹	PN-M651-2	PN-M552	PN-ME652	PN-P656		
			PN-M652	PN-ME752	PN-P756		
			PN-M752	PN-ME862			
			PN-M862	PN-ME982			
			PN-M982				

¹ These models are supported via firmware update to version R5.001 or newer

Support for other models will be announced later.

Terminology

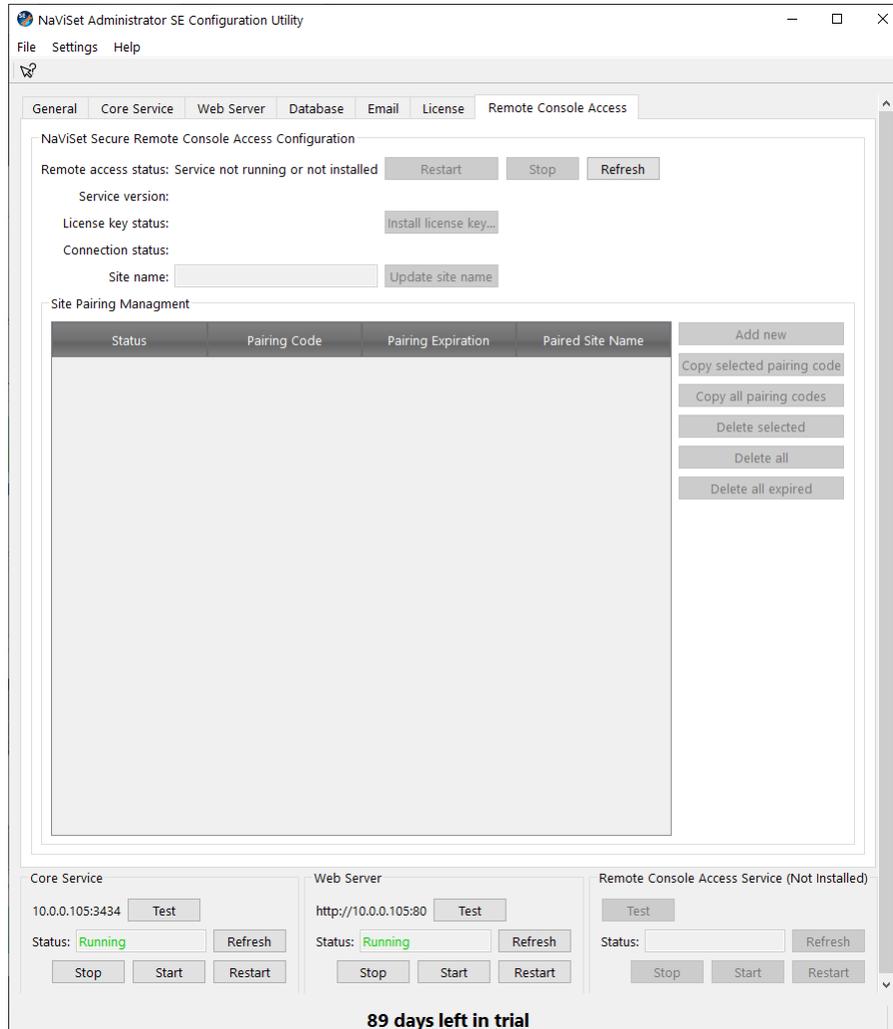
- **Server** – The machine running the NaViSet Administrator Server Edition core service software. Clients will connect to this server machine.
- **Console application** – NaViSet Administrator Server Edition Console application ‘client’. This connects to the server locally or remotely using NaViSet Secure Remote Console.
- **Config utility** - NaViSet Administrator Server Edition Configuration utility. This is used to view and, if needed, change the site name for the server.

Key concepts

1. The server must first be paired with the display to access and control a display using NaViSet Secure.
2. A display can be paired with one or more servers, up to a maximum of 5 different servers.
3. The initial pairing with a display must be initiated via the display’s OSD.
4. Subsequent pairings and management of additional servers are done via the Console application.
5. Each server installation automatically generates a unique “site key” identifier. It is used to identify the server instance uniquely and should be considered secret.
6. The display stores pairing data for all the servers it is paired with. Resetting the pairing data in the display will mean that servers can no longer connect with the display. Individual pairings with servers can be managed via the Console application.

Initial Setup

The Site Name for the NaViSet Secure connections can be found in the Configuration Utility on the server machine. The default Site Name on the Remote Console Access tab should be changed before making secure connections, as this name is used to identify the server and is shown in the Display's OSD menu after pairing with the server.



Connection Types

The NaViSet Secure feature can be used to connect to displays in two different ways:

Local: A Local connection type can be used when the display and software are both on the same network (i.e., can be reached directly via an IP address or hostname). No Internet connection is required.

Remote: A Remote connection type should be used when the display and software are on different networks and connected via the Internet. The display will register itself with an Internet-based server so that the remote NaViSet Administrator server can connect to it and pair.

Pairing with a NaViSet Secure Display In NaViSet Administrator Server Edition

Depending on the monitor model, the NaViSet Secure settings might be disabled or unavailable, since this function must be enabled first. The location where you enable NaViSet Secure also depends on the display model and may be found in the display's *Network Settings*, *Control*, or *Protect* menus.



Local Pairing

Local pairing can be performed with or without the use of a pairing code generated by the display. The use of a pairing code is optional but ensures that only the person who knows the code can pair with the display. Use this option if there is concern about another server on the network possibly pairing with the display while the pairing mode is open.

From the Monitor's On Screen Display

Follow these steps to pair with the server running on the same network as the display.

Tip: The instructions and images in this section are for example purposes only. The steps to access the NaViSet Secure settings in the OSD may differ slightly depending on your display model, and the OSD interface may look different. Please consult the product manual for instructions on how to navigate the OSD menu for your specific display model.

1. Navigate to the **NETWORK** menu in the display's OSD menu.

Note: Depending on the display model, you might see the menu 'Press SET to start Pairing' at this step. This immediately opens the monitor for pairing, and the screen switches to show the NaViSet Secure pairing settings, as described in these instructions. For other display models, this step is completed at the end of these instructions.

2. Select **LOCAL** for the *PAIRING MODE* type.
3. Enable or disable the use of a **PAIRING CODE** based on the required security level during pairing. This can be a simple toggle switch or a *USE/DON'T USE* selection.

If this function is enabled, a pairing code will appear on the OSD menu. This code must be entered into the *Console* application when pairing with the display. Make note of this code along with the IP address for a successful connection.

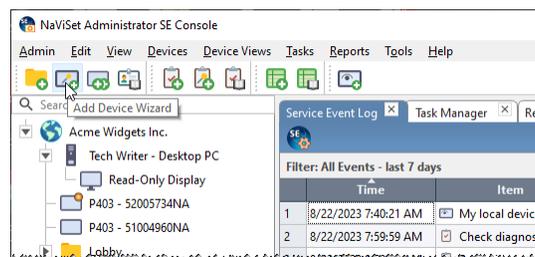


Note: For display models that did not open the model for pairing at step 1, press SET on the IR remote control to start the pairing process and allow a server to connect to and pair with the display.

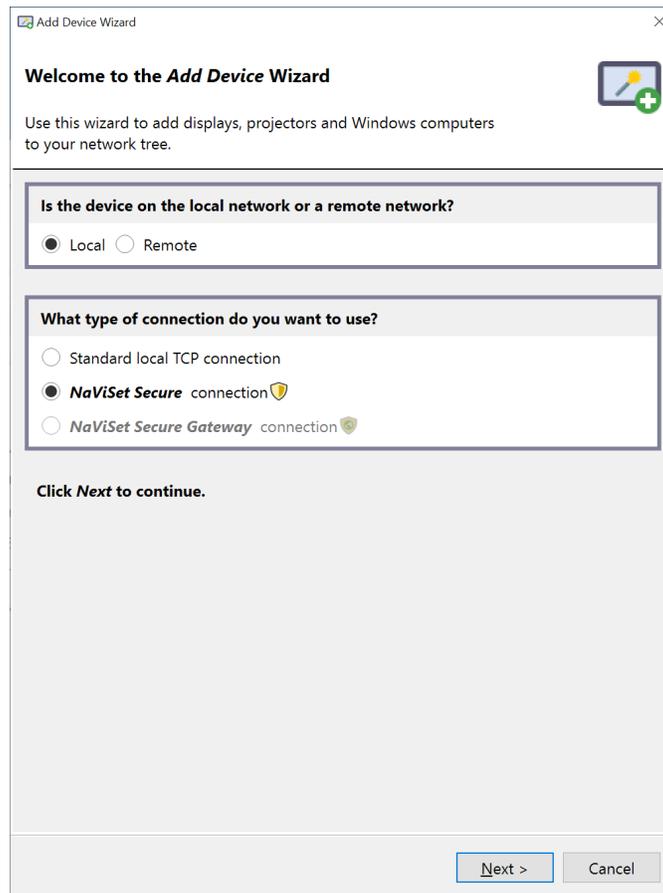
4. Once the pairing mode is initiated via the display's OSD, the display will remain open to pairing for the next 72 hours and the status will show *WAITING TO PAIR*. If not successfully paired within that time, the pairing mode will be automatically cancelled by the display.
5. At this point the OSD on the display can be closed.

In the NaViSet Administrator SE Console Application

1. From the Console application pairing with the display, click on the Add Device Wizard button in the toolbar.



2. Select **Local** for the network and **NaViSet Secure** for the connection type.



The screenshot shows a window titled "Add Device Wizard" with a close button in the top right corner. The main heading is "Welcome to the Add Device Wizard" with a small icon of a monitor and a plus sign. Below the heading is the instruction: "Use this wizard to add displays, projectors and Windows computers to your network tree." The wizard is divided into two sections. The first section is titled "Is the device on the local network or a remote network?" and contains two radio buttons: "Local" (which is selected) and "Remote". The second section is titled "What type of connection do you want to use?" and contains three radio buttons: "Standard local TCP connection", "NaViSet Secure connection" (which is selected and has a shield icon), and "NaViSet Secure Gateway connection" (which has a shield icon). Below these sections is the instruction "Click Next to continue." At the bottom right of the window are two buttons: "Next >" and "Cancel".

3. Enter the IP address or hostname of the display.

Add Device Wizard

Add a local NEC large-screen display using a NaViSet Secure connection.

Enter the device IP address or hostname

192.168.1.60

Device Confirmation

Enter the pairing code

Enter a name for this device

< Back Next > Cancel

4. The server searches for the device. When found, it shows the display's general information. Review and confirm it is the correct device. Click **Yes**.

The image displays two side-by-side screenshots of the 'Add Device Wizard' interface. Both windows have the title 'Add Device Wizard' and a close button (X) in the top right corner. The main heading in both is 'Add a local NEC large-screen display using a NaViSet Secure connection.' with a shield icon to the right.

Each window contains a search field for the device IP address or hostname, with '192.168.1.60' entered and a search icon to the right. Below this is a 'Device Confirmation' section with the following details:

- Status:** Device Found - a pairing code is required. (Left) / Device Found - no pairing code required. (Right)
- Type:** Large-Screen Display on LAN
- Model Name:** M431
- Serial Number:** 21004283NA
- IP Address:** 192.168.1.60
- Secure Device ID:** de-k93kdq9c
- Secure Product ID:** pr-ghnc7iok

Below the details is the question 'Is this the correct device?' with 'Yes' and 'No' buttons. The 'Yes' button is highlighted in both screenshots. Below this is a field for the pairing code, which is empty in both. At the bottom is a field for the device name, with 'M431 - 21004283NA' entered. At the very bottom are three buttons: '< Back', 'Next >', and 'Cancel'.

- i** Note that the **Status:** indicates if the NaViSet Secure display requires a pairing code to connect to the local display. If [USE] was selected in step 3 of these instructions, you will need the pairing code in the next step.

- If applicable, input the display's pairing code.

Optionally, input a unique name for the display (the default name is the display's model and its serial number), then click **Next**.

The image displays two side-by-side screenshots of the 'Add Device Wizard' interface. Both windows have the title 'Add Device Wizard' and a close button. The main heading for both is 'Add a local NEC large-screen display using a NaViSet Secure connection.' with a shield icon.

Left Screenshot:

- Enter the device IP address or hostname:** 192.168.1.60
- Device Confirmation:**
 - Status:** Device Found - a pairing code is required.
 - Type: Large-Screen Display on LAN
 - Model Name: M431
 - Serial Number: 21004283NA
 - IP Address: 192.168.1.60
 - Secure Device ID: de-k93kdq9c
 - Secure Product ID: pr-ghnc7iok
- Enter the 6-character pairing code shown on the device:** ZZPELG
- Enter a name for this device:** M431 - 21004283NA
- Click Next to add this device to the network tree.
- Navigation: < Back, Next >, Cancel

Right Screenshot:

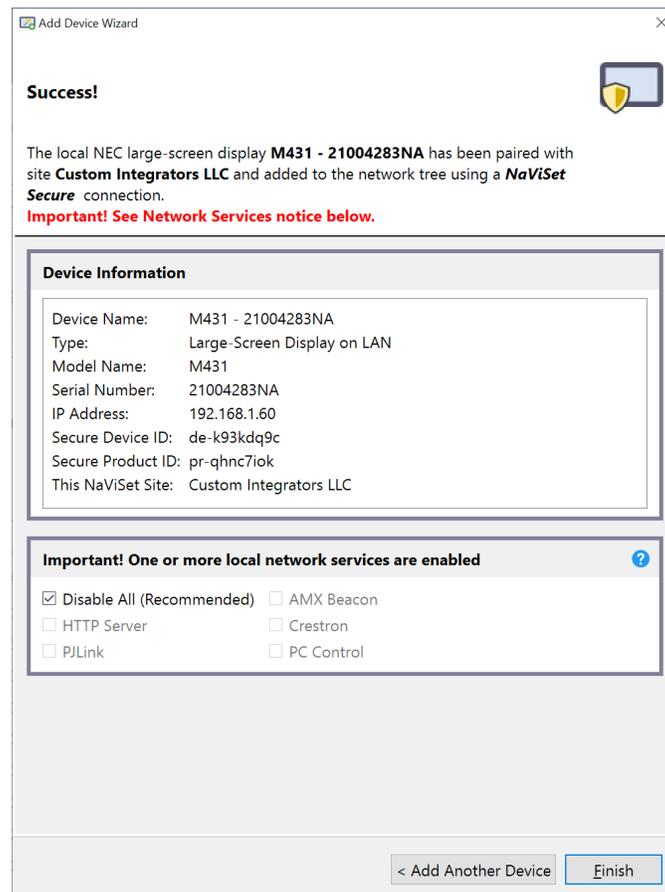
- Enter the device IP address or hostname:** 192.168.1.60
- Device Confirmation:**
 - Status:** Device Found - no pairing code required.
 - Type: Large-Screen Display on LAN
 - Model Name: M431
 - Serial Number: 21004283NA
 - IP Address: 192.168.1.60
 - Secure Device ID: de-k93kdq9c
 - Secure Product ID: pr-ghnc7iok
- Enter the pairing code:** (empty field)
- Enter a name for this device:** M431 - 21004283NA
- Click Next to add this device to the network tree.
- Navigation: < Back, Next >, Cancel

Note that in the example on the left, because a pairing code is required, you will not be able to continue until you input the display's pairing code.

- Once successfully paired, the *NaViSet Secure* menu on the display's OSD will show the pairing status as *Paired*.

7. At this point the display is paired with the server, and they will communicate securely using an encrypted communications tunnel.

Other non-secure communications protocols used by the display can be disabled, if desired, to prevent unauthorized local access and control of the display. The last step of the wizard shows the protocols (network services) that can be disabled preventing access from non-secured local connections. Selecting “Disable All” will block all non-secured connections to the display.



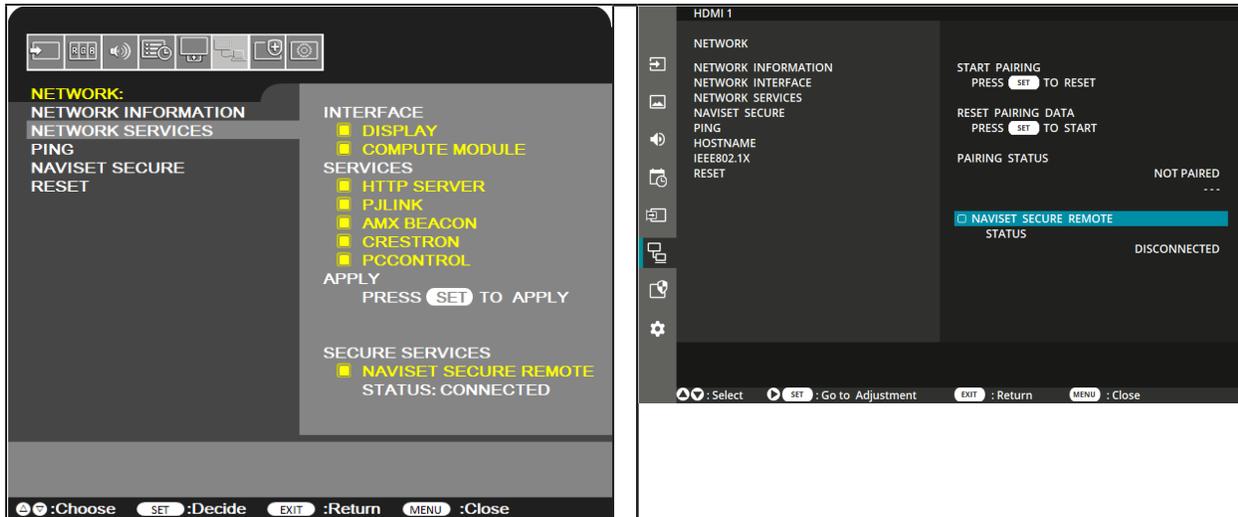
Remote Pairing

Remote pairing requires that both the display and server have an active Internet connection. The display and server must have access via the network ports listed. See page 15.

Follow these steps to remotely pair with a server via the Internet:

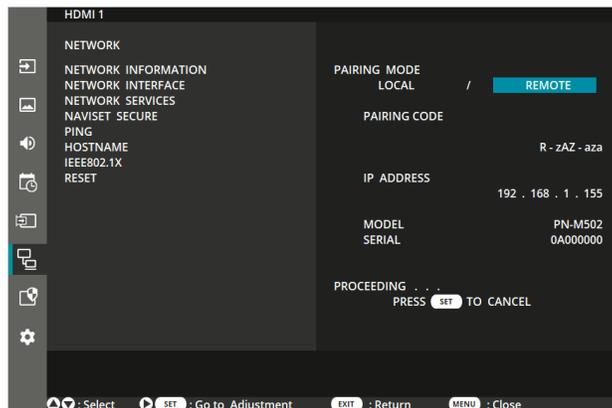
1. To use a remote connection type, you must first enable the *NAVISET SECURE REMOTE* option. Depending on the model, this option may be in the display's *NETWORK SERVICES* OSD menu or in the *NAVISET SECURE* OSD menu. After enabling this feature, you will need to accept the usage agreement.

This will allow the display to register itself with the Internet-based cloud server so that an authorized NaViSet Administrator server machine can connect to it. Once enabled and the display has successfully registered itself with the server, the status will change to *CONNECTED*.



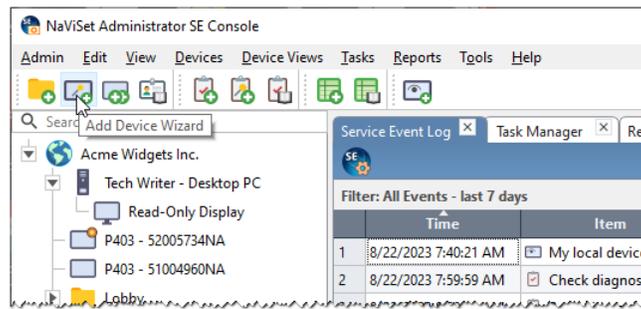
2. Navigate to the **NAVISET SECURE** menu and select **REMOTE** pairing mode.
3. Select SET to start the pairing process and allow a server to connect to and pair with the display.

A pairing code will be shown on the OSD. This code will need to be entered into the server pairing with the display, so make a note of this pairing code. A remote pairing code can be identified by the "R-" prefix.

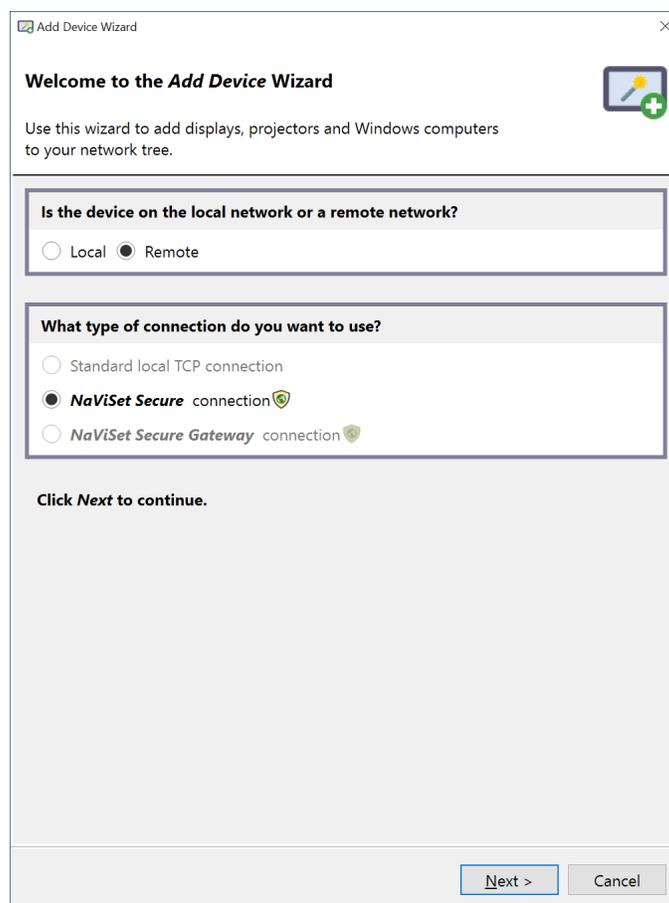


4. Once the pairing mode is initiated via the display's OSD, the display will remain open to pairing for the next 72 hours and the status will show *WAITING TO PAIR*. If not successfully paired within that time, the pairing mode will be automatically cancelled by the display.
5. At this point the OSD on the display can be closed.

6. From the *Console* application pairing with the display, click on the **Add Device Wizard** button in the toolbar.



7. Select **Remote** for the network and **NaViSet Secure** for the connection type.



8. Enter the remote pairing code. Note that the remote IP address of the display is not needed.

Add Device Wizard

Add a remote NEC large-screen display using a NaViSet Secure connection.

If the device is not currently paired with a NaViSet site, it must be in **remote pairing mode** (showing a **R-xxx-xxx** pairing code) at this time. Otherwise, you must be provided with a pairing code from another NaViSet site.

Enter the pairing code

R-7pq-pKe

Device Information

Enter a name for this device

< Back Next > Cancel

9. The server searches for the device. When found, it shows the display's general information. Review and confirm it is the correct device. Click **Yes**.

Add Device Wizard

Add a remote NEC large-screen display using a NaViSet Secure connection.

If the device is not currently paired with a NaViSet site, it must be in **remote pairing mode** (showing a **R-xxx-xxx** pairing code) at this time. Otherwise, you must be provided with a pairing code from another NaViSet site.

Enter the pairing code

R-Tpq-pKe

Device Information

Status:	Device Found
Type:	Large-Screen Display on LAN
Model Name:	M431
Serial Number:	21004283NA
IP Address:	192.168.1.60
Secure Device ID:	de-k93kdq9c
Secure Product ID:	pr-qhnc7iok

Is this the correct device?

Enter a name for this device

M431 - 21004283NA

< Back Next > Cancel

10. Optionally, input a unique name for the display (the default name is the display's model and its serial number), then click **Next**.

Add Device Wizard

Add a remote NEC large-screen display using a NaViSet Secure connection.

If the device is not currently paired with a NaViSet site, it must be in **remote pairing mode** (showing a **R-xxx-xxx** pairing code) at this time. Otherwise, you must be provided with a pairing code from another NaViSet site.

Enter the pairing code

R-Tpq-pKe

Device Information

Status: Device Found

Type: Large-Screen Display on LAN

Model Name: M431

Serial Number: 21004283NA

IP Address: 192.168.1.60

Secure Device ID: de-k93kdq9c

Secure Product ID: pr-qhnc7iok

Enter a name for this device

M431 - 21004283NA

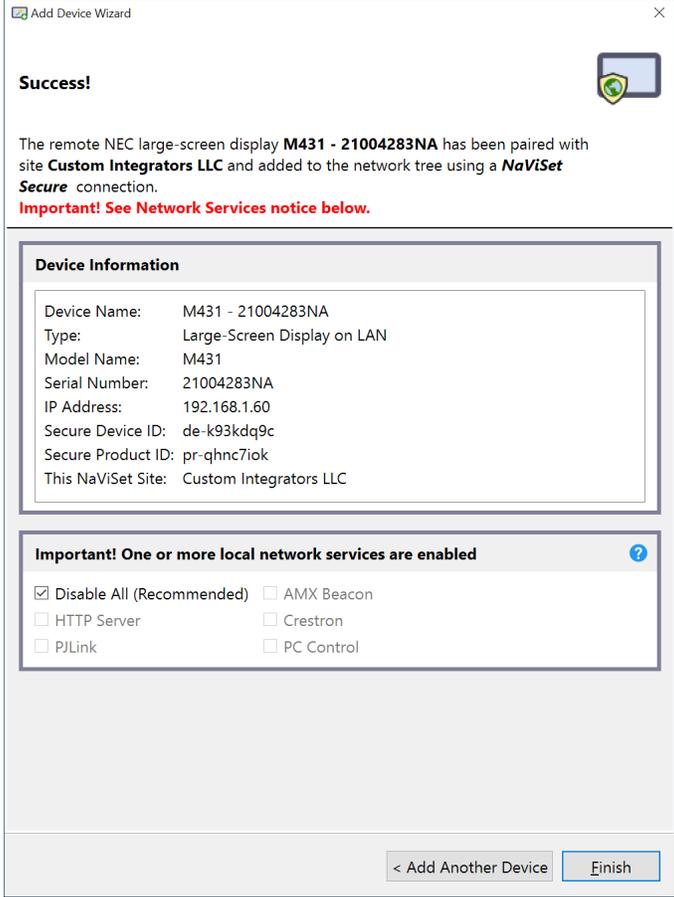
Click Next to add this device to the network tree.

< Back Next > Cancel

11. Once successfully paired, the *NAVISET SECURE* menu on the display's OSD will show the pairing status as PAIRED.

12. At this point the display is paired with the server, and they will communicate securely using an encrypted communications tunnel.

Other non-secure communications protocols used by the display can be disabled if desired to prevent unauthorized local access and control of the display. The last step of the wizard shows the protocols (network services) that can be disabled preventing access from non-secured local connections. Selecting “Disable All” will block all non-secured local connections to the display.



Success!

The remote NEC large-screen display **M431 - 21004283NA** has been paired with site **Custom Integrators LLC** and added to the network tree using a **NaViSet Secure** connection.
Important! See Network Services notice below.

Device Information

Device Name:	M431 - 21004283NA
Type:	Large-Screen Display on LAN
Model Name:	M431
Serial Number:	21004283NA
IP Address:	192.168.1.60
Secure Device ID:	de-k93kdq9c
Secure Product ID:	pr-qhnc7iok
This NaViSet Site:	Custom Integrators LLC

Important! One or more local network services are enabled

Disable All (Recommended) AMX Beacon
 HTTP Server Crestron
 PJLink PC Control

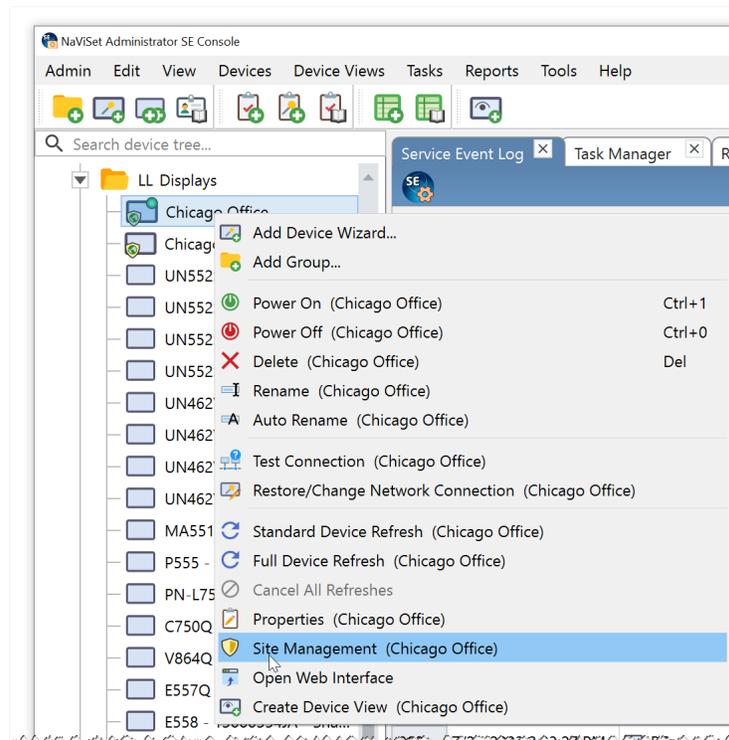
< Add Another Device Finish

Managing Additional Pairings with Displays

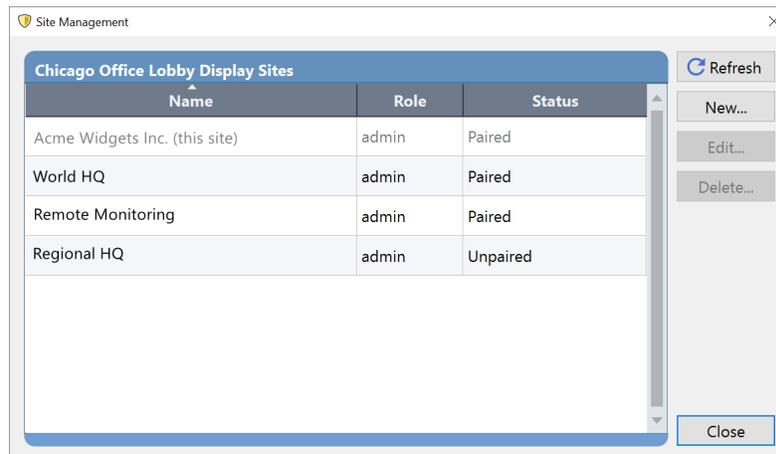
Displays can be paired with more than one server. This allows multiple “sites” to have access to each display. The servers can be either local, remote, or a combination, as long as the display has the NaViSet Secure Remote option enabled and a suitable Internet connection.

All pairings with a display, other than the initial pairing done via the OSD, are managed in the Console application.

To add a pairing, delete a pairing, or change the privileges of other servers, select the display in the Console application and then either select “Site Management” from the View menu, or right-click on the device in the device tree and select Site Management.



The Site Management dialog shows the list of pairings stored in the display, as well as the status of each pairing.



To add an additional pairing with the display:

1. Select “New...”.
2. Enter a temporary name for the site expected to pair with the display and select a role for the site - either “Admin” or “Standard”.

An Admin role will be able to generate further pairings with the display and can delete other pairings. A Standard role cannot. Use this to limit further remote access to a display if desired.

3. A new pairing code will be generated by the display and shown. Give the pairing code to the other site pairing with it. There is an option to email this code.

The pairing code will expire in 72 hours.

The other site can pair with the display using the same steps as adding a NaViSet Secure display initially via the OSD.

Add Site Access

Add NaViSet Secure site access to device Chicago Office Lobby Display

To allow another NaViSet site to access this device, a **pairing code** must be created and provided to that site.

Enter a temporary name for the site (3 characters or more)

Galactic HQ

Select the role for this site

Admin

Pairing Code

R-sTf-kwk

Provide the site administrator with this pairing code. The pairing code expires in 72 hours.

Close

Deleting a pairing will remove that site's access to the display.

Network ports required to use NaViSet Secure Displays

Please see "Network Ports Used by NaViSet Administrator" on page 258.

NaViSet Secure Remote Console

Overview

The NaViSet Secure Remote Console Access function is an optional component that can be installed to provide a secure network tunnel via the internet between the NaViSet Administrator SE server (known as a “site”) and multiple remote clients (also known as “sites”) running the NaViSet Administrator SE Console application. This allows secure remote access to the server from almost any location with minimal configuration.

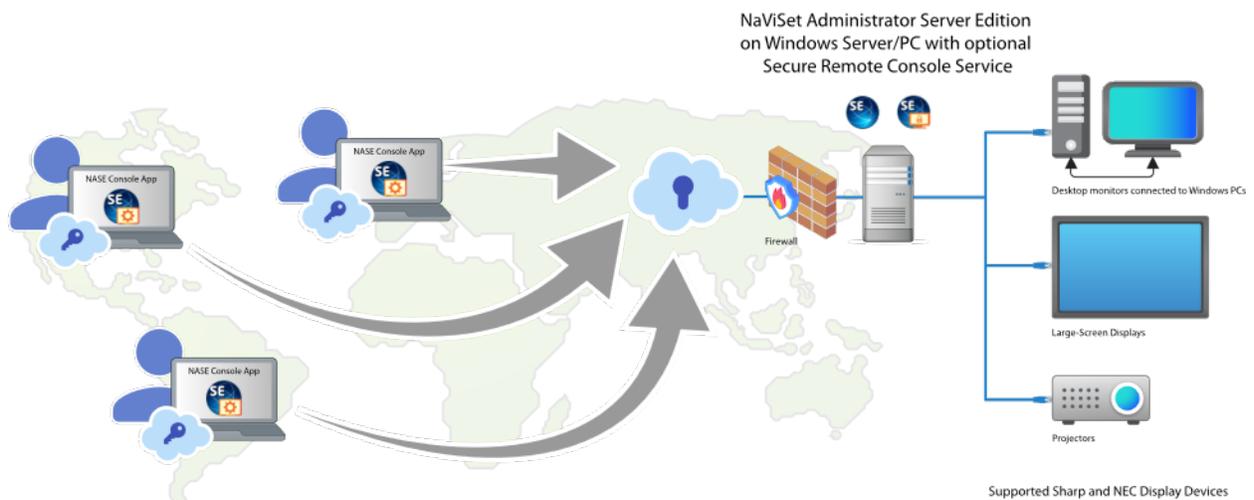
Each remote user is given a unique pairing code generated by the NaViSet Administrator SE Configuration Utility running on the server. This pairing code is used to connect and pair the Console with the server without needing to enter any network configuration information, such as IP addresses. Once the pairing is established, the remote Console will use the secure tunnel to connect to the server, and the user will then be required to log in using their credentials for accessing the NaViSet Administrator SE server. Individual pairings can be deleted on the server to remove access from a paired user.

NaViSet Secure Remote Console requires an internet connection and can function through most network firewalls except those doing deep packet inspection or otherwise intercepting and manipulating secured data packets. All connections from the NaViSet Administrator SE server and Console application are outbound only to the cloud server. There are no inbound connections created.



NaViSet Administrator Server Edition - Secure Remote Console Configuration (optional)

Multiple remote Consoles can securely connect to the Server via the Internet

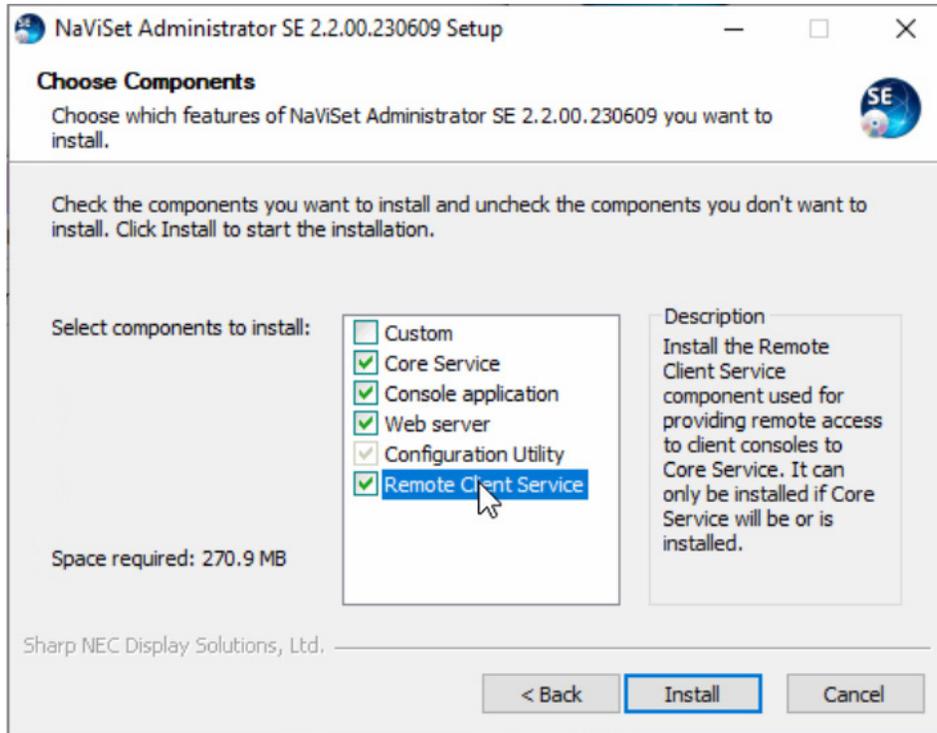


System Requirements

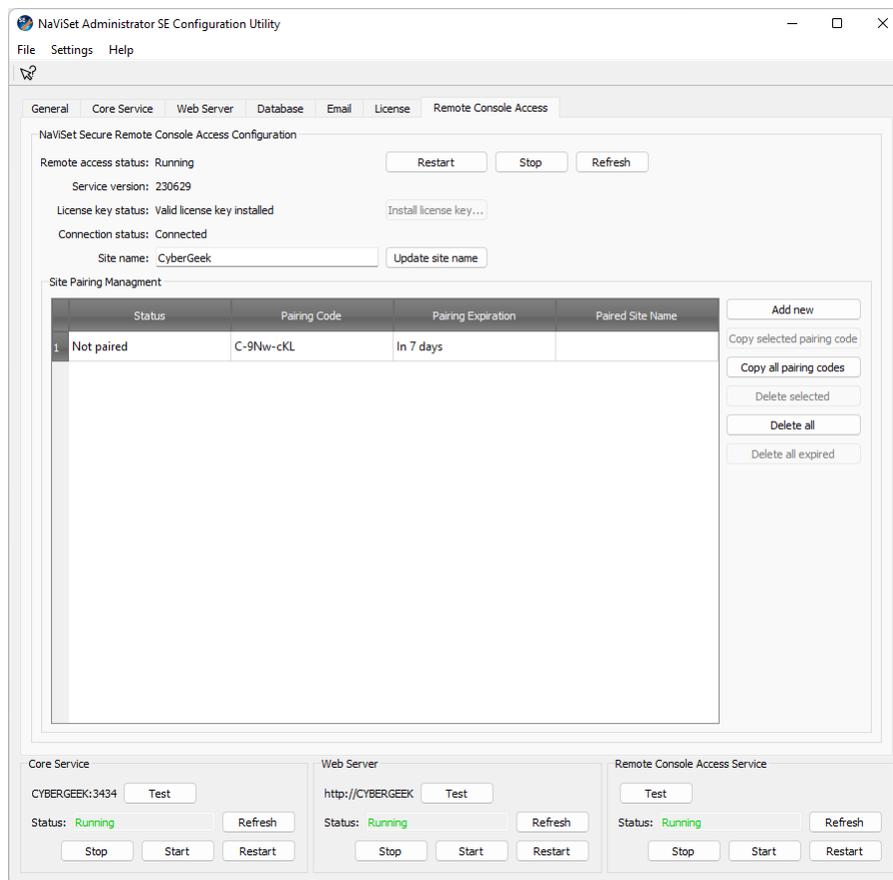
- NaViSet Administrator Server Edition V2.2 or above.
- The Remote Client Service must be installed.
 - Note:** This component is not selected by default as part of the NaViSet Administrator Server installation.
- A license key file provided by your SHARP representative must be installed.

Server Configuration

When installing the NaViSet Administrator Server software, select the Remote Client Service component on the Choose Components page of the installer in addition to the other server components. This will install the component that provides remote access to the server.



Once the server installation is complete and the main settings are configured, select the Remote Console Access tab on the NaViSet Administrator SE Configuration Utility. Click on the “Install License key...” button and select the “.bin” file provided by your SHARP representative.



1. Enter a “site name” to identify this server to remote Console applications that connect to this server. This name will be shown in the login window of the Console and is an easy way to identify different sites if a Console is connecting to multiple servers.
2. Click the “Restart” button.
3. Verify that “Remote access status” shows “running”.
4. Verify that “License key status” shows “Valid license key installed”.
5. The “Connection status” should switch to “Connected” within a few seconds.

Tip: If this does not change, a firewall may be preventing the Remote Console Access Service from connecting to the cloud service that facilitates remote access. See the Troubleshooting section for more information.

The server is now ready to generate pairing codes and allow different sites (remote instances of the Console application) to pair with it.

Generating Site Pairing Codes

Each login user of a PC running the Console application must have a pairing code to pair with the server. Pairing codes are generated from within the NaViSet Administrator SE Configuration Utility running on the server.

- A pairing code is valid for up to 7 days and will automatically expire if not paired within that time.
- Up to 20 sites can be paired with each server.

 **Tip:** Different NaViSet Administrator SE Server users with the same PC login user do not need multiple pairing codes. (i.e., the pairing is associated with the user that logs into the PC running the Console application and not the user that logs into the server.)

Click “Add new” to generate a new pairing code. Provide this pairing code to the remote user to enter into their login window on the Console application.

Once the user is paired, the status shown in the “Site Pairing Management” list will change to “Paired”, and the name of the PC and their PC login name will be shown in the “Paired Site Name” list.

Pairing codes can be copied to the clipboard for convenience when providing them to users.

Connecting from a remote Console to the server

After a pairing code has been generated, provide it to the remote user running the Console application for pairing to the server. The remote user must:

1. Open their NaViSet Administrator SE Console and select “Add site...” from the “Site Connection” list box.
2. Select “NaViSet Secure Remote Connection” and enter the pairing code.
3. Enter the username and password for the server.

 **Tip:** The username and password are separate from the pairing code. The pairing code grants access to make a remote connection attempt to the server; a username and password are used to log in to the server once that secure connection is made. Users are created by someone with “system administrator” level user access to the NaViSet Administrator SE server within the Console from the Admin → Manage Accounts feature.

Deleting pairings from the server

Individual or all paired sites can be deleted, and those paired sites will no longer be able to attempt connection to the server. The user’s login to the server will not be deleted, so local access by the same user is still possible unless the user is also removed from within the NaViSet Administrator SE Console by someone with “system administrator” level user access via the Admin → Manage Accounts feature in the Console application.

Troubleshooting

“Remote Console Access Service” Status does not show “Running”

The Remote Client Service is not installed. Re-run the NaViSet Administrator SE Server installation, and select the “Remote Client Service” component.

“Connection status” does not show “Connected”

Verify that a valid license key has been installed and that the status shows “Valid license key installed”.

Try restarting the Remote Console Access component by clicking “Restart”.

If the “Connection status” still does not show “Connected”, then a firewall or other network infrastructure may be limiting the service’s access to connect to the cloud server that facilitates remote access. The server should be allowed access to the ports specified in "Network Ports Used by NaViSet Administrator" on page 258.

Confirm that no network infrastructure between the server and the internet is doing deep packet inspection or otherwise intercepting and manipulating secured data packets. This will invalidate all traffic between the server and the cloud server, preventing access.

Frequently Asked Questions

What software does NaViSet Secure work with?

The NaViSet Administrator Server Edition software version 2.2 and higher supports NaViSet Secure. NaViSet Administrator 2 does not support NaViSet Secure.

Future applications may also support NaViSet Secure.

Are there any fees?

There are no per-device, data usage fees, or data storage fees.

The NaViSet Secure feature can be used with the NaViSet Administrator Server Edition software which is available via a subscription fee.

Where is device data stored?

All data collected from a display device, and for accessing a secure display device is stored locally in the control software. Pairing between the display and the control software is stored in the display.

No data is stored on SHARP servers.

What data and information are revealed externally?

If using NaViSet Secure locally, no data is sent to an external network or server.

If connecting using NaViSet Secure Remote, the display will register itself with a central cloud-based server so that incoming connection requests from the control software can be made once authenticated. This registration will include the unique identifiers of the display. Once registered, the display will send periodic "alive" token messages to the server every few seconds.

This process of connecting to the cloud-based server will reveal the external IP address of the network the display is on.

Is NaviSet Secure a cloud-based system?

A cloud-based server is used for facilitating the initial connection between a software application and a remote display. No data or traffic is stored on an external server.

Does SHARP have access to my display device?

SHARP does not have any kind of pre-paired access to the displays and therefore cannot gain access without specifically being paired.

SHARP may be able to offer specific remote diagnostics and service, only if requested by the owner of the display by inviting the service person to temporarily remotely pair with the display.

Does enabling the NaViSet Secure Remote feature create a security vulnerability for my network?

Network security is the top priority in the design of this system. Multiple layers of security have been designed into the system to prevent unauthorized access and the possibility of a device being used to access the remote network that the display is connected to.

Display devices will only allow paired applications to gain access. Each installation of an application will have a unique identity and, thus, a unique pairing.

The Internet server that facilitates the connection request from an application to a remote display device has layered security to prevent connection requests from unauthorized and unpaired users/applications from reaching the remote device and network.

The display devices do not expose the secure tunnels in a way that would allow the device itself to be used to access the LAN. All communications via the secure tunnel are limited to the display only and cannot exit to the LAN.

What Network ports are required to use NaViSet Secure Displays?

Please see "Network Ports Used by NaViSet Administrator" on page 258.

Is the control functionality available via a secure remote connection limited?

Control commands available locally can be performed remotely. This includes:

- All commands and functionality available via port 7142 such as NEC PCControl commands and Simple ASCII commands.
- Access to the display's built-in HTTP server used for configuring some advanced features not available elsewhere.

UDP based protocols such as SNMP are not supported.

Crestron and AMX protocols are not supported.

Can more than one user, group or installation have access to a display?

Yes. The first user / application to pair with the display is automatically the administrator. This user can then remotely invite other users / applications to pair with the display. The rights of these invited users can be optionally restricted to prevent them from further inviting others.

Can I prevent someone else from pairing with a display?

The display can only be initially paired via the OSD. Once it has been paired, any additional pairings (for example, granting access to a 3rd party) must be done via the access management within the control software. The pairings stored in the display can be managed via the control software.

Pairings can also be reset via the display's OSD, and this will clear all pairings stored in the display.

The display's OSD can be remotely locked to prevent someone with physical access to the display from resetting the pairings.

Can NaViSet Secure be used to remotely access other devices on my LAN via a display?

No. The secure tunnel created with the display can only be used to access the network protocols of the display and cannot be used to connect from the display to other devices on the LAN. This includes items such as an OPS or RaspberryPi Compute Module installed into the display itself.

Can the NaViSet Secure feature be disabled?

Yes. If desired the NaViSet Secure feature can be completely disabled in the display. When disabled, none of the functionality will be active and the display will never try to contact the Internet servers.

Alternately, when just the remote access is disabled, the feature will work in local-only mode and provide secure connectivity on a LAN. It will not contact the Internet servers unless the remote access feature is enabled.

How much data is transferred when a display device is online?

When a display is using the Secure Remote feature, it will register itself with the Internet server so that incoming connections from paired users / applications can be initiated. A heartbeat "alive" token is exchanged with the server every few seconds and amounts to about 150 kB of traffic per display per day.

Remote tunnel connections will of course create additional traffic and will depend on the types of operations and queries being performed with the display.

Can other software make use of NaViSet Secure?

Typically, not without modification since requesting a connection, authenticating, and creating a tunnel to the secure display requires an additional layer not available in software designed to connect directly to a display.

Will SHARP provide 3rd party support for using NaViSet Secure with other software?

An SDK is being made available to allow developers of other software to use the NaViSet Secure functionality.

Where are the cloud-based servers used by the Remote feature physically located?

The server infrastructure consists of decentralized AWS datacenters and Google Cloud Platform located around the globe. There are currently servers in the US, Europe, Singapore, and China.

Frequently Asked Questions for NaViSet Secure Remote

Does SHARP have access to my server or any data sent between the server and Console applications?

No. Our cloud server only facilitates the connection between a remote Console application and the server running on your network. It will perform multiple security checks to ensure that both the NaViSet Administrator SE server and each Console application are legitimately authorized even to attempt to connect and authenticate.

Can NaViSet Secure Remote Access be disabled?

Yes. The Remote Console Access Service running on the server can be stopped or uninstalled completely.

Is NaViSet Secure a cloud-based system?

No. Our cloud server is normally only used to facilitate the connection between a remote Console application and the server running on your network. No data or traffic is stored on an external server. In some cases where specific network ports are blocked, the cloud server will act as a relay of encrypted data packets.

Where is data stored?

All data is stored on the server running on your network. Pairing data between the remote Console applications and your server is stored on the server.

No data is stored on the SHARP Servers.

What information is revealed externally?

When using NaViSet Secure Remote Console Access, the server registers itself with a cloud-based server, facilitating incoming connection requests from each remote Console application. The fingerprint of a unique key (provided in the Remote Console Access License key) is registered with the server but is not stored. The IP address of your server and each remote Console application will be revealed to the cloud-based server.

SHARP will be able to see if and when this connection was last made for debugging and administrative purposes but does not know or have access to the contents of this encrypted connection.

Where are the cloud-based servers used by the NaViSet Secure Remote feature located?

The server infrastructure consists of decentralized AWS datacenters and Google Cloud Platform located around the globe. There are currently servers in the US, Europe, Singapore, and China.

Does NaViSet Secure Remote Console Access create a security vulnerability on the network?

Multiple layers of security are implemented to prevent unauthorized access to your network.

The internet server facilitating NaViSet Secure Remote connections has layered security to prevent connection requests from unauthorized and unpaired users/applications from reaching the server and network.

The server does not expose the secure tunnels in a way that allows data to be transferred on ports other than those used by the NaViSet Administrator SE server.

Additionally, all connections between the NaViSet Administrator SE server and the cloud server are outbound only. There are no inbound connections.

Can NaViSet Secure Remote Console Access be used to remotely access the server machine in general or other devices on the LAN?

No. The secure tunnel created can only access the network protocols of the NaViSet Administrator SE server. It cannot be used to connect to other devices or services on the machine or your LAN.

Can I use the same License key file provided on more than one server?

No. This is strictly forbidden and will cause connections to fail.

License key files should be considered “secret” and unique to each server instance.

Please contact your SHARP representative for additional license key files.

7 Controlling Devices

Devices can be controlled either interactively on an individual basis using the controls in the *Device Properties* Windows, or in groups as part of a *Task* operation (see "Tasks" on page 178).

To control a device interactively, double-click the device icon in the device tree to open the Device Properties Window, which will contain one or more tabs with information and controls relating to the device.

Read-only displays on a Windows PC

Read-only displays, where two-way communications with the display is not available or supported, only have an  *Info* tab, and no interactive controls are available. The information shown from the display is read-only and static, such as serial number, model name, and date of manufacture.¹

¹ *This function is not available in **NaViSet Administrator 2 on macOS**. All other versions of NaViSet Administrator support communications with displays connected to Windows computers, as described in this manual.*

Interactive Control

For devices that are not read-only, several tabs grouped into different types of controls will be shown. Controls can be adjusted in real-time and the remote device will be updated automatically.

The available controls will depend on the type of device and the connection to the device. *NaViSet Administrator* will automatically query the device to determine the capabilities and controls available.

 **Tip:** Changes to the settings and controls on a display cannot be made when the device is in the Power Off state. It must first be powered on before making any setting or control adjustments.

As different tabs are selected, the remote device will be queried to read the latest settings for the controls displayed on the tab. This can take a few seconds to complete. The settings can also be read from the display and updated by clicking the **Refresh** button on a tab.

The following table shows the different types of tabs that can be shown depending on the capabilities of the device selected.

Tab	Description
 Info	A summary of the most common device properties. If a Full Refresh has been performed on the device, all of the supported control settings from the device will be shown.
 Network	Network settings used to connect to the device such as IP address and credentials.
 Power	Power On and Off, and other power related controls. Windows computers include controls for Shutdown, Restart, and System Wake-on-LAN. ¹
 Video	Controls for adjusting the video settings such as video input, brightness, color, etc.
 SpectraView Engine	Controls for adjusting the monitor's internal SpectraView Engine settings. This tab is only available when the selected monitor supports this hardware feature.
 Geometry	Controls for adjusting the positioning and scaling of the video signal on the screen.
 Audio	Audio related controls such as volume.
 Display Schedule	Controls for configuring the internal scheduling function (schedules that run autonomously within the display) in supported large-screen displays.
 POP	Shows all of the Proof of Play events for this device. Controls are also provided for enabling/disabling Proof of Play for this device and start/stopping the Proof of Play task.
 OSD	Controls for configuring settings relating to the On Screen Display
 IR Remote	Used to send commands equivalent to pressing the buttons on the device's IR Remote controller. Available on large-screen displays and projectors.
<p>1 This function is not available in <i>NaViSet Administrator 2 on macOS</i>. All other versions of <i>NaViSet Administrator</i> support communications with Windows computers on the network.</p> <p>2 This function is only available for <i>dvLED Controllers in NaViSet Administrator SE</i>. Refer to the instructions page 143.</p>	

Tab	Description
 ECO	Controls relating to ECO and power saving.
 Custom	Shows a list of all controls available on the device that can be selected and adjusted. This includes more infrequently used controls not shown on other tabs.
 Receiver Cards ²	Shows the status of each receiver card, offers the option to show test patterns on-screen, and allows viewing the screen's position in the dvLED setup.
 Screen Presets ²	Shows the presets in the controller for each Screen.
 Configuration ²	Uses a JSON document to configure the settings related to the controller.

1 This function is not available in *NaViSet Administrator 2 on macOS*. All other versions of *NaViSet Administrator* support communications with Windows computers on the network.

2 This function is only available for dvLED Controllers in *NaViSet Administrator SE*. Refer to the instructions page 143.

Info Property Tab

The *Info* device property tab shows a summary of the essential information about a device, such as the model name, serial number, IP and MAC addresses, and many others depending on the device type.

When a device is first added to the *Device Tree*, the basic information about the device is read and stored in the database.

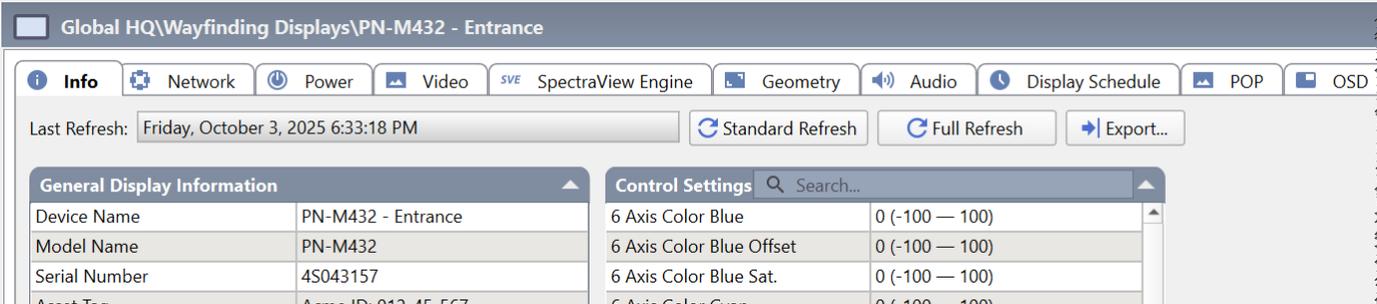
Information about a device can be refreshed at any time using either the **Standard Refresh** or **Full Refresh** functions (see "Standard Refresh vs. Full Refresh" on page 133 for more details), which are available both on the *Info* device property tab, and from the device tree's context menu, shown by right-clicking on the device.

The date and time the information was last updated is shown in **Last Refresh:**. This text will be shown in red if the device had not been refreshed within the last 24 hours.



In the **NaViSet Administrator SE Console** application, there is a *Time* field instead of *Last Refresh*. The *Time* field lets you select and view information from previous refreshes. **NaViSet Administrator 2** only shows the latest refresh information.

If you are interested in a trial version of the software to access this and other unique features of the Server Edition version, please go to business.sharppusa.com/naviset-administrator



The screenshot shows the 'Info' tab for a device named 'PN-M432 - Entrance'. The 'Last Refresh' is 'Friday, October 3, 2025 6:33:18 PM'. Below this are two panels: 'General Display Information' and 'Control Settings'.

General Display Information		Control Settings	
Device Name	PN-M432 - Entrance	6 Axis Color Blue	0 (-100 — 100)
Model Name	PN-M432	6 Axis Color Blue Offset	0 (-100 — 100)
Serial Number	4S043157	6 Axis Color Blue Sat.	0 (-100 — 100)
Asset Tag	Acme.ID:012-45-567	6 Axis Color Cyan	0 (-100 — 100)

The information shown on the *Info* tab can be exported to the clipboard, an Excel spreadsheet, or a delimited text file by clicking the **Export...** button. Also, information from individual tables can be copied to the clipboard by first selecting the desired rows in the table, then selecting **Copy** from the **Edit** menu, or by pressing **Ctrl+C**.

Windows Computer Info¹

The *Info* property tab for remote Windows computer devices shows information about the computer such as the operating system, service pack, CPU type, total and available RAM, and if supported by the hardware, the make, model, and serial number of the computer.

The OS version, service pack and architecture are also shown, along with the CPU type, speed, and current usage percentage. The installed physical memory size and currently available memory is shown.

If *Open Hardware Monitor* or *Libre Hardware Monitor* (see Appendix D on page 261) is installed on the remote computer, the CPU, GPU, and Main Board temperatures and fan speeds will be reported if supported.

Projector or Large-screen Display Info

The *Info* tab includes information such as the model name, serial number, IP and MAC address of the display.

If the display supports Diagnostics reporting, or includes internal temperature sensors, these readings will be shown.

The *Power On Time* counter value will be shown in both hours and days if supported by the display.

Projectors that support reading the number of hours used and hours remaining on lamps and filters will show this information also.

Desktop Display Info¹

For a desktop display device, the *Info* tab includes information about the related video graphics system on the computer for the display, such as the display adapter model, driver version, and current video resolution settings.

If the display supports Diagnostics reporting, or includes internal temperature sensors, these readings will be shown.

The *Power On Time* counter value will be shown in both hours and days if supported by the display.

PJLink Device Info

The *Info* tab includes information such as the model name, manufacturer, IP and MAC address of the device.

¹ This function is not available in *NaViSet Administrator 2 on macOS*. All other versions of *NaViSet Administrator* support communications with Windows computers on the network

Standard Refresh vs. Full Refresh

Standard Refresh will read and update the basic information about a device.

For display devices, this includes items such as:

- Model Name
- Serial Number
- Date of Manufacture
- Diagnostics
- Asset Tag

For desktop displays connected to a Windows computer and accessed via WMI, additional information about the computer and video graphics system, such as the display adapter manufacturer, model, driver version, and many more items will be shown¹.

Full Refresh will perform a Standard Refresh plus read and update information about all of the supported controls and their current setting values. All of the settings read will be listed in the tables on the *Info* tab. Because of the large number of controls supported on many devices, the *Full Refresh* can take over a minute depending on the device and connection type.

Tip:

- Performing a **Standard** or **Full Refresh** will overwrite all of the device information saved in the database from the last *Standard* or *Full Refresh*.
- Information for devices that are currently powered off cannot be fully updated until they are fully powered on and available for remote access.
- When a *Standard* or *Full Refresh* is performed directly on a Windows computer, any new display devices will be automatically detected and added to the device tree. If an existing device has been disconnected or can no longer be accessed, an option to delete the device will be given.

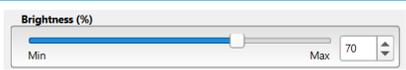
1 This function is not available in *NaViSet Administrator 2 on macOS*. All other versions of *NaViSet Administrator* support adding and communicating with Windows computers.

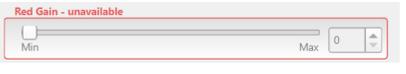
Grouped Controls Tabs

Several controls are grouped in a series of tabs for quick access. When a tab is first opened, the device is queried and the controls are refreshed with the current settings.

 **Tip:** The controls displayed in the *Group Controls* tabs is only a subset of the most common controls. The  **Custom** tab, described on page 141 provides the complete list of controls available for the device.

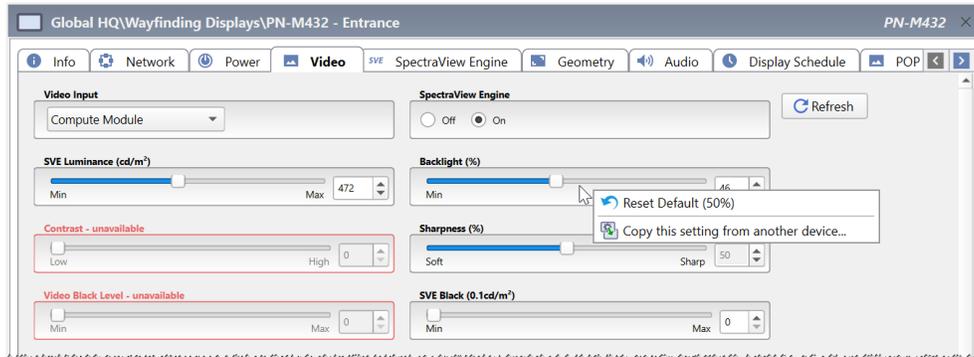
Controls can exist in 4 different operational states, as follows:

Control State	Description	Example
Normal, Read/Write	Fully interactive, synchronized to the current setting of the device.	
Read-only (blue border)	A device setting or reading that cannot be adjusted.	

Control State	Description	Example
Execute-only	An operation-based control. Most of these types of controls consist of a single push button.	
Unavailable (red border)	A control that typically is supported by the device but could not be accessed at the time the tab was either opened or refreshed.	

Controls Context Menu

A context menu can be opened by right-clicking on the control.



The context menu provides these actions:

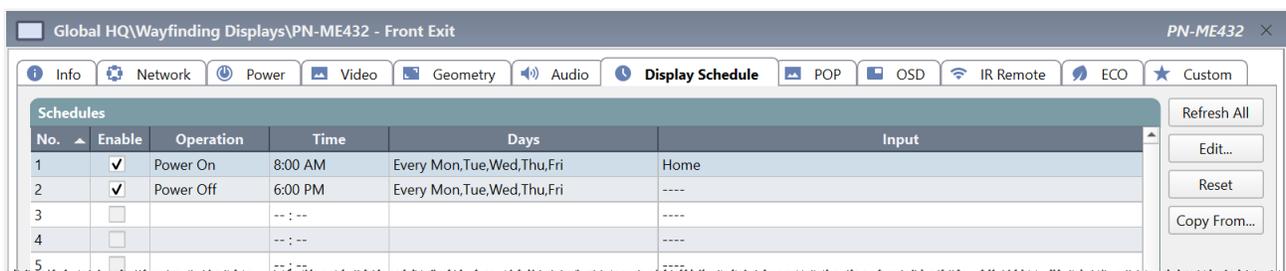
 **Reset Default** - Changes the setting back to the device's default value. This function is available only for slider-based controls.

 **Copy this setting from another device...** - Allows for the selection of another device from which to copy the current setting. Once a device is selected it is immediately queried for the setting, which is then applied to the control. The devices selected will be added to the controls context menu to facilitate follow-up copy operations and will remain until the application is closed.

Display Schedule Property Tab

This tab is shown when controlling a Sharp or NEC large-screen display that supports internal schedules (schedules that run autonomously within the display).

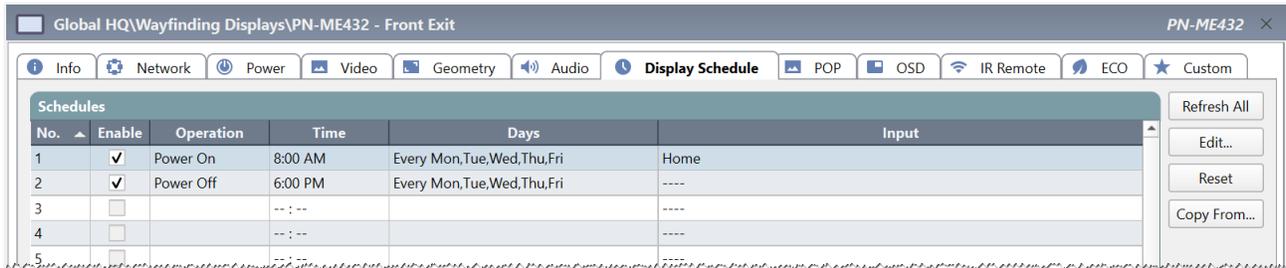
Multiple schedules can be configured for setting the display to power on and off at specific times and days, as well as changing to different video inputs and picture modes. The number of supported internal schedules that can be configured depends on the model of the display being used. Once configured in the display, it will perform the programmed schedule using the internal clock and a connection to *NaViSet Administrator* will not be needed.



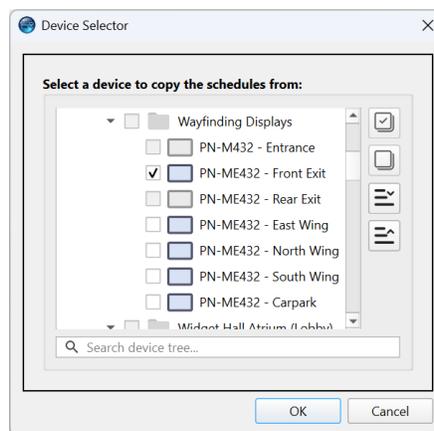
To create or edit a schedule, select one of the schedule lines and click the **Edit...** button to open the Edit Schedule dialog. Select the scheduling options and then click on **Save**.

Tip: Depending on the display model, the Edit Schedule dialog may have additional selection options for **Dates**, **Weekdays**, **Weekends**, and **Holidays**. The days for the weekends and holidays must be defined in their applicable dialogs before by selecting them in the Edit Schedule window. Please see "Holiday and Weekend Schedules" on page 138.

Select one of the schedules and click the **Reset...** button to clear the schedule from the display.

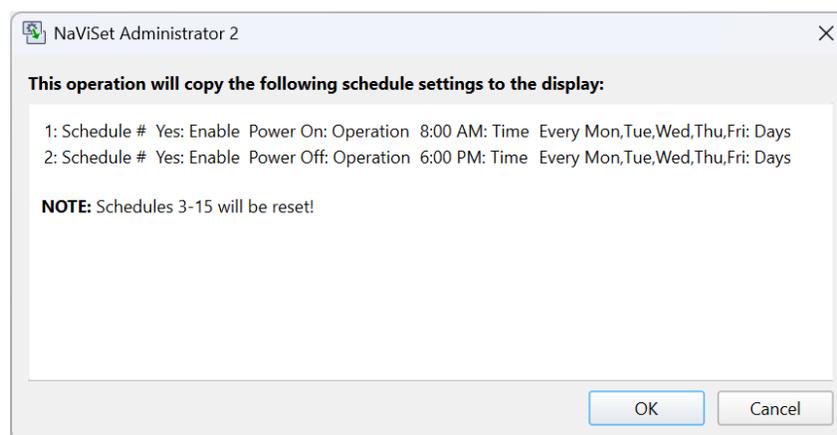


To copy existing schedules from a different display, click the **Copy From...** button to open the Device Selector dialog. Select the display to copy the settings from and then click on **OK**.



Tip: Copying schedules between different display models may not be available as not all displays have the same scheduling options.

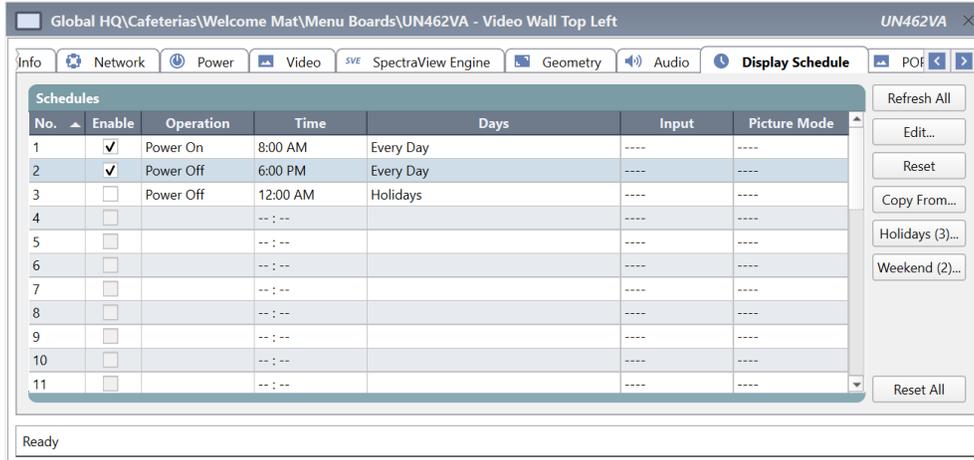
Next, a dialog opens showing the list of schedules that are in the selected display. Click on **OK** to copy the schedules.



Important: This action cannot be undone. All scheduling information in the display will be replaced with the settings copied from the selected display. This includes holiday and weekend definitions for displays that support them. Please see "Holiday and Weekend Schedules" below.

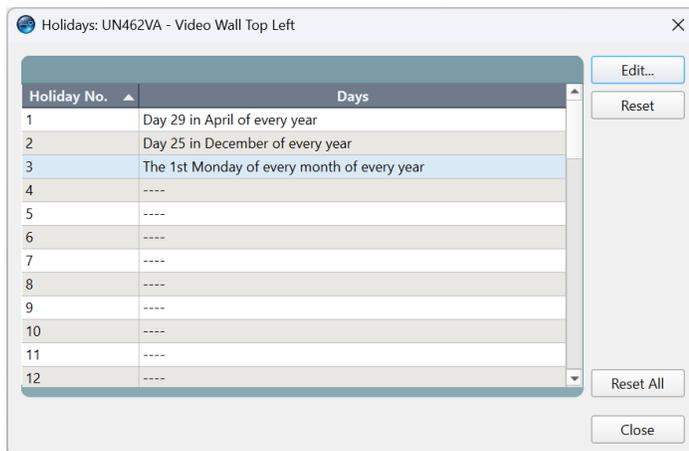
Holiday and Weekend Schedules

Depending on the display model, additional options may be available in the Display Schedule tab for defining holidays and weekends. Click the **Holidays...** or **Weekends...** button to set the holiday dates and weekend days for where the displays are located.



Holidays

To set the holiday dates, click on the **Holidays...** button to open the Holidays dialog.



Click **Edit...** to open the Edit Holiday dialog to set which dates are to be considered holidays.

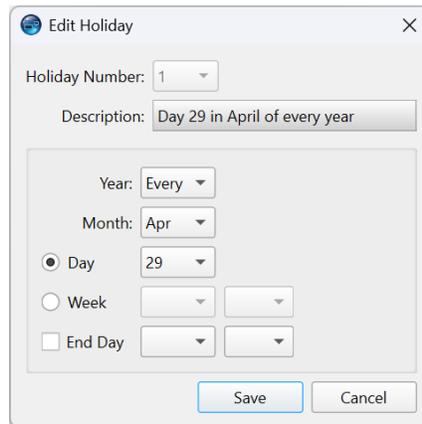
Select an existing holiday and click **Edit...** to change the dates for an existing holiday.

Select an existing holiday and click **Reset** to remove the holiday from the list.

Click **Reset All** to clear all holidays from the list.

In the Edit Holiday dialog, select the options to define what the holiday days are going to be and then click on **Save**. For example, to create January 1st as a holiday leave the "Year" field blank, select Jan from the "Month" menu,

and select 1 in the "Day" menu. The description for the holiday will update to show what has been selected in the dialog, such as "The 1st day in January of every year".

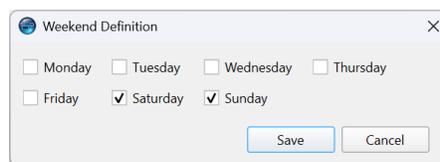


The "Edit Holiday" dialog box contains the following fields and options:

- Holiday Number: 1
- Description: Day 29 in April of every year
- Year: Every
- Month: Apr
- Day: 29 (selected with radio button)
- Week: (unselected)
- End Day: (unselected)
- Buttons: Save, Cancel

Weekends

To set which days of the week are to be considered weekend days, click on the **Weekends...** button to open the Weekend Definition dialog.

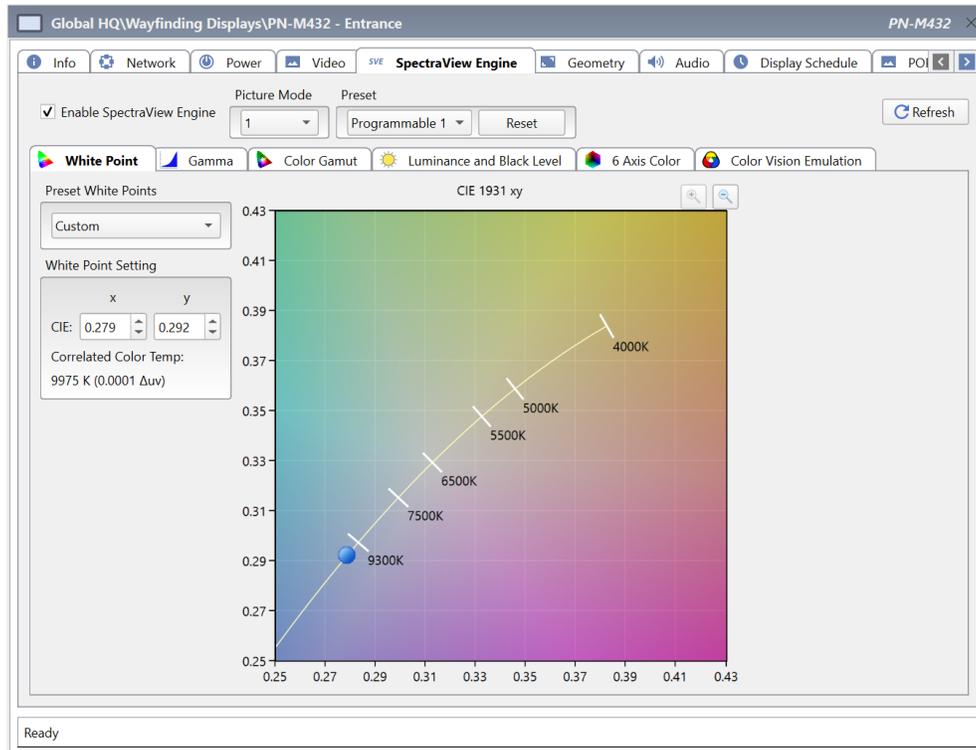


The "Weekend Definition" dialog box contains the following checkboxes:

- Monday:
- Tuesday:
- Wednesday:
- Thursday:
- Friday:
- Saturday:
- Sunday:
- Buttons: Save, Cancel

SVE SpectraView Engine Tab

The *SpectraView Engine* (SVE) tab is available in the NaViSet Administrator 2 and SE applications when the selected monitor supports this hardware feature. Please refer to the product manual to confirm product support for SVE, details about its available SVE functions, and how to use them.



The SpectraView Engine (SVE) is a custom color processor engine integrated into the monitor. It combines individual characterization and calibration of the monitor during production, together with temperature and time monitoring, to provide an unparalleled level of color control, accuracy, and stability.

When the SVE is on, the monitor's internal processor will handle many of the color management features and the user color controls allow a unique level of precision to be achieved.

SVE Features Overview

- **White Point** – Adjusts the white by color temperature (K) or CIE x, y setting. A lower color temperature will result in a reddish screen, and a higher color temperature in a bluish screen. A larger x value will result in a reddish screen, a larger y value changes the screen to greenish, and smaller x,y values will change the screen to bluish-white.
- **Gamma** – Sets the desired tone response curve of the calibrated display.
- **Color Gamut** – Sets a particular color gamut adjustment. The color gamut is the range of colors that can be displayed by the monitor and is defined and bounded by the red, green, and blue primaries, which together make up all other colors.
- **Luminance and Black Level** – Adjusts the overall image and screen background luminance and black level.
- **6 Axis Color** – Allows changes to a specific range of colors, and within each color range, adjustments are made individually to Hue, Saturation, and Offset (Brightness).

- **Color Vision Emulation** – Provides different settings to emulate several modes of human color vision deficiency, also known as color blindness.

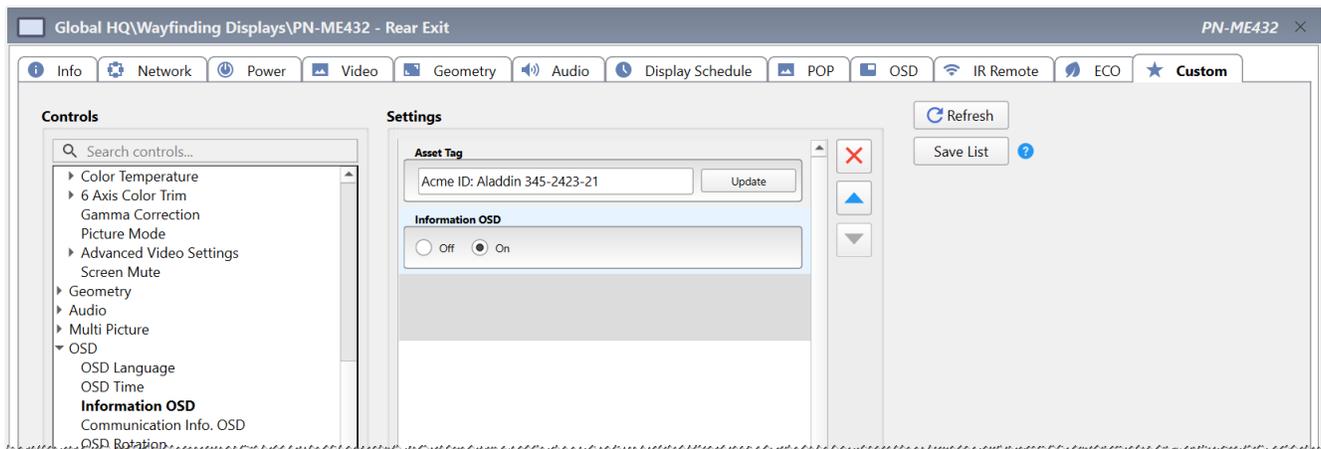
★ Custom Property Tab

The *Custom* device property tab lists all of the controls available on the device that can be adjusted. The list includes more infrequently used controls not shown on other tabs.

To adjust a control, select it from the **Controls** list and it will be added to the **Settings** list shown on the right side. The remote device will be queried in real-time to read the current setting for the selected control. If an adjustment or change is made to a control the new setting will be sent to the remote device and confirmed. This process can take a few seconds to complete.

Multiple controls can be added to the *Settings* list and the order of the list can be changed using the ▲ and ▼ buttons. Settings can be removed from the list by clicking the ✖ button.

The *Settings* list for a device can be saved by clicking the **Save List** button, and the controls shown in the list will be restored the next time the device's Properties Window is opened.



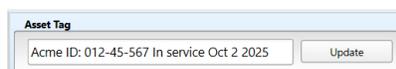
Tip: The controls context menu described on page 135 is also available for the controls in the **Custom** tab.

Some of the more unique controls available on the Custom Controls list are shown below.

Asset Tag

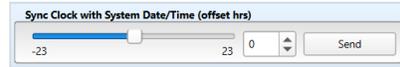
For Sharp or NEC devices, a custom text string can be entered and stored in the display. This text string could, for example, be a conventional asset tracking code, company name, department name, phone number, etc. This can then be read by *NaViSet Administrator* and used for asset tracking over a network. For desktop displays and large-screen displays, this text can normally only be altered or erased by using *NaViSet Administrator*. On projectors the Asset Tag is known as the Projector Name.

Only ASCII based characters can be entered and the length is limited by the capabilities of the device.



Sync Clock with System Date/Time

For large-screen displays that have an internal clock for performing schedule functions automatically, the clock can be synchronized with the time and date from the local computer. If the display is located in another time zone, the time applied to the display can include an offset value of from -23 to +23 hours relative to the local time. For example, to correctly set the clock for a display physically located in a time zone 2 hours ahead of the local time, select an offset of +2 hours, and click Update.



8 Adding and Configuring dvLED Controllers in NaViSet Administrator SE



This function is only available in the **NaViSet Administrator SE Console** application.

If you are interested in a trial version of the software to access this and other unique features of the Server Edition version, please go to business.sharppusa.com/naviset-administrator

NaViSet Administrator Server Edition (NASE) supports connecting to NovaStar H series dvLED controllers via LAN and monitoring and controlling the connected dvLED displays.

Supported functionality:

- Controller monitoring:
 - Status, temperature, power supplies, fans, and memory
 - Video input signal status
 - Overall status
- Receiving card monitoring:
 - Status, power, temperature, and voltage
- Primary and backup redundant connections and monitoring for Ring and Full redundancy types
- Controlling Screen Brightness
- Recalling Screen Presets
- Generating alerts for warning and error conditions
- Device Views to easily monitor and view critical status information
- Showing test patterns and ID mapping information on individual receiver cards
- Performing scheduled operations
 - Recalling Presets
 - Changing Brightness

Tip: Important notes

1. Please be sure to update the NovaStar firmware to the latest version. Older firmware versions have not been tested and may not support all necessary functionality.
 2. Configuration of the NovaStar controller is done via editing a JSON text configuration file. Copying this text and keeping a backup copy before making changes is recommended.
 3. The serial number of the NovaStar controller cannot currently be read. Instead, the controller will be identified via the network MAC address. The “Serial Number” will show the MAC address.
-

How to add an H series controller

From the NaViSet Administrator SE Console:

1. Select **Devices** → **Add Device Wizard...**
2. Select **dvLED controller**.

Add Device Wizard

Welcome to the Add Device Wizard

Use this wizard to add displays, projectors and Windows computers to your device tree.

Is the device on the local network or a remote network?

Local Remote

What type of connection do you want to use?

Standard local TCP connection

NaViSet Secure connection

NaViSet Secure Gateway connection

What type of device do you want to add?

Sharp or NEC large-screen display

Sharp or NEC projector

PLink device

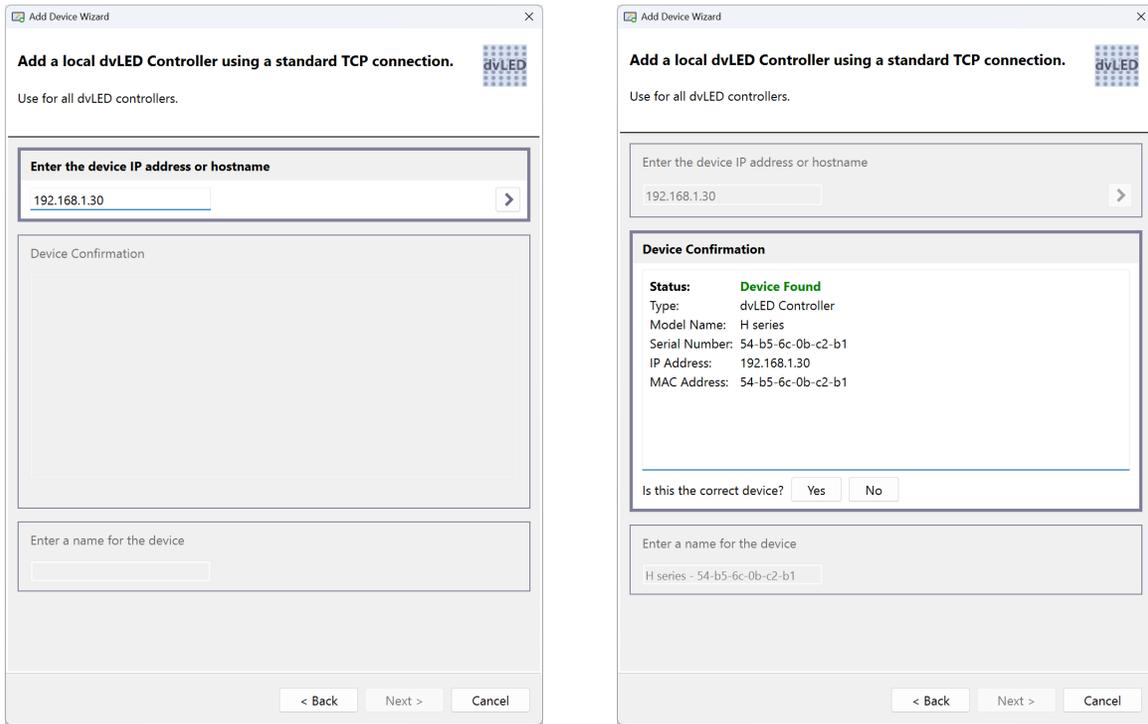
Windows computer (includes attached display devices)

dvLED controller

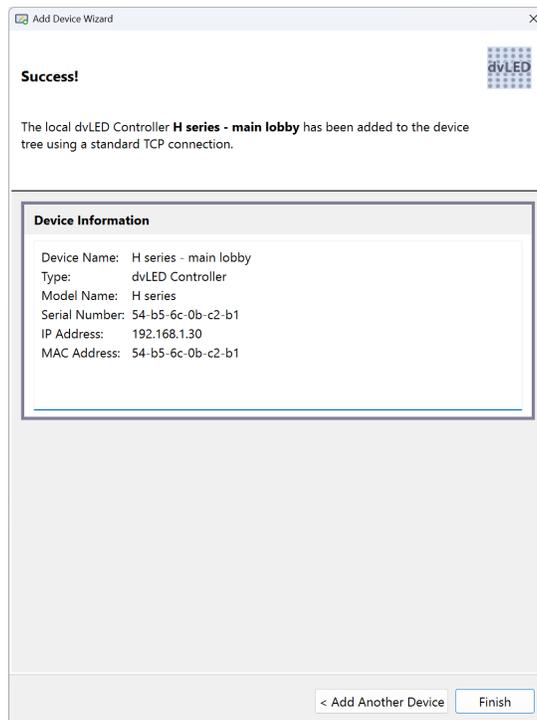
Click **Next** to continue.

Next > Cancel

- Enter the controller's IP address, then click the right arrow to detect the controller.



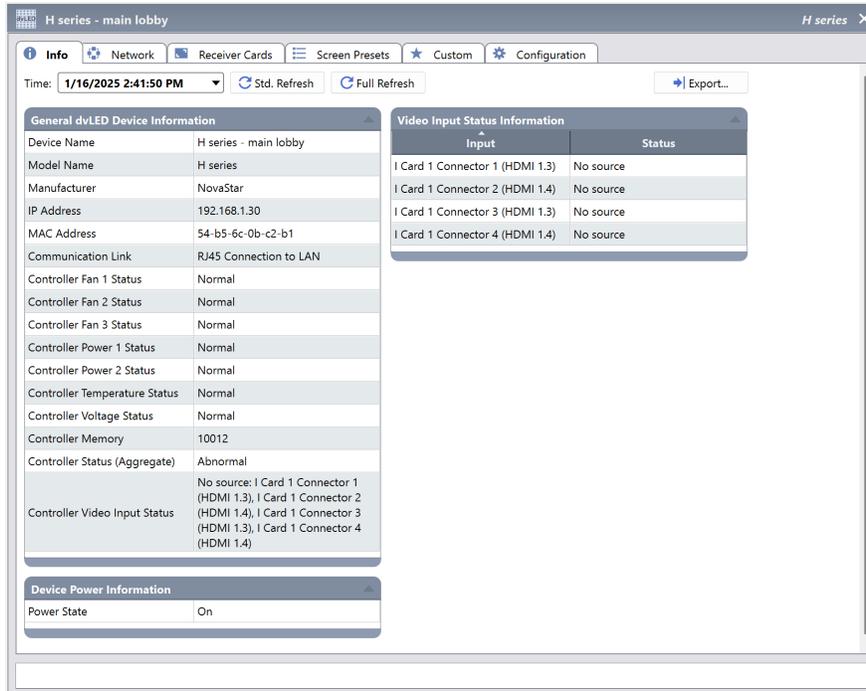
- Confirm the controller information then click **Finish** to add it.



How to initially configure the Controller

1. Double-click the controller icon in the Device Tree to open the device's page.
2. Ensure all receiver cards and video inputs to the controller are connected and working.
3. On the "Info" tab, click **Full Refresh**.

This will query all possible receiver cards, which may take a few seconds. The tables should populate but may show errors (no signals, PSU errors, etc.)



The screenshot shows the 'Info' tab for an H series controller. The interface includes a navigation bar with tabs for Info, Network, Receiver Cards, Screen Presets, Custom, and Configuration. The current time is 1/16/2025 2:41:50 PM. There are buttons for 'Std. Refresh' and 'Full Refresh', and an 'Export...' button.

General dvLED Device Information

Device Name	H series - main lobby
Model Name	H series
Manufacturer	NovaStar
IP Address	192.168.1.30
MAC Address	54-b5-6c-0b-c2-b1
Communication Link	RJ45 Connection to LAN
Controller Fan 1 Status	Normal
Controller Fan 2 Status	Normal
Controller Fan 3 Status	Normal
Controller Power 1 Status	Normal
Controller Power 2 Status	Normal
Controller Temperature Status	Normal
Controller Voltage Status	Normal
Controller Memory	10012
Controller Status (Aggregate)	Abnormal
Controller Video Input Status	No source: I Card 1 Connector 1 (HDMI 1.3), I Card 1 Connector 2 (HDMI 1.4), I Card 1 Connector 3 (HDMI 1.3), I Card 1 Connector 4 (HDMI 1.4)

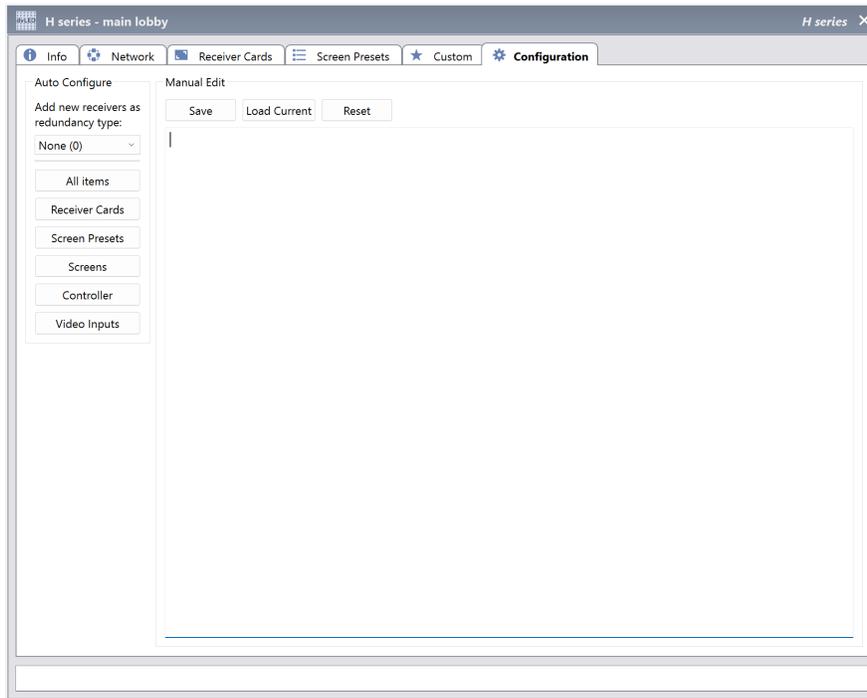
Video Input Status Information

Input	Status
I Card 1 Connector 1 (HDMI 1.3)	No source
I Card 1 Connector 2 (HDMI 1.4)	No source
I Card 1 Connector 3 (HDMI 1.3)	No source
I Card 1 Connector 4 (HDMI 1.4)	No source

Device Power Information

Power State	On
-------------	----

4. Next, select the “Configuration” tab



5. Click **All Items** in the “Auto Configure” section. This will configure NASE to:

- Only check the receiver cards that replied correctly
- Ignore any of the current receiver card PSU errors
- Ignore any of the video inputs that don't currently have video signals
- Ignore any controller fan and power statuses that currently have errors
- Learn any presets in the controller
- Learn which screens are configured in the controller

6. Return to the “Info” tab and select **Std. Refresh**.

It should not show any errors as they have now been set to hide or ignore. Refreshing should be much faster as it only checks the configured receiver cards.

7. On the “Configuration” tab, the JSON document can be manually edited for additional customization, including:

- Adding receiver cards that may not have been detected, including redundant mode backup receiver cards.
- Configuring the output card, card output port, and receiver number.
- Deleting or ignoring receiver cards that may not be needed.
- Assigning a receiver card to a particular screen. This is used to create separate tables for each screen's receiver cards.
- Assigning a physical layout position to each receiver card.
- Naming each receiver card, if desired, or adding some comment text to help with future reference.

- Ignoring items such as:
 - PSU 1, 2, 3, or 4 errors
 - Temperature readings
 - Voltage readings
- Ignoring controller errors
- Configuring the available “Screens,” including a name for each.
- Configuring the available “Screen Presets,” including a name for each.
- Configuring the available video inputs on the controller and assigning a custom name for each.

How to initially configure redundant Receiver Cards

Each receiver card can be configured in five different redundancy modes in the Configuration JSON settings:

- 0 = No redundancy
- 1 = Main Ring
- 2 = Backup Ring
- 3 = Main Full
- 4 = Backup Full

When using redundancy mode, the matching Backup receiver card for each Main receiver card must be manually configured by editing the JSON document. Use the **Add new receivers as redundancy type**: selection on the "Configuration Tab" described in "Configuration tab" on page 159 to set the redundancy type for all detected receiver cards. A matching entry for the receiver card with the corresponding Main/Backup redundancy type must then be manually added or configured. See the "Receiver Card Section" on page 168 for details on editing the receiver card section of the JSON document.

➤ Key points

If using either Ring or Full Redundancy

- Each receiver card must have a matching Main \leftrightarrow Backup with the same "screenId", "position_x", and "position_y".
e.g., If a receiver card is defined as "Main Ring" (1), there must also be another defined as "Backup Ring" (2) with the same screen and positions.
- This matching Receiver Card entry must be manually added to the Configuration JSON settings.
- There must be only two receiver cards configured for each "screenId", "position_x", and "position_y" (a Full and a Backup)

If using Ring Redundancy

- The status of the Backup Ring will be shown as "Idle" if the matching Main Ring is online.
- A fault condition on the Main Ring will be considered a warning.
- An over temperature on any receiver card will be considered an error.

If using Full Redundancy

- A fault on one receiver card will be considered a warning. A fault with both receiver cards at the same screen and position will be considered an error.
- An over-temperature on any receiver card will be considered an error.

Info tab

This tab shows a summary of the data read from the controller and receiver cards. The data will be filtered based on the JSON settings in the “Configuration” tab.

Previous queries can be selected in the “Time” list.

General dvLED Device Information	
Device Name	H series - main lobby
Model Name	H series
Manufacturer	NovaStar
IP Address	192.168.1.30
MAC Address	54-b5-6c-0b-c2-b1
Communication Link	RJ45 Connection to LAN
Controller Fan 1 Status	Normal
Controller Fan 2 Status	Normal
Controller Fan 3 Status	Normal
Controller Power 1 Status	Normal
Controller Power 2 Status	Normal
Controller Temperature Status	Normal
Controller Voltage Status	Normal
Controller Memory	10012
Controller Status (Aggregate)	Abnormal
Controller Video Input Status	No source: I Card 1 Connector 1 (HDMI 1.3), I Card 1 Connector 2 (HDMI 1.4), I Card 1 Connector 3 (HDMI 1.3), I Card 1 Connector 4 (HDMI 1.4)

Video Input Status Information	
Input	Status
I Card 1 Connector 1 (HDMI 1.3)	No source
I Card 1 Connector 2 (HDMI 1.4)	No source
I Card 1 Connector 3 (HDMI 1.3)	No source
I Card 1 Connector 4 (HDMI 1.4)	No source

Device Power Information	
Power State	On

➤ Std. Refresh

Queries all information from the controller and the receiver cards currently configured in the JSON settings in the “Configuration” tab.

If no receiver cards are currently configured in the JSON settings, this will query all possible receiver cards.

➤ Full Refresh

Queries all information from the controller and all receiver cards connected to the controller. This includes receiver cards that are not currently configured in the JSON settings in the “Configuration” tab. Use this to detect any new receiver cards that are not part of the current configuration.

This operation will take longer because the controller will try to query receiver cards that may not be present.

➤ About specific items in the “General dvLED Device Information” table

Receiver Card Maximum Temperature

Shows the maximum temperature from all receiver cards that have been queried. It does not include ones that are hidden or ignored.

Receiver Card Error Status

Shows the total number of receiver cards that either:

- Didn't respond
- Reported an error when querying the Temperature (if not ignored)
- Reported an error when querying the Voltage (if not ignored)
- Reported an error when querying the PSU (if not ignored)

Receiver Card Warning Status

This is only shown when a redundant mode (Ring or Full) is configured and a warning is on one of the receiver cards for a location.

When using Full Redundancy it shows the total number of receiver cards that either:

- Didn't respond at all but the alternate link did respond
- Reported an error when querying the Temperature (if not ignored)
- Reported an error when querying the Voltage (if not ignored)
- Reported an error when querying the PSU (if not ignored)

When using Ring Redundancy it shows the total number of receiver cards that either:

- Didn't respond at all
- Reported an error when querying the Temperature (if not ignored)
- Reported an error when querying the Voltage (if not ignored)
- Reported an error when querying the PSU (if not ignored)

Controller Status (Aggregate)

Shows "Error" if any of the following status items are in error:

- Controller Fans (if not ignored)
- Controller Power (if not ignored)
- Controller Temperature (if not ignored)
- Controller Voltage (if not ignored)

Controller Video Input Statuses

Shows any video inputs that do not have a video signal present and have been configured and not been set to hidden or ignored. This will show "Normal" if all configured video signals are present.

➤ About the "Control Settings" table

This table shows the brightness setting for each screen currently configured in the JSON settings in the "Configuration" tab.

➤ About the "Video Input Status" table

This table shows all the video inputs available on the controller that have not been hidden. If an input has been given an optional name, this will be shown in the "Input" column instead of the connection details. Hover over the "Input" items to see the connection details in the tooltips.

The status of each video input can be either:

- Signal OK – signal is present, and the input is configured
- No signal – connected but no signal
- No source – configured but not connected to the controller

“No signal” and “No source” conditions can be configured to count as error conditions in the JSON settings in the “Configuration” tab. Inputs can also be hidden entirely.

See the “Video Input section” on page 169 for instructions on how to configure.

Receiver Cards tab

This tab shows the status of each receiver card. A separate table will be shown for each screen in the configuration if receiver cards have been assigned to the screen. The configuration settings are modified in the JSON settings in the "Configuration" tab.

Previous queries can be selected in the "Time" list.

Hovering over the rows in the table will show a diagram of the physical layout of the receiver cards if they have been configured with position and screen information in the JSON settings in the "Configuration" tab. A temperature map will be shown by hovering over the Temperature column.

Each screen can be given a custom name in the configuration.

Item	Temperat...	Voltage	PSU	Status
S Card 5 Port 1 Recvr 1	28°C	4.1V	Normal	
S Card 5 Port 1 Recvr 2	27°C	4.1V	Normal	
S Card 5 Port 2 Recvr 1	28°C	4.0V	Normal	
S Card 5 Port 2 Recvr 2	26°C	4.1V	Normal	

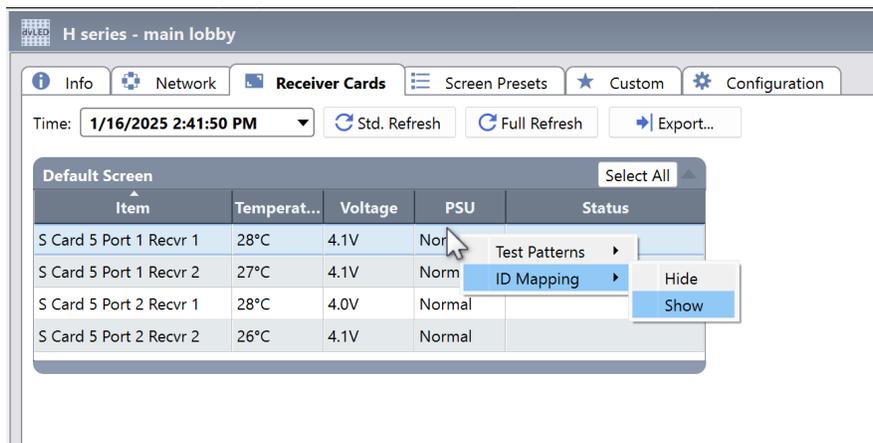
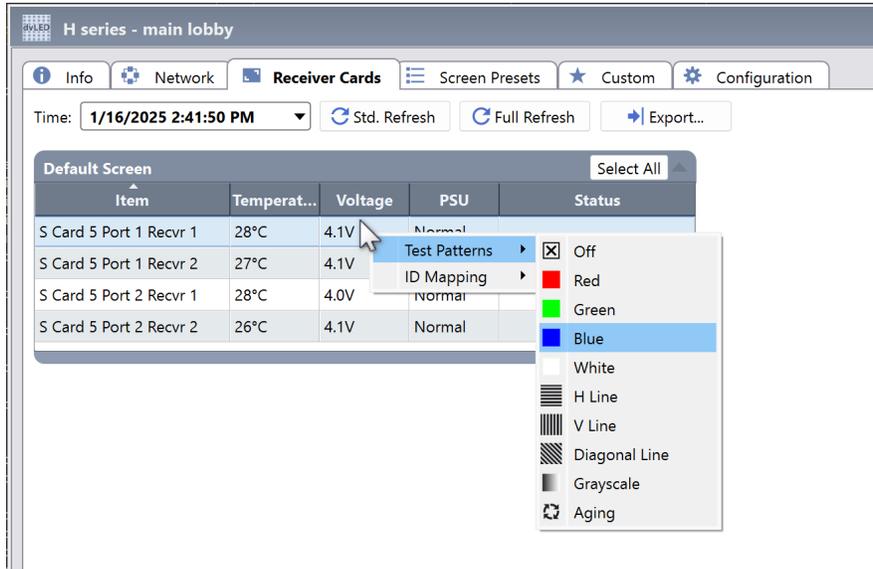
See the following sections for instructions on how to configure the relevant settings.

- "Receiver Card Section" on page 168
- "Screen section" on page 170

Showing receiver card Test Patterns and ID mappings

Select one or more receiver cards in the table on the “Receiver Card” tab, or use the “Select All” button to select all the receiver cards in a table.

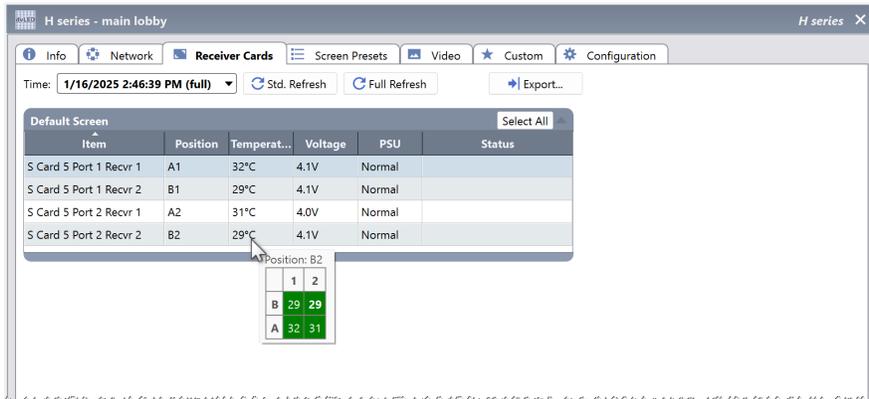
Right-click on the table and a menu for selecting Test Patterns and ID Mapping options will appear.



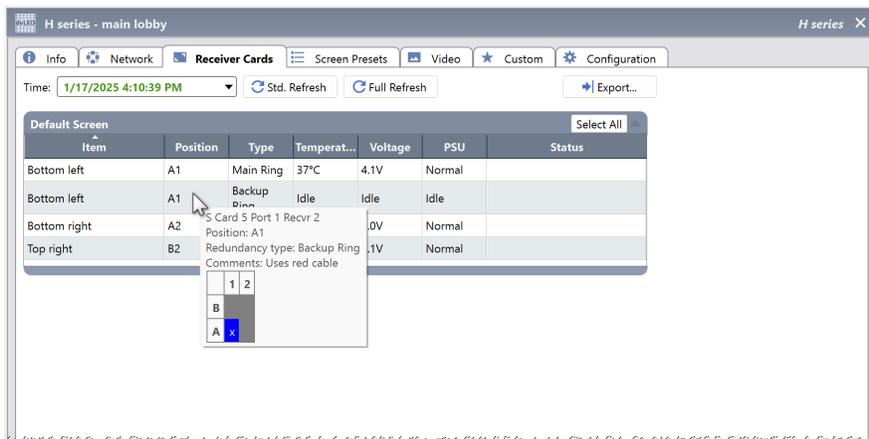
Showing receiver card temperature and position mapping

If the position information for a receiver card has been configured, then the temperature mapping relative to the entire screen can be seen by hovering over the “Temperature” column of each Screen table. Hovering over other columns will show the position of the receiver card in the screen configuration. The receiver card being hovered over will be shown in bold text.

The color of each cell in the temperature mapping depends on the temperature value. The limits for each temperature range (Green, Yellow, and Red) are set in the Miscellaneous section of the JSON configuration.



Additionally, the Redundancy Type and any comments configured for a receiver card will also be shown.

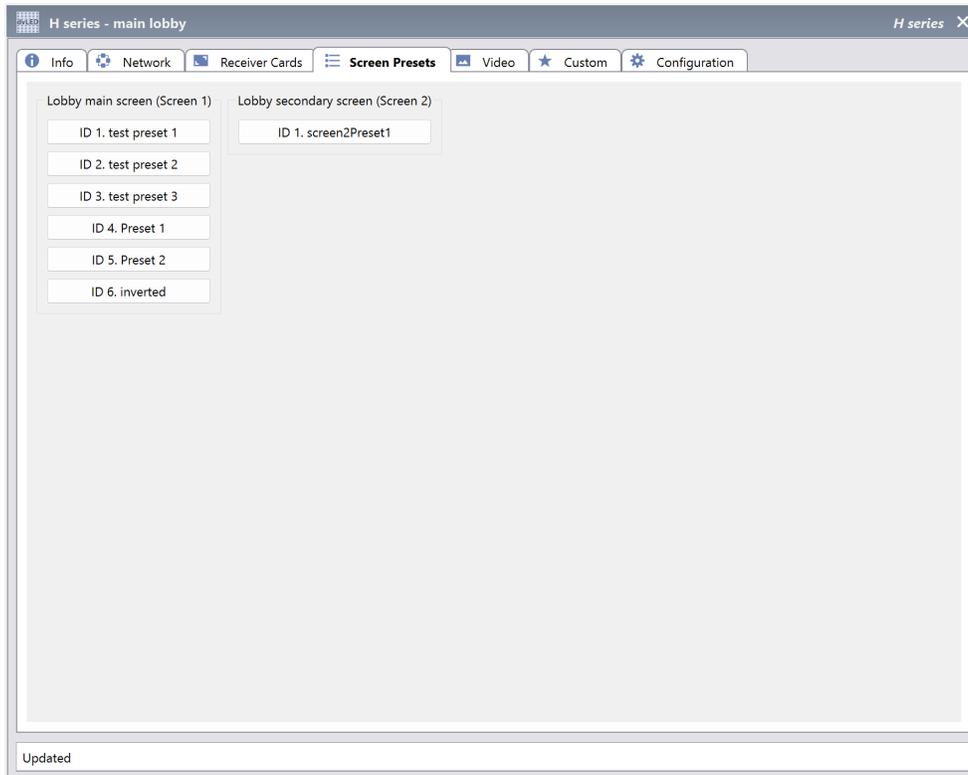


Screen Presets tab

This tab shows the presets in the controller for each Screen. Click a button to recall a preset.

To update the list of presets from the controller, perform a “full refresh” and then **Auto Configure** → **Screen Presets** from the “Configuration” tab.

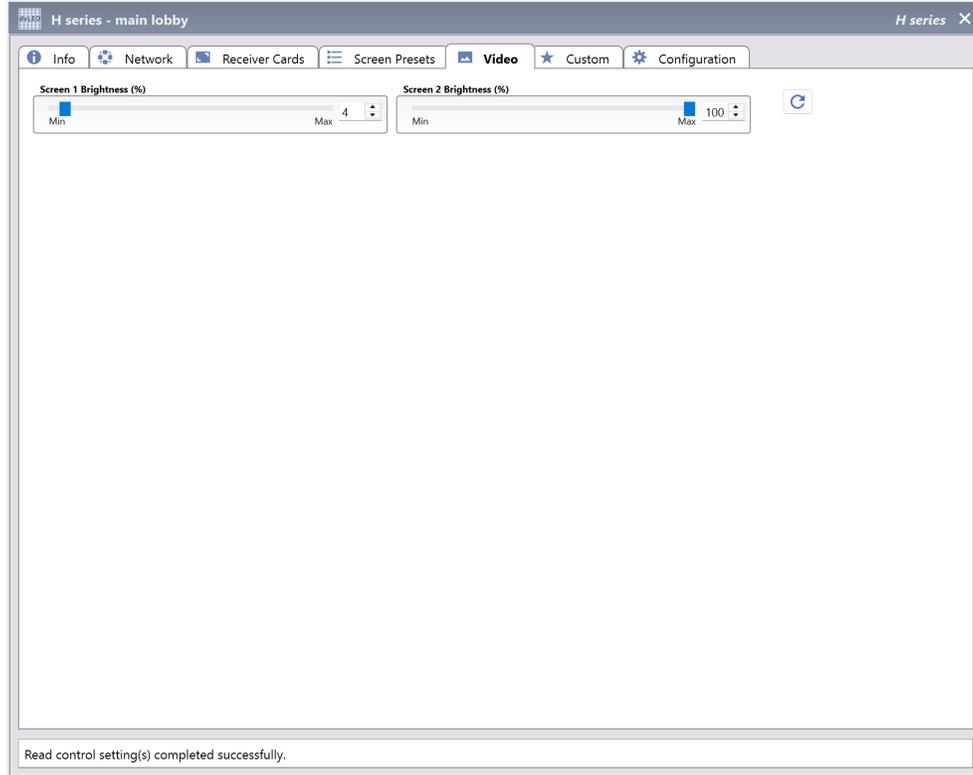
Each Preset can be given a custom name in the configuration.



See the "Presets section" on page 169 for instructions on how to configure the relevant settings.

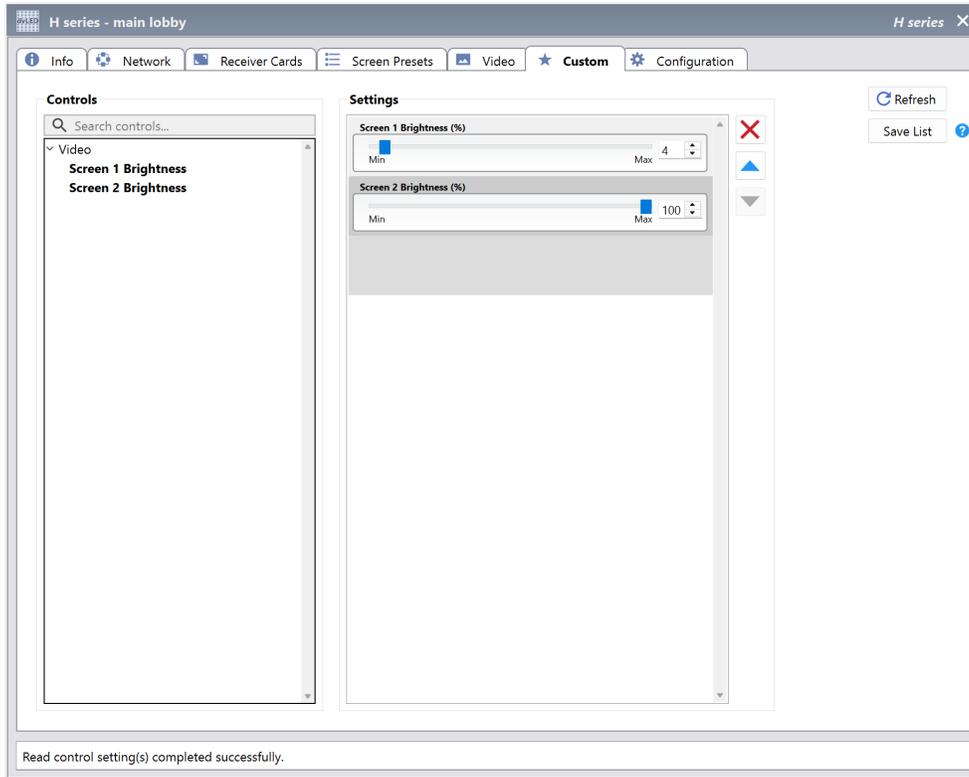
Video tab

This tab shows the Brightness settings for each configured Screen. Adjust the slider to change the screen brightness.



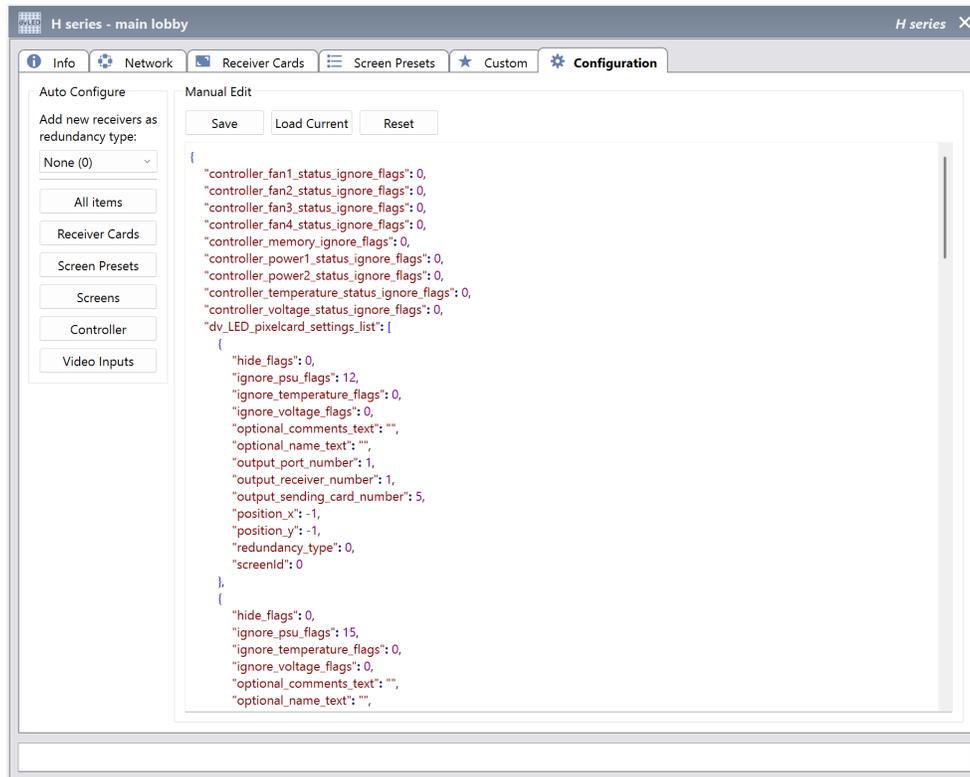
Custom tab

This also shows the Brightness settings for each Screen.



Configuration tab

A JSON document is used to configure the settings related to the controller. This tab lets you configure these settings automatically and manually edit the JSON file directly. The JSON document is stored on the server.



Auto Configure section

➤ All Items button

This will automatically configure “Screen Presets”, “Screens”, “Receiver Cards”, “Controller”, and “Video Inputs” based on data read from the last refresh. Perform a “Full Refresh” beforehand to include any receiver cards that are not currently configured.

Configuration for existing items such as “name” will not be lost.

Tip: The “Add new receivers as redundancy type:” selection can be used to automatically set the “redundancy_type” of any receiver cards added by this operation.

However, a matching entry with the corresponding Main/Backup redundancy type must be manually added to the “dv_LED_pixelcard_settings_list.” For example: If adding all receiver cards as “Main Ring” (“redundancy_type”: 1), then a matching (i.e., identical “screenId”, “position_x” and “position_y”) entry must be added manually with “Backup Ring” (“redundancy_type”: 2).

➤ [Screen Presets button](#)

This will use the screen preset information last read from the controller to create the list of screen presets. It will create the section "dv_LED_video_preset_settings_list" in the JSON file. This data is used to populate the "Screen Presets" tab.

➤ [Screens button](#)

This will use the screen preset information last read from the controller to create a list of screens. It will create the section "dv_LED_video_screen_settings_list" in the JSON file. This data is used to populate the screen tables in the Receiver Cards tab.

➤ [Receiver Cards button](#)

This will use the receiver cards that responded in the last read from the controller to create the list of available receiver cards. It will create the section "dv_LED_pixelcard_settings_list" in the JSON file. This data is used to populate the "Receiver Cards" tab.

Note that when doing a "Std. Refresh", if the "dv_LED_pixelcard_settings_list" is empty, it will try to query every possible receiver card. Otherwise, it will query only the receiver cards currently in the "dv_LED_pixelcard_settings_list". A "Full Refresh" will always try to query all possible receiver cards connected to the controller.

➤ [Controller button](#)

This will use the information last read from the controller to create the list of available controller items. Any items that respond with an error status will automatically be set to "ignore". This includes:

- Fan statuses
- Power statuses
- Temperature status
- Voltage status
- Memory status

It will create the items "controller_XXXXXXXX_ignore_flags" in the JSON file. The JSON file can be manually edited to further configure the settings.

➤ [Video Inputs button](#)

This will use the information last read from the controller to create the list of available video inputs. Any inputs that respond with an error status will automatically be set to "hide".

It will create the section "dv_LED_video_input_connection_settings_list" in the JSON file.

Manual Edit section

➤ [Save button](#)

This validates the JSON data currently in the JSON editor and stores it on the server. If the JSON data is not valid it will not be updated or stored, and an error will be shown.

➤ Reset button

This completely clears all the current JSON data and creates a new blank skeleton JSON document. It does not save the JSON data.

➤ Load Current button

This loads the current JSON data for the controller stored on the server into the JSON editor.

➤ Editing the JSON document directly

Edit the text of the JSON document directly by first loading it using "Load Current". Then, when finished editing, use "Save" to update. Any formatting or validation conflict errors detected will be shown in the UI; the JSON document will not be saved until these are fixed.

See "About the JSON document format" on page 167 for details about the JSON document format, its available configuration options, and the meaning of each of the parameters.

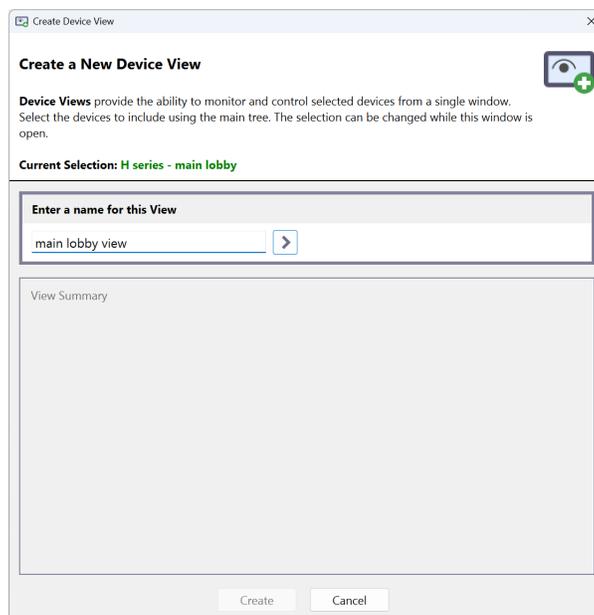
Device Views for a dvLED Controller

A Device View shows the current critical items of the controller in a convenient summary and will automatically query the controller periodically. A device view will store the history of each query and can also generate an alert if a Query Item is outside the specified range or value.

A Device View also provides easy access to the Screen Brightness settings.

➤ Creating a Device View

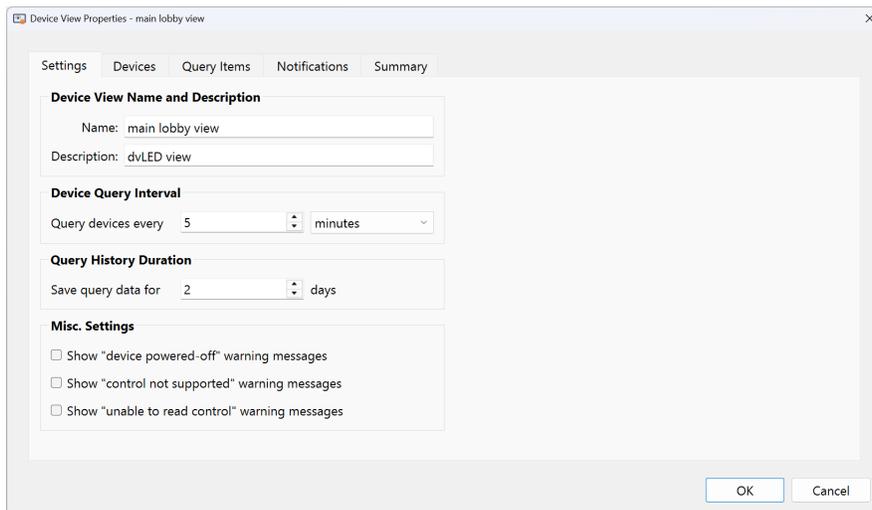
1. Right-click on the dvLED controller in the Device Tree and select **Create Device View**.
2. Enter a name for the view.



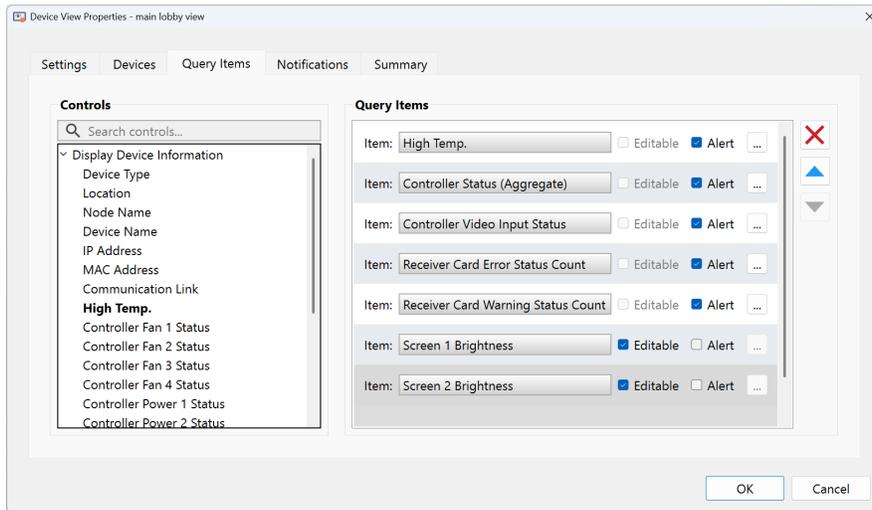
- On the summary screen, click the **Customize** button (bottom left) to edit the various Device View settings.



- Configure the settings for how often the controller will be queried and how long to keep the historical data.

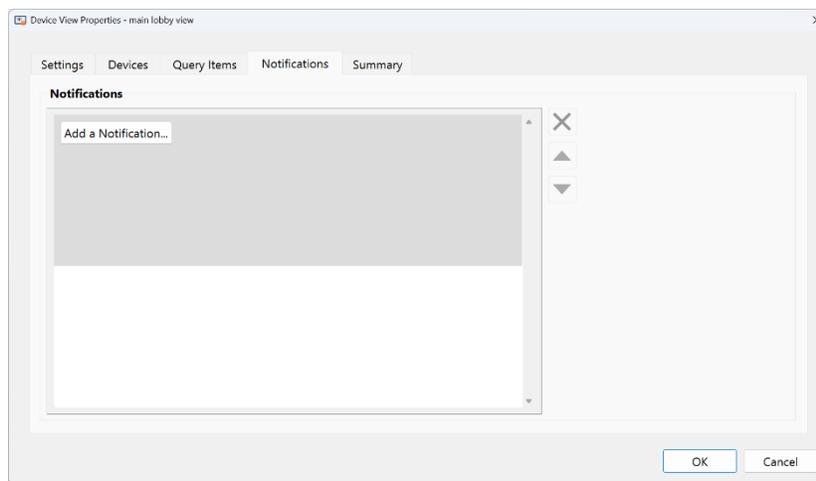


5. Add any additional query items from the list

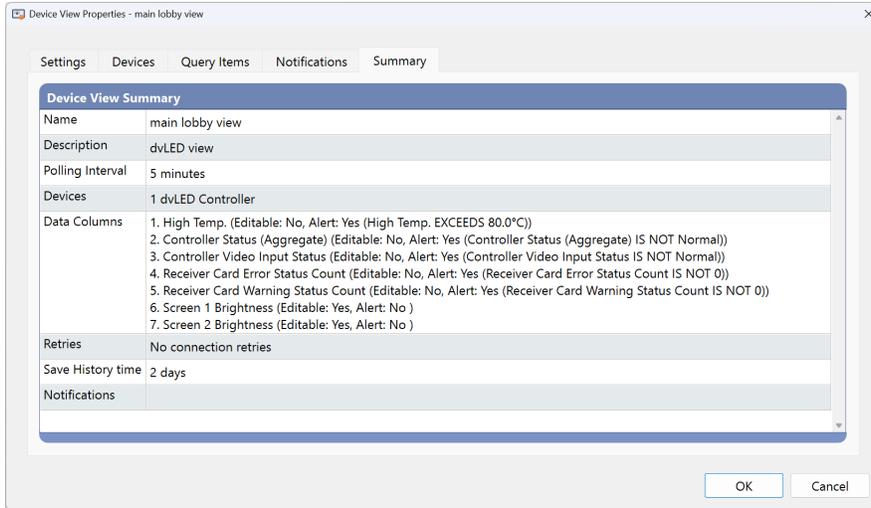


6. Configure any notification settings if needed.

Note that the email server settings must be configured using the NASE Configuration Utility.



7. Confirm the summary information and click **OK** to create and start the Device View.



Tasks for dvLED Controllers

A task can be used to change the dvLED Brightness or recall Presets. Tasks can be scheduled to run at specific times or periodically.

Creating Tasks

1. From the “Tasks” menu, select **New Task...**
2. Enter a name for the Task
3. On the “Devices” tab, select the dvLED controller.
4. On the “Commands” tab, select a Screen Brightness setting to change.
5. On the “Screen Presets” tab, select a Screen Preset to recall.

Tasks can also be used to check for error conditions such as receiver card errors and send alerts; however, if a Device View is being used, it may be best to use the Device View to alert rather than create a Task.

About the JSON document format

The skeleton JSON document with no populated Screens, Presets, or Receiver Cards will have the following properties:

```
{
  "controller_fan1_status_ignore_flags": 0,
  "controller_fan2_status_ignore_flags": 0,
  "controller_fan3_status_ignore_flags": 0,
  "controller_fan4_status_ignore_flags": 0,
  "controller_memory_ignore_flags": 0,
  "controller_power1_status_ignore_flags": 0,
  "controller_power2_status_ignore_flags": 0,
  "controller_temperature_status_ignore_flags": 0,
  "controller_voltage_status_ignore_flags": 0,
  "dv_LED_pixelcard_settings_list": [
  ],
  "dv_LED_video_input_connection_settings_list": [
  ],
  "dv_LED_video_preset_settings_list": [
  ],
  "dv_LED_video_screen_settings_list": [
  ],
  "pixelcard_master_ignore_voltage_flags": 0,
  "pixelcard_temperature_limit_c": 70,
  "pixelcard_temperature_limit_exceed_is_error": 0,
  "structure_version": 1,
  "temperature_high_limit_c": 60,
  "temperature_low_limit_c": 40,
  "temperature_mid_limit_c": 50
}
```

Explanation of each item in the JSON document

➤ Controller section

This section defines the settings for the controller and has the following entries:

"controller_fan1_status_ignore_flags": 0, ← set to 1 to ignore and hide the fan 1 status

```

"controller_fan2_status_ignore_flags": 0, ← set to 1 to ignore and hide the fan 2 status
"controller_fan3_status_ignore_flags": 0, ← set to 1 to ignore and hide the fan 3 status
"controller_fan4_status_ignore_flags": 0, ← set to 1 to ignore and hide the fan 4 status
"controller_memory_ignore_flags": 0, ← set to 1 to ignore and hide the memory status
"controller_power1_status_ignore_flags": 0, ← set to 1 to ignore and hide the power 1 status
"controller_power2_status_ignore_flags": 0, ← set to 1 to ignore and hide the power 2 status
"controller_temperature_status_ignore_flags": 0, ← set to 1 to ignore and hide the
temperature status
"controller_voltage_status_ignore_flags": 0, ← set to 1 to ignore and hide the voltage status

```

➤ Receiver Card Section

This section defines the settings for each receiver card. Each receiver card must be in a {} section, and multiple sections are separated by a ",".

For non-redundant configurations, the receiver cards will usually be automatically detected and populated.

However, for redundant backup configurations, it will be necessary to manually create a setting section for each backup receiver card. It is recommended that an existing section be copied and modified.

```

"dv_LED_pixelcard_settings_list": [
  {
    "hide_flags": 0, ← set to 1 to ignore this receiver card.
    "ignore_psu_flags": 0, ← add 1 to ignore PSU 1, add 2 for PSU 2, add 4 for PSU 3, add 8
      for PSU 4. 15 will ignore all PSUs. Example: To ignore PSU 1 and PSU 2, set the value to "3"
      (1+2).
    "ignore_temperature_flags": 0, ← set to 1 to ignore temperatures on this receiver card.
    "ignore_voltage_flags": 0, ← set to 1 to ignore voltages on this receiver card.
    "optional_comments_text": "", ← set to a custom comment for this receiver card to show
      in the tooltip.
    "optional_name_text": "", ← set a custom name for this receiver card (e.g. "top left"). This
      will be shown on the Receiver Card table.
    "output_port_number": 1, ← port on the sending card for this receiver card. Numbering
      starts from 1.
    "output_receiver_number": 1, ← receiver sequence number on the sending card.
      Numbering starts from 1.
    "output_sending_card_number": 5, ← set to the sending card on the controller. This is the
      physical slot number of the sending card on the controller.
    "position_x": -1, ← enter a value > 0 to define the horizontal position of this receiver card.
      Counting starts from the left. Both x and y positions must be defined for each receiver card
      that uses redundancy, or for the position of the card to be shown in the table tooltips on
      the Receiver Card tab. For receiver cards that are configured for redundancy, there must
      be a matching main or backup receiver card entry with the same screenID, position_x and
      position_y.
  }
]

```

```

"position_y": -1, ← enter a value > 0 to define the vertical position of this receiver card.
Counting starts from the bottom.
"redundancy_type": 0, ← redundancy type for this receiver card. 0 = no redundancy used, 1
= Main Ring, 2 = Backup Ring, 3 = Main Full, 4 = Backup Full.
"screenId": 1 ← screen ID that this receiver card is associated with. -1 = default. If set, it must
match a screenID set in the "dv_LED_video_screen_settings_list" section. All receiver cards
with the same screen ID will be grouped into tables. For receiver cards that are configured
for redundancy, there must be a matching main or backup receiver card entry with the
same screenID, position_x and position_y.
},

```

➤ Video Input section

This section defines each of the video inputs on the controller. These can be shown in the “Video Input Status Information” table, and any errors can be listed in the “Controller Video Input Status” item. Each video input must be in a {} section, and multiple sections are separated by a “,”

```

"dv_LED_video_input_connection_settings_list": [
{
"connectorNumber": 0, ← connector number on the input card.
"hide_flags": 1, ← set to 1 to completely hide this video input and not include it in any results.
"ignore_flags": 0, ← set to 1 to not count any error states for this input as errors.
"optional_name_text": "", ← set to a custom name for this video input (e.g. "DVD player").
"slotId": 0 ← slotID on the input card on the controller.
},

```

➤ Presets section

This section defines each preset available on the controller. Buttons for selecting a preset are shown on the “Screen Presets” tab and can be used in Tasks. Each Preset must be in a {} section, and multiple sections are separated by a “,”.

```

"dv_LED_video_preset_settings_list": [
{
"hide_flags": 0, ← set to 1 to completely hide this preset.
"ignore_flags": 0, ← not currently used.
"name": "test preset 1", ← set a custom name for this preset to show in the UI.
"presetId": 0, ← presetID of the preset as defined by the controller.
"screenId": 0 ← screenID of the screen.
},

```

➤ Screen section

This section defines each screen available on the controller. A brightness control will be available for each screen. Receiver cards associated with each Screen will show on the "Receiver Cards" tab. Each Screen must be in a {} section, and multiple sections are separated by a ",".

```
"dv_LED_video_screen_settings_list": [
  {
    "hide_flags": 0, ← set to 1 to completely hide this screen and all the associated Receiver
      Cards and Presets.
    "ignore_flags": 0, ← not currently used.
    "name": "Main Screen", ← set to a custom name for this Screen.
    "screenId": 0 ← screenID of the screen as defined by the controller.
  },
```

➤ Miscellaneous section

```
"pixelcard_master_ignore_voltage_flags": 0, ← set to 1 to ignore and hide the voltage
  information for all Receiver Cards.
"pixelcard_temperature_limit_c": 70, ← set to the temperature above what is considered an
  abnormal condition and the table item will be shown in red on the Receiver Card tab.
"pixelcard_temperature_limit_exceed_is_error": 0, ← set to 1 to count an abnormal
  temperature condition on a Receiver Card as an Error.
"structure_version": 1, ← always set to 1.
"temperature_high_limit_c": 60, ← temperature limit for the "red" temperature zone.*
"temperature_low_limit_c": 40, ← temperature limit for the "green" temperature zone.*
"temperature_mid_limit_c": 50 ← temperature limit for the "yellow" temperature zone.*
```

* temperature zone colors are shown on the temperature map in the tooltip for a screen on the "Receiver Cards" tab. The x and y positions for each receiver card must be defined for it to appear.

9 Credential Library

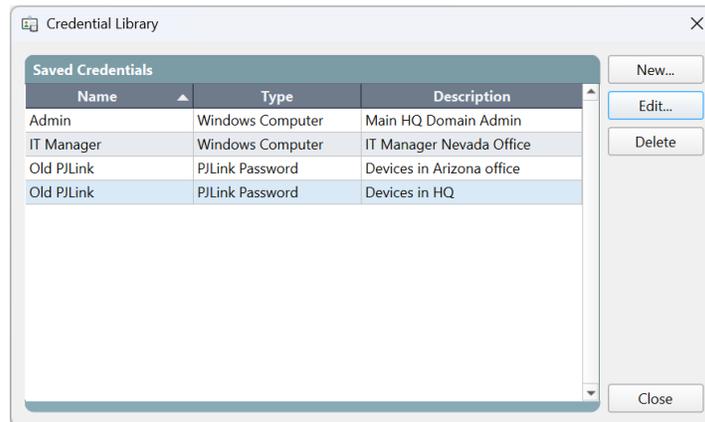
About the Credential Library

NaViSet Administrator has a *Credential Library* feature for managing credentials and making it easier to store and apply credentials for accessing multiple computers¹ or PJ Link devices. This saves having to enter the same credentials again each time a new device is added. The passwords entered are encrypted and stored in the current database file.

Using the Credential Library

The *Credential Library* can be accessed from:

- The *Devices* menu.
- The *Credential Library*  button on the toolbar.
- The *Edit Connection* option from *Network* tab of a Windows computer¹ or PJLink device.
- When using *Add Device Wizard* with a *Windows Computer on LAN (WMI)*¹ or *PJLink Device*.
- When using *Add Multiple Devices* with *Windows Computers (WMI)*¹ or *PJLink Devices*.



¹ This function is not available in *NaViSet Administrator 2 on macOS*. All other versions of *NaViSet Administrator* support communications with network attached Windows computers and managing the Windows credentials in its library.

Credentials for Windows computer on LAN

Access credentials must be specified when connecting to remote Windows computers via WMI. These credentials must be for a user with sufficient access permissions for administering the computer and accessing WMI. The credentials consist of a User name and Password.

Tip: If the user is a member of a different domain than that of the computer, then the user name can be specified in the format `domain\username`.

Adding a new credential

Click the **New...** button in the *Credential Library* to open the **New Credential** dialog. Select the **Windows Computer** credential type. Input the **User name** (with optional domain specifier), **Password**, and a **Name** alias, and optionally provide a description to be shown in the Credential Library list.

The screenshot shows the 'New Credential' dialog box with the following fields and values:

- Credential Type:** Windows Computer, PLink Password
- Domain Name (optional) and User Name (ex: COMPANY\jsmith):** it-manager
- Password:** [Masked with 8 dots]
- Verify Password:** [Masked with 8 dots]
- Credential Library Info:**
 - Name:** IT Manager
 - Description:** Arizona Office

Editing an existing credential

Click the **Edit...** button in the *Credential Library* to open the **Edit Credential** dialog. Changes to credentials will automatically be applied to all device connections using the credential.

Deleting an existing credential

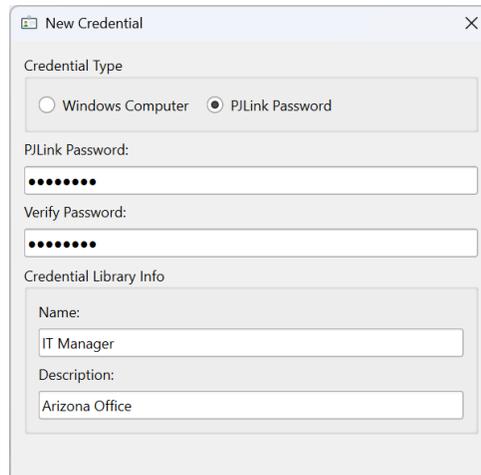
Click the **Delete** button in the *Credential Library* to delete a credential from the library.

Keep in mind that deleting credentials from the Credential Library will break connections to all devices that rely on that credential. You will need to update each device individually by entering a new credential or choosing one from the Credential Library.

Credentials for PJLink Devices

Adding a new credential

Click the **New...** button in the *Credential Library* to open the **New Credential dialog**. Select the **PJLink Password** credential type. Input the **Password** and a **Name** alias, and optionally provide a description to be shown in the Credential Library list.



The screenshot shows a dialog box titled "New Credential" with a close button in the top right corner. The dialog is divided into three main sections. The first section, "Credential Type", contains two radio buttons: "Windows Computer" (unselected) and "PJLink Password" (selected). The second section, "PJLink Password:", contains a single-line text input field filled with ten black dots. The third section, "Verify Password:", also contains a single-line text input field filled with ten black dots. The final section, "Credential Library Info", contains two text input fields: "Name:" with the text "IT Manager" and "Description:" with the text "Arizona Office".

Editing an existing credential

Click the **Edit...** button in the *Credential Library* to open the **Edit Credential** dialog. Changes to credentials will automatically be applied to all device connections using the credential.

Deleting an existing credential

Click the **Delete** button in the *Credential Library* to delete a credential from the library.

Keep in mind that deleting credentials from the Credential Library will break connections to all devices that rely on that credential. You will need to update each device individually by entering a new credential or choosing one from the Credential Library

10 Managing NaViSet Administrator SE Sites and User Roles



The instructions in this section only apply to the **NaViSet Administrator Server Edition** software.

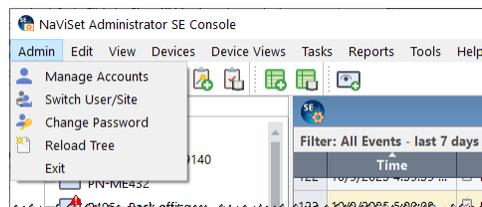
If you are interested in a trial version of the software to access this and other unique features of the Server Edition version, please go to business.sharppusa.com/naviset-administrator

NaViSet Administrator SE runs as a service on a Windows server or PC, allowing multiple users to access it simultaneously over the network via the Console application on Windows or macOS. To connect to it, you must add the server's hostname or IP address as a site in the Console application and configure user logins. Each time the application is launched, users select and log in to the server; note that the available functions in the Console application depend on the user's permissions role (see page 176).

In addition to any NaViSet Administrator SE server on the network, if the user has connected to a remote NaViSet Secure site, it will also appear in the **Site connection** list. Please see "NaViSet Secure Remote Console" on page 119 for connecting to NaViSet Secure sites.

Admin Menu

When the Console application is open, use the **Admin** menu to switch between servers, log out the current user, and manage user accounts.



Manage Accounts - Allows for adding and removing user access to the NaViSet Administrator SE server.

Switch User/Site - Logs the current user from the current server and shows the NaViSet Administrator SE Console login window to select a different *Site connection* or log in as a different *Username*.

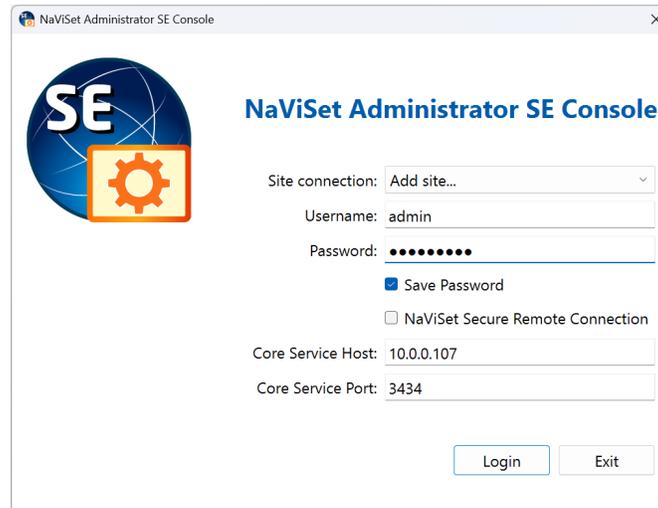
Change Password - Opens a prompt to change the password for the currently logged in user.

Reload Tree - Refreshes the device tree list.

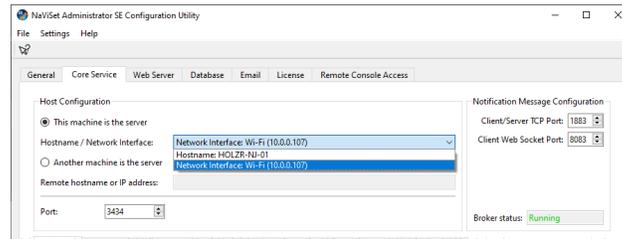
Exit - Completely closes the NaViSet Administrator SE Console application.

Adding and Managing Site Connections

Upon launching the NaViSet Administrator SE Console application, the login fields are initially blank, and the Site connection menu shows "Add site...". Enter the database username and password. Then, input the Core Service computer's hostname or IP address and specify the port number.



You can find the server information for Core Service in the Configuration Utility under the "Host Configuration" section on the Core Service tab. This utility automatically opens when installing the software to initially configure the server settings as needed. See "Basic installation and initial configuration settings" on page 19.



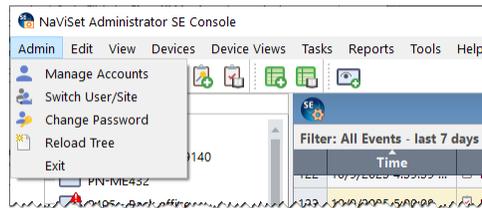
Optional settings in the login screen:

- **Save Password** - use this setting only if no other users have access to the same computer. The database access is secure, role-based, and logged. This setting helps prevent users with different permissions from making unauthorized changes.
- **NaViSet Secure Remote Connection** - when installing the Console application to connect to a NaViSet Secure Remote Site, select this option to switch the UI from using a Core Service Host to a NaViSet Secure Remote Pairing Code. See "NaViSet Secure Remote Console" on page 119.

Adding and Managing User Accounts

User roles that define different access levels and responsibilities within the application are available for customizing user permissions in your organization. These roles determine what actions and features each user can perform or view. They help maintain security, enforce permissions, and ensure users can only access the parts of the software relevant to their job or purpose.

Important: When you first add the database to the Configuration Utility, it automatically creates a single user with full administrative rights. Log in to the Console Application with the username: **admin** and the password: **password**. SHARP strongly advises changing this password.



Select **Manage Accounts** from the *Admin* menu.

Icons

 **Change Password** - Opens a prompt to update the password for the user selected in the **Account** field.

The password requirements are:

- A minimum of eight characters
- One uppercase letter
- One lowercase letter
- One number or special character
 - Supported characters: { } () [] # ; : ^ , . ? ! | & _ ~ @ \$ % / \ + - =

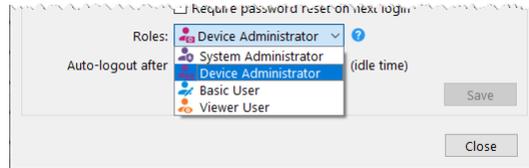
 **Change Account Information** - Enables all fields in the *Manage Accounts* window to be editable for adjusting the settings of the selected user in the **Account** field.

 **Add New Account** - Clears all fields in the *Manage Account* window for entering and selecting new user settings.

 **Delete Account** - Permanently removes the selected user account.

Adding Accounts

1. Click the plus  sign to add a new user account.
2. Fill in all fields, then choose the role for the new user from the Roles list.



 **System Administrator** – full system access, including managing user roles.

 **Device Administrator** – full system access, except for managing user roles.

 **Basic User** – basic access for starting tasks and reports, exporting data, refreshing status, and changing device settings.

This user type cannot: Add, delete, move, or edit devices; edit saved credentials; edit tasks, reports, or device view properties; manage users.

 **Viewer User** – View and export data.

This user type cannot: Change anything, view credentials, or open a device's web page.

3. Click **Close**.

The new user will appear in the Accounts list when you are on the *Manage Accounts* screen.



Please consult the web-based help file in the **NaViSet Administrator SE Configuration Utility** for details on using LDAP user accounts with *NaViSet Administrator SE*.

11 Tasks

About Tasks

Tasks are operations that query or perform commands on one or more devices. Tasks can be scheduled to start at particular times or on demand. Tasks can be configured to run once or continue running for a specific period of time and at specified intervals.

There are 4 basic types of task that can be performed in *NaViSet Administrator*:

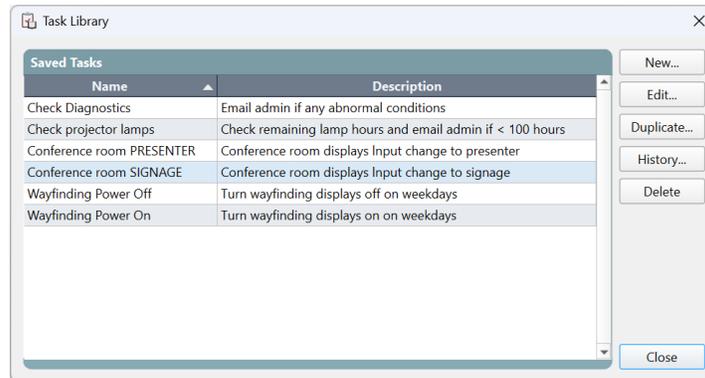
- **Command Tasks:** Change settings or perform operations on devices. For example, turning the display power on, selecting a particular video input, or selecting a particular channel on the TV tuner. Command Tasks can also be used to create a preset configuration of multiple settings that can be then sent to displays to perform easy configuration.
- **Conditional Tasks:** Read one or more settings or parameters from devices at periodic intervals, and issue alerts and/or send commands to the display if any of the values are outside of a specified range or value, or changes in value. For example, an alert can be issued if the internal temperature of a display exceeds a specific value, or if a diagnostic error condition is reported by a display.
- **Informational Tasks:** Read one or more settings or parameters from devices at periodic intervals, and displays the readings in real time. An example use would be to continuously monitor the internal temperature of a display.
- **Built-in Tasks:** Special tasks created by the system. These tasks will be visible only if devices that support them exist in the device tree. An example of a built-in task is ***Proof of Play***, described at the end of this chapter.

When a Task is run it will attempt to perform the specified operation on each of the devices selected in the Task before completing. For Conditional and Informational type tasks, the task can be set to poll the devices at specific intervals, either indefinitely, or for a specific run time.

The status of running tasks can be monitored in real-time. Upon completion, the result history of every operation is saved in the database for use at a later time. Task history can also be exported to an Excel spreadsheet or delimited text file, or copied to the clipboard.

Task Library

All tasks are managed using the *Task Library*, available on the *Tasks* menu or by clicking the  toolbar button. Tasks can be created, edited, duplicated, and deleted from within the *Task Library*. The execution history of a task can also be viewed and exported.

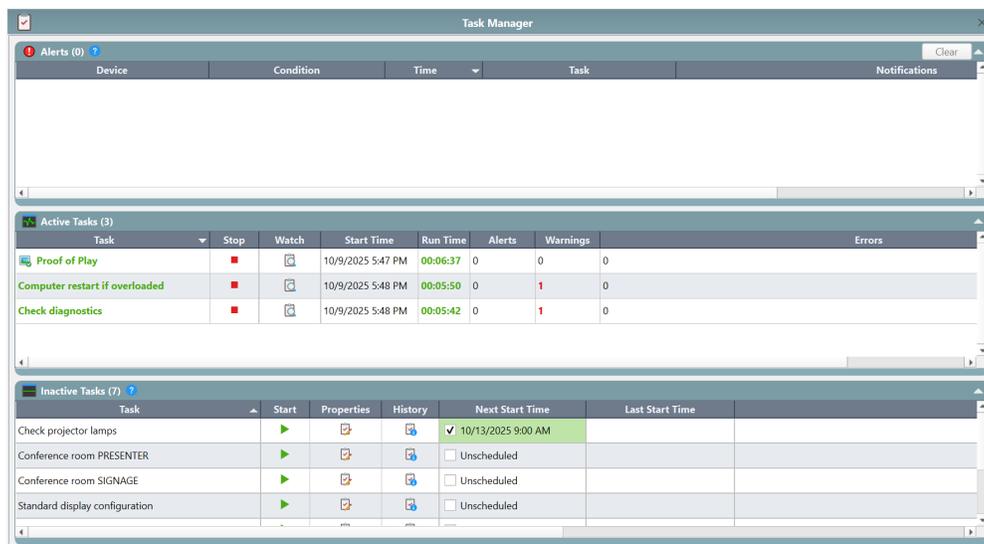


Task Manager

All Tasks in the current database are listed in the *Task Manager* window.

This window shows:

- Tasks that are currently inactive (not currently being processed/executed)
- Tasks that are currently active (being processed/executed)
- Any alert conditions that have occurred while running any tasks



Inactive Tasks list

Inactive Tasks are tasks that are either scheduled to run and are waiting for their start time to occur, or tasks waiting to be started manually. For Tasks that are scheduled to run, the *Next Start Time* is shown with a green background. The checkbox in the *Next Start Time* column can be used to temporarily disable the automatic starting of a task with the schedule. Any task can be made to start immediately by clicking the ► **Start** button.

 **Tip:** A task will not start if its task properties dialog is opened at the same time that it is scheduled to start. Instead, it will be rescheduled for the next start time when the dialog is closed.

The properties of a Task can be edited by clicking on the  **Properties** button. This is the same as editing a task from the *Task Library*.

The history of a task can be viewed by clicking the task  **History** button in an inactive task. This is the same as viewing the history from the *Task Library*. The task history lists the results from each time the task was executed.

For tasks that have executed during the current session, the Status column will include an icon next to the description indicating the overall result status. The text color of the task row will also be changed and made bold. The icons and colors used are as follows:

- ✓ The task completed or was canceled without alerts, warnings or errors. Text will change to green.
- ⚠ A lower level warning, such as a control that is not supported by the device. Text will change to brown.
- ❗ The task completed with at least one alert. This icon overrides any additional warnings or errors. Text will change to red.
- ⚠ At least one error or one high level warning, such as a device connection failure. Text will change to red.

A context menu providing quick access to common task operations can be opened by right-clicking on the task. The context menu provides these actions:

-  **Library** - Opens the Task Library with the task selected.
-  **Properties** - Opens the Task Properties dialog for review or editing.
-  **Schedule** - Opens the Task Properties dialog with the Run Schedule tab selected.
-  **History** - Opens the Task History Viewer.
- **Start** - Starts the task.
-  **Clear History** - Permanently deletes all task history information.
- ✗ **Delete** - Deletes the task.
-  **New Task** - Opens the New Task dialog for adding new tasks.

Active Task list

The *Active Task* list shows Tasks that are currently being processed. Tasks that are configured with a schedule to start automatically, will move from the *Inactive Task* list to the *Active Task* list while they are being processed. Once the task has been completed, or is manually stopped, it will return to the *Inactive Task* list again until the next scheduled start time is reached, or it manually started.

While a task is active, the progress of the task can be viewed in real-time by clicking the  **Watch** button. An active task can also be manually stopped by clicking the ■ **Stop** button.

The number of alerts, warnings or errors that occur while a task is running are shown.

Alerts list

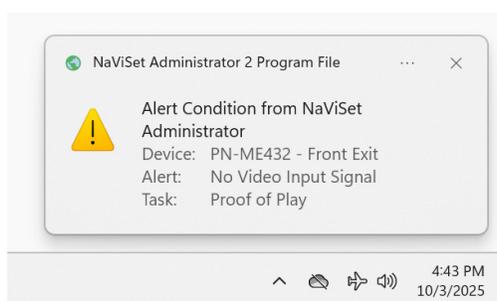
Alerts occur when a condition in a *conditional* type task becomes true. Alerts issued by a task are listed in the *Alert* list. The *Alerts* list shows the task and condition that caused the Alert, the device it occurred on, the time it occurred, and any notifications that were sent.

- The *Alert* list contents can be permanently cleared by clicking the **Clear** button.
- The device alert history can be seen by right-clicking on the alert and selecting  **History**.
- Individual alerts can be deleted by right-clicking on the alert and selecting  **Delete**.
- The *Device Properties* window can be opened directly from the *Alerts* table by right-clicking on the alert and clicking the  **Device Properties** button.
- The alert data can be copied to the system clipboard by right-clicking and selecting  **Copy**.
- Alerts messages generated during the current application session are shown with red text, and alerts created in previous sessions are shown with normal text.
- More detailed information about a device or a notification can be seen by mousing over the device or notification columns respectively.
- Clicking on a row in the *Alerts* list will automatically select the corresponding device in the *Device Tree*.
- Double-clicking a row while the task is running will open the *Task Viewer* window and select the row containing the alert. Similarly, if the task is no longer running the *Task History* window will be opened.

When an alert is issued, the **Alert** notification button is shown at the bottom right side of the main application window. Mouse-over the button to view details about the last alert condition. Clicking this button will open the *Task Viewer* dialog and select the alert.



If enabled in the application *Preferences* (see page 217), an Alert will also be shown in a popup message in the Windows Task Tray (Windows version), or the Status Menu (macOS version):



Creating Tasks

Tasks can be created using a step-by-step wizard interface in the *Task Builder Wizard*, available on the *Tasks* menu, or by clicking the  **Task Builder Wizard** button. The wizard offers a guided explanation of each step of creating a task.

Tasks can also be created directly by selecting **New Task...** on the *Tasks* menu, or clicking the  **New Task** button, or by selecting **New...** from the *Task Library*.

 **Tip:** *IR Remote* and *Display Schedule* functions are not available when using the *Task Builder Wizard*. To use these functions, create a new task without using the *Task Builder Wizard*.

Creating a New Command Task

Command type tasks perform actions on devices such as changing control settings or performing operations.

Create a new task by selecting **New Task...** from the *Tasks* menu, or selecting **New...** from the *Tasks Library*, or click the  **New Task** button on the application toolbar.

The screenshot shows the 'New Task' dialog box with the following details:

- Task Name and Description:** Two text input fields for 'Name:' and 'Description:'.
- Task Type:** Three radio button options:
 - Command**: Change the settings on one or more devices.
 - Conditional**: Monitor devices and be notified of state changes and threshold violations.
 - Informational**: Monitor selected parameters of your devices in real-time.
- Polling Interval and Total Run Time:** Two radio button options:
 - Poll every**: 5 minutes for 5 days. Includes a checkbox for 'No Time Limit'.
 - Poll one time only**.

Settings Tab

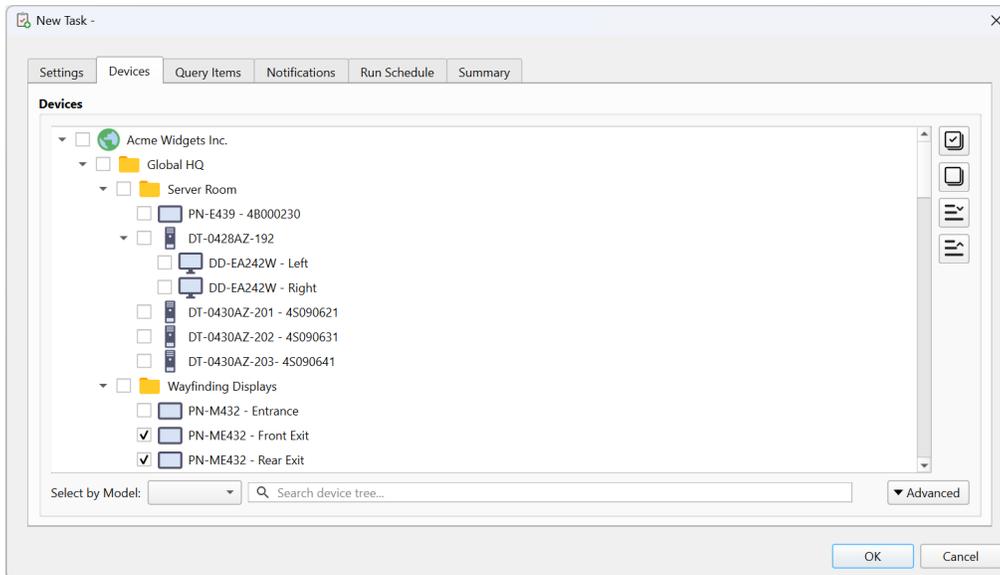
First, give the task a name and description so it can be easily identified in the task list.

Next, select **Command** as the type of task to be created.

 **Tip:** Command type tasks are only performed one time each time the task run, so the *Polling Interval and Total Run Time* section is disabled.

Devices Tab

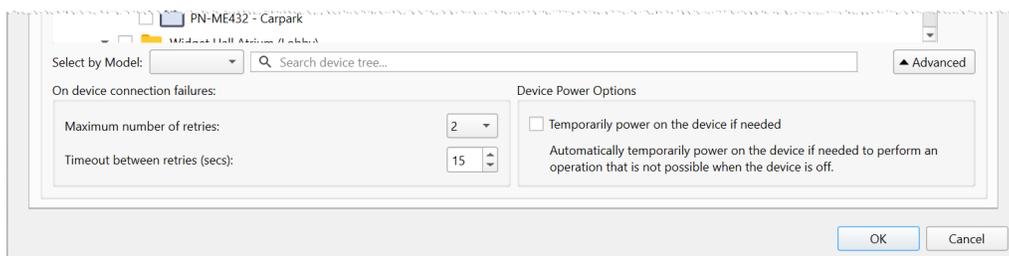
Next, select the **Devices** tab and select at least one device that the task will be performed on. Selecting a group will automatically select all of the devices within that group.



Devices can also be selected by model using the **Select by Model** listbox. Selecting a model in the list will select all matching devices in the device tree.

- button will select all devices, and the
- button will clear all selected devices
-  button will expand the list of devices
-  button will collapse the list of devices

Clicking the **Advanced** button shows additional settings for handling devices in the task.



On device connection failures:

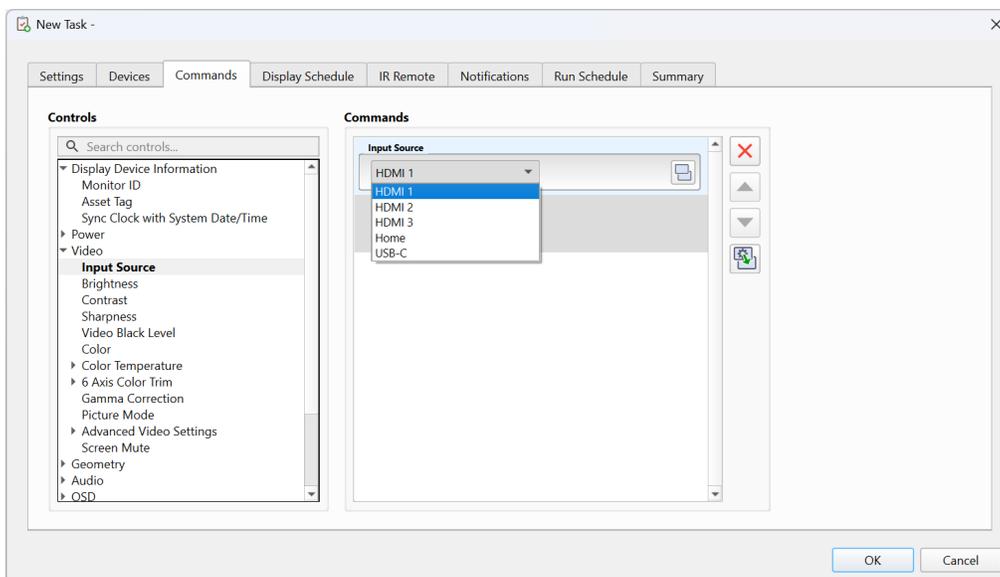
- **Maximum number of retries** - Select the number of times running tasks and reports should attempt to connect to devices.
- **Timeout between retries** - Enter the number of seconds to wait between each retry.

Device Power Options

- **Temporarily power on the device if needed** - Select this option to have the selected devices automatically power on if needed if the chosen operations are not possible when the devices are in a powered off state.

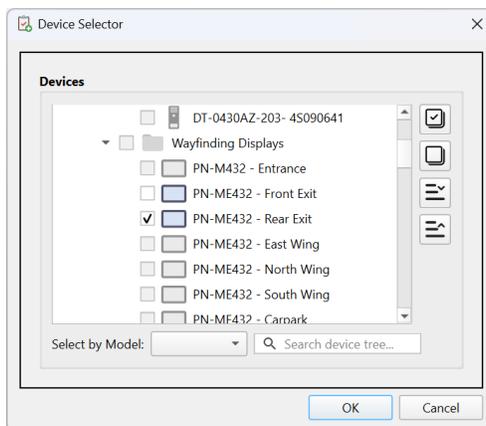
Commands Tab

Next, select the **Commands** tab and select a control to be changed or adjusted from the control list. Once the control has been added to the list of commands, the parameters or settings for the control can be set.

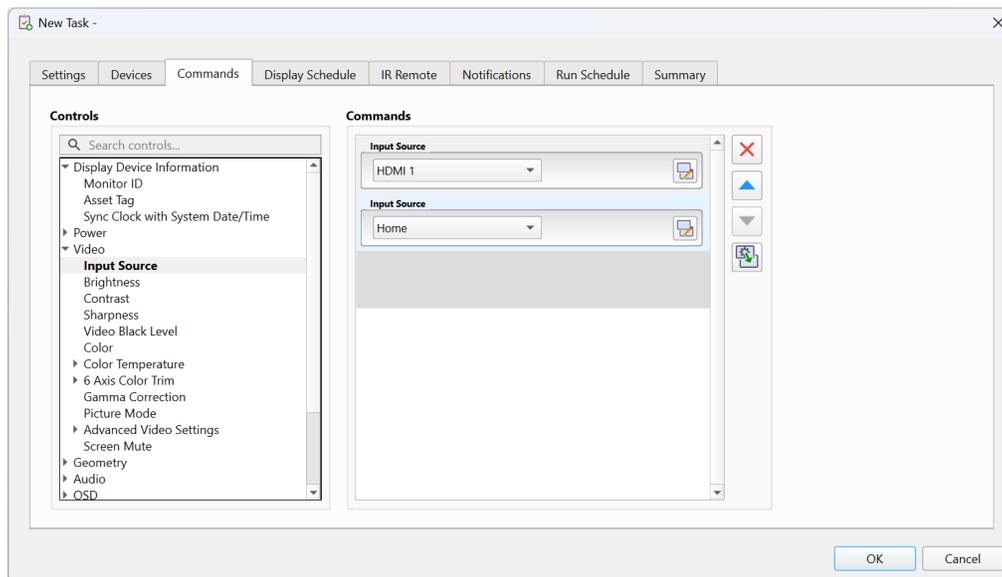


Continue adding other controls to the command list as necessary. By default, each command will be applied to all of the devices selected in the **Devices** tab. However, once a control is added a subset of the devices can be selected using the  button.

Clicking the  button for a command opens the *Device Selector* dialog, from which the devices to perform the command on can be specifically selected.



Multiple instances of the same control can be added, each with different devices and settings selected, thus allowing one task to perform different control operations on different devices.

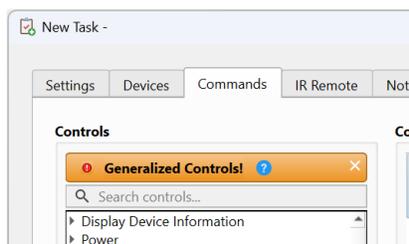


 **Tip:**

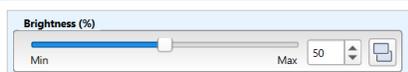
- The types of controls listed in the *Commands* tab depends on the types of devices selected.
- Not all devices support all of the commands and setting values listed.
- The task executes the commands one at a time, and in the order they appear in the list. For some commands the ordering may be important, and can be changed using the ▲ and ▼ buttons.

Specific vs. Generalized Controls

NaViSet Administrator allows different types of devices and display models to be controlled in a single task. If a group of devices is selected that are not all of the same model then a generalized version of the controls may be automatically selected. A generalized control set is indicated by an alert window shown over the control list.



Specific controls show the actual values for a device and the units, which closely resemble the device's OSD and User's Manual.



Generalized controls typically use a percentage range from 0 to 100, which are then translated to actual values for each device when the task is run.

Tip: Except for basic commands such as *Power On/Off* and *Audio Volume*, the use of generalized controls should be avoided. This can be done by creating separate tasks that run on similar models and/or types of devices.

Copying settings from other Devices

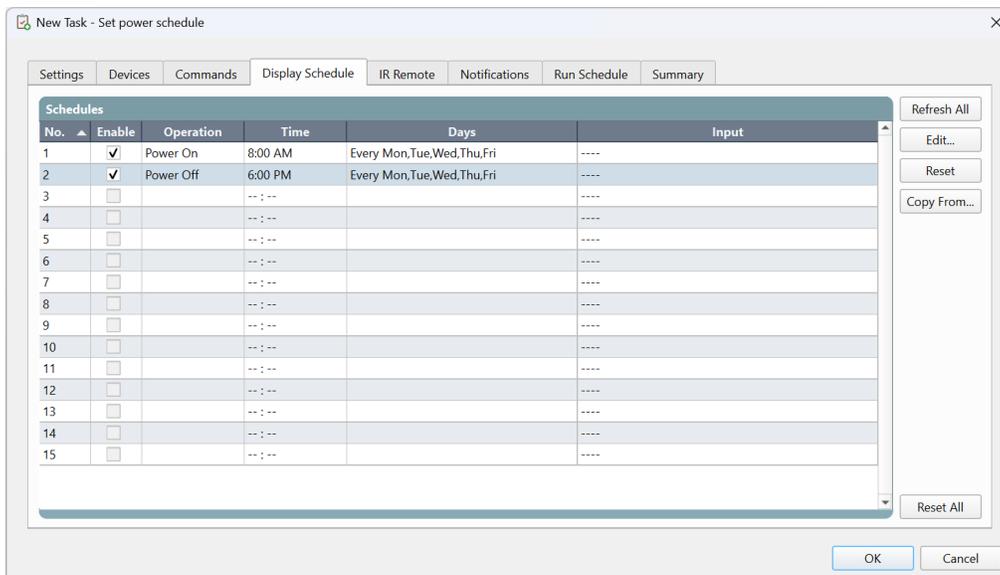
The controls in a Command task can easily be adjusted to match the current settings of other devices.

- To copy all of a task's control settings from one other device, select the  button and choose the device to copy from.
- To copy settings from different devices to specific controls, *right-click* on each control separately, select **Copy this setting from another device...** from the context menu, then choose the device to copy from.

Tip: These operations read the current settings of the "source" device at the time the task is created or edited, and *not* at the time the task is run. If future adjustments are made, existing tasks can be updated with the new settings by opening the task properties window and repeating the above procedures.

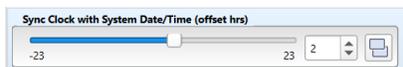
Display Schedule Tab

If one or more of the devices selected is a display that supports internal scheduling (schedules that run autonomously within the display), the **Display Schedule** tab will be shown.



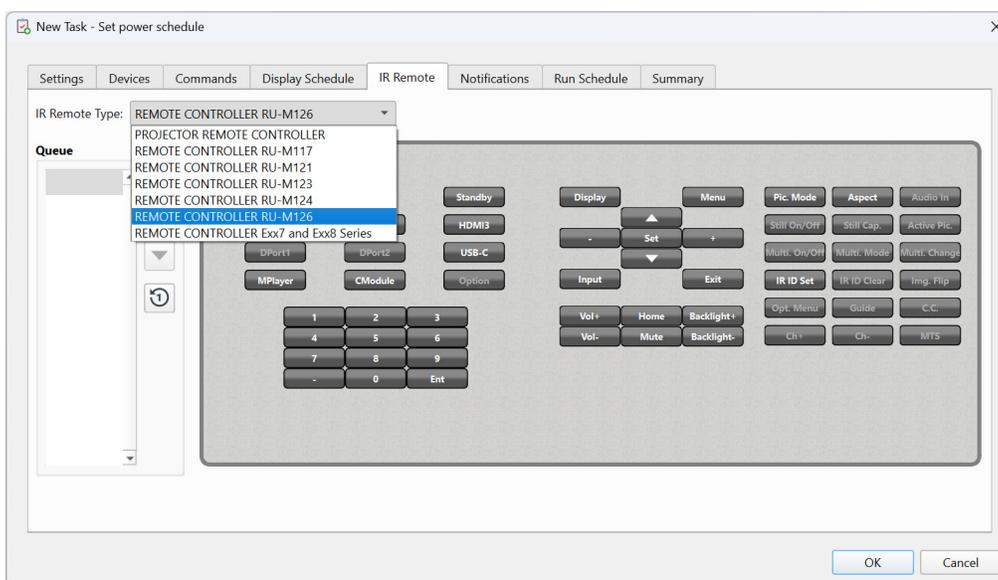
The schedule settings can be optionally set for each of the available internal schedules to power the display on and off, as well as setting different video inputs at specific times on specific days. When the task is run it will program the selected displays with these schedule parameters. Once the displays have been programmed via the task, it is not necessary to use NaViSet Administrator to perform the same schedule functions since the displays will perform them automatically using the internal clock and scheduling feature.

Tip: The display's internal clock can be synchronized to the current date and time by using the command **Sync Clock with System Date/Time** control listed in the *Display Device Information* category on the *Command* tab. This control allows the display's internal clock to be set with an offset value of from -23 to +23 hours, relative to the local time. This is useful if the display being set is located in a different time zone. So, for example, to set the internal clock for a display that is located in a time zone two hours ahead of the current local time, set the **Offset hrs** value to 2. All displays in this task will be set using the same offset value, so displays across multiple time zones should be split into separate tasks.



IR Remote Tab

If one or more devices selected supports sending IR remote control commands, the **IR Remote** tab will be shown.



Sending IR Remote commands can be used to perform commands and access functions that may not be available via the commands in the Commands tab, but are available on the device's IR Remote control.

There are several remote controls in the **IR Remote Type** list; one for projectors and one for each model of the large-screen display remote. The IR remote type displayed is based on the selected models in the Devices tab. A different IR remote can be used for a task by selecting it from the IR Remote Type list.

Select the appropriate remote for the device being controlled before adding any commands.

Tip: IR Remote commands for different remote types *cannot* be used together in the same task.

Click on the buttons in the simulated *IR Remote* to add them to the queue to be sent by the Task. Once buttons have been added to the queue, the sequence in which they will be sent can be rearranged or deleted using the queue arrangement ▲, ▼, and ✖ buttons.

Tip: Not all displays support *IR Remote* commands, and not all supported displays support all of the IR controls shown. No status, error, or warning messages are displayed if a display does not support a particular *IR Remote* command.

Notifications Tab

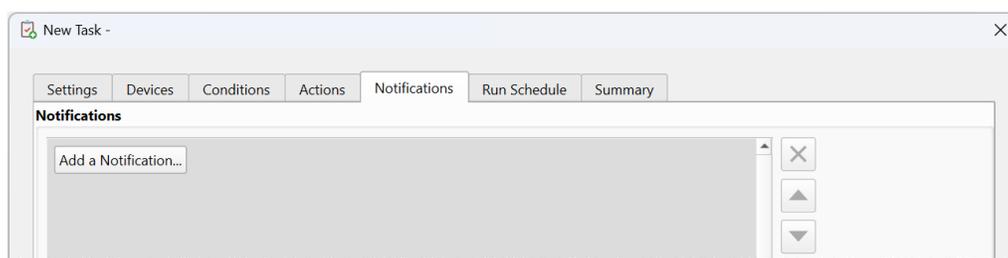
Notifications allow the application to inform someone of the status of a task while they are away from the computer that *NaViSet Administrator* is running on. For example, an administrator may want to be notified when a very long task involving hundreds of devices has completed, or if an error occurred during the operation.

Select the **Notifications** tab to configure the settings to be notified via email about the status of a task.

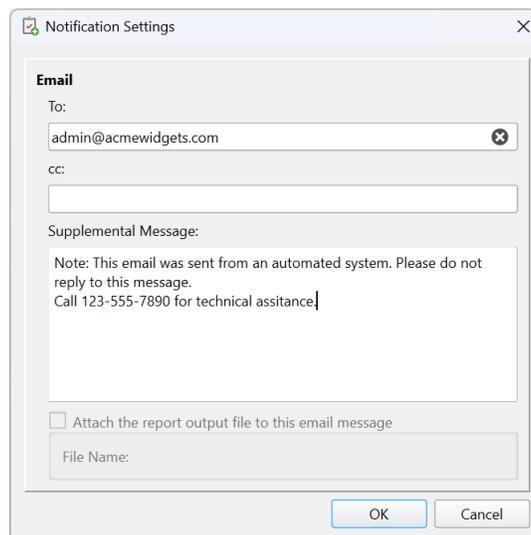
Tip:

- **NaViSet Administrator 2** - The *Outbound Email Settings* must be configured and enabled in the application *Preferences* in order for notification emails to be sent.
- **NaViSet Administrator Server Edition** - The *Outbound Email Settings* must be configured in the *Config Utility*. Please see "Email Settings for NaViSet Administrator SE" on page 231.

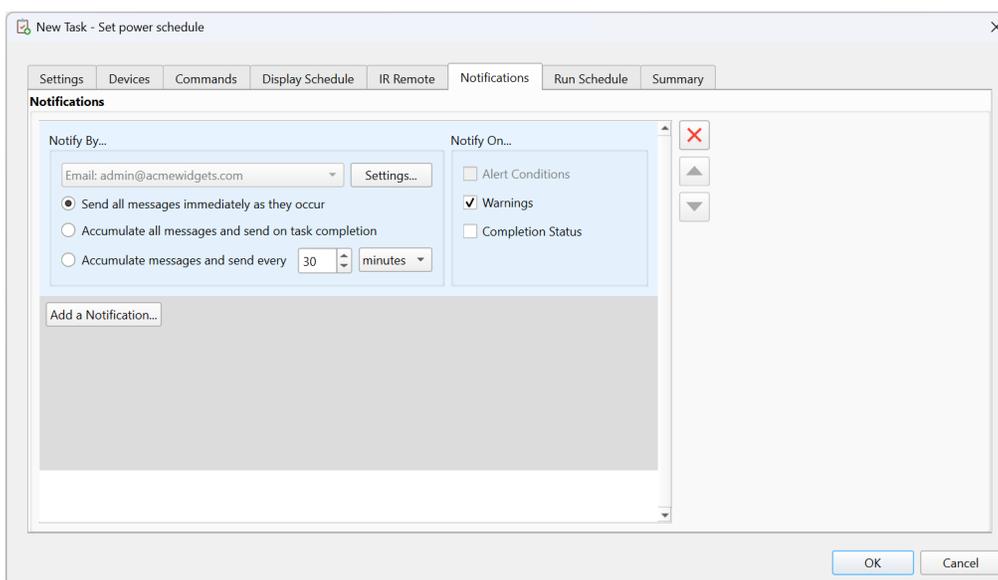
First, click **Add a Notification** and select **Email Message** in the *Notification Type* list.



In the **Notification Settings** dialog, enter the recipient's email address. Insert a semicolon between addresses if multiple email addresses are required. A supplemental message to be added to the automatically generated message text can also be entered. Click **OK** when finished.



Next, select the types of notifications to be sent.



Options are:

- **Alert Conditions** - Are only available when using Conditional type tasks, and are sent when the conditions specified in the task become true.
- **Warnings** - Are sent for the following conditions:
 - Connection error
 - Device might not be powered up
 - Control or setting cannot be set or read
 - Task overrun
- **Completion Status** - Is sent once the task has completed.

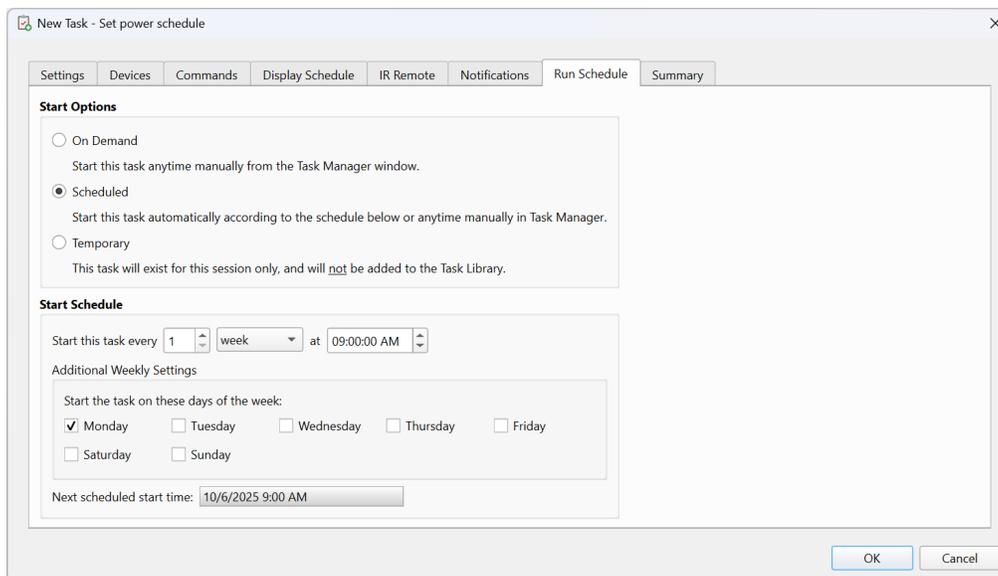
To avoid a possible overwhelming number of messages being sent, message delivery can be controlled as follows:

- Send all messages immediately as they occur
- Accumulate all messages and send on task completion
- Accumulate messages and send every [user definable period]

 **Tip:** Multiple notifications can be added to each task. This is useful if different recipients for different types of notification conditions are necessary. For example, one person may only want to be notified when a task completes, but another person may want to be notified if there is any kind of alert or warning when a task runs.

Run Schedule Tab

Next, click on the **Run Schedule** tab. This tab is used to set how and when the task is started. Tasks can be set to run **On Demand** (manually started), or using a **Schedule**, or as **Temporary** (one time task that will not be saved to the Task Library).



To schedule the task to run at specific times or intervals, click **Scheduled** and select the desired **Start Schedule** settings. The next time that the Task will be automatically started is shown.

Tip: A task will not start if its task properties dialog is opened at the same time that it is scheduled to start. Instead, it will be rescheduled for the next start time when the dialog is closed.

Summary Tab

Next, optionally click on the **Summary** tab to review all of the settings for the new task. Click **OK** to add the newly created task to the list of tasks. The new task will be added to the task library and will also be listed in the **Inactive Tasks** table in the **Task Manager**.

Creating Conditional Tasks

Conditional Tasks are created in the same way as other types of tasks and are typically used to warn of abnormal conditions in a device, or if a particular setting has changed. See the previous example for how to create a new task.

Select **Conditional** as the **Task Type**. Since this type of task is typically used to actively monitor a condition, the **Polling Interval** and **Total Run Time** options are enabled for specifying how often the condition(s) should be checked while the task is running.

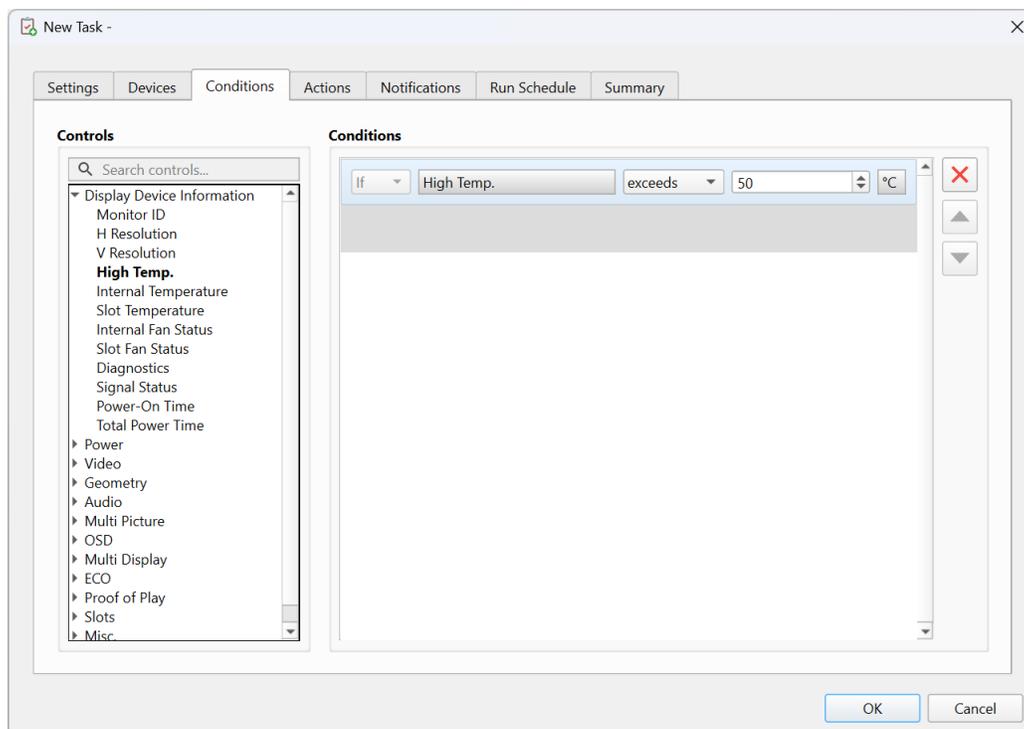
The **Polling Interval** sets how often the devices are polled, and the **Total Run Time** specifies how long the task should keep polling once the task has been started. If the task is to run continuously until it is stopped by the user, select **No Time Limit**. Select **Poll one time only** if the task is to perform just one query and then stop.

Tip: Each task takes some time to complete, so care should be taken not to set a polling interval that is shorter than the time it takes to poll all of the devices in the task. If a task is due to poll again before the previous poll has completed, a warning message “Last Query Still Running” will be generated and the polling of all remaining devices will be skipped for that polling interval.

Next, select the **Devices** tab and select the devices that the task will be performed on.

Next, select the **Conditions** tab and select the device controls that are to be checked. The list of available controls will depend on the type of device(s) selected. Click on a control to add it to the list of conditions.

 **Tip:** Not all devices will support all of the controls listed.



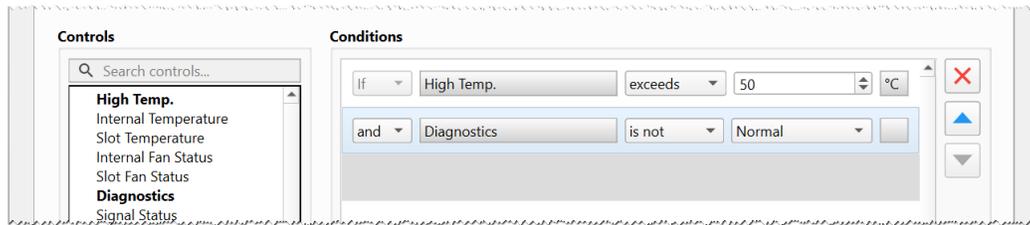
For each control that is added, an associated condition must be set. If this condition is met then a notification and/or alert will be issued. Depending on the type of control selected, different conditions will be available.

Control Value Type	Available Conditions	Examples
Numerical value	Exceeds, Falls Below, Changes	Temperatures, Fan Speed, Human Sensor, Ambient Light Sensor
Binary or Named value	Is, Is Not, Changes	Diagnostics, Video Input, Power State

 **Info:** A "named" value is a control setting that has discrete selections; for example, the *Video Input* control has named values of *Video*, *HDMI*, *DisplayPort*, etc. A "**binary**" value has two states, such as *On* and *Off*.

 **Tip:** The same limitations on control values as described in the Note on page 185 applies to Conditions. The values used to evaluate conditions may be different from the On Screen Display values.

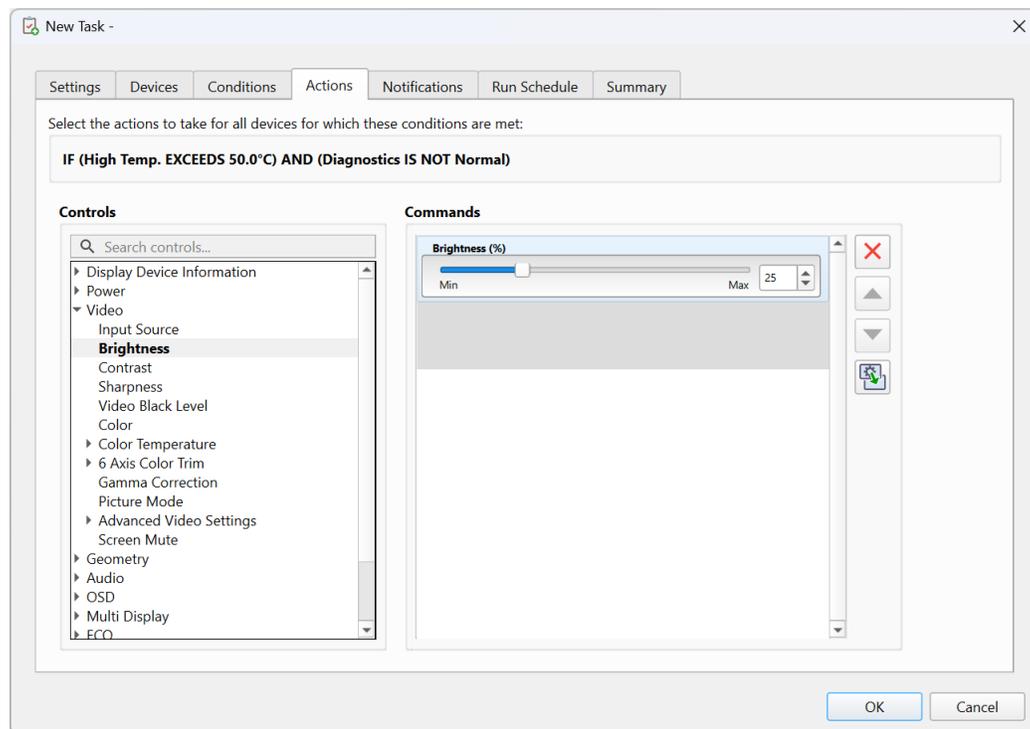
If more than one condition is added, the operand used to evaluate the alert condition can be selected. **AND** and **OR** operands are available. These operands apply to all conditions applied in the task.



If a selected device doesn't support a control, a warning will be issued when the task runs on the device.

Actions Tab

Next, select the **Actions** tab and optionally specify what action should occur when a conditional task generates an alert. For example, if the conditional task is set to send an alert if a display's temperature exceeds 80° C, an action can be created that will send a command to reduce the backlight brightness level if that alert occurs.



Next, optionally select and complete the **Notifications** and **Run Schedule** tab in the same way as the previous example.

Click **OK** to add the newly created task to the list of Inactive Tasks.

Creating Informational Tasks

Informational Tasks are created in the same way as other types of Tasks and are used to actively monitor one or more device parameters.

Select **Informational** as the *Task Type*.

The screenshot shows a 'New Task' dialog box with several tabs: Settings, Devices, Query Items, Notifications, Run Schedule, and Summary. The 'Settings' tab is active. Under the 'Task Name and Description' section, there are input fields for 'Name' and 'Description'. The 'Task Type' section has three radio button options: 'Command' (with subtext 'Change the settings on one or more devices.'), 'Conditional' (with subtext 'Monitor devices and be notified of state changes and threshold violations.'), and 'Informational' (with subtext 'Monitor selected parameters of your devices in real-time.'), which is selected. The 'Polling Interval and Total Run Time' section has two options: 'Poll every 5 minutes for 5 days' (with a 'No Time Limit' checkbox) and 'Poll one time only'.

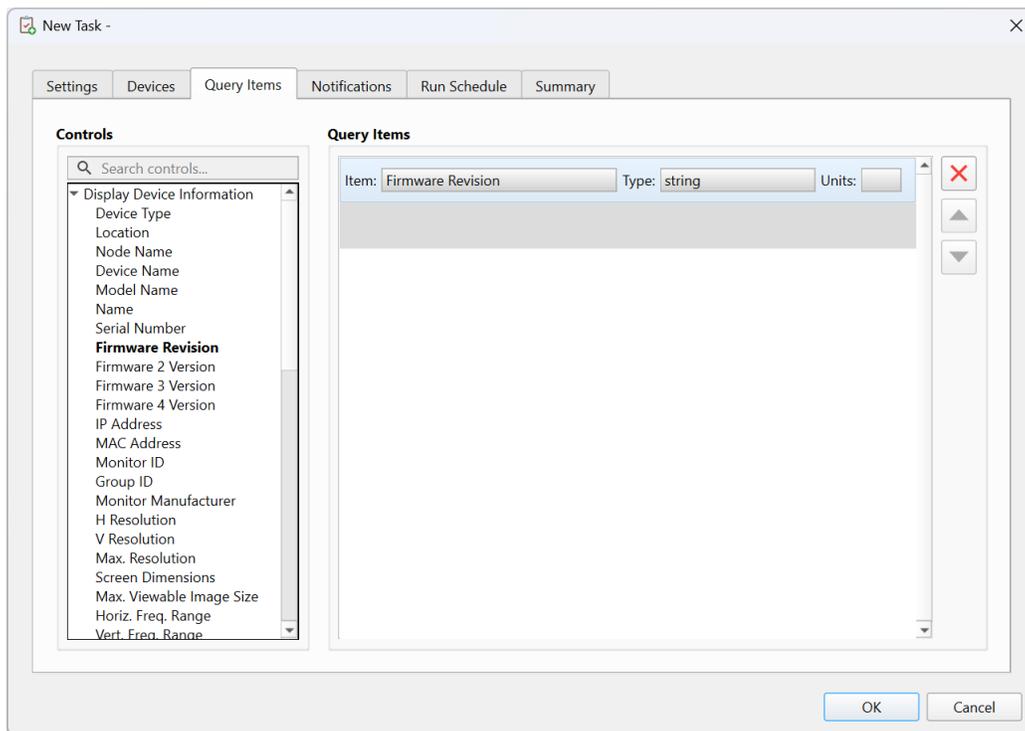
Since this type of task is typically used to actively monitor a parameter, the **Polling Interval** and **Total Run Time** are enabled and specify how often the condition(s) should be checked while the task is running.

The **Polling Interval** sets how often the devices are polled, and the **Total Run Time** specifies how long the task should keep polling once the task has been started.

Tip: Each task takes some time to complete, so care should be taken not to set a polling interval that is shorter than the time it takes to poll all of the devices in the task. If a task is due to poll again before the previous poll has completed, a warning message "Last Query Still Running" will be generated and the polling of all remaining devices will be skipped for that polling interval.

Next, select the **Devices** tab and select the devices that the task will be performed on.

Next, select the **Query Items** tab and select device controls that are to be monitored.



Tip: The list of available controls will depend on the type of device(s) selected. Not all devices will support all of the controls listed. The same limitations on control values as described in the Note on page 185 applies to the control values read from devices. The values shown may be different from the On Screen Display values.

Next, select and complete the **Notifications** and **Run Schedule** tabs.

Click **OK** to add the newly created task to the list of tasks.

While any task is running, the results can be viewed in real time by clicking the **Watch** button in the **Active Task** list. A **Task Viewer** window will be opened that shows each device and query. The queries for individual devices can be filtered by selecting the device from the **Query Results** list.

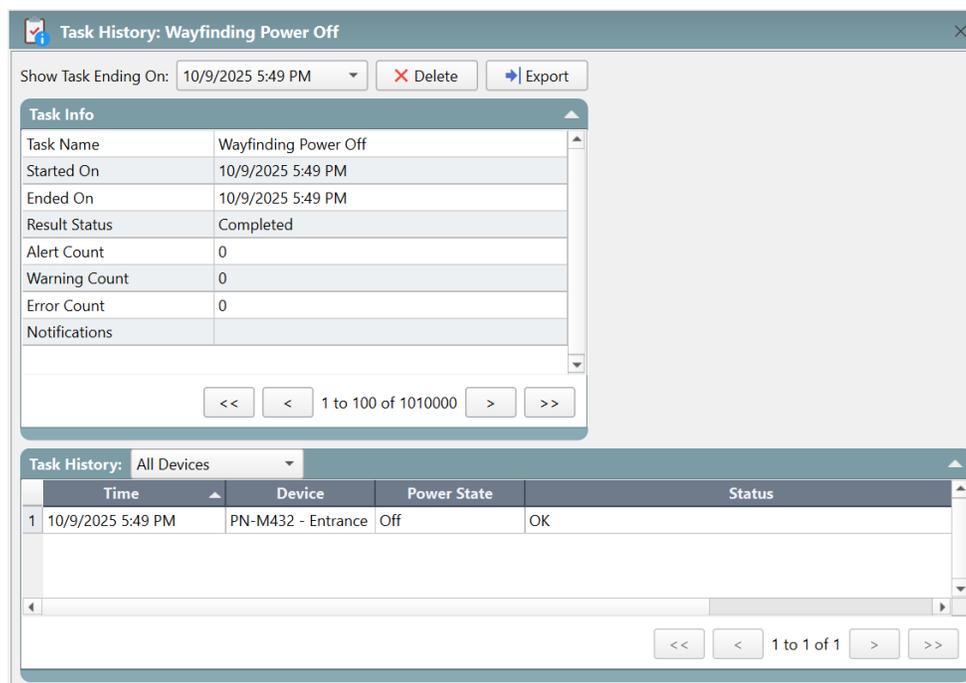
The screenshot shows the 'Task Viewer: Check diagnostics' window. It displays a table of query results for various devices. The table has columns for Time, Device, Diagnostics, High Temp. (°C), and Status. The status for most devices is 'OK', but some show 'WARNING! Device Might Not be Powered On'.

Time	Device	Diagnostics	High Temp. (°C)	Status
1 11/18/2025 3:01:54 PM	PN-ME432 - Front ...	Normal	32.5	OK
2 11/18/2025 3:01:54 PM	PN-ME432 - Rear E...	Normal	30.5	OK
3 11/18/2025 3:01:55 PM	PN-M432 - Entrance	Normal	40.5	OK
4 11/18/2025 3:01:55 PM	UN462VA - Video ...	Normal	50.5	OK
5 11/18/2025 3:01:55 PM	P654Q - Building 2...	Normal	41.0	WARNING! Device Might Not be Powered On
6 11/18/2025 3:01:55 PM	X841UHD - Buildin...	Normal	51.5	WARNING! Device Might Not be Powered On
7 11/18/2025 3:01:56 PM	C501 - Building 22 ...	Normal	32.0	OK
8 11/18/2025 3:01:56 PM	ME551 - Building 1...	Normal	44.0	OK
9 11/18/2025 3:01:56 PM	P403 - Property of ...	Normal	39.5	WARNING! Device Might Not be Powered On

At the bottom of the window, it shows 'Task Running...' and 'Time Remaining: 11:59:35' with a progress bar. The next query is scheduled for 00:29:35.

Task History

The *Task History* window shows the operation history for a particular Task. To view the Task History, click the  button for a task in the *Inactive Tasks* list, or select the desired tasks and click *History...* from the *Task Library* dialog.



The history for each time the task has been run can be selected in the **Show Task Ending On:** list. The **Task Info** list shows a summary of the task results, including the number of alerts, errors and warnings that were encountered. The **Task History** list shows the results for each device in the task. The list can be filtered by device name by selecting a device from the listbox.

Tip:

- More detailed information about a device in the list can be seen by mousing the cursor over the device column.
- Clicking on a row will automatically select the corresponding device in the Device Tree.
- Double-clicking a row will select the device and open the Device Properties window for the device.

The history for the currently selected task run can be exported via the clipboard, Excel or delimited text file by clicking the **Export** button.

The history for the currently selected task run can also be deleted by clicking the **Delete** button.

Proof of Play

Some Sharp or NEC large-screen display models have the ability to detect and record to an internal event log, any changes which have an affect on the audio or visual content being presented such as a change in video or audio input, or loss of video or audio signal, or a detectable internal failure. This event log provides verification and reassurance that the display was powered on and correctly showing a particular video input at a particular time. This feature is called **Proof of Play**.

 **Tip:** Not all large-screen displays support Proof of Play. See the README files for details. For the operations described in this section to be enabled at least one device that supports Proof of Play must exist in the device tree.

Whenever one of these changes occurs, it is saved within the device along with the date and time and a number of other status parameters. Collectively, this is referred to as a **Proof of Play Event**.

 **Tip:** Each event is time stamped using the display's internal Real Time Clock (RTC), allowing direct comparisons to be made with media playlists, and other events. So it is important to make sure that the RTC is set correctly. This can be done via a task as described in "Sync Clock with System Date/Time" on page 142.

Because the display itself creates a log for each internal event that occurs, it is not necessary to continuously poll each display in order to try and detect an event as it occurs. The log in each display can be read at much larger intervals – thus reducing the network burden.

A Proof of Play Event consists of the following data:

Status Parameter/Setting	Examples
Date/Time	3/30/2015 9:17:05 AM
Video Input	DVI, HDMI1
Video Resolution	1920x1080, 1280x720
Video Signal	OK, No Signal
Video Status	OK, Circuit Failure
Audio Input	HDMI1, HDMI2
Audio Signal	OK, No Signal
Audio Status	OK, Circuit Failure

Depending on the display model and any installed hardware options, the following conditions may also appear in the Proof of Play Event.

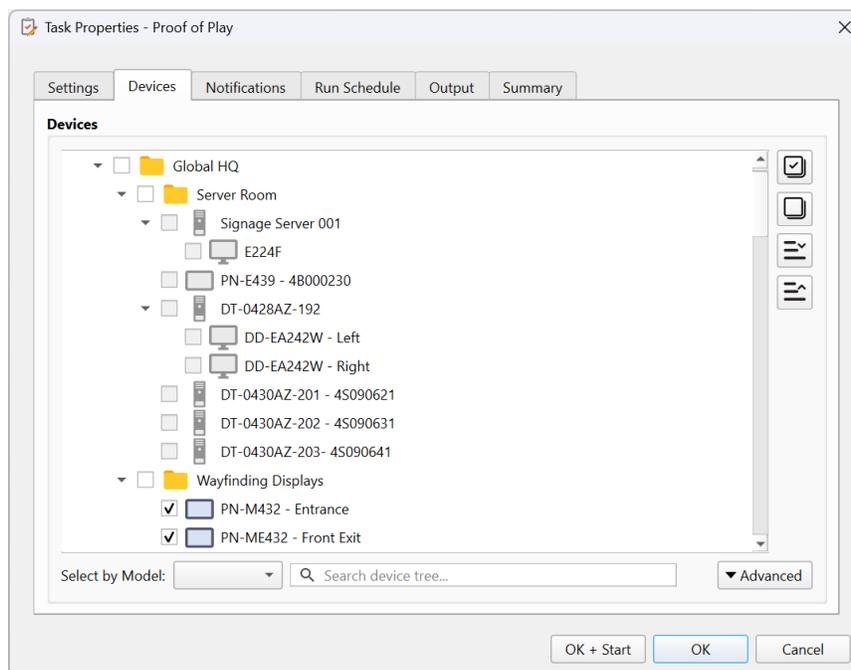
Media player started	Media player data copy error
Media player stopped	Media player data not found
Media player paused	Local storage device is full
Media player error	Media player data read/write error
Copying Media player data from USB	Human presence detected
Copying Media player data from network folder	No human presence detected
Media player data copy completed successfully	Power loss detected

NaViSet Administrator provides a special built-in task for managing Proof of Play operations and tools for viewing and exporting Proof of Play Events.

Configuring Proof of Play

Proof of Play is configured using the **Proof of Play Task Properties** dialog, opened by selecting **Proof of Play...** in the **Tasks** menu.

When the dialog is opened for the first time, the **Devices** tab will be selected. Select one or more devices or groups of devices to include. Only those devices that support Proof of Play will be enabled.



Tip: The selection of one or more devices is all that is required to start using Proof of Play. The remaining settings described in this section are optional.

In the **Settings** tab, select the conditions in which to trigger alert messages should they occur. See "Alerts list" on page 181 for more information about alerts.

- **No Video Signal** - No video input signal detected
- **Video Circuit Failure** - The device hardware failed to produce a picture
- **No Audio Signal** - No digital audio input signal detected

- **Audio Circuit Failure** - The device hardware failed to produce sound

Task Properties - Proof of Play

Settings | Devices | Notifications | Run Schedule | Output | Summary

Task Name and Description

Name: Proof of Play

Description: Read Proof of Play event logs

Generate alerts on:

No Video Signal No Audio Signal

Video Circuit Failure Audio Circuit Failure

Polling Interval and Total Run Time

Poll every 15 minutes for 5 days No Time Limit

Poll one time only

OK + Start OK Cancel

The **Polling Interval** sets how often the devices are polled, and the **Total Run Time** specifies how long the task should keep polling once the task has been started. If the task is to run continuously until it is stopped by the user, select **No Time Limit**. Select **Poll one time only** if the task is to perform just one query and then stop.

Determining Polling Time Interval

There is a limit to the number of Proof of Play events a device can store internally. Whenever this limit is reached the device simply replaces the oldest event with the newest one. When configuring Proof of Play it is important to consider the polling time interval to ensure no events are overwritten within the display before they are polled by *NaViSet Administrator*.

Important points to consider:

- *NaViSet Administrator* has no limit to the number of events that can be stored in the database.
- A single poll will read all of the events currently stored in the display.
- All of the events stored in the display will be erased after each poll.
- The Proof Of Play events in the display will be lost if AC power is removed, or if the display is turned off. Therefore, displays should be polled before sending a Power Off command.

The default polling interval of 15 minutes should be reduced in the following cases:

- The expected number of event changes of any device may exceed approximately 100 events every 15 minutes.
- Users need to be notified of alert conditions sooner than (up to) 15 minutes after the alert condition occurs.

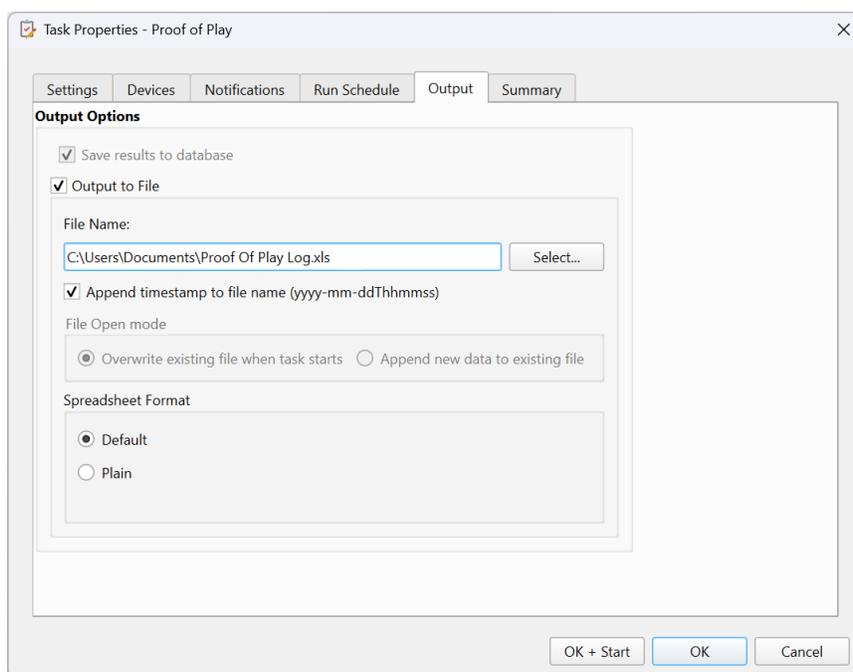
The default polling interval of 15 minutes can be extended in the following cases:

- The above issues are not a concern.
- The time to query all of the devices can exceed 15 minutes. This can occur with high numbers of devices or when other tasks are running concurrently.

Proof of Play records can be output to a text file or Excel spreadsheet as they are read (in real-time). In the **Output** tab, check **Output to File**, click **Select...** and select a file name and type. The following file formats are supported:

- Excel spreadsheet in .xls or .xlsx format
- Tab delimited text file

- Comma delimited text file



Choose **Overwrite existing file when task starts** to create a new output file every time the task is started. If the file already exists it will be deleted. To append new records to an existing file, select **Append new data to existing file**.

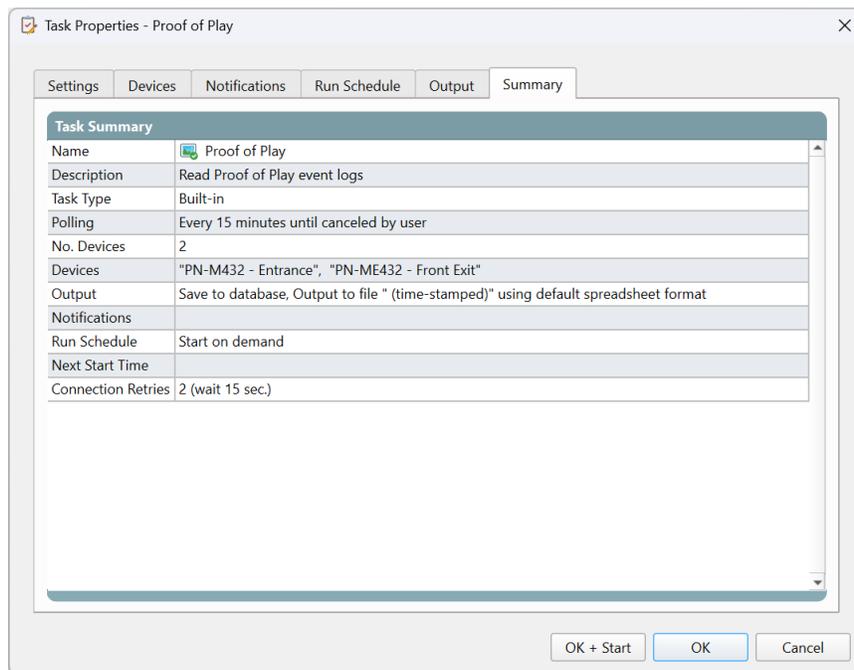
To prevent output files from being overwritten, select **Append timestamp to file name** to have the date and time the file is created included in the file name.

If a spreadsheet file type is selected, the formatting of the spreadsheet can be set to either Default or Plain. The Default formatting applies cell coloring to make data easier to read.

Select the **Notifications** tab to configure the settings to be notified via email about the status of the task. See "Notifications Tab" on page 189 for more information.

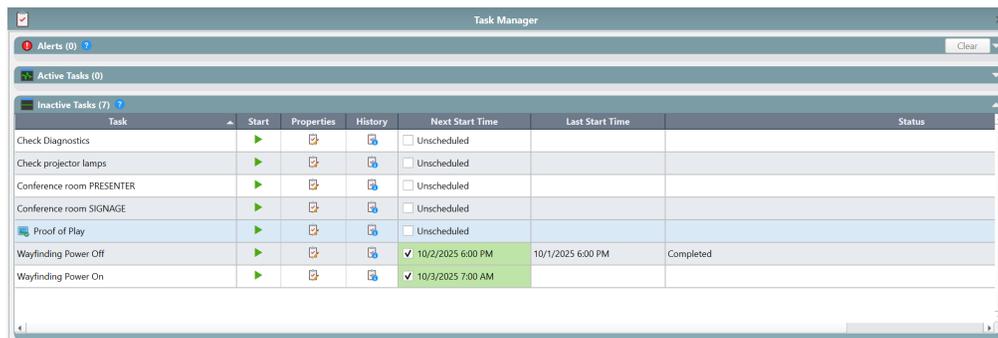
Select the **Run Schedule** tab to set how and when the task is to be started. See page "Run Schedule Tab" on page 191 for more information.

Click the **Summary** tab at any time to review all of the current settings.



Click **OK** to save the settings and close the dialog box. Click **OK + Start** to start the Proof of Play task immediately after the dialog box is closed.

Once configured, the Proof of Play task will be visible in the **Task Manager** and operates like any other task in *NaViSet Administrator*.



Event Log Window

The **Proof of Play Event Log** window shows all events currently stored in the database. The task can also be started and stopped from this window. To open the **Proof of Play Event Log** window, select **Proof of Play Event Log** in the **View** menu.

	Time	Device	Video Input	Video Res.	Video Signal	Video Status	Audio Input	Audio Signal	Audio Status	Messages
23	9/25/2025 10:33 AM	PN-ME432 - Front...	HDMI 1	0x0	No Signal	OK		No Signal	OK	Power loss detected between 9/25/2025 10:33 AM and 9/25/2025 10:4...
24	9/25/2025 10:33 AM	PN-ME432 - Front...	HDMI 1	240x7776	OK	OK		No Signal	OK	
25	9/25/2025 10:33 AM	PN-ME432 - Front...	HDMI 1	0x0	No Signal	OK		No Signal	OK	Power loss detected between 9/25/2025 10:33 AM and 9/25/2025 10:4...
26	9/25/2025 10:36 AM	PN-ME432 - Front...	HDMI 1	240x7776	OK	OK		No Signal	OK	
27	9/25/2025 10:36 AM	PN-ME432 - Front...	HDMI 1	0x0	No Signal	OK		No Signal	OK	Power loss detected between 9/25/2025 10:36 AM and 9/25/2025 10:5...
28	9/25/2025 10:41 AM	PN-ME432 - Front...	HDMI 1	240x7776	OK	OK		No Signal	OK	
29	9/25/2025 10:41 AM	PN-ME432 - Front...	HDMI 1	0x0	No Signal	OK		No Signal	OK	Power loss detected between 9/25/2025 10:41 AM and 9/25/2025 10:5...
30	9/25/2025 11:18 AM	PN-ME432 - Front...	HDMI 1	240x7776	OK	OK		No Signal	OK	
31	9/25/2025 11:18 AM	PN-ME432 - Front...	HDMI 1	0x0	No Signal	OK		No Signal	OK	Power loss detected between 9/25/2025 11:18 AM and 9/25/2025 11:3...
32	9/25/2025 11:22 AM	PN-ME432 - Front...	HDMI 1	240x7872	OK	OK		No Signal	OK	
33	9/25/2025 11:22 AM	PN-ME432 - Front...	HDMI 1	0x0	No Signal	OK		No Signal	OK	Power loss detected between 9/25/2025 11:22 AM and 9/25/2025 11:3...
34	9/25/2025 11:24 AM	PN-ME432 - Front...	HDMI 1	240x7776	OK	OK		No Signal	OK	
35	9/25/2025 11:24 AM	PN-ME432 - Front...	HDMI 1	0x0	No Signal	OK		No Signal	OK	Power loss detected between 9/25/2025 11:24 AM and 9/25/2025 11:3...
36	9/25/2025 11:27 AM	PN-ME432 - Front...	HDMI 1	240x7776	OK	OK		No Signal	OK	
37	9/25/2025 11:27 AM	PN-ME432 - Front...	HDMI 1	0x0	No Signal	OK		No Signal	OK	Power loss detected between 9/25/2025 11:27 AM and 9/25/2025 11:4...
38	10/1/2025 7:02 PM	PN-M432 - Entran...	Compute Mo...	1920x1080	OK	OK	Compute Mo...	No Signal	OK	Power On
39	10/1/2025 7:28 PM	PN-M432 - Entran...	Compute Mo...	1920x1080	OK	OK	Compute Mo...	No Signal	OK	Power Off
40	10/1/2025 8:20 PM	PN-ME432 - Front...	HDMI 1	0x0	No Signal	OK		No Signal	OK	Power Off

- Rows containing alert messages will have a red background.
- To show the events for only one device, select the device from the drop-down list located near the upper-left corner of the window.
- Click  to open the *Proof of Play Task Properties* dialog.
- Click  to open the *Export* dialog.
- Click  to clear the table and permanently delete all Proof of Play events from the database.
- Click  and  to start and stop the Proof of Play task.
- Double-clicking on a row will open that device's properties window to the POP tab page, where the matching row will be automatically selected.

POP Tab

For devices supporting Proof of Play, a *POP* tab will be included in the tab bar of the *Device Properties* Window. The POP tab page is similar to the event log window, but shows the events only for that device.

Time	Device	Read Proof of Play Event	Status
25 9/25/2025 10:33:48 AM	PN-ME432 - Front ...	Alert	ALERT! No Video Input Signal
26 9/25/2025 10:36:36 AM	PN-ME432 - Front ...	OK	OK
27 9/25/2025 10:36:51 AM	PN-ME432 - Front ...	Alert	ALERT! No Video Input Signal
28 9/25/2025 10:41:25 AM	PN-ME432 - Front ...	OK	OK
29 9/25/2025 10:41:40 AM	PN-ME432 - Front ...	Alert	ALERT! No Video Input Signal
30 9/25/2025 11:18:15 AM	PN-ME432 - Front ...	OK	OK
31 9/25/2025 11:38:30 AM	PN-ME432 - Front ...	Alert	ALERT! No Video Input Signal
32 9/25/2025 11:22:19 AM	PN-ME432 - Front ...	OK	OK
33 9/25/2025 11:22:34 AM	PN-ME432 - Front ...	Alert	ALERT! No Video Input Signal
34 9/25/2025 11:24:05 AM	PN-ME432 - Front ...	OK	OK
35 9/25/2025 11:24:21 AM	PN-ME432 - Front ...	Alert	ALERT! No Video Input Signal
36 9/25/2025 11:27:39 AM	PN-ME432 - Front ...	OK	OK
37 9/25/2025 11:27:54 AM	PN-ME432 - Front ...	Alert	ALERT! No Video Input Signal
38 10/1/2025 7:02:38 PM	PN-M432 - Entrance	OK	OK
39 10/1/2025 7:28:20 PM	PN-M432 - Entrance	OK	OK
40 10/1/2025 8:20:56 PM	PN-ME432 - Front ...	Alert	ALERT! No Video Input Signal

- Check the **Add this device to Proof of Play** event logging box to add this device to the Proof of Play task, or uncheck to remove the device.
- Click  to open the export dialog.
- Click  and  to start and stop the POP task.

12 Reports

About Reports

Reports are operations that gather selected setting values and information from one or more devices, and create a report of the results.

These operations can be performed either in real-time (meaning devices are queried when the operation is run), or using information stored in the database for each device. A hybrid query that will only query devices if the data in the database is older than a given time period can also be specified. This option is useful to reduce unnecessary real-time queries on devices, since they are much slower than querying the database.

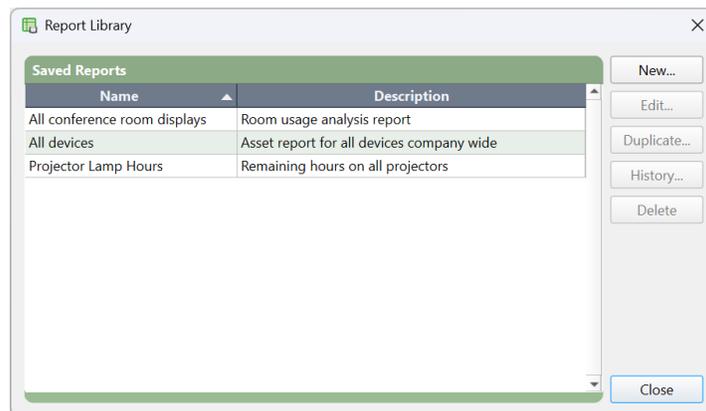
The results of a report can be saved to the database, and also to an output file such as an Excel spreadsheet, or delimited text file. When saved to the database, the report results can be viewed at any time using the *Report History* viewer. Report results are stored for each time a report is generated and each can be selected, thus providing a history of the report over time.

Example uses of reports are:

- Keeping track of computers and displays within an organization, by logging the device name, model, serial number, and asset tags.
- Keeping track of the number of operating hours that displays have been in use, the carbon savings, or any other parameter or supported setting that can be read from a device.

Report Library

All Reports can be managed using the *Report Library*, available on the *Reports* menu, or by clicking on the  toolbar button. Reports can be created, edited, duplicated, and deleted from within the *Report Library*. The execution history of a report can be viewed and exported.

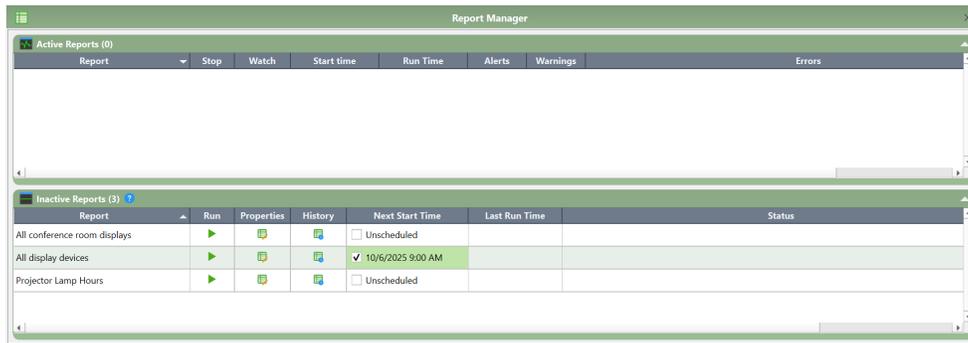


Report Manager

All Reports that have been created for the current database are listed in the *Report Manager* tab.

This tab shows:

- Inactive Reports that are not currently running
- Active Reports that are currently running



Inactive Reports list

Inactive Reports are reports that are either scheduled to run and are waiting for their start time to occur, or reports waiting to be started manually. For reports that are scheduled to run, the *Next Start Time* is shown with a green background. The checkbox in the *Next Start Time* column can be used to temporarily disable the automatic starting of a report with the schedule. Any report can be made to start immediately by clicking the **Run** button.

Tip: A report will not start if its properties dialog is opened at the same time that it is scheduled to start. Instead, it will be rescheduled for the next start time when the dialog is closed.

The properties of a Report can be edited by clicking on the **Properties** button. This is the same as editing a report from the *Report Library*.

The history of a report can be viewed by clicking the **Report History** in an inactive report. This is the same as viewing the history from the *Report Library*. The report history shows the results of each time the report has been executed.

For reports that have executed during the current session, the **Status** column will include an icon next to the description indicating the overall result status. The text color of the report row will also be changed and made bold. The icons and colors used are as follows:

- The report completed or was canceled without warnings or errors. Text will change to green.
- A lower level warning, such as a control that is not supported by the device. Text will change to brown.
- At least one error or one high level warning, such as a device connection failure. Text will change to red.

A context menu providing quick access to common report operations can be opened by right-clicking on the report. The context menu provides these actions:

- Library** - Opens the Report Library with the report selected.
- Properties** - Opens the Report Properties dialog for review or editing.
- Schedule** - Opens the Report Properties dialog with the Run Schedule tab selected.

-  **History** - Opens the Report History Viewer.
-  **Run** - Starts and runs the report.
-  **Clear History** - Permanently deletes all report history information.
-  **Delete** - Deletes the report.
-  **New Report** - Opens the New Report dialog for adding new reports to the database.

Active Reports list

Active Reports are reports that are currently being run. For *Database Report* types, where all of the information is being queried from the current database, a report may be active for only a fraction of a second while it is processed. *Real-time Reports* may take up to several hours to process depending on the number and type of networked devices that are being queried. Once an *Active Report* has completed being processed, it will be moved to the *Inactive Report* list.

While a report is active, the progress of the report can be viewed in real-time by clicking the  **Watch** button. An *Active Report* can also be manually stopped by clicking the  **Stop** button.

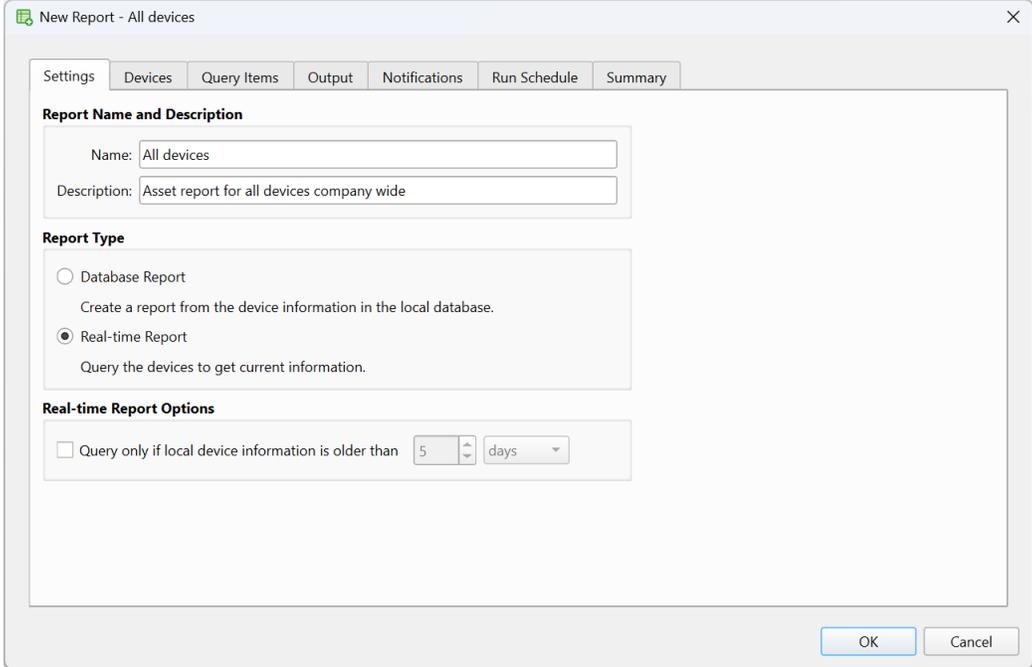
The number of alerts, warnings or errors that occur while a report is running are shown.

Creating Reports

Reports can be created by selecting **New Report...** on the **Reports** menu, or by clicking the  **New Report** toolbar button, or by selecting **New...** from the **Report Library**.

Settings Tab

First, give the report a **Name** and **Description** so it can be identified easily in the Reports list.



The screenshot shows a dialog box titled "New Report - All devices" with a close button (X) in the top right corner. The dialog has several tabs: "Settings", "Devices", "Query Items", "Output", "Notifications", "Run Schedule", and "Summary". The "Settings" tab is selected. Inside the dialog, there are three main sections:

- Report Name and Description:** Contains two text input fields. The "Name" field contains "All devices" and the "Description" field contains "Asset report for all devices company wide".
- Report Type:** Contains two radio button options. "Database Report" is unselected, and "Real-time Report" is selected. Below each option is a brief description: "Create a report from the device information in the local database." for Database Report, and "Query the devices to get current information." for Real-time Report.
- Real-time Report Options:** Contains a checkbox labeled "Query only if local device information is older than" which is checked. To the right of the checkbox is a numeric input field containing "5" and a dropdown menu set to "days".

At the bottom right of the dialog are "OK" and "Cancel" buttons.

Next, select the type of report to be created.

Database Reports: Use the current information for each device stored in the database to create a report. This operation is very fast as no devices are queried, however, the information may not reflect the current condition of each device. The *Time Stamp* column, added to reports by default, lists the date and time when the information for each device was last updated.

Real-time Reports: Queries devices to gather the latest setting values and information. This can be selected to always query the devices, or only query a device if the information in the database has not been updated within a selectable time period. This is useful in order to minimize the number of device queries that are made, while at the same time keeping the device information in the database up to date.

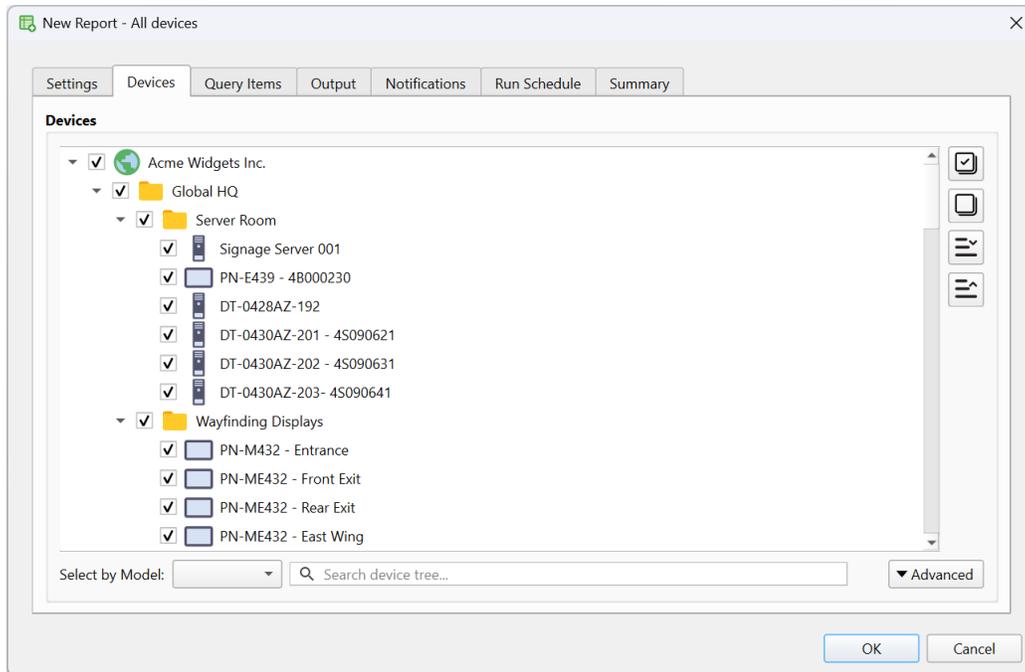
 **Tip:** If a device cannot be accessed during a Real-time Report (for example, if it is powered off, disconnected, network configuration settings have changed, or is otherwise inaccessible), the icon shown in the device tree will change to show a warning  symbol. In this case, the most recent information from the database for the device will be substituted in the report.

Whenever database data for a device is substituted in a report because the device could not be accessed, a message **"WARNING! Data May Be Out of Date"** will be shown in the report's Status column for the device. The **Time Stamp** column of the report indicates the date and time of each query or database record for the device.

Info: When a real-time report is performed on a device, the database information for the device is automatically updated with the equivalent of performing a *Standard Refresh*. As a result any new displays connected to a Windows computer will also be automatically detected and updated.

Devices Tab

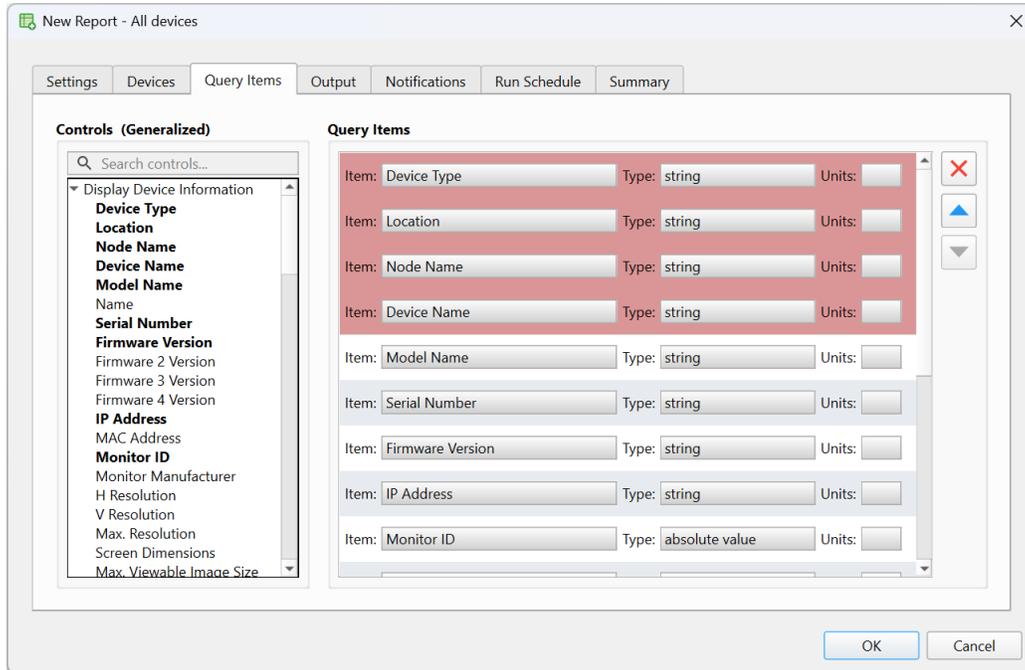
Next, select the **Devices** tab and then select the devices to be included in the Report. Selecting a group will automatically select all of the devices within that group.



Tip: Windows computers and daisy chained large-screen displays are shown in the device tree in the **Devices** tab *without* any child devices (attached displays for Windows computers, and individual daisy chained large-screen displays for daisy chain hosts). These child devices will be determined when the Report operation is actually run, and automatically added to the report.

Query Items Tab

Next, select the **Query Items** tab. The list of controls contains all of the information and settings that can be gathered from the types of devices that have been selected.



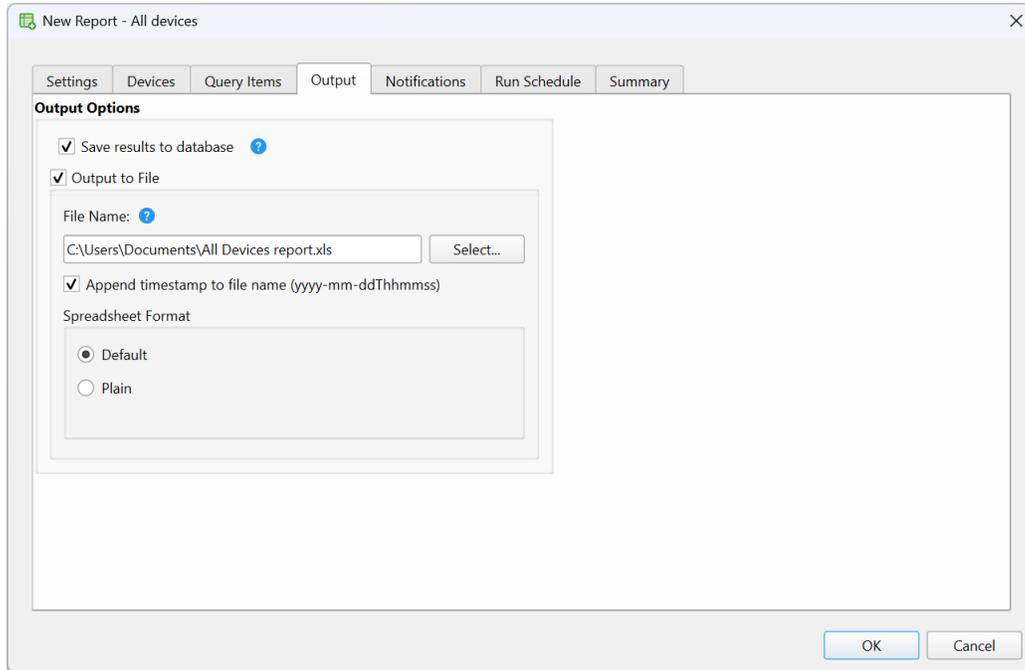
The *Query Items* list contains all of the items to be queried for the selected devices. The order of the items in a report can be changed and items can be removed using the ▲, ▼, and X buttons. Some query items are automatically included by default as they are necessary to uniquely identify each device in the report. The automatic query items cannot be removed but can be reordered; they are highlighted in red for easy identification.

Click on a control in the list to add it to the *Query Items* list.

 **Tip:** Not all devices will support all of the controls listed.

Output Tab

Next, select the **Output** tab. The results of a query can be saved to the database by selecting **Save results to database**. This allows the results of a particular query to be viewed later in the *Report History*. If this option is not selected then the results of the query will only be available in the output format selected.



The results of a query can also be saved to a file in any of the following formats by selecting **Output To File** and clicking **Select...** and selecting an output file name and type:

- Excel spreadsheet in .xls or .xlsx format
- Tab delimited text file
- Comma delimited text file

To prevent output files from being overwritten, select **Append timestamp to file name** to have the date and time the file is created included in the file name.

If an Excel spreadsheet is selected, the formatting of the spreadsheet can be set to either **Default** or **Plain**. The **Default** formatting applies cell coloring to make data easier to read.

 **Tip:** If the Preferences setting **Open report files on completion** is selected, then the default application associated with the selected file type will be used to open the file once the report has completed.

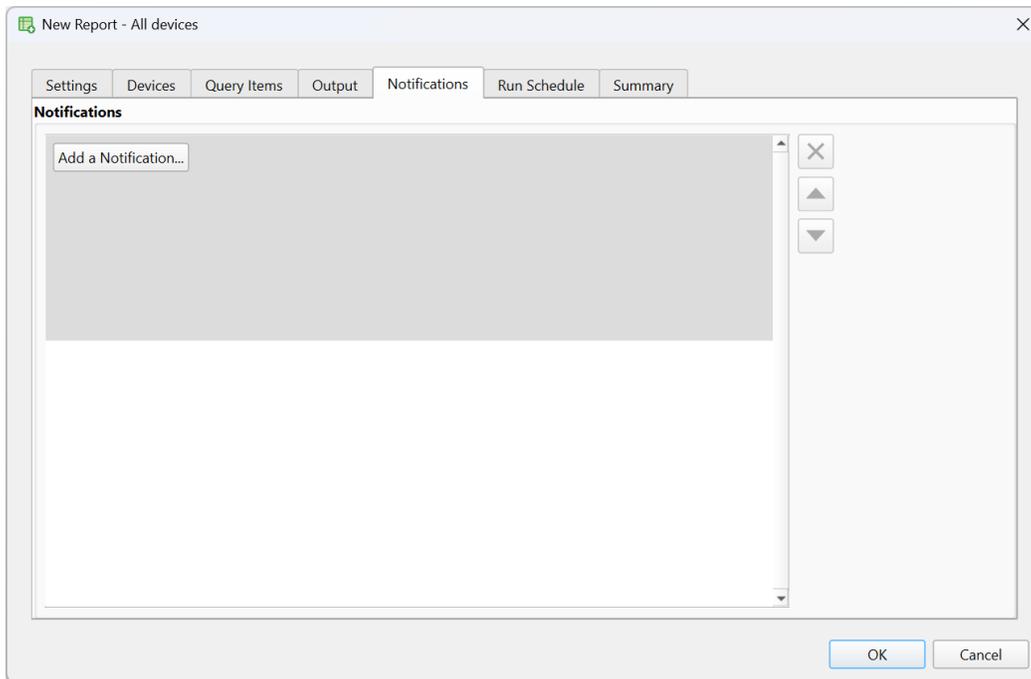
Notifications Tab

Select the **Notifications** tab to configure the settings to be notified via email about the report.

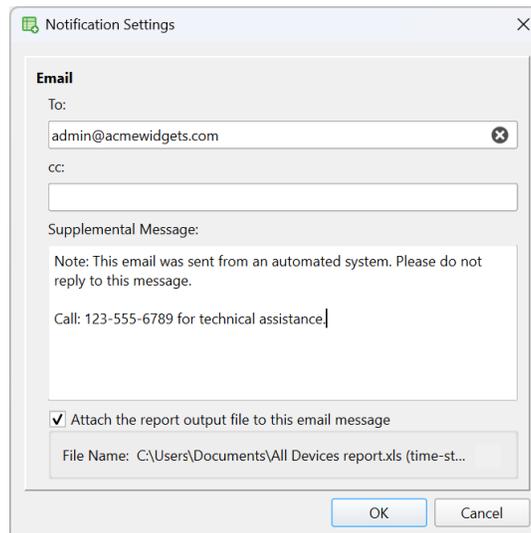
Tip:

- **NaViSet Administrator 2** - The *Outbound Email Settings* must be configured and enabled in the application *Preferences* in order for notification emails to be sent.
- **NaViSet Administrator Server Edition** - The Outbound Email Settings must be configured in the Config Utility. Please see "Email Settings for NaViSet Administrator SE" on page 231.

First, click **Add a Notification** and select **Email Message** in the Notification Type list.



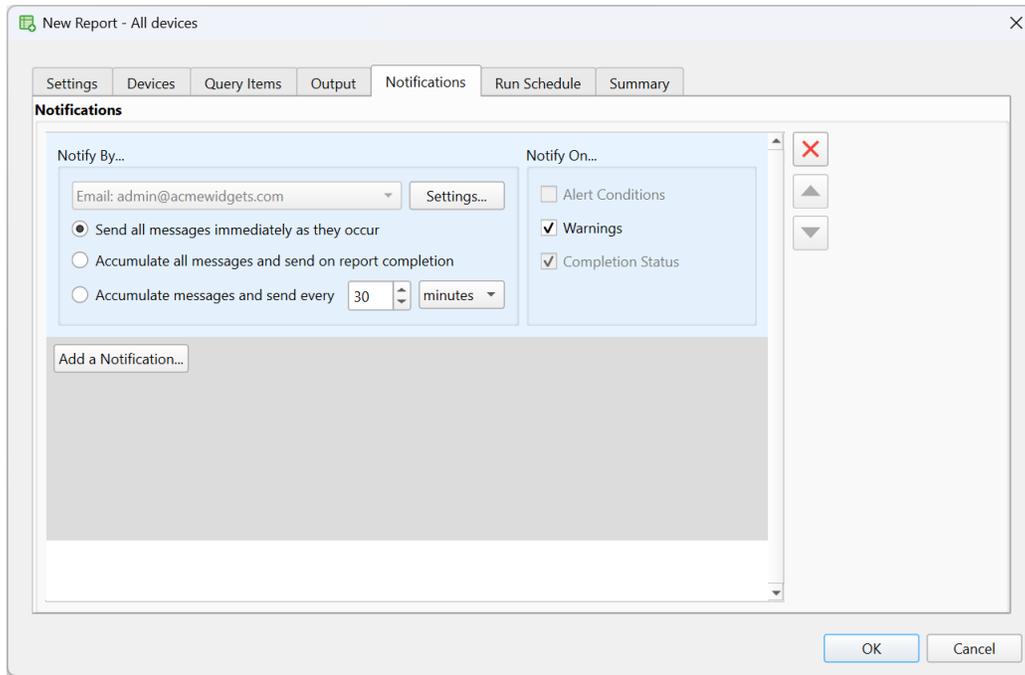
In the **Notification Settings** dialog, enter the recipient's email address. Insert a semicolon between addresses if multiple email addresses are required. A supplemental message to be added to the automatically generated message text can also be entered.



Select **Attach the report output file to this email message** to have the report's output file sent with the notification email message.

Click **OK** when finished filling in the email notification settings.

Next, select the types of notifications to be sent.



- **Warnings** - Are sent for the following conditions:
 - Connection error
 - Device might not be powered up
 - Control or setting cannot be set or read
- **Completion Status** - Is sent once the report has completed.

To avoid a possible overwhelming number of messages being sent, message delivery can be controlled as follows:

- Send all messages immediately as they occur
- Accumulate all messages and send on report completion
- Accumulate messages and send every [user definable period]

Tip: Multiple notifications can be added to each report. This is useful if different recipients for different types of notification conditions are necessary. For example, one person may only want to be notified when a report completes, but another person may want to be notified if there is any kind of alert or warning when a report runs.

Run Schedule Tab

Next, click on the **Run Schedule** tab. This tab is used to set how and when the report is started. Reports can be set to run **On Demand** (manually started), or using a **Schedule**, or as **Temporary** (one time report that will not be saved to the Report Library).

The screenshot shows a dialog box titled "New Report - All devices" with a close button (X) in the top right corner. The dialog has several tabs: "Settings", "Devices", "Query Items", "Output", "Notifications", "Run Schedule" (which is active), and "Summary".

Under the "Run Schedule" tab, there are two main sections:

- Start Options:** Contains three radio buttons:
 - On Demand: Start this report anytime manually from the Report Manager window.
 - Scheduled: Start this report automatically according to the schedule below or anytime manually in Report Manager.
 - Temporary: This report will exist for this session only, and will not be added to the Report Library.
- Start Schedule:** Contains a field "Start this report every" with a spinner set to "1", a dropdown menu set to "week", and a time field set to "09:00:00 AM". Below this is a section "Additional Weekly Settings" with the text "Start the report on these days of the week:" and checkboxes for:
 - Monday
 - Tuesday
 - Wednesday
 - Thursday
 - Friday
 - Saturday
 - Sunday
 At the bottom of this section is a text field "Next scheduled start time:" with the value "10/13/2025 9:00 AM".

At the bottom right of the dialog are "OK" and "Cancel" buttons.

To schedule the report to run at specific times or intervals, click **Scheduled** and select the desired **Start Schedule** settings. The next time that the report will be automatically started is shown.

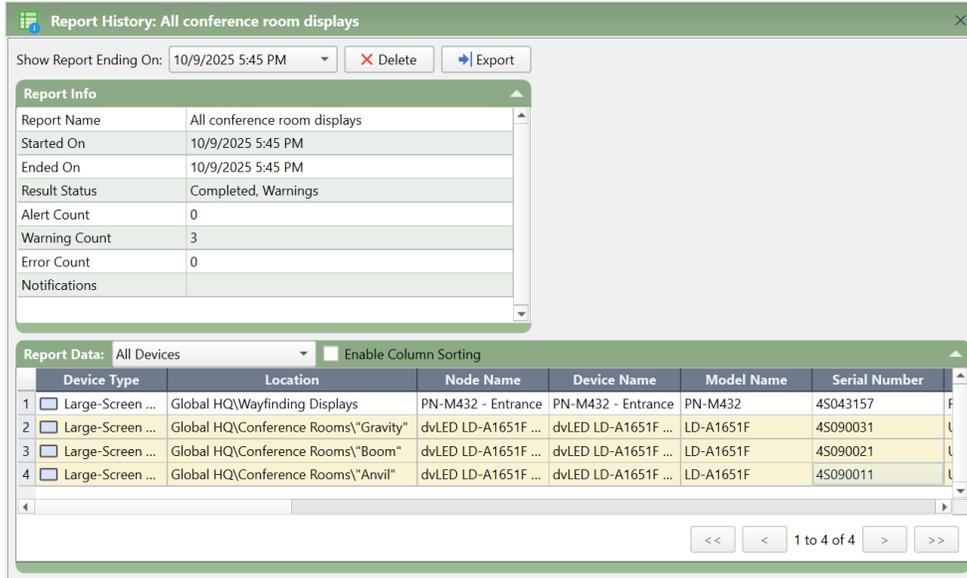
Tip: A report will not start if its properties dialog is opened at the same time that it is scheduled to start. Instead, it will be rescheduled for the next start time when the dialog is closed.

Summary Tab

Next, click the **Summary** tab to review the settings for the new Report. Click **OK** to add the newly created report to the list of reports. It will appear in the list of *Inactive Reports*.

Report History

The *Report History* window shows the operation history for a particular report. To view the *Report History*, click the  **History** button for a report in the Inactive Reports list, or select the desired report and click **History...** from the *Report Library* dialog.



The screenshot shows the 'Report History: All conference room displays' window. At the top, there is a 'Show Report Ending On:' dropdown set to '10/9/2025 5:45 PM', with 'Delete' and 'Export' buttons. Below this is the 'Report Info' section, which is a table with the following data:

Report Name	All conference room displays
Started On	10/9/2025 5:45 PM
Ended On	10/9/2025 5:45 PM
Result Status	Completed, Warnings
Alert Count	0
Warning Count	3
Error Count	0
Notifications	

Below the 'Report Info' section is the 'Report Data' section, which includes a 'Device Type' dropdown set to 'All Devices' and an 'Enable Column Sorting' checkbox. The main part of this section is a table with the following data:

	Device Type	Location	Node Name	Device Name	Model Name	Serial Number	
1	<input type="checkbox"/> Large-Screen ...	Global HQ\Wayfinding Displays	PN-M432 - Entrance	PN-M432 - Entrance	PN-M432	4S043157	F
2	<input type="checkbox"/> Large-Screen ...	Global HQ\Conference Rooms\Gravity	dvLED LD-A1651F ...	dvLED LD-A1651F ...	LD-A1651F	4S090031	U
3	<input type="checkbox"/> Large-Screen ...	Global HQ\Conference Rooms\Boom	dvLED LD-A1651F ...	dvLED LD-A1651F ...	LD-A1651F	4S090021	U
4	<input type="checkbox"/> Large-Screen ...	Global HQ\Conference Rooms\Anvil	dvLED LD-A1651F ...	dvLED LD-A1651F ...	LD-A1651F	4S090011	U

At the bottom of the window, there are navigation buttons: '<<', '<', '1 to 4 of 4', '>', and '>>'.

The history for each time the report has been run can be selected in the **Show Report Ending On:** list.

The **Report Info** list shows a summary of the report results, including the number of alerts, errors, and warnings that were encountered.

The **Report Data** table shows the results for each device in the report. The table data can be filtered by device type by selecting a type from the **Device Type** listbox.

Tip:

- Clicking on a row will automatically select the corresponding device in the Device Tree.
- Double-clicking a row will open and select the device tab.
- Report History can be sorted by column, by selecting Enable Column Sorting and then clicking on the header of the column to sort by. The sorting order can be reversed by clicking on the column header again.

History for the currently selected report run can be exported via the clipboard, Excel or delimited text file by clicking the **Export** button. To prevent output files from being overwritten, select **Append timestamp to file name** to have the date and time the file is created included in the file name.

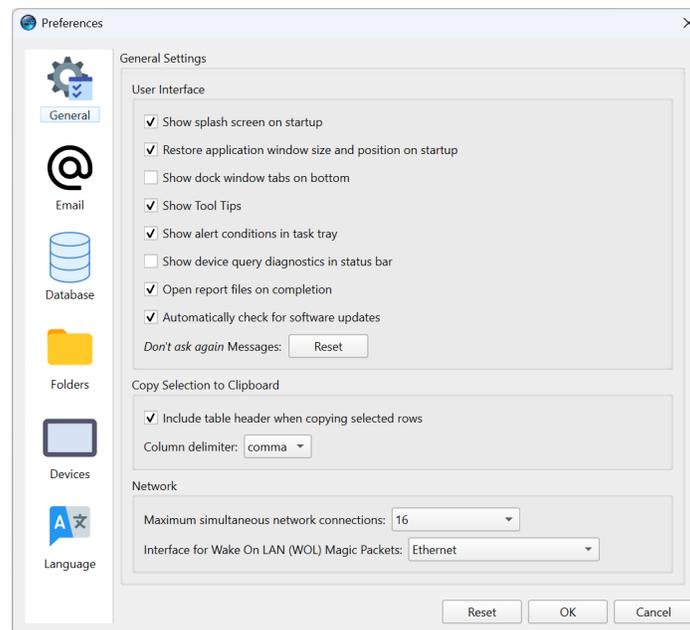
History for the currently selected report run can also be deleted by clicking the **Delete** button. History for a Report is retained until it is deleted.

13 Preferences in NaViSet Administrator 2

About

The *Preferences* dialog is used to configure many of the application settings and is accessed from the *Tools* menu. Preference settings are grouped into pages which are selected using the icons on the left of the window. Click **Reset** to restore the default values for all of the settings on the currently selected page.

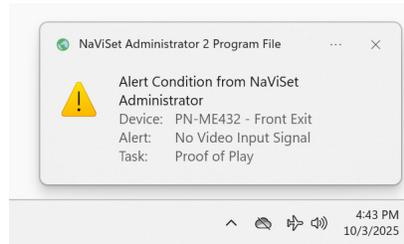
General Settings



User Interface

- **Show splash screen on startup** - When selected, a splash screen will be shown briefly when *NaViSet Administrator 2* is started.
- **Restore application window size and position on startup** - Saves and restores the application's window size and position.
- **Show dock window tabs on bottom** - Shows the navigation tabs of the docked windows at the bottom of the interface instead of the top; such as the windows for Task Manager, Report Manager, Device Views, and others.
- **Show Tool Tips** - When selected, Tool Tips for various controls within the application are shown when the cursor is moused over the control.

- **Show alert conditions in task tray** - If an alert condition occurs, a popup message will be shown in the Windows Task Tray (Windows version), or the Status Menu (macOS version).



- **Show device query diagnostics in status bar** - When selected, the status bar in the main window will show a summary of the number of connections to different devices that are currently being processed, and the number of pending connections that are waiting either for an available connection, or for another connection to the same device to be completed. The *Maximum simultaneous network connections* setting sets the limit for the number of connections that can be used at one time.

Tip: Only one connection per device is allowed at a time. Therefore, if there are two or more separate operations to be performed on a device, only one will be *current* and the others will be *pending* until the running job has completed, at which point a pending connection will become current.



- **Open report files on completion** - When selected, the output file (Excel or delimited text file), or *Report History* window (if no output file is specified) will be automatically opened when a Report operation has completed.
- **Automatically check for software updates** - When selected, the application will periodically automatically check to see if a newer version is available by querying the update servers. An Internet connection is required.
- **Don't ask again messages: Reset** - Restores the displaying of any messages that may not be being shown because *Don't ask again* was selected when they previously appeared.

Copy Selection to Clipboard

- **Include table header when copying selected rows** - Automatically adds the header row to the Copy command when copying table rows. When highlighting multiple rows, the header cannot be selected along with other lines. Choosing this option will automatically include the header when using the Copy function.
- **Column delimiter** - Specifies which delimiter is used when pasting column data into the target application.

Network

- **Maximum simultaneous network connections** - Sets the maximum number of network connections that can be made to different devices on the network. *NaViSet Administrator 2* can communicate to multiple devices in parallel, which speeds up operation by allowing simultaneous connections, and allows more operations to be performed while waiting for other devices to respond to commands.

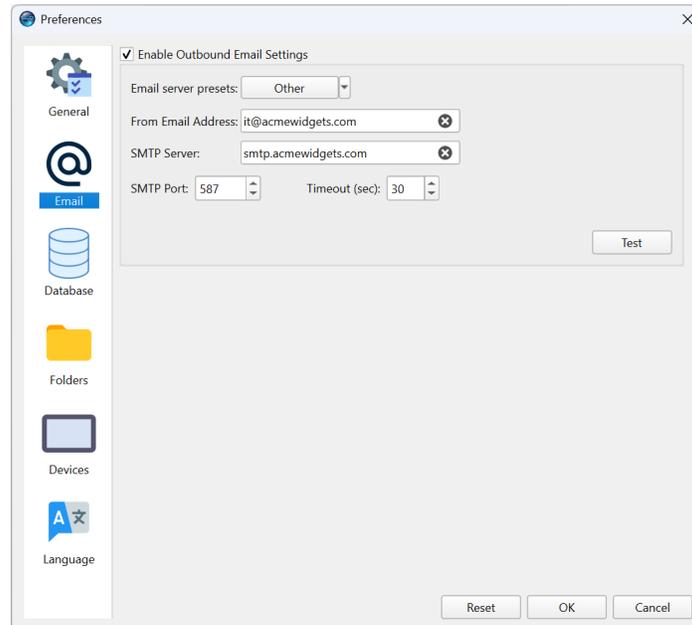
 **Tip:** In general increasing the number of network connections increases the overall speed at which operations on a large numbers of devices can be performed. However, there is a point where more connections does not give an increase in speed due to the speed of the computer and other factors.

- **Interface for Wake On LAN (WoL) Magic Packets¹** - When using *NaViSet Administrator 2* to remotely wake up a computer using the WoL protocol, UDP packets are broadcast from the network adapter. If the computer running *NaViSet Administrator 2* has multiple network interfaces, such as wired and wireless, the interface to broadcast the WoL packets from can be selected.
-

 **Tip:** In order for WoL to work correctly, UDP port 9 must not be blocked by any firewalls or routers. See Appendix C on page 260 for details on configuring WoL.

¹ *Windows version only*

Email Settings



- **Enable Outbound Email Settings** - When selected, *NaViSet Administrator 2* will enable the sending of notifications via email. Notifications are used in Tasks to broadcast conditions such as Alerts, Errors, Warnings, and Completion of a particular Task. When not selected, all email notifications are disabled.
- **Email server presets** - This list allows for easy configuration of the email server settings for several popular email services. Selecting one of these options will pre-fill the SMTP server name for that service provider. If the email service provider is not in the list, or if the SMTP server being used is an private server, select the server preset "Other" and input the SMTP server name. The port, authentication requirement, and use of SSL/TLS are also pre-configured. The From Email Address must be entered. Depending on the selected email server preset, either *NaViSet Administrator 2* must be granted permission to use the account or the username and password must be entered for SMTP server authentication. After configuring the options, be sure to Test for correct operation since email service providers may change these parameters without notice.

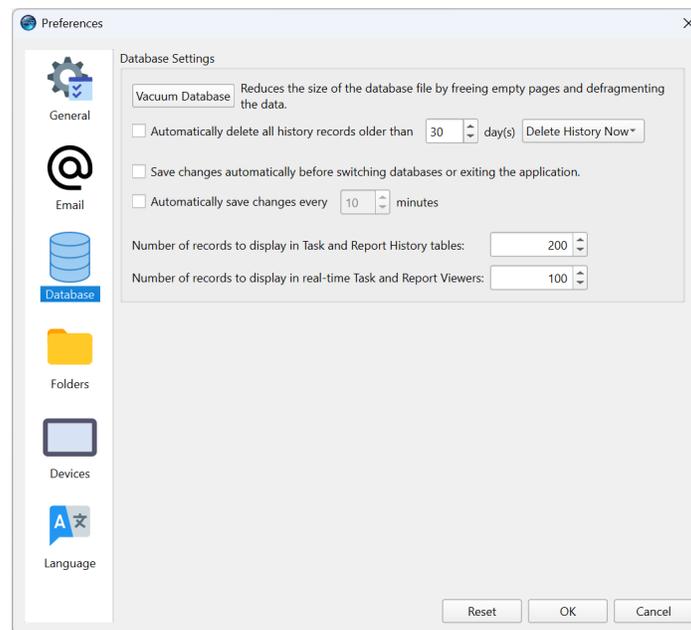
Secure Login options - The service provider's authorization settings are used to grant permission to use the application with the specified account. Selecting one of these options and clicking on OK or Test will open a secondary window for logging into the account. After successful login, select the option to allow *NaViSet Administrator* to use the account. The service provider may require an additional verification step, follow the instructions on-screen to complete the authorization process. The account email address and password are not stored in *NaViSet Administrator 2*.

Traditional Login options - The account email address and password for accessing the SMTP server are stored in *NaViSet Administrator 2*. The account details are encrypted to ensure security.

- **From Email Address** - This is the email address from which messages sent by *NaViSet Administrator 2* will be sent.
- **SMTP Server** - This is the SMTP (Simple Mail Transfer Protocol) server to be used to send the email.
- **Port:** - This is the port to be used to contact the SMTP server. Note that some Internet Service Providers may block certain ports such as 25 used for sending email. Check with your SMTP server to find out which ports are supported. Typically used ports are 25 and 587.

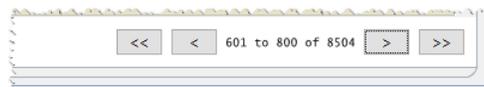
- **Timeout (sec):** - Specifies the timeout period when trying to send an email via the SMTP server.
- **SMTP server requires authentication** - Select this if the SMTP server requires that authentication credentials be provided in order to send an email. This option is not in the interface when one of the Secure Login options is selected in the Email server presets.
- **Username:** - The username to be used for authentication with an SMTP server. This may be in the form of an email address depending on the server. This option is not in the interface when one of the Secure Login options is selected in the Email server presets.
- **Password:** - The password to be used for authentication with an SMTP server. This option is not in the interface when one of the Secure Login options is selected in the Email server presets.
- **Use an encrypted connection (SSL/TLS)** - Select this if the SMTP server requires that the authentication credentials be encrypted by using SSL/TLS (Secure Sockets Layer / Transport Layer Security) before sending. This option is not in the interface when one of the Secure Login options is selected in the Email server presets.
- **Test** - Confirms connectivity and credentials with the email server.

Database Settings



- **Vacuum Database** - Click this button to compact the size of the database file by removing unused entries and defragmenting the data.
- **Automatically delete all history records older than** - [number of days]; The application will automatically clear the database of all records exceeding that age.
- **Delete History** - Click this button to clear the database of records older than the number of days specified or all records in the database. This frees up hard drive space and improves application performance. The default value is 30 days.
- **Save changes automatically before switching databases or exiting the application**
- **Automatically save changes** - Select this to have changes in the database saved at the interval specified in the "minutes" field. This reduces the chance for data loss if the application or computer shuts down unexpectedly. The default value is 10 minutes.
- **Number of records to display in Task and Report History tables** - Sets the maximum number of records, or rows, read from the database and shown at a time. When the number of rows in a Task or Report History exceeds this value, the table switches to paging mode, indicated by the presence of a navigation bar below the table. The default number of records to display is 200.

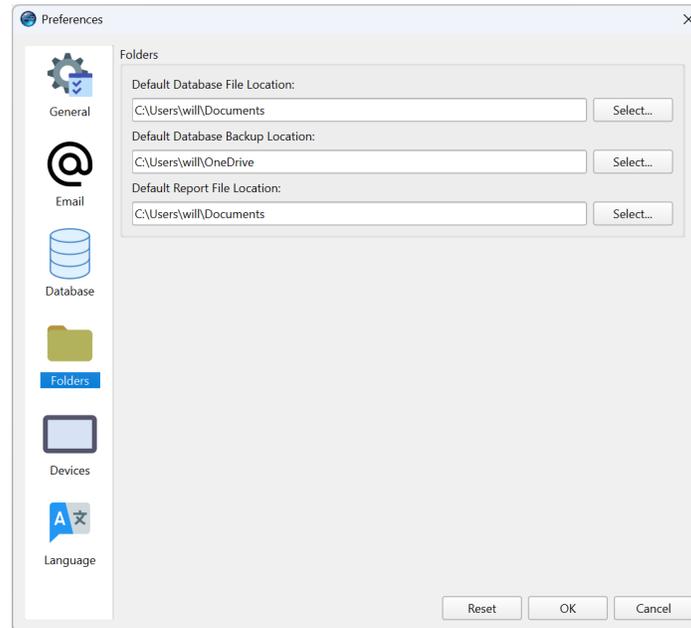
In the example shown below, a Task History table currently has rows 601 through 800 loaded of 8,504 total rows.



Tip: Higher numbers of records can result in longer load and unload times for Task Histories, and take additional system resources such as memory and CPU time.

- **Number of records to display in real time Task and Report viewers** - Sets the maximum number of rows to display at a time of a running task or report. The functionality is the same as Number of records to display in Task and Report History tables. The default value is 100.

Folders

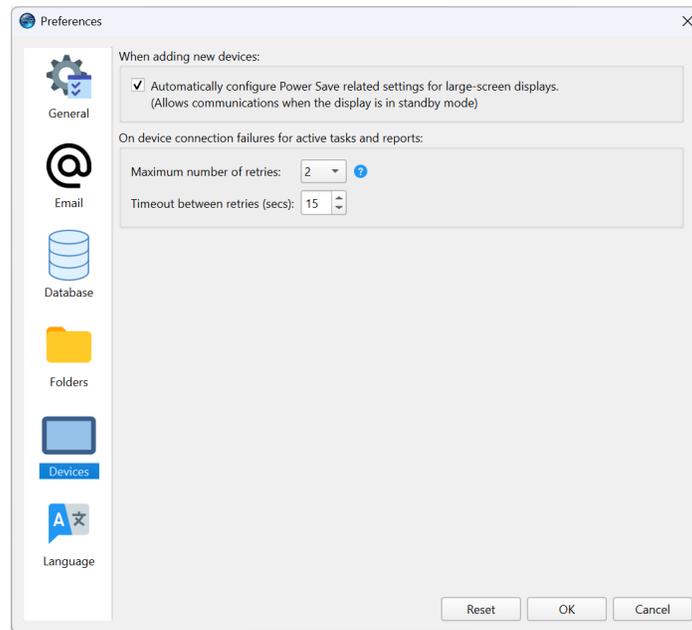


- **Default Database File Location** - Used to select the location where database files are stored by default.
- **Default Database Backup Location** - Used to select the location where a backup copy of the database file is automatically created when using the Save function. Up to 17 backup files of the database can be stored; older copies will automatically be deleted each time a new save occurs once the limit is reached. The backup files are named after the database. If you change the database name, the existing backup files will remain in this location, and the backup file count will reset to zero for the new database name.

In addition to the 17 backups generated during each database save, a daily backup is also created and named [DBName_Daily_DateTime].ndb. A maximum of 30 daily backups are stored. When this limit is reached, the oldest backup is deleted to allow space for a new one.

- **Default Report File Location** - Used to select the location where exported Report output files are saved by default.

Devices



When adding new devices

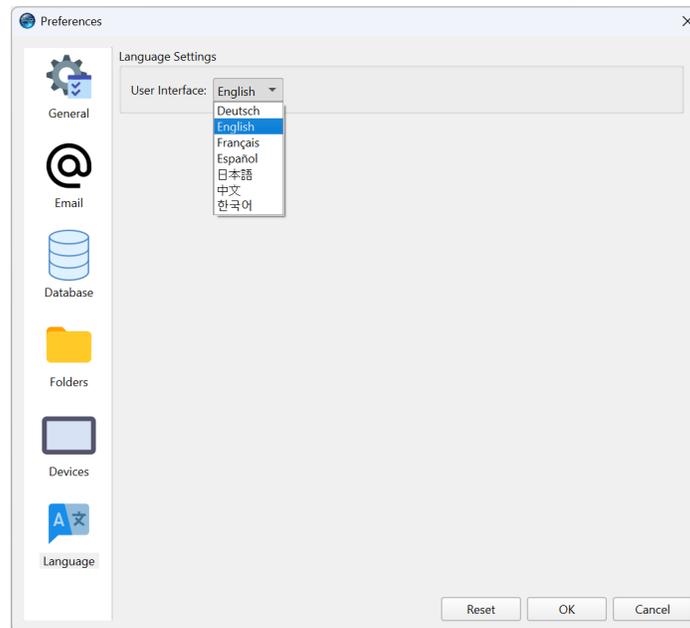
- **Automatically configure Power Save related settings for large-screen displays** - Check this option to automatically set the **LAN Power** setting of Sharp or NEC Large-screen displays to **On** as they are added to the database. This will allow communications with the display while in standby mode.

On device connection failures for active tasks and reports

- **Maximum number of retries** - Select the number of times running tasks and reports should attempt to connect to devices.
- **Timeout between retries** - Enter the number of seconds to wait between each retry.

 **Tip:** The **Maximum Number of Retries** and the **Timeout Between Retries** can be overridden for each task and report. See "Devices Tab" on page 183 for more information.

Language



- **Language Settings: User Interface** - Selects the language *NaViSet Administrator 2* uses for the User Interface.

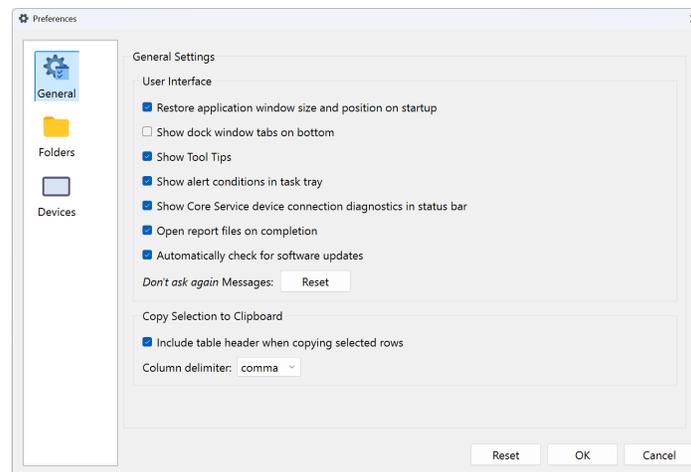
Tip: After a new language is selected, *NaViSet Administrator 2* must be restarted so that the new language can be loaded. The option to restart will be given when the Preferences dialog is dismissed.

14 Preferences in NaViSet Administrator SE Console

About

The *Preferences* dialog is used to configure many of the application settings and is accessed from the *Tools* menu. Preference settings are grouped into pages which are selected using the icons on the left of the window. Click **Reset** to restore the default values for all of the settings on the currently selected page.

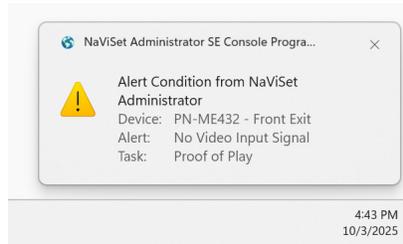
General Settings



User Interface

- **Restore application window size and position on startup** - Saves and restores the application's window size and position.
- **Show dock window tabs on bottom** - Shows the navigation tabs of the docked windows at the bottom of the interface instead of the top; such as the windows for Task Manager, Report Manager, Device Views, and others.
- **Show Tool Tips** - When selected, Tool Tips for various controls within the application are shown when the cursor is moused over the control.

- **Show alert conditions in task tray** - If an alert condition occurs, a popup message will be shown in the Windows Task Tray (Windows version), or the Status Menu (macOS version).

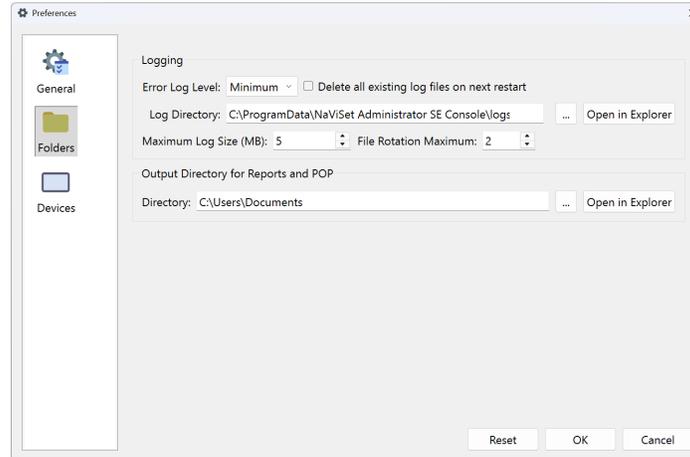


- **Show Core Service device connection diagnostics in status bar** - Shows a graphic in the lower-right corner of the interface that provides connection information for Core Service.
- **Open report files on completion** - When selected, the output file (Excel or delimited text file), or *Report History* window (if no output file is specified) will be automatically opened when a Report operation has completed.
- **Automatically check for software updates** - When selected, the application will periodically automatically check to see if a newer version is available by querying the update servers. An Internet connection is required.
- **Don't ask again messages: Reset** - Restores the displaying of any messages that may not be being shown because *Don't ask again* was selected when they previously appeared.

Copy Selection to Clipboard

- **Include table header when copying selected rows** - Automatically adds the header row to the Copy command when copying table rows. When highlighting multiple rows, the header cannot be selected along with other lines. Choosing this option will automatically include the header when using the Copy function.
- **Column delimiter** - Specifies which delimiter is used when pasting column data into the target application.

Folders



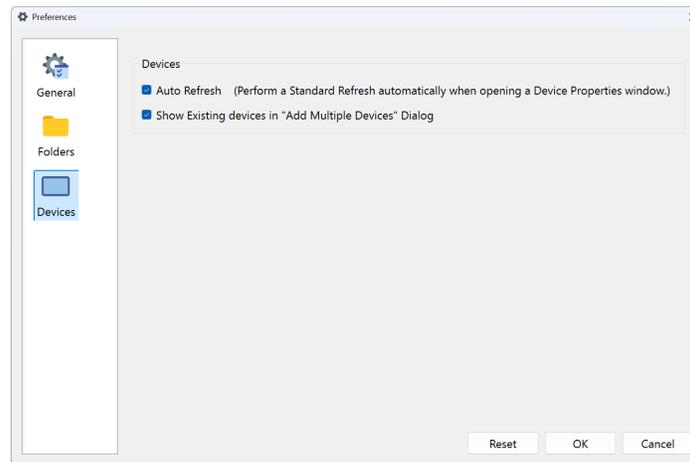
Logging

- **Error Log Level** - Determines how much data is recorded in the error log.
- **Delete all existing log files on next restart** - Determines whether to delete previous error logs each time the application starts.
- **Log directory** - Specifies the location where Error Logs are saved.
- **Open in Explorer** - Opens the folder location where the files are stored for quick access.
- **Maximum Log Size (MB)** - Defines the maximum amount of hard drive space that the Error Log file can occupy.
- **File Rotation Maximum** - Sets the maximum number of Error Log files that can be saved in the Log Directory before old Error Logs are automatically deleted.

Output Directory for Reports and POP

- **Directory** - Used to choose the location where Report and POP files are saved.
- **Open in Explorer** - Directly opens the folder location where the files are stored for easy access.

Devices



Devices

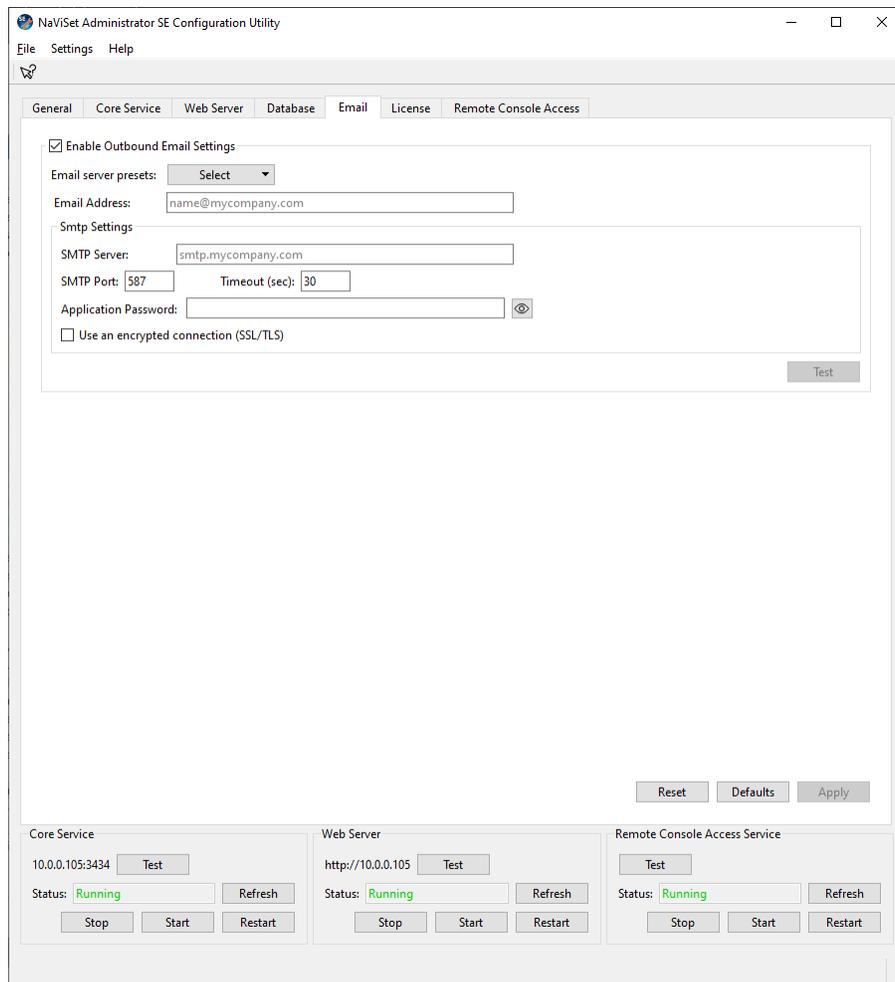
- **Auto Refresh** - Automatically refreshes the device when opening the properties window to verify communication with the device.
- **Show Existing devices in "Add Multiple Devices" Dialog** - Shows the devices that are already in the database when using the Add Multiple Devices function.

15 Email Settings for NaViSet Administrator SE



This section only applies to the **NaViSet Administrator SE Console** application. Instructions for configuring the email settings in the *NaViSet Administrator 2* application are described on page 220.

Email settings for the *NaViSet Administrator SE* software are managed through the **Email** tab in the *Configuration Utility*. For instructions on configuring Outbound Email Settings, refer to the help file in the utility. Access the webhelp file by clicking *Help* in the menu, which will open it in your default Internet browser.



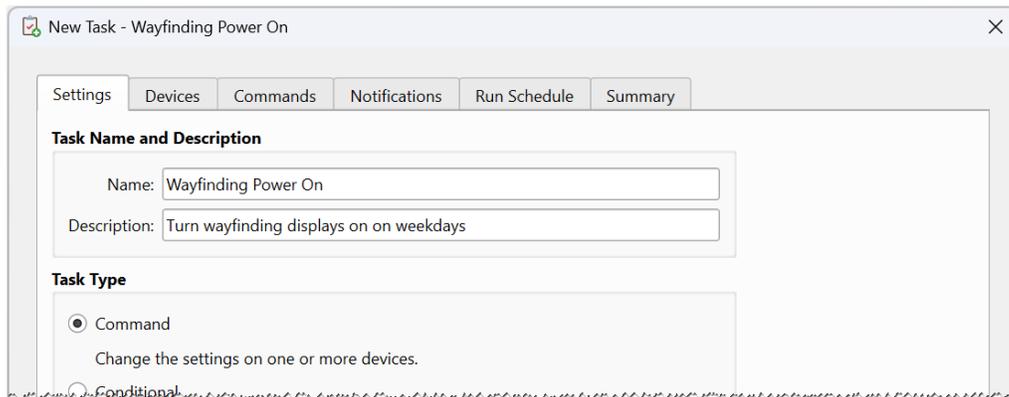
16 Usage examples

This chapter gives some step-by-step examples for configuring and running typical Tasks and Reports.

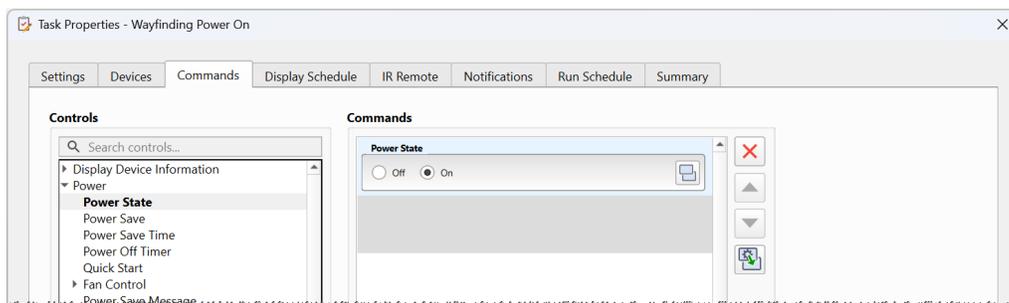
Example Task: Turn displays on and off at set times every weekday

In this example, displays will be configured to turn on and off at set times using two tasks; One to turn display power on, and another to turn display power off. First, a task to turn the display power on at certain times and days will be created, then duplicated, and then modified to turn off instead of on, and with the power off times.

1. Create a new Task by clicking the New Task  toolbar button, or selecting **New Task...** from the **Tasks** menu.
2. Enter a **Name** and **Description** for the task to indicate the purpose of the task - in this case powering on displays.



3. Select the Task Type: **Command**
4. On the **Devices** tab, select the devices to be controlled.
5. On the **Commands** tab, open the **Power** section on the **Controls** list, and select **Power State** to add it to the list of commands.



6. In the list of commands, select the Power State: **On**.
7. On the **Run Schedule** tab, select Start Options: **Scheduled**.

8. In the **Start Schedule** section, select the desired time and days on which to turn the displays on.

Start Schedule

Start this task every week at 07:00:00 AM

Additional Weekly Settings

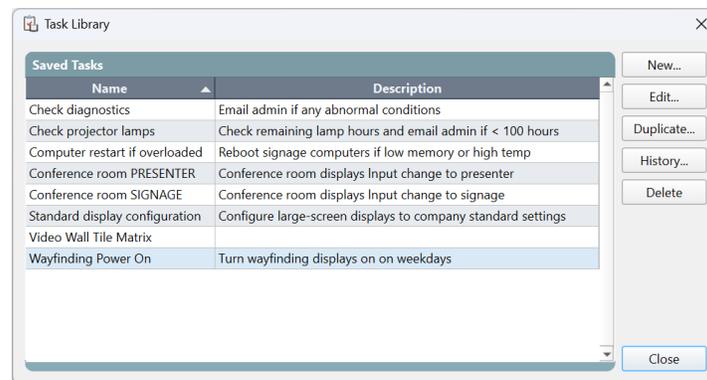
Start the task on these days of the week:

Monday Tuesday Wednesday Thursday Friday

Saturday Sunday

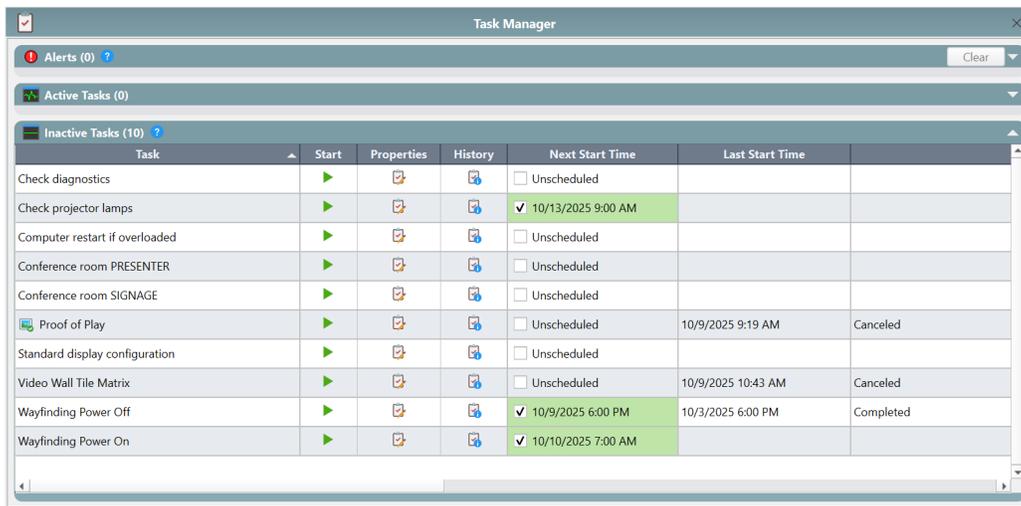
Next scheduled start time: 10/10/2025 7:00 AM

9. On the **Summary** tab, review the Task settings and then click **OK**.
10. Next, to easily configure the power off times, open the **Task Library**, select the task that was just created and click **Duplicate...**



11. On the **Settings** tab, edit the Task **Name** to indicate that this duplicated task is for power off.
12. On the **Commands** tab, change the **Power State** command selection from On to **Off**.
13. On the **Run Schedule** tab, select the desired Off time for the displays.
14. On the **Summary** tab, review the Task settings and then click **OK**.

15. There will now be two new tasks listed in the **Inactive Tasks** list that will automatically run on the selected days and times. The green background in the **Next Start Time** column indicates the tasks will run automatically at the time indicated.

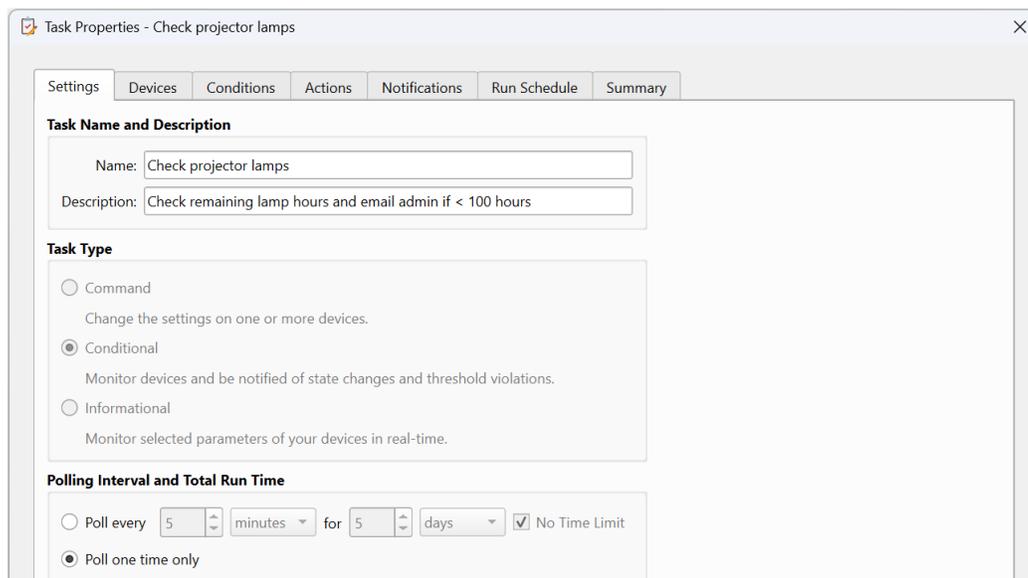


Task	Start	Properties	History	Next Start Time	Last Start Time	
Check diagnostics	▶	🔧	📅	<input type="checkbox"/> Unscheduled		
Check projector lamps	▶	🔧	📅	<input checked="" type="checkbox"/> 10/13/2025 9:00 AM		
Computer restart if overloaded	▶	🔧	📅	<input type="checkbox"/> Unscheduled		
Conference room PRESENTER	▶	🔧	📅	<input type="checkbox"/> Unscheduled		
Conference room SIGNAGE	▶	🔧	📅	<input type="checkbox"/> Unscheduled		
Proof of Play	▶	🔧	📅	<input type="checkbox"/> Unscheduled	10/9/2025 9:19 AM	Canceled
Standard display configuration	▶	🔧	📅	<input type="checkbox"/> Unscheduled		
Video Wall Tile Matrix	▶	🔧	📅	<input type="checkbox"/> Unscheduled	10/9/2025 10:43 AM	Canceled
Wayfinding Power Off	▶	🔧	📅	<input checked="" type="checkbox"/> 10/9/2025 6:00 PM	10/3/2025 6:00 PM	Completed
Wayfinding Power On	▶	🔧	📅	<input checked="" type="checkbox"/> 10/10/2025 7:00 AM		

Example Task: Check for projector lamps close to needing replacement

In this example, a task to check to see if the estimated lamp life remaining for projectors is below a specified number of hours limit is created. This is recommended in order to perform proactive ordering of replacement lamps and maintenance. The task will be set to run once every week, and an email will be sent to the administrator if any projector's estimated lamp life remaining is less than 100 hours.

1. Create a new Task by clicking the New Task  toolbar button, or selecting **New Task...** from the **Tasks** menu.
2. Enter a **Name** and **Description** for the task to indicate the purpose of the task.



Task Properties - Check projector lamps

Settings | Devices | Conditions | Actions | Notifications | Run Schedule | Summary

Task Name and Description

Name: Check projector lamps

Description: Check remaining lamp hours and email admin if < 100 hours

Task Type

Command
Change the settings on one or more devices.

Conditional
Monitor devices and be notified of state changes and threshold violations.

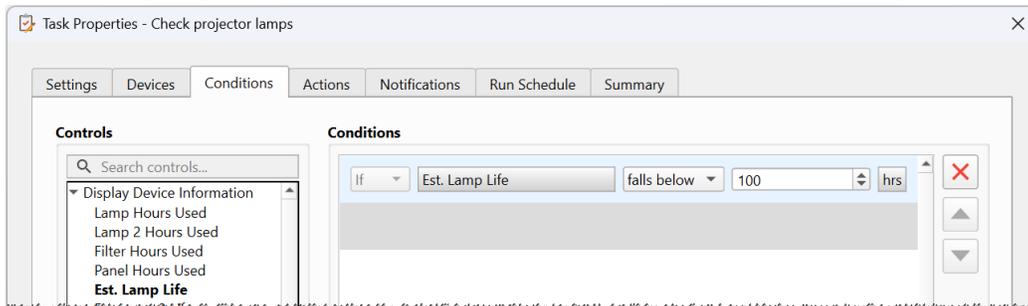
Informational
Monitor selected parameters of your devices in real-time.

Polling Interval and Total Run Time

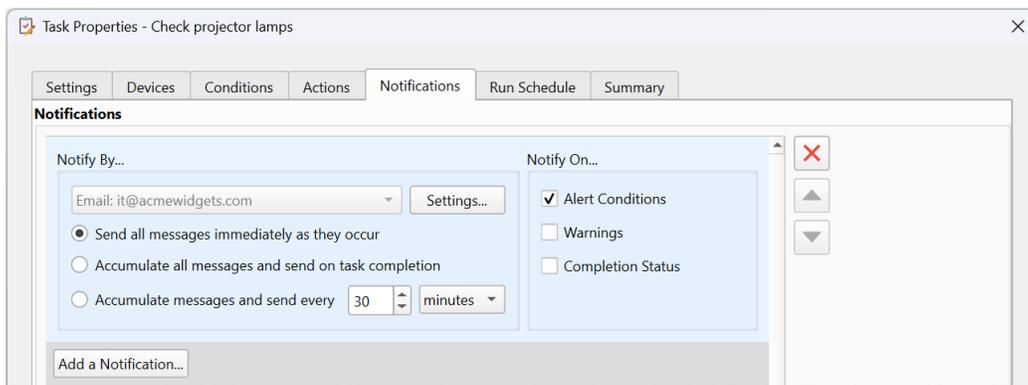
Poll every 5 minutes for 5 days No Time Limit

Poll one time only

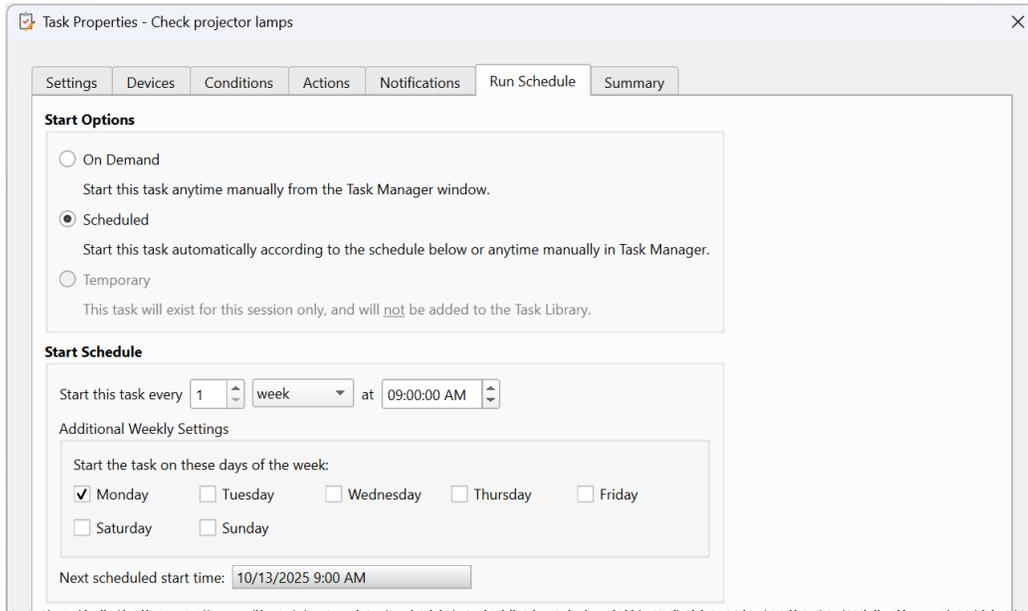
3. Since the task will check the condition of a value, select the *Task Type*: **Conditional**.
4. Since it is only necessary to check each projector once each time the task is run, select *Polling Interval and Total Run Time*: **Poll one time only**.
5. On the **Devices** tab, select the projectors to be checked.
6. On the **Conditions** tab, open the **Display Device Information** section on the **Controls** list, and select **Est. Lamp Life Remaining** to add it to the list of conditions.
7. Change the condition to **falls below** and enter 100 as the **hrs** value.



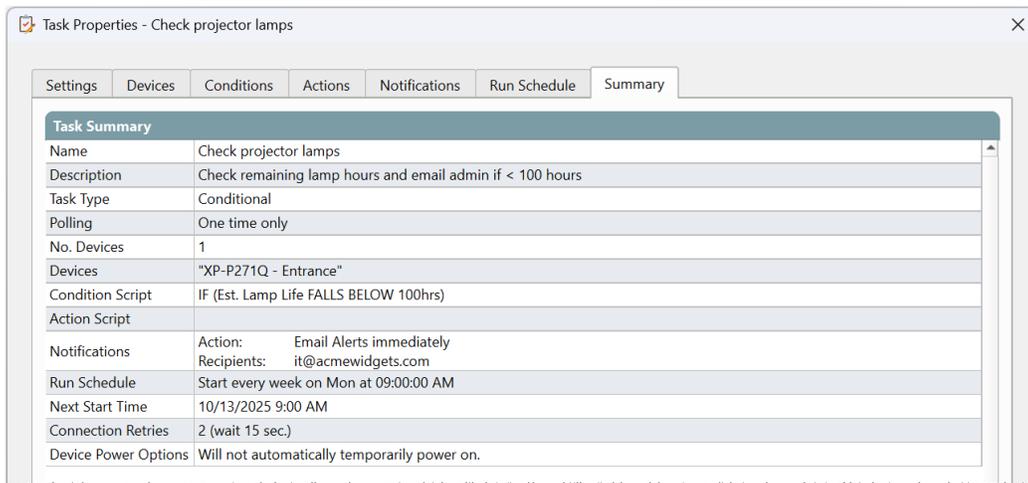
8. On the **Notifications** tab, click **Add a Notification...**, enter the recipients email address and then click **OK**.
9. Since the administrator doesn't need to know immediately for each individual projector if the condition is true, select **Accumulate all messages and send on task completion**. This way only one email will be sent listing any projectors for which the lamp lifetime condition is true.



10. On the **Run Schedule** tab, select **Start Options: Scheduled** and then select the frequency at which the task will be performed. In this example the task will run once a week on a Monday at 9 AM.



11. On the **Summary** tab, review the Task settings and then click **OK**.

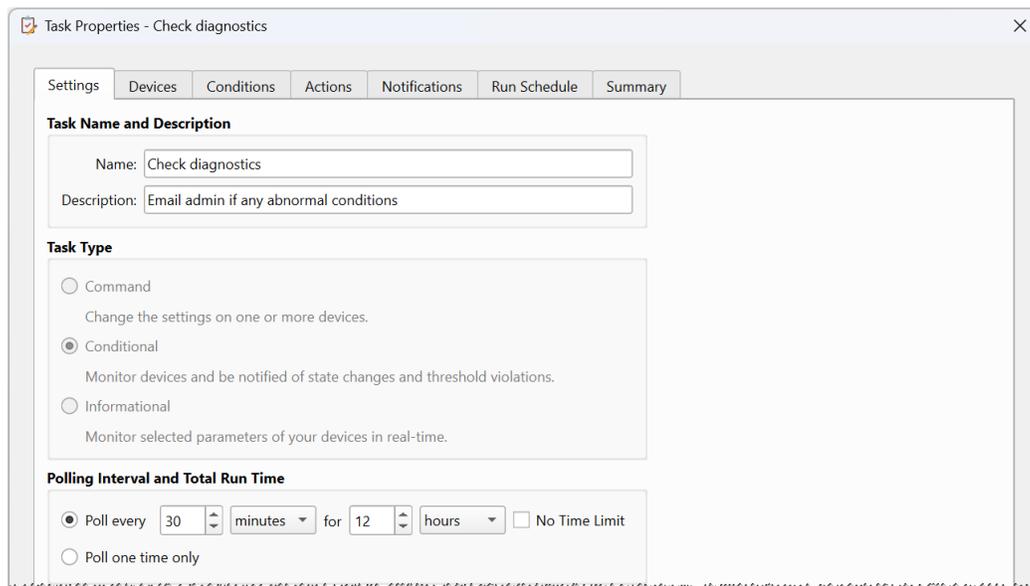


12. There will now be a new task listed in the **Inactive Tasks** list that will automatically run on the selected day and times. The green background in the **Next Start Time** column indicates the task will run automatically at the time indicated.

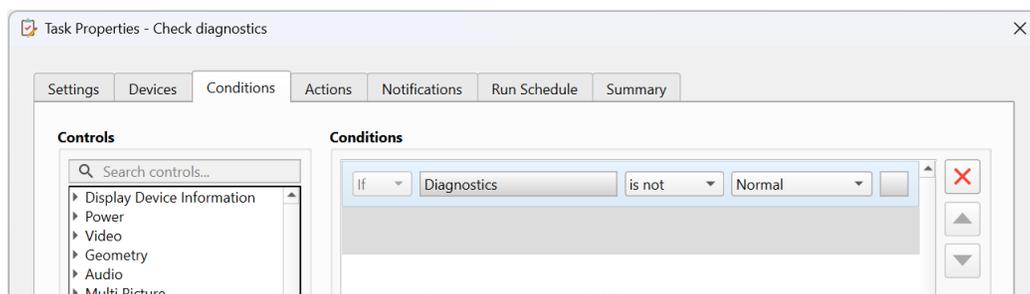
Example Task: Check for displays reporting a diagnostic error condition

In this example, a task to check to see if a display device is reporting a diagnostic error condition is created. If a diagnostic error is returned from a device, an alert email will be sent to the administrator. The task will be set to check each device every 30 minutes during weekdays between 8 AM and 8 PM.

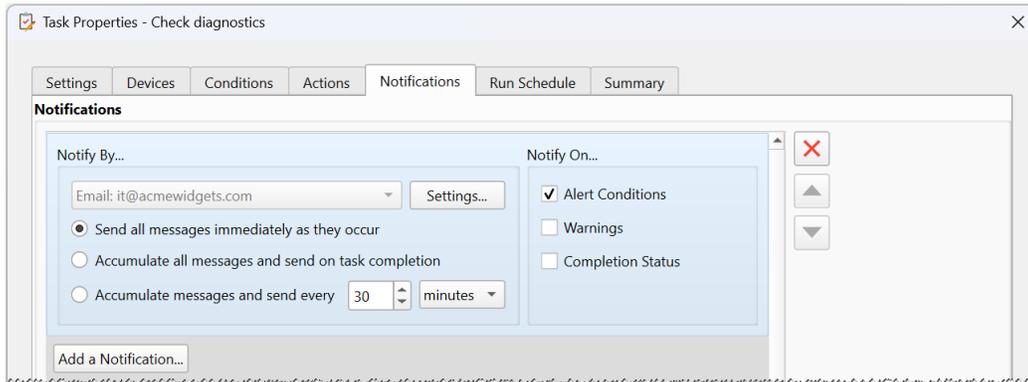
1. Create a new Task by clicking the New Task  toolbar button, or selecting **New Task...** from the **Tasks** menu.
2. Enter a **Name** and **Description** for the task to indicate the purpose of the task.



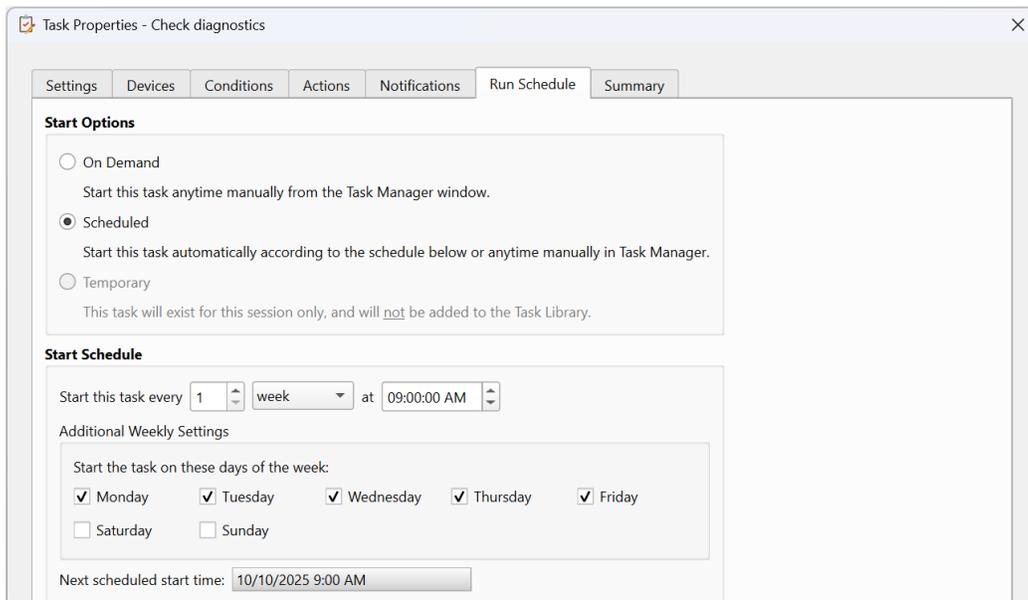
3. Since the task will check the condition of a value, select the **Task Type: Conditional**.
4. The task will check each device every 30 minutes, so set the **Poll Every** interval to 30 minutes. It will run from 8 AM to 8 PM, so set the run time to 12 hours.
5. On the **Devices** tab, select the devices to be checked.
6. On the **Conditions** tab, open the **Display Device Information** section on the **Controls** list and select **Diagnostics** to add it to the list of conditions.
7. Change the condition to **is not** and **Normal** as the value.



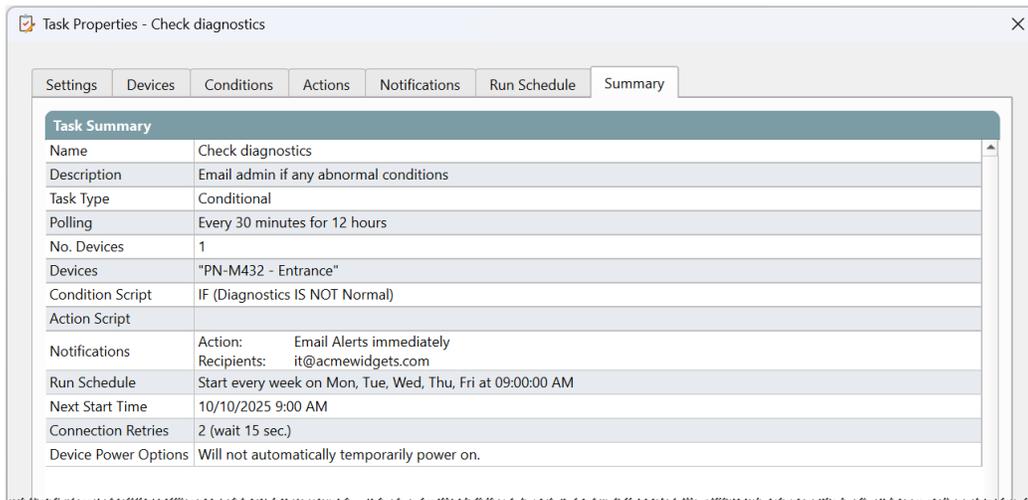
8. On the **Notifications** tab, click **Add a Notification...**, enter the recipients email address and then click **OK**.
9. Since the administrator will want to know immediately for each device if the condition is true, select **Send all messages immediately as they occur**. Since the administrator will want to be notified if a device is unable to be reached over the LAN, select **Warnings** in the **Notify On...** section, as well as **Alert Conditions**. A warning will be generated if a device can't be reached for some reason.



10. On the **Run Schedule** tab, select **Start Options: Scheduled** and then select the frequency at which the task will be performed. In this example, the task will run on weekdays starting at 9 AM and weekends will be skipped.



11. On the **Summary** tab, review the Task settings and then click **OK**.



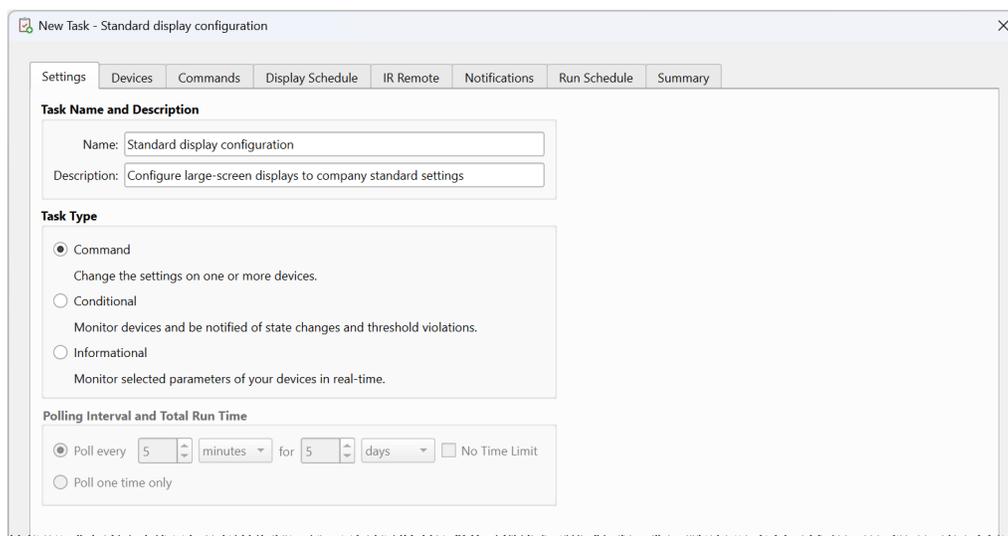
12. There will now be a new task listed in the **Inactive Tasks** list that will automatically run on the selected days and times. The green background in the **Next Start Time** column indicates the task will run automatically at the time indicated.

Example Task: Configure new displays with multiple preset settings

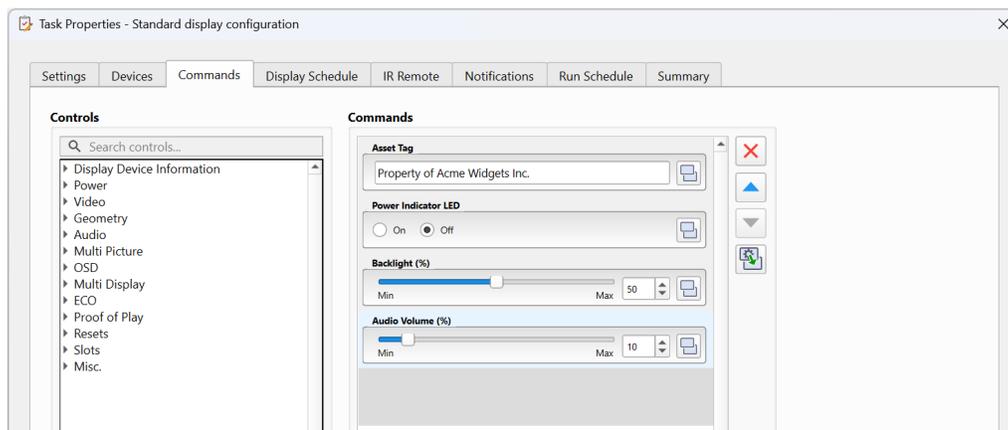
In this example a task is created with a list of settings to be applied to displays. This could be a standard configuration that is needed for all new displays in a particular application or environment. Having these changes performed by a task means that the process can be automated, thus reducing the time taken and risk of error due to mis-adjustment.

Once a task has been created with the desired settings, it can be run on demand and applied to new displays by modifying the devices selected in the task.

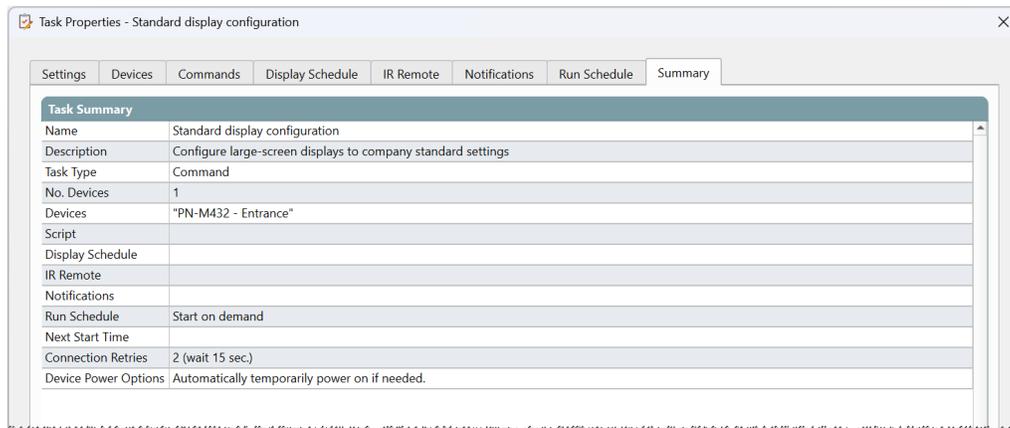
1. Create a new Task by clicking the New Task  toolbar button, or selecting **New Task...** from the **Tasks** menu.
2. Enter a **Name** and **Description** for the task to indicate the purpose of the task.



3. Since the task will change the settings on displays, select **Task Type: Command**.
4. On the **Devices** tab, select at least one already existing device of the same type. This way the Commands list will be populated with the correct controls for the device type.
5. On the **Commands** tab, select and configure the values for each of the settings to be applied for the display configuration.



6. On the **Run Schedule** tab, select **On Demand** since the task will be run manually on new displays.
7. On the **Summary** tab, review the Task settings and then click **OK**.



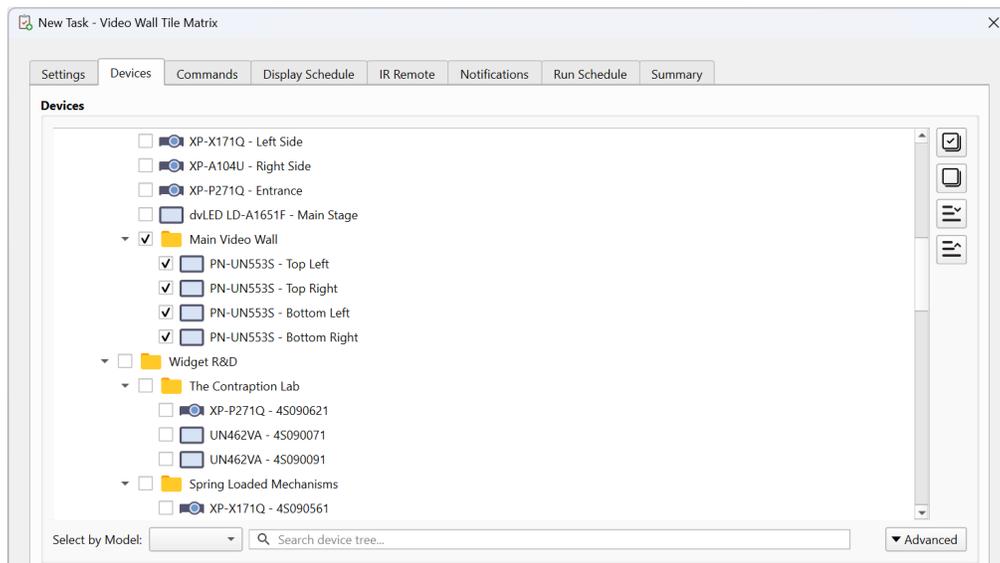
8. There will now be a new task listed in the **Inactive Tasks** list that must be run manually.
9. To run the task on new displays, first add them to the device tree, then modify the task by clicking the  **Properties** icon. On the **Devices** tab, modify the selection to include the new displays to configure. Click **OK** and then run the task by clicking the **▶ Run** button.

Example Task: Using Device Specific controls to configure a Tile Matrix

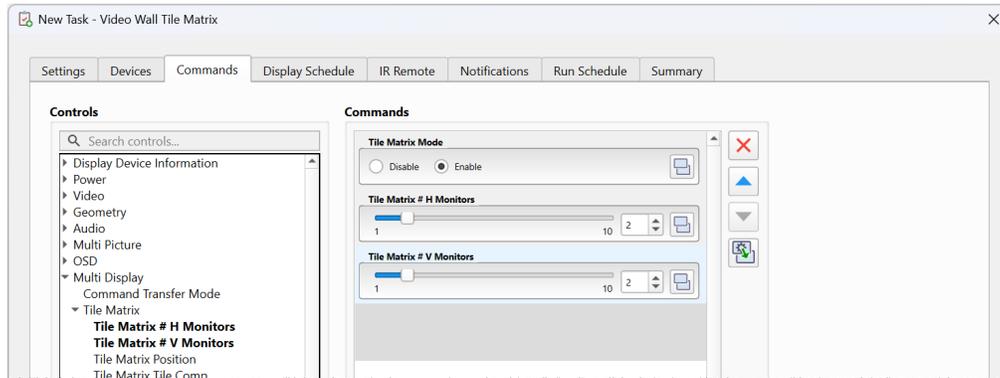
In this example a task is created to configure the Tile Matrix settings on 4 displays arranged in a 2x2 video wall. This task will allow all the displays in the video wall to be reconfigured using a single task. This is useful if, for example, a video wall is used in multiple configurations of Tile Matrix, and needs to be quickly reconfigured.

Some of the commands, such as enabling the Tile Matrix, are applied to all of the displays with the same settings. However, for setting the position of each display within the Tile Matrix, individual settings per display are required. This can be accomplished using the Device Selector controls.

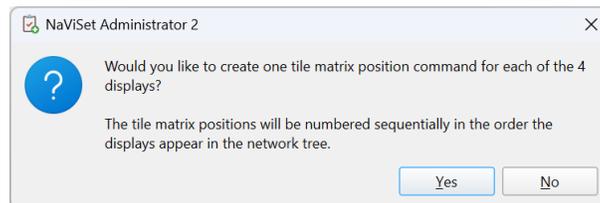
1. Create a new Task by clicking the New Task  toolbar button, or selecting **New Task...** from the **Tasks** menu.
2. Enter a **Name** and **Description** for the task to indicate the purpose of the task.
3. Since the task will change the settings on displays, select **Task Type: Command**.
4. On the **Devices** tab, select the 4 displays in the video wall.



- On the **Commands** tab, select and add the controls to configure the H and V size of the Tile Matrix, as well as enabling the Tile Matrix. These controls will be applied with the same setting values for all of the displays. In this example the **Tile Matrix # H Monitors** and **Tile Matrix # V Monitors** are set to 2 since the video wall is arranged as a 2x2.

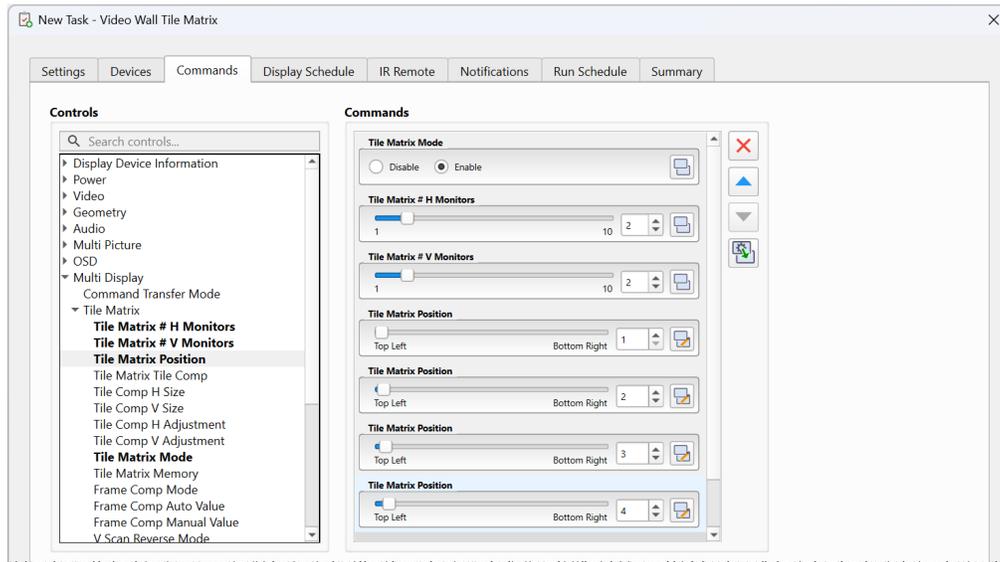


- Next, the position of each display within the Tile Matrix needs to be set using the **Tile Matrix Position** control. The value of this control setting needs to be different for each display in the Task. Select and add the setting and the following dialog will appear. Selecting **Yes** will automatically add one instance of the Tile Matrix Position control for each display, and sequentially assign the position setting value.

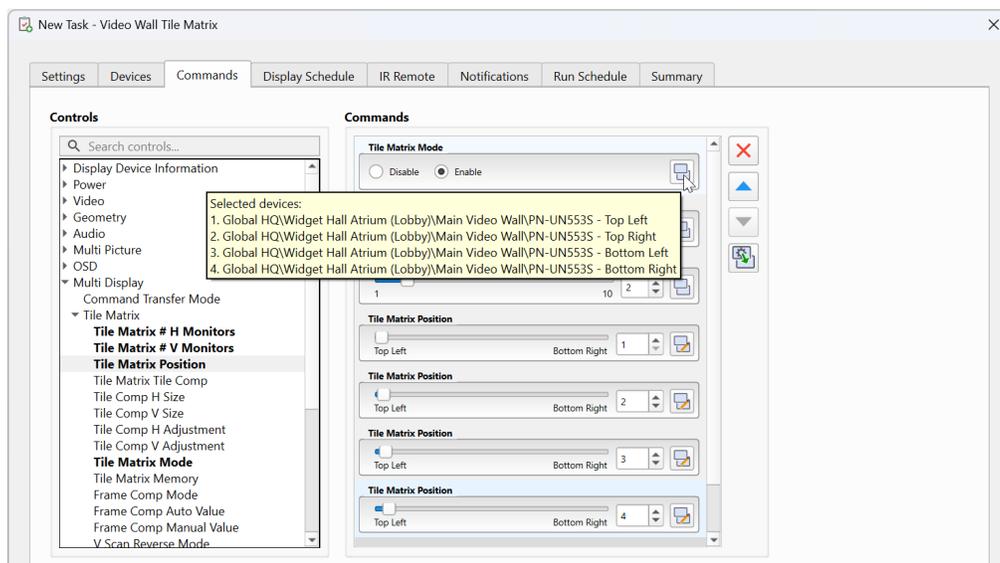


Tip: *Tile Matrix Positions* are ordered left to right, top to bottom. So in this example, the top left display has position 1, the top right - position 2, bottom left - position 3, and bottom right - position 4. Ordering the displays in the device tree in this way allows the Tile Matrix Positions to be assigned automatically without the need to manually set them for each display.

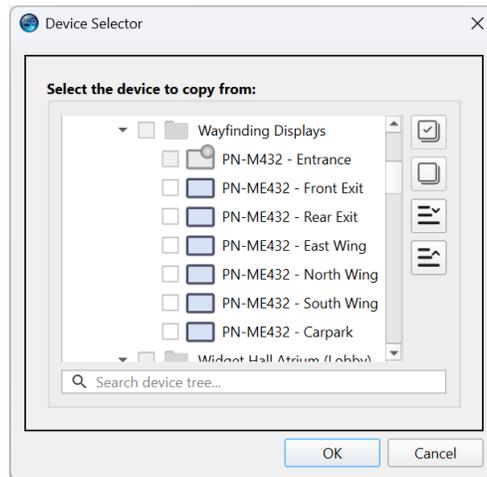
7. The **Tile Matrix Position** controls will show up in the command list as shown below.



8. The devices that a particular control will be applied to can be seen by mousing over the  button as shown below.



9. If necessary, the devices that a control applies to can be modified by clicking on the  button, which will open the **Device Selector** dialog. Select the devices that the control is to be applied to.



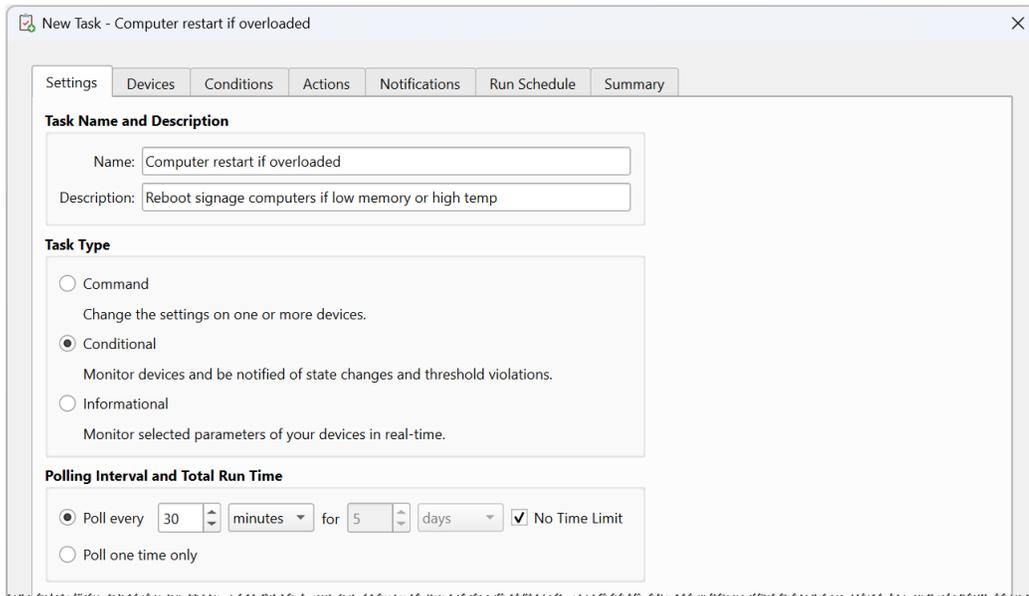
10. Complete the task configuration and review the Task settings on the **Summary** tab.
11. Click **OK** to add the new task listed in the **Inactive Tasks** list.
12. Duplicate and modify the task as necessary to create other Tile Matrix configurations, such as Tile Matrix Off, etc.

 **Tip:** Depending on the changes being made to the Tile Matrix configuration of the displays, it may not be necessary for some of the commands to be performed with each task. For example, if the displays are being switched between a 2x2 tile matrix and individual displays (no tile matrix), then it is not necessary to send the Tile Matrix # H Monitors, Tile Matrix # V Monitors, and Tile Matrix Position settings for each task. In this particular case, once the displays have been initially configured, only the Tile Matrix Mode - Enable / Disable setting needs to be set to reconfigure the displays. This can make the Task operation faster by reducing unnecessary commands.

Example Task: Check computer conditions and reboot if necessary

In this example, a Task that uses Conditions and Actions is created to check to see if any computer devices are in a state that may require a restart, such as having very low available memory, or excessive CPU or GPU temperatures. The administrator will also be alerted via email whenever a computer is restarted as a result of this task.

1. Create a new Task by clicking the New Task  toolbar button, or selecting **New Task...** from the **Tasks** menu.
2. Enter a **Name** and **Description** for the task to indicate the purpose of the task.
3. Since the task will check the condition of a value, select the **Task Type: Conditional**.
4. The task will check each device every 30 minutes, so set the **Poll Every** interval to 30 minutes. Since the task is meant to check the status of the computers and reboot if necessary, select **No Time Limit** so that the task will continuously run and check the devices.



New Task - Computer restart if overloaded

Settings | Devices | Conditions | Actions | Notifications | Run Schedule | Summary

Task Name and Description

Name: Computer restart if overloaded

Description: Reboot signage computers if low memory or high temp

Task Type

Command
Change the settings on one or more devices.

Conditional
Monitor devices and be notified of state changes and threshold violations.

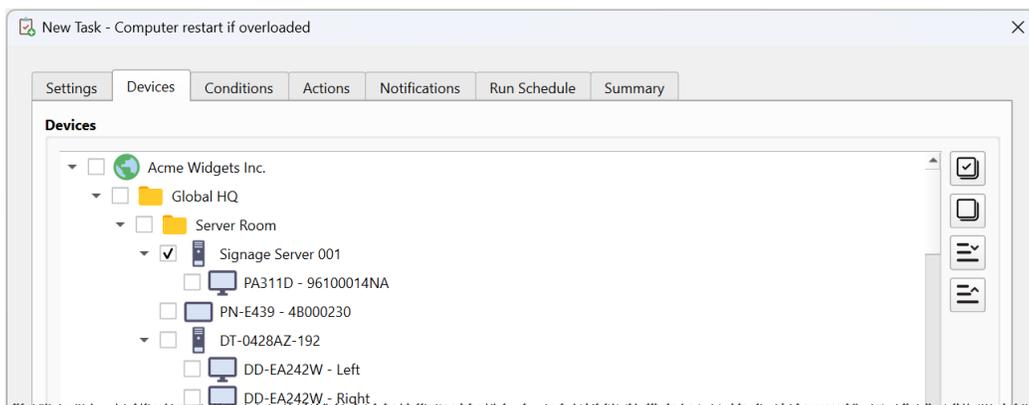
Informational
Monitor selected parameters of your devices in real-time.

Polling Interval and Total Run Time

Poll every 30 minutes for 5 days No Time Limit

Poll one time only

5. On the **Devices** tab, select the devices to be checked.



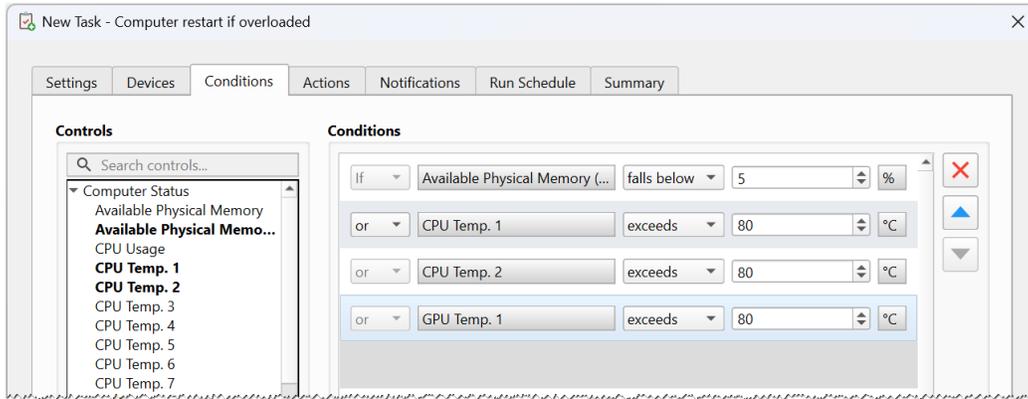
New Task - Computer restart if overloaded

Settings | Devices | Conditions | Actions | Notifications | Run Schedule | Summary

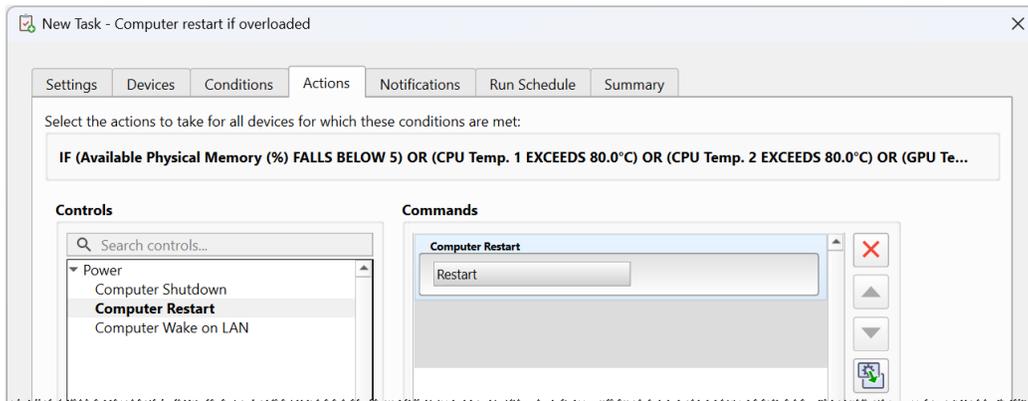
Devices

- Acme Widgets Inc.
 - Global HQ
 - Server Room
 - Signage Server 001
 - PA311D - 96100014NA
 - PN-E439 - 4B000230
 - DT-0428AZ-192
 - DD-EA242W - Left
 - DD-EA242W - Right

6. On the **Conditions** tab, open the **Computer Status** section in the **Controls** list. Select controls to add them to the **Conditions** list, such as: **Available Physical Memory**, **CPU Temp.**, and **GPU Temp.** And then set the parameters for each of the conditions selected.

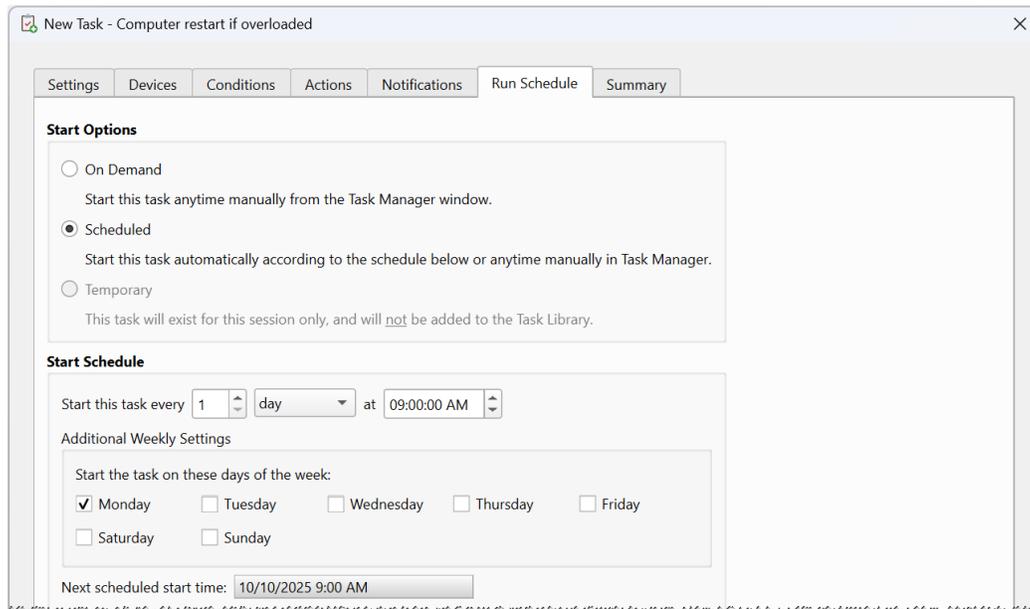


7. On the **Actions** tab, select **Computer Restart**.



8. On the **Notifications** tab, click **Add a Notification...**, enter the recipients email address and then click **OK**.
9. Since the administrator will want to know immediately for each device if the condition is true, select **Send all messages immediately as they occur**. Since the administrator will want to be notified if a computer device is rebooted, select **Alert Conditions** in the **Notify On...** section.

10. On the **Run Schedule** tab, select **Start Options: Scheduled** and then select the frequency at which the task will be performed. In this example, the task will run every day at 9 AM.



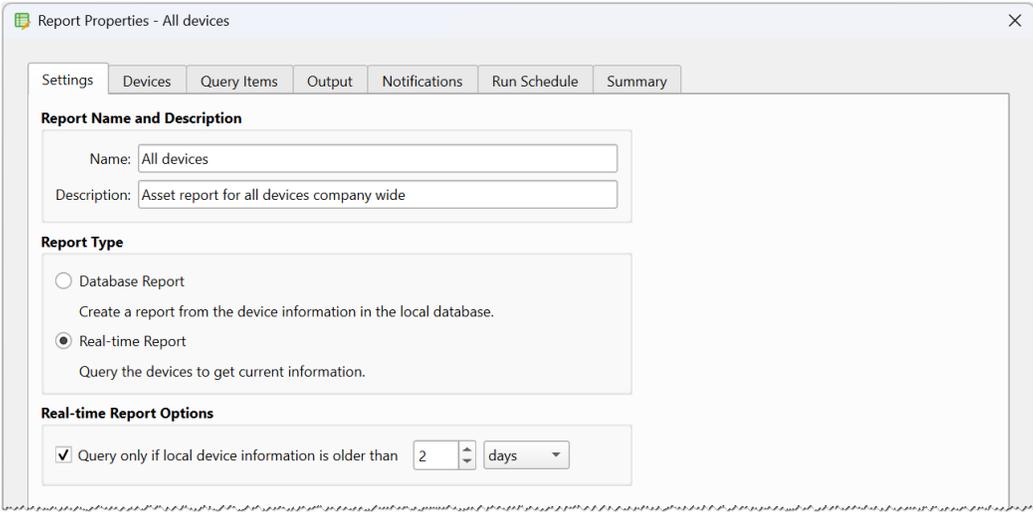
11. On the **Summary** tab, review the Task settings and then click **OK**.
12. There will now be a new task listed in the **Inactive Tasks** list that will automatically run on the selected days and times. The green background in the **Next Start Time** column indicates the task will run automatically at the time indicated.

Example Report: Query basic device information and export to Excel

In this example a report is created that will query basic information about all of the devices in the Device Tree. In order to avoid unnecessarily re-querying devices too often, a report that only queries devices if the information about them is older than two days. This will keep the information in the database up to date.

Once the report has completed, the results are exported to Excel so the data can be used and manipulated externally.

1. Create a new Report by clicking the New Report  toolbar button, or selecting **New Report...** from the **Reports** menu.
2. Enter a **Name** and **Description** for the report to indicate the purpose of the report.



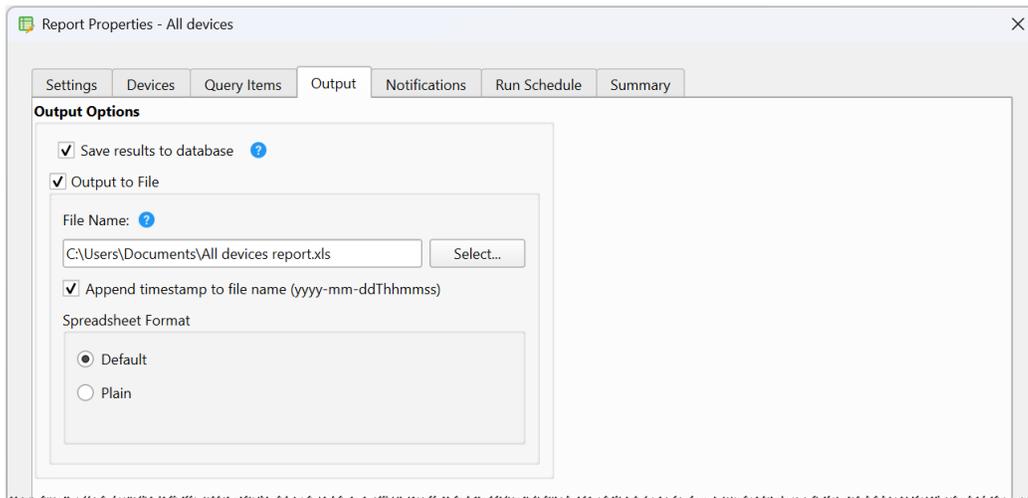
The screenshot shows the 'Report Properties - All devices' dialog box. It has several tabs: Settings, Devices, Query Items, Output, Notifications, Run Schedule, and Summary. The 'Settings' tab is active. Under 'Report Name and Description', the Name is 'All devices' and the Description is 'Asset report for all devices company wide'. Under 'Report Type', 'Real-time Report' is selected. Under 'Real-time Report Options', the checkbox 'Query only if local device information is older than' is checked, with a value of '2' and a unit of 'days'.

3. Since the report will actually query devices, select **Real-time Report** as the **Report Type**. Select **Query only if local device information is older than** and select **2 days** in order to avoid unnecessarily re-querying devices and also keep the database up to date.
4. On the **Devices** tab, select the devices to be included in the report.

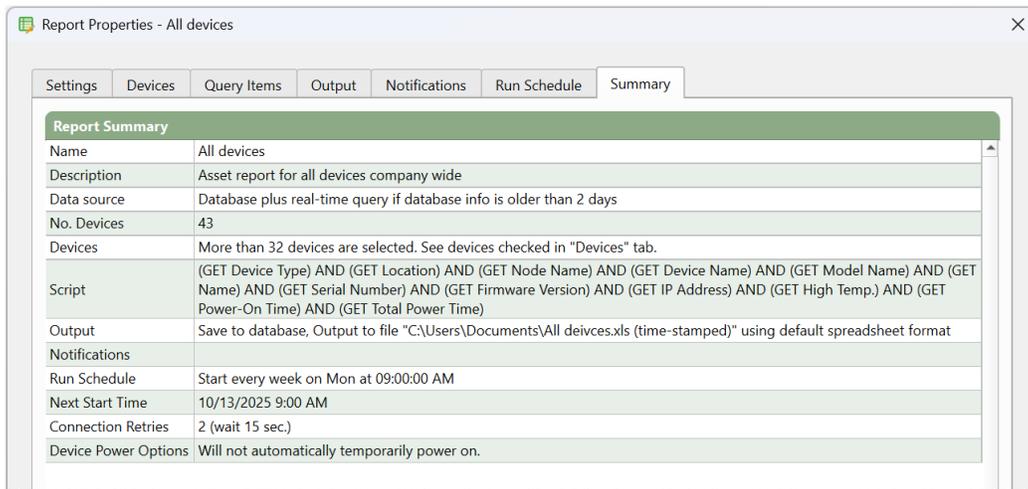
 **Tip:** Windows computers and daisy chained large-screen displays are shown in the device tree in the **Devices** tab without any child devices (attached displays for Windows computers, and individual daisy chained large-screen displays for daisy chain hosts). These child devices will be determined when the Report operation is actually run, and automatically added to the report and the device tree.

5. On the **Query Items** tab, select the desired items to query and include in the report.

6. On the **Output** tab select the **Output to file** option, click **Select...** and choose a file type and name.



7. On the **Summary** tab, review the Report settings and then click **OK**.



8. There will now be a new report listed in the **Inactive Reports** list.

9. Click the **Run** button to start the report. Once the report has completed querying all of the selected devices for which the database information is more than two days old, the spreadsheet will be automatically opened.

	A	B	C	D
1				
2	All devices			
3				
4	Report Information			
5	Name:	All devices		
6	Description:	Asset report for all devices company wide		
7	File Name:	C:\Users\Documents\All devices_2025-10-09T091622.xls		
8	Start Time:	10/9/2025 9:14 AM		
9	End Time:	10/9/2025 9:16 AM		
10	Completion Status:	Incomplete		
11	Generated By:	NaViSet Administrator 2		
12	Version:	Version 2.1.0 (Build 251003)		
13				
14	Report Data			
15	Device Type	Location	Node Name	Device
16	Computer	Global HQ\Server Room	Signage Server 001	Signage Server 001
17	Read-Only Display	Global HQ\Server Room	Signage Server 001	PA311D - 96100014NA
18	Large-Screen Display on LAN	Global HQ\Server Room	PN-E439 - 4B000230	PN-E439 - 4B000230
19	Computer	Global HQ\Server Room	DT-0428AZ-192	DT-0428AZ-192
20	Desktop Display	Global HQ\Server Room	DT-0428AZ-192	DD-EA242W - Left
21	Desktop Display	Global HQ\Server Room	DT-0428AZ-192	DD-EA242W - Right
22	Computer	Global HQ\Server Room	DT-0430AZ-201 - 4S090621	DT-0430AZ-201 - 4S090621
23	Computer	Global HQ\Server Room	DT-0430AZ-202 - 4S090631	DT-0430AZ-202 - 4S090631
24	Computer	Global HQ\Server Room	DT-0430AZ-203- 4S090641	DT-0430AZ-203- 4S090641
25	Large-Screen Display on LAN	Global HQ\Wayfinding Displays	PN-M432 - Entrance	PN-M432 - Entrance
26	Large-Screen Display on LAN	Global HQ\Wayfinding Displays	PN-ME432 - Front Exit	PN-ME432 - Front Exit

17 Frequently Asked Questions

Question: Can Task schedules be created with different start times for different days of the week? For example, to power on displays at different times on different days.

Answer: Yes. Simply create a Task with the desired Start Schedule times and days of the week to run. Then duplicate that task and edit it to change the start times and other days of the week. Repeat as necessary. So the end result is that there are multiple Tasks performing the same operation, but on different days and start times.

Question: Can two instances of the application share the same *NaViSet Administrator* database file simultaneously?

Answer: *NaViSet Administrator 2* – the database can only be opened by one instance at any one time.

NaViSet Administrator SE – the database on the server computer can be accessed by multiple users via the Console app and Web interface.

Question: Can the database used by *NaViSet Administrator* be accessed by other software?

Answer: The database format is proprietary. Device information can be exported via delimited text files and Excel files. *NaViSet Administrator SE* includes REST API functionality to allow integration with 3rd party systems.

Question: Can RS232 Splitters or Y adapters be used to connect multiple displays?

Answer: No. This will result in communication collisions and is an illegal topology for RS232 communications.

Question: What happens when there is a time change such as DST (Daylight saving time)?

Answer: Tasks that are currently inactive will automatically be rescheduled to take into account the new time from the host computer whenever it is changed. If tasks are running when the time change occurs, a message will be included in the task results indicating the time change.

Question: If the same brightness and color settings are applied to multiple displays will they look exactly the same?

Answer: For most display models, no. Since each display is different due to the age, usage, and normal tolerances, the same color setting values applied to different displays will result in some brightness and/or color differences.

Question: The results of a Task show numerous *Last Query Still Running* warning messages. What does this mean?

Answer: The task has not completed before the next time it is scheduled to poll has been reached. Increase the polling interval time to allow the task to complete on all of the devices specified.

Question: What happens to any scheduled tasks if *NaViSet Administrator* is closed? Do they need to be rescheduled?

Answer: *NaViSet Administrator* needs to be running in order for a scheduled task to start and run. If it is not running when a task is scheduled to start, then the task will be rescheduled for the next time period as soon as the application is run again. All tasks are automatically rescheduled whenever *NaViSet Administrator* is started and do not need to be manually rescheduled, however, tasks missed will not be caught up.

Question: How much network bandwidth does *NaViSet Administrator* use?

Answer: Communications to each device uses a minimal amount of network bandwidth - typically several kilobytes for most operations.

Question: How long would it take to perform an operation on a large number of devices?

Answer: *NaViSet Administrator* can communicate to multiple different devices in parallel, which speeds up operation by allowing simultaneous connections, and allows more operations to be performed while waiting for other devices to respond to commands. Up to 30 connections can be used by selecting *Maximum simultaneous network connections* in the application *Preferences* (see page 217).

Assuming that all 30 connections are used with the maximum possible efficiency, then operations on all devices will complete at 30 times the speed of performing the operation on all devices in serial using one connection. Depending on the device, connection type, and operation being performed, operation times are typically between 5 seconds to 1 minute.

Example: Approximately how long would it take to power off 1000 displays?

Assuming a power off operation takes 15 seconds to perform on a device, if performed serially using one connection the total time would be about 15 seconds x 1000 = 15000 seconds (over 4 hours). If 30 connections are used, then the time is $15 \times 1000 \div 30 = 500$ seconds (just over 8 minutes). It is assumed that no other operations are being performed at the same time.

Question: Is it possible to connect to a display that is connected via RS232 to the local computer?

Answer: Yes. Install and configure the *LAN to RS232 Bridge* application on the local computer. Add the display to the device tree in the same way as any other device, but use either the computer's actual IP address, network name, or the IP address 127.0.0.1.

Question: Which port needs to be opened on the network to allow access to the device?

Answer: Please see "Network Ports Used by *NaViSet Administrator*" on page 258.

18 Troubleshooting

Problem: Unable to connect to a Windows Computer via WMI

Windows Computers Only

If an error occurred when performing any *Test* operation, follow these troubleshooting steps:

- Confirm that the remote computer is powered on and fully booted.
- Confirm that the computer name or IP address is correct.
- Confirm that the user credentials entered are correct for an administrative user on the computer or domain administrator.
- Confirm that the Windows Firewall is not blocking access to WMI. See page 267 for more details.
- If the Windows computers on the network are part of a Windows Workgroup and not a Domain, the default UAC (User Account Control) security settings will not allow access to WMI, even if the Firewall is disabled.

Problem: Unable to communicate with a Sharp or NEC large-screen display

If an error occurred when performing any *Test* operation, follow these troubleshooting steps:

- Confirm that the display is a supported model and is powered on.
- Confirm the IP address of the display is correct. If using the LAN to RS232 Bridge make sure the IP address or host name of the Windows computer is correct.
- Confirm that the Monitor ID being used to connect to a display matches the Monitor ID set on the OSD.
- If using the *LAN to RS232 Bridge* utility, confirm that it is configured correctly and has been started. Confirm that the Windows Firewall has been opened correctly for the Network Location Type being used. See "Troubleshooting the LAN to RS232 Bridge" on page 265.
- Confirm that the first display is correctly configured to use RS232 or LAN, depending on the connection type. See the configuration information starting on page 79 for details.
- For displays daisy chained via RS232, confirm that displays connected to the first display are configured to use RS232 and have unique Monitor IDs.
- For displays daisy chained via RS232, confirm that displays are connected using crossover / NULL modem type RS232 cables, and are connected to the correct IN and OUT sockets on the displays.
- For displays daisy chained via LAN, confirm that the network connection to the first display is connected to the LAN 1 input. The LAN 2 output should connect to the LAN 1 input on the next display in the daisy chain.
- If the display is connected directly to LAN (not using the *LAN to RS232 Bridge*), try connecting to the display's internal web host using a web browser and enter the IP address of the display to verify connectivity via HTTP.
- Try resetting the LAN settings on the display and reconfiguring. Power Off and On the display.

Problem: Unable to communicate with a Sharp or NEC projector

If an error occurred when performing any *Test* operation, follow these troubleshooting steps:

- Confirm the IP address of the projector, or IP address or Windows computer name of the Windows computer (if using the *LAN to RS232 Bridge*) is correct.
- If using the *LAN to RS232 Bridge* utility, confirm that it is configured correctly and has been started. See "Troubleshooting the LAN to RS232 Bridge" on page 265.
- If the projector is connected directly to LAN (not using the *LAN to RS232 Bridge*), try connecting to the projector's internal web host using a web browser and enter the IP address of the projector to verify connectivity via HTTP.
- Some projector models require the communications setting to be manually configured between RS232 and LAN via the On Screen Display. Select the appropriate setting for the connection being used.

A Comparison of connection methods for Sharp or NEC large-screen displays

	Connection Method	
	Direct LAN	LAN to RS232 Bridge
Host Windows Computer Required	No	Yes
Operation Speed	Fastest	Slightly Slower
RS232 Daisy Chain Supported	Yes	Yes
Control when remote host computer is powered down or not functional	N/A	No
Control without user logged in to remote host computer	N/A	No
Use and select any video input	Yes	Yes
Configuration of Monitor IDs and number of displays on host computer	N/A	No configuration necessary
Maximum cable length	100m	10m
Additional limitations		One COM port supported
Supported on SBC (Single Board Computer)	N/A	Yes
IP Address	IP address required for display	Shares IP address of host computer
Network Security	None	None
Typical Standard Refresh Time	20 seconds per display	20 seconds per display
Typical Full Refresh Time	120 seconds per display	120 seconds per display
See connection diagram on	page 79	page 82

Daisy Chain RS232 vs. Individual LAN Connections

The following table compares connecting large-screen displays individually via LAN vs. using an RS232 daisy chain between displays:

	Connection Method	
	Daisy Chain RS232	Individual LAN Connection
Operation Speed	Slower. Limited to one operation on one display on the daisy chain at a time.	Faster. Simultaneous (parallel) operations to each display (up to maximum limit set in the application Preferences).
IP Addresses	One IP address required for all displays.	One IP address for each display.
Connectivity	Single RS232 cables daisy chained between displays.	Individual LAN cable runs from each display to a hub/switch/router.
Robustness	Failure or removal of one display or cable will disrupt communications to all others further along the daisy chain.	Failure of a display or cable will not impact communications to other displays.

B Network Ports Used by NaViSet Administrator

NaViSet Administrator 2

Port	Configurable	Purpose	Connection Direction	Details
80 TCP	No	Accessing HTTP server of the display device	NA2 → display devices	Unencrypted web content
7142 TCP	No	Display control	NA2 → NEC & Sharp display devices	Unencrypted control commands
5320 UDP	No	Automatic display device location	NA2 → NEC & Sharp display devices	UDP Unicast and broadcast
135 and 49152–65535 (dynamic) TCP	Yes ¹	WMI access to Windows PCs	NA2 → Windows PC	PC (and connected displays) monitoring via WMI
7142 TCP	No	Relay of display control from LAN to RS232	NA2 → Windows PC → RS232 → display device	"LAN to RS232 Bridge" runs on Windows PC acting as bridge device. Unencrypted control commands
587	Yes ²	SMTP	NA2 → Email server	Used to send alert emails.
80 HTTP / 443 HTTPS	No	Check for software updates	NA2 → Internet	Accesses the update server
1-configured as part of Windows 2-configured in the NA2 Preferences				

NaViSet Administrator SE

Port	Configurable	Purpose	Connection Direction	Details
80 TCP	No	Accessing HTTP server of the display device	NASE Server → display devices	Unencrypted web content
7142 TCP	No	Display control	NASE Server → NEC & Sharp display devices	Unencrypted control commands
5320 UDP	No	Automatic display device location	NASE Server → NEC & Sharp display devices	UDP Unicast and broadcast
5200 TCP	No	NovaStar dvLED controller support	NASE Server → NovaStar H series controller	Unencrypted control commands
6000 UDP	No	NovaStar dvLED controller support	NASE Server → NovaStar H series controller	Unencrypted control commands
135 and 49152–65535 (dynamic) TCP	Yes ¹	WMI access to Windows PCs	NASE Server → Windows PC	PC (and connected displays) monitoring via WMI
1-configured as part of Windows 2-configured in the NASE Configuration Utility				

Port	Configurable	Purpose	Connection Direction	Details
7142 TCP	No	Relay of display control from LAN to RS232	NASE Server → Windows PC → RS232 → display	"LAN to RS232 Bridge" runs on Windows PC acting as bridge device. Unencrypted control commands
1883 TCP/SSL	Yes ²	Client receives messages from the server	NASE Console → NASE Server Client Web browser → NASE Server	MQTT messages
8083 Web Socket / Secure Web Socket	Yes ²	Web client receives messages from the server	NASE Console → NASE Server and	MQTT messages
3434 SSL	Yes ²	Requests to the server	NASE Web server → NASE Server	Send requests to NASE Server
80 TCP/SSL	Yes ²	Web server	Client Browser → NASE Web Server	Allows optional access to the server via HTTP or HTTPS
587	Yes ²	SMTP	NASE Server → Email server	Used to send alert emails.
10000-10019 TCP/SSL	Yes ²	HTTP/HTTPS Relay	Client Web browser → NASE Server	Dynamically opened when accessing a remote device's HTTP server.
389	Yes ²	LDAP/LDAPS	NASE Server → LDAP Server	Accessing LDAP for user authentication
3268	Yes ²	LDAP/LDAPS Global Catalog	NASE Server → LDAP Server	Accessing LDAP catalog for user authentication
5592	No	NaViSet Secure Local and Remote Display connections	Display → Internet (Remote), Server → Display (Local), Server → Internet(Remote display connection)	Secure tunnel. Only when using NaViSet Secure
53 UDP	No	NaViSet Secure Remote Display connections DNS	Display → Internet	Secure tunnel. Only when using NaViSet Secure
443 UDP	No	NaViSet Secure Remote Display connections HTTPS/3	Display → Internet	Secure tunnel. Only when using NaViSet Secure
443 TCP	No	NaViSet Secure Remote Display connections HTTPS	Display → Internet	Secure tunnel. Only when using NaViSet Secure
3478-3479	No	NaViSet Secure Remote Display connections STUN	Display → Internet	Secure tunnel. Only when using NaViSet Secure
40000 and higher UDP	No	NaViSet Secure Remote Display connections	Display → Internet	Secure tunnel. Only when using NaViSet Secure
5592	No	Remote Console Access	NASE Server → Internet	Secure tunnel. Optional feature
53 UDP	No	Remote Console Access DNS	NASE Server → Internet	Secure tunnel. Optional feature
443 UDP	No	Remote Console Access HTTPS/3	NASE Server → Internet	Secure tunnel. Optional feature
443 TCP	No	Remote Console Access HTTPS	NASE Server → Internet	Secure tunnel. Optional feature
3478-3479	No	Remote Console Access STUN	NASE Server → Internet	Secure tunnel. Optional feature
40000 and higher UDP	No	Remote Console Access	NASE Server → Internet	Secure tunnel. Optional feature
443 SSL	No	License Server Access	NASE Server → Internet	Accesses the license validation server
80 HTTP / 443 HTTPS	No	Check for software updates	NASE Server → Internet	Accesses the update server

1-configured as part of Windows

2-configured in the NASE Configuration Utility

C Wake-on-LAN (WoL) Configuration

In order to wake up a remote Windows computer using the WoL protocol, the computer must be configured to enable the WoL functionality.¹

On most computers WoL needs to be enabled in both the BIOS (Basic Input/Output System) settings and in Windows. Consult the computer's documentation for information on how to access and enable the BIOS WoL settings if applicable.

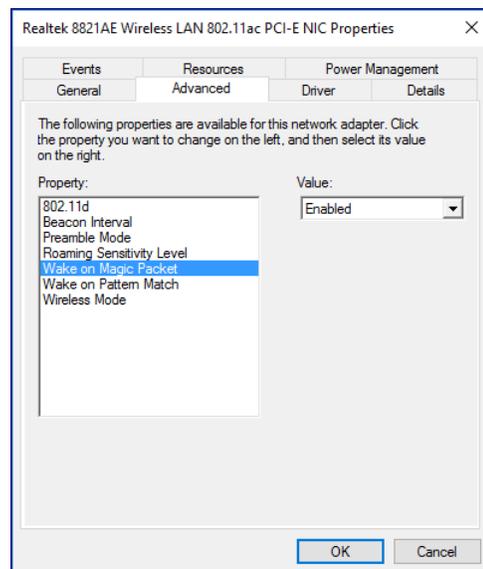
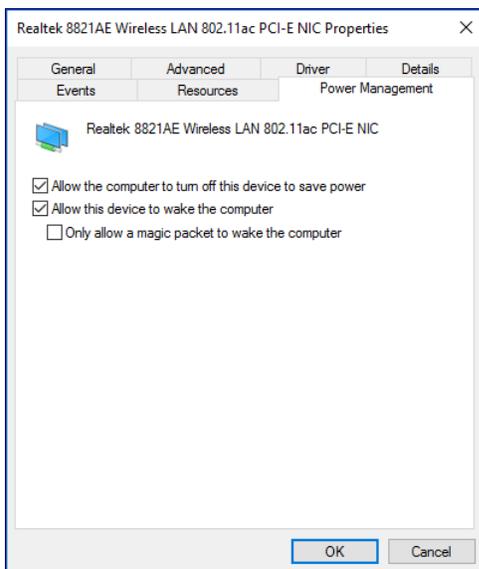
In Windows 11, you need to disable the Fast Startup feature to enable Shutdown WOL.

In Windows, the WoL functionality is integrated into the *Device Manager*, and is available in the *Power Management* tab of each network device.

When performing a Wake On LAN operation in *NaViSet Administrator*, a *magic packet* will be broadcast on the network interface selected in the *Preferences* to the MAC address of the computer. The *magic packet* is sent as a UDP datagram on port 9. Be sure that firewalls and routers do not filter or block this.

Tip: In most cases WoL will not work outside the local network or current network subnet due to the broadcast nature of the protocol and configuration of most routers.

Examples of network adapter Wake on LAN / Wake On Magic Packet settings:



1 This function is not available in *NaViSet Administrator 2 on macOS*. All other versions of *NaViSet Administrator* support communications with Windows computers on the network.

D Using Open Hardware Monitor

NaViSet Administrator can interface with free open-source hardware monitoring applications **Open Hardware Monitor** and **Libre Hardware Monitor** in order to provide extended monitoring of a remote Windows computer's hardware status, such as temperatures and fan speeds.¹ These extra parameters on the status of a remote computer can be useful in checking for abnormal conditions such as overheating, or cooling fan failures which could lead to a failure or mis-operation of the computer.

 **Tip:** Since *NaViSet Administrator* operates by polling devices, and not by remote devices automatically signaling of an abnormal condition, a *Task* must be used to periodically query the remote devices being monitored and check for an abnormal condition.

Installing and Configuring Open Hardware Monitor

To use *Open Hardware Monitor* with *NaViSet Administrator*:

1. On the remote Windows computer that is to be monitored, install the **Open Hardware Monitor** or **Libre Hardware Monitor** application available from <http://openhardwaremonitor.org>.
2. Start the **Open Hardware Monitor** or **Libre Hardware Monitor** application.
3. In the **Options** menu, configure the application to **Run On Windows Startup** and, if desired, to **Start Minimized**.
4. Confirm that the desired parameters are being monitored and reported within the application.
5. Leave the application running.
6. In *NaViSet Administrator*, select the remote Windows computer in the *Device Tree* and open the device's tab by double clicking the device.
7. On the device's **Info** tab click either **Standard Refresh** or **Full Refresh** to refresh the status information from the remote computer.
8. The supported parameters from *Open Hardware Monitor* or *Libre Hardware Monitor* will appear in the **Computer Status Information** table.

 **Tip:** SHARP is unable to provide support or assistance with *Open Hardware Monitor* or *Libre Hardware Monitor*, and is not responsible for its operation, development, functionality, or availability.

Supported Sensors

NaViSet Administrator supports reading CPU, GPU, and Main Board temperatures and fan speeds from *Open Hardware Monitor* and *Libre Hardware Monitor*. Since *Open Hardware Monitor* and *Libre Hardware Monitor* supports monitoring of a broad range of sensor types within the computer, devices are grouped into the following categories:

- CPU Temperatures 1 thru 8 in °C
- CPU Fan Speeds 1 thru 8 in RPM
- Main Board Temperatures 1 thru 8 in °C
- Main Board Fan Speeds 1 thru 8 in RPM

¹ **This function is not available in *NaViSet Administrator 2 on macOS*. All other versions of *NaViSet Administrator* support communications with Windows computers on the network.**

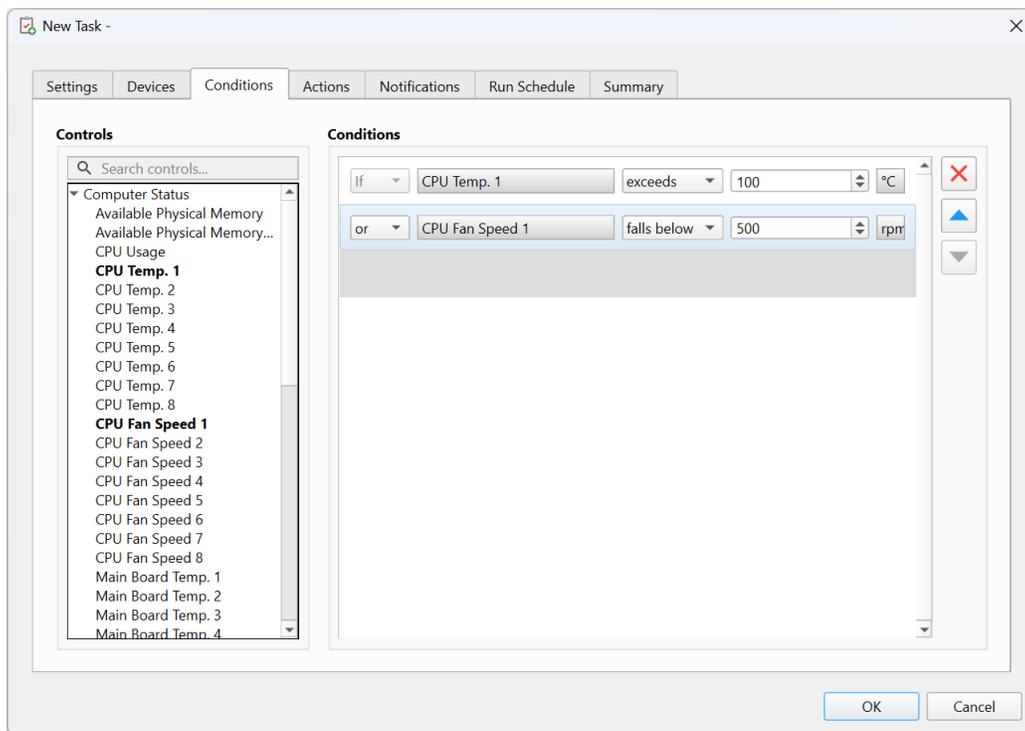
- GPU Temperatures 1 thru 8 in °C
- GPU Fan Speeds 1 thru 8 in RPM

Using in Tasks and Reports

The sensor values from *Open Hardware Monitor* or *Libre Hardware Monitor* can be used in *Tasks* and *Reports* in *NaViSet Administrator*. For example, a *Task* can be created to issue an alert if a fan speed drops below a certain RPM, or if a temperature exceeds a certain value.

When a computer is selected as a device in a *Conditional* type *Task*, the list of *Controls* in the conditions will contain a section called *Computer Status*, which contains all of the sensor categories that can be used from *Open Hardware Monitor* or *Libre Hardware Monitor*.

In the following example the CPU Temperature 1 sensor is used to create an alert if the value exceeds 50°C, or if the CPU 1 fan speed falls below 500 rpm.



E LAN to RS232 Bridge Configuration

About

The *LAN to RS232 Bridge* is a utility that allows remote access via LAN to Sharp or NEC large-screen displays or projectors that are connected to a remote Windows computer via an RS232 connection. This essentially makes the Windows computer appear to be the LAN connection of a large-screen display or projector. It is *bridging* communications between LAN and the RS232 port to the display. Applications like *NaViSet Administrator* can then access displays by connecting to the IP address of the Windows computer, and sending requests just as if the display was connected via a built-in LAN connection.

This allows a host computer to effectively share its LAN connection with the display, allowing remote access to the display via LAN, but while only using one LAN connection.

This is useful for:

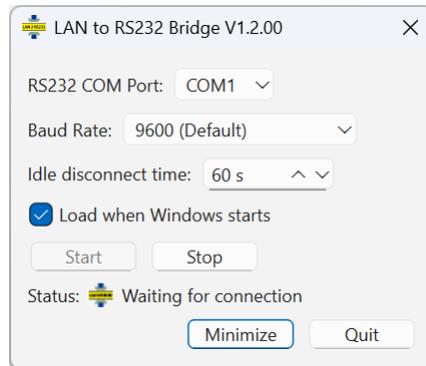
- Large-screen display and projector models that have an RS232 connection, but no built-in LAN connection.
- Situations where it is not possible or desirable to use two LAN connections and IP addresses (one for the host computer and one for the display).
- Allows access to devices through Windows computers from both Windows and Mac versions of *NaViSet Administrator*.

See pages 82, 84, and 92 of the *Configuring Devices* chapter for complete information on connecting and configuring devices for use with the *LAN to RS232 Bridge*.

Operation

NaViSet Administrator 2

The utility runs in the Windows *System Tray* and waits for incoming requests via LAN. When a request is received, it is then forwarded on to the selected RS232 COM port to the display. Replies from the display(s) are then sent back over LAN.

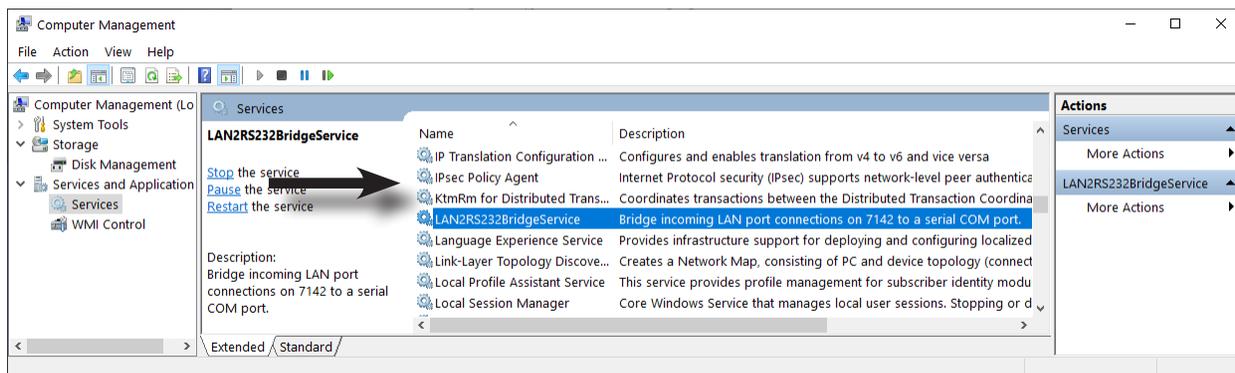


Tip:

- Windows may hide the system tray icon by default. Click the **Show Hidden Icons** button in the system tray to configure which icons are shown on the system tray.
- Because the application runs in the Windows System Tray, and only loads when a user has logged into the computer, connectivity to the display will not be available until a user has logged in.
- Since the application settings are stored on a per-user basis, be sure to configure the settings while logged in as the user that will be normally logged into the computer.

NaViSet Administrator SE

NaViSet Administrator SE features a LAN to RS232 Bridge version that runs as a Windows service, functioning even when no user is logged in to the Windows machine. Its settings are managed through the Windows Registry. Refer to the included README file for additional details.



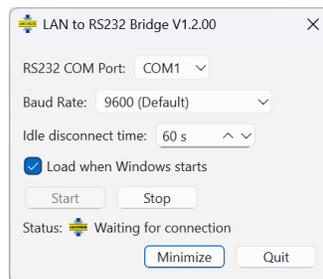
Limitations

There are several important limitations to using this utility:

- Communications will not be possible while the host computer is in power off, sleep, or hibernate modes.
- Only one COM port can be used. If multiple large-screen displays are to be connected, they must be daisy chained from the RS232 OUT on the first display connected to the computer.
- Only one simultaneous remote connection is allowed. If a connection request is received while another connection is already in use, it will be refused.
- The host computer must allow TCP LAN traffic on port 7142. Firewalls must be configured to allow unfiltered traffic on this port. The installer will automatically open this port on the Windows firewall.

Configuring the LAN to RS232 Bridge (NaViSet Administrator 2)

1. Install the **LAN to RS232 Bridge** from the *NaViSet Administrator 2* installer packages.
2. Run the **LAN to RS232 Bridge** application which can be found in the **Start** → **Programs** → **NEC Display Solutions** → **LAN to RS232 Bridge** menu.



3. Select the **RS232 COM Port** that the display is connected to from the list.
4. Select the correct **Baud Rate** for the connected display. All Sharp or NEC large-screen displays use 9600 baud. Projectors can use 9600, 19200, or 38400 baud. Be sure the baud rate selected matches the baud rate configured in the projector's On Screen Display.
5. To automatically load the LAN to RS232 Bridge application when Windows starts, select **Load when Windows starts**. If this is not selected, it must be manually started each time Windows starts.
6. Click **Start** to start the bridge operation. It will listen for incoming connections on LAN. When a connection is received, the **Status:** indicator will change from **Waiting for connection**.
7. When finished configuring the settings, click the **Minimize** button to close the window and keep the application running in the system tray.
8. Clicking **Quit** will close the application and it will no longer accept incoming connections.

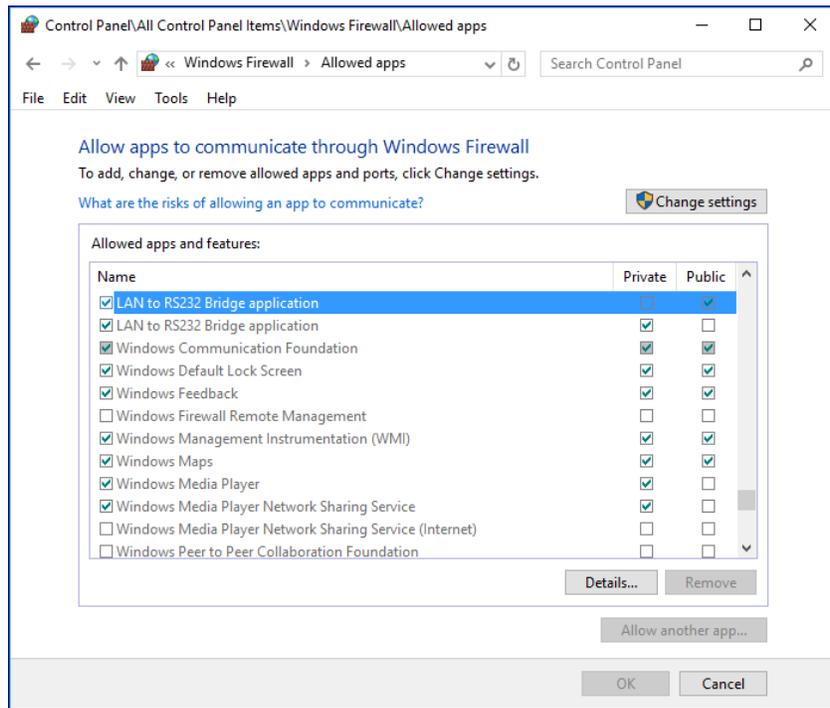
Tip:

- Windows may hide the system tray icon by default. Click the **Show Hidden Icons** button in the system tray to configure which icons are shown on the system tray.

Troubleshooting the LAN to RS232 Bridge

Follow these troubleshooting steps if problems are encountered with connecting to the LAN to RS232 Bridge utility:

- Test the connection and configuration by connecting from another computer using the IP address of the computer running the LAN to RS232 Bridge utility.
- Check that the utility has been started.
- Watch the **Status**: in the configuration window. It will show if a remote connection has been attempted. If no remote connection is made, check the firewall settings. The application is listed in the *Windows Firewall as LAN to RS232 Bridge Application*.



- **Large-screen displays only:** Check that the display has been configured to use the RS232 connection and not LAN.
- **Large-screen displays only:** Check that the Monitor ID is set correctly on the display.
- **Large-screen displays only:** Check that the RS232 cable is connected to the RS-232C INPUT on the display.
- Make sure the selected *Baud Rate* is selected is correct for the display type and model being used.
- Check that the RS232 cable to the display is a crossover cable type and is connected to the RS232 input on the display.
- Check that another application isn't using the COM port.

F Windows Management Instrumentation

About WMI

Windows Management Instrumentation (WMI) provides fully integrated operating system support for system and applications management on a Windows computer. WMI provides a model of the configuration, status, and operational aspects of Windows operating systems, assisting management applications in creating solutions that reduce the maintenance and life cycle costs of managing Windows and hardware devices.

NaViSet Administrator is able to access a remote computer and read this information using WMI.¹

Without installing any additional software on a remote computer, *NaViSet Administrator* is able to report about many different items such as:

- Make, model, serial number, and resolution of any connected display monitor(s)
- Make, model, and serial number of the computer (if available)
- CPU type, speed, and current usage
- Operating system version and service pack
- System memory size and current usage

¹ *This function is not available in **NaViSet Administrator 2 on macOS**. All other versions of **NaViSet Administrator** support communication and control of displays connected to Windows computers, and offer limited control over the computer, as described in this manual.*

G Prometheus Metrics Integration



This information is only applicable to the **NaViSet Administrator SE** application. If you are interested in a trial version of the software to access this and other unique features of the Server Edition version, please go to business.sharppusa.com/naviset-administrator

Prometheus is an open-source system monitoring and alerting toolkit. It collects and stores its metrics as time series data, i.e., metrics information is stored with the timestamp at which it was recorded, alongside optional key-value pairs called labels.

As of version 2.4, additional metrics are available in NASE that can be used by a Prometheus system. Users can set up a monitoring endpoint in Prometheus to the NASE system using this URL: `http://{IpAddressOrHostName}/api/metrics`.

The Prometheus system will periodically scrape the URL to collect the metrics. The metrics NASE provides are as follows:

Name	Type	Description	Sample
nase_alerts_timestamp	Gauge	Alert generated from a task for a given device with a timestamp.	<code>nase_alerts_timestamp{device_name="MA491",task_name="Conditional_Task"} 1737667140</code>
nase_task_status_counts_total	Gauge	Number of alerts, warnings, and errors for a task run	<code>nase_task_status_counts_total{task_name="tv",type="alerts"} 0</code> <code>nase_task_status_counts_total{task_name="tv",type="warnings"} 2</code> <code>nase_task_status_counts_total{task_name="tv",type="errors"} 0</code>
nase_device_controls	Gauge	Value of a control	<code>nase_device_controls{control_name="diagnostics",device_name="M431"} 0</code> <code>nase_device_controls{control_name="sensor_3_temp",device_name="MA491"} 0</code> <code>nase_device_controls{control_name="sensor_1_temp",device_name="P463A"} 25.5</code> <code>nase_device_controls{control_name="sensor_3_temp",device_name="PN_ME502"} 0</code> <code>nase_device_controls{control_name="power_state",device_name="PN_ME502"} 1</code>
nase_device_comm_diagnostics	Gauge	Number of current pending and active connections to devices	<code>nase_device_comm_diagnostics{connection_type="pending"} 0</code> <code>nase_device_comm_diagnostics{connection_type="active"} 1</code>
process_virtual_memory_bytes	Gauge	Virtual memory used by NASE Core Service	<code>process_virtual_memory_bytes{process_name="naviset_administrator_se_core_service"} 119517184</code>
process_physical_memory_bytes	Gauge	Physical memory used by NASE Core Service	<code>process_physical_memory_bytes{process_name="naviset_administrator_se_core_service"} 106483712</code>
process_cpu_seconds_total	Gauge	Total number of seconds CPU used by NASE Core Service	<code>process_cpu_seconds_total{process_name="naviset_administrator_se_core_service",type="kernel"} 12.562</code> <code>process_cpu_seconds_total{process_name="naviset_administrator_se_core_service",type="user"} 8.031000000000001</code>
process_number_threads_total	Gauge	Total number of threads used currently by NASE Core Service	<code>process_number_threads_total{process_name="naviset_administrator_se_core_service"} 11</code>

H Glossary

EDID (Extended Display Identification Data) - A data structure provided by a display to describe its capabilities to a video source.

OPS (Open Pluggable Specification) - A standardized slot design for digital signage devices and pluggable media players.

OSD (On Screen Display) - Display controls and status information superimposed on the screen image.

RS232 - A series of standards for serial binary single-ended data and control signals connecting between DTE (data terminal equipment) and DCE (data circuit-terminating equipment).

SBC (Single Board Computer) - A complete computer built on a single circuit board, with microprocessor, memory, and other features.

SMTP (Simple Mail Transfer Protocol) - An Internet standard for electronic mail (email) transmission across Internet.

SSL/TLS (Secure Sockets Layer / Transport Layer Security) - A protocol for encrypting information over the Internet.

USB (Universal Serial Bus) - A communication bus used to connect up to 127 devices such as keyboards, mice, scanners, color sensors, etc.

VESA (Video Electronics Standards Association) - An international non-profit corporation that supports and sets industry-wide interface standards for the PC, workstation, and consumer electronics industries.

WMI (Windows Management Instrumentation) - A set of extensions to the Windows Driver Model that provides an operating system interface through which instrumented components provide information and notification.

SHARP

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USA and Canada: business.sharpusa.com

Europe: www.sharpdisplays.eu

Global: sharp-displays.jp.sharp/global