

# SOFTWARE RELEASE NOTES

**Products:** Series 400® Power and Data Distribution System  
**Manufacturer:** PRG  
**Subject:** S400 Software v6.0  
**Bulletin No:** S400-012  
**Date:** December 18, 2019

## INTRODUCTION

### S400 Software v6.0 Overview

Software version 6.0 is now available for the Series 400 Power and Data Distribution System. This includes both the system device software and a new 6.0 version of the S400Tools utility, S400ToolsFX.

Refer to "[Loading Software to S400 System Devices Through the Configuration Window](#)" on page 10 for instructions on updating Series 400 devices.

Refer to "[Installing S400ToolsFX Software for Mac and Windows](#)" on page 35 for installing S400ToolsFX software.

### New System Features for Series 400 Software v6.0

Many improvements have been made to the Series 400 equipment software, including:

- + Increased universe limit from 256 to **701**
- + Support labeling of breakouts - no more "Trunk A/B," you can now have more control over your system organization
- + Added support for new breakout box hardware board
- + Improved IGMP support, for managing and improving network traffic and multicast interactions
- + RDM discovery improvements, including per-Universe RDM interaction

### New Software Features for Series 400 Software v6.0

V6.0 of the S400Tools software includes a heavily updated and improved software suite, S400ToolsFX v6.0. Improvements include:

- + Newly created Configuration Interface, engineered for quick and easy changes to your S400 system - rename Rack Modules and Inputs/Outputs, Breakout Boxes, among other useful tools
- + a new DMX Source information layout showing information and status for all sources of DMX on the network
- + Multiple new options for monitoring DMX: Numeric, LED Wall, Spectrum, and Scope
  - › View up to 64 universes on one screen (Mode dependent)
  - › DMX channel Mouse-Over on condensed views for DMX Channel Information
  - › Scope View provides view of individual channels over time
- + Newly updated DMX Activity Monitor, giving you direct access to multiple streams of feedback at your fingertips
- + New RDM User Interface, which includes easy editing and feedback interactions with RDM-enabled fixtures, polling, Identification, and more:
  - › RDM Enable on a per-universe basis if needed
  - › Optional continuous status and ongoing discovery



Figure 1: S400ToolsFX Main Interface

- › Color-coded log for messages on Device Status
- › Device Information Caching for improved performance
- + System Log Export to a text file for viewing and troubleshooting purposes
- + CSV Import/Export of System Configuration file, making it a simple process to move your configuration from one S400 system to another, as well as the standard Save/Load for System Configuration and DMX Sources.
- + Newly created Dark Mode, which makes using S400ToolsFX excellent for working in dark production conditions by being easier on the eyes, with less glare and screen intensity. The standard default white background mode is still available as well.
- + a System Software Update Interface for quick updating Series 400 equipment from the S400ToolsFX
- + Cross-platform software for Windows and MacOS

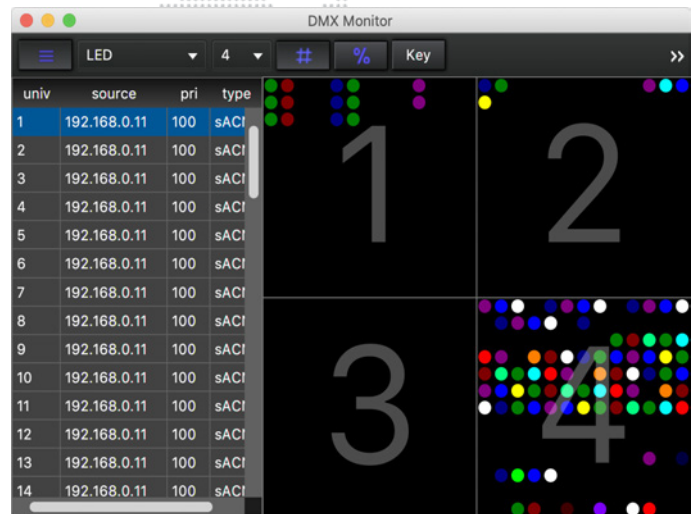


Figure 2: S400ToolsFX DMX Monitor in LED View

## Known Issues

We have a very short list of known issues with S400ToolsFX - read this section prior to calling support:

- + Issue: Super Node software update may clear the Thumbwheel/Universe configuration.
- + Workaround: If you need to update Super Node software, do it prior to configuring your Super Nodes.
- + Issue: RDM issues may appear with multiple S400Tools applications active on the network.
- + Workaround: Don't have multiple instances of S400Tools running with RDM enabled simultaneously. Otherwise, multiple instances of S400Tools on the network is fine.
- + Issue: Dashboard can get too tall for the screen with a large number of DMX universes.
- + Workaround: Use the Preferences menu to bring up settings and adjust your dashboard panels.
- + Issue: Configuration -- Issues editing module names when a table is sorted by Name (May edit the wrong module, see wrong label presented, etc)
- + Workaround: Disable the Sorting by Name column when editing
- + Issue: Configuration Save/Load - Users cannot currently create an offline S400 System within Tools and load to devices once online.
- + Workaround: Users Export CSV file of online system. User would paste in or alter settings as needed. Once the exported CSV is complete, the user can load that into S400ToolsFX which will then configure all devices with altered settings.

# SERIES 400 HARDWARE INTERFACE

## Series 400 Hardware

The Series 400 MOD Rack I/O Summary, the default status screen on the Modules, also features fast data access:

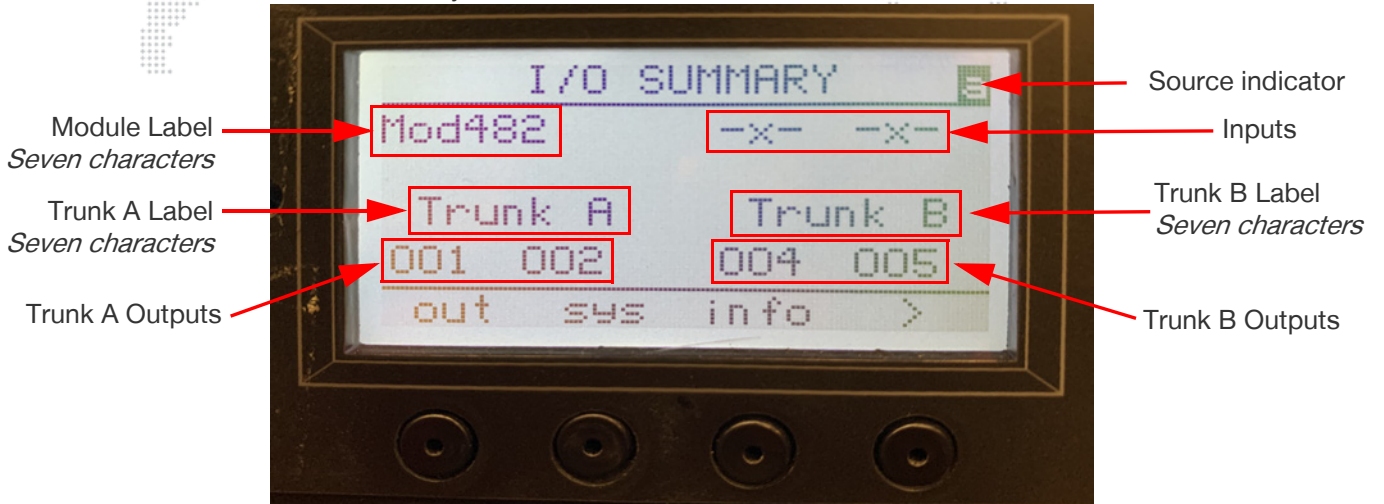
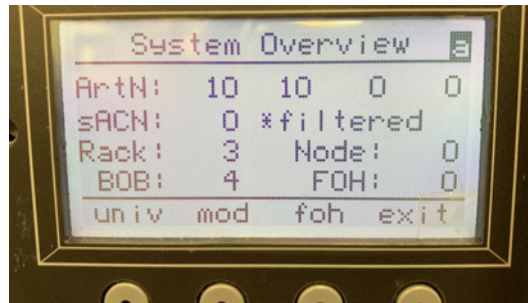


Figure 3: Series 400 v6.0 MOD Rack I/O Summary

Several of the S400 Module display menus have been reorganized to improve the user experience and for the implementation of new features.



v6.0 MOD Display  
System Overview

Figure 4: v5.x versus v6.0 MOD Rack Display Screen Layouts

The Series 400 MOD Rack displays are easy to navigate; below is a v6.0 System Overview screen, as a refresher:

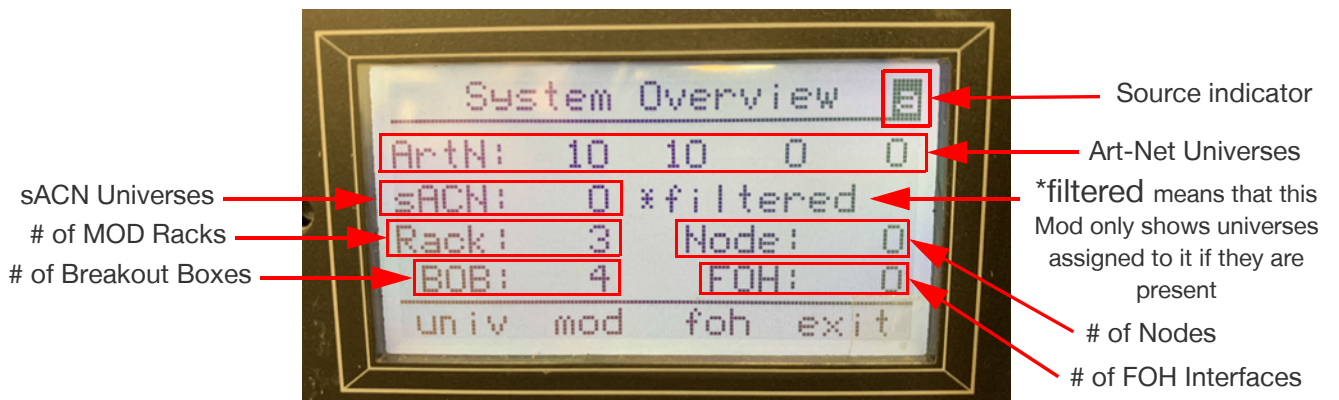


Figure 5: Series 400 v6.0 MOD Rack System Overview Display, Detailed

# SERIES 400 SOFTWARE INTERFACE

Several application windows have been updated with new features and feedback, making Series 400 system management simple and feature-rich.

## Main S400ToolsFX Window

S400ToolsFX has a completely new look and feel, with improved, effective features.

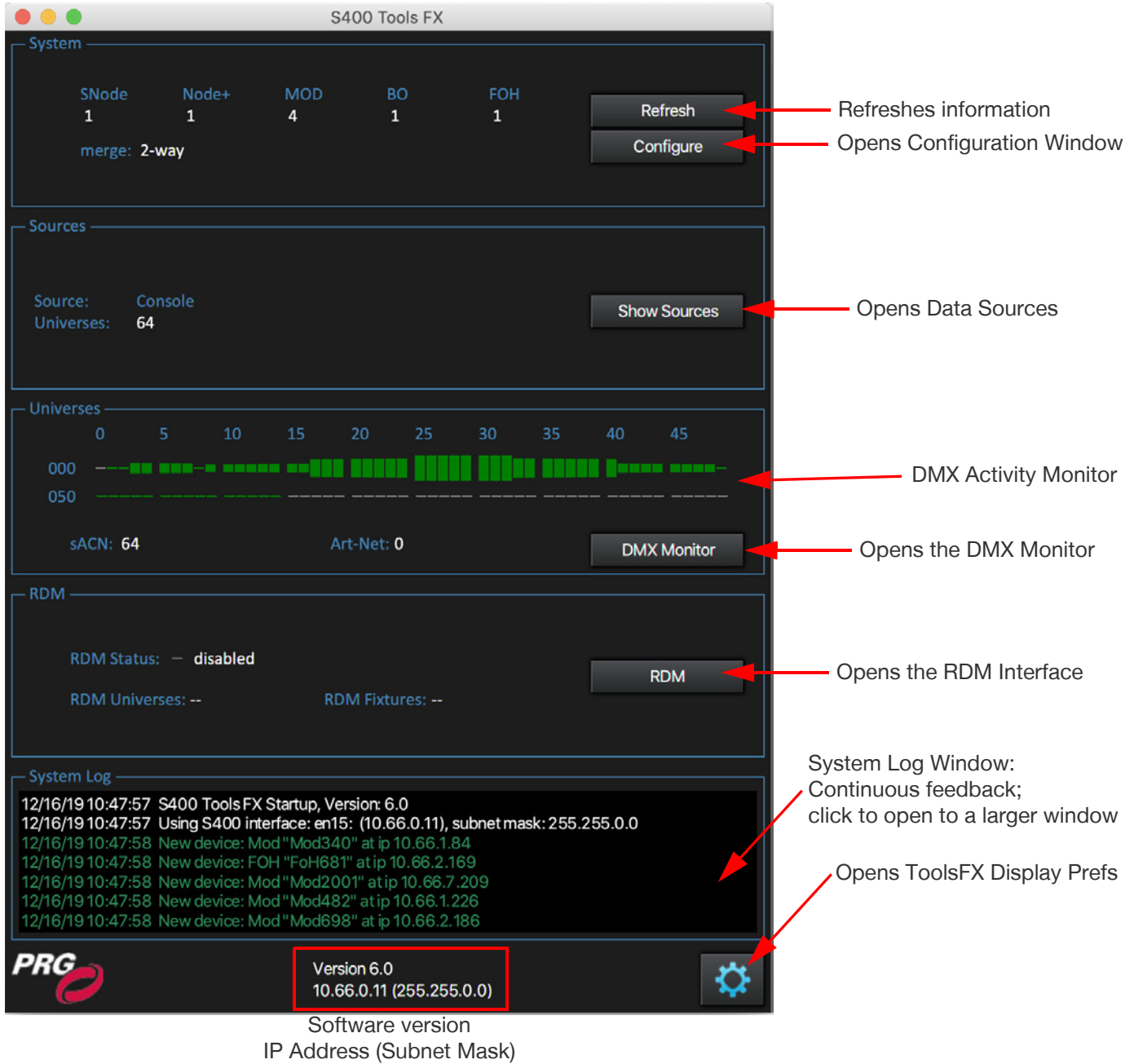


Figure 6: S400 Tools FX Main Interface

## S400ToolsFX Display Preferences

From this panel, accessible from either the Menu Bar or from the Gear icon in the lower right of the Main Window.

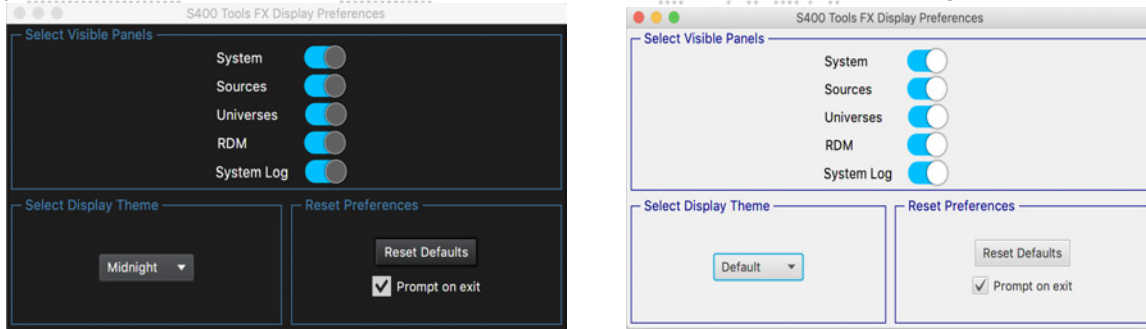


Figure 7: Midnight Theme (left) and Default Theme (right) showing Panel Toggles

The toggles in the figure above allow you to customize your Main Window with the panels you want to use; The example in **Figure 8** shows a Main Interface window with the RDM Panel toggled off:

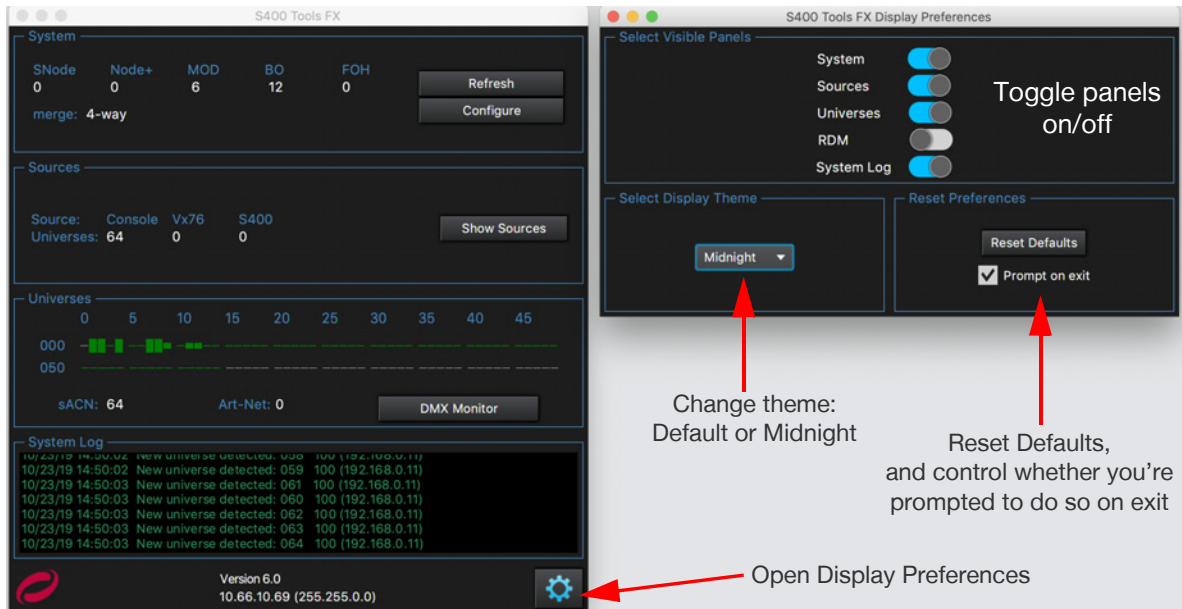


Figure 8: Main Interface Panel Toggles and Display Information

Below is an example showing only the System, Universes, and System Log panels. You can customize your Main S400ToolsFX layout to fit your show needs.

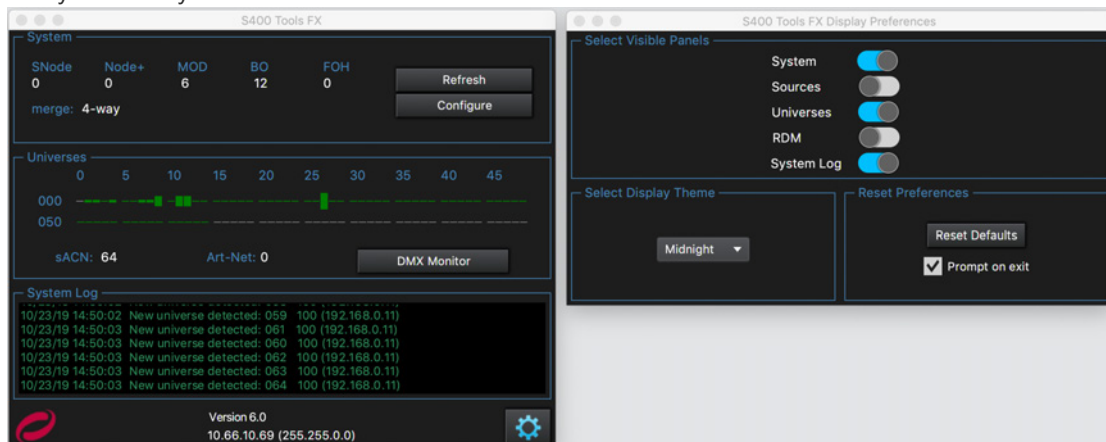


Figure 9: Alternate Main Window Layout Showing System, Universe, and System Log Panels

## System Monitor Panel - 1st Panel, Top

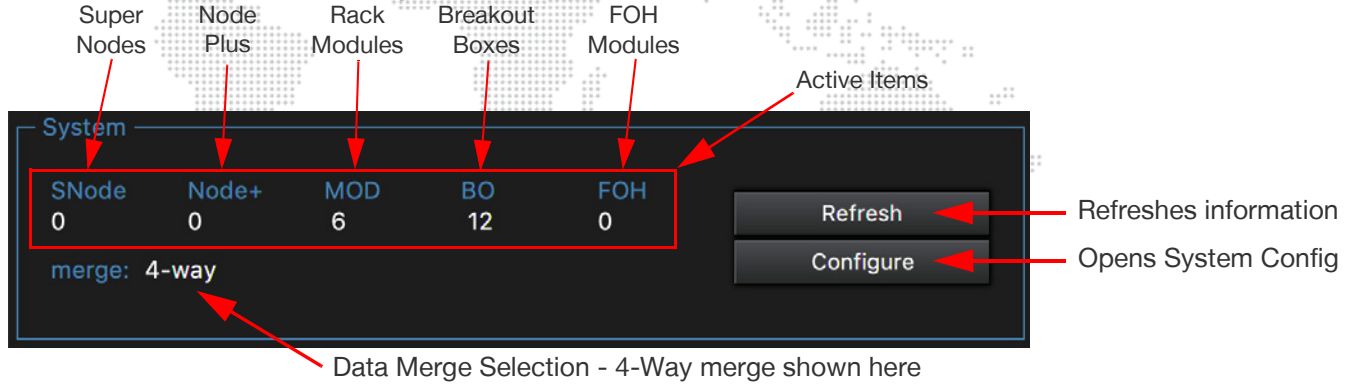


Figure 10: System Monitor Panel, Main Window

The System Monitor Panel is first on the Main Window, top of the interface; a detailed view is shown in **Figure 10**.

In addition to keeping a running count of active Series 400 system devices, this panel also provides information on your Data Merge, if any. The System Panel provides a list of Super Nodes, Node Plus, S400 Rack Modules, Breakout Boxes, and FOH Modules. From this panel you can also refresh the system feedback and access the Configuration Window, which allows for full configuration of your Series 400 system. As easy as this window is to interface, take a moment here to look through the features and functions of the Configuration Window.

## Configuration Window

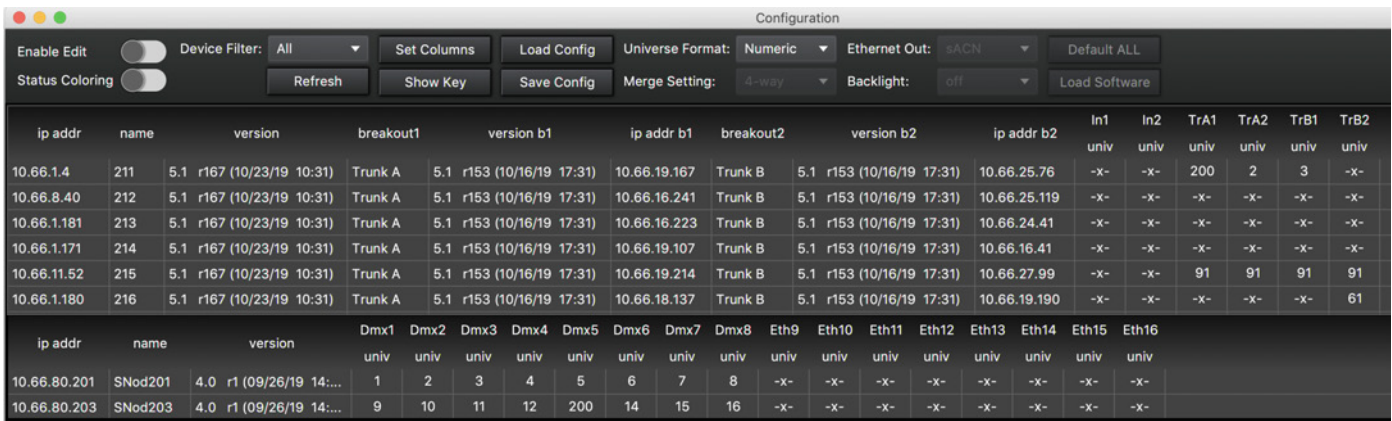


Figure 11: Main Configuration Window

The Main Configuration window affords you instant access and control over your S400 system: Ports and IP Addresses; Labels for Breakout Boxes and Rack Modules; and Software Versions, among other useful features and feedback. You also have control over Node Plus and Super Node units, their Software Versions, Port Information, and Direction.

This window also provides a color-based feedback system like v5 of the S400Tools software, and it can be enabled or disabled to suit your need. You have access to the columns that show, column sorting, and device filters for S400 equipment; configurations, once finished, can be saved from here, and existing configurations can be loaded from here. You can also identify Rack Modules from this window and toggle their display backlights here.

In addition to feedback and status, the Configuration Window requires you to enable editing as a safeguard while monitoring and managing your S400 system.

We'll break down the areas and features of the Configuration Window on the next page.

Enable/Disable Editing      Filter by S400 Device Type      Choose which columns display

Enable Edit      Device Filter: All      Set Columns      Load Config

Status Coloring      Refresh      Show Key      Save Config      Load or Save Configuration File

Toggle Status Coloring      Refresh Data      Toggle Status Color Key

Toggle Alpha or Numeric      Universe Format: Numeric      Ethernet Out: sACN      Default ALL

Toggle Merge settings      Merge Setting: 4-way      Backlight: off      Load Software

Toggle Module Backlight      Opens Software Loader

Push all settings to their Default values

The screenshot shows a configuration window with several sections:

- Control Panel:** Includes 'Enable Edit' and 'Status Coloring' toggles, a 'Device Filter' dropdown set to 'All', 'Set Columns', 'Load Config', 'Refresh', 'Show Key', and 'Save Config' buttons.
- Settings Panel:** Includes 'Universe Format' (Numeric), 'Ethernet Out' (sACN), 'Merge Setting' (4-way), 'Backlight' (off), and 'Default ALL' and 'Load Software' buttons.
- Table 1 (Rack Modules):** Columns: ip addr, name, version, breakout1, version b1, ip addr b1, breakout2, version b2, ip addr b2, In1, In2, TrA1, TrA2, TrB1, TrB2.
- Table 2 (Breakout Boxes):** Columns: ip addr, name, version, Dmx1-Dmx8, Eth9-Eth16.
- Table 3 (Rack Modules):** Columns: Rack Mod Label, B/O 1 Label, B/O 1 Firmware Version, B/O 1 IP Address.
- Table 4 (Rack Modules):** Columns: ip addr, name, version, breakout1, version b1, ip addr b1.
- Table 5 (Breakout Boxes):** Columns: B/O 2 Label, B/O 2 Firmware Version, B/O 1 IP Address, B/O Ins and Outs.

Figure 12: Configuration Window Detail: Rack Modules, Trunk Runs, and Breakout Boxes

ip addr	name	version	breakout1	version b1	ip addr b1	breakout2	version b2	ip addr b2	In1	In2	TrA1	TrA2	TrB1	TrB2
10.66.1.4	211	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.167	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.25.76	-x-	-x-	200	2	3	-x-
10.66.8.40	212	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.16.241	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.25.119	-x-	-x-	-x-	-x-	-x-	-x-
10.66.1.181	213	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.16.223	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.24.41	-x-	-x-	-x-	-x-	-x-	-x-
10.66.1.171	214	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.107	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.16.41	-x-	-x-	-x-	-x-	-x-	-x-
10.66.11.52	215	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.214	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.27.99	-x-	-x-	91	91	91	91
10.66.1.180	216	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.18.137	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.19.190	-x-	-x-	-x-	-x-	-x-	61

ip addr	name	version	Dmx1	Dmx2	Dmx3	Dmx4	Dmx5	Dmx6	Dmx7	Dmx8	Eth9	Eth10	Eth11	Eth12	Eth13	Eth14	Eth15	Eth16
10.66.80.201	SNode201	4.0 r1 (09/26/19 14:...	1	2	3	4	5	6	7	8	-x-	-x-	-x-	-x-	-x-	-x-	-x-	-x-
10.66.80.203	SNode203	4.0 r1 (09/26/19 14:...	9	10	11	12	200	14	15	16	-x-	-x-	-x-	-x-	-x-	-x-	-x-	-x-

Device Label

DMX Universe Routing for Copper Ports and Supernode Filtered Ethernet Port

ip addr	name	version	Dmx1	Dmx2	Dmx3	Dmx4	Dmx5	Dmx6	Dmx7	Dmx8	Eth9	Eth10	Eth11	Eth12	Eth13	Eth14	Eth15	Eth16
10.66.80.201	SNode201	4.0 r1 (09/26/19 14:...	1	2	3	4	5	6	7	8	-x-	-x-	-x-	-x-	-x-	-x-	-x-	-x-
10.66.80.203	SNode203	4.0 r1 (09/26/19 14:...	9	10	11	12	200	14	15	16	-x-	-x-	-x-	-x-	-x-	-x-	-x-	-x-

Device IP Address

Device Firmware Version

Figure 13: Configuration Window Detail: Data Device Detail

### Editing Fields in Configuration Window

Editing fields in this window can only be done once the Enable Edit toggle is selected on, and the toggle switch turns red to notify you that you've entered Editing Mode. Once in Edit Mode, simply click on a field to edit its label or change its data. The image below shows the Configuration Window in Edit Mode, and a Breakout Box Label being changed:

name	breakout1	TrA1	TrA2	breakout2	TrB1	TrB2
211	BOName	univ	univ	Trunk B	3	4
212	Trunk A	5	6	Trunk B	7	8
213	Trunk A	9	10	Trunk B	11	12
214	Trunk A	13	14	Trunk B	15	16

Figure 14: Editing a Field in S400ToolsFX Configuration Window



## Status Coloring in the Configuration Window

S400ToolsFX has an excellent feedback-coloring work flow that can be toggled on and off to fit your need. You also have instant access to the Status Coloring Key, accessible by clicking the "Show Key" button:

Status Coloring toggled ON, blue indicator showing ON option

ip addr	name	version	breakout1	version b1	ip addr b1	breakout2	version b2	ip addr b2	In1	In2	TrA1	TrA2	TrB1	TrB2
10.66.1.4	211	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.167	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.25.76	-x-	-x-	1	2	3	4
10.66.8.40	212	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.16.241	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.25.119	-x-	-x-	5	6	7	8
10.66.1.181	213	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.16.223	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.24.41	-x-	-x-	9	10	11	12
10.66.1.171	214	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.107	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.16.41	-x-	-x-	13	14	15	16
10.66.11.52	215	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.214	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.27.99	-x-	-x-	17	18	19	20
10.66.1.180	216	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.18.137	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.19.190	-x-	-x-	21	22	23	24

ip addr	name	version	Dmx1	Dmx2	Dmx3	Dmx4	Dmx5	Dmx6	Dmx7	Dmx8	Eth9	Eth10	Eth11	Eth12	Eth13	Eth14	Eth15	Eth16
10.66.80.201	SNod201	4.0 r1...	1	2	3	4	5	6	7	8	-x-	-x-	-x-	-x-	-x-	-x-	-x-	-x-
10.66.80.203	SNod203	4.0 r1...	9	10	11	12	200	14	15	16	-x-	-x-	-x-	-x-	-x-	-x-	-x-	-x-

DEVICES	UNIVERSES	PORT DIRECTION
Green: Online	Green: Active	Input
Red: Offline	Red: No source	Output
Blue: Not saved	Yel: Too many sources	
	-x-: Live input not assigned	
	-x-: Idle input/output not assigned	

Figure 15: Configuration Window Showing Status Coloring ON, and Color Key



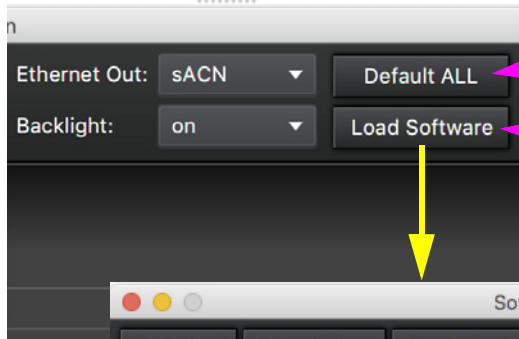
### ATTENTION

Status Coloring does NOT work with Node Plus units.

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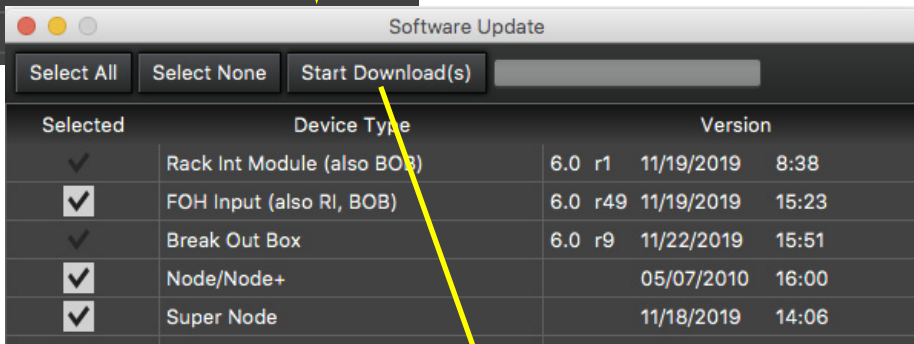
## Loading Software to S400 System Devices Through the Configuration Window

Not dissimilar from previous versions of S400Tools, uploading software to Nodes and Node Plus units, Breakout Boxes, FOH Modules, Rack Modules, and Super Nodes takes place through the configuration Window. On the far right side of the Configuration Window is the Load Software button -- this opens up the Software Update Window.



The DEFAULT ALL button defaults the System.

Load Software opens the Software Update Window, where we can send updated software to the system devices.



### SELECT ALL:

Selects everything

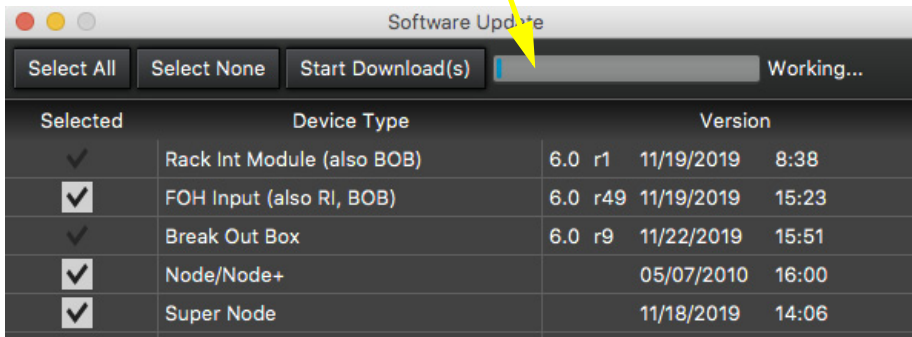
### SELECT NONE:

Selects nothing

### Start Download(s):

Starts the downloads for the items you've chosen for Software Update.

Select your choices and hit the Start Download button - you will see a **Working...** progress bar.



### NOTE:

You can choose one single device type to upload, you do not have to upload software to everything. Just remember, make sure your system software is up-to-date!

You will be notified when the process has finished - the Status Bar will be full and indicated by **Done**

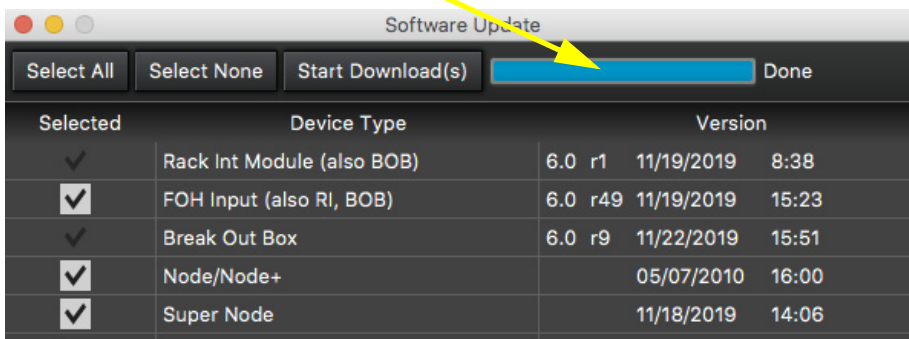


Figure 16: System Software Uploading Process

## Setting Columns in the Configuration Window

You have full control over the arrangement and selection of visible columns, including Column Sorting by ascending and descending values, and moving columns around in any order you like. By clicking the Set Columns button, you enter Column Selection. In the example below, ONLY the Breakouts column is selected.

Configuration

Enable Edit  Device Filter: All   Universe Format: Numeric      Merge Setting: 4-way   Status Coloring

name	breakout1	breakout2	TrA1	TrA2	TrB1	TrB2
	univ	univ	univ	univ	univ	univ
211	Trunk A	Trunk B	1	2	3	4
212	Trunk A	Trunk B	5	6	7	8
213	Trunk A	Trunk B	9	10	11	12
214	Trunk A	Trunk B	13	14	15	16
215	Trunk A	Trunk B	17	18	19	20
216	Trunk A	Trunk B	21	22	23	24

name	Dmx1	Dmx2	Dmx3	Dmx4	Dmx5	Dmx6	Dmx7	Dmx8	Eth9	Eth10	Eth11	Eth12	Eth13	Eth14	Eth15	Eth16
	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ
SNod201	1	2	3	4	5	6	7	8	-X-	-X-	-X-	-X-	-X-	-X-	-X-	-X-
SNod203	9	10	11	12	13	14	15	16	-X-	-X-	-X-	-X-	-X-	-X-	-X-	-X-

Set Columns

IP Address

Device Type

Breakouts

Software Version

Rack Inputs

Port Direction

Port Source

Breakouts Column ONLY showing due to Set Columns

Breakouts Column selected

Figure 17: Configuration Window showing only the Breakouts column

## Loading and Saving your Configuration File in the Configuration Window

As in the previous versions, you can save your configuration file, and load configuration files for your S400 systems. To accomplish this task, click on the Save Configuration button to save your configuration file where you want it. Consequently but not surprisingly, once you click on the Load Configuration button, you are given the option to load an S400 configuration file.

Configuration

Enable Edit  Device Filter: All   Universe Format: Numeric      Merge Setting: 4-way   Status Coloring

Save S400 Configuration File.s4x

Tags:

PRG

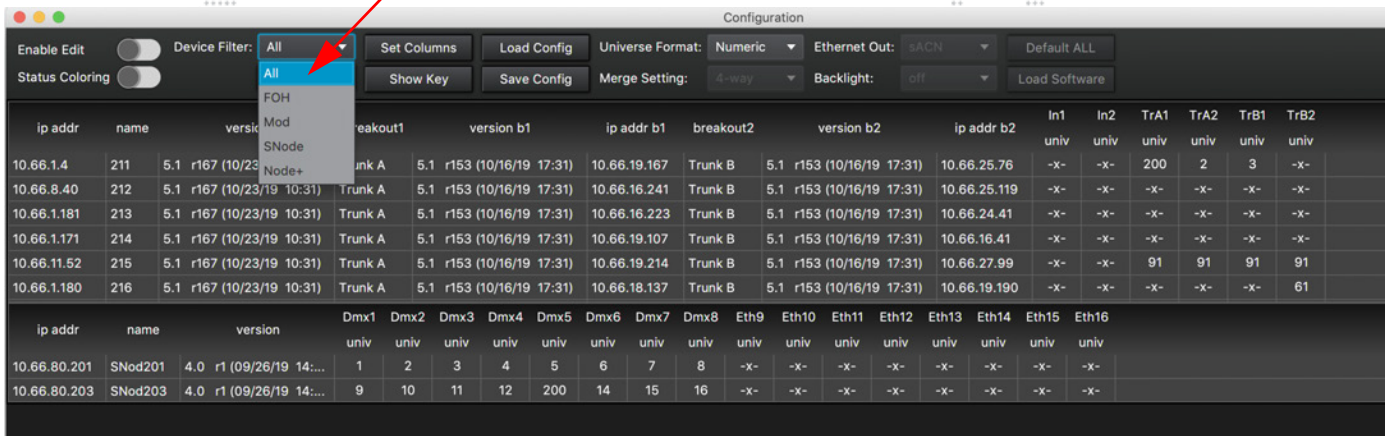
Name	Date Modified
All PRG Lighting Spec Sheets	May 1, 2017 at 09:59
AutoPar	Sep 30, 2014 at 17:18
Bad Boy	Aug 29, 2019 at 14:30
Bat Truss	Aug 29, 2019 at 14:17
Best Boy Spot 4000	Feb 22, 2019 at 16:59
Best Boy Spot HP	Sep 17, 2019 at 23:02
Best Boy Wash	Oct 8, 2019 at 20:21
Best/Bad Gobos	May 1, 2017 at 09:26
Cable Standards	Jan 3, 2019 at 16:45
Custom Gobos	May 1, 2017 at 09:28
Distro	May 1, 2017 at 11:34
Fiber	Nov 13, 2018 at 01:32
Fixture Testing	Apr 29, 2017 at 11:43
GCLT	May 20, 2019 at 14:02
Ground Control	Aug 10, 2018 at 15:09

Figure 18: Saving a Configuration File

## Filtering the Configuration Window per S400 Device Type

In S400ToolsFX, you can filter your display to view feedback by S400 Device Type: FOH Modules, Rack Modules, Node Plus units, and Super Nodes. In the example below, you see a Device Filter selection set to view ALL devices, and below in the image, you have an example of a Rack Module (MOD) only selection:

Device Filter set to ALL: the system shown here has Rack Modules and Super Nodes

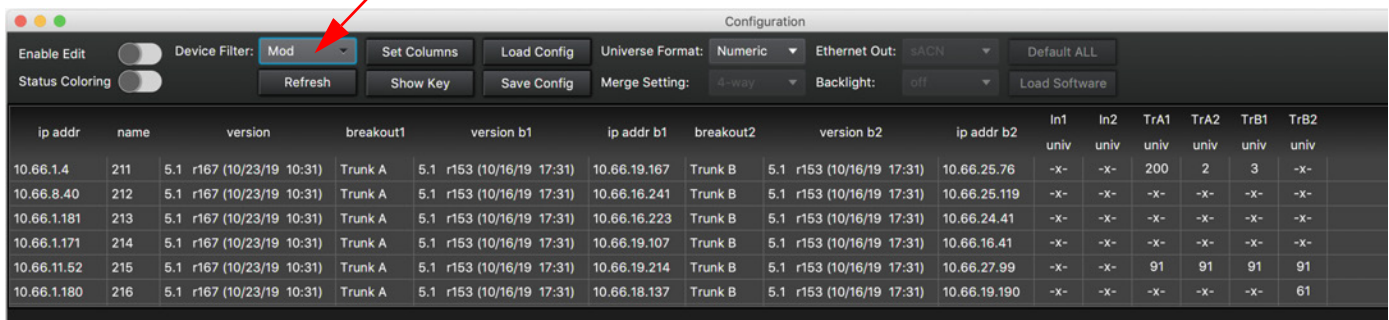


ip addr	name	version	Mod	breakout1	version b1	ip addr b1	breakout2	version b2	ip addr b2	In1	In2	TrA1	TrA2	TrB1	TrB2
10.66.1.4	211	5.1 r167 (10/23/19 10:31)	Node+	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.167	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.25.76	-x-	-x-	200	2	3	-x-
10.66.8.40	212	5.1 r167 (10/23/19 10:31)	Node+	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.16.241	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.25.119	-x-	-x-	-x-	-x-	-x-	-x-
10.66.1.181	213	5.1 r167 (10/23/19 10:31)	Node+	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.16.223	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.24.41	-x-	-x-	-x-	-x-	-x-	-x-
10.66.1.171	214	5.1 r167 (10/23/19 10:31)	Node+	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.107	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.16.41	-x-	-x-	-x-	-x-	-x-	-x-
10.66.11.52	215	5.1 r167 (10/23/19 10:31)	Node+	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.214	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.27.99	-x-	-x-	91	91	91	91
10.66.1.180	216	5.1 r167 (10/23/19 10:31)	Node+	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.18.137	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.19.190	-x-	-x-	-x-	-x-	-x-	61

ip addr	name	version	Dmx1	Dmx2	Dmx3	Dmx4	Dmx5	Dmx6	Dmx7	Dmx8	Eth9	Eth10	Eth11	Eth12	Eth13	Eth14	Eth15	Eth16
10.66.80.201	SNod201	4.0 r1 (09/26/19 14:...	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ	univ
10.66.80.203	SNod203	4.0 r1 (09/26/19 14:...	1	2	3	4	5	6	7	8	-x-	-x-	-x-	-x-	-x-	-x-	-x-	-x-

Same system, but Device Filter set to display Rack Mods only



ip addr	name	version	breakout1	version b1	ip addr b1	breakout2	version b2	ip addr b2	In1	In2	TrA1	TrA2	TrB1	TrB2
10.66.1.4	211	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.167	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.25.76	-x-	-x-	200	2	3	-x-
10.66.8.40	212	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.16.241	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.25.119	-x-	-x-	-x-	-x-	-x-	-x-
10.66.1.181	213	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.16.223	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.24.41	-x-	-x-	-x-	-x-	-x-	-x-
10.66.1.171	214	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.107	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.16.41	-x-	-x-	-x-	-x-	-x-	-x-
10.66.11.52	215	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.19.214	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.27.99	-x-	-x-	91	91	91	91
10.66.1.180	216	5.1 r167 (10/23/19 10:31)	Trunk A	5.1 r153 (10/16/19 17:31)	10.66.18.137	Trunk B	5.1 r153 (10/16/19 17:31)	10.66.19.190	-x-	-x-	-x-	-x-	-x-	61

Figure 19: Configuration Window Showing Device Filter Types and Displays

## Changing Universe Format, Merge Settings, and Ethernet Out in the Configuration Window

Altering the **Universe Format** of your system (Alpha or Numeric), the **Merge Settings** (2-Way, 3-Way, 4-Way, or Disabled), and the **Ethernet Out** (Streaming ACN or Art-Net) [on Super Nodes ONLY] is all done from the top panel of the Configuration Window. Continue to the next page for detailed images showing options.



### ATTENTION

Are you clicking on the Configuration Window fields and nothing is happening?

Did you ENABLE EDIT?

See Figure , "Editing Fields in Configuration Window" on page 8.

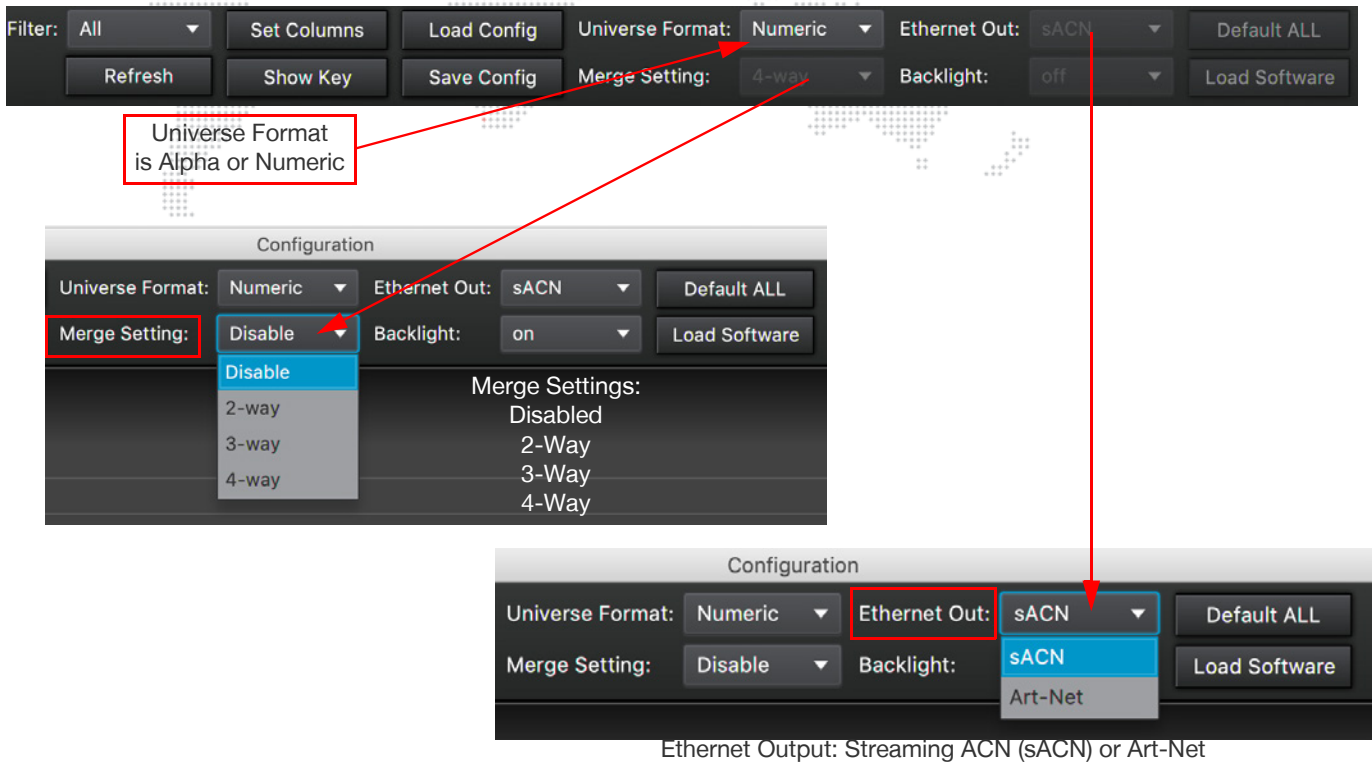


Figure 20: Universe Format, Ethernet Out Settings, and Merge Settings in the Configuration Window

## Interfacing with Rack Modules

S400ToolsFX has the ability to turn on or off the Rack Module backlights remotely, as well as identifying a Rack Module that is online. In addition to this feature's usefulness, it is also extremely fast to implement, whether you're identifying a Rack Module or turning off all Module backlights in the entire system.

**To identify a Rack Module in your S400 System:** See Figure 21 on page 14.

- Step 1. Right click on the Rack Module you'd like to identify from the Configuration Window.
- Step 2. Choose "Identify" from the Right-click menu.
- Step 3. The selected Rack Module, if online, will blink swiftly to help you locate the Module.

**To turn a Rack Module display ON or OFF through S400ToolsFX:** See Figure 22 on page 14.

- Step 1. Select the Rack Module you would like to alter in the Configuration Window.
- Step 2. On the Menu Bar at the top of the Configuration Window, choose ON or OFF from the Backlight dropdown.

Continued on next page

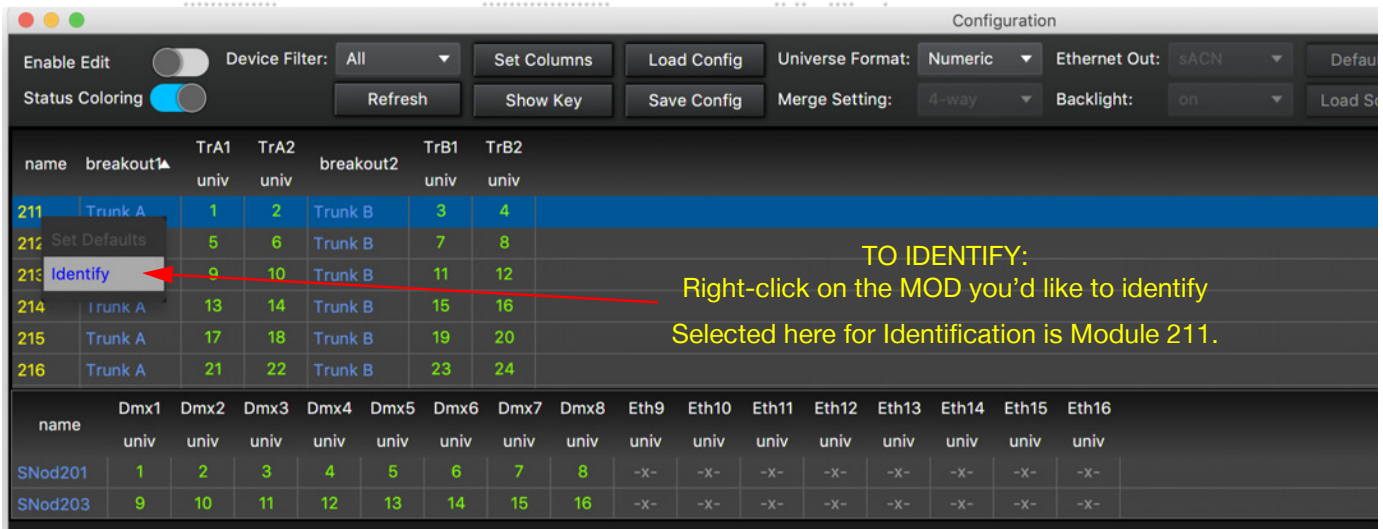


Figure 21: Identifying a Rack Module in the Configuration Window Using IDENTIFY

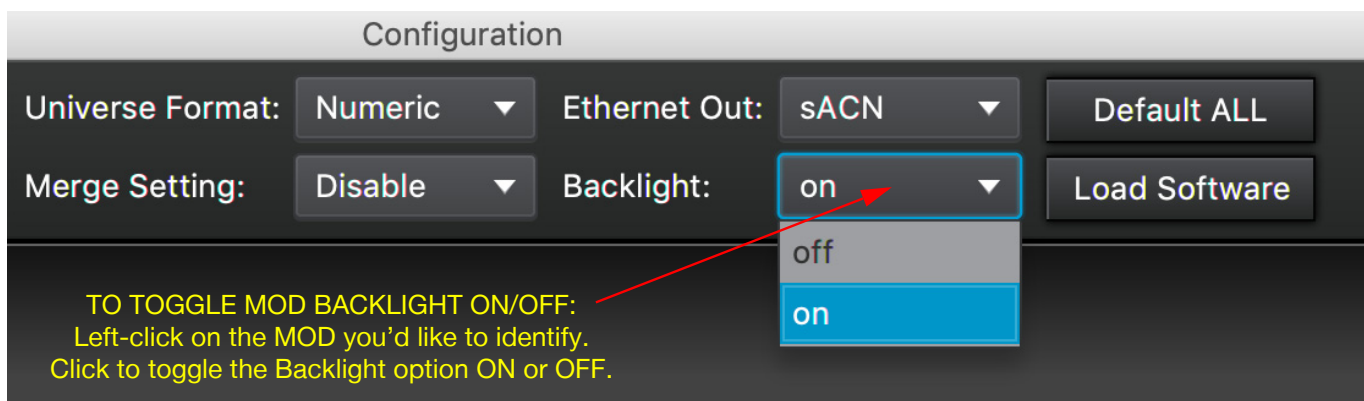
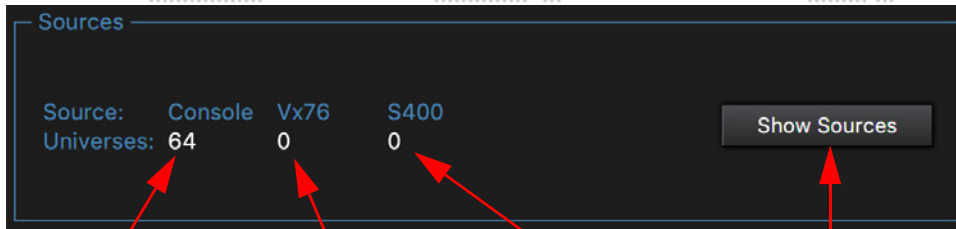


Figure 22: Toggling the Rack Module Backlight ON or OFF in the Configuration Window

Continued on next page

## DMX Sources Window - 2nd Panel Down

The DMX Sources panel on the Main Window gives information on data sources, their universes, ports, and IP data.



This is the SOURCES panel on the Main S400ToolsFX Interface Window.

Universes from a Console      Universes from a Vx76      Universes from S400      Show Sources button

DMX Sources

Sources

group	source	count	ip
Console	192.168.0.2	64	192.168.0.2

Universes

univ	source	type	pri
1	192.168.0.2	sACN	100
2	192.168.0.2	sACN	100
3	192.168.0.2	sACN	100
4	192.168.0.2	sACN	100
5	192.168.0.2	sACN	100
6	192.168.0.2	sACN	100
7	192.168.0.2	sACN	100
8	192.168.0.2	sACN	100

Incoming Data Group (Console or server)

Data Source Label

Universe Count from Data Source

Source IP Address

Universe Label

Data Source

Data Type (Streaming ACN here)

Priority Level

Figure 23: DMX Sources Window





## First View Type: DMX Numeric Display

The Numeric display in the DMX Monitor is simple: it's a per-channel display of active DMX universes and their data in numeric format. You can toggle on and off the stack of universes, show several universes at once, view their levels as percent or number value, and access a new feature of S400ToolsFX, the Dimmer Check.

## Display Multiple Universes

Obviously seeing more than one universe at a time can be beneficial for a variety of monitoring and troubleshooting purposes, so you can do this in all of the different types of displays in the DMX Monitor.

You've already seen the single Universe display, here is a display of four (4) universes on the Monitor display:

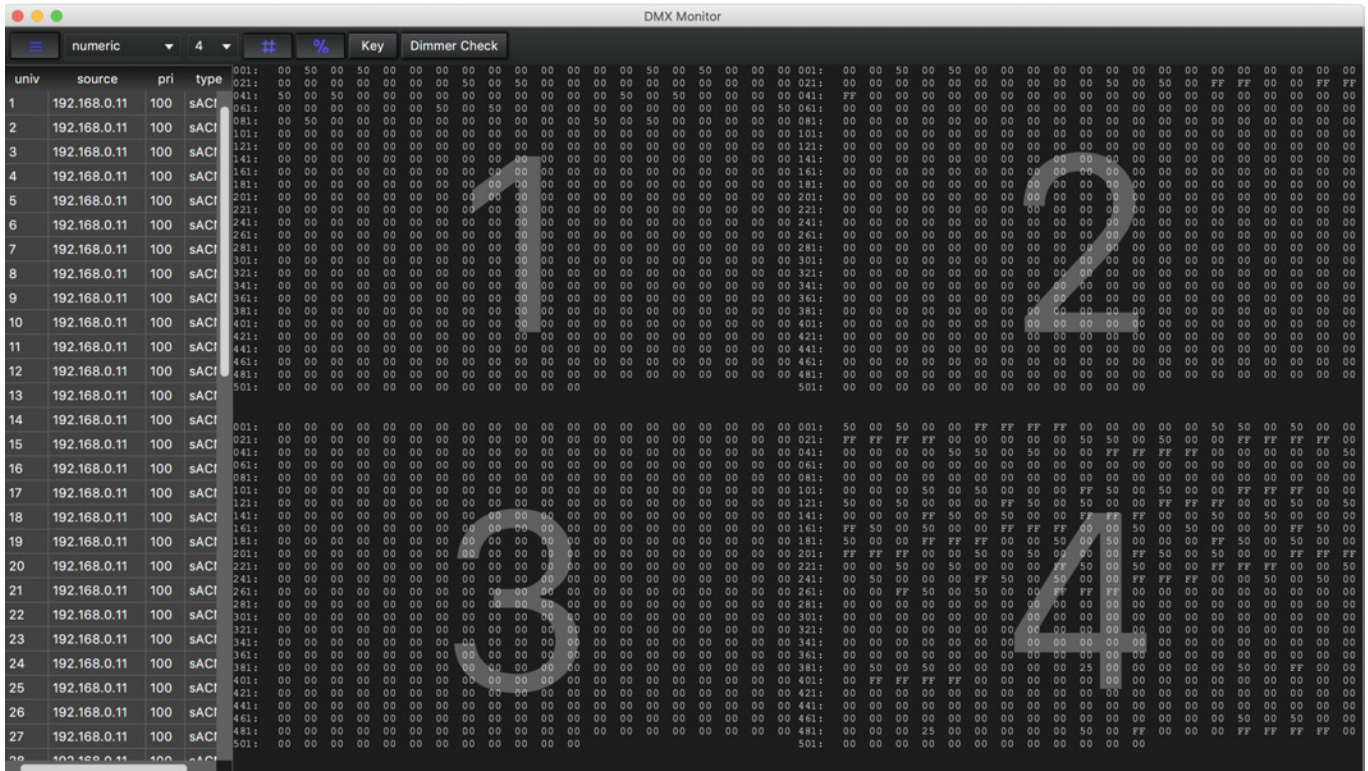


Figure 25: DMX Monitor showing Four Universes of DMX

You'll notice how each universe shows a number in the background to identify it; this is replaced by a letter in Alpha format if you choose Alpha characters instead of Numeric for Universes. Notice also that the former single universe display is now divided by 4. It will be further reduced in size by 16 and by 64 when you choose these options.

## Dimmer Check

The Dimmer Check feature in S400ToolsFX is an excellent method for troubleshooting, testing, and ringing out a Series 400 rig with or without a console. The Dimmer Check function allows you to enter values for any number or range of channels, stack them on or advance one group at a time, and advance your channel selection all the way through your Universes continuously. Let's take a look at the Dimmer Check Window on the next page.

Continued on next page

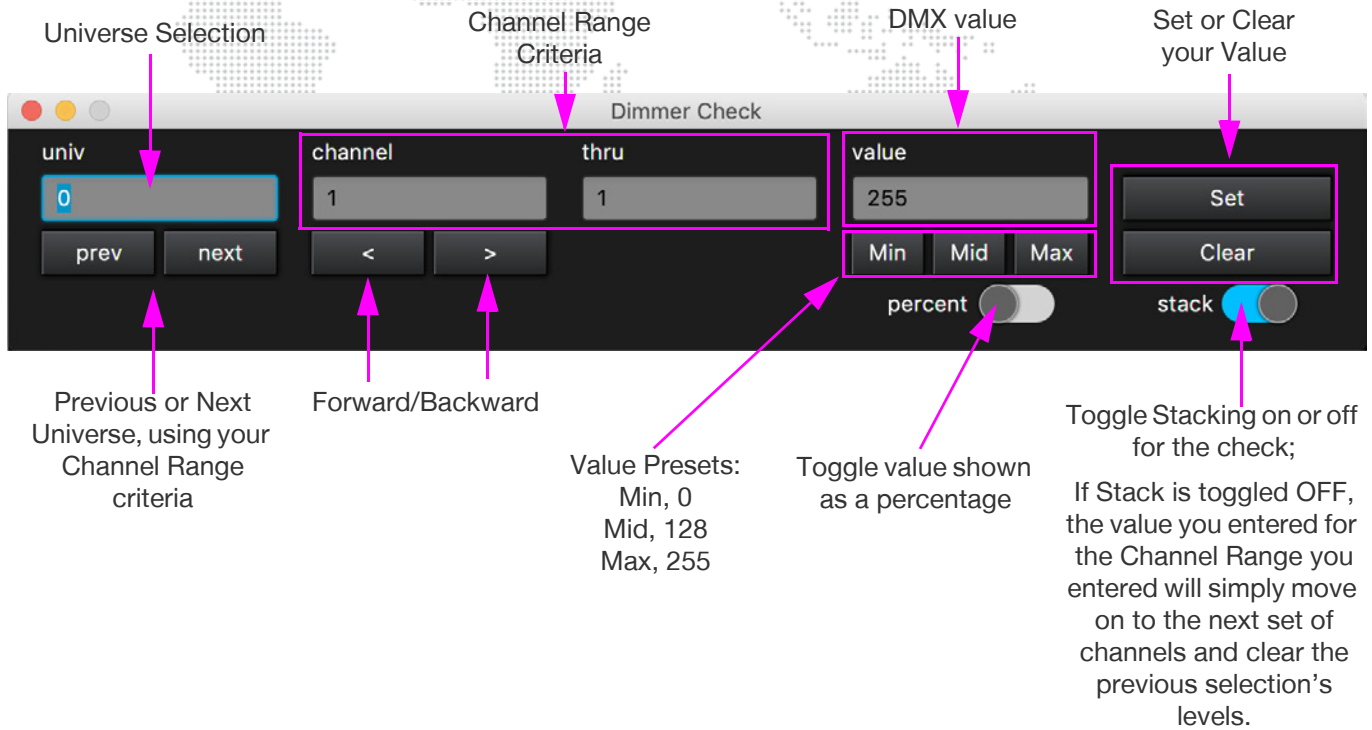


Figure 26: Becoming Familiar with the Dimmer Check Window

### Dimmer Check Practical Applications

Let's look at a few examples of using Dimmer Check. The first example is a single channel set to Max (255). You'll notice that the channel becomes bright yellow. This is the indication that Dimmer Check is using that channel.

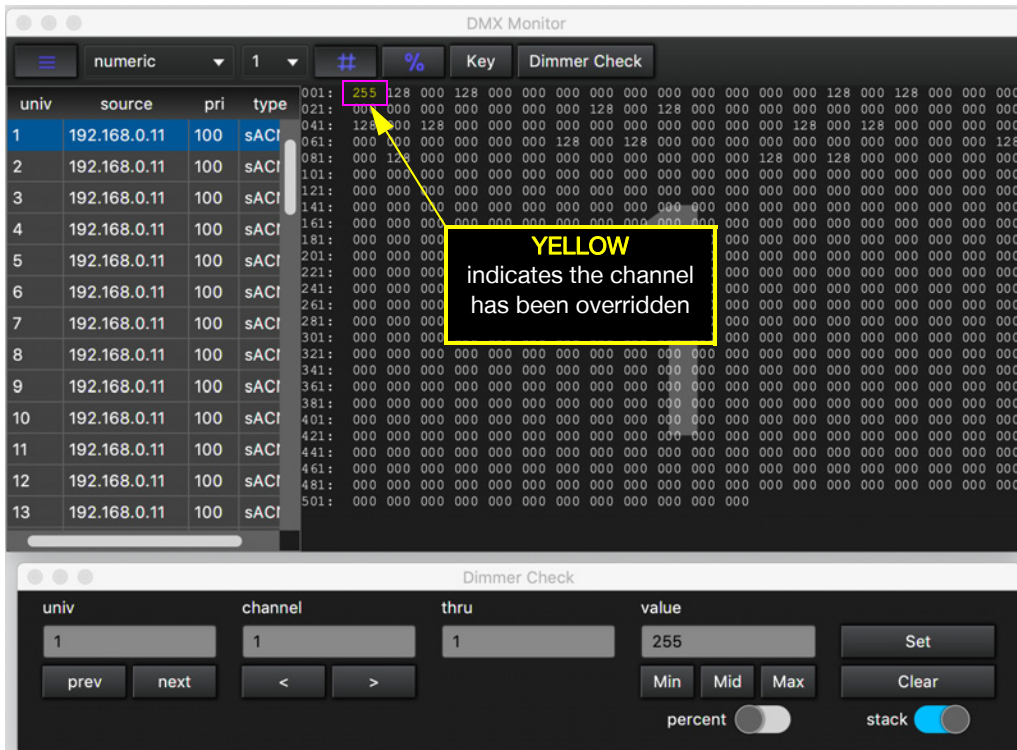


Figure 27: Dimmer Check with a Single Channel

The next example is an example of a Stacked advance in the Dimmer Check. The Dimmer Check below started at Universe 1 and included all 512 channels at a MID level (128). The Dimmer Check selection was advanced forward once while keeping Stack toggled ON. Notice that both selections stay on at 128:

The screenshot displays the DMX Monitor interface. The main data table shows a list of channels from 001 to 501, all with a value of 128. Below the table, a control panel for the 'Dimmer Check' is visible. It includes fields for 'univ' (1), 'channel' (1), 'thru' (512), and 'value' (128). Navigation buttons like 'prev', 'next', and 'Set' are present. A 'stack' toggle switch is turned ON, and a 'percent' slider is also visible.

Figure 28: A Stacked Dimmer Check

The next example is the same scenario as in Figure 28, except Stack is toggled OFF:

This screenshot shows the DMX Monitor interface with a different configuration. The main data table shows 512 channels, all with a value of 50. The control panel below shows 'univ' set to 2, 'channel' set to 1, 'thru' set to 512, and 'value' set to 50. The 'stack' toggle switch is turned OFF, and the 'percent' slider is also visible.

Figure 29: A Non-Stacked Dimmer Check

The third example in Dimmer Check to view is Percentage -- Dimmer check may be viewed as a percentage instead of a value, which can be applied to many situations. The example below is an example of a Stacked Dimmer Check using Percentage:

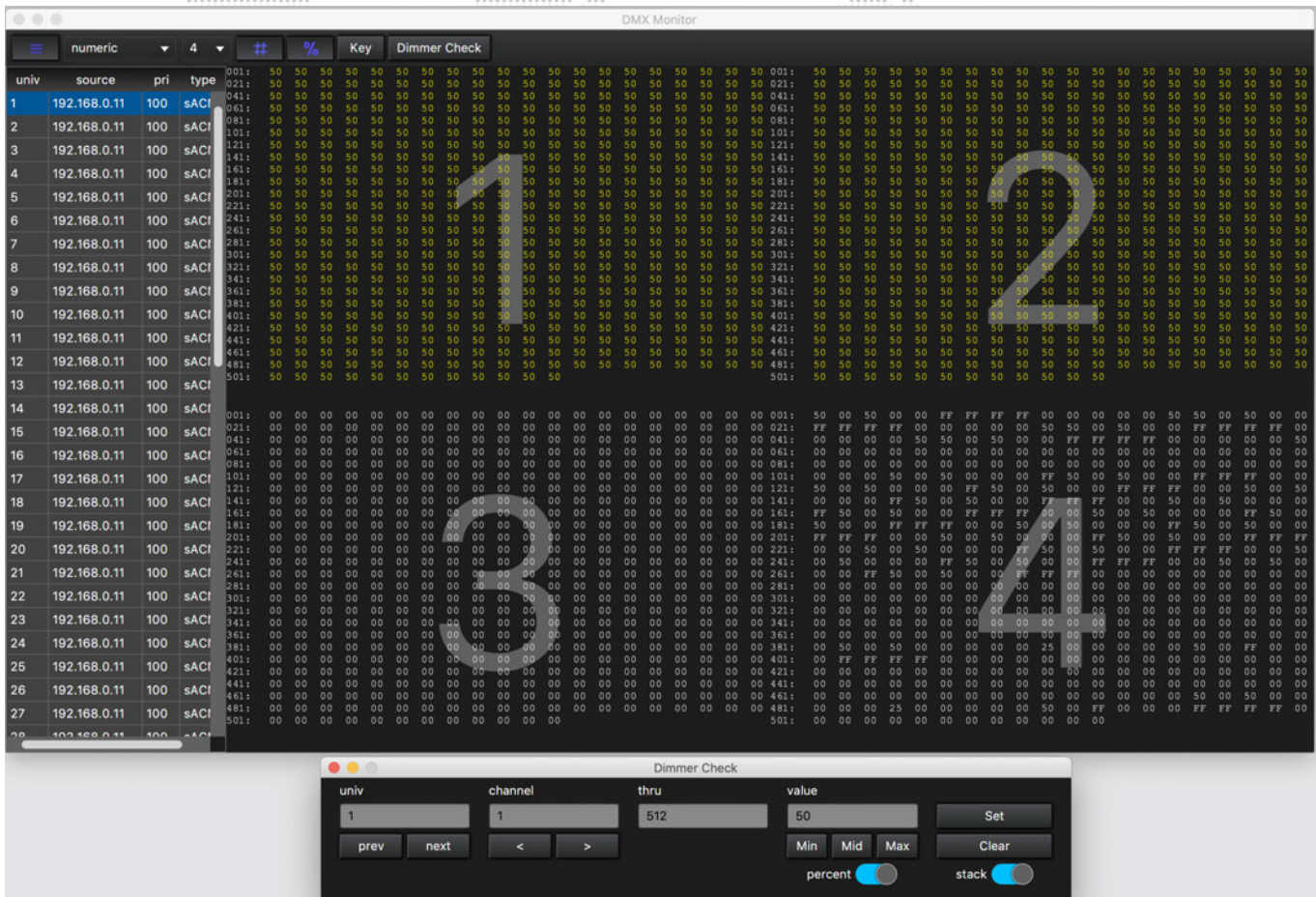


Figure 30: Dimmer Check Using Percentage Instead of Value

### Second View Type: LED View

A new and innovative channel feedback view is the S400ToolsFX LED View, or “LED Wall,” as you may hear it called. This view takes every three channels and creates a virtual LED Wall out of your universes. This view is designed to aid you in determining trends and searching out problems in the system.

A simplification of the LED View:

Each “LED” on the LED view is three channels. **Channel 1 is Red**, **Channel 2 is Green**, and **Channel 3 is Blue**. In the LED that is next to the first, Channels 4-6 will be represented. Channel 4 is Red, Channel 5 is Green, Channel 6 is Blue, and so on. If a channel has no value, its LED will not show its color. Brightness of the LED indicates value.

If Channel 1 is at full but Channels 2 and 3 are at 0, the LED will be **RED**.

If Channel 1 is out, Channel 3 is out, but Channel 2 is at full, the LED will be **Green**.

If Channel 1 and 2 are out but Channel 3 is at full, the LED will be **Blue**.

As the Channels mix in each 3-Channel LED, so will the colors of that LED:

If Channel 1 and 2 is at full and Channel 3 is out: **RED** (Channel 1 full) plus **GREEN** (Channel 2 full) equals **YELLOW**.

If Channel 1 and 3 are at full but 2 is out: **RED** (Channel 1 full) plus **BLUE** (Channel 3 full) equals **MAGENTA**.

If Channels 2 and 3 are at full but Channel 1 is out: **GREEN** (Channel 2 full) plus **BLUE** (Channel 3 full) equals **CYAN**.

Let’s look at some examples on the next page.

Here is a simple one universe LED View. As you mouse over LEDs, you'll be given their values as a tooltip. You can also click the KEY button at any time to see the key for LED View.

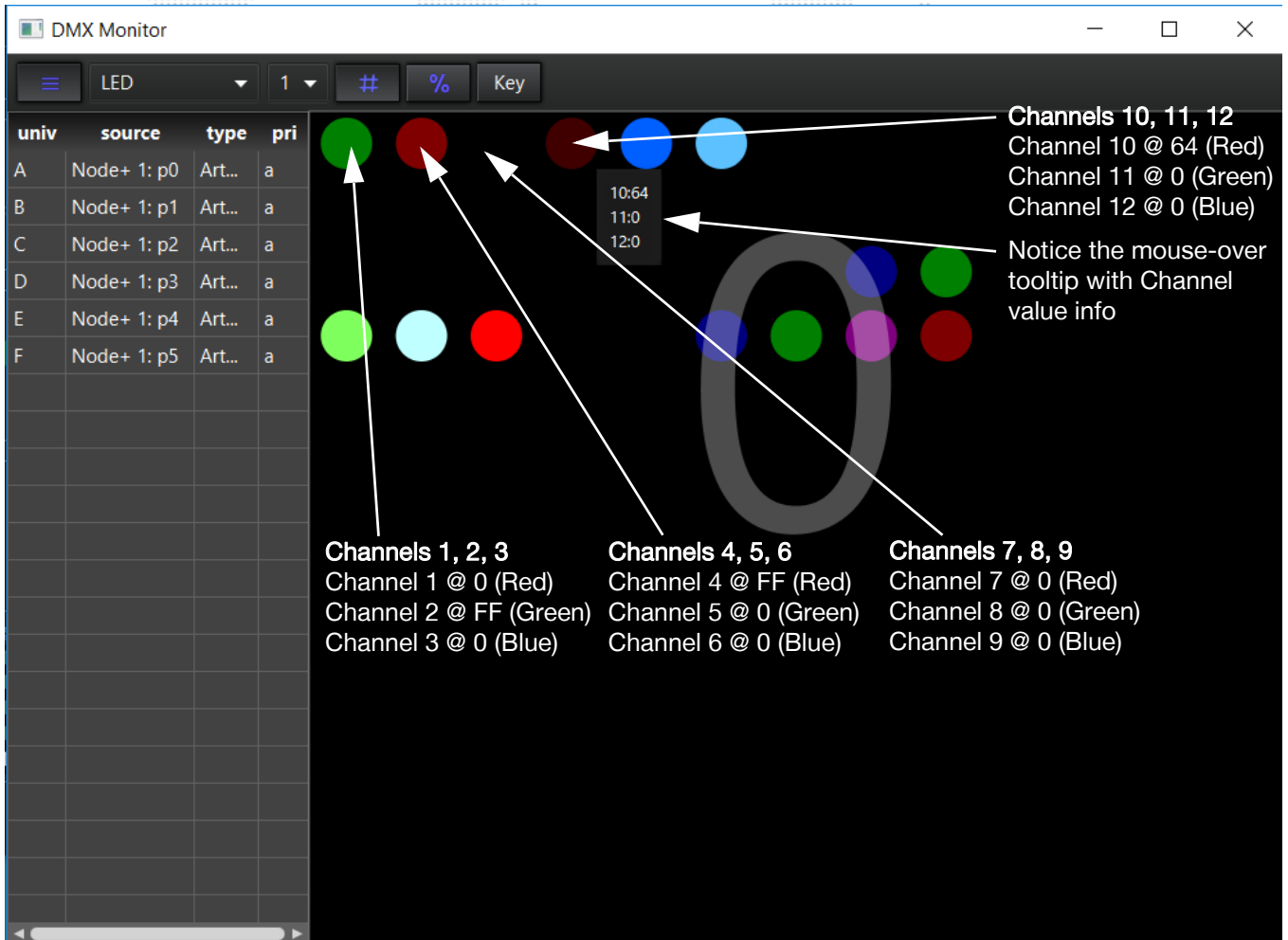


Figure 31: Becoming Familiar with the LED View

The LED View Key:

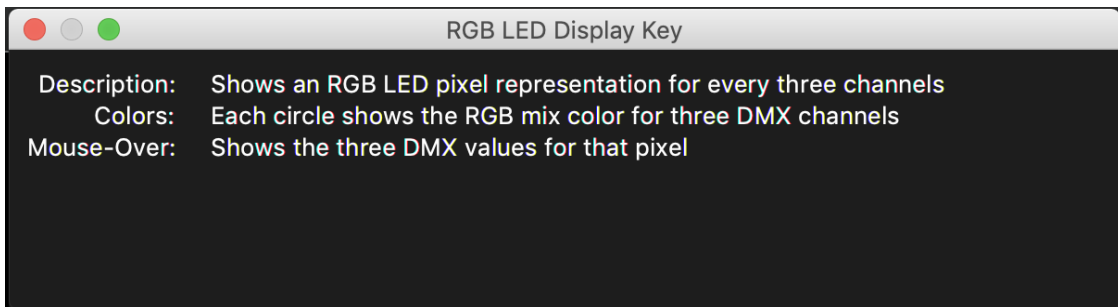


Figure 32: The LED View Key

When you are using a Series 400 System with more than one universe, the views behave just as Numeric display, showing 1, 4, 16, or 64 Universes. Notice as well the size reduction when viewing many Universes at a time.

Here's an example with four Universes shown:

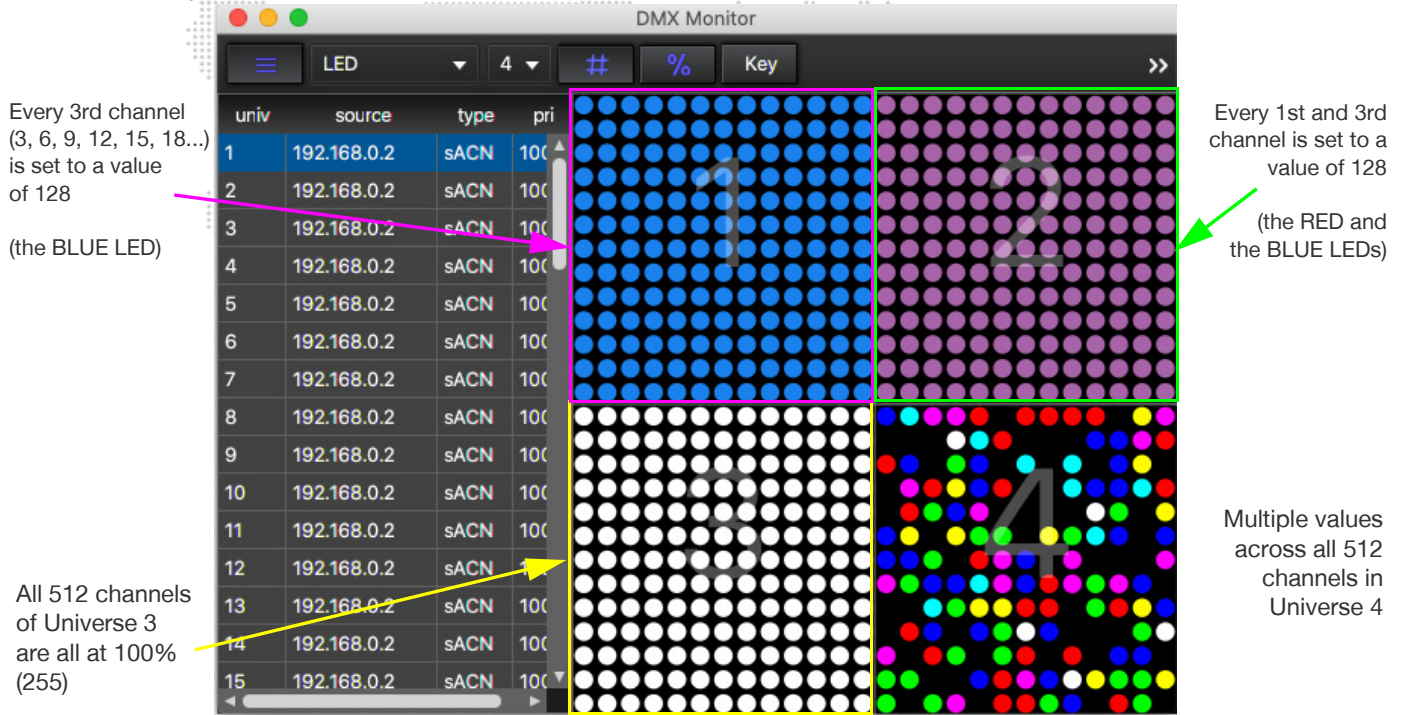


Figure 33: LED View with Four Universes

Here's an example with 16 Universes in LED View:

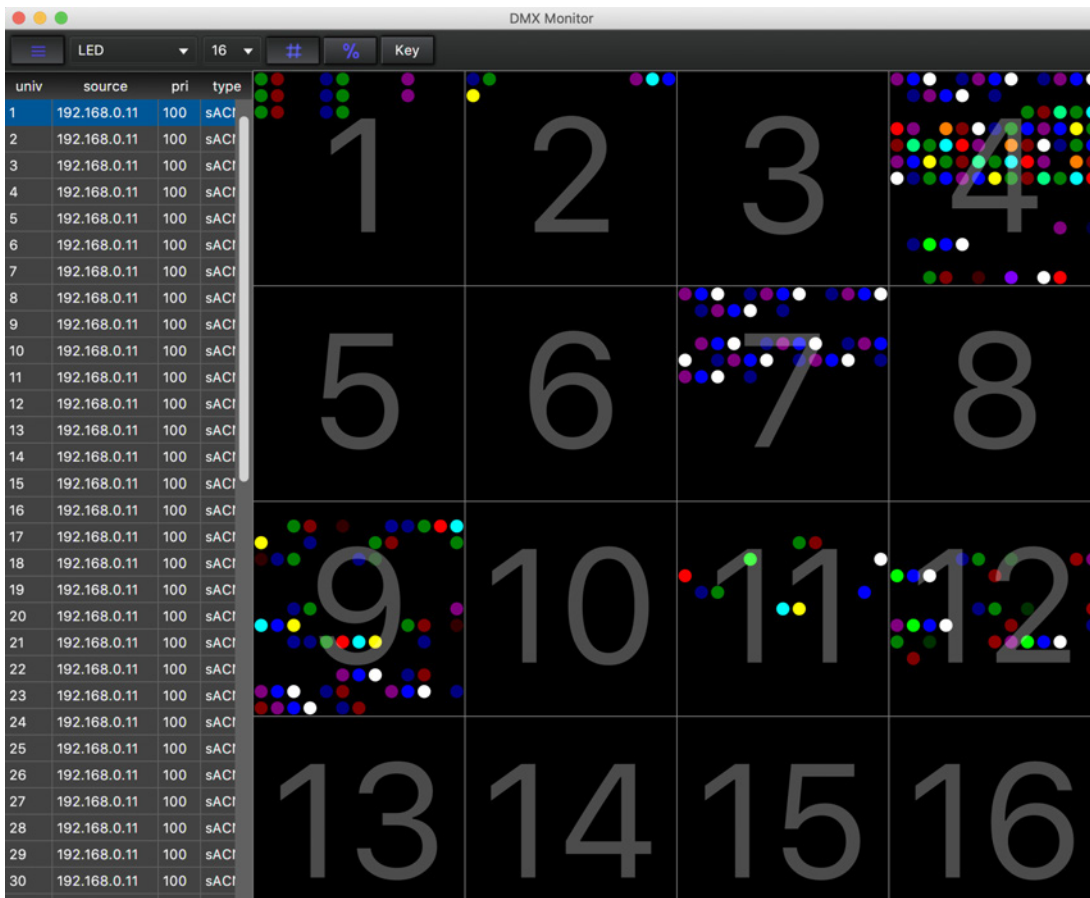


Figure 34: LED View Showing 16 Universes

Finally, here's a view looking at 64 Universes at a time:

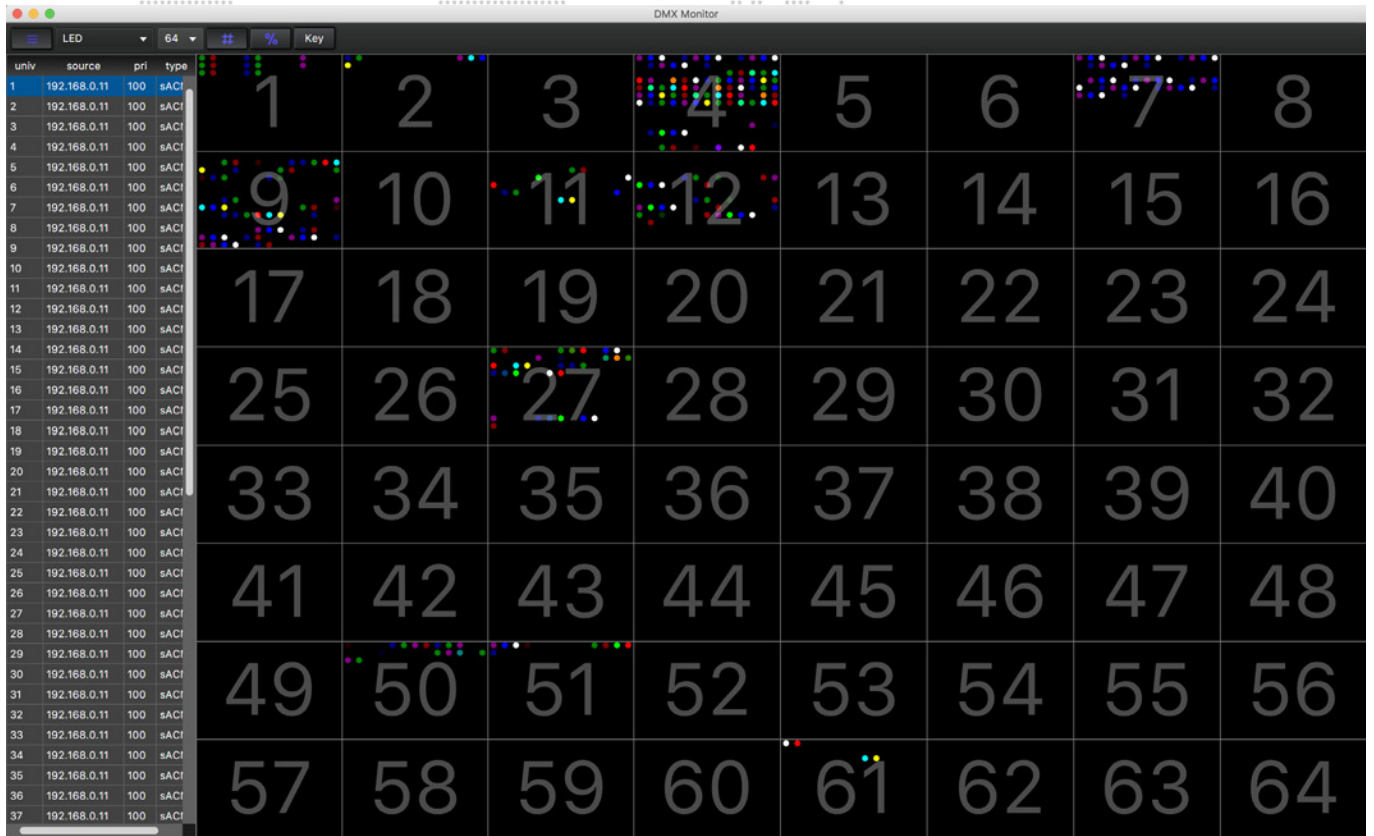


Figure 35: LED View Showing 64 Universes

### Third View Type: Spectrum

The Spectrum view in the DMX Monitor is a unique view that relies on the color spectrum to display DMX activity. Each DMX channel has a vertical channel bar that represents its level, and due to its condensed design, mousing over a section gives you a tooltip of four (4) channels at a time.

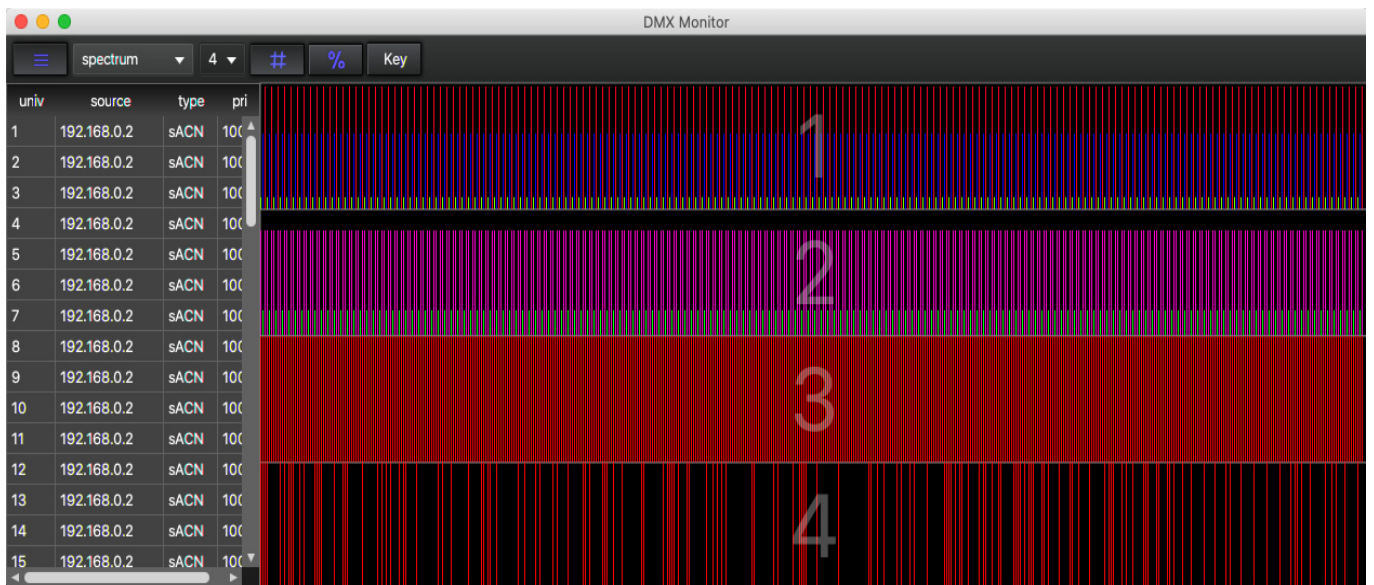


Figure 36: Four Universes in Spectrum View in the DMX Monitor Window

If we look at this graph next to the Key, you'll notice that the height of the DMX channel output corresponds to the color on the spectrum. High output levels are shown in red, the far right side of the spectrum, whereas low output levels appear as smaller lines. This is designed to help you monitor, diagnose, and spot trends in your system.

Make a direct correlation between the height of the lines and the color spectrum -- red means you're at full (255), between cyan and blue is about half (128), and yellow means a very low level.

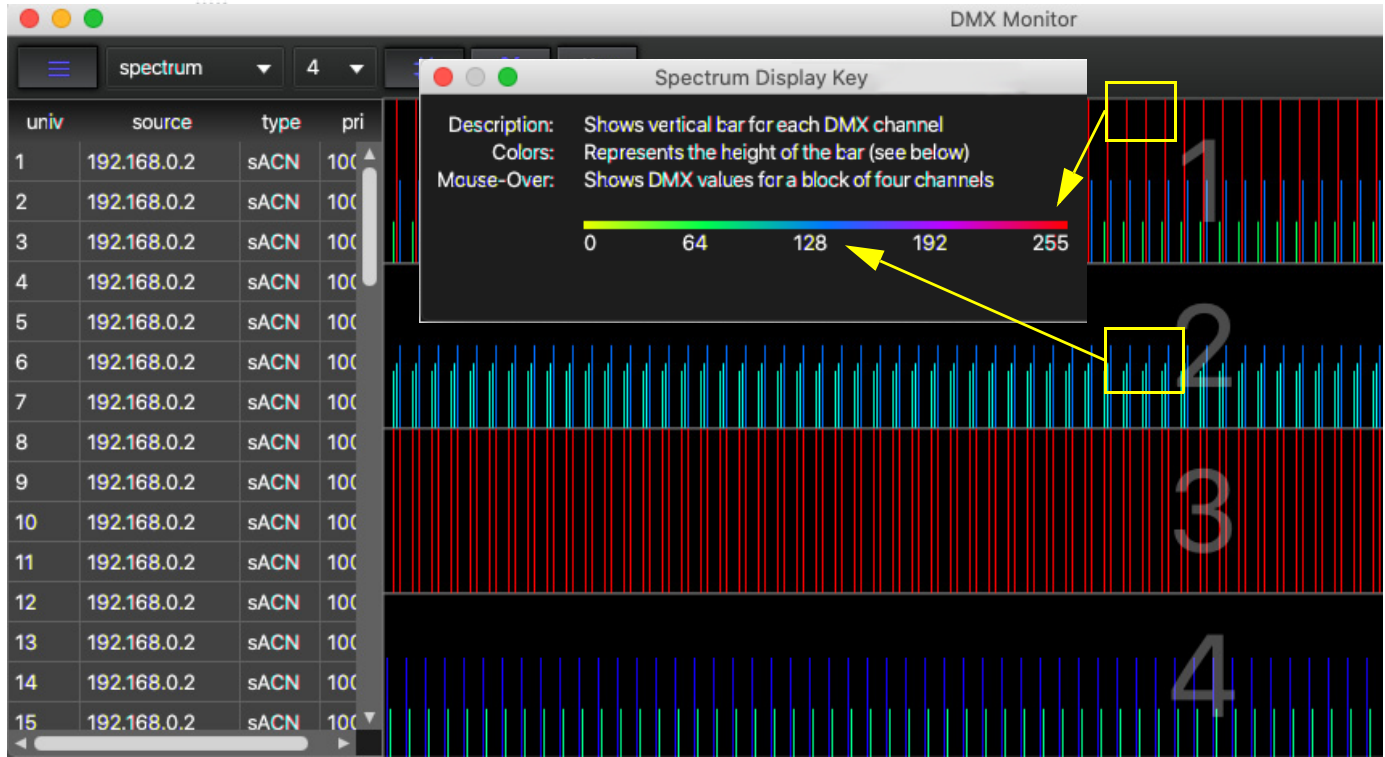


Figure 37: Getting Familiar with the Spectrum DMX Monitor Display

#### Fourth View Type: Spectrum Up/Down

The Spectrum Up/Down (Spectrum U/D) view in the DMX Monitor Window is a display of whether the channel is ascending or descending in value. Like the Spectrum View, there is a vertical line for each channel; blue lines are increasing DMX values on that channel, and green indicates a decrease in value on that channel. The purple color reflects a DMX channel that has not changed in 0.5 seconds.

Upon mousing over the lines, you'll see a group of four channels' levels, as in the Spectrum View.

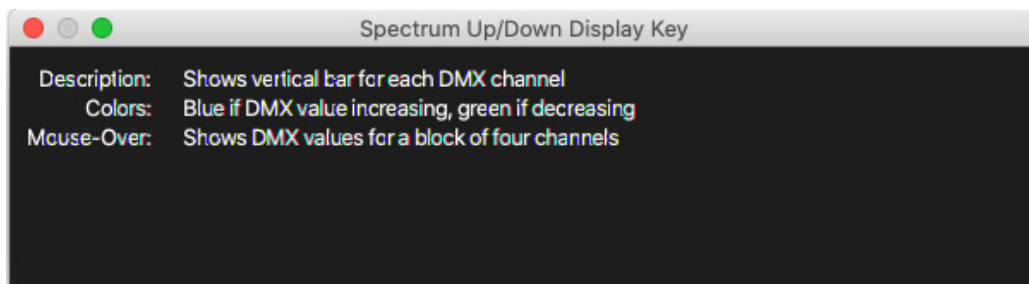


Figure 38: The Spectrum Up/Down Key



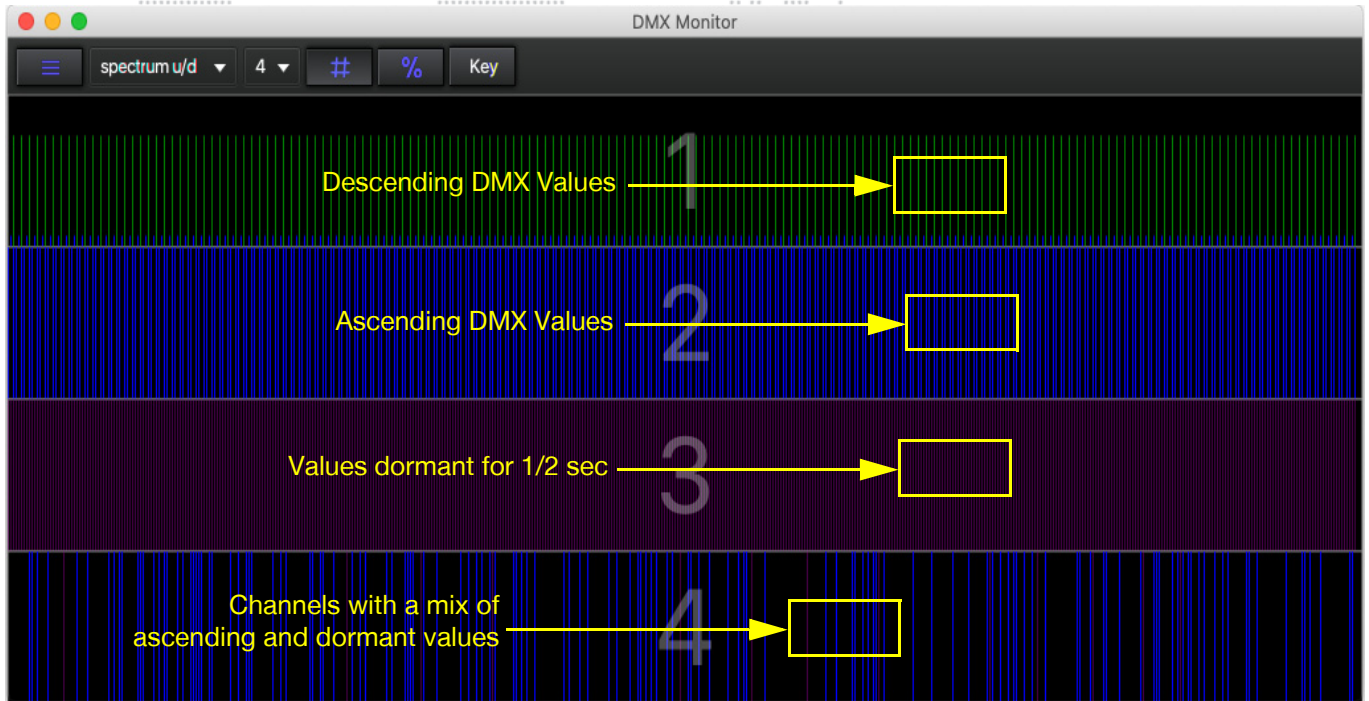


Figure 39: Spectrum Up/Down DMX Monitor View Showing Values

### Fifth View Type: Scope

The Scope View in DMX Monitor is an excellent way to detect abnormalities in your universes on a per channel basis. Scope View is not based on color, it is pure DMX data in an oscilloscope format. The horizontal axis is time; each line represents one second. The vertical axis is DMX value, from 0 to 255. Let's get familiar with the Scope View, below:

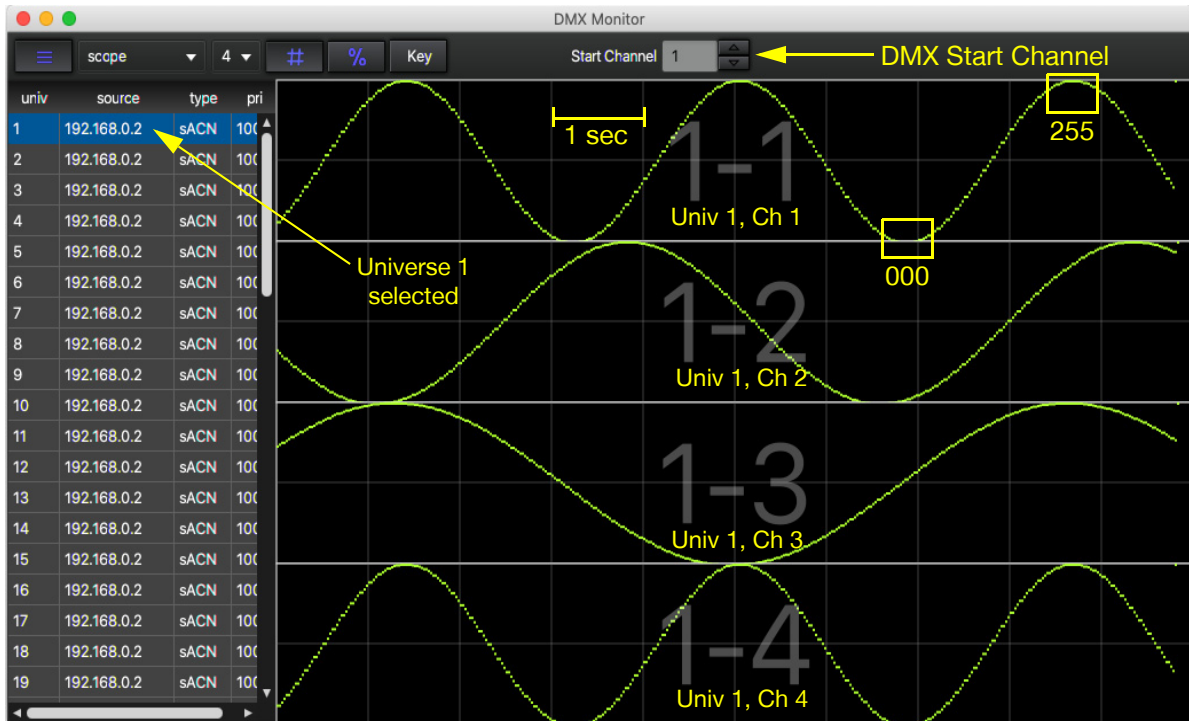


Figure 40: Scope View in the DMX Monitor Window

## The RDM Panel and RDM Window - 4th Panel Down

S400ToolsFX has made drastic improvements and enhancements to RDM transactions in your Series 400 system. Let's take a moment to become familiar with the RDM Panel on the Main Window:

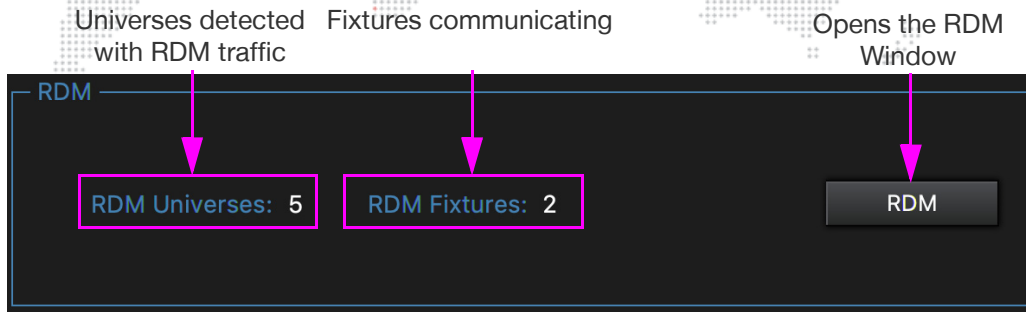


Figure 41: The RDM Panel on the Main Window

## The RDM Window

When you click the RDM button on the RDM Panel on the Main Interface, you will encounter the RDM Window in its initial state -- you'll need to Enable RDM in order to use the RDM functionality.



### ATTENTION

Are you clicking on the RDM Window fields and nothing is happening? Did you ENABLE EDIT? It works just like having to Enable Edit to edit inside the Configuration Window.



### CAUTION

When you close the RDM Window, RDM will become disabled until reopened and enabled. It is never a good idea to run RDM commands to your rig during a show.

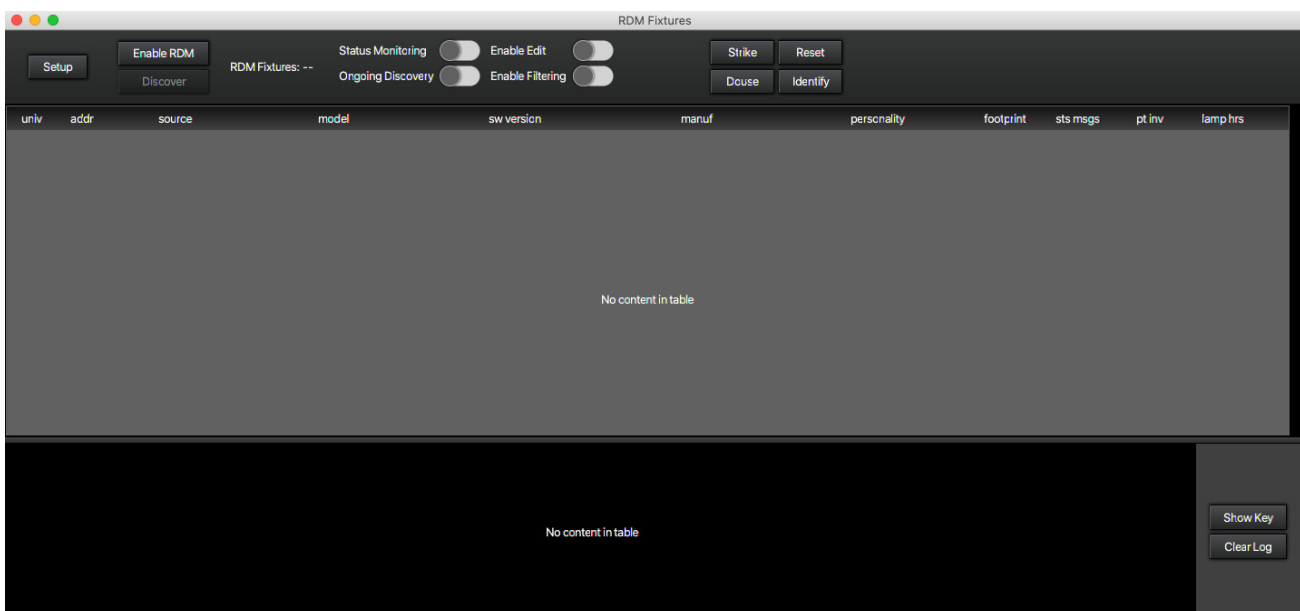


Figure 42: Full Main RDM Window

Let's become familiar with the Main RDM Window:

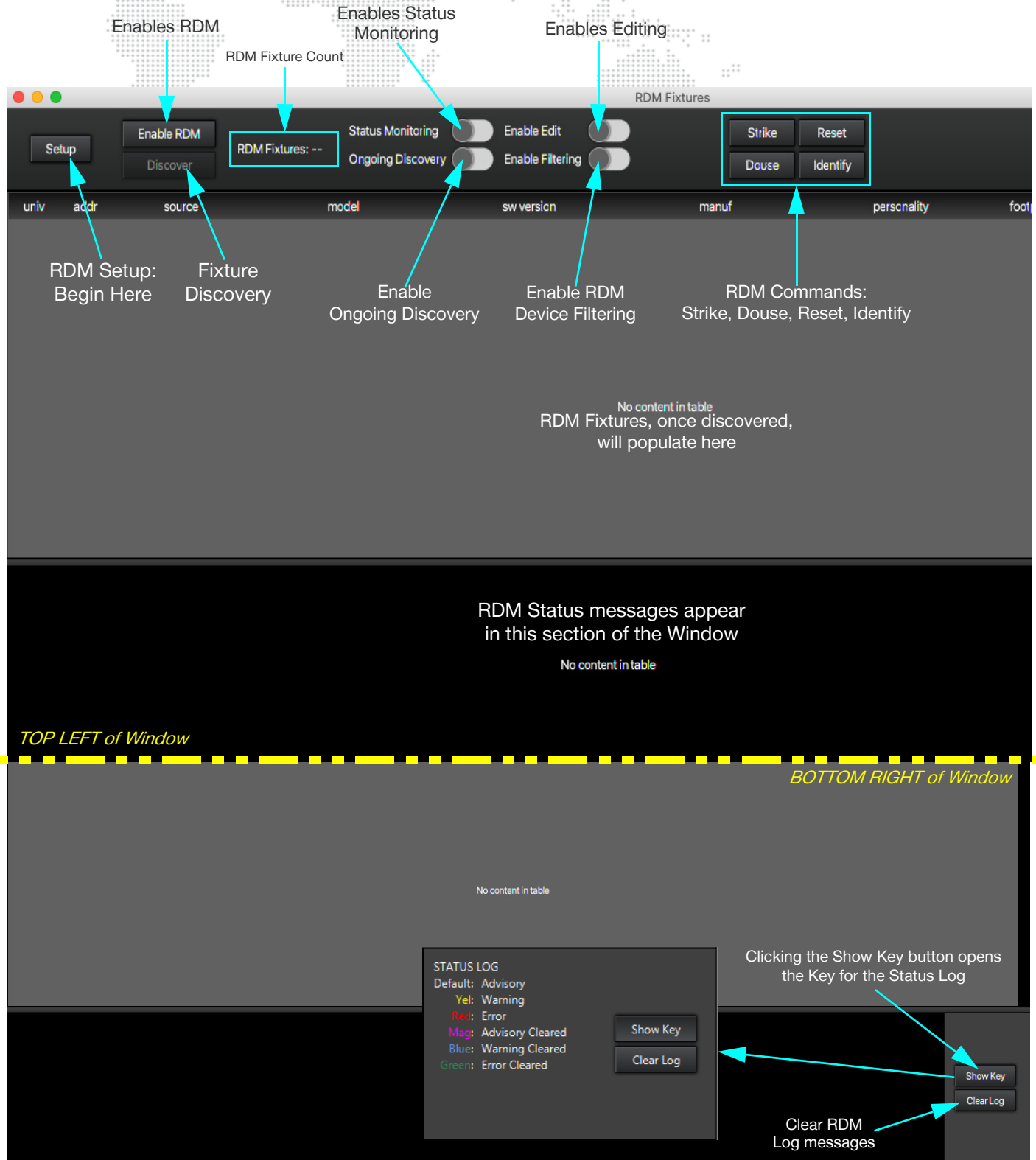


Figure 43: Becoming Familiar with the Initial RDM Window

In order to interact with fixtures via RDM, click the Setup button to begin. Once you click the setup button, you'll be presented with a list of Universes; from there, you can select some or all of your universes, click the Enable RDM button, then you can click the Discover button to find RDM-enabled fixtures on the Universes you selected.

In this example below, the Setup button has been clicked and the RDM button has been selected; universes that have RDM devices on them will populate in the left-hand column:

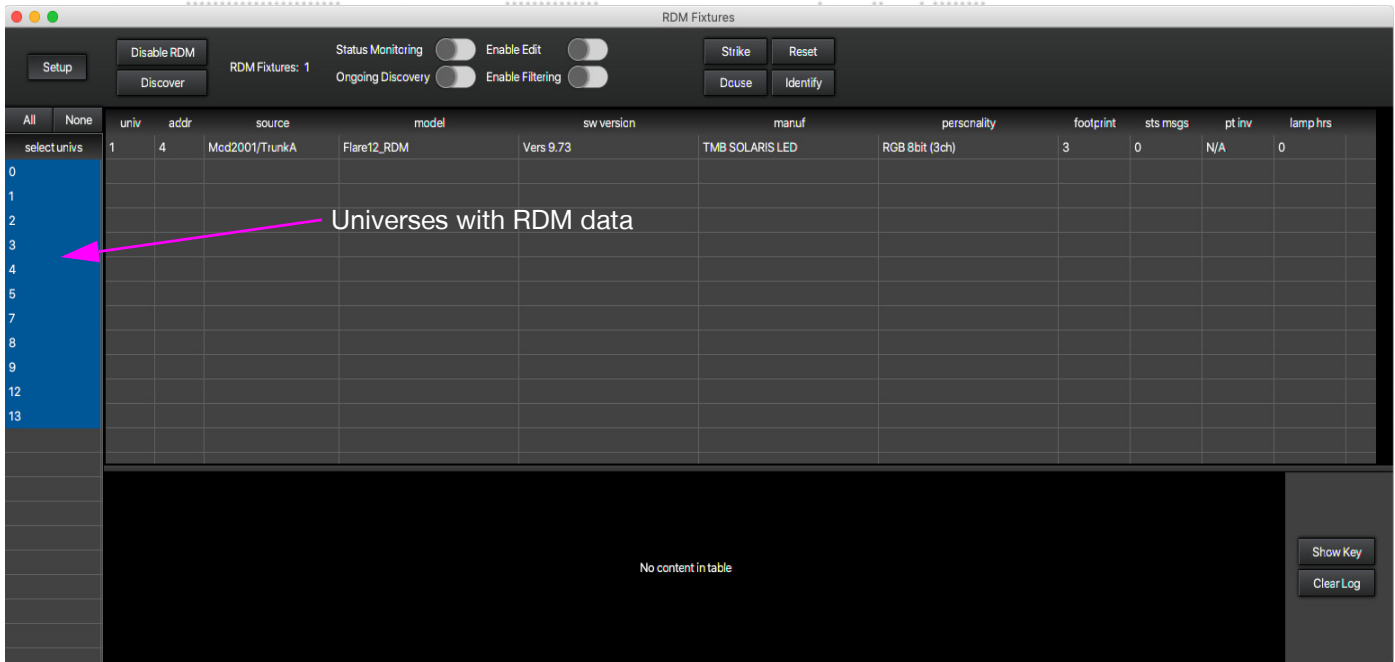


Figure 44: Initial RDM Universe Population

Once you have selected the Universes on the left to which you'd like to send a discover command, click the Discover button to discover RDM-enabled fixtures on selected Universes. Once you click the Discover button, the system will look for RDM-enabled fixtures:

Once clicked, the Enable RDM button becomes Disable RDM

As Discovery is taking place, an animated blue circle will appear while fixtures are polling

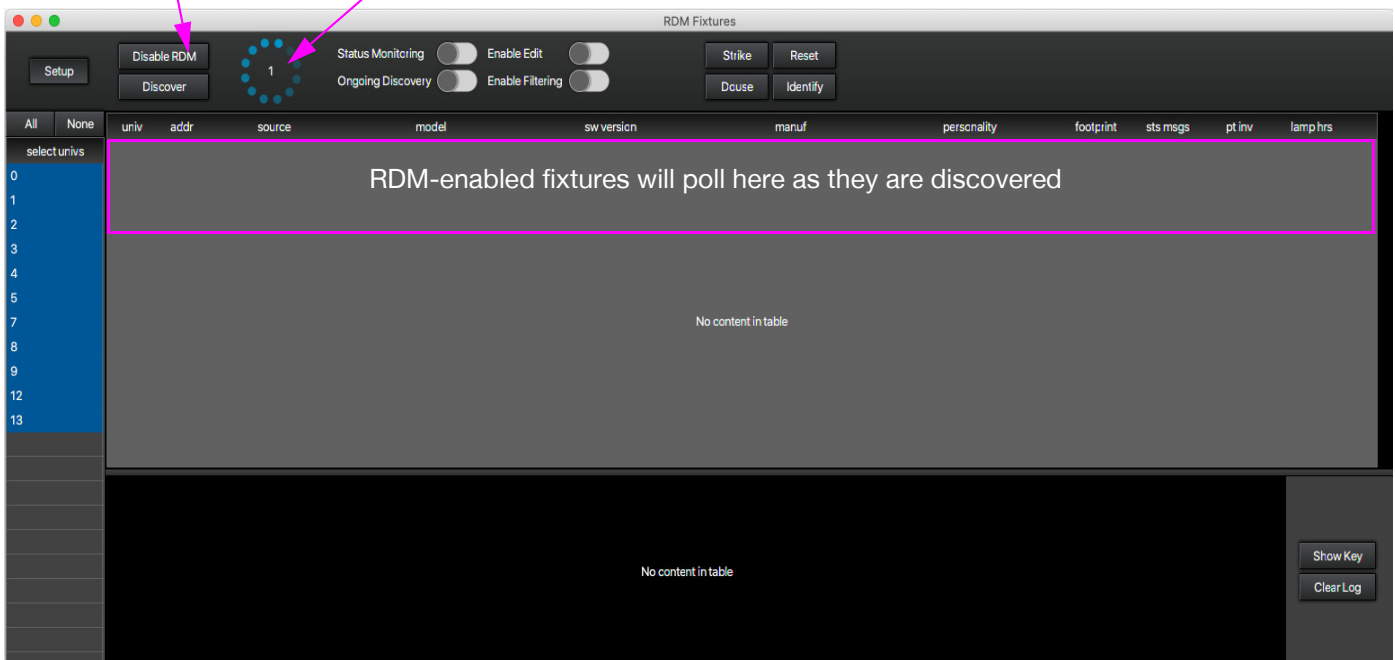


Figure 45: RDM-Enabled Fixtures Polling Under Discovery

Once RDM fixtures have identified themselves, you MUST ENABLE EDIT to make any changes or send an RDM command to RDM-enabled fixtures in the Universes you selected. Below is an example of the red indicator you'll see when you toggle the Enable Edit toggle to ON:

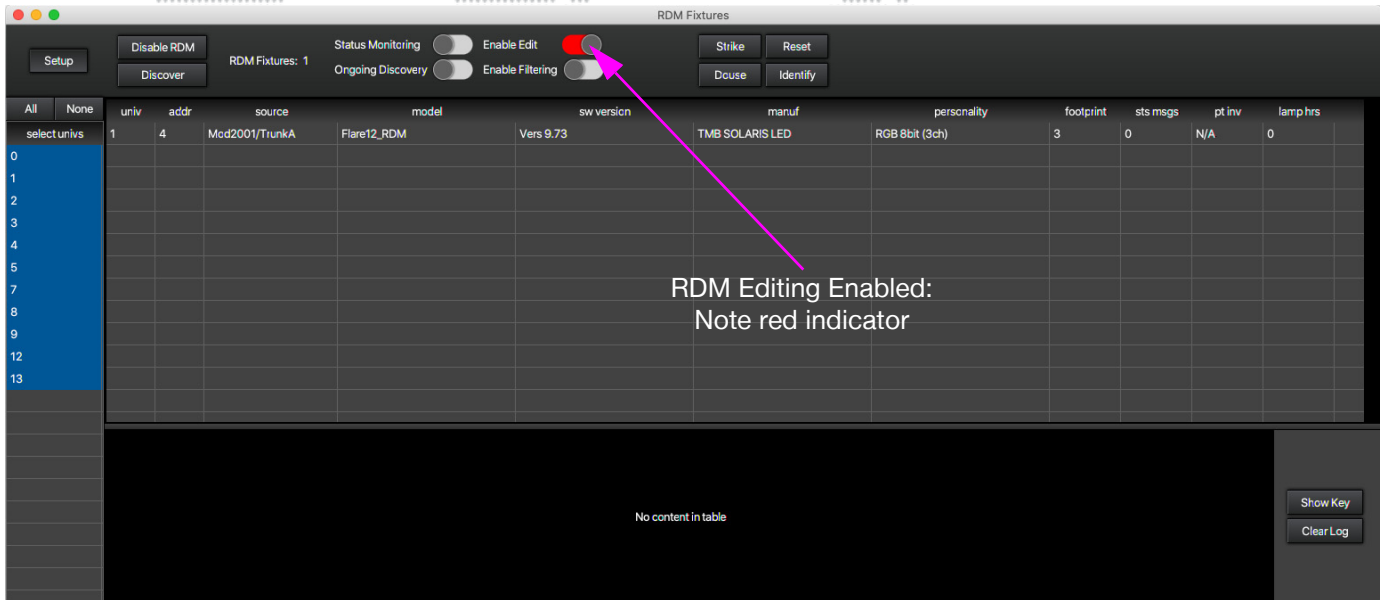


Figure 46: RDM Window, Edit Enabled

Once editing is enabled, you may send commands to the fixtures, and change their editable parameters, like Personality -- below is an example of a Personality change to a fixture in the RDM Window:

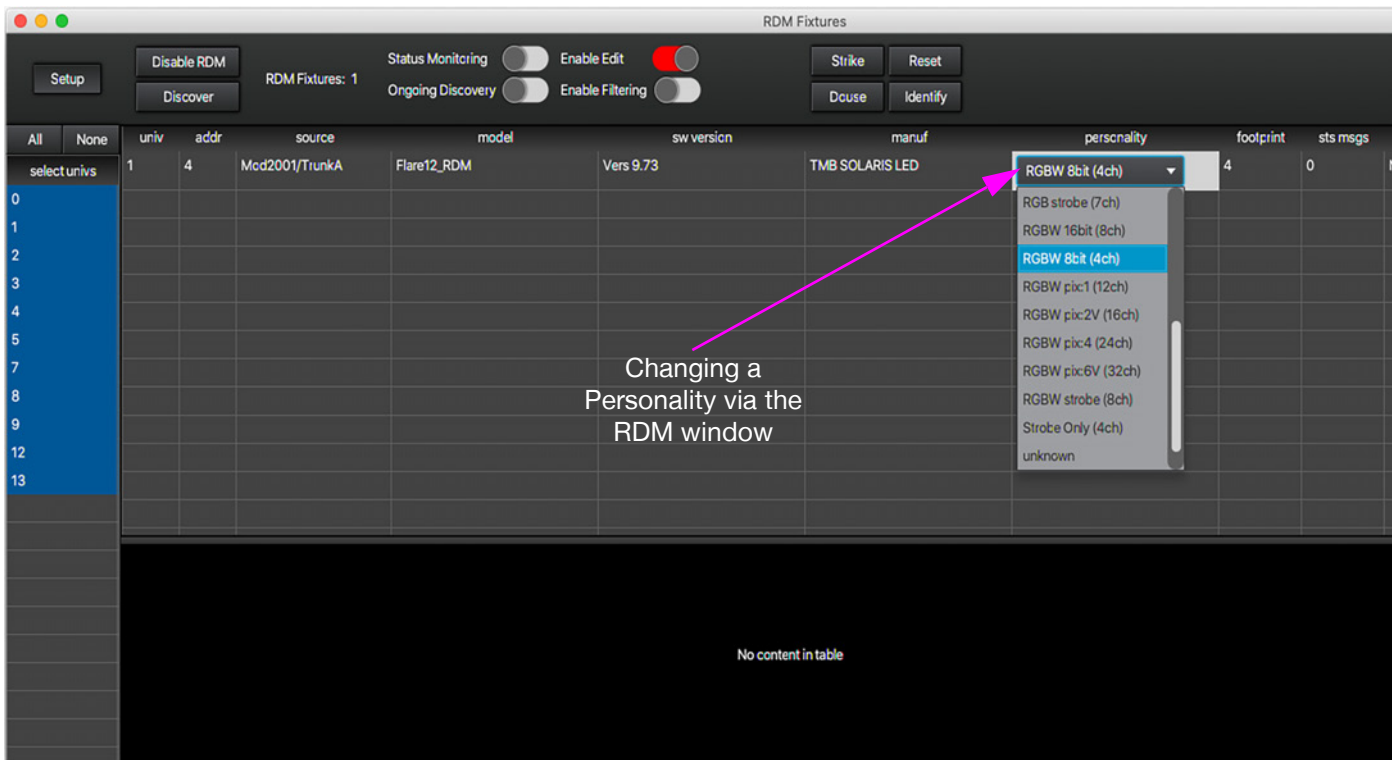


Figure 47: Changing a Personality on an RDM-enabled Fixture

Once you've enabled editing in the RDM Window, you have right-click menu options for each fixture that polls RDM. The right-click menu includes the Strike, Reset, Douse, and Identify commands. Let's take a look at the Identify command. When you IDENTIFY a fixture, the fixture listening for the command will flash its intensity to allow you to locate its position in the rig. View the image below:

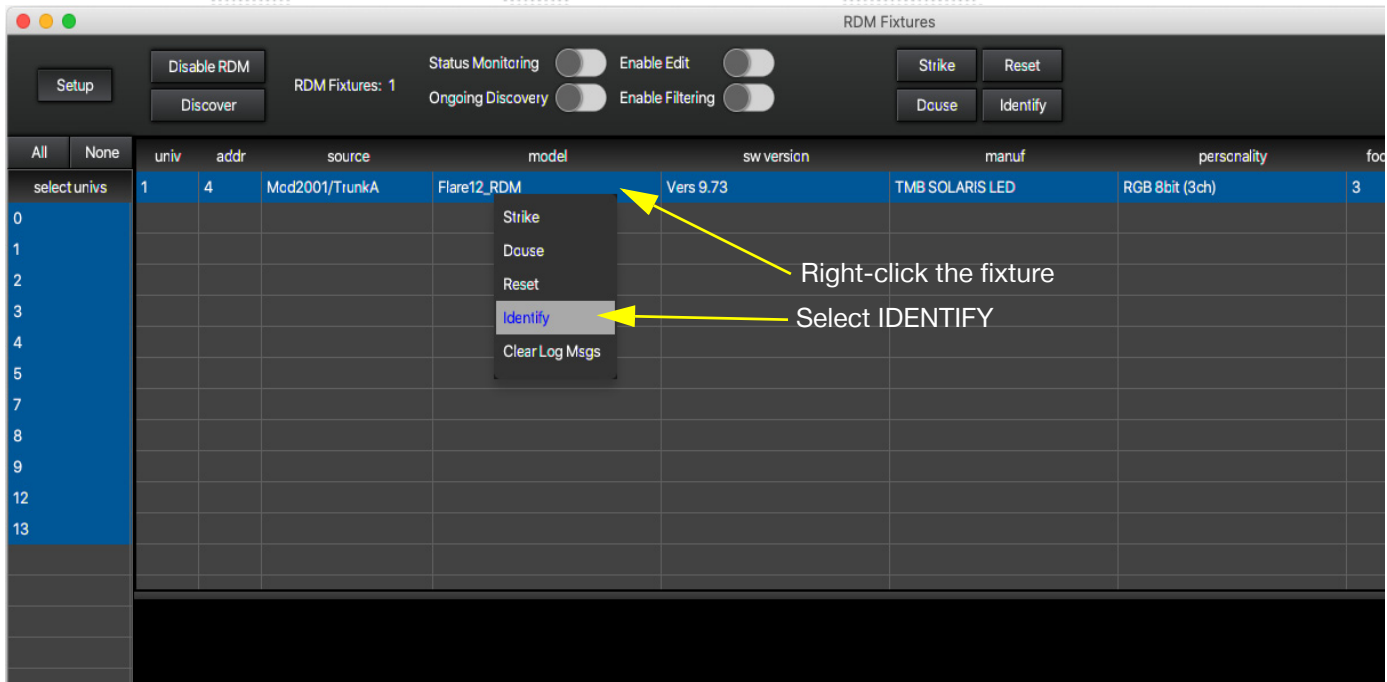


Figure 48: Identifying a Fixture in RDM

Changing items like Fixture Address are equally as simple -- you only need to make sure that the Enable Edit button is toggled ON, and you can simply click on the item you would like to change. See the example below, of an Address Change:

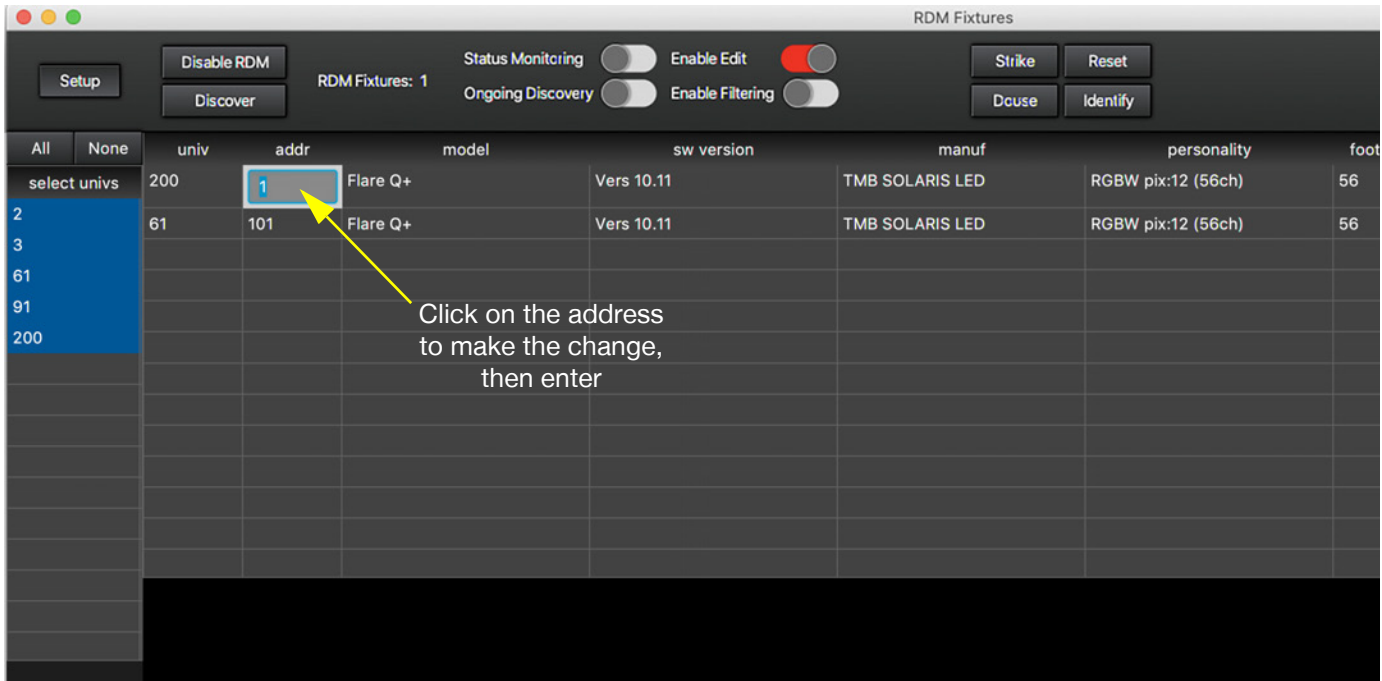


Figure 49: Changing Fixture Address in RDM Window

Clearing the status messages from the RDM Window Message Pane is also an operation that needs to take place while the RDM Window is in Edit Mode, with the Enable Edit toggle to ON.

In order to clear RDM status messages, simply select the fixture you'd like to clear, right click on it, and select "Clear RDM Messages". Here is an example of this procedure:

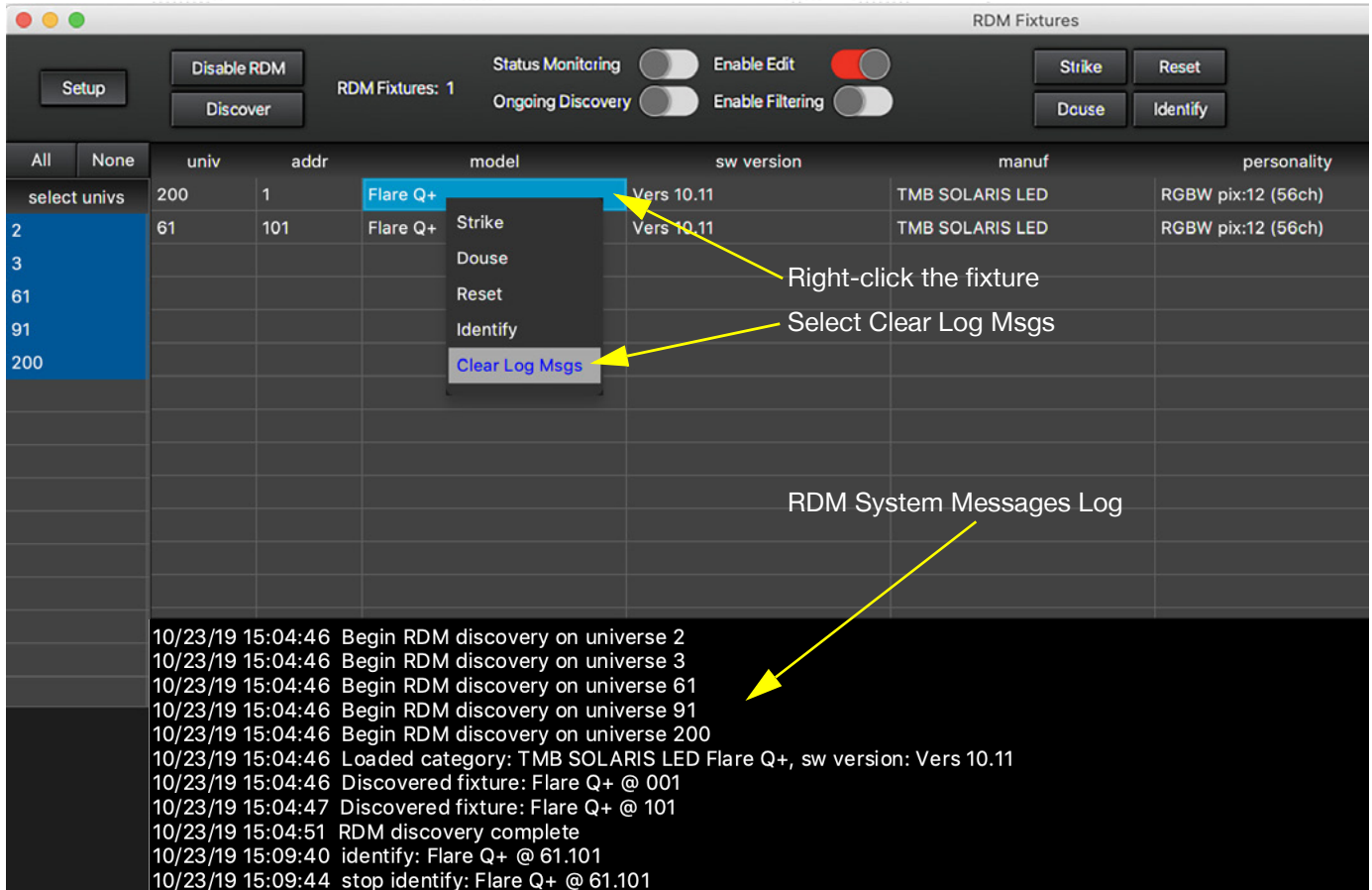


Figure 50: Clearing Log Messages from the RDM Window



**ATTENTION**

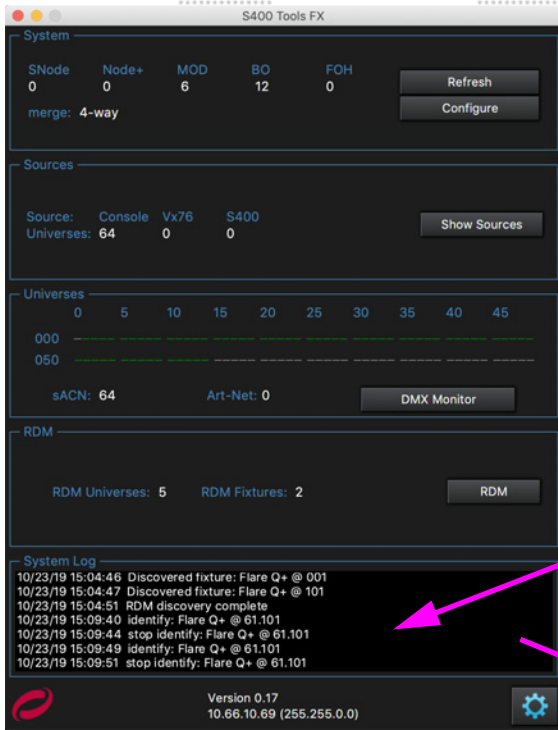
An excellent habit to take up is **DISABLING** the RDM once you are finished with it. Once you close the RDM Window, RDM is disabled by default. However, considering the complexity of RDM as it stands today, get in the habit of disabling it prior to closing the window.

Please note: It is **NOT RECOMMENDED** to use RDM during show conditions.

**System Log Window - 5th and Final Panel Down**

S400ToolsFX maintains a running message and status log for your session, and is arguably one of the most important functions of the system. Not only does the message log show you timestamped changes, but logs every interaction that happens during your session, which allows you to finely track changes and problems in the system.

On the following page, we'll see a Main Window with the System Log at the bottom.



S400ToolsFX Main Window

System Message Log

Double-click the Message Panel to open to full size, as seen below.

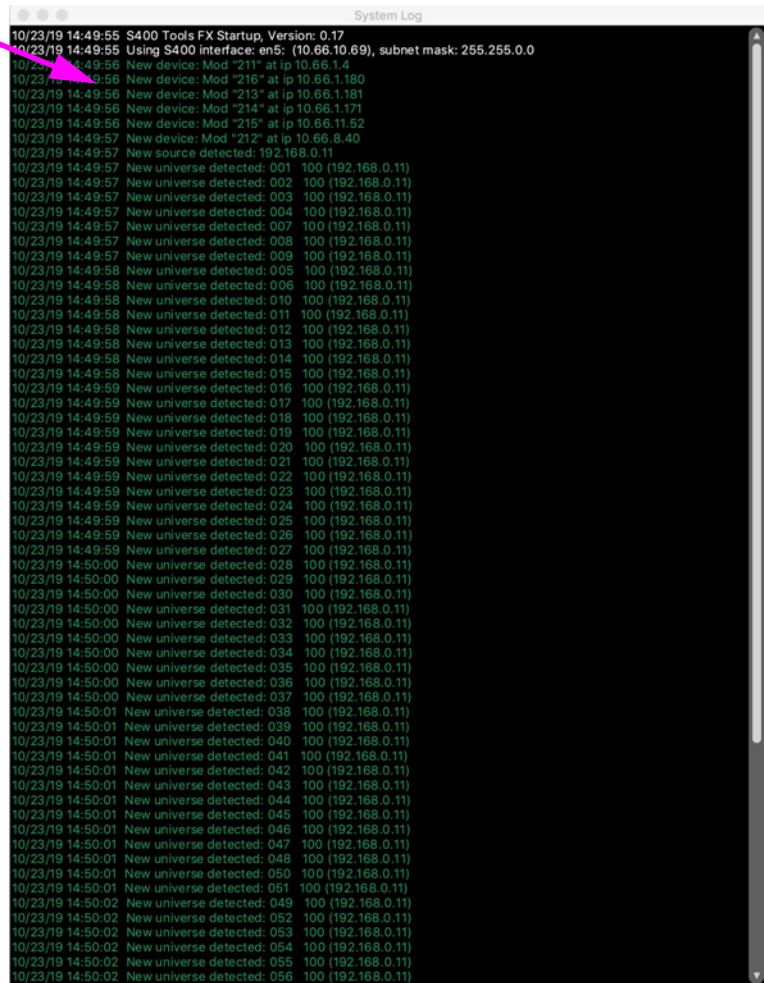


Figure 51: Opening the System Log from the Main Window



Saving the log as an exported text document a simple two-click process. Under FILE on the Menu Bar, select EXPORT LOG, name your file and state its location, and hit enter:

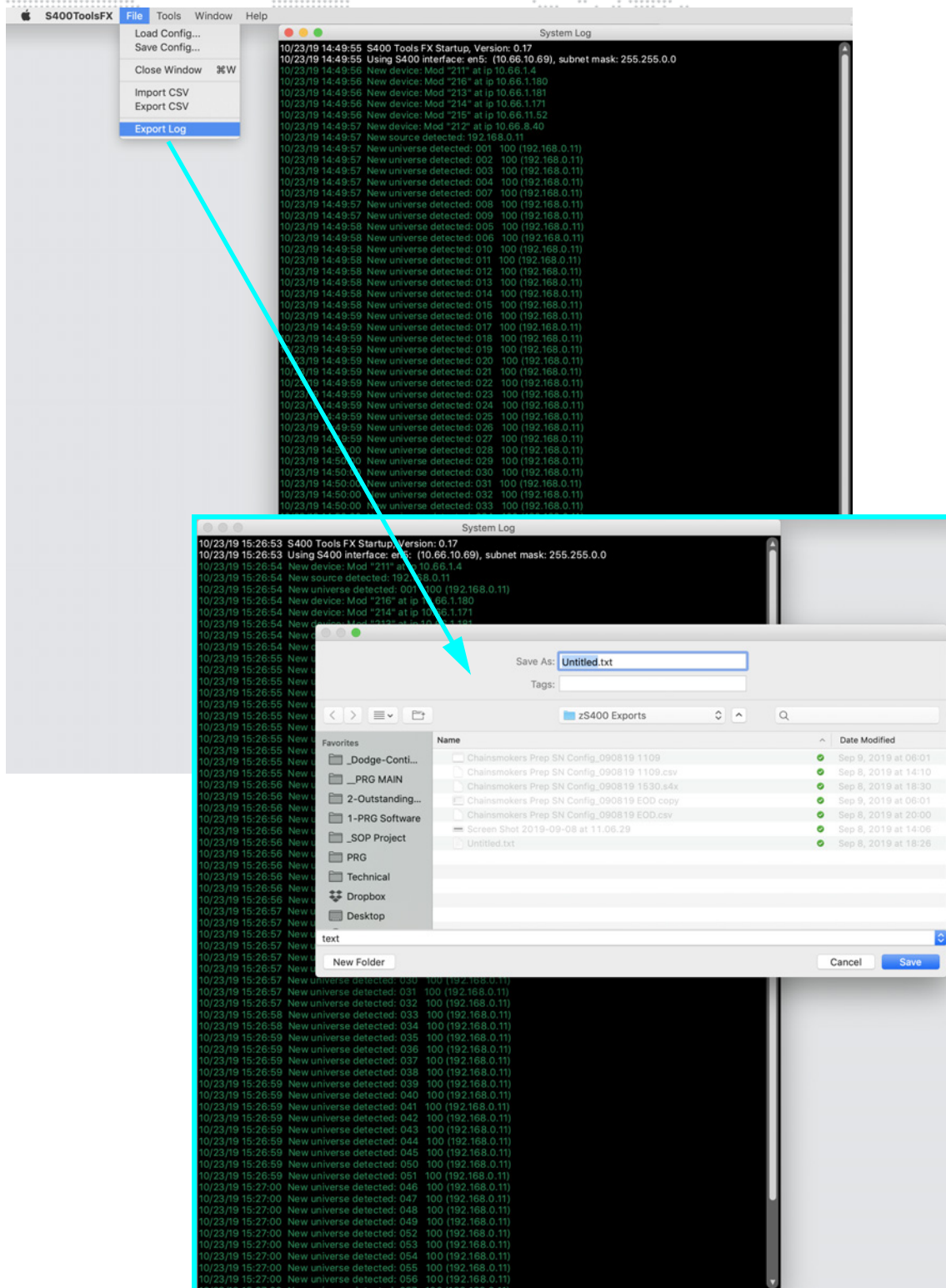


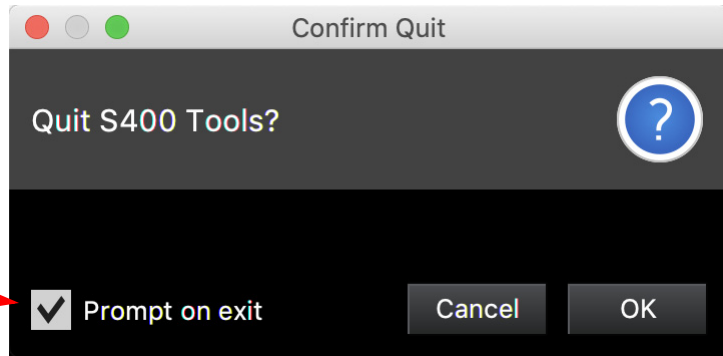
Figure 52: Saving the System Log

## Closing Your S400ToolsFX Session

Once you are finished with your S400ToolsFX session, exported any logs you might need, and you've made sure to save your configuration file (See "Loading and Saving your Configuration File in the Configuration Window" on page 11.), you can close your session. S400ToolsFX will display a window asking if you'd like to close, and if you'd like to be asked every time if you'd like to close:

Default QUIT Message

Note check box toggle for prompting on exit asking if you'd like to close



To stop being prompted to close each time to close, uncheck the "Prompt on Exit" check box.

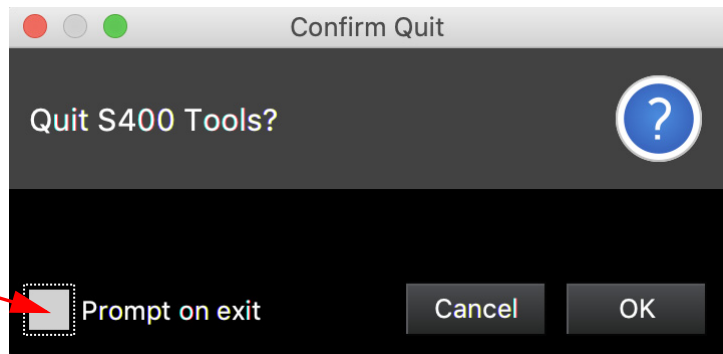


Figure 53: Closing Your S400ToolsFX Session

# INSTALLING S400TOOLSFX SOFTWARE FOR MAC AND WINDOWS

## S400ToolsFX for Mac

Mac installation for S400ToolsFX is very simple and installs like any other Mac-based installer.

- Step 1. Download the S400ToolsFX DMG file to your computer.  
Drag the S400ToolsFX icon to the Applications Folder.



Figure 54: Dragging the S400ToolsFX Application to the Mac Applications Folder

- Step 2. Connect a CAT5e cable from your computer to the S400 System.
- Step 3. Configure the network connection on your Mac. S400ToolsFX looks for a port with an IP address in the pre-defined S400 subnet (10.66.x.x). Configure the IP address of the port to be used to an address in that range, such as 10.66.0.11, and the subnet mask to 255.255.0.0.

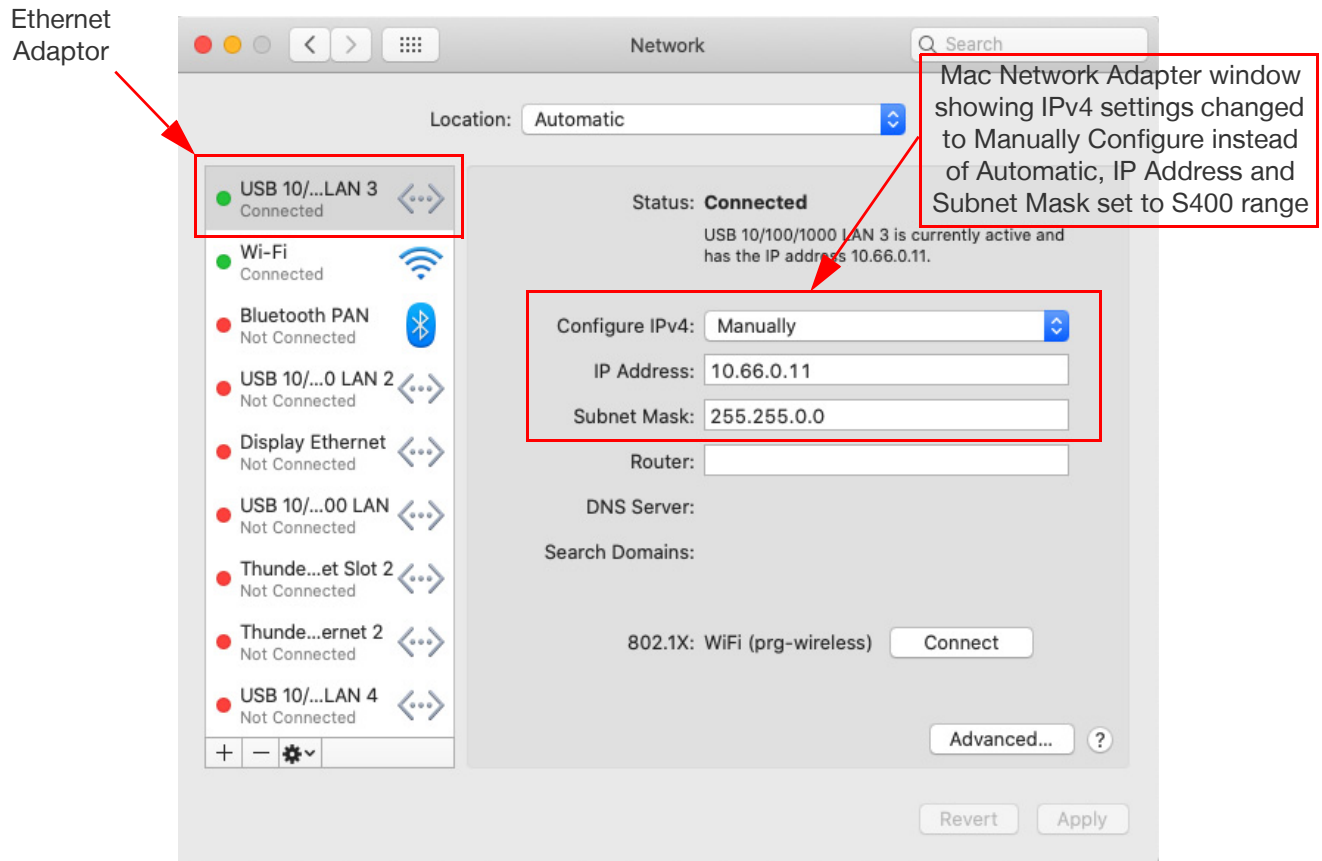


Figure 55: Configuring a Mac Network Adapter to Connect S400ToolsFX

Step 4. If you do not configure your Network Adapter to a S400ToolsFX IP address, you will get a status message informing you of the issue:

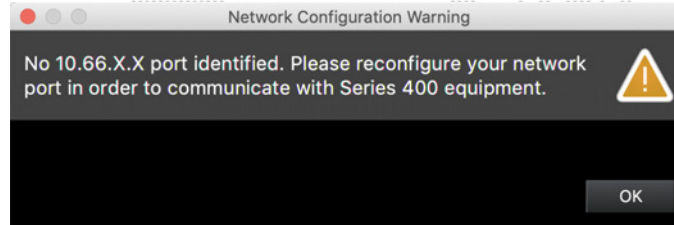


Figure 56: No 10.66.X.X Port Identified Warning Window

Step 5. Upon loading S400ToolsFX, you'll be asked if you would like to reload the previous S400 session. Confirm YES or NO as required.



**ATTENTION**

The user must restart S400ToolsFX for a new network interface to be recognized.

### S400ToolsFX for Windows

The S400ToolsFX software is also built for Windows and has a similar installation procedure.

- Step 1. Download the S400ToolsFX executable to your computer
- Step 2. Double-click the installer and install the S400ToolsFX software.
- Step 3. Connect a CAT5e cable from your computer to the S400 System.
- Step 4. Configure the network connection on your Windows machine. S400ToolsFX looks for a port with an IP address in the pre-defined S400 subnet (10.66.x.x). Configure the IP address of the port to be used to an address in that range, such as 10.66.0.11, and the subnet mask to 255.255.0.0.

Please note that you will see the same message if you start S400ToolsFX without a proper S400 IP address.

#### To set your Windows computer to a proper S400 IP address in the 10.66.X.X range:

Step 1. Open the Windows Network and Sharing Center. Click the Change Adapter Settings option on the left side.

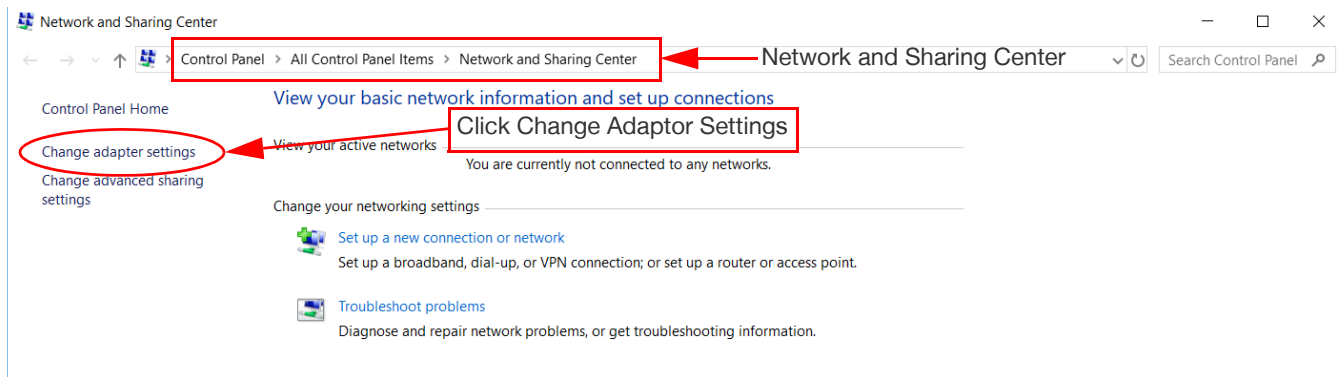


Figure 57: Windows Network and Sharing Center

Step 2. Upon clicking the Change Adapter Settings menu option, you'll be presented with a list of your Network Connections. Alternatively, you may go direct to this window by opening a command line window (Hold down the Windows Key and hit "R" for Run) and typing in `ncpa.cpl` and hit enter.

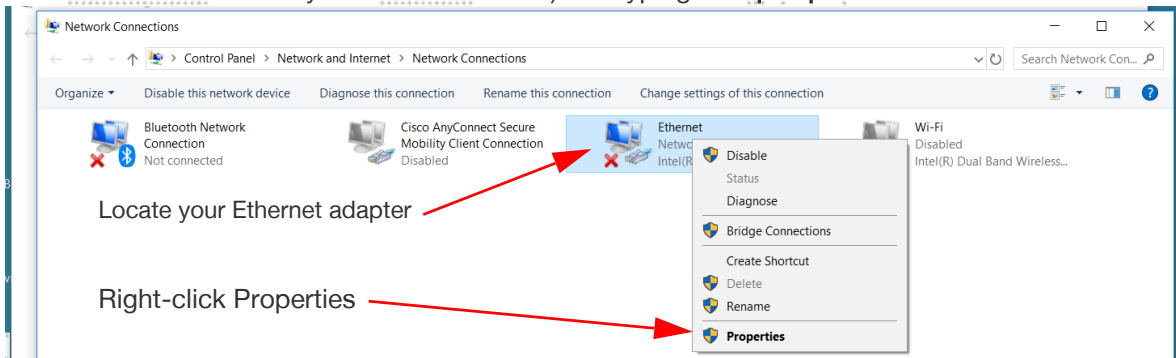


Figure 58: Opening Ethernet Adapter Properties

Step 3. Upon clicking Properties for your Ethernet Adapter, locate the IPv4 properties and double-click the item. You'll be presented with the Properties window for your Ethernet adapter. Change the setting from "Obtain IP Address Automatically" to "Use the Following IP Address" and enter in your S400 IP Address and its Subnet Mask:

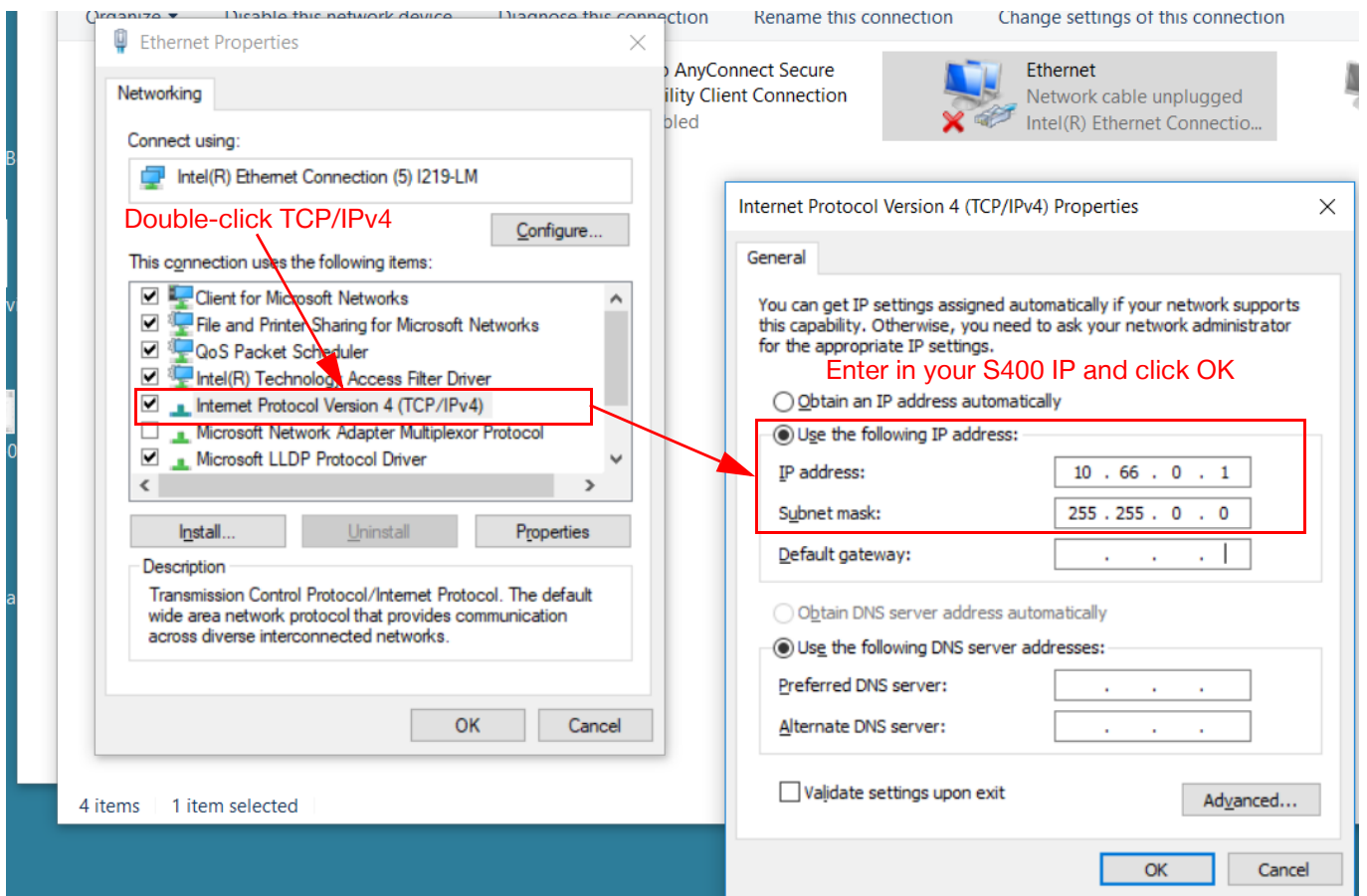



Figure 59: Changing the IP Address and Subnet Mask for Ethernet Adapter



Questions about Series 400? Troubleshooting?  
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