SAVANT

Savant® System Monitor

Reference Guide

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Contents

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1. Overview

System Monitor is one of the many tools available with the installation of da Vinci software on the Savant Development Environment (SDE/MacBook). System Monitor can configure, maintain, and troubleshoot a Savant Pro System from within the local network or remotely (as long as System Monitor can see the network from the remote location). This reference guide contains information on each of the various functions in System Monitor, and how they are used.

1.1. System Monitor Feature Set

System Monitor is used to locate components such as Savant Controllers and iOS devices in an installed system. Once a Savant component is located, it can be monitored and managed. Functions and tasks that are supported in System Monitor include:

- Upload Configuration to a Host(s)
- Monitor Savant Devices
- Upgrade Runtime OS on a Host
- Install Runtime OS license on a Host
- Retrieve logs for Troubleshooting
- Screen Share with a Host
- Look Up Device Information (IP Address, UID, etc)

- Monitor System State
- Monitor, Control, and Modify Wi-Fi Lighting
- Monitor Sonos Devices
- Enable various Savant Music Services
- EDID Settings
- AV Connections
- View and retrieve logs

1.2. Installing System Monitor

System Monitor is installed onto the SDE/MacBook as part of the da Vinci software installation. Once installed, the System Monitor application must be opened from within the Savant Application Manager (SAM). Some da Vinci releases of SAM have specific requirements for installation. An example would be which OS X SAM is supported on. Refer to the following documents:

- Release ReadMe: Includes specific requirements for each da Vinci release.
- Smart and Pro Host Upgrade Guide: Instructions on how to meet the requirements from the Release Readme and upgrade the Host in a Savant Pro System.

These documents are available on the **Savant Customer Community**.

1.3. Launch System Monitor

Once RacePoint Blueprint is installed, the System Monitor application is opened via the Savant Application Manager.

⚠ IMPORTANT! System Monitor should always be opened via the Savant Application Manager to ensure the correct version is always opened.

1. On the SDE, launch the **Savant Application Manager**. Refer to the **Savant Application Manager Reference Guide (009-1382-xx)** on the **Savant Customer Community** for downloading and operation information.

2. In SAM, locate the version of da Vinci. Select **Activate** and follow instructions. When complete, the selected version becomes the **Active** version (see image).

3. Select **System Monitor** from the right-side menu to open System Monitor. Refer to the Scanner (Main Window) section for information on the window that opens.
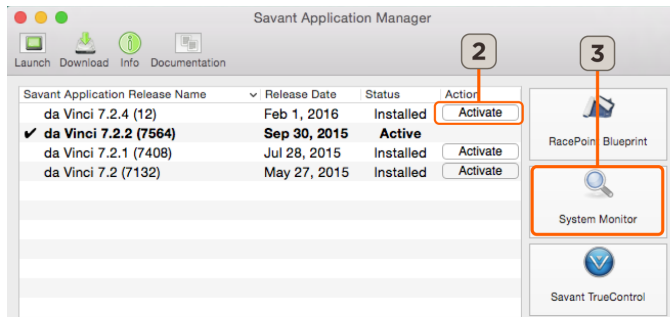
1.4. System Monitor Preferences

The System Preferences window is opened from the main menu bar (**System Monitor > Preferences**). The Preferences window includes advanced menus that should only be enabled by trained personnel.
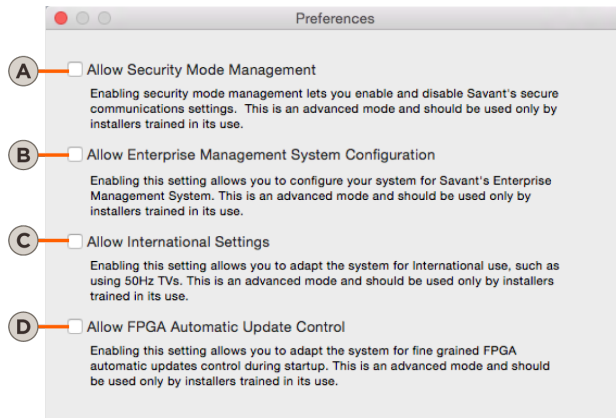
A An advanced menu that is enabled for very specific deployments. Enabling this function is not recommended unless the user has been trained.

⚠ WARNING! Enabling secure communications on a device will disconnect that device from the Savant Pro System and block communication with other devices in the Savant network.

B Reserved for future development.

C Allows the system to be adapted for international use such as 50Hz TVs. This is an advanced setting and should not be enabled unless a user has been trained.

D By default, all devices in the Savant Pro System automatically update themselves when they first connect to the Host. This check box gives a user control of which devices can be updated and when they can be updated. Refer to the Controller Info section.

2. Scanner (Main Window)

The Scanner window that opens when System Monitor is started is shown below. Within System Monitor, the Host(s) from each Savant Pro System can be accessed, the status of all the devices in the system can be viewed, and various troubleshooting techniques can be employed. The information below describes the functions available from this window.

2.1. Menu bar Descriptions

The menu bar icons/tools are all grayed out if a Host in the scanner window list is not selected. To make the icons active, select a Host.
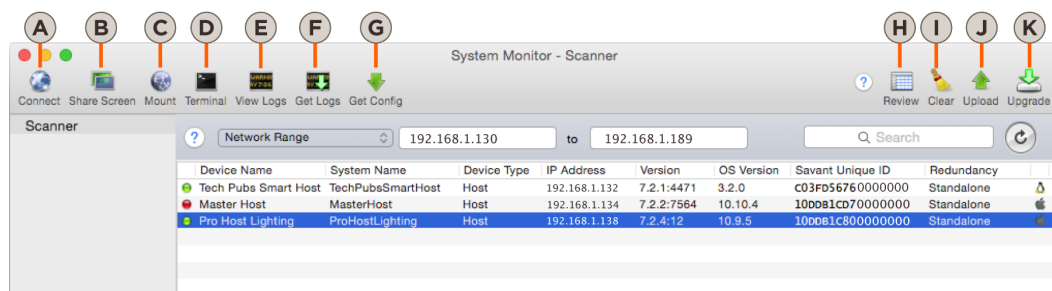
|	
A	Opens a System Status window for the Host selected and enables access to all facets and features of each device in the Savant Pro System.
B	Share Screen is similar to the various Remote Desktop applications available. Once Share Screen is selected, the user is prompted for a **Name:** and **Password:**. Enter these credentials and a desktop view opens giving a user access to the Host. Default User/Password is **RPM**/**RPM**. *i* TIP! Share Screen is supported on the Pro Host only.
C	Opens a Finder window to the Host selected. Once selected, the user is prompted for a **Name:** and **Password:**. Enter the credentials and mount the desired volume. Once mounted, files such as the da Vinci runtime can be transferred to and from the Host. After transferring files, it is good practice to eject the volume from the SDE/MacBook. Default User/Password is **RPM**/**RPM**.
D	Opens an SSH Terminal application into the Users/RPM directory of the Host. Once open, enter the Password (Default Pass: RPM).
E	Opens a Real Time version of the system.log file for viewing. Using the Terminal menus, the system.log text can be exported to a local directory on the SDE/MacBook for viewing. Savant Support engineers will usually require these logs when troubleshooting. Refer to the View Logs section for more information.
F	Retrieves a **DiagnosticReports.zip** that includes the log files from the Host. The default download location is the Downloads directory but the file can be downloaded to any directory on the SDE/MacBook. Savant Support typically requires these logs when troubleshooting. Refer to the Get Logs and Log Files – Additional Info section for more information.
G	Download the active configuration file (.tgz) from the Host. After the file is downloaded, it will need to be unzipped. The downloaded file can then be updated using RacePoint Blueprint and uploaded back to the Host.
H	Opens a drop-down window that includes a list of current and previously activated configurations. Through this menu, each configuration can be made active. The Review Icon also gives a user the ability to switch to archived configurations. Refer to the Review Icon section.
I	Deactivate and archive the active configuration. This configuration can be made active again using the **Review** icon ⓗ function. Refer to the Clear Icon section for more information.
J	Uploads a RacePoint Blueprint configuration (.rpmConfig) that was saved onto the SDE/MacBook.
K	Copies and installs a da Vinci runtime package (.mpkg) from a directory on the SDE/MacBook to the Host. Once the runtime package is installed on the Host, the Host will automatically reboot. Refer to the Upgrade Icon section for more information.

2.2. Scanner Window Descriptions

The scan parameters are set and the results to that scan are displayed in the Scanner window.
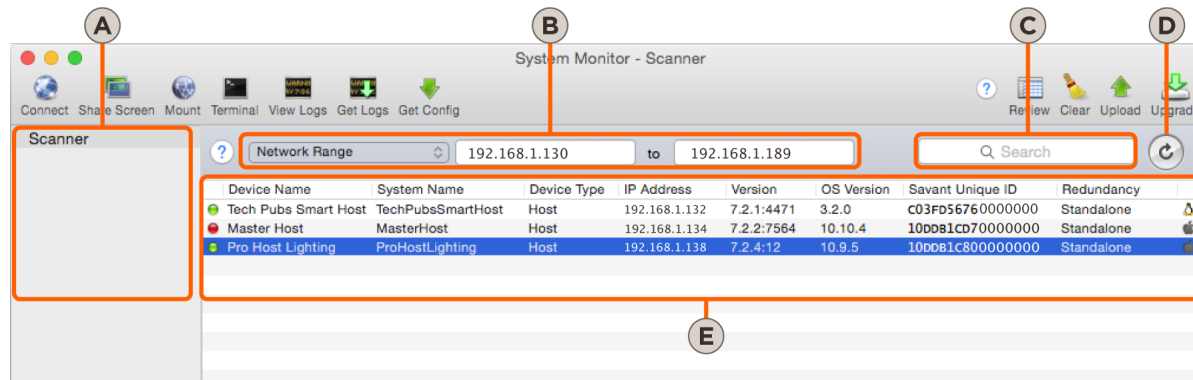
Network scans can be grouped into lists and groups. Creating grouped scans is useful for separating subnets and remote networks for quick access. To create a group or list, do the following:

Add a List, Group, or Scanner

1. Select the Add icon ≣+ located at the bottom of the Scanner window.
2. Select either Add List, Add Group, or Add Scanner from the pop-up list.
3. Enter a label for the Group, List, or Scanner being added.
4. Drag and drop one or more Hosts from the list of Hosts to form a list or group that can be easily accessed.

**Delete a List, Group, or Scanner**

Select an existing List, Group, or Scanner and press **delete** key from the keyboard. In the alert window that opens, select **Yes** to delete.

	Select from the five Network Scans described below.	
	Local Network	Scans the network that the SDE/MacBook is communicating with.
	Network Range	Scans the network using a range of addresses entered into the range windows. This type of scan is typically used to scan a subnet or contact the system remotely through a VPN.
B	Network Address	Scans for a single IP Address that is entered.
	Secure Comm Mode	Used only for advanced high security applications. Do not use this type of scan unless you have been specifically trained to use the Secure Communications functionality.
	This Mac	When running System Monitor from within a Savant Host, the selection labeled **This Mac** lets a user connect to the local Host (127.0.0.0 IP Address). Once listed, double-click the Host to open a System Status dialog window. All aspects of the Savant Pro System that are communicating with this Host can now be view and accessed.
C	Search	Enter a Device Name or Unique ID (UID) to search for a specific Host. Only the Hosts that meet the criteria will be displayed.
D	Scan Refresh	Refresh the scan. The Network Scan type **B** currently selected will be used.
E	Scan Results Area	Displays a list of Hosts that meet the search requirements. Refer to the Scanner Results Window section below.

2.3. Scanner Results Window

Each device displayed in the Scanner window is a Savant Host that has both an Operating System and Savant software image running on it. The Scanner window displays all the Host(s) on the network being scanned. The individual columns are described below.

	Device Name	System Name	Device Type	IP Address	Version	OS Version	Savant Unique ID	Redundancy	
●	Tech Pubs Smart Host	TechPubsSmartHost	Host	192.168.1.132	7.2.1:4471	3.2.0	C03FD56760000000	Standalone	
●	Master Host	MasterHost	Host	192.168.1.134	7.2.2:7564	10.10.4	10DDB1CD70000000	Standalone	
●	Pro Host Lighting	ProHostLighting	Host	192.168.1.138	7.2.4:12	10.9.5	10DDB1C800000000	Standalone	

|			
A Status LEDs	● Green	Status is good. No problems detected.
	● Yellow	Condition exists that should be addressed but does not require immediate action. System will function.
	● Red	Condition exists that requires immediate action for ALL aspects of the system to function correctly.
	● Gray	No Status is available. System Monitor will continue to poll the system until a status message is received.
B Device Name	The name assigned to each Host through the RacePoint Blueprint App.	
C System Name	How the Host is identified to other devices in the network.	
D Device Type	Call Server	Savant Call Servers - SCS-1000, SCS-3000, SCS-4100
	Host	Smart Host, Pro Host, Smart Host with Control
	Phone System	SIS-5000S Intercom, MDU Intercom, PBX
	UI Server	Host added to system for Tiling or OSD
	Unknown	Device that does not have a configuration running on it.
E IP Address	Network Address assigned to the Host.	
F Version	Version of Savant software/runtime running on the Host.	
G OS Version	Version of Mac or Linux Operating System running on the Host.	
H Unique ID	Unique 16-character identifier given to all Savant products. Typically, the Mac Address followed by four zeros.	
I Redundancy	Standalone	Single Host that does not have a redundant pair.
	Active/Primary	The Host selected is configured as the primary and currently the active. The Host configured in Blueprint as the secondary is currently in standby mode.
	Standby/Secondary	The Host selected is configured as the secondary and is currently in standby mode. The Host configured in Blueprint as the primary, is currently the active Host.
	Standby/Primary	The Host selected is configured as the primary and is currently in standby mode. A problem occurred on this host and a switchover occurred.
	Active/Secondary	The Host selected is configured as the secondary and currently the active. A problem occurred on the Host configured as the primary and a switchover occurred.
J OS Identifier	Mac OS is running on the Host. Linux OS is running on the Host.	

3. System Monitor Menu Bar Icons

Each icon on the menu bar has a different function. These items are described below.

3.1. Connect Icon

Select to connect to the Host selected/highlighted in the Scanner Results area. Once connected, functions on the Host as well as the devices communicating with the Host can be viewed and modified. To connect do the following:

1. Select a Host from the Scanner Results window.

2. Select **Connect** from the menu bar.
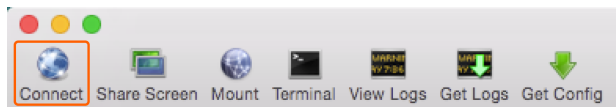
This will open to the **System Status > System Dashboard** page for the Host. From there, the complete Savant Pro System can be accessed.

3.2. Share Screen (Pro Host Only)

Remotely access a Savant Pro System Host. Through the Share Screen function, a user can take control of a Host from the SDE/MacBook.

1. Select a Host from the Scanner Results window.

2. Select **Share Screen** from the menu bar.
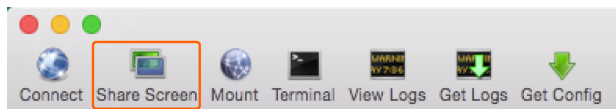
3. If prompted, enter the Name and Password to log on to the Host.
   Default Values: Name = **RPM**, Password = **RPM**

4. A window will open showing the shared desktop. The user can now work in the Host.

3.3. Mount (Pro Host Only)

The Pro Host volumes can be mounted and opened into a Finder window. Once mounted, files can be transferred to and from that volume/logical drive. Most operations available through an Apple Finder window can be completed once mounted and logged on.

1. Select a Pro Host from the Scanner Results area of System Monitor.

2. Select the **Mount** Icon from the menu bar.
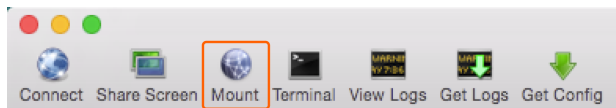
3. In the logon dialog window that opens, enter the Name and Password to the Host and select Connect.
   The defaults are: Name: **RPM**, Password: **RPM**

4. In the window that opens, select the volume to mount.
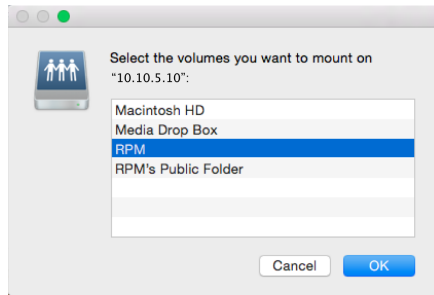
5. Select **OK**. In the Finder window that opens, navigate to the desired directory.

6. To close, eject the volume by selecting **File > Eject "<mounted volume>"** from the Finder window's menu bar.

3.4.   Terminal

Opens an SSH session for the highlighted (selected) Host. Once open, files can be transferred to and from the Host.

1. Select a Host from the Scanner Results area.

2. Select the **Terminal** Icon from the menu bar.
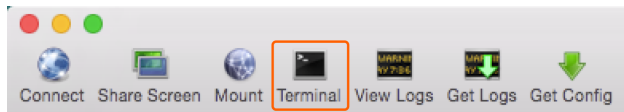
3. In the terminal that opens, enter a user and password (By default an RPM User is opened - User: **RPM** / Password: **RPM**).

Note: The Terminal application opens to one of the following directories:

   – Smart Host: /home/RPM directory

   – Pro host: /Users/RPM

4. Once logged on, most SSH operations such as transferring files can be completed.

3.5.   View Logs

During troubleshooting, the system.log messaging can be viewed through a terminal program in real time.

1. From the Scanner Results area, highlight the Host.

2. Open an SSH session by selecting the **View Logs** icon from the menu bar.
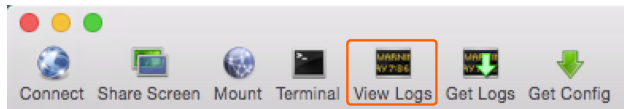
3. Enter password when prompted. Default Password: **RPM.**
   The system.log file will begin to stream on the terminal program that opens.

3.6. Get Logs

For troubleshooting purposes, the log files collected on the Host can be downloaded.

1. From the Scanner Results area, select the Host.

2. Select the **Get Logs** icon in the menu bar.
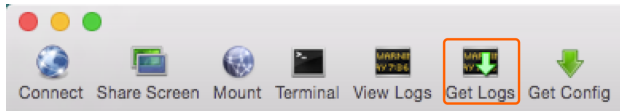
3. A drop-down Save As window opens.
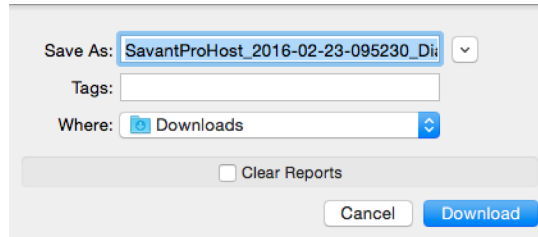
Save As - Enter a label to identify the file or accept the default format.

Format: **<Host Name>_<SavedDate-Time>_DiagnosticReports**

Where - Location the log report file is saved to. Default is the **Downloads** directory.

Clear Reports check box:

Checked – Host is cleared of all log files after download.
Unchecked – Host is NOT cleared of log files after download

4. Select **Download** to download to the selected directory.

ⓘ HELPFUL INFORMATION! Log files are saved as a zip file and will need to be uncompressed for viewing.

3.7. Get Config

The current active configuration running on the Host can be retrieved using System Monitor. Once retrieved, modifications can be made to the file or it can be uploaded to a different Host. To export the configuration, do the following:

1. In the Scanner Results area, select to highlight the Host.

2. Select the **Get Config** Icon from the menu bar.
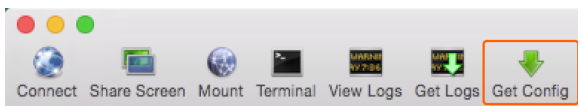
3. In the Save As: drop-down menu that opens, select a location to save the file.
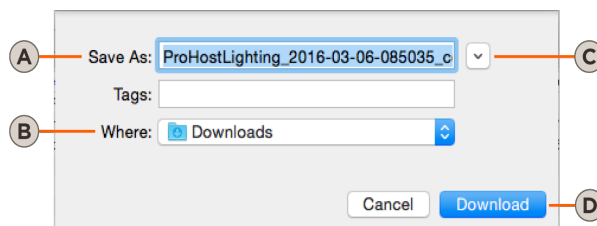
|	
A	The default format is: **<hostname>_yyyy-mm-dd-NUMBER_config.tgz** and can be renamed as desired.
B	Select from list of directories, where to save the configuration file.
C	Expands the Save As: window to a Finder window.
D	Download the file to the directory selected above.

4. Once downloaded, unzip the file. File unzips to the following format: **<configurationfile.rpmConfig>**. File can now be opened into RacePoint Blueprint and modified or uploaded to a different Host.

3.8. Review Icon

The Host keeps a copy of a number of previous RacePoint Blueprint configurations that are available for retrieval and use. To activate an older Blueprint configuration, do the following:

1. From Scanner Results area, select the Host.

2. Select the **Review** Icon from the menu bar.
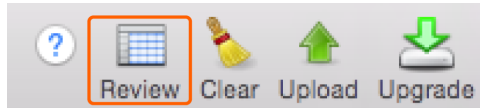
3. Select the Blueprint configuration (.rpmConfig) and then select the **Make Active** button (image below).

Current Active Configuration

Select Configuration

Select to activate the highlighted configuration
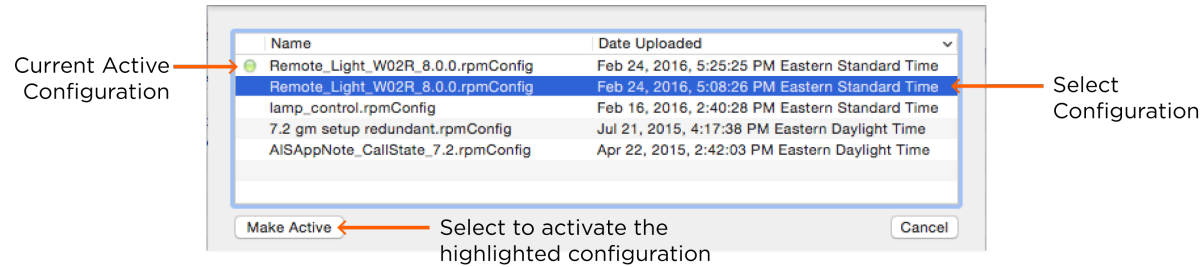
4. After selecting Make Active, the window closes and the Host performs a soft reboot. After the reboot, the new configuration will take over.

   ⓘ **HELPFUL INFORMATION!** On larger configurations, the Host could disappear from System Monitor while the configuration is loading.

5. To verify the configuration is now active, select the **Review** Icon again to open the Make Active drop-down window. Confirm the green LED is now associated with the active configuration.

3.9. Clear Icon

The Clear Icon in the toolbar is used to deactivate the active configuration running on the host.

1. Select the Host from the Scanner Results area of System Monitor.

2. Select the **Clear** Icon from the menu bar.
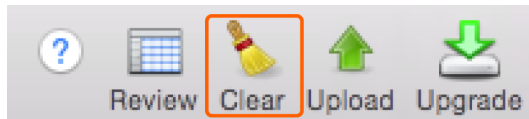
3. Select **Yes** from the window that opens. This removes the active configuration. Once removed, no configuration will be running on the Host. This is reflected in System Monitor (see image below).
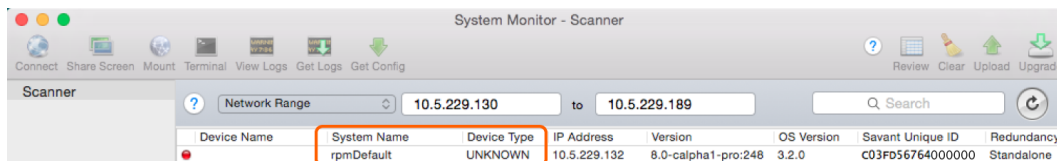
The configuration can be reactivated using the Review Icon.

3.10. Upload Icon

To upload a file, follow the steps below. Before uploading, verify the Blueprint file was created for the correct Host (Pro/Smart/SHC). Once uploaded, the Host(s) will reboot and distribute the file to the Savant Pro System.

1. From Scanner Results area, select the Host that the file will be uploaded to.

2. Select the **Upload** Icon from the menu bar.
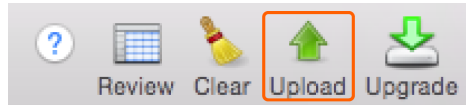
3. Select **Browse** from the drop-down window that opens.

4. Navigate to and select the configuration file being uploaded (.rpmConfig). Select [Open].

5. In the drop-down window, verify the path to the configuration file selected. Select [Upload]. The configuration will now load. Once loaded, the Host will perform a soft reboot and distribute the file to the devices in the Savant Pro System.

Note: Before uploading to other Hosts, information in the file such as IP Addresses and UIDs must be modified.

3.11. Upgrade Icon

To upgrade software on a host, the Upgrade Icon can be used. To upgrade the Host, do the following:

⚠ **IMPORTANT NOTE:** Each da Vinci software version has special requirements therefore; a Host Upgrade guide has been created that describes these restrictions and how to update properly. Refer to the **Smart and Pro Host Upgrade Guide** on the **Savant Customer Community** before upgrading.

1. From the Scanner Results window, select the Host.

2. Select the **Upgrade** Icon from the menu bar.
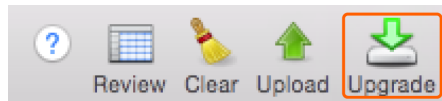
3. Select the **Choose Package** button from the drop-down menu that opens.

4. Browse to the runtime file previously downloaded through the Savant Application Manager application. Typically in the Downloads directory.

Host:	File extension:
Smart Host	.smhost
Smart Host w/Control (SHC)	.smhost2
Prohost	.mpkg

5. Select the file and select the [Choose] button to add the file.

6. Enter the Name and Password. The default Name and Password is **RPM**.

7. Select **Install**.
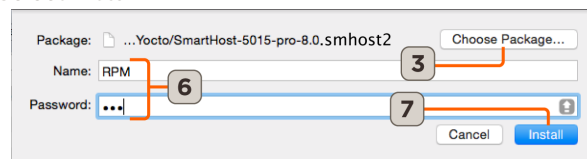
The da Vinci software will install itself onto the Host. Once installed, the Host will reboot into the updated software.

4. System Monitor Functions

The following processes can be used to configure and maintain a Savant Pro System.

4.1. Installing a Runtime License

Install a runtime license only after the da Vinci software on the SDE/MacBook and Host have been upgraded.

1. Select a Host from within the Scanner Results area of System Monitor.

2. Select the **Connect** Icon from the menu bar to connect to the selected Host. In the System Dashboard that opens, verify if a license is needed. If there is no license installed, the System Dashboard page informs the user as shown in the image below.
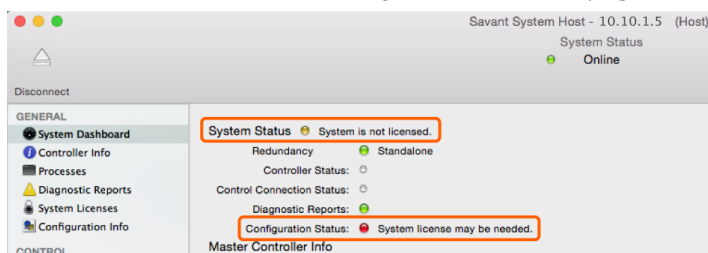
3. Select the **System Licenses** field to open the System Licenses page shown below. The System Licenses page displays the specifics of the licenses installed. Below is a description of each field. Read and understand each field prior to continuing.

A	Status	**Red LED** — Indicates licensing has a problem. Either the software loaded or the configuration running requires a different license.
		Green LED — The appropriate license was applied for use with the da Vinci software and configuration.
B	Get License Code (Link)	Select the link to open the Software Licensing Management website. The License Code obtained from this website is entered into the License Input field to the left of the link.
C	License Input field	Enter the license code retrieved from the License Management website. Once the license is entered, select **Activate** to install the license.
D	Additional License Codes (Link)	If more than just a Standard License is required, additional license fields will open. Select the link to open the Software Licensing Management website. The license code obtained from the website is entered into the associated field to the left.
E	Additional License Field	Enter the license code for any additional licenses obtained from the License Management website. Additional license examples: Smart Premium, Savant Music
F	Activated Licenses	Displays the status of the licenses currently loaded on the Host.
G	License Violations	Any license violations are displayed here.

4. Select the **Get License Code** link. This opens the Savant Licensing Management login page. Enter your login credentials and the licensing page for the type of license required on the Host will open.

   For example, if the host needs a Pro 8.0 (Upgrade) license, that is the page that the link will open:
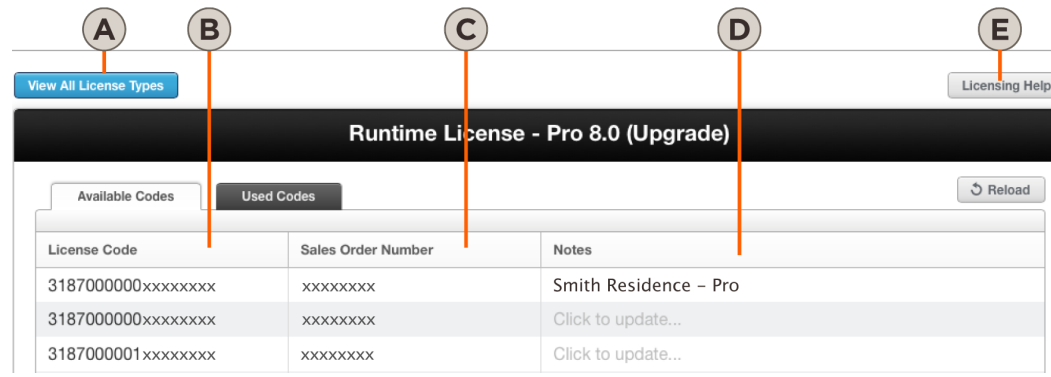
A	View All License Types	View licenses from other da Vinci builds purchased by your company. For example, if your company purchased a license for da Vinci 7.x, that license can be viewed using this button.
B	License Code	License code that is entered in System Monitor to activate licensing on the Host.
C	Sales Order Number	The license purchased can be located using the sales order number displayed.
D	Notes	Notes can be added to identify the license.
E	Licensing Help	Opens the Savant Host Runtime Licensing Application Note on the **Savant Customer Community**.

TIP! If the License Code list is empty, contact your sales representative to acquire additional licenses

5. Copy the appropriate license and paste into the License Input field. Once license is added, the Activate button becomes active. See image below.

6. Select **Activate** to activate the license.
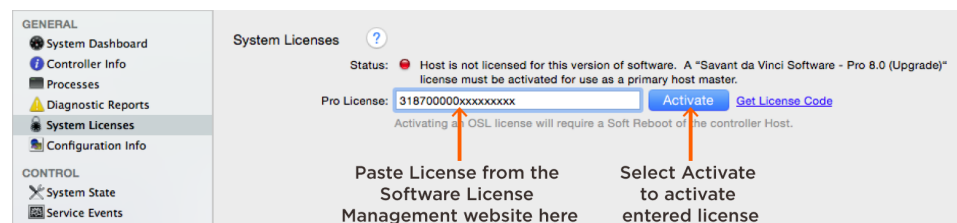
7. Select **Activate and Restart** in the window that opens. A soft reboot will occur once license is activated. Once the license is installed and activated, the Status LED will change to green and the Status message will indicate the License that is currently activated.
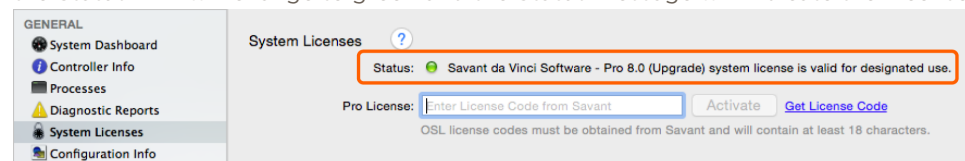
   Repeat the steps above to activate a Savant Music License if Savant Music on the Host will be utilized.

4.2.   Log Files - Additional Information

For troubleshooting purposes, the log files generated on each Host are available for download and viewing.

Log Levels

The Log Level set for each process determines the number of log files generated. Follow steps below to set the Log Level for each process running on the Host. The upper selections (Emerg, Alert, Critical) in this list generate less log files than the lower selections (Debug, Info, Notice).

1.   From the Scanner Results area, select the **Host**.

2.   Connect to the Host and the System Status page for that Host opens. See the Connect Icon for information on connecting to the Host.

3.   Select the **Processes** field from the left side panel.

4.   Under the Log Level column, select the up/down arrow associated with one of the processes running.

5.   In the window that opens, select from the list of log levels. The log level selected will now be displayed.

Additional Information on Log Levels:

−   Log Levels provide a way to filter the number of log messages logged or printed.

−   The higher the log level selected, the less messages logged. The lower the log level selected, the more messages logged and more detail provided. For example, the log level **Emerg** will log less messages than the log level Warning.

⚠ **CAUTION!** Caution must be used when modifying the log levels. Setting filters to a low level such as **Info** or **Debug** can generate logging traffic that may affect system performance. This may be acceptable while troubleshooting but the system generally should not be left to run with low log levels enabled.

Log Levels: The log levels printed include all levels up to the highest severity configured. Each level is defined below.

Emergency	The logs printed are of the highest severity and require an immediate system restart.
Alert	The logs printed are of high severity and require an immediate system restart.
Critical	The logs printed are of high severity and typically indicate the system is only partially functional due to a failure.
Error	System may not be able to complete a request or task.
Warning	System is running normally but an unexpected event occurred that should be assessed.
Notice	System is running normally. For informational purposes, an event that is occurring is displayed.
Info	System is running normally. Normal events that occur in the system are logged.
Debug	Diagnostic Information is logged. Adds a significant amount of messaging.

5.   System Dashboard

After connecting to a Host, a System Status dialog window opens. The fields on the left side of this window give the status of various components in the system. Below are the available windows and information on each.

5.1.   System Status Fields

The System Dashboard page is a high level view of the overall health of the system, as well as the connection status of the various mobile devices and controllers. See the LED Status section for descriptions of what each color indicates.

Redundancy	Standalone is displayed if a secondary Host is not configured. If however, redundancy is configured, the redundancy status is displayed. See the Redundancy Tab section for a description of each redundant state.
Controller Status	A high-level indicator of the communication status between the Host and any controllers, installed I/O cards, and redundant devices. A short description is added to aid the user when troubleshooting a problem.
	Green – System is fully functional. No communication errors.
	Yellow – Firmware or FPGA code is being uploaded to one of the devices.
	Red – A communication between the Host and one or more devices has occurred. For information on the alert, refer to the fields in the Controller Info fields. Check the connections/communications between the Host and the device that System Monitor indicates has failed. 🔦 **TIP!** Cards on redundant devices are not listed unless an error is detected.
Control Connection Status	A high-level indicator of the status of any control connections: (RS-232, IP, Relays, and Trigger Control ports).
	Green – All control connections on the controllers are functioning as configured in RacePoint Blueprint.
	Red – One or more of the control connections is not functioning as configured in RacePoint Blueprint. Check the connections between the controller and the device being controlled. 🔦 **TIP!** The control connections that would log a problem are the control connections that require feedback from the device it is controlling (Ex: RS-232, IP, Relay). An IR connection does not require feedback so it would not alert the system unless there was a problem with the actual IR port hardware in the controller.
Diagnostics Reports	Indicates a diagnostic report was created. Reports are created because a problem with a process was detected.
	Green – No Diagnostic Reports generated. All processes on the Host are running normally.
	Yellow – A Diagnostic Report was generated. Refer to the Diagnostics Reports section below for more information.

Configuration Status	The LED indicates the status of the configuration running on the Host. A short description is added to help troubleshoot why an alert has occurred.
	Green – Configuration on the Host is running normally. No issues reported.
	Yellow – An event, such as a configuration being exported to the system **–or-** the configuration currently running is incomplete and requires attention. The alert is minor and the configuration will still run but some functionality may be lacking. **Example:** No timezone or Lat./Long. set in the Blueprint configuration would cause the LED to change to yellow.
	Red – Indicates a major problem with the configuration that requires immediate attention. The configuration cannot run on the Host when the LED is red. **Example:** No License installed would cause the LED to change to red.
B Master Controller Info	Displays device (hardware) information about the Host.
	Mac Address – Mac Address of the Host.
	Media Drive Status – If a USB or network server (NAS) is used to store media, this field indicates the connection status of the drive. Supported on the **PRO HOST ONLY**. **Green** – Drive is connected and communicating with the Host. **Red** – Drive is connected but there is a communication problem. **No LED** – No drive connected. ⚠ **Important Notes!!** – iTunes is **NOT** supported on da Vinci software release 8.1 or later. – iTunes **IS** supported on da Vinci software release 8.0.2 or earlier. In this earlier software, verify that the **Enable Media Server on Master Controller** check box is checked (**Tools > Settings > Media Server**).

5.2. Mobile Device Status Tab

Information about any mobile device that is currently, or was previously communicating with the Savant Pro System is shown. The image below shows that a Savant Pro Remote is currently connected and an iPad was previously connected (iPad may have gone to sleep).

Name	Name of the device as specified on the device itself.
Status	The connection status is displayed. If the device goes to sleep, it will be displayed as Disconnected.
Battery Level	Percentage of battery life remaining in the mobile device. A full battery charge is 100%.
Network	Displays either the network the device is running on or the Cellular Provider. Example: AT&T (WWAN).
Wifi Level (0-3)	Indicates the strength of the Wi-Fi signal being received at the device. Only the SUR-0500 and Pro System Remote (REM-1000) are supported. Level 0 – Weakest Level 3 - Strongest
Instance	Name of the User Interface which was defined in the Manage Logins section of RacePoint Blueprint.
Type	Type of device connected such as iPhone, iPad, or Android.
Zone	Zone that the mobile device is currently controlling or configured to.
App Version	Version of App (TrueControl II, Savant Pro, Embedded Remote App) running on the Mobile Device is displayed.
Software Version	Version of the operating system running on the mobile device.
Savant Unique ID	The Unique ID of the device is displayed.
Update State	Shows the status of a firmware upgrade. If no update is in progress, this field will show as idle.
Update Progress	Displays the progress of a firmware update.

5.3. UI Server Status Tab

A User Interface Server (UI Server) is a Host running within the Savant Pro System that is NOT the Host running the da Vinci software. Examples:

– Host used for Tiling (Tiling Host).
– On Screen Display Host (OSD Host).

The UI Server tab gives the following high-level information about these Hosts.

Savant Unique ID	The Unique ID of the User Interface Server. This should be the same Savant UID entered in the Inspector for the device in RacePoint Blueprint.
Device Name	The label given to the device in RacePoint Blueprint.
Status	The state of the UI Server.

5.4. Controller Status Tab

A high level indicator of the health of the controller and the data being passed to it is shown. If any of the LEDs display an alert (red/yellow), a short description of any possible problems is displayed beside the LED. For more information on the alert, refer to the Controller Info tab and highlight the device with the alert.

Controller Status	A quick indicator of the overall health of the controller selected. The LED color indicates the status of the controller.
	Green – Controller is functioning normally with no problems.
	Yellow – An informative alert. For example, **Serial Port 1 Debug Console is enabled** is an example of an informative alert.
	Red – Indicates the controller can't communicate with the Savant Pro System. Action must be taken to fix the problem.
Modules Status	If using a modular chassis, the Module Status LED gives high-level status of the modules installed in the chassis.
	Green – All modules in the selected chassis are running normally with no problems.
	Yellow – Informative alert. The module can function with a Yellow alert.
	Red – Module can't communicate with the Savant Pro System. Action must be taken to fix the problem.
Configuration Status	The Host checks to verify the modules in a chassis match the configuration in RacePoint Blueprint. A mismatch between the slot number set in RacePoint Blueprint and the actual slot the module is located would cause an alert.
	Green – The configuration on the Host matches what is installed and running in the Savant Pro System.
	Red – The configuration running on the Host does not match the hardware set up in the Savant Pro System. Verify the modules are all inserted into the correct slots. Resending configuration may fix the problem. When a Red LED alert is displayed, a high-level description of the problem is offered for troubleshooting purposes.
HDCP Status	The Savant hardware checks for the High-bandwidth Digital Content encryption keys to verify the video content being passed is encrypted and protected. If the HDCP keys are invalid, the HDCP LED will indicate this status.
	Green – The HDCP keys received are valid and the encrypted video content remains protected.
	Red – The HDCP keys are invalid and the encrypted video content is unprotected. The video content will still be passed and can be viewed. This is only a warning that the encrypted video content is no longer protected.

5.5. Redundancy Tab

If the Savant Pro System employs Host redundancy, the Redundancy Status tab gives information about the redundancy status of the Host selected.

Mobile Device Status	UI Server Status	Controller Status	**Redundancy Status**

Status: Active
Detail: Syncing Status Files Complete..
Role: Secondary
Peer Role: Primary
Peer Status: Standby
Peer Connectivity Status: 🟢 Peer Node Reachable
Redundancy Connection Status: 🟢 receiving ping...
Last Switchover : N/A
Last Switchover Reason:
Configuration Name: testConfig.rpmConfig
Configuration Saved Time: 2015-05-09 16:48:15 +0000
Configuration Upload Time: 2015-12-24 10:51:03 -0500

Status	**Active** – The selected Host is the Active Host.
	Standby – The selected Host is the Standby Host.
Detail	A short description in regards to redundancy of what is currently occurring on the Host. Below are a few examples.
	Blank – Selected Host is the standby Host.
	Syncing Status Files Complete… - The active Host has completed a check of the standby Host and the files on the standby match what is on the active.
	Becoming Master….Done – Displayed by the standby Host after the active Host has failed and the standby is becoming the active.
	Connection to standby peer dead/Client connection from standby peer dead – The active Host failed and the standby Host has determined that it should begin the switchover process.
Role	Indicates the Role of the selected Host when that Host is part of a redundant Host scheme. Roles are either Primary or Secondary.
Peer Role	Indicates the Role of the peer to the selected Host when the selected Host is part of a redundant scheme. Roles are either primary or secondary.
Peer Status	Indicates the state of the peer to the selected Host when part of a redundant Host scheme. States are either Active or Standby.
Peer Connectivity Status LED	Indicates whether the selected Host can communicate with its peer Host.
	Green – The peer to the selected Host is reachable from that Host. The selected Host is receiving ping messaging from its peer.
	Red - The peer to the selected Host is not reachable from that Host. Pings sent from the peer are not being received.
Redundancy Connection Status LED	A second indicator of communication between the selected Host and its peer Host.
	Green – The selected Host is receiving redundancy status messages (RDM) from its redundant peer Host.
	Red - The selected Host is not receiving redundancy status messages (RDM) from its redundant peer Host.
Last Switchover	Timestamp of the last time a switchover between the redundant Hosts occurred.
Last Switchover Reason	If a switchover has occurred, a high-level description of why the switchover occurred is displayed.
Configuration Name	The configuration file that is currently running on the selected Host.
Configuration Saved Time	Timestamp of the last time the configuration was saved in RacePoint Blueprint.
Configuration Upload Time	Timestamp of the last time the configuration was uploaded to the active Host.

6. Controller Info

Each device that exhibits control over other devices is considered a controller. The fields in the Controller Info tab displays information about the device. Below is the Controller Info field for a Matrix switcher and a Pro Remote Base.
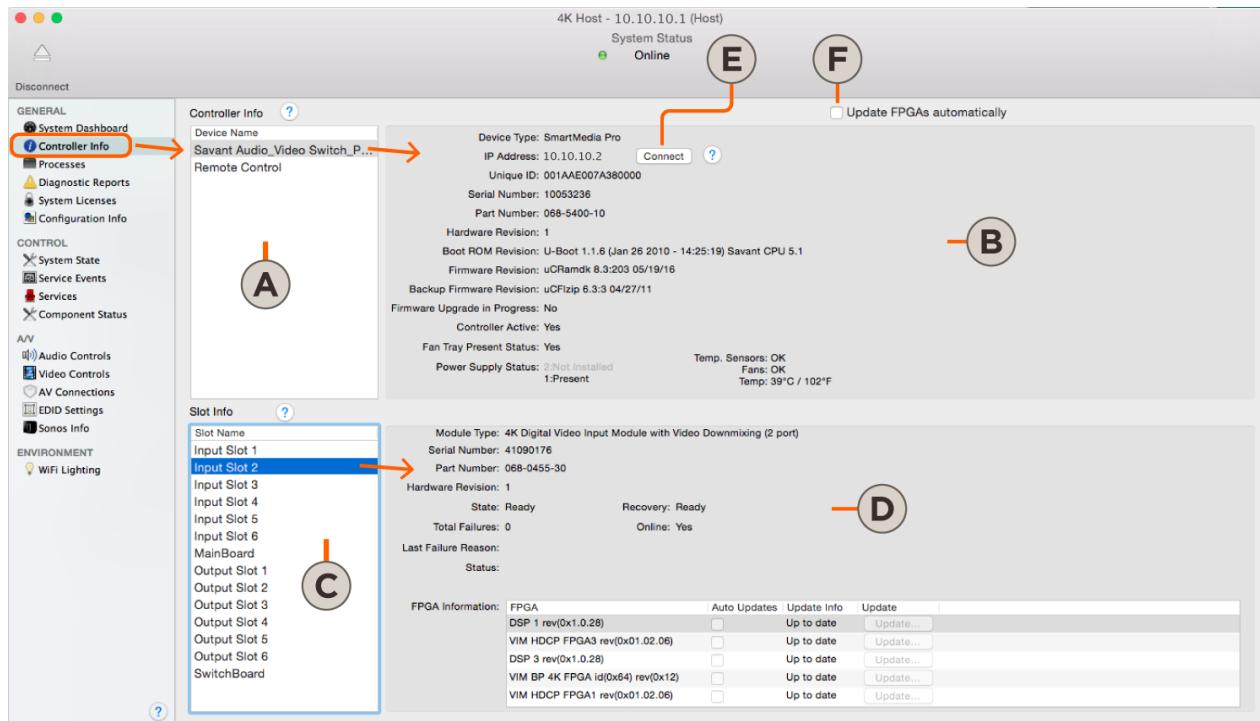
A		List of all Controller type devices available in the Savant Pro System. Select a device from the list to display hardware related information.
B		Hardware related information of the Controller selected is displayed. If firmware or software is being downloaded, the progress of the download is shown.
C		Any modules or service cards installed in the Controller selected are listed here. Select the module or service card to display more information.
D		When a module or service card is selected in the Slot Name field, information related to that device is displayed here.
E		Select the **Connect** button to initiate a telnet session to the Controller selected. Once connected, enter **help** and press **<enter>** to open a list of commands available on that Controller.
F		Some modules and service cards have components that periodically require updates to their FPGA code. The **Update FPGAs automatically** box determines whether the FPGA code should load automatically without user intervention or whether the updated FPGA code will need to be downloaded manually. See the FPGA Information section below for more information on setting up for automatic updates.

6.1. FPGA Information

The FPGA Information for each chassis and module/service card is available. This information is displayed to assist a user when updating the FPGA codes. As shown below, Input Slot 2 contains a 4K Digital Video Input card. Within that card there are five areas that can receive updates.

6.2. FPGA Updates

By default, updates to the FPGA code require user interaction. However, automatic updates can be configured. Both processes are described below.

Manual FPGA Updates

Manual updates are the default way of updating the FPGA codes. If an FPGA update is available, the **Update Info** column displays the updated FPGA version and the Update $\boxed{\text{Update...}}$ button becoms active. Press each active **Update** button to initiate the FPGA update to those areas.

Automatic FPGA Updates

A second method of updating FPGA codes is to configure the updates so they occur automatically without user intervention.

1. Select the Controller from the Device Name panel.

2. Select the Update FPGAs automatically check box (Described in (F) from section above).

3. Read the warning that appears and select **Allow** if you agree.

4. Select each Module, Service Card, or Chassis item under the Slot Name panel and verify that all the check boxes in the Auto Updates column are now checked (see image below).

After adding check to the **update FPGAs automatically** check box (F), all the individual FPGA areas for all the Modules/Service Cards and Chassis will now be checked. It is up to the user to deselect the areas that will not receive automatic updates.

The **Update FPGAs automatically** check box described above must be checked. Once checked, each individual FPGA area can be selected or deselected to receive automatic updates.

5. Deselect any of the FPGA areas that will not receive automatic updates. These areas will revert back to the manual process described above.

6.3.   FPGA Update Preferences Panel

By default, if a Module, Service Card or Chassis has FPGA code on it, the Update FPGAs automatically check box will appear when they are selected. This functionality can be disabled if required:

1.   From the System Monitor menu bar, open the System Monitor Preferences panel (**System Monitor > Preferences**).

2.   In the Preferences window that opens, deselect **Allow FPGA Automatic Update Control** field.
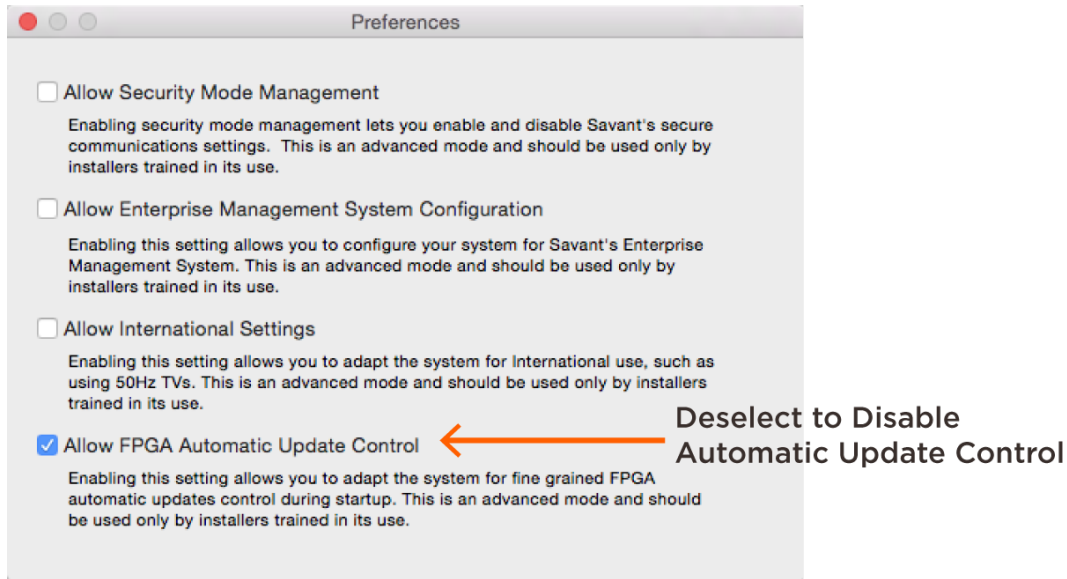
3.   Once unchecked, the **Allow FPGAs automatically** check box's described in the previous section will not appear and only manual updates will be allowed.

7. Processes/System Applications

The Processes tab displays information on the Host running in the Savant Pro System. Each individual process is analyzed and the statistics of those processes are displayed in the panels of the Processes tab.

All processes are displayed with information on that process and the Application Statistics **B** panel includes additional information on that process.

Process ID – Each process is assigned a process ID by the operating system running on the Host. To start or stop the process, select the process, right click, and select either **Start** or **Stop**. The Process ID changes each time the process is stopped and restarted.

Process Name – Name of the process is displayed.

Status – Current status of the process is displayed.

- **Running** – Normal Operational State
- **Stopped** – Process has stopped. If the status is stopped, it is displayed with red font to alert user.

(A)

Version – Version of da Vinci software running on the Host.

Build – The build number of the da Vinci software running on the Host.

Log Level – The Savant Pro System constantly creates and updates the system log files. The log level determines how much detail is available in these log files. Refer to the Log Files – Additional Info section above for more information on the various log levels.

% CPU – Percentage of the CPU utilized by the process.

 # Threads – Number of threads or instruction streams the process is using to run the process.

B	The Application Statistics field includes additional information about the process selected. Below are the fields that are **not** displayed in the System Applications panel described above.
	Virtual Memory – The amount of virtual memory the process is utilizing.
	Physical Memory – The amount of physical memory the process is utilizing.
	Page Faults – The number of virtual memory page faults encountered by the process.
	Messages Sent – The number of messages the process has sent to other running processes.
	Messages Received – The number of messages the process has received from other running processes
	File Descriptors – An integer number that represents the number of files the operating system opens for the process selected.
C	Statistics about the CPU are displayed in the CPU Statistics panel.
	CPU Type – The processor type running on the Savant Pro System Host.
	CPU Load Avg – The amount of work performed by the CPU over a set amount of time.
	Free Memory – The amount of RAM not being used.
	Wired Memory – Information in RAM that can't be moved to the drive. Wired memory is dependent on the applications being used.
	Active Memory – The information in RAM that was recently used.
	Inactive Memory – Information in RAM that is not actively being used. Although, it was recently used.
	Total Memory – The sum of the free, wired, active, and inactive memory available on the Host. This should equal the amount of RAM installed.
D	The Host in the Savant Pro System can be remotely managed through System Monitor. The fields in the Remote Management panel allow a user to remotely do the following:
	Soft Reboot – Restart the processes running in the da Vinci software. Once selected, all processes will be removed from the System Application panel described above and will slowly reopen as the process restarts.
	Hard Reboot – Reboots the Host. During and after the reboot, all communications with the Host through System Monitor are halted (**Offline** is displayed in System Monitor) and all processes in the System Applications panel will stop running. The System Status window that was open will not automatically reconnect. To reconnect, select the **Connect** icon located at the top left of the System Status window that is open.
	System Stop – Stops all the processes running in the da Vinci software on the Host. While the processes are stopped, Offline is displayed in the System Status window and communications will not automatically start. To reconnect, select the **Connect** icon located at the top left of the System Status window that is open.
	Shutdown – Shuts the Host off. Once powered down there is no remote connectivity and the Host will need to be manually powered on using the power button on the Host.

8. Diagnostics Reports

If any of the processes running on the Host crash, a report is generated. Each process that crashes generates its own report. For troubleshooting purposes, these reports can be viewed or saved to send to the Support team for further evaluation.
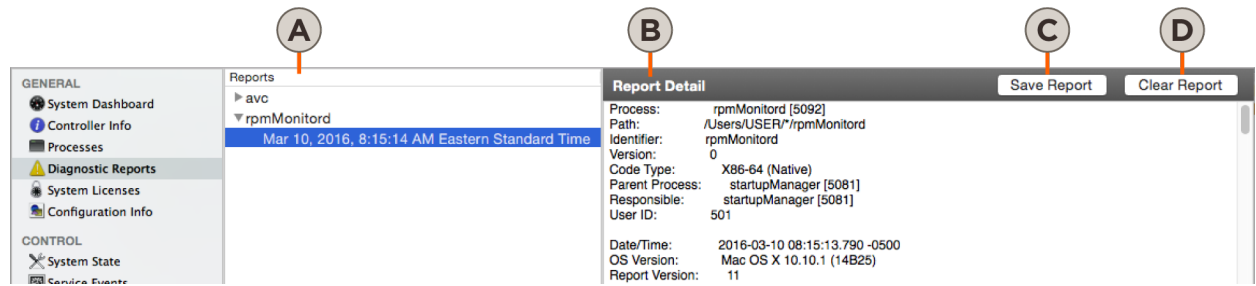
A	Reports	Each process that crashed is reported here. Click the disclosure triangle to view the crash report. Select the report and the details of the crash will open into the Report Detail window.
B	Report Detail	Displays the details of the report associated with the process that crashed. This report can be copied and sent to Savant Support for evaluation if required.
C	Save Report	The report for each process that crashed can be saved. To save the report, do the following: 1. Select the report under the crashed process. This will activate the Save Report button. 2. Select **Save Report** button. This will open a Save window. 3. Browse to the directory on the SDE/MacBook and **Save** the report. The report label is displayed in the following format: **<process-yyyy_mm-dd-hhmmss.crash>**
D	Clear Report	Clears the information in the current report

9. System Licenses

Each Host requires a license to open different functionality. There are different types of Hosts and different types of licenses. For general information on licensing the Hosts, refer to the **Host Runtime Licensing Application Note** located on the **Savant Customer Community**.

System Monitor is the tool used to install and maintain these licenses. Refer to the Installing a Runtime License section above for information on how to utilize the System Monitor application to monitor, maintain, and install a runtime license onto a host.

10. Configuration Info

The Configuration Info page can be considered a troubleshooting page for Savant Support. Information such as any custom profiles loaded that are not readily known to a user who has not been maintaining the system is available through the Configuration Page.

Configuration	Displays the name of the configuration currently running on the Host.
Uploaded	The date and time the configuration was last uploaded to the Host.
Custom Profiles	If a custom profile was created, the profile name and version is listed in the Custom Profiles table.
	These are the profiles created for each configuration in the Libraries tab of the RacePoint Blueprint System Preferences dialog window.

11. System State

Each device in the Savant Pro System has numerous States Values. A State Value is information about the device. In some systems, there can be hundreds, possibly thousands of entries. Some examples of what a State Value could be are:

– Number Of Lights On

– Battery Level of a Device

– Current Temperature

– Software Version Running on a Device

A	The State Name of each State Value begins with the descriptor. This could be a room name, a UID, a serial number, or other such descriptor. Below are some examples: – **Family Room.RoomCurrentTemperature** – State Value for the temperature reported by the thermostat in the Family Room. – **global.Dawn** – State Value displaying what time is reported as dawn on the current day in the current time zone. – **001AAE3727C0000.DeviceModel** – State Value displaying the model number of the device with a UID of 001AA3727C0000. Each device can have numerous State Values. The State Values are a good tool for troubleshooting.
B	The value of the State Name **A** from the first column is displayed here. When troubleshooting, a combination of the State Name and State Value gives user information on the State of each device in the Savant Pro System.
C	The format that the State Name **A** from the first column is displayed and reported here. As described above, the combination of the State Name, State Value, and State Type fields assist a user when troubleshooting.
D	Enter a Search term and all iterations of that search term are displayed. This is useful when trying to locate a specific State Value.
E	The Host is constantly sending UDP information to the User Interfaces (Savant Pro Apps, TrueControl II). The State Receivers window displays the IP Address and port number of the Host sending the information. This is useful when troubleshooting the transfer of network data using a packet capturing utility.

12. Service Events

Service events for each product can be modified using the Service Events window. Below are descriptions of each field along with an example on how to modify.

A	Displays the status of communications between System Monitor and the Host. To utilize the Service Events field functionality, the communication status displayed should be **Online**.
B	All the zones configured on the Host are made available here. To send an event to the Host, the first step is to select the Zone that the service is configured in. When a specific Zone is selected; the Services available in the Service field ⓒ display the Services available for that Zone.
C	All the Services available in the Zone selected in ⓑ above are made available. When sending an event, select the Service that contains the event to be sent.
D	A list of the Events available for the Service selected from the Service field ⓒ are displayed. Select the Event you would like to send to the Host. The event selected may require arguments to be entered in the Name field ⓕ below.
E	All the Types of Services available in the configuration are listed. Select the Type of Service from the menu. The Type selected should be the Service that contains the Event being sent to the Host.
F	The Event selected in ⓓ may require an argument. The argument field is available with some services and not to others. Enter any arguments required to modify the setting on the device selected in the Event ⓓ field above.
G	By default, all available arguments for the Event selected are listed. To send an argument that is not listed, select the **+** button and a **New Argument** is added. Values for the New Argument created can now be entered. Once complete, the new custom argument can be sent to the Host.
H	Select the **Send Event** button to send the modified or New Event.

See Example below:

Example:

Below is an example that sends an Event to tell a thermostat to set the Cool Set Point Temperature to 78˚.

1. From System Monitor System Status window, select the **Service Events** field. Verify the Communication Status is Online.

2. In the Zone field, select the **Zone** (room) that contains the thermostat where the cool temperature set point is being sent. By selecting the Zone, this makes all the Services in the Family Room available in that Zone/Room (see image below).

3. In the Services field, select the Service. In this example, **SST_W100-HVAC_controller-1-SVC** was selected. By selecting the Service, this opens all the Events available to the Service selected (see image below).

4. In the Event field, select the Event to be sent. In this example, **SetCoolPointTemperature** was selected. By selecting an Event, this opens any arguments that the Event requires. In this example:

   – CoolPointTemperature was set to 78

   – ThermostatAddress was set to 1 (address of the thermostat)

5. In the Type field select the correct Service Type. HVAC Service was selected for this example (see image below).

6. Once all fields have been chosen and arguments entered, select the Send Event button. This will send the Event with its arguments to the Host, which is then sent to the device. In this example, the Cool Set Point on the thermostat was modified to 78˚.
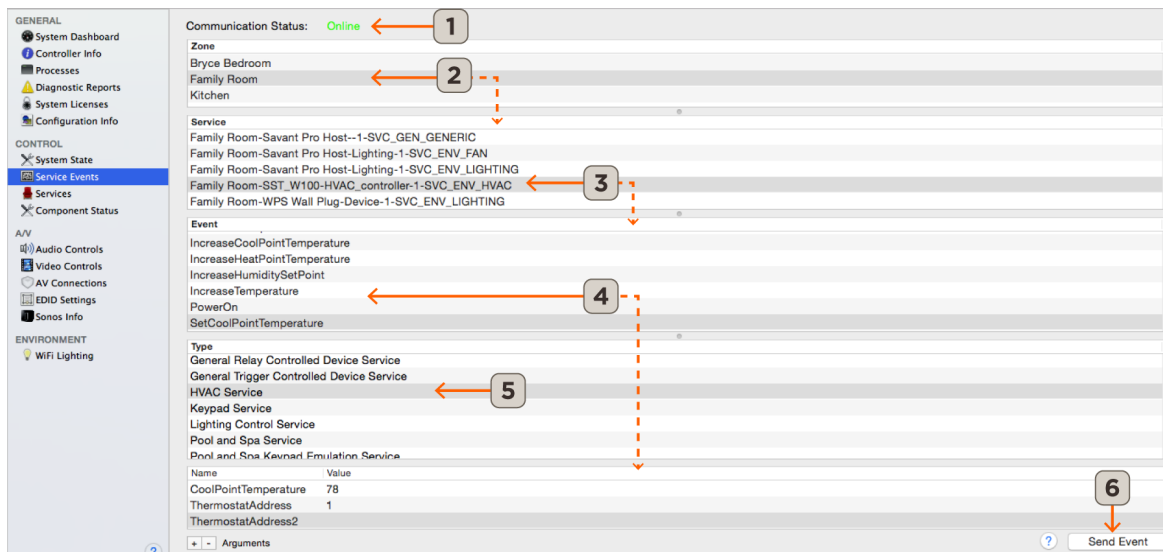
13. Services

The status of each of the Services in each room is available from the Services field. In addition, the Services field allows a user 1) preset the volume of a Service and 2) Set the volume of a device to revert to its previous level when switching away from that Service and then back. This is described below.
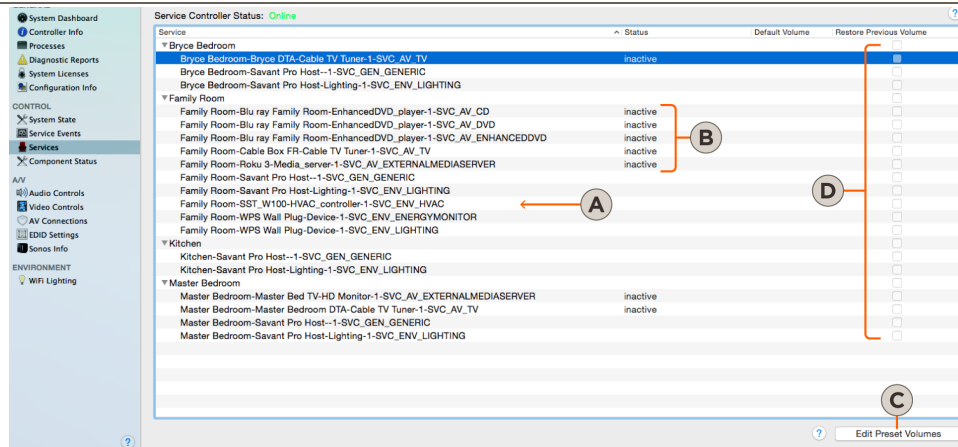
A Services are listed by Zone/Room.

B The Status of each Service is listed.

- **active** – Service is currently switched On.
- **inactive** – Service is currently switched Off.

Edit Preset Volume Button – Each device that supports setting volume can have the volume level preset so when a Service is activated, the volume automatically goes to a preset level. Follow instructions below to preset the volume on a Service.

Set the Preset Volume

1. Select the **Edit Reset Volume** button and it will change to **Commit Reset Volumes**.
2. Select the Service that the volume will be preset on.
3. In the Default Volume column, double-click the Service. This will open a field to enter the volume level. Enter a volume level between 0 and 50. See image below.

C

DOUBLE-CLICK TO SELECT
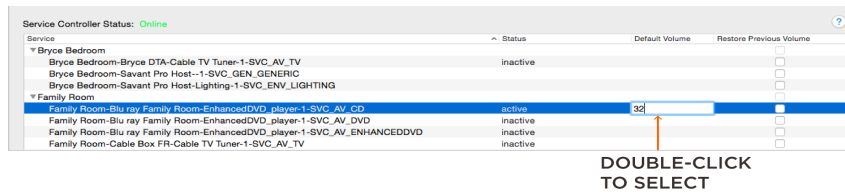
4. Press **<Enter>** key to select.
5. Select the **Commit Reset Volume** button to set the new preset volume.

Restore Previous Volume

When the Restore Previous Volume box is checked, it restores the level of volume to a Service when switching between Services. For example:

1. Switch on and set the volume level of the DVD Service to level = 30.
2. Switch to the Cable TV Service and then back to the DVD Service.
3. With the Restore Previous Volume box checked, the volume on the DVD player will be restored to its previous level.
4. With the Restore Previous Volume box unchecked, the DVD player will go to the level that was set on the Cable TV Service.

D To set the Restore Previous Volume function, do the following:

1. Select the **Edit Reset Volume** button and it will change to **Commit Reset Volumes**.
2. Check the box associated with the Service you would like the volume level to be restored to when switching to another service and then back.
3. Select the **Commit Reset Volume** button to set.

14. Component Status

Lists all the controlled component ports in the Savant Pro System. Select each component to reveal information about a specific port on that component.

Select a device from the Device Name list (A) for information regarding the controller that is communicating with the device selected.

Connection Status – Shows the network connection status of the controller. This is the controller and not the controlled device.

- **Connected** – The Savant controller communicating with the controlled device selected is communicating with the Savant Pro System Host.
- **Not Connected** - The Savant controller communicating with the controlled device selected is NOT communicating with the Savant Pro System Host.

Controller Device Name – Identifies the Savant controller that is communicating with the component selected.

Control Port Name – Identifies the control port on the Savant controller that is communicating with the component device selected.

Bytes Sent/Received – Total number of bytes sent or received between the Savant controller and the component selected. IR control ports can't receive data

Messages Sent/Received - Total number of messages sent or received between the Savant controller and the component selected. IR control ports can't receive data

Receive Response Timeouts – Number of requests sent from the Savant controller to the component selected where a response was never received.

Last Message Sent – Displays the last message sent from the Savant controller to the component selected.

Last Message Received – Displays the last message received from the component selected.

Terminal Connection Status – Displays whether an RPM Terminal is open and connected.

Component Profile – Identifies the profile currently running for the component selected.

Notes – Displays revision history information relating to the profile running. The Notes field can also include exceptions or special wiring and connection requirements.

Launch Terminal button –Select to launch an RPM Terminal to view communications between the Savant Controller and the device selected.

15. Audio Controls

Adjustments to the settings of each input and output ports on a Matrix Switcher Chassis or service card installed in that chassis are completed in the Audio Controls Tab.

Device Name – Select the Savant SmartAudio or SmartMediaPro device from the drop-down menu. The selections in the drop-down menu mimic how the device was labeled in Blueprint.

A

Zone – Select the Zone where the device is either receiving the audio from or transmitting the audio to. The selections available in the drop-down menu are dependent on the selection made in the Device Name field above.

Logical IO – Select either an input or output port from the SmartAudio or SmartMedia device. The selections in the drop-down menu are dependent on the selections made in the Device Name and Zone fields above.

Speakers Adjustment – The fields in the Speaker Adjustment section are dependent on the type of port selected in the logical IO field. If the system does not have a built in surround decoder, only the Main Tab is active.

Size – Select **Small** to add a low pass filter. Select **Large** to run the speakers full range of frequency.

B

TIP! If you don't know whether Large or Small should be selected, a typical rule is if the speaker's woofer is 6 inches or larger, start with selecting Large. Otherwise, select Small.

Bass/Treble – Adjust the Bass or Treble being output to the speaker.

Left and Right Trim - Adjusts the audio level to the different channels. Trim is used to balance out the level of volume coming from each speaker.

Left and Right Delay – Sets the delay in milliseconds of the left and right channels to delay or advance the delivery of sound from the source to the seating position.

Path Policy – On certain ports, the Path Policy field will appear. This field determines how the input stream is output for a selected path.
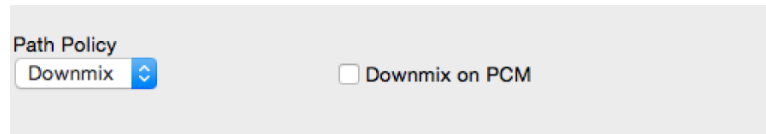
- **Dynamic** – Compares the input stream to the capabilities of the connected display or AV Receiver. If the connected device can't process the input stream, the audio is downmixed to 2ch PCM. Otherwise, the input stream will be passed to the output.

    Example: The input stream is DTS HD but the AV receiver can't process this type of stream. In this scenario, the stream is downmixed to 2ch PCM.

- **Pass Thru** – The input stream is passed thru to the display or AV receiver.
- **Downmix** – The input stream is downmixed to 2ch PCM

Downmix on PCM – Select if the connected device doesn't support a Dolby digital decoder.

Tone Control – Parametric EQ (Only available on cards that support the PEQ)

For certain ports that support this function, a PEQ (Parametric EQ) button appears. Selecting this button opens the PEQ. Refer to the fields below when setting the PEQ.
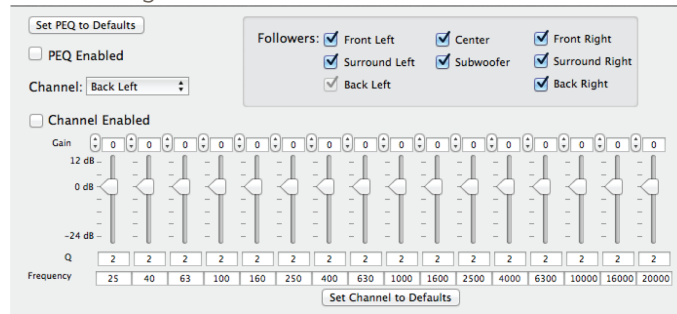
- **Set PEQ to Defaults** – Sets the PEQ to its default settings. The defaults are:
    - All Followers are enabled.
    - PEQ Enabled is not selected.
    - Channel is set to Back Left.
    - Channel Enabled is not selected.
    - All frequency values are reset to values shown in image above.
    - All Q factors are set to 2.
    - All Gain values are set to 0 dB.
- **Followers** – Select the output or outputs affected when adjusting the PEQ settings. Any outputs not selected will not be affected.
- **PEQ Enabled** – Enables (checked) and Disables (unchecked) the PEQ.
- **Channel** – Select the Channel that to adjust from the drop-down menu.
- **Channel Enabled** – Enables (checked) or Disables (unchecked) the Channel selected from the **Channel** drop-down menu described above.
- **Gain** – Adjusts the Gain in dB of each Frequency using either the slider or entry box available.
- **Frequency** – The frequency that the Gain described above is being adjusted for is displayed. Selecting the value and entering a different frequency can change the frequency being modified.

Tone Control can make an audio signal softer or louder. Tone control compensates for factors such as room acoustics, hearing impairments, and deficiencies of a recording. The Tone control button appears for certain ports that support this functionality. Refer to the descriptions below when adjusting the Tone Control functions.
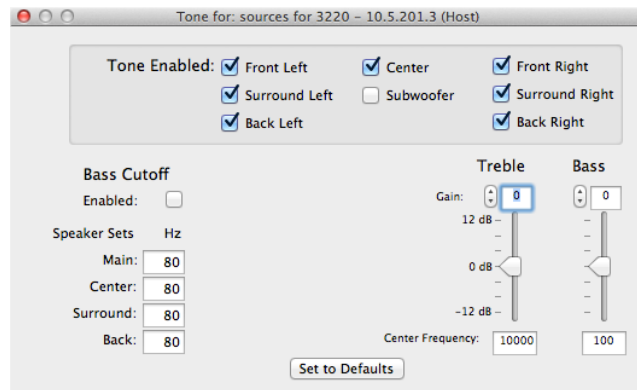
- **Tone Enabled** – Select the speaker channel or channels that are affected (checked) when adjusting the fields in the Tone Control window. Any outputs not selected (unchecked) will not be affected.

- **Bass Cutoff** – Sets the cutoff frequency to the speaker channels enabled in the Tone Enabled field described above. Frequencies higher than the cutoff set are passed and frequencies lower than the cutoff set are attenuated. The default set is 80 Hz.

- **Treble and Bass** – Sets the Gain (above 0dB) or attenuation (below 0dB) for the center frequency set. This is applied to the speaker channels selected in the Tone Enabled field described above.

- Set To Defaults - Sets the Tone Control fields to their default settings. The defaults are:

    - All Speaker Channels in the Tone Enabled field are enabled (checked).

    - Bass Cutoff is enabled (checked) and the cutoff frequency is set to 80 Hz.

    - Channel is set to Back Left.

    - Treble Center Frequency is 10000 Hz with a Gain of 0dB.

    - Bass Center Frequency is 100 Hz with a Gain of 0dB.

| C | Displays the Logical IO component currently selected |

| D | Displays the current audio format playing for the I/O selected in the Logical IO field |

| E | **Audio Settings** – Refer to the description of each field below to set the correct audio settings for your system. |

Dolby Mode – Select the listening mode as defined by Dolby PL2X (Pro Logic IIx). The available selections are:

- Dolby PL2 Prologic Emulation

- Dolby PL2X Game

- Dolby PL2X Matrix

- Dolby PL2X Movie

- Dolby PL2X Music

- Dolby PL2X Virtual

DTS Mode (Dedicated To Sound) – Select the listening mode as defined by DTS Neo. The available selections are:

- DTS Neo Cinema
- DTS Neo Music

Speaker Mode – Select the mode from the drop-down menu one of the following choices. Speaker Mode settings are typically set for surround sound systems. The selections are:

- **Stereo** – 2 channels.
- **Mono** – 2 channel on Stereo; Center channel on Surround.
- **Auto (Surround)** - The output is dependent on the configuration settings (Default).
- **3 Channel (Surround)** – Output to the front left, front right and center channels.
- **5 Channel (Surround)** - Output to the front left, front right, center, rear left, rear right and subwoofer channels.
- **Phantom (Surround)** – Output on the front and surround channels.

Signal Output Test – Test Tones available in both Dolby and DTS are produced and output to each channel. The type of tone and how it is distributed is dependent on the selection made in the drop-down menu:

- **None** – Default setting. No test tones produced.
- **Multitone All** – Outputs various test tones with different frequencies onto each channel including the LFE (low frequency effect) or subwoofer channel.
- **Pink Sequential** – Outputs a test signal with pink noise. The tone cycles clockwise through all the speaker channels except the LFE or subwoofer channel.
- **Tone Sequential** – Outputs a test signal with tone. The tone cycles clockwise through all the speaker channels except the LFE or subwoofer channel.
- **White Sequential** - Outputs a test signal with white noise. The tone cycles clockwise through all the speaker channels except the LFE or subwoofer channel.

Effect Mode – Select an audio effect from the drop-down menu. These effects are PCM encoded input streams that are output to the Surround Processor only. The selections include the following:

- None, Arena, Big Arena, Big Hall, Bigger Hall, Biggest Stadium, Bright Club, Bright Hall, Bright Stadium, Cathedral, Club, Dark Hall, Happy Club, Jazz Hall, Music Cinema, Room, Smokey Club, Surround Club, Vox Cinema

All Channel Mono – Sets the audio through the IO selected to Mono format

Effect Level – Sets the effect level of the signal received dependent on the signal selected in the Effect Mode field. The level can be set to give a dry (unchanged), wet (signal is modified when output), or any effect in between.

Input Gain – Raises or lowers the audio that is output for each of the Effect Mode selected above.

Restore Defaults – Restores all the fields in the Audio Settings section to their defaults. The defaults are as follows:

- Dolby Mode – Dolby PL2X Movie
- DTS Mode – NTS NEO Cinema
- Speaker Mode – Auto
- Effect Mode – None
- Effect Level – 0
- Input Gain - 0

16. Video Controls

Within the Video Controls tab, adjustments to the settings for each input and output port on an AV switcher chassis or the service cards installed in the chassis are completed. If the system requires a frequency other than 60 Hz, select the Allow International Settings in the System Monitor Preference section. This will allow for frequencies other than 60 Hz. The fields for the Video Controls tab are described below.

A	**Device Name** – Select the Savant SmartMediaPro device from the drop-down menu. The name appears as it is labeled in Blueprint.
	Zone – Select the Zone where the device is transmitting the video.
	Logical IO – Select an output port from the SmartMediaPro device. The selections in the drop-down menu are dependent on the selections made in the Device Name and Zone fields above. A green arrow indicates a valid connection from the output port and the device.
B	When an output module or output port is selected, a list of resolutions supported on that module or port are displayed. A check in a box of the Device Supported column indicates the resolution and refresh rate supported on the output device (Ex: TV). This field is blank when an input port or module is selected.
C	– When an input module or port is selected, this panel displays information about the video signal received on an input port.
	– When an output module or port is selected, this section displays information about the video signal that is transmitted out an output port.
	– **No valid media detected** is displayed when nothing is connected. This is valid for both input and output ports.

Test Pattern – Specific test patterns are offered to assist when calibrating a display. The patterns that can be transmitted are:

- **None** – No test pattern is transmitted.
- **Black Calibration** – Calibrates brightness. This pattern consists of eight rectangles offering different shades of black and is organized with increased brightness from top left to bottom right. The left and right side of the test pattern contain a black pillar that extends the full height of the screen. To calibrate, adjust the top left rectangle so it is barely noticeable in comparison to the outside black pillar adjacent to it.
- **Color Calibration** – Color Calibration adjusts the color saturation level. The pattern consists of 16 rectangles that include white, yellow, cyan, green, magenta, red, blue, and black. To calibrate, adjust so each color is bright but not causing problems around the edges.
- **Constant** – The pattern displays the full screen using pixels at 50% gray.
- **D-Wedge** – Use this pattern to adjust resolution. The pixels are displayed with an incremental gray level from white to black on the X- and Y-axis and appear as if diagonal bars are being drawn.

(D)

- **H-Wedge** – Use this pattern to adjust resolution. The pixels are displayed with an incremental gray level from white to black on the X- and Y-axis. The pattern will appear as if vertical bars are being drawn.
- **V-Wedge** – Use this pattern to adjust resolution. Displays the pixels with an incremental gray level from white to black on the X- and Y-axis and appear as if horizontal bars are being drawn.
- **White Calibration** – Adjusts the contrast. This pattern consists of eight rectangles offering different shades of white and is organized with increased brightness from top left to bottom right. The left and right side of the test pattern contains a white pillar that extends the full height of the screen. To calibrate, adjust the top left rectangle so it is barely noticeable in comparison to the outside white pillar adjacent to it.
- **VIM Check Box** – When troubleshooting a video problem, the VIM check box gives a user the ability to have the video signal initiate from either the input or output module. The VIM check box is not available when an input module is selected in the Logical IO field.
  - Checked sets the chassis so the test pattern is initiated from an input module.
  - Unchecked ensures the video pattern is initiated from an output module.

Aspect Ratio – Adjusts the height to width ratio using the following ratios:

- Anamorphic Full Screen
- Panoramic Full Screen

(E)

- Panoramic Stretch
- Pillar Box/Letter Box
- Stretch

The Aspect Ratio function is supported on only select video processing and video tiling cards such as the VOM-VP02H and VOM-VPS2.

Detail Enhancement – Allows for the fine adjustment of image sharpness.

(F)

- **Level** – Adjusts image sharpness and detail inclusion (Range: 0-31).
- **Threshold** – Adjusts the intensity of the sharp and non-sharp elements (Range: 0-100).

The Detail Enhancement function is supported on only select video processing and video tiling cards such as the VOM-VP02H and VOM-VPS2.

Video Settings – The Video Settings described below are supported on cards that support Video Processing such as the VOM-VP02H, VOM-VSP2, and VIM DSP4 cards. A description of each field is described below.

- **Video Pass-Through** – Previous source will continue to play when no video connection is active

(G)

- **Fixed DE** – Causes fixed timing for video sources without standard timing. When enabled, cropping is not allowed
- **RGB Full Range** – Adding a check to this box enables the AV Switcher to support full range RGB (Color Spectrum: 0-255). Video Games and PC Monitors typically use full range RGB. Most TVs support limited RGB, which is a color spectrum range of 16-235. This box should not be checked for most applications.

  Note: Both the device supplying the video and the device displaying the video must also support Full Range RGB.

- **HDCP Disabled** – For troubleshooting purposes, the High-bandwidth Data Content Protection data can be removed from the HDMI signal. Add a check to this box to strip the HDCP content.
- **Contrast** – Adjusts the ratio of the ratio of the brightest color to the darkest color. Use the slider control to change. (Range: -50 to +50)
- **Brightness** – Use the slider to adjusts the brightness. (Range -50 to +50)
- **Saturation** – Use the slider to adjust the image color saturation in respect to gray scale (Range -50 to +50).
- **Hue** - Use the slider to adjust the image hue (Range -50 to +50)
- **Noise Reduction** – Use the slider to adjust the noise/interference reduction settings (Range 0 to +100)

17. AV Connections

Displays information on the path from input to output of all the video and audio connections made on a device selected in the Device Name field.

A   **Device Name** – Select the Savant AV switcher.

Audio Connections:
- **Source Zone** – The Zone where the audio signaling is initiated.
- **Source Component** – The component in the zone where the audio signaling is initiated.
- **Logical Component** – Label given to this AV connection.
- **Logical Input** – Label given to the input connection on the Savant AV switcher. The label is taken from the inspector in Blueprint.
- **Input** - The label given to the physical input on the Savant AV Switcher. The label contains the slot the module is plugged into as well as the port on the input module.
- **Current Service** – Lists the Service on the Savant Host associated with the connection.

B
- **Logical Output** – Label given to the output connection on the Savant AV switcher. The label is taken from the inspector in RacePoint Blueprint.
- **Input** – The label given to the physical input on the Savant AV Switcher. The label contains the slot in the AV Switcher, the module it is plugged into as well as the port on the input module.
- **Output** - The label given to the physical output on the Savant AV Switcher. The label contains the slot in the AV Switcher that the module is plugged into as well as the port on the output module.
- **Sink Zone** – The Zone that contains the component that the audio is being transferred to.
- **Sink Component** - The component that the audio is being transmitted to.

C

Video Connections:
- **Source Zone** – The Zone where the video signaling is initiated.
- **Source Component** – The component in the zone that the video signaling is initiated from.
- **Logical Component** – Label given to this AV connection
- **Logical Input** - Label given to the input connection on the Savant AV switcher. The label is transferred from the inspector in Blueprint.
- **Input** – The label given to the physical input on the Savant AV Switcher. The label contains the slot in the AV Switcher, the module it is plugged into as well as the port on the input module.
- **Current Service** - Lists the Service on the Savant Host that is associated with the connection.
- **Logical Output** - Label given to the output connection on the Savant AV switcher. The label is transferred from the inspector in Blueprint.
- **Output** - The label given to the physical output on the Savant AV Switcher. The label contains the slot in the AV Switcher that the module is plugged into as well as the port on the output module.
- **Sink Zone** – The Zone that the component that the video is being transmitted to.
- **Sink Component** – The component that the video is being transmitted to.

18. EDID Settings

An EDID (Extended Display Identification Data) is how a device broadcasts its video and audio capabilities as well as other pertinent information to a second device that it is communicating with. This information is used in a handshaking manner to automatically make adjustments so the best audio and video are utilized when the audio and video are eventually output on a TV or monitor.

The EDID Settings tab displays the audio and video capabilities supported on each input or output port and give a user the ability to limit which capabilities to broadcast. The EDID Settings tab is a useful troubleshooting tool to fix typical video and audio incompatibilities.

INPUT SIDE OF CHASSIS

The capabilities supported by the input port on a Savant chassis are displayed in the EDID Settings field. The audio and video capabilities being broadcast from the Savant chassis input port to the device supplying the audio and video can be controlled so only specific capabilities are accepted. This is useful when a TV or monitor is not displaying video or playing audio correctly. Checking or unchecking either the Audio or Video Settings fields limit what can be received at the input port.

OUTPUT SIDE OF CHASSIS

On the output side, when an output port is selected, the capabilities supported on the output port of the Savant chassis are displayed. Unlike the input side, the capabilities broadcast on the output side are grayed out and can't be controlled. They are simply displayed for troubleshooting purposes.

The section below describes the capabilities on the EDID Settings tab fields.

(A)

Device Name – List of all Savant AV chassis available in the Savant Pro System. Select the chassis from the drop-down menu.

Zone – List of all zones configured in the Savant Pro System as well as a few additional selections. Each is described below

- **All Inputs** – All the inputs on the Savant chassis selected in the Device Name field are displayed.
- **All Outputs** – All the outputs on the Savant chassis selected in the Device Name field are displayed.
- **Zones** – Limits the selections available in the Logical IO field described below. Only the inputs and outputs in the zone selected are available.

Logical IO – Lists all the inputs and outputs available. The choices offered are dependent on the selection made in the Zone field described above.

- When an input port is selected, all the audio and video capabilities supported on the input port of the Savant chassis are displayed.
- When an output port is selected, all the audio and video capabilities supported on the output port of the Savant chassis are displayed.

(B)

Displays all the audio and video capabilities supported on the port selected in the Logical IO field.

Output Ports - The capabilities of the output port of the Savant chassis are displayed. These capabilities are grayed out and can't be added or removed and are only displayed for troubleshooting purposes.

Input Ports - The capabilities of the input port of the Savant chassis are displayed. These capabilities can be set to either broadcast or not. The audio and video capabilities selected (checked) are broadcast and can be passed to the output port. The capabilities that are not selected (unchecked) are not broadcast and cannot be passed to the output port. Allowing only certain audio and video capabilities to the output allows a user to be able to troubleshoot audio and video problems.

(C)

Importing and Exporting EDID File - The EDIDs supported and broadcast on the input side of the Savant chassis can be modified. Custom EDIDs are typically created to limit the capabilities that are broadcast to a device connected to the input port. Each EDID can be exported, modified, and imported back to chassis. Below is an example:

1. Select an input port from the Logical IO field.
2. Check the audio and video capabilities being added to the file getting exported.
3. Select the **Export EDID to File** button from the top right side of the EDID Settings tab.
4. In the drop-down window that opens, select where to download the file and select the **Save** button (The default location is the Downloads directory).
5. Open the file and modify as required.
6. Save the file with a different label. This will allow you to keep track of the different files created.
7. Select **Import EDID to File**. In the window that opens, browse to and select the updated EDID file and select **Open**.
8. Power cycle the device connected to the input port.
9. After the reboot, select the **Reboot Finished** button from the **Reboot Finished** button.

EDID Settings

| Reboot Finished | Don't Show Again |

↑ Select Reboot Finished
after device has reboot

In order for the EDID changes to take effect on the source device, you may need to reboot the source device.
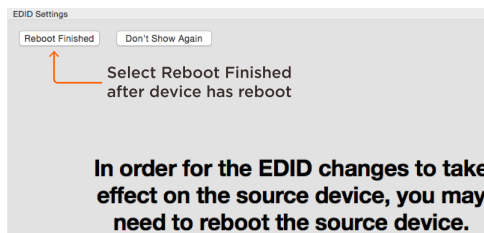
The new updated EDID capabilities will now load.

Reset To Default – Select the **Reset to Default** button to reset the checked and unchecked EDID capabilities back to the default setting.

19. Sonos® Info

Information on the Sonos devices installed in the Savant Pro System is available in the Sonos Info tab. This page is used to troubleshoot connection issues.

Sonos Devices Window

The Sonos devices connected to the local network are shown. Troubleshooting, connection status, pairings, and any errors that need attention are listed.

Connected - Any device configured in RacePoint Blueprint and communicating with the Savant Pro System Host is listed as Connected. If the device is not communicating with the Host, an error message is displayed. Below are a few of the error messages that could be displayed.

- **Blueprint Not Configured** – The device is connected to the local network but not currently in the configuration running on the Host. Add the device to the Blueprint configuration and upload to the Host.

- **Blueprint Missing Sonos ID** – The Sonos ID (serial number of device) is not in the configuration running on the Host or the serial number entered is wrong. Open the Inspector for the Sonos device in Blueprint and verify the serial number is entered correctly.

- **Paired Master/Slave** - The Sonos device is paired with a second Sonos device. The two devices were paired using the Sonos App (Not Blueprint). Of the two devices paired, the device added into Blueprint and running on the configuration is the Master device. The device configured as the slave in the Sonos App is listed as such in System Monitor. This setup is only when two speakers are used as left and right channels in one room or zone.

Devices Status Window
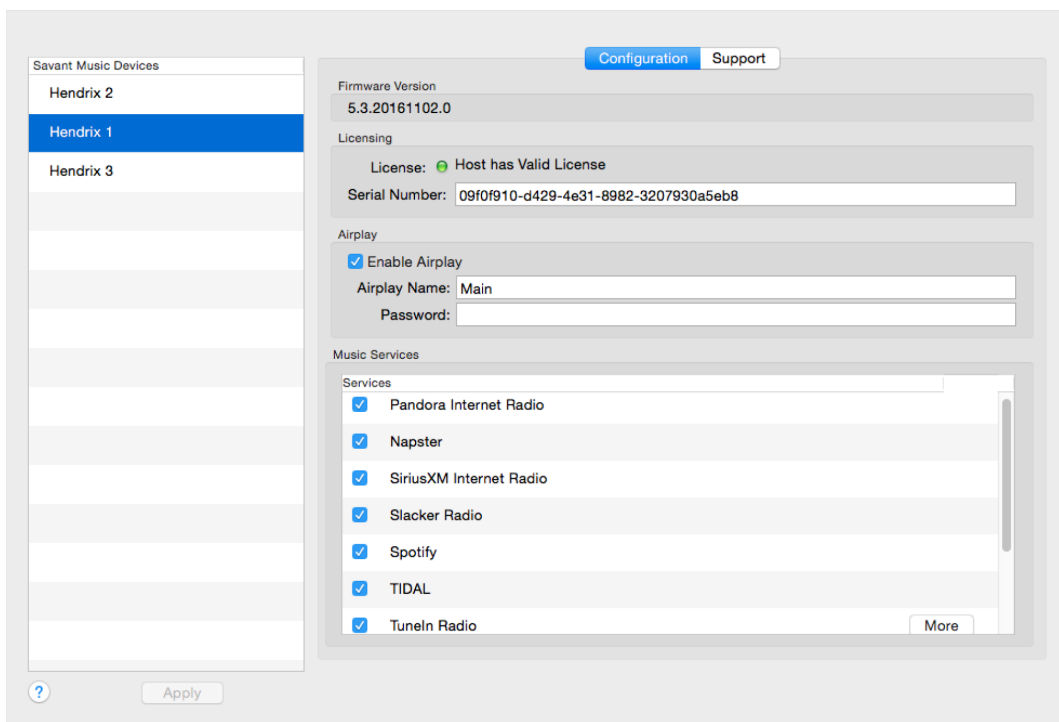
Model	Model Number of the Sonos device.
IP	IP Address that was given to the Sonos device by the router in the local network.
Port	Displays the Sonos Control port.
Hardware Version	Hardware version of the Sonos device.
Software Version	Version of Sonos software running on the Sonos device.
Sonos Room Name	Label given to the room using the Sonos App.
Savant Zone Name	Zone the Sonos device was added to using RacePoint Blueprint and currently running on the Host.
Savant Name	The label given to the Sonos device when added to the RacePoint Blueprint configuration and currently running on the Host. If the device is a Paired Slave and not entered in Blueprint then this field is left blank.
Blueprint Serial Number	Serial Number of the Sonos device. This is the number entered into the Serial Number field of the inspector in RacePoint Blueprint. If the device is a Paired Slave and not entered in Blueprint then this field is left blank.
Sonos Serial Number	Serial Number of the Sonos device. Same as Blueprint Serial Number. If the device is a Paired Slave and not entered in Blueprint then this field is left blank.
Pairing State	Displays whether the device is paired with another Sonos device. It does not display whether the device is the Master or Slave. That is displayed in the Sonos Devices list. If the device is not paired then Unpaired will be displayed.
Last Seen	The Savant Pro System Host is constantly checking the connection status of all Sonos devices. The Last seen is a timestamp of the last time the check was made.

20. Savant Music

The Savant Music Service is supported on the Savant Smart Host with Control (SHC) and the information below is displayed in System Monitor.

HELPFUL INFORMATION!

- The Savant Music service is enabled in the RacePoint Blueprint configuration through the tools menu (**Tools > Settings > Media Server**). To enable Savant Music, enter a check into the Enable Media Server on Master Controller check box.

- A Savant Music License must be applied to all Hosts purchased with da Vinci software 8.0 or higher. If the Host is running an earlier version, it must be upgraded to da Vinci 8.x and a license will need to be purchased. Refer to the Installing a Runtime Licensing section above for information on how to apply the license.

Savant Music Devices

Displays the components in the Savant Pro System used to stream audio and/or video. Examples would be an SMS Server or Pro Audio 4.

Firmware Version

Firmware version of the embedded Media Server in the component selected from the Savant Music Devices window.

Licensing

License – LED indicator displaying whether the music license loaded on the Host is valid. Refer to the Installing a Runtime License section above if a problem with licensing is indicated.

Serial Number – Displays the serial number generated when the Savant Music service of the component selected enabled. When troubleshooting, the Savant Support team may require this Serial Number.

Airplay

To stream the Savant Music over airplay, the Airplay fields must be populated.

Enable Airplay	Check this box to enable the Savant Music to utilize Airplay.
Airplay Name	Enter a Name. This is the name that Savant Music will broadcast as an Airplay enabled device
Password	Enter a Password if the iTunes App on the Airplay enabled device requires a password.

Music Services

All available music services are listed. Select to enable each Music Service. The enabled Music Services will be available to add in the Savant Pro 8 and TrueControl II Apps.

21. AVB Info (Audio Video Bridging)

System Monitor can be used to view the Audio Video Bridging network in the Savant Pro System. This includes the Pro Audio 4, how it is configured, as well as any network connections made. See below for more information.

	A	Select the AVB Info tab to open the System Status screen shown above.

	B	**AVB Stations** – The Audio Video Bridging components such as the Pro Audio 4 are listed here. As shown in the image above, up to three AVB components in a Master/Slave configuration can be connected together. These connections need to be through a compliant AVB switch such as the MOTU AVB switch. **Master/Slave** - During startup, the AVB component that communicates with the Host first, assumes the Master role. All other AVB components assume the Slave role. Once the Master/Slave relationship is established, this will not change as long as they are up and running. However, a reboot can change the Master/Slave relationships. **(x) Station ID** – The Station ID's are assigned at startup and utilized by the Host. A reboot of the system can change the station ID.

	C	**TIP!** Refer to the configuration in RacePoint Blueprint when viewing the columns in the **Connections** table. **Logical Input** – The logical input (taken from Blueprint configuration), that the audio/video source originates from. Using the image above, there is no external source supplying the audio/video data. The source from the image above is the embedded media server on the AVB component. Had the audio/video source originated from an external device such as a DVD player, that logical input (taken from the Blueprint configuration) would be listed. **Input** – The input that the audio/video source is originating from. Using the image above, the audio/video data is originating in the embedded media server. Had the audio/video source originated from a device such as a DVD player, the input connection to the AVB component selected from the **AVB Stations** section would be listed. **Current Service** – The service generated in Blueprint for the AVB component.

Output Switch – Lists the AVB component that is receiving and then transmitting the data received from the AVB Component selected in the **AVB Stations** section. Using the 1st line in the table of the highlighted AVB component as an example:

- The AVB component labeled Basement is the output switch for the AVB component labeled 2nd Floor.

Logical Output – Lists the logical output (as labeled in Blueprint) from the AVB component presented in the **Output Switch** column. Using the image above, the label **Audio Zone (x)** corresponds to the Audio Output connection labeled Audio Output 1 from the Blueprint configuration.

Output – The physical output (as labeled in Blueprint) assigned to the Logical Output described above.

Sink Zone – Zone that the output device receiving the audio/video is located. An example would be a pair of speakers in the Living Room.

HELPFUL INFORMATION!

- Information related to the hardware such as serial number, firmware revisions, and UID, is viewed in the Controller Info tab.

- Information about the Controlled component connections status is viewed in the Component Status tab.

- From the table above, the first two lines in the Sink Zone field shows Basement Shared Group. This indicates that those two logical outputs have been grouped (Assigned I/Os' in Blueprint)

22. Wi-Fi Lighting

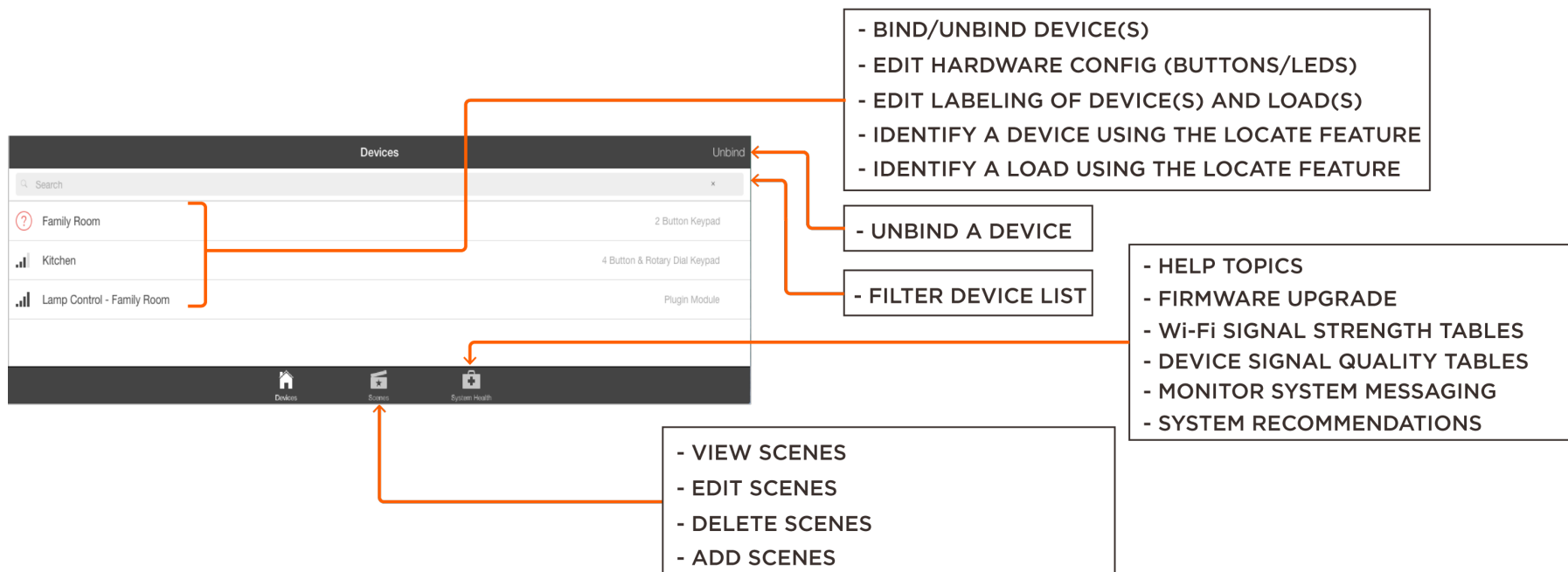The Wi-Fi Lighting tab User Interface offers the following:

- Bind/Unbind lighting keypads
- Add, delete, and modify scenes
- Remote control of a lighting keypad
- Modify keypad button and LED settings
- Modify labels
- Locate a lighting device using the locate function

- Test changes made lighting devices
- Monitor overall health of lighting system
- Check Wi-Fi Signal Strength
- Monitor firmware upgrades
- Monitor Device RSSI Failure and Success rates.
- Monitor messaging between keypad and Host

⚠ IMPORTANT!

It is good practice to export the configuration running on the Host prior to making modifications using the Wi-Fi Lighting tab.

- Exporting the configuration allows you to revert to the original configuration should a problem arise.
- Exporting the configuration adds the UID of each lighting device to the configuration essentially creating a file that includes all the lighting bindings.

The high level diagram below shows the how to navigate to certain functions in the Wi-Fi Lighting User Interface. Each of these functions are described in the sections that follow.

- BIND/UNBIND DEVICE(S)
- EDIT HARDWARE CONFIG (BUTTONS/LEDS)
- EDIT LABELING OF DEVICE(S) AND LOAD(S)
- IDENTIFY A DEVICE USING THE LOCATE FEATURE
- IDENTIFY A LOAD USING THE LOCATE FEATURE

- UNBIND A DEVICE

- FILTER DEVICE LIST

- HELP TOPICS
- FIRMWARE UPGRADE
- Wi-Fi SIGNAL STRENGTH TABLES
- DEVICE SIGNAL QUALITY TABLES
- MONITOR SYSTEM MESSAGING
- SYSTEM RECOMMENDATIONS

- VIEW SCENES
- EDIT SCENES
- DELETE SCENES
- ADD SCENES

22.1. Binding

The User Interface can be used to establish or delete the bindings for each device. The binding process is described below.

1. Select the **Devices** icon to open the Devices page.
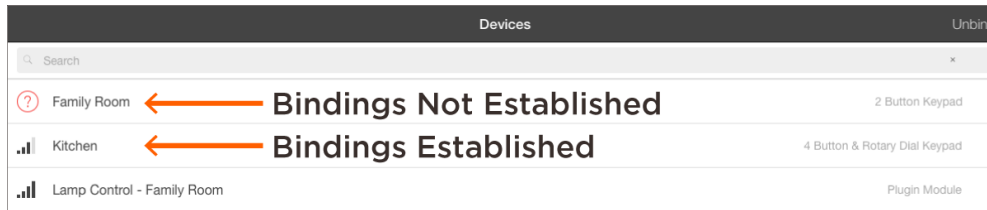
    –   The circle with a question mark icon ⑦ indicates the device is not bound.
    –   The Wi-Fi bar icon 📶 indicates the device is bound.

2. Select a lighting device that does not have the bindings established. This opens the Device Binding page shown in the image below.

3. With the Device Bindings page open, walk over to the lighting device (device must be installed and provisioned) and press one of the buttons. Once pressed, the UID will appear below the device (see image below).
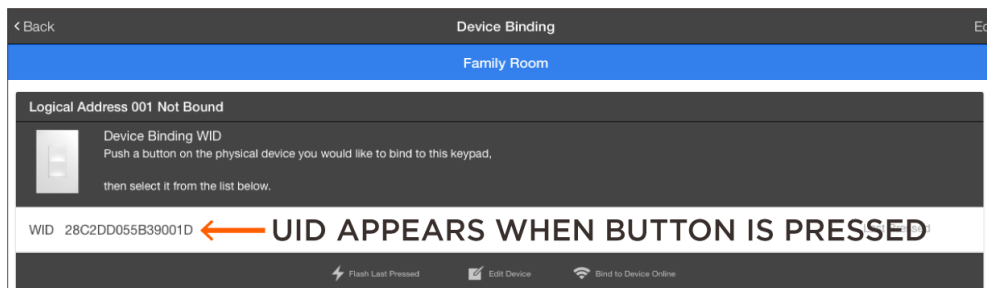

    –   On a WID, WIS, WIK, or WIF keypad, press any button on the front panel.
    –   On a Lamp Control, press the reset button located on bottom of device.

4. On the User Interface, select the UID that appears when the button is pressed.

5. Continue through the list of devices and establish the bindings for all devices.

22.2. Unbinding

To unbind a lighting device, do the following:

1. Select the **Devices** tab to open the Devices page.

2. Select **Unbind** from top right side of the page. This opens the unbind icon 🔓 in front of each device (see image below).

   Note: The Unbind label in the window header switches to **Done** after selecting Unbind.

3. Select the **Unbind** icon in front of the device to unbind.

SELECT UNBIND TO OPEN THE UNBIND ICON

4. Read the information in the unbind window that opens and select **Unbind Device** if you agree.
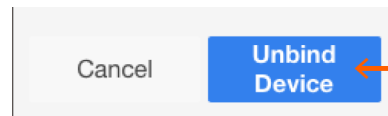
Select Unbind Device

5. Select **Done** when complete.

Additional Unbind Information:

Binding/Unbinding can also be achieved using the **Device Binding** page. To get to the Device Binding page do the following:

1. From the Devices page shown in image above, select a device.

2. From the Device Control page that opens, select the **Device Binding** tab.

Select Device Binding
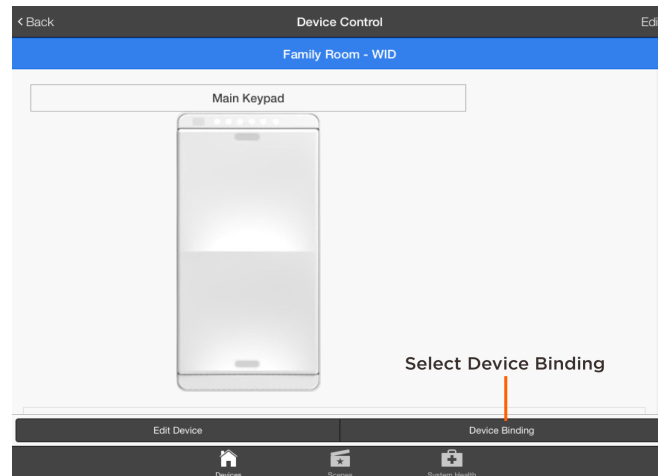
3. Follow instructions on the Device Binding page that opens to unbind the device.

22.3. Device Editor

The pages of the Device Editor can be used to modify the numerous settings on each lighting device.

1. Select the Devices icon to open the Devices page.

2. Select a lighting device from the list.

3. Select **Edit Device** button from the page that opens. The Device Editor page that opens is split into sections. Each section is described below.

Modify the Name of a Device or Load

Device Name	Dimmer - Family Room			
	Flash LEDs	-⋏-	Flash Loads	💡
Load 1 Name	Recessed Lights			

Device Name - Identifies the lighting device. To modify, highlight and enter a different name.
Load Name - Identifies the load being controlled. To modify, highlight and enter a different name.

Locate Function

Flash LEDs - When selected, the button LEDs on the lighting device blink three times.
Flash Loads - When selected, the load being controlled by the lighting device flash three times.

Test Switch

Use the Test Switch section to test the changes made.
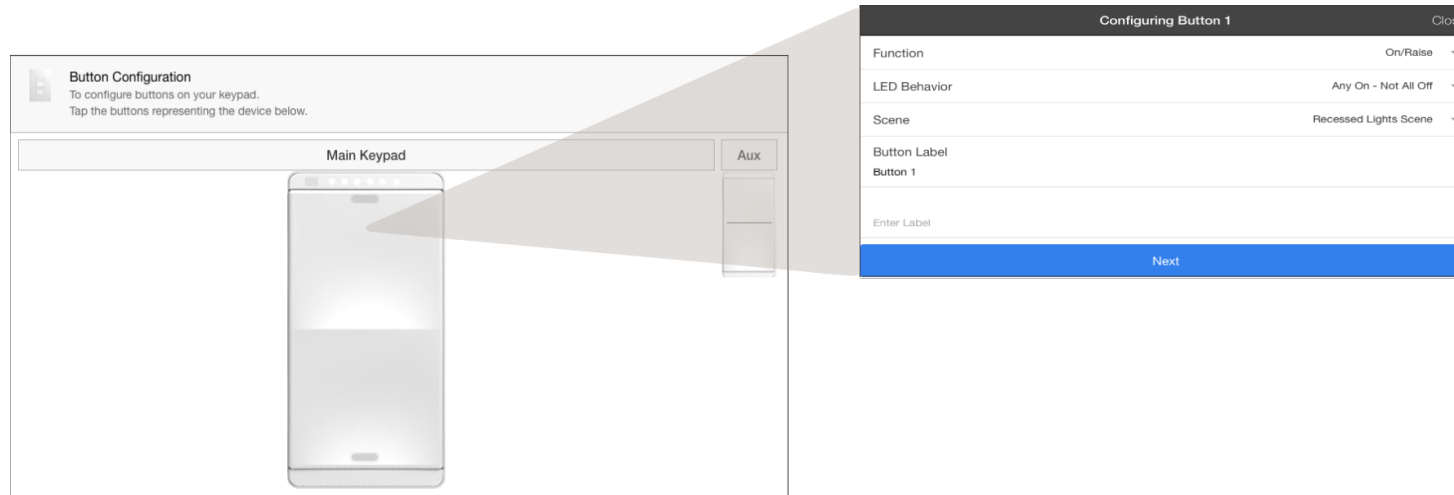
Test Switch	**Switch Load On and Off** ⟶	⬤
💡 ⬤		0%

Test Dimmer Function

Backlighting, LED Indicator Intensity, and Ambient Light Sensor

Backlighting	None ▾
LED Indicator Intensity	▮

[slider with handle positioned roughly in the middle over a black-to-white gradient]

✓ Use Ambient Light Sensor

Backlighting (WID, WIS) 30%, 20%, 10%, None	The button LEDs on the dimmer (WID) and switch (WIS) can be used as a nightlight by setting the Backlighting field to 10, 20, or 30% of max brightness. If the nightlight feature is not required, set the Backlighting field to None. If nightlight mode is on, the LEDs will always be On at the level configured. If a load is turned On the LED may go brighter, depending on the ambient and intensity states.
Backlighting (WIK) On, Off	When the top four buttons are engraved on the WIK the Backlighting option can be turned On to illuminate the text. When Backlighting is set to On, the LEDs light the buttons to the intensity set in the LED Indicator Intensity slider. When set to Off, the LEDs behind the four top buttons are always Off.
LED Indicator Intensity (WID, WIS)	The LED Indicator Intensity slider sets the minimum level of brightness for the LEDs on the buttons. If set to 50% the brightness will never go below 50%. If **Use Ambient Light Sensor** is enabled the brightness of these LEDs may increase due to the room brightness.
LED Indicator Intensity (WIK)	The LED Indicator Intensity slider sets the minimum level of brightness for the LEDs on the buttons. If set to 50% the brightness will never go below 50%. If engraved buttons are used, the backlighting LEDs will adjust as well.
Use Ambient Light Sensor (WID, WIS)	**Use Ambient Light Sensor (Checked)** Sets the minimum intensity the LEDs (Button LEDs) on the front panel will reduce to once the room darkens. As the light level in the room increases, the intensity of the button LEDs increase.
Use Ambient Light Sensor (WIK)	**Use Ambient Light Sensor (Checked)** Sets the minimum intensity that All LEDs (Button LEDs and Backlighting LEDs for engraved buttons) on the front panel will reduce to once the room darkens. As the light level in the room increases, the intensity of the button LEDs increase. ⓘ **Additional Information!!** In a room where the ambient light is very bright, the backlighting LEDs will switch Off so the engravings on the buttons can be read more clearly.

Button Configuration

The properties of each button can also be modified. As shown in the diagram below, selecting a button opens a configuration window with all parameters available to that button.


Function	What happens to the load when a button is pressed is set here. Select a Function from the drop-down menu. For a description of each function, refer to the Metropolitan Wireless Lighting Programming Guide on the **Savant Customer Community**.
LED Behavior	Sets the state of the LED when the button is pressed. For example, setting to Exact will cause the LED to be On only when ALL loads in the Scene set for this button are powered to the preset level. If any load is not at the preset level, the LED will be Off. For a description of all selections, refer to the Metropolitan Wireless Lighting Deployment Guide on the **Savant Customer Community**.
Scene	Assigns a Scene to the button. Select from the list of available scenes in the drop-down menu.
Button Label	The label entered here will be modify the button label in the configuration running on the Host.

Once the button or buttons are configured, one of the following can be selected:

– **Next** – Close the current window and open a configuration window for a second button on that device. Continue selecting **Next** until all buttons that require an update are modified. At any time, selecting the Close button will save the configuration (See **Close** below).

– **Close** – Closes the configuration window. Once this window is closed, an option to save the updates is made available. Select **Save** to save the updates.

Apply Changes to Devices Button

The **Apply Changes to Devices** button is made available after updates in the Edit Device window described above are made. After selecting the **Apply Changes to Devices** button, the option to apply the changes from the device being modified to other devices in the configuration is made available. Follow the dialog windows that appear to make these changes.
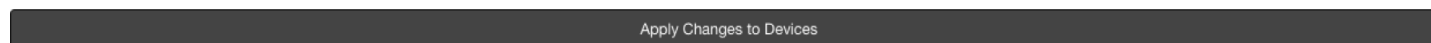
Note: Changes are made to only the lighting devices that are compatible with the device currently being modified.

22.4. Introduction to Scenes

A Scene is a set of instructions that directs a lighting device(s) what to do when a button is pressed. There are two types of Scenes:

– **Default Scene** - A scene is generated when adding a device into the RacePoint Configuration. This scene typically includes control of just one load and can sometimes be referred to as a load scene.

– **Custom Scene** – A scene created by the user. This scene can include control of one or more loads.

Using the user interface in System Monitor:

– A custom scene can be created and modified.

– A default scene can only be modified. This is described below:

Add	Select **Add** to begin creating a new custom scene. Refer to the Create a Custom Scene section below for more information.
Delete	Removes one or more Scenes from the configuration. 1. Select **Delete**. This adds the delete Scene icon ⊖ to each Scene. 2. Select this icon to delete the Scene from the list. 3. Select **Done** when complete.
Search	Enter a Search term and all iterations of the term entered are displayed. This is useful when searching for a specific Scene.

22.5. Create a Custom Scene

Follow instructions below to create/add a custom scene. For the scenes created in the Web UI to appear in the Savant Apps, the updated configuration must first be exported. Once exported, it then needs to be uploaded back into the Host.

1. From the Scenes page, select **Add**.

2. In the Scene Editor, modify the following as required:

| Scene Name	Label for the scene being created. Click in the Scene Name field and enter a name that identifies the scene.
State Comparator	Changes made in the State Comparator field are reflected on the buttons made in the TrueControl II and Savant Pro Apps. Changes made here are not reflected on the lighting keypads.
Hold Cycle Time	Sets the time it takes for a command to complete when a button on the lighting keypad is pressed and held. For example, if the Hold Cycle time is set to 5 seconds, it will take 5 seconds for the load to ramp from 0 to the preset level set in the Scene.

3. To add a load to the Scene, select the **Scene Loads** bar.

Select Scene Loads

4. From the Load Selection page that opens, select the loads from the list of loads. The example below adds two loads. Alternatively, the **Select All** button can be used to select all the loads from the list.

ADDING TWO LOADS
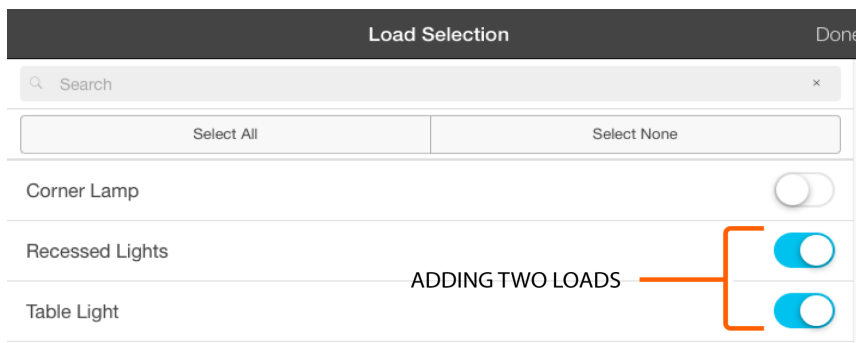
5. Select **Done** from the Load Selection window to add the loads to the custom scene (see image from step 4 above).

6. Select **Save** from the Scene Editor page to save the custom scene (image not shown).

7. Select **<Back** to navigate back to the Scenes page. Verify the custom scene is now available from the list of scenes.

22.6. Edit an Existing Scene

Follow instructions below to modify an existing scene.

1. Select the Scenes icon ![icon] to open the Scenes page.

2. Select a scene from the list of scenes. This will open the Scene Editor page.

3. Make any modifications required from the Scene Editor page.

4. To save the changes made, select the **Save** button that opens in the top right corner of the Scene Editor bar.

5. To verify the changes, use the **Scene Test** section on that same page to switch the scene On and then Off.

22.7. System Health

The pages in the System Health section are used to monitor and troubleshoot problems that can occur in the Wi-Fi Lighting system. The next few sections describe the various functions within the System Health pages.

System Health Main Page
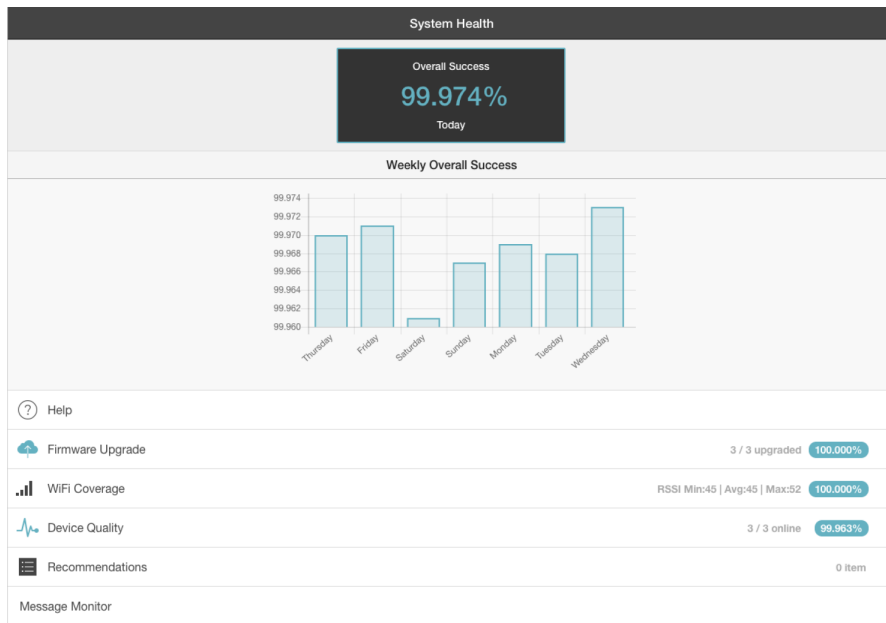
Overall Success (Real-Time) – Using data collected from messaging being sent between the Lighting Devices and the Host, a real-time view showing success rates for that day is shown (day starts at 12:01 AM). The Overall Success data shown is an average of all lighting devices in the system. A healthy system should have success rates above 99%.

Weekly Overall Success - A day-by-day view showing the Overall Success rate captured over the previous seven days.

TIP! The colors of each icon gives an at-a-glance indication that improvements can be made to increase reliability.

99.72% Function has no issues and is running normally.

80.62% Function is not running to peak performance and may require attention. See the Recommendations field section below for additional information.

75.64% Function has a problem and requires attention. See the Recommendations field section below for additional information.

Help	Opens a high level quick access menu of all alerting icons and a short description of each.
Firmware Upgrade	Information regarding firmware is available in this page.
Wi-Fi Coverage	Offers easy to read graphs and tables that can be used to troubleshoot or verify Wi-Fi signaling problems.
Device Quality	Opens a quality of service overview page. The messaging going between the lighting devices, the loads connected to these devices, and the Host in the system are monitored, recorded, and evaluated. The metrics are then displayed in the Device Quality pages.
Recommendations	After an evaluation of all the aspects from the pages described above, recommendations to possible signaling or device quality are offered and recommendations of the possible fixes are offered.
Message Monitor	Real-time view of messages sent between the Host and the lighting device.

Firmware Upgrade

Select the Firmware Upgrade field to open the firmware page shown below. All information having to do with the firmware in the Wi-Fi lighting system is made available in this page. See information below. The Firmware Upgrade page is a powerful troubleshooting tool.

🔆 TIP! If the firmware versions don't match, power cycle the lighting device. This causes the Host to compare the version loaded on the device with what's on the Host and if necessary, start an upgrade.

Device Name – Label given to the lighting keypad when it was added to the Lighting Manager.

Status – Status of the firmware running on the lighting device.

Version – Version of firmware currently running on the lighting device.

Available Version – Version of firmware currently available on the Host. The firmware in the Available Version column should equal the firmware displayed in the Version column. If they are not, something went wrong with the automatic download process.

Wi-Fi Version – Version of firmware running on the Wi-Fi module in the lighting device. This firmware is updated as part of the package when the main firmware for the lighting device is updated. Since the firmware on the Wi-Fi module is updated as part of the main firmware package update, the Wi-Fi version column will never affect what is displayed in the Status column.

Firmware Upgrade Process

In the image to the left, the lighting device labeled Master Bedroom is being updated and when complete, both the **Version** and **Wi-Fi Version** columns will display the updated version.

During the upgrade process, other System Health pages also inform the user that an upgrade is in process. See image below.
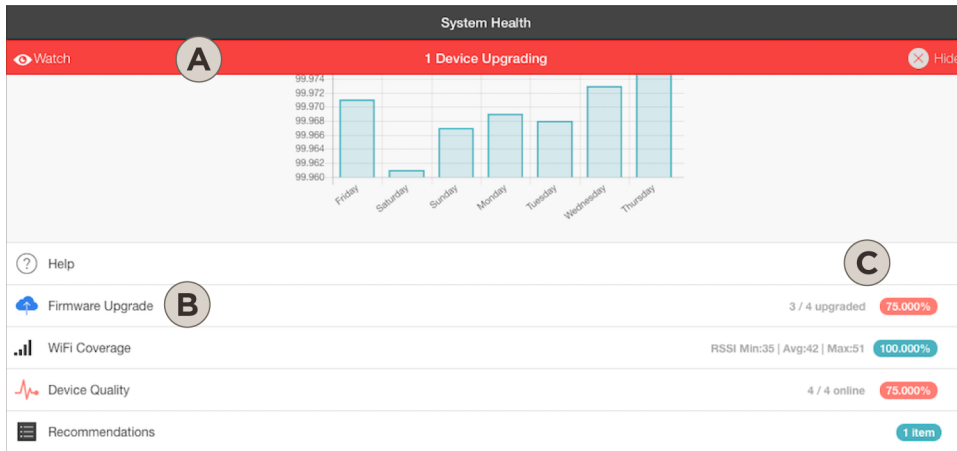
A When a device is upgrading, a red bar like the one in the image to the left appears on pages that are not the Firmware Upgrade page. This informs the user a firmware upgrade is in progress.

B When a firmware upgrade is started, the color of the Firmware Upgrade icon changes from teal blue to royal blue indicating an update is in progress. The image to the left shows a download in progress.

C The number of devices being upgraded is displayed. In the image, 3 out of 4 or 75% of the devices are up to date.

System Health Definitions

Before describing the various tools available in the System Health section, it is important to understand some of the terms and acronyms/initialisms that will be used. Below is a list with descriptions.

RSSI (Received Signal Strength Indicator) – A measure of the Wi-Fi signal received by the lighting device. The RSSI value is taken from the Wi-Fi module on the lighting device. RSSI is measured in -dBm.

🔆 **TIP!** To view a table showing the number of bars ▂▄▆█ –vs- -dBm values, select the Help ⃝? icon from the System Health Main page.

BSSID (Basic Service Set Identifier) – Identifies the access point generating the Wi-Fi signaling. Since there can be numerous access points in a local network, the BSSID identifies the Access Point using its MAC Address. This identifies which access point is supplying the Wi-Fi signaling to a lighting device.

Channel – Each network access point communicates over a Channel. Each access point using the 802.11 defines up to 14 separate channels. Since channels overlap each other, it is good practice to not have two nearby access points supply signaling over two close channels (such as channels 5 and 6). If two lighting devices are running on close channels but different access points, this could cause messaging to be dropped and numerous retries to occur. Interference on a channel can also indicate whether auto-channel is enabled in the access point.

SNR (Signal to Noise Ratio) - Ratio of Wi-Fi signaling power to unwanted electrical or electromagnetic noise. SNR degrades a Wi-Fi signal received and in some instances action must be taken to reduce SNR in the bad area. The SNR should be at least 20-25 dBm from the received RSSI value.

dBm – Measurement of the Wi-Fi signal displayed as a decibel/milliwatt. A Wi-Fi signal that is around -49 to -60 dBm is considered a strong signal. The lower or higher the dBm value gets from this range, the more likely the messaging sent and received between the devices will be dropped.

Health Packets – Data generated by both the lighting devices and the Host is analyzed and the successes, failures, and retry events are counted over time. This information is used in the calculation when outputting the Device Quality information.

Wi-Fi Coverage

The System Health section offers information on Wi-Fi coverage in easy to read graphs and tables. The graphs and tables available in the Wi-Fi Coverage pages help a user pinpoint where the Wi-Fi signal might not be sufficient.

To view the Wi-Fi coverage graphs/tables, go to the System Health main page and select the **Wi-Fi Coverage** field. Once on the Wi-Fi Coverage Main Page, additional information regarding each individual lighting device can be accessed. See diagram below.
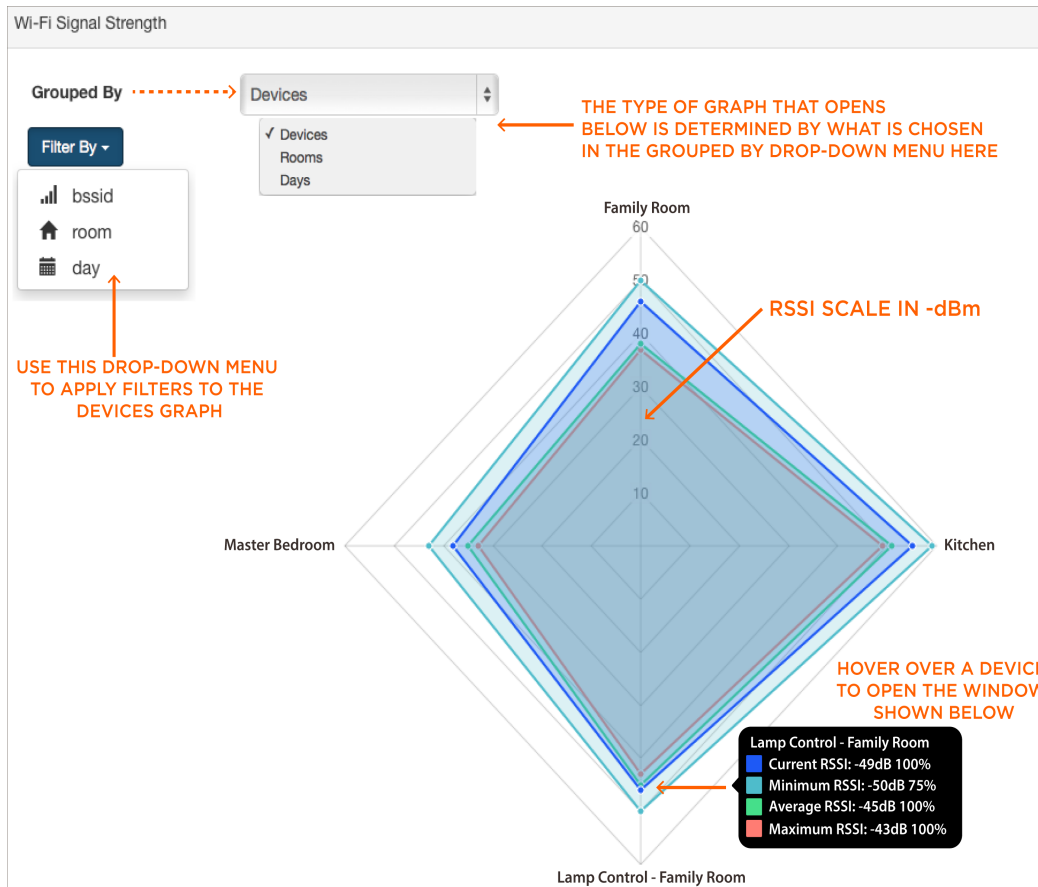
Grouped By – How the Wi-Fi signaling strength (RSSI) is displayed in the graph is set here. The choices in the drop-down menu are below:

- **Devices** (Graphic to Left). Presents the lighting device(s) in graph format shown to the left. Hovering over each device opens a window that presents the RSSI data in the following formats: Real-time, minimum, maximum, or average taken for that day (Values are reset each day at 12:00 am). This data can be used to verify if a device is receiving the proper signal strength.

- **Rooms** (Graphic not shown) – Presents the lighting device(s) in graph format displaying the devices by room. Hovering over each room opens a window presenting the RSSI data as a minimum, maximum, or average taken for that day (Values are reset each day at 12:00 AM). If there is more than one device in a room, the average of all devices is displayed.

- **Days** (Graphic not shown) – Opens a graph showing the previous seven days. Hover over each day to open a window presenting the RSSI data for that day (Values are reset each day at 12:00 AM). The RSSI data presented is the average taken from all lighting devices for each day.

Filter By – Filter which lighting devices are displayed in the graph that opens. The Filter By drop-down menu is only available when **Devices** is selected from the **Grouped By** menu.

- **bssid** – Hover over the graph to view the RSSI data for only the device(s) linked to the Access Point (bssid) selected. The bssid is displayed as a MACAddress.

- **room** – The graph that opens, presents only the device(s) in the room selected. When room is selected, each room is presented in a drop-down menu that opens. Hover over each device from that room to open a window that displays the RSSI data.

- **day** – The graph that opens presents all devices in the configuration. When day is selected, each of the previous seven days is presented in a drop-down menu. Hover over each device to get the RSSI data for that device for the day selected.

For examples of filtering, see the Filter-By Examples section below.

Wi-Fi Coverage Table - (All Devices)

At the bottom of the Wi-Fi Coverage page, additional information is available for troubleshooting. The table and descriptions are below:

Health		Name	Uid	IP Addr	Bssid		Channel		Rssi			
					BSSID	# of Times Changed	Channel	# of Times Changed	Current	Average	Max	Min
.ıl	99.96%	Kitchen	40E230E2A3000000	10.10.10.1	24B657F8B332	0	6	0	52	51	49	59
.ıl	99.96%	Lamp Control - Family Room	80A589604E000000	10.10.10.2	24B6577BD712	0	1	0	47	45	43	52
.ıl	99.97%	Family Room	28C2DD055B000000	10.10.10.3	24B657F8B332	0	6	0	48	38	37	52
.ıl	99.97%	Master Bedroom	28C2DD066B000000	10.10.10.4	24B657F8B332	0	6	0	39	35	33	43

Health		A score that grades the performance of each device. This score includes numerous metrics such as retry rates, success rates, button press success and failures, health packet data, and a host of other metrics. This number should be 99% or higher for a system that is at peak performance. Hovering over the Health icon opens the pop-up window shown below: 99.96% Kitchen Lost Health Request Rate: 1.183% **Lost Health Request Rate** - Percentage of time the selected lighting device was offline during the day starting from 12:00 AM that day. This metric is taken from the Host and should be a very low number. Subtracting this number from 100% will provide the lighting devices availability rate.
Name		The label given to the lighting device in Blueprint. A user enters this label.
Uid		The Unique ID of the lighting device. The Uid is a 16-character hex number that identifies the lighting device
IP Addr		The IP Address given to the lighting device. Only IPv4 is supported
Bssid	BSSID	(Basic Service Set Identifier) Number that identifies the access point the lighting device is communicating with. The BSSID is broadcast by each access point and is typically the MAC Address of that product.
	# of Times Changed	Number of times the lighting device has switched access points. If the BSSID that the lighting device is constantly switching, a possible problem could be that the channel that the lighting device is using to communicate with the access point may overlap with a channel from another access point. In this case, change to a different channel. Two channels on the two access points might be overlapping causing the lighting device to switch between them.
Channel	Channel	Each access point can broadcast multiple channels. The channel shown is the channel the lighting device is communicating with the access point over. This was configured when the lighting device was provisioned to the network.
	# of Times Changed	Number of times the lighting device has switched channels that it is using to communicate with the access point.
Rssi	Current	The Received Signal Strength Indicator is a measure of the Wi-Fi signal received by the lighting device. The RSSI value is taken from the Wi-Fi module on the lighting device and is measured in -dBm. An RSSI value of -50 dBm or less indicates the received signal is very good. A low RSSI value could indicate the lighting device is too close to the Access Point.
	Average	Calculation of the average RSSI value since 12:00 AM. The RSSI calculation is reset every day at 12:00 AM.
	Max	The maximum RSSI value taken since 12:00 AM. The RSSI calculation is reset every day at 12:00 AM.
	Min	The minimum RSSI value taken since 12:00 AM. The RSSI calculation is reset every day at 12:00 AM.

Filter-By Examples

In the Wi-Fi Coverage graph there is a Filter By field. This field is used to filter what is viewed in a graph. Below are a few examples of filtering.

Example 1: Show devices connected to a specific Wi-Fi Access Point.

1. From the System Health [icon] page, select the Wi-Fi Coverage [icon] field.
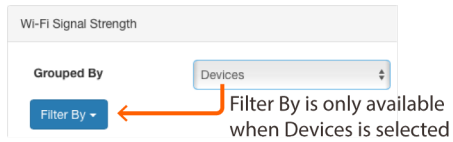
2. Select **Devices** from the Grouped By menu and the Filter By menu will appear.

3. Select **bssid** from the Filter By menu. Once bssid is selected, all the available access points (bssid) are displayed.
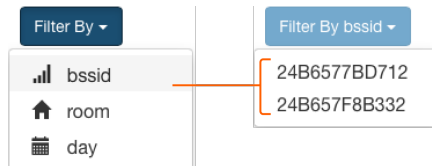
4. Select the access point (bssid). The graph that opens displays all the Devices connected to that Access Point. See image below.
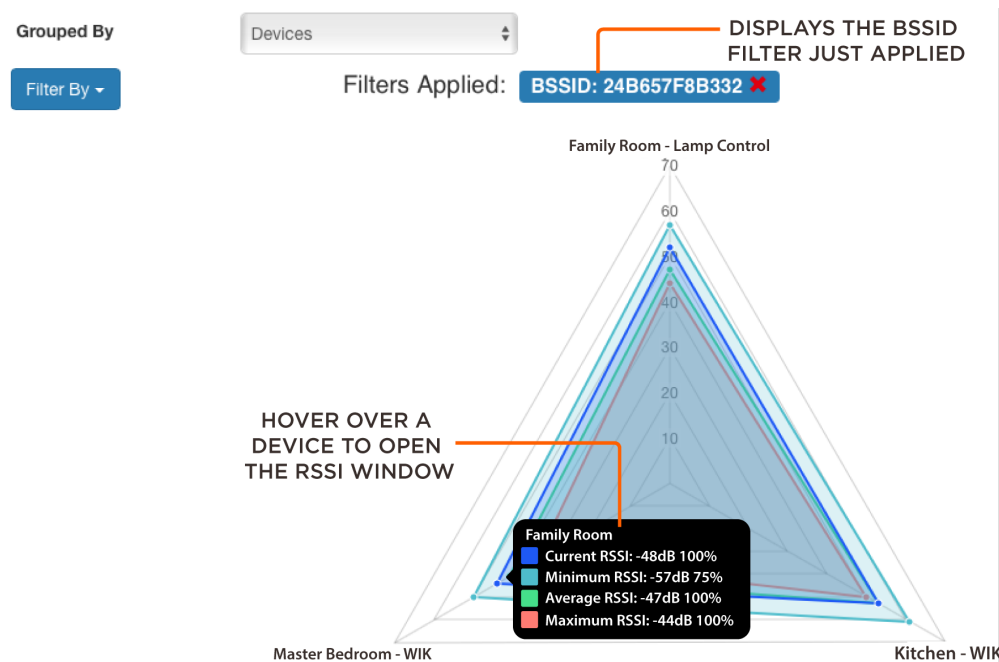
- The filters are added to the top of the graph.
- Select the **x** to remove filters. The RSSI graph automatically updates to show the changes.
- Hover over each device to display pop-up with RSSI values for that device.
- The table below the graph is not filtered. It still displays all devices.

Example 2: Show RSSI values for a device in the Family Room on the previous Tuesday.

1. From the System Health 🧰 page, select the Wi-Fi Coverage 📶 field.

2. Select **Devices** from the Grouped By menu and the Filter By menu will appear.

3. Select room from the Filter By menu. Once room is selected, all the available rooms are displayed. Select the room.
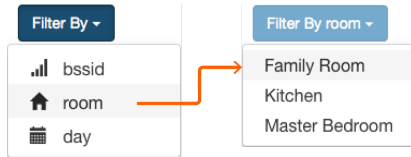
4. Select day from the Filter By menu. Once day is selected, the seven days prior to the current day are displayed. Select the day.
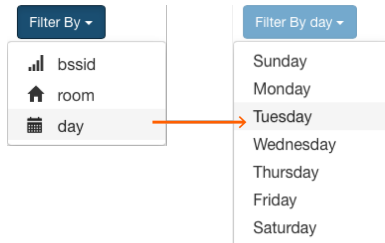
5. The graph that opens displays the RSSI values for the Devices in the Family Room on the previous Tuesday. See image below.
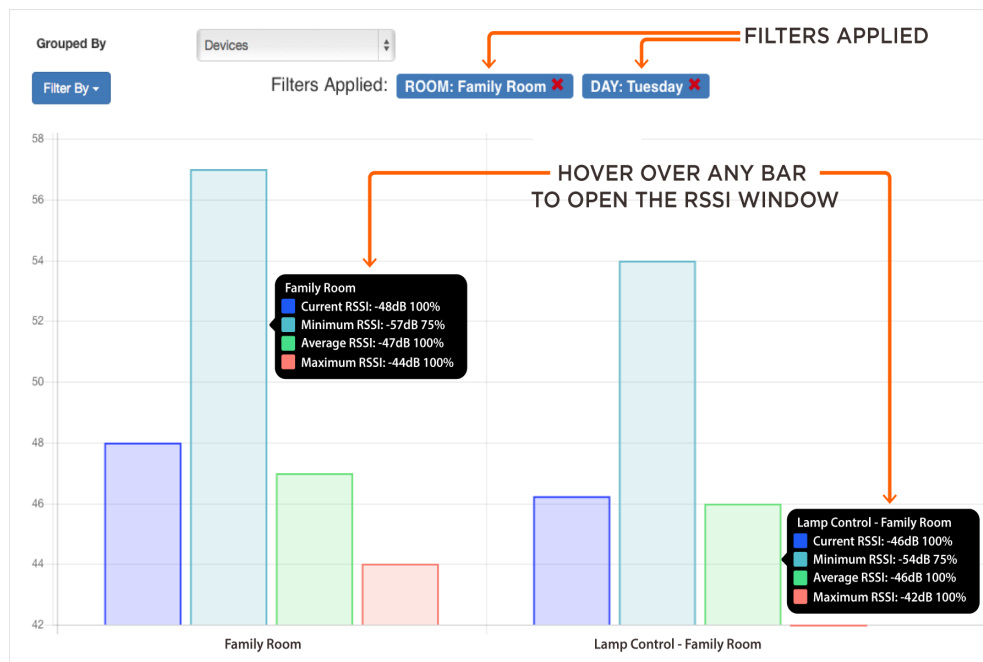
- The Current RSSI value (purple) is in real-time and will change as the RSSI value changes.

- The filters are added to the top of the graph.

- Select the **x** to remove filters. The RSSI graph automatically updates to show the changes.

- Hover over each bar to display pop-up with RSSI values for that device.

- The table below the graph is not filtered. It still displays all devices.

Device Quality

In addition to Wi-Fi Coverage, the Device Quality metrics for each of the lighting devices in the configuration is available. Select the Device Quality field from the System Health Main page to open a page showing device related information.

Weekly Load Event Results
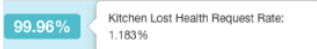
The Weekly Load Events Results graph gives Failure, Retry, and Success rates for the previous seven days. The results are an average of all lighting devices in the system.

Device Quality

Weekly Load Event Results

Wednesday
Failure Rate: 0%
Retry Rate: 0%
Success Ratel: 100%

HOVER OVER ANY BAR TO OPEN WINDOW TO LEFT
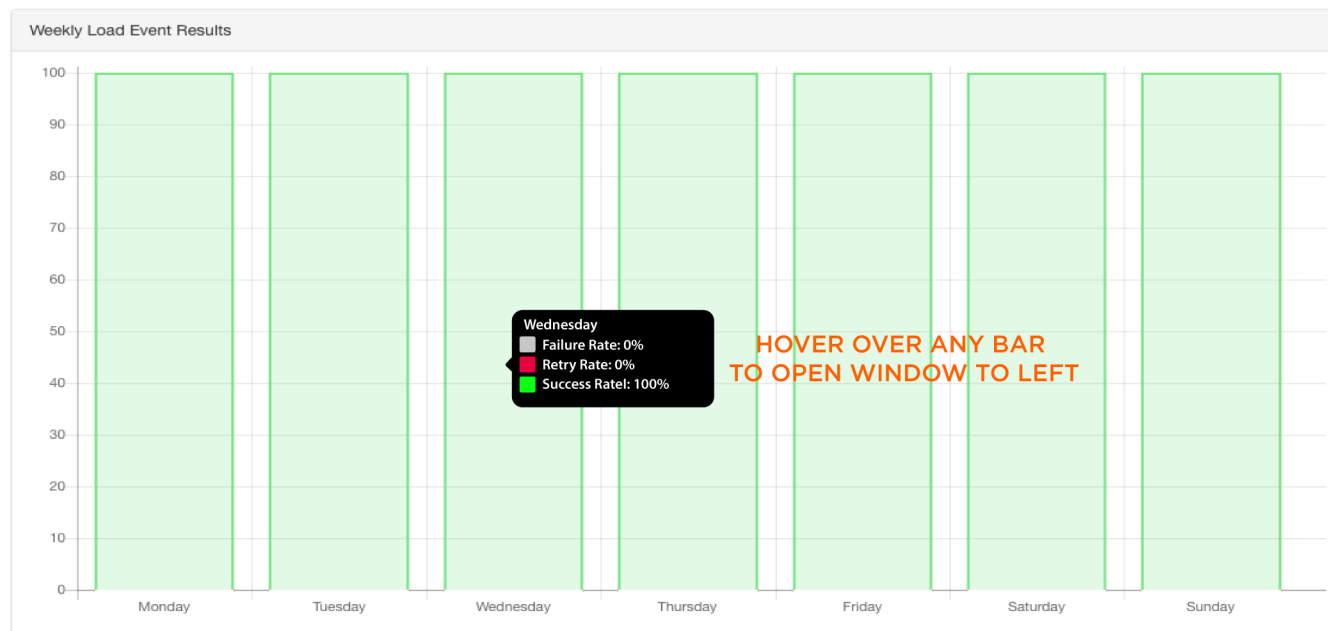
|	Health	Name	Uid	Button Events			Load Events			Lost Connections	Health Packets	
				Sent	Retries	Failures	Sent	Retries	Failures		Sent	Received
.ıll	99.63%	Lamp Control - Family Room	80A589604E61001E	0	0	0	3	0	0	3	13	13
.ıll	99.63%	Family Room	28C2DD055B39001D	4	0	0	3	0	0	3	13	13
.ıll	99.63%	Kitchen	40E230E2A3E0001D	0	0	0	3	0	0	3	13	13
.ıll	99.63%	Master Bedroom	28C2DD055BC9001D	0	0	0	3	0	0	3	12	12

↓ DESCRIPTIONS ON NEXT PAGE ↓

Health		A score that grades the performance of each device. This score includes numerous metrics such as retry rates, success rates, button press success and failures, health packet data, and a host of other metrics. This number should be 99% or higher for a system that is at peak performance.
		99.96% Kitchen Lost Health Request Rate: 1.183% - Hovering over the Health icon opens the Lost Health Request Rate window shown to the left.
		Lost Health Request Rate - Percentage of time the device was offline during the day starting from 12:00 AM. This metric is taken from the Host and should be a very low number. Subtract this number from 100% calculates the devices availability rate.
Name		The label given to the lighting device in Blueprint. A user enters this label.
Uid		The Unique ID of the lighting device. The Uid is a 16-character hex number that identifies the lighting device
Button Events	Sent	Messaging from a button event (press/hold/release) is sent from the Host to a lighting device. These events are counted and displayed in the Sent column. Button presses logged to the table lag the actual button press by about 20 seconds. See examples below.
		Example 1: A lighting device is set to Dimmer. The button is pressed/held/held/released. In this scenario, four button events are logged into the Sent column.
		Example 2: A lighting device is set to Toggle. The button is pressed and released. In this scenario, two button events are logged into the Sent column.
		ⓘ HELPFUL INFORMATION! Button events logged usually lag the button event by about 20 seconds.
	Retries	The number of times a button event (Press/Hold/Release) is retransmitted due to no response (ack) from the Host within an expected time frame during the day selected.
	Failures	The number of times a button event (Press/Hold/Release) failure is logged due to no response (ack) from the Host for the day selected.
Load Events	Sent	Messages sent from the Host to the lighting device to set the load level are counted and displayed in the Sent column. Load event updates to the table lag the button press event by about 1 minute. See examples below.
		Example 1: A lighting device is set to Toggle and has one load connected to it. The button is pressed and released so the light toggles On. In this scenario, one load event is logged into the Load Events column for that device.
		Example 2: A lighting device is set to Toggle and has three loads connected to it. The button is pressed and released so the light toggles On. In this scenario, three load events are logged into the Load Events column for that device.
	Retries	Number of times the Host retransmits the messaging to set the load level on a lighting device. The retries for a device are logged over a 24-hour period starting at 12:00 AM each day. However, when viewing the current day's logs, the retries are updated every minute if a response (ack) is not received. Load Event retries indicate a problem between the Host and lighting device and may require attention if numerous retries are logged.
	Failures	Number of times the Host has failed to set the load level on a lighting device. Load Event failures are logged over a 24-hour period starting at 12:00 AM each day. Load event failures indicate there is a problem between the Host and the lighting device and may require attention if numerous failures are logged.
		ⓘ HELPFUL INFORMATION! The Host will log a failure each time a retry is sent and no response (ack) is received within 16 seconds.

Lost Connections	Number of times the Host has lost connection to the lighting device. Lost Connections indicate a failure occurring between the Host and lighting device and requires attention if numerous events are logged.	
Reboots	Number of times the Host has rebooted during the selected day.	
Packets	Sent	Number of packets transmitted from the lighting device during the selected day.
	Received	Number of packets received by the lighting device during the selected day.
	Note: The relationship from Packet Sent to Packets Received should be very close to a 1 to 1 relationship. However, sometimes packets are missed and in some systems, these two metrics may not be equal.	

Recommendations

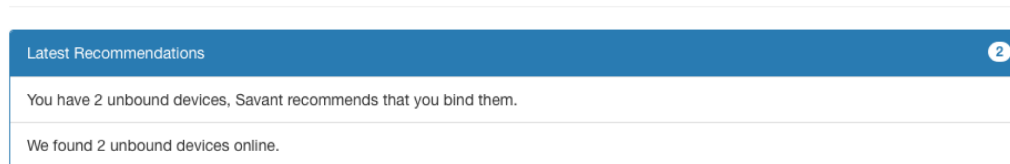Recommendations for any problems seen by System Monitor are added to the Recommendation field. Below is a sample of what would be displayed.

1. In the System Health main page, an alert such as the one below is displayed when there is a problem in the system.

Select this field to open the System Recommendations field shown below.

2. After viewing the alerts, the proper actions should be taken to fix the problem.

Message Monitor

The Message Monitor field enables a user to view Real time messaging going between the lighting devices and the Host.

Settings ⚙	**Display messages in non JSON (JavaScript Object Notation) human readable format** – Check this box so that the messages are formatted for easy reading.
	Show the date and time that message was received – Add or remove the Timestamp to the Message Monitor window.
	When scroll bar is at the bottom of the message response box, stick it there for new messages – When checked, the scroll bar will remain at the bottom of the window. When unchecked the scroll bar will float as the messages are streamed in the window.
	Add JSON message to monitor output – When the selection **Display messages in non-JSON readable format** is unchecked, a check automatically added to this field. When checked, the messages are formatted using JSON.
Clear Output	Clears the entire messaging field.
Disable Monitoring	Stops the messages from being streamed which reserves CPU processing power. The Message Monitor function should be disabled when not troubleshooting a problem.
Filter By	Enter a term into this field and only the messaging that includes the text entered will be streamed. This can be used to reduce the number of messages streamed when troubleshooting. For example, entering the Name of the lighting device results in only the messages with that name be displayed in the Message Monitor.
Timestamp	Timestamp of when the message was output. This can be removed from within the Settings ⚙ panel

Examples of Messaging

A few of the messages that can occur in the Message Monitor screen are described below.

Device State

Device network state is found Connected to 192.168.1.5 with RSSI of 50 Device: Kitchen	**192.168.1.5** - IP Address of Device **RSSI (Received Signal Strength Indicator)** – Strength of the received Wi-Fi signal in -dBm **Device: Kitchen** – The device is labeled Kitchen

Button Press and Release button on a Lighting Device
In the example below, a button on a dimmer is pressed. This toggles on the load connected to that device. The load is labeled Recessed Light Scene. When a load is triggered by pressing a button on a lighting device, the messages printed in the Message Monitor screen are shown in image below.

Message Output

LED indicator levels changed to 1111000011111100
Device: Family Room
Address: 001

LED Indicator - Last 8 bits correspond to the number of LEDs lit on front panel of device.

Device - Label given to lighting keypad in Blueprint.

Address - Address of the lighting keypad taken from the lighting data table.

Module set to 100
Device: Family Room
Address: 001

Module - Load was toggled to 100%

Device - Label given to lighting keypad in Blueprint.

Address - Address of the lighting keypad taken from the lighting data table.

Button press from button 1
Device: Family Room
Address: 001

Button release from button 1
Device: Family Room
Address: 001

Button with Address 001 was pressed and released

Module set to 100
Device: Family Room
Address: 001

RTC Out - Real Time Control Command message.

RLGLV
R - Real Time Control.
LG - Load Group
LV - Level

RTC Out - RLGLV,Recessed Lights Scene,1,100,1
RTC Out - RLGLV,All Off,2,0,0
RTC Out - RLGLV,movie,5,33,0
RTC Out - RLGLV,Room:Family Room,7,50,0
RTC Out - RLGLV,RoomMid:Family Room,8,50,0
RTC Out - RLGLV,RoomLow:Family Room,9,50,0

Scene - Lists the scene associated with the button pressed on either the lighting device or Savant apps.

1 - Button Identifier. Identifies the button from a Savant app that is associated with the pressed button.

100 - When a button is pressed, the level of power sent to the load is presented. Since each button has a scene linked to it, there could be more than one load within that scene. If there is more than one load, then an average of all the loads is presented.

1 - State of the scene (1=Active, 0=Not Active)

Below are the scenes and their levels. They can be used for reference for the examples below.

Recessed Lights Scene(Load) – 100%
Corner Lamp Scene (Load) – 100%
Table Light Scene (Load) – 100%

Movie Scene (Custom)
– Recessed Lights Scene – 75%
– Corner Lamp – 25%
– Table Light – 100%

All Off (Custom)
– Recessed Lights Scene – 0%
– Corner Lamp – 0%
– Table Light – 0%

RTC Out is described line by line below.

First Line: RTC Out, Recessed Lights Scene, 1, 100, 1
– **1** = Savant app button identifier. How the Savant apps identify each button.
– **100** = The Recessed Lights scene has one load and that load was powered to 100%
– **1** = State of the scene (1=Active)

Second Line: RTC Out, All Off, 2, 0, 0
– **2** = Savant app button identifier. How the Savant apps identify each button.
– **0** = The All Off scene has all its loads set to 0%. This includes the Recessed Light scene. Therefore 0 is displayed.
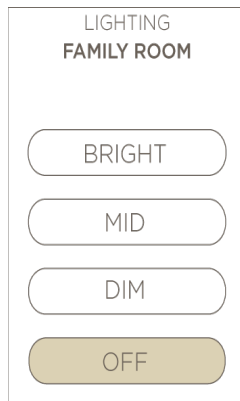– **0** = State of the scene (0=Not Active)

Third Line: RTC Out, movie, 5, 33, 0

- **5** = Savant Pro App button identifier. How the Savant Pro App identifies each button

- **33** = The movie scene includes three scenes (Recessed Light Scene, Corner Lamp Scene, Table Light Scene) therefore all power levels are included in the calculation. In this example, only the Recessed Light is powered and it is powered to 100%. Therefore, the average of the loads in the scene that are active is calculated. See calculation below.

  (Recessed = 100% + Corner Lamp = 0%, Table Light = 0%) / (Active Load Level / # of loads) → (100+0+0/3=33)

- **0** = State of the scene (0=Not Active)

Fourth, Fifth, and Sixth Line: RTC Out, Room 7 or 8 or 9, 50, 0

- **7/8/9** = Savant Pro App button identifier. How the Savant Pro App identifies each button.

- **50** = The room that includes the load for the Recessed Lights Scene also has a second load in it (Corner Lamp). The average of the loads in that room is calculated and displayed. See calculation below.

  (Recessed = 100% + Corner Lamp = 0%) / (Active Load Level / # of loads) → (100+0/2=50)

- **0** = State of the scene (0=Not Active)

🛈 **HELPFUL INFORMATION!** In the message monitor image above, **Room:Family Room**, **RoomMid:Family Room**, and **RoomLow:Family Room** are displayed. This is due to the dimmer having a Low Medium, and High setting. Therefore, button Identifiers 7, 8, and 9 are included in Message Monitor. Image below is from the Savant App and shows the different states.

```
          LIGHTING
        FAMILY ROOM

       ┌──────────────┐
       │    BRIGHT    │
       └──────────────┘
       ┌──────────────┐
       │     MID      │
       └──────────────┘
       ┌──────────────┐
       │     DIM      │
       └──────────────┘
       ┌──────────────┐
       │     OFF      │
       └──────────────┘
```

Button Press and Release of a Custom Scene from the Savant App

In the example below, a custom scene labeled **movie** was selected in the Savant Pro App. Within this scene, there are three loads linked to it (Recessed light Set to 75%, Corner light set to 25%, Table light set to 100%). Below are the messaging printed when the movie scene button is selected.

Message Output
LED indicator levels changed to 0011100011111100
Device: Kitchen
Address: 003
LED indicator levels changed to 0000000011111000
Device: Family Room
Address: 001
Module set to 75
Device: Family Room
Address: 001
Module set to 25
Device: Lamp Control - Family Room
Address: 002
Module set to 100
Device: Kitchen
Address: 003
RTC Out - RLGLV,Recessed Lights Scene,1,75,0
RTC Out - RLGLV,All Off,2,0,0
RTC Out - RLGLV,Corner Lamp Scene,3,25,0
RTC Out - RLGLV,Table Light Scene,4,100,1
RTC Out - RLGLV,movie,5,67,1
RTC Out - RLGLV,Room:Family Room,7,50,0
RTC Out - RLGLV,RoomMid:Family Room,8,50,0
RTC Out - RLGLV,RoomLow:Family Room,9,50,0
RTC Out - RLGLV,Room:Kitchen,10,100,1
RTC Out - RLGLV,RoomMid:Kitchen,11,100,0
RTC Out - RLGLV,RoomLow:Kitchen,12,100,0

LED Indicator - Last 8 bits correspond to the number of LEDs lit on front panel of device.

Device - Label given to lighting keypad in Blueprint.

Address - Address of the lighting keypad taken from the lighting data table.

Module - Output level sent to each load in the movie scene.

Device - Label given to lighting keypad in Blueprint.

Address - Address of the lighting keypad taken from the lighting data table.

RTC Out - Real Time Control Command message.

RLGLV
R - Real Time Control.
LG - Load Group
LV - Level

Scene - Lists the scenes associated with the button pressed on either the lighting device or Savant apps.

1 - Button Identifier. Identifies the button from a Savant app that is associated with the pressed button.

75 - When a button is pressed, the level of power sent to the load is presented. Since each button has a scene linked to it, there could be more than one load within that scene. If there is more than one load, then an average of all the loads is presented.

0 - State of the scene (1=Active, 0=Not Active)

Below are the scenes and their levels. They can be used for reference for the examples below.

Recessed Lights Scene(Load) – 100%
Corner Lamp Scene (Load) – 100%
Table Light Scene (Load) – 100%

Movie Scene (Custom)
– Recessed Lights Scene – 75%
– Corner Lamp – 25%
– Table Light – 100%

All Off (Custom)
– Recessed Lights Scene – 0%
– Corner Lamp – 0%
– Table Light – 0%

RTC Out is described line by line below.

First Line: RTC Out, Recessed Lights Scene, 1, 75, 0

– **1** = Savant app button identifier. How the Savant apps identify each button.

– **75** = The movie scene has three loads associated with it (Recessed Lights = 75%, Corner Lamp = 25%, Table Light = 100%). The Recessed Light load within the movie scene is set to 75%. Therefore, 75 is printed in the message monitor.

– **0** = State of the scene (0=Not Active)

Second Line: RTC Out, All Off, 2, 0, 0

– **2** = Savant app button identifier. How the Savant apps identify each button.

– **0** = The All Off scene has all its loads set to 0%. This includes the Recessed Light scene. Therefore 0 is displayed.

– **0** = State of the scene (0=Not Active)

Third Line: Corner Lamp Scene, 3, 25, 0

- **3** = Savant Pro App button identifier. How the Savant Pro App identifies each button

- **25** = The movie scene has three loads associated with it (Recessed Lights = set to 75%, Corner Lamp = set to 25%, Table Light = 100%). The Corner Lamp load within the movie scene is set to 25%. Therefore, 25 is printed in the message monitor.

- **0** = State of the scene (0=Not Active)

Fourth Line: RTC Out, Table Light Scene, 4, 100, 1

- **4** = Savant Pro App button identifier. How the Savant Pro App identifies each button.

- **100** = The movie scene has three loads associated with it (Recessed Lights = set to 75%, Corner Lamp = set to 25%, Table Light = 100%). The Table Light load within the movie scene is set to 100%. Therefore, 100 is printed in the message monitor.

- **1** = State of the scene (1=Active).

Fifth Line: RTC Out, movie, 5, 67, 1

- **5** = Savant Pro App button identifier. How the Savant Pro App identifies each button.

- **67** = The movie scene has three loads associated with it (Recessed Lights = set to 75%, Corner Lamp = set to 25%, Table Light = set to 100%). All three are active when the movie scene is triggered. Therefore, the average of the active loads in the scene is calculated. See calculation below.

  (Recessed = 75% + Corner Lamp = 25%, Table Light = 100%) / (Active Load Level / # of loads) → (75+25+100/3=67)

- **1** = State of the scene (1=Active).

Sixth, Seventh, and Eighth Line: RTC Out, Family Room 7 or 8 or 9, 50, 0

- **7/8/9** = Savant Pro App button identifier. How the Savant Pro App identifies each button.

- **50** = The movie scene that was selected includes two loads from the Family Room (Corner Lamp=75%, Recessed Light=25%). The average of the loads in that room is calculated and displayed. See calculation below.

  (Recessed = 75% + Corner Lamp = 25%) / (Active Load Level / # of loads) → (75+25/2=50)

- **0** = State of the scene (0=Not Active)

ℹ️ **HELPFUL INFORMATION!** In the image above, **Room:Family Room**, **RoomMid:Family Room**, and **RoomLow:Family Room** are displayed. This is due to the dimmer having a Low Medium, and High setting. Therefore, button Identifiers 7, 8, and 9 are included in Message Monitor. See image below.

LIGHTING
FAMILY ROOM

BRIGHT

MID

DIM

OFF
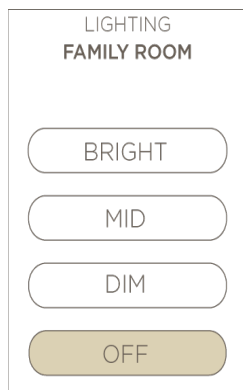
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