SAVANT

Component Profile Tool and Profiler Software

Reference Guide

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Contents

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1. Introduction

Profiler Software / Component Profile Tool Overview

The Component Profile Tool and Profiler software contain all the components required to create and modify the .xml profiles that RacePoint Blueprint uses when communicating with the components in its Component Library.

The Profiler software is installed onto the Savant Development Environment (MacBook®) and is opened through the Savant Application Manager (SAM). The Component Profile Tool and Profiler software work together to create and modify the .xml profiles used in RacePoint Blueprint®.

.xml profile

A profile is an .xml file. Within this .xml file is a list of characteristics specific to a piece of equipment or device such as a DVD player, television, blu-ray player, and a host of other products that can be controlled using the Savant Control System. Information such as volume up, volume down, power on, and power off are just a few of the potentially hundreds of characteristics that make up the profile. Any piece of equipment that will be controlled by the Savant Control System will require a profile. For additional information on what a profile is, how the file is structured, and how it functionally works with RacePoint Blueprint, refer to the ***Component Profile Developers Guide - Part 1 and Part 2***

When adding a piece of equipment to the Savant Control System that is currently not part of the RacePoint Blueprint® **Component Library**, one of the two methods below must be employed.

1. **Utilizing an existing profile** - Use an existing .xml profile from a piece of equipment that already exists in the **Component Library** of the RacePoint Blueprint **Component Library**. This existing profile was originally created for a product that is similar but not the exact. An example would be two TVs made by the same manufacturer. One is a 22 inch model and the second is a 36 inch model. In this case the existing profile in RacePoint Blueprint will probably work but minor modifications may be required.
2. **Create a new profile** - No profile for the equipment exists and a profile needs to be created from scratch using the Profiler software.
3. **Testing a profile** - Any profile that is created or modified can be tested to verify it works as required.

In all cases, the Savant Profiler software can be used. The Savant Profiler is a software tool that gives users the ability to create or modify profiles. Once the profile has been created or modified, it is then saved into a **User Library** that you create. The **User Library** and all created profiles can then be dragged into the RacePoint Blueprint application for use.

Reference Guide Overview

This reference guide starts by describing the features of the Profiler software and how it is used to create a profile. It then describes how a Savant controller is used to create, modify, and test an existing profile. Refer to either the Table Of Contents or the Checklist in the next section to navigate to the specific section of the guide.

2. Reference Guide Checklist

Use the checklist below to navigate through the Reference Guide.

1. Install and Start Profiler Software .... ☐
   - A. Install Profiler Software
   - B. Start Profiler Software

2. Create a Profile - Create a Profile using Profiler Software .... ☐
   - A. Gather Product Information
   - B. Configure Profile Info Tab (Step 1)
   - C. Configure Control Interfaces Tab (Step 2)
   - D. Configure Inputs and Outputs Tab (Step 3)
   - E. Configure Default Assignments Tab (Step 4)

3. Testing a Profile .... ☐
   - A. Testing a Profile - Hardware Connections
   - B. Testing a Profile - Create a User Library
   - C. Testing a Profile - Configure Resource Actions tab to send commands

4. Modify a Profile .... ☐
   - A. Modify a Profile - Hardware Connections
   - B. Modify a Profile - Load profile into User Library
   - C. Modify a Profile - Configure Resource Actions tab to collect the IR Commands

3. Before You Begin

Requirements

Requirement	Description
Supported Operating Systems	Refer to the Quick Reference Guide (QRG) of the Component Profile Tool for OS information
Supported Releases	da Vinci 5.2.2 or higher

Supported Controllers

To test and modify the .xml profiles, the Profiler software communicates with the various 3rd party devices through a Savant controller. The table below displays the Savant controllers that have been tested and known to work with the Profiler software.

Controller
• Savant SmartControl 7 (SSC-0007-xx) - da Vinci 5.2.2 or higher • Savant SmartControl 8 (SSC-0008-xx) - da Vinci 5.2.2 or higher • Savant SmartControl 12 (SSC-0012-xx) - da Vinci 7.0

4. Install Profiler Software

The Savant Profiler software tool is installed with the da Vinci software. Once the da Vinci software has been installed, the Profiler can be opened.

⚠ **Important !!!**

The Profiler software is installed onto the Savant Development Environment (MacBook®) when the Savant da Vinci software is installed. It is important that the da Vinci software get installed using the Savant Application Manager (SAM). Once installed, the Profiler software as well as the utilities such as RPMTerminal and RPMEmbeddedScanner must all be launched through the Savant Application Manager. To do this, from the SAM menu bar, select **Launch** and scroll to the utility to open.
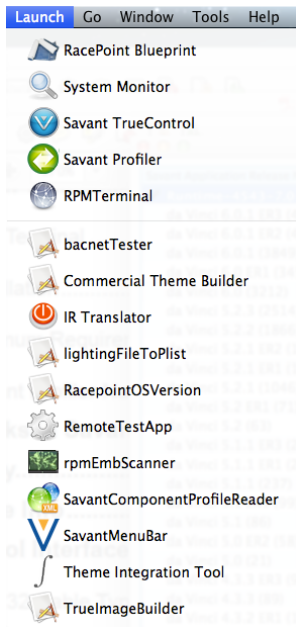
For reference, all software utilities installed on the Savant Development Environment (MacBook) are located here:

Macintosh HD > Users > (Mac User info) > Applications > RacePointMedia > Savant Profiler.app

Start Profiler Software

To open the Profiler, either select the Profiler Icon ⬤ from the Savant Application Manager window or select the Profiler icon from the **Launch** drop-down menu as shown above.

5. Profiler General Knowledge

The drop-down fields from the Savant Profiler menu bar are described in the section below.

File Menu

The **File** drop-down menu is described below. Only menu items that are specific to the Profiler Tool are described in the table below. However, general functions such as Print and Page Setup all still work.

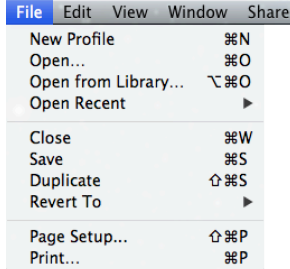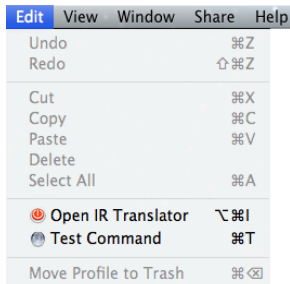| Menu Item	Description
New Profile	Opens a new instance of the Profiler software to begin creating a new .xml profile.
Open	Open an existing profile. Selecting **Open** will open a **Finder** window. Once open, you can browse to the appropriate profile.
Open from Library	Opens a new window labeled **Open from Library**. The main system library from Blueprint is listed as well as any user libraries created. This is a good tool for opening, locating, and modifying an existing .xml profile to work with the device being added to the Savant Control System.
Open Recent	Opens a second drop-down menu with all the profiles that were recently worked on or opened. A **Clear Menu** field is available to clear all recent files from the drop-down menu.
Close	Close the Savant Profiler application
Save	Save the .xml profile currently displayed in the Profiler software.
Duplicate	Creates a duplicate copy of the Profiler software with the profile loaded into the Profiler. The duplicate created is given a new version number. You cannot save the duplicate profile until notes are created in the **Profile Notes** window describing the changes made.
Revert To	Opens a drop-down menu that lists all the previous versions of the profile currently loaded along with last time the version was saved. Allows a user to go back to previous versions for troubleshooting purposes.

Edit Menu

The **Edit** Menu drop-down menu is described below. Only menu items that are specific to the Profiler Tool are described in the table below. However, general functions such as cut and paste all still work.

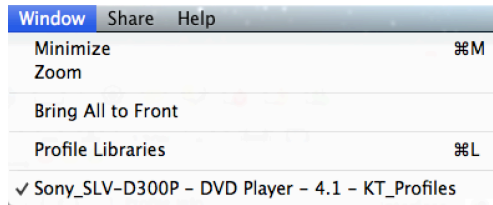| Menu Item	Description
Open IR Translator	Opens the IR Translator tool. Refer to the IR Translator section below for more information on using the IR Translator
Test Command	When a command in the **Command Table** is selected, the **Test Command** menu item will send the command to the device selected in the drop-down menu of the **IR Capture Device** box.
Move Profile to Trash	The **Move Profile to Trash** is grayed out until a profile is selected. Once a profile is selected, (typically during an **Open** or **Open Recent** command) choosing **Edit > Move Profile to Trash** will delete the profile.

Window Menu

The **Window** drop-down menu is described below. Only menu items that are specific to the Profiler Tool are described in the table below. However, general functions such as minimize and zoom all still work.


Menu Item	Description
Profile Libraries	Opens a **Profile Libraries** window. The System Library is automatically displayed along with any User Libraries created.

Additional Information on Profile Libraries

There are two types of libraries that handle profiles. Those libraries are described below along with how to add and remove libraries from the Profiler.

Ⓐ **System Library** - The **System Library** contains all profiles distributed with the software release. These profiles are available with each component in the component library in RacePoint Blueprint.

Ⓑ **User Library** - The second library type is the **User Library**. The **User Library** is initially created by the user and should contain the profiles you create or update. A User Library is added to the Profiler by selecting from the menu bar **File > Open from Library** and the **Open from Library** window appears as shown below. Adding the User Library to RacePoint Blueprint is described in the next section labeled Add User Libraries to RacePoint Blueprint.

Ⓒ **Adding and Removing Libraries** - To add a directory to the **Libraries** box, select the ⊞ . This will open a **Finder** window. Browse to the directory where the user created profiles are saved, select it, and press the **Open** button. The directory will be now be added as a **User Library**. All custom profiles stored in this directory will be displayed in the **Profiles** box to the right. To remove a library, highlight the library and click the ⊟ This will remove the chosen library.
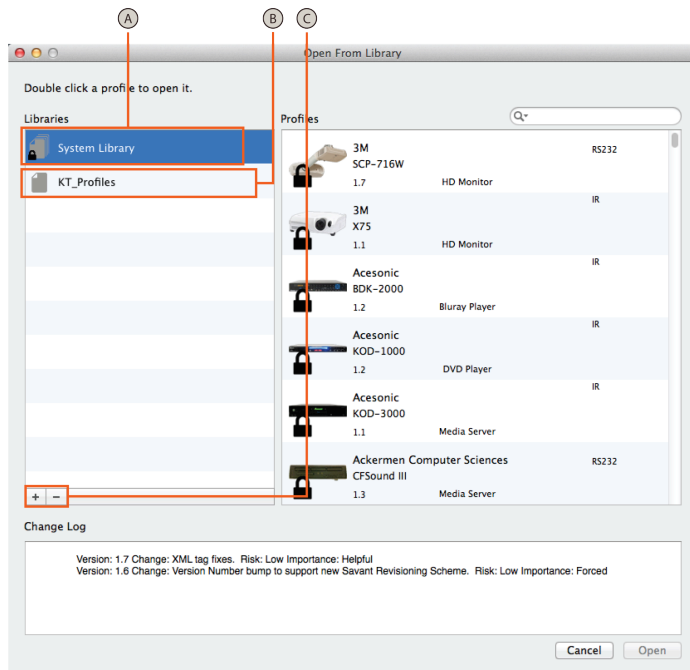
The Profile Library can also be accessed by selecting **Window > Profile Library** from the menu bar.
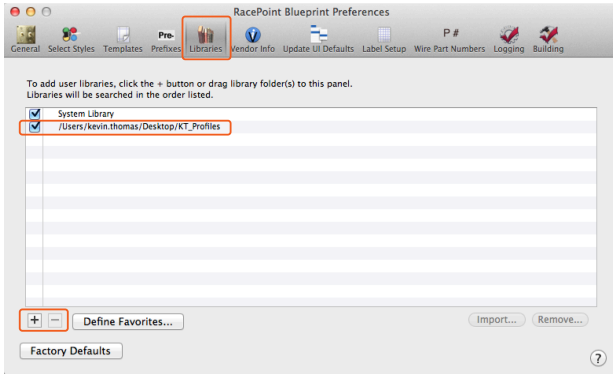
- A directory can also be added to the **Profile Library** by dragging and dropping the directory into the **Libraries** box.
- Hover over each directory in the **Libraries** box, this will display the path to that specific library.
- A profile from the **System Library** can be dragged and dropped into a **User Library**. Once in the **User Library**, it can be modified.

Add User Libraries to RacePoint Blueprint

Each **User Library** created can then be added to RacePoint Blueprint. Once added, the profiles added are available for use through the **Component Library** in RacePoint Blueprint.

To add a user library to RacePoint Blueprint, do the following:

1. Create a directory on your MacBook. Label it **Custom XML Profiles** or something similar.
2. Open the RacePoint Blueprint application.
3. From the menu bar, select **RacePoint BluePrint > Preferences** and the **RacePoint Blueprint Preferences** window appears.
4. Select the **Libraries** icon.
5. Add the **Custom XML Profiles** directory to the table shown below. To do this, drag and drop the **Custom XML Profiles** directory you created in step 1 into the **Libraries** window shown below. This will add the directory to the library along with a path to it. Refer to window below.
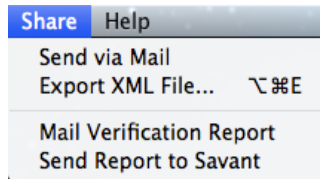

> **Note:** The User directory can also be added to the RacePoint Blueprint profiles libraries.

- Select ⊞ from the **Preferences** window. A browse window will appear.
- Browse to and select the custom .xml profiles directory you previously created. The directory along with all .xml profiles will be added.

Share Menu

The **Share** drop-down menu is described below. The table below describes each field.

Menu Item	Description
Send via Mail	A .zip file containing the .xml profile, a verification report, and icon file are copied into an email message. For this function to work, email must be configured for the current user.
Export XML File	The .xml profile is copied to a **Save** window. From the **Save** window, browse and select a directory to save the profile. This is an alternative to saving the profile into the Profile User Library described above.
Mail Verification Report	Selecting **Mail Verification Report** will open a new email window with the following recipient: To: Profile Reports <support@savantsystems.com> The email will include a **verificationReport.zip** file. This file includes the following: • An icon file that displays the 3rd party equipment the profile is being created or modified for. • The .xml profile with all modifications made • A verification report that displays the tests run during the testing of the profile
Send Report to Savant	Selecting **Send Report to Savant** will send the same report described above in the **Mail Verification Report** section to the Support Team through the Savant Portal. The **Send Report to Savant** feature is an easy way to share a created or modified profile with Savant. In addition to sending the report, a user can also create a Support Ticket. The Support Ticket will be created for the profile you are having issues with. **Note:** Report data is persistently stored, auto-saved, and follows the profile as it is moved between libraries or exported to a directory.

Step Indicator Tabs

The Step Indicator tabs on the Profiler aid a user when creating a profile. Start with the **Profile Info** tab and work down the Step Indicator Tabs to create a profile. Selecting the **Profile Info** tab opens the window shown below. Each section of the **Profile Info** tab is described in the table.

Profile Info Tab

(A)	Step Indicator tabs	To create a profile, a sequence of steps must be followed. The Step Indicator tabs allow a user to move through steps 1-5. As each tab is selected, information on the device or piece of equipment must be entered into the appropriate fields. To move to the next tab, select the next tab in the list or click the **Next** button.
(B)	Title Bar	When starting a profile, the title bar will display **Untitled**. After the profile is built and saved, the title bar will display: **Manufacturer - Model - Device type - User Library** Click the **Disclosure Triangle** and a dialog box appears with the following selections: **Duplicate** - Duplicate the existing profile and automatically up-rev the revision. **Lock** - Locks the .xml profile being created. When trying to save a locked file, a dialog box opens informing the user the file is locked. From the dialog box, the user can unlock the file or create a duplicate file to work with. **Browse All Versions** - Allows a user the ability to open earlier saved versions of the profile.
(C)	Device Information	High level information about the device that the user must enter. This information will all be added to the profile being created. **Device Type** - The device selected from the **Device Type** drop-down menu. **Manufacturer** - The device selected from the **Manufacturer** drop-down menu. **Model** - Model number of device entered in the **Model** field. **Alias (optional)** - Enter additional information that describe the device. This field is optional. **Zones** - On multi-zone devices like a two or three zone receiver, select from the drop-down menu, the number of zones supported on the device. Up to 16 zones are supported per component profile.
(D)	Zone Names (optional)	Each Zone on the device is automatically labeled by the Profiler. The **Zone Names** field should rarely be modified. **Note:** The Profiler populates the **Zone Names** field based on the device class of the profile. Modifying the Zone Name, changes the logical component name which also changes the name of the states and service requests the profile produces since the state names are formatted as: <component name>.<logical component name>.<state name>
(E)	Image Placeholder	An image of the device can be added by dragging and dropping the image into the Image Placeholder box. Most image formats such as JPEGs, GIFs, and PNGs are supported. To remove the image, select the image and choose **Edit > Delete** from the Profiler menu bar.
(F)	Profile Notes	The **Profile Notes** window displays versioning information as well as any notes that a user adds. The notes are then added to the .xml profile.

Note: All fields in the **Profile Info** tab need to be populated before moving to the **Control Interfaces** tab.
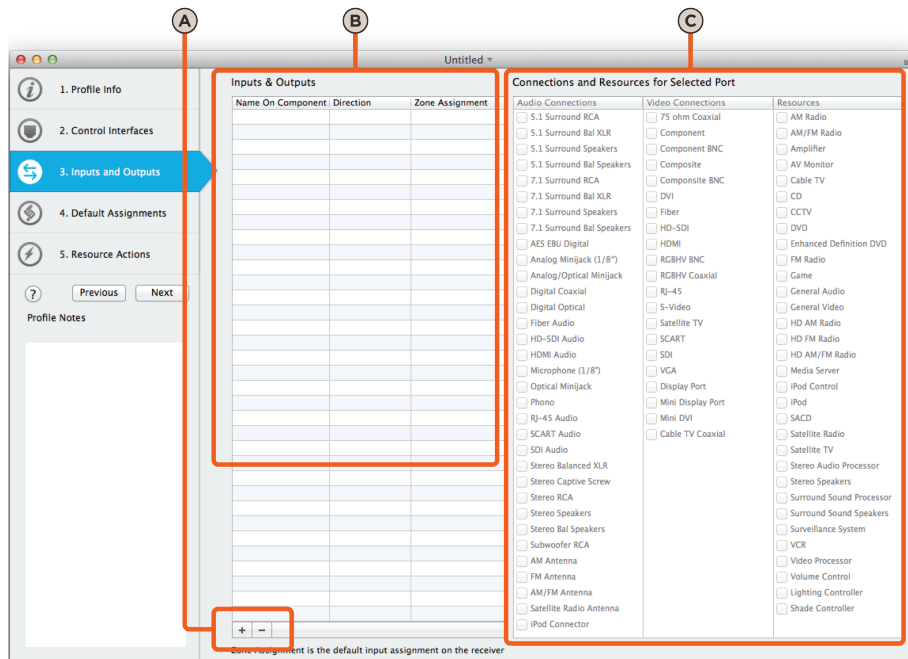
Control Interfaces Tab

The **Control Interfaces** tab specifies the properties of the 3rd party component's control interfaces. The three control interfaces supported are RS-232, IR, or IP. One or all interfaces can be selected at one time as long as the controller supports the interface. The information configured in this window is typically available on the manufacturer's website.

(A)	RS-232	**Connector Type** - Select the type of connector installed on the device being controlled.
		Name On Device - Enter a name that matches the label or silkscreen for the RS-232 port on the device being controlled.
		Flow Control - Select from drop-down menu the Flow Control specified for the RS-232 port of device being controlled.
		RS-232 Cable Type - The cable that connects the device to the Savant Control system is specified here. Depending on your setup, a Straight-Thru, Null Modem, or Custom cable is required.
		Default Baud Rate - The Baud Rate specified is the rate of transfer of the RS-232 data stream between the device and the Savant Control System. The baud rate specified for the device should be selected.
		Supported Baud Rate - If the device supports more than one baud rate, additional baud rates can be selected as a Supported Baud Rate. For example, a device may have a default rate of 115200 but allows you to change the baud rate to 9600. In this case, you should select the Default Baud Rate to be 115200. You can then select the baud rate 9600 from the **Supported Baud Rate** drop-down menu. This will set the **Default Baud Rate** as 115200 and 9600 will also be available in RacePoint Blueprint. Multiple baud rates can be selected and the **Default Baud Rate** cannot be disabled. **Note:** Lower baud rates improve data transmission over long cable runs.
		Parity - Select the parity bits as either None, Odd, or Even. Select whatever is specified for the device.
		Stop Bits - Select from drop-down menu the number of Stop Bits specified on the device.
		Data Bits - Select from drop-down menu the number of Data Bits specified on the device.
(B)	IP	**Name On Device** - Enter the **Name** that identifies the IP connection. Typically the name entered matches the label or silkscreen for the IP port of the device being controlled.
		Protocol - Select the protocol that is configured on the IP port of the device being controlled. **TCP (Default)** - IP protocol when controlling IP devices. TCP does not specify a default port number. **HTTP** - Default port is 80. In some cases 8080. **Telnet** - Default port is 23. **UDP** - UDP does not specify a default port. **Non Persistant TCP** - As in TCP, no default port is specified
		Port - The port can be a value from 1 to 65535. It is an integer but should be formatted without a thousands separator. Different protocols have default port values.
(C)	IR	The device supports Infrared signals such as signals coming from a remote.

Note: All fields in the **Control Interfaces** tab need to be populated before moving to the **Inputs and Outputs** tab.

Inputs and Outputs Tab

The **Inputs & Outputs** window is where the physical inputs and outputs on the device are configured into the profile.

(A)	+ −	Click + to add an input or output port to the .xml profile. The input or output being added will appear in the **Inputs and Outputs** table. Once in the table, it can be modified.
(B)	Inputs and Outputs	The **Input and Output** connections appear in this table when being added. Once added to the table, the name and characteristics of the connection can be modified. The columns are described below. **Name On Component** - Once the Input/Output has been added, double click the default name that appears in the **Name On Component** field. This will highlight the name and allow the user to modify. **Direction** - Select whether the connection is an Input, Output, or Internal. Refer to the **Additional Information** section below for more information on the **Internal** setting. **Zone Assignment** - The **Zone Assignment** can only be configured on an output connection. Any previous Zone Names defined in the **Profiles Info** tab above can be selected from the drop-down menu.
(C)	Connections and Resources for Selected Ports	The **Connections and Resources for Selected Ports** table adds services and resources to the Inputs and Outputs added. Click each box that pertains to the connection being added.

Additional Information:

Zone Assignments
- Zone Assignments only apply to output connections.
- The **Zone Assignment** field can be configured on more than one physical output connection. For example, two separate outputs, one labeled **ZONE 2 PREOUT** and second labeled **ZONE 2 SPEAKERS**, can both be assigned to the same zone.

Internal Inputs
- Internal inputs are not physical inputs on a device. An internal input is a virtual input but behaves like a physical input. Examples of Internal inputs would be the following:
  - A DVD player built into a TV. The DVD player will have a discrete command to select the DVD player input.
  - A media server built into a device.
  - Apps on a TV that have discrete commands that transfer directly to the App.

Resources
- The Resources associated with an input or output determine which services RacePoint Blueprint will generate when the inputs and outputs are connected. Typically, source devices like DVD players have their resources on their outputs. Sink devices, such as displays, have resources on their inputs.
  - For example, a Blu-ray player will have the resources Enhanced Definition DVD, DVD, and CD on both its audio and video outputs. Receivers have the volume control resource on their outputs because the volume function occurs on the outputs. However, on a display that has speakers (which may not have any output connectors) the volume control resource will be put on the inputs.
  - Lighting and Shade resources are reserved for lighting and shade controller device class devices, and do not follow the same A/V path resource logic. They are simply enabled or disabled for the whole component profile.
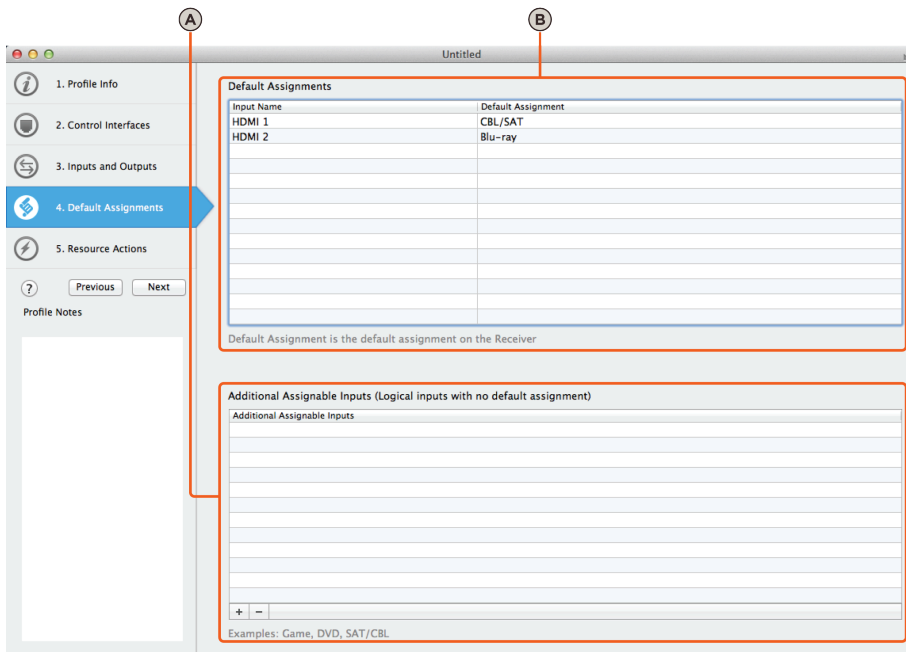
Default Assignments Tab

The **Default Assignments** tab is used on devices that typically have a physical input or inputs that are by default, mapped to a virtual source such as DVD or SAT/CBL. A device such as a DVD player that are strictly source (output) devices do not have default assignments configured in them.

The default assignment is set internally on each product so any time the virtual source is selected (like in an on screen display or physical button on the device), the source selected is linked to a physical input. The electronic connection made when selecting a virtual source is termed the **Default Assignment**.

Example:

An Audio/Video receiver has two A/V input connections labeled HDMI 1 and HDMI 2. In this receiver there are also two virtual sources selectable through an on screen display. They are labeled **SAT/CBL** and **Blu-ray**. Each time the source **SAT/CBL** is selected, the audio and video signal coming into the HDMI 1 input will be played through the receiver. If the source Blu-ray is selected, the audio and video signaling coming into the Blu-ray player will be played through the receiver. Each connection made uses the default assignment configured internal to the Audio/Video receiver. This determines which input will be played.

The Default Assignments in each device needs to be configured in the **Default Assignments** tab shown below.

(A)	Default Assignments	**Input Name** - The **Input Name** field is automatically populated with the input connections configured in the Inputs and Outputs Tab (Step 3).
		Default Assignment - Enter the virtual source that is linked to the specific input displayed in the **Input Name** field. In the Default Assignment window shown above, CBL/SAT is linked to HDMI 1 and Blu-ray is linked to HDMI 2.
(B)	Additional Assignable Inputs	The Audio/Video receiver may also support assigning additional input names. These are assignments that exist in addition to the assignments defined as a default assignment but do not have any physical inputs assigned to them.
		Any additional assignable inputs created will be available in RacePoint Blueprint. Once available, you can modify the assignment of an input from one logical input to another. For example, the receiver may have HDMI 2 programmed to the SAT/CBL input. In this scenario, the assignment of the SAT/CBL can be modified using Blueprint instead of having to reprogram the receiver to use its default input.

Resource Actions Tab

The **Resource Actions** tab is used to for the following:

- Test a profile by sending commands to a device using the IR Interface.
- Test a profile by sending commands to a device using the RS-232 Interface.
- Test a profile by sending commands to a device using the IP Interface.
- Capture commands (PowerOn, PowerOff, etc.) directly to the RPMTerminal.

A	Command Table	When a profile is loaded into the Profiler, all the commands in that profile are listed here. The table is separated into sections making it easy to locate a specific command. **Action Column** - Displays the commands available from the .xml profile loaded into the Profiler software. These could also be used as a single step in a workflow. **Repeat** - This column is not used for testing. The **Repeat** Column is the number of times the command is sent when the command is part of a workflow. To modify the value in the **Repeat** column, press the ⊖ ⊕ buttons. During testing, to send the command out three times, the **Test** button needs to be pressed three times. **Delay Column** - The delay is **NOT** used when testing the profile. The **Delay** entered sets a time in milliseconds between the command in the **Action Column** being sent and the next command in a workflow being transmitted. **Test Column** - Pressing the **Test** button sends the command string out the port selected in the **Interface** field of **Command Output Selection Box**. The Command String column contains a string of hex data (Not shown in window above). If there is no string displayed in this row, no command will be sent when **Test** is pressed. **Note:** The command strings are typically available through the manufacturer of the device.
B	Command Output Selection Box	**Interface** - This will display any control interfaces defined in the control interfaces section configured in the **Controller Interfaces** section above. The selections are **IR**, **RS-232**, and **IP**. **Zone** - The **Zones** of the product being controlled are listed in this drop-down menu. This menu is used to filter the number of commands displayed in the **Command Table** shown above. **Resource** - All the Resources selected in the **Inputs and Outputs** tab will be listed in this drop-down menu. Select a resource to filter the number of commands listed in the **Command Table**.
C	IR Capture/RS-232 Configuration Box	This box is a dual function box: • When **IR** is selected, a drop-down menu where you can choose the **IR Capture Device** such as the Global Cache IR Capture Device will be visible. Refer to the IR Translator section for information on capturing IR commands from a device such as a remote control to a TV. • When RS-232 is selected in the **Interface** drop-down menu, a Command Prefix and Command Postfix box appears allowing you to add characters to the beginning and end of the command string sent to the device being controlled. **Start Capture** - Press the **Start Capture** button to initiate the connection to the controller and RPMTerminal.

D	Profile Verification	The Profile Verification section is a way to keep track of which commands have been tested and whether they function as required. After testing a command, clicking the **Test State** Box will change the will change the color of the box. Green - Command works when sent to the device. Red - Command doesn't work when sent to the device. Command needs modifications. Gray - Command hasn't been tested. In addition to the green, red, and gray indicator boxes, a user can also enter comments about each command as well. Clicking the **….** in each command field will open an **Expected Results** dialog window. In this window, information such as what is expected to happen and the actual results can be documented. A report of the profile along with all updates and comments made can be sent to Savant for further analysis by the Savant Technical Support team. To submit a report, select Send Report to Savant from the Share menu. Refer to the Share Menu section in this document for more information on sending reports for analysis. **Note:** Report data is persistently stored, auto-saved, and follows the profile as it is moved between libraries or exported to a directory.
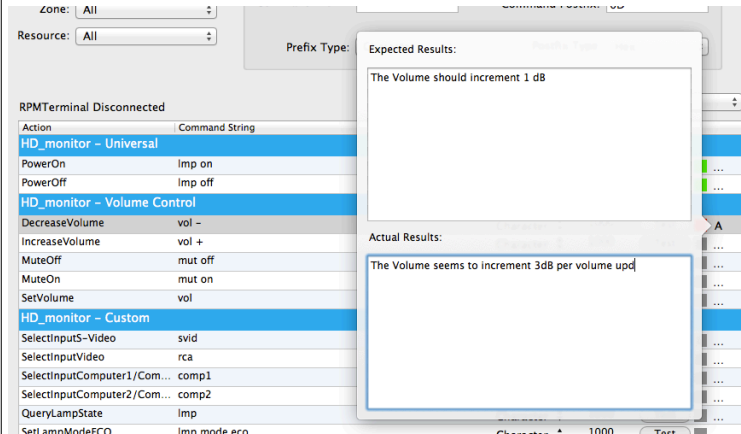
6. Creating a Profile (Example)

The information below walks you through creating a .xml profile.

Gather Product Information

The first step is to gather information about the product. In this example, a .xml profile for an LG High Definition Television is created.

Inputs	Outputs
RF Video	Digital Audio Out (Optical)
Component Video (Y, Pb, Pr) + Audio	Composite Video Output (DVD/VCR)
RGB In (D-Sub 15 pin) - PC	
PC Audio	
RS-232C (DB-9)	
Audio/Video (Composite)	
HDMI® / HDCP	
USB 2.0	

Once the information has been gathered you are ready to open the **Profiler** and create the profile. For demonstration purposes, the procedure below describes how to create just a few of the connections shown in the table above.

Start Profiler Software

To open the Profiler, refer to the Starting Profiler Software section above. The Profiler will open to the **Profile Info** window.

Configure Profile Info Tab (Step 1)

1. Select the **Choose Type** button. In the window that appears, select a device. If your device is not displayed, select a device that is closest to the product that the profile is being created for. For example, in this procedure **HD Monitor** was chosen since a High Definition Television is not listed.
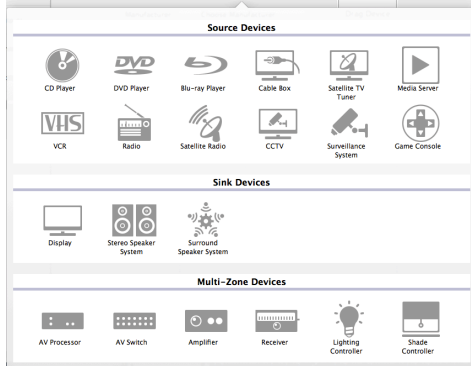
    Source Devices - Components that provide content that you watch or listen to.
    Sink Devices - Component that the source devices play to.
    Multi-Zone Devices - Components that can play separate audio sources to multiple rooms.

2. In the **Manufacturer:** field, select the **Choose Manufacturer** button. Scroll to and select the manufacturer.

    Note: If the manufacturer is not in the list, a custom manufacturer can be added. Select **Add New Manufacturer** from the list. In the window that appears, enter a name of the new manufacturer. The new manufacturer will be added at the top of the list in its own separate section.

3. Enter the model number of the product into the **Model:** field.
4. (Optional:) Enter into the **Alias (optional)** field, text to identify the product.
5. In the **Zones** drop-down menu, select the number of zones supported on the new device. This will also be reflected in the **Zone Names (optional)** field table below it. It is recommended that any zone names that are automatically populated by the Profiler be accepted and not modified. In this procedure, only one zone exists and the profiler automatically labeled it **HD Monitor**.
6. Drag an image file of the product into the **Drag Device Image** box. Most image files (png, jpg, tiff, etc) are supported.
7. The **Profile Info** window is complete. Continue on and select the **Control Interfaces** tab.

Configure Control Interfaces Tab (Step 2)

As described in the Control Interfaces Tab general knowledge section above, the **Control interfaces** tab configures which interfaces on the equipment are used communicate with the Savant controller in the system. This is a control interface and all commands to and from the product are transmitted through these connections.

1. Enter a checkmark into one or more of the **Control Interface** boxes along the top of the **Control Interfaces** window. The HD TV accepts both IR and RS-232 commands so both are checked in the image below.

- In the example, the equipment can be controlled through an RS-232 port or an IR port so both were checked.

    Note: Once RS-232 is selected, the fields below it must be configured to the specifications of the product. This information is typically found in a manufacturers specification table or through a support website.

    Refer to the Control Interfaces Tab above for information on the individual fields within each column in the **Control Interface** window displayed above.

2. When the interfaces have been configured, select the **Inputs and Outputs** tab.

Configure Inputs and Outputs Tab (Step 3)

The **Inputs and Outputs** tab is where the input and output connections on the equipment being controlled is configured. The steps below describe adding a couple of connections from the High Definition Television above. These connections are displayed in the Gather Product Information table above. For demonstration purposes, only two of the connections are explained.

Configure the HDMI IN connection (INPUT)

The procedure below configures an INPUT.

> ⚠️ **Important !!!**
>
> • In most instances the Profiler Tool automatically populates the required boxes in the **Audio**, **Video**, and **Resources** columns. However, in some instances, the user creating the profile may need to manually add checks to boxes. This is shown in the example below.
>
> • For additional information on each of the settings and fields referenced in the procedure below, refer to the Inputs and Outputs Tab information in the general knowledge section above.

1. At the bottom of the **Inputs & Outputs** table, select ⊞ to add a new connection.

2. Change the connection added to the **Name On Component** field to match the label or silkscreen that corresponds to the connection being added.

3. In the **Direction** column, select from the drop-down menu whether the connection is an **Input**, **Output**, or **Internal**. Input was selected since this is a audio/video input.

4. The **Zone Assignments** column is for Outputs only so it is not used in this example.

5. In the **Connections and Resources for Selected Port** table, the following was checked:
   • **HDMI Audio** was selected from the **Audio Connections** column. This automatically adds a check to the **Amplifier**, **Stereo Speakers**, and **Volume Control** boxes in the **Resources** column.
   • **HDMI** was selected from the **Video Connections** column. This automatically adds a check to the **AV Monitor** box in the **Resources** column.
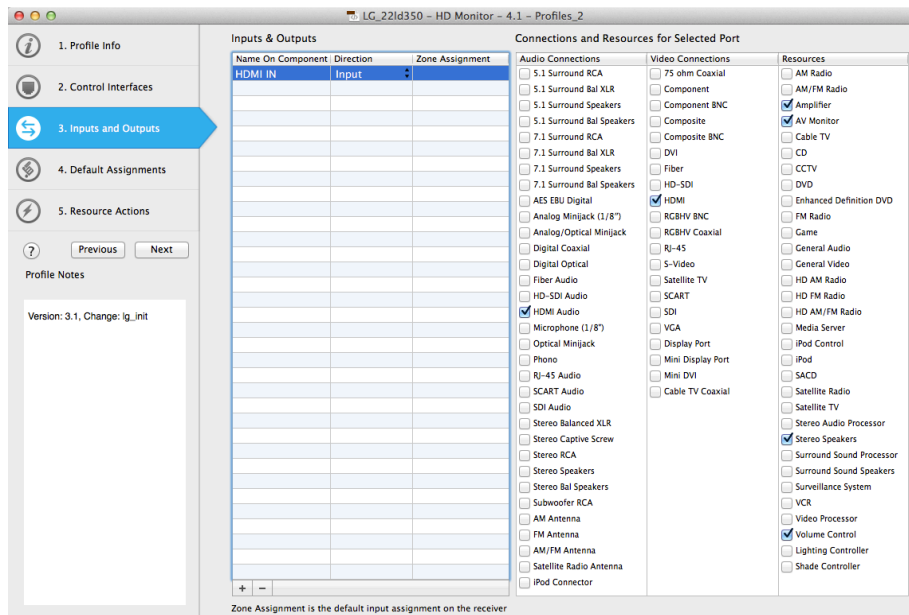
6. The **HDMI IN** connection is complete.

Configure a HEADPHONE Connection (OUTPUT)

The procedure below configures an OUTPUT.

1. At the bottom of the **Inputs & Outputs** table, select ☐ to add a new connection.
2. Change the connection added to the **Name On Component** field to match the label or silkscreen that corresponds to the connection being added.
3. In the **Direction** column, select from drop-down menu whether the connection is an **Input**, **Output**, or **Internal**. Output was selected since this is an audio output.
4. In the **Zone Assignments** column, the zone is automatically selected. If you prefer a different zone, select it from the drop-down menu.
5. In the **Audio Connections** field, **Analog Minijack (⅛")** was checked.
6. In the **Resources** column, **Volume Control** was checked since the volume can be controlled to the headphones.
7. The **HEADPHONE IN** connection is complete.
8. Continue to add all connections to the TV.

For more information, refer to the Inputs and Output section in the general knowledge section above.

9. Continue to the next step which is configuring the Default Assignments.

Configure Default Assignments (Step 4)

Add any Default Assignments to the available inputs. Since the device being configured is a sink device and the Default Assignments are commonly configured on a source device such as an A/V receiver, there are no Default Assignments required. If Default Assignments were being added, refer to the Default Assignments section above for more information.

Save Configuration

The .xml profile configuration is now complete. The configuration created should now be saved into a user directory that is created specifically for the .xml profiles created or updated. Follow the steps below to save the .xml profile.

1. Create a directory on your MacBook (SDE) that will contain all your custom profiles. In this example, a directory was placed onto the Desktop and it was labeled **Custom_Profiles**.

2. Go to the menu bar and select **File > Save…** A window like below will appear.
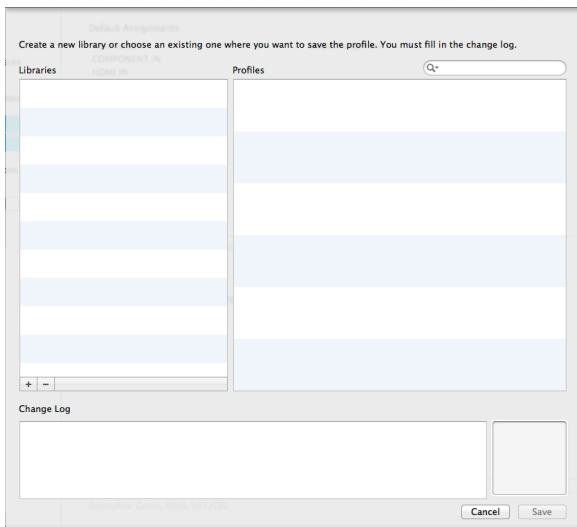
3. Select the ➕ from the Libraries window. In the Open window that appears, browse to the **Custom_Profiles** directory created above and select the **Open** button. The directory will now get added to the **Libraries** window.

4. Enter notes into the **Change Log** window. Once notes are entered, the **Save** button becomes active and can now be selected.

5. Click the **Save** button and the profile along with any images added will be saved into the directory created for the custom profiles.

The profile created above can now be tested. The testing is all done through the **Resource Actions** tab.
Before starting the testing, the hardware needs to be setup for testing and modifying the commands.
Continue to the next section for information on connecting, testing and modifying a .xml profile.

7. Testing/Modifying Profiles Overview

To test and modify .xml Profiles, some basic equipment is required:

- Savant Development Environment (SDE/MacBook®)
- Savant controller (Refer to the Supported Controllers section)
- Ethernet Cabling
- Local Network
- Profiler software loaded on SDE/MacBook.
- Control Cable (IR Repeater/Flasher, RS-232 cable with required Adapter, or Ethernet straight-thru cable).

Note: IR commands can be downloaded from the manufacturer and translated to a format that the Profiler software accepts. For information on translating IR commands, refer to the Translating an IR command in Appendix C:

Testing a Profile - Hardware Connections

Connect the hardware diagram shown below. Note that in the diagram, all possible controller port connections (IR, RS-232, and IP) are displayed. When testing a .xml profile, only one of the controller ports is necessary.

MacBook - SDE

To Ethernet on SDE

Local Network

Plug into Ethernet controller port of device the .xml Profile is being tested for.

IR Repeater/Flasher **Point at device the .xml Profile is being tested for.**

To IR Port 1

IR -1+ -2+ -3+   RELAY NC/C1/NO NC/C2/NO

Ethernet   RS232 1   2

12 VDC   **Power Supply**

-4+ -5+ -6+   G 1 2 G PD1PD2 GPIO

RS-232   **Plug into RS-232 port of the device the .xml Profile is being tested for.**

May require a Savant RJ-45 to DB9 adapter

- Connect an Ethernet cable from the Ethernet port on the rear of the MacBook to the Ethernet port of a switch, hub, or router installed in a local network.
  - **IR Port Testing** - To test a component through the IR port, connect the IR Repeater/Flasher to an IR port on the rear of the Savant controller. The IR Repeater/Flasher can be plugged into any IR port. The port number the Repeater/Flasher is plugged into is selected later during the testing process. Point the Repeater/Flasher towards the device the profile is being tested against.
  - **RS-232 Port Testing** - To test a component through the RS-232 port, connect an RS-232 cable from either RS-232 port 1 or port 2 on the Savant controller to the RS-232 port on the device the .xml profile is being tested against. Before plugging into the RS-232 port on the 3rd party device, verify whether a Savant Adapter is required. For information on the adapters offered through Savant and how each adapter is wired, refer to the Appendix A - RS232 section in this document.
  - **RJ-45 Port Testing (Ethernet)** - To test a component through the Ethernet port, plug an Ethernet cable from the Ethernet switch, hub, or router to the RJ-45 controller port on the device the .xml profile is being tested against.
- After all connections are made, apply power to the Savant controller by plugging the power supply adapter into a 120V AC wall outlet.

Additional Information

- Turn off Wi-Fi® on the MacBook. The Wi-Fi network on the MacBook interferes with the Profiler software and connection issues may occur. If Wi-Fi is turned on, the Profiler software will display the following error.
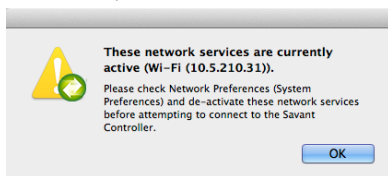
- In the network settings of the laptop, all network controllers should be disabled except the Ethernet service.
- If the MacBook is running Parallels®, the network services within the application must be disabled.
- The Ethernet switch/hub in the local network should NOT be a managed switch which has services such as spanning tree or VLANS. These services interfere with the communications. A simple unmanaged Ethernet switch or Ethernet hub is recommended.
- The MacBook, controller, and UUT should all be on the same subnet when testing.

Testing a Profile - Without Automator

Profiles may be tested directly from the host without using Automator by running a command. After connecting the hardware (see Testing a Profile - Hardware Connections), refer to the **Testing Component Actions Without Automator Application Note** located on the **Savant Community** for details.

Testing a Profile - User Library

Once the hardware is connected, the steps below describe testing a .xml profile taken from the **Component / System Library** in RacePoint Blueprint. The profile in RacePoint Blueprint is copied from the existing **Component / System Library** and loaded into a **User Library** that the user creates. The .xml profiles are copied to the **User Library** since the .xml profiles in the **Component/System Library** cannot be modified.

Create a User Library

⚠️ **IMPORTANT!!!**

The Profiler software needs to be started through the Savant Application Manager (SAM). Starting the Profiler software using anything other than SAM can produce erroneous network issues. Always start the Profiler through the Savant Application Manager (SAM).

1. Refer to the Install Profiler Software section for information on installing and starting the Profiler software.
2. Create a directory **(User Library)** on your MacBook (SDE) that will be used to store the custom profiles. Create the directory in a place that you can access it through the Profiler software. Refer to the Window Menu section above for information on the different libraries.
3. Once the directory **(User Library)** is created, RacePoint Blueprint is then configured to reference the **User Library** for custom .xml profiles. To do this, refer to the Add User Libraries to RacePoint Blueprint section above.

Copy Profile from System Library to User Library

1. From the **Profiler** menu bar, navigate to **File > Open from Library**. In the **Open From Library** window, you can do one of the following:

    • If the .xml profile being tested has already been copied to the **User Library**, highlight the **User Library** and double click the .xml profile. This will open a new **Profiler** window with the selected .xml profile loaded.

    • If the profile is NOT already loaded into the **User Library**, it must be copied there. The next few steps describe how to copy a .xml profile from the **System Library** to the **User Library**:

        - Select the **System Library** and a list of .xml profiles will appear in the **Profiles** window.

        - Search the **Profiles** window and find the .xml profile to be modified.

        - Select and drag the .xml profile from the **System Library** into the **User Library**.
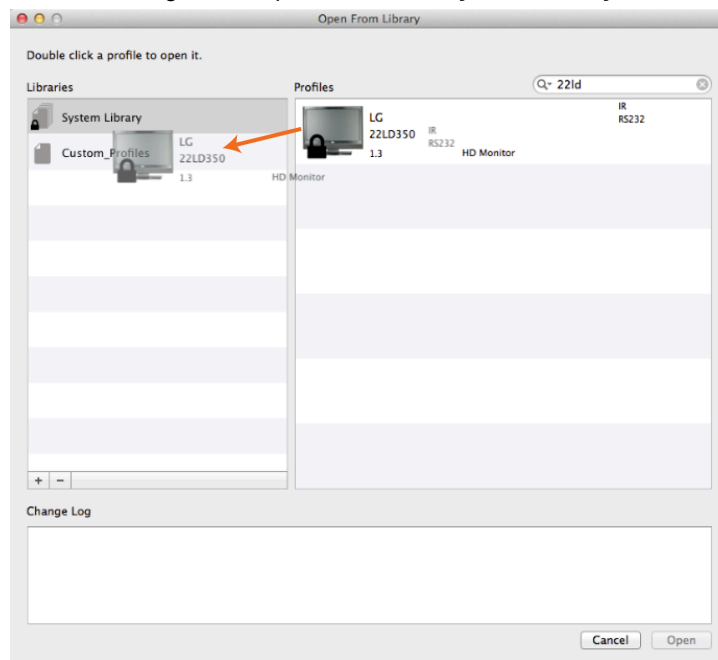
2. With the .xml profile now loaded in the **User Library**, select and highlight the **User Library**. The .xml profile just copied from the **System Library** will be available. Select the .xml profile and select the **Open** button. This will open the profile into a new **Profiler** window.

Testing a Profile - Configure Resource Actions Tab to send commands

With the profile loaded and saved in the **User Library**, it can now be tested. The section below will describe how to send commands to the device the profile is being tested against and view the commands using RPMTerminal.

Note: If there is a Savant host on the network and it is using the controller for other functions, the software running on the host must first be stopped before continuing.

1. In the Profiler software, select the **Resource Actions** tab.
2. From the **Interface** drop-down menu, select the port on the Savant controller that the commands will be sent through. In this example, **IR** was selected.
3. In the table that lists all the commands, find the command you would like to test. The **Zone** and **Resource** drop-down menus are available to filter the number of commands displayed in the table. Refer to image below.
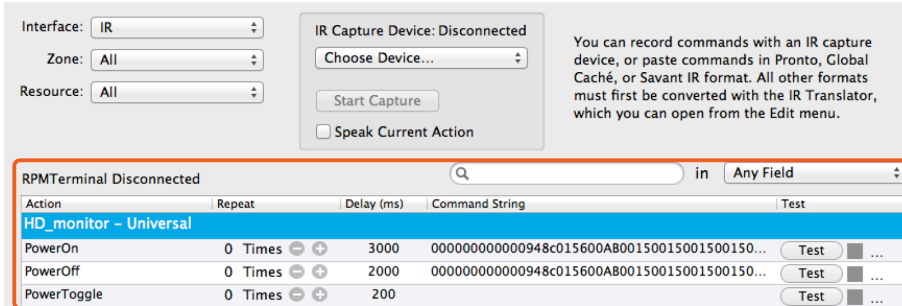
4. Once the command is located, select the **Test** button for the command. This will start the process of locating the Savant controller. The Profiler will scan the local network and display all the Savant products on the network. Locate the controller through the UID and product name and select it. The **Controller** drop-down menu will automatically populate the Savant controller selected. The image below selects the SSC-0012 controller. This however could be any of the Supported Savant Controllers in the network.
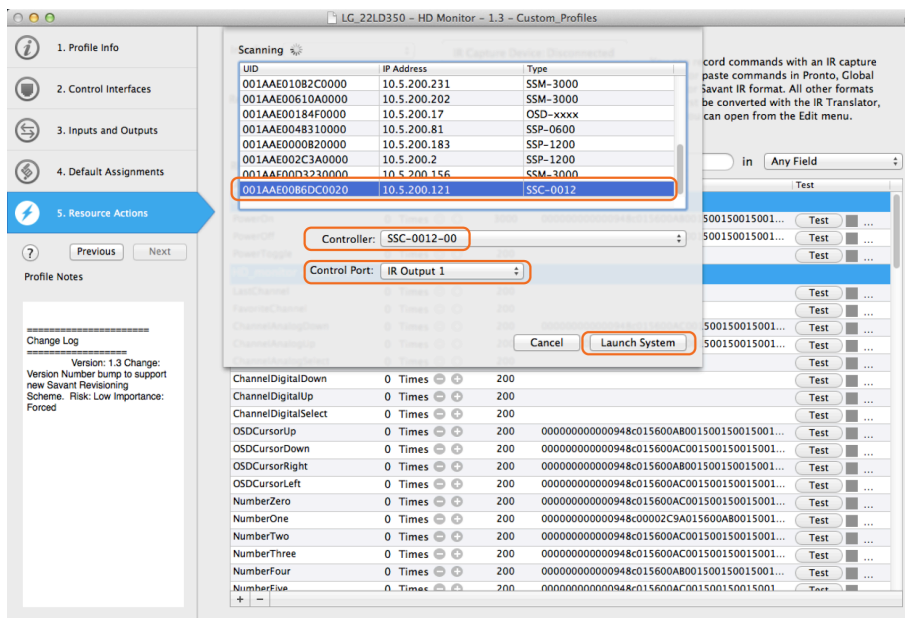
5. In the **Control Port** drop-down menu, select the IR Port the Repeater/Flasher is plugged into.
6. At this point, the RPMTerminal utility has opened and is now minimized to the docking station of the MacBook. Click the RPMTerminal application to open.
7. Select the **Launch System** button. The RPMTerminal will begin the process of connecting to the Profiler and Controller. **RPMTerminal Launching** is displayed just above the table displaying the profile commands.

8. Once connected, **RPMTerminal Connected** is displayed. and the RPMTerminal will display the connection process.

An RPMTerminal will open and display the controller connected to it.

9. To test a command, go back to the Profiler software and press the **Test** button next to the command you would like to send. The command selected is sent through the IR port to the device the profile is being tested against. If the hardware is connected properly, the command is sent and the 3rd party device should act accordingly.

10. To verify the command is being sent, view the RPMTerminal. A string of digits will be displayed each time the test button is pressed. The terminal below shows a few different commands being sent.

11. Send any command by pressing the **Test** button and verifying the command is executed correctly. If any of the commands do not work, they can be updated by capturing the commands using the Global Cache IR reader supplied with the kit. This is described in the Capture Commands to Profiler section below.

Modify a Profile - Capture commands to Profiler

The best method of creating an IR profile is to capture the codes directly from a 3rd party remote. This can be accomplished by sending commands through a Global Cache IR Learner, which are then translated and passed directly to the **Command String** field of the Profiler Tool.

Note: If you have manufacturing IR codes and need to translate them before adding to the Profiler, refer to Appendix C: IR Translator.
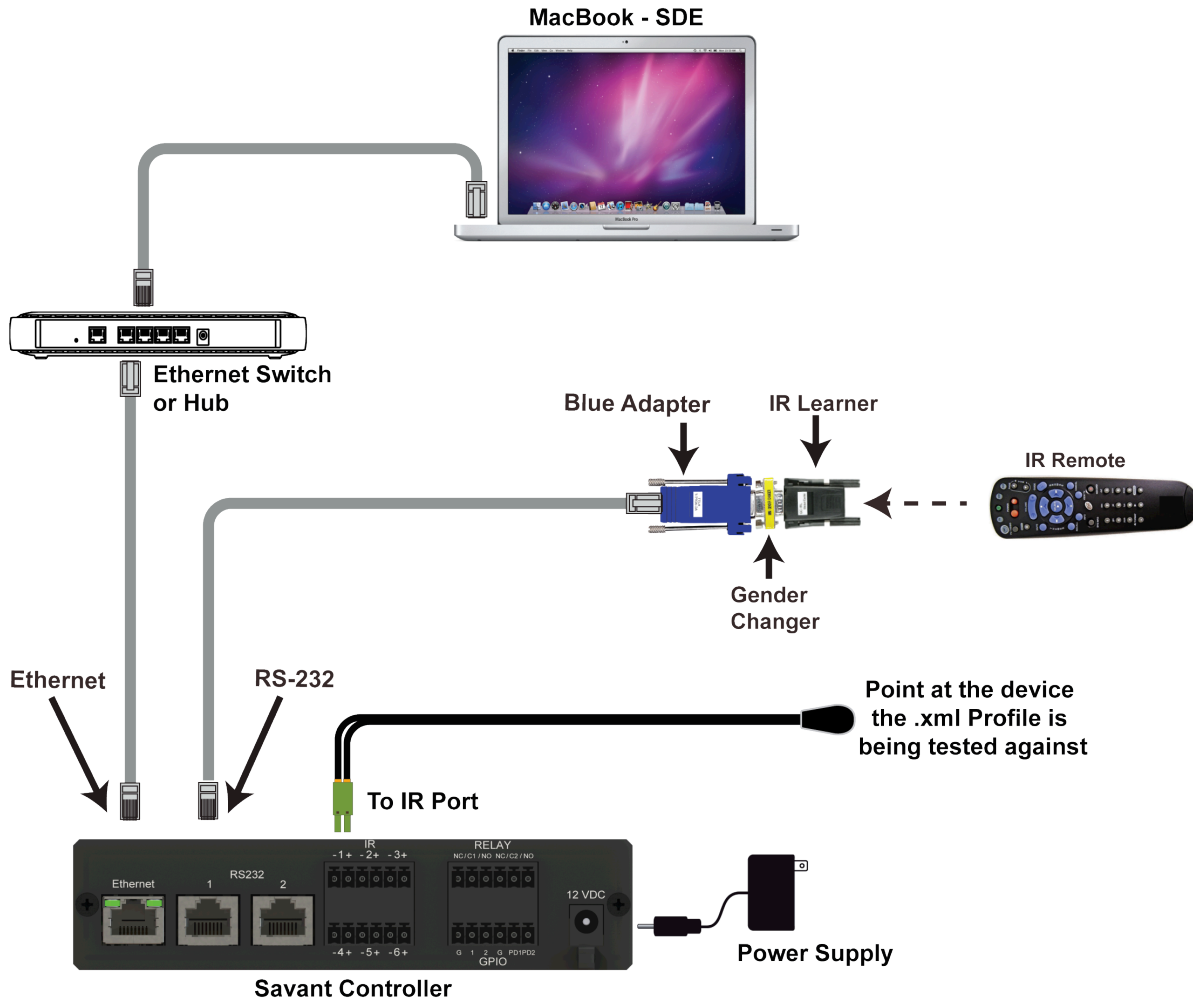
Connect Hardware

Connect the hardware.

1. Connect the Ethernet port from MacBook to a network switch, router, or hub.
2. Connect the Ethernet cable from network switch, router, or hub to Ethernet port on a supported Savant controller.
3. Connect a straight-thru Ethernet cable from the RS-232 port on the Savant controller to the blue RS-232 adapter. Refer to Appendix A for information on the adapters required.
4. With the 9-pin DB9 gender changer supplied, connect the blue RS-232 adapter to the IR Learner.
5. Plug an IR Repeater/Flasher to IR port 1 on the controller. This will be used to test the commands captured.

   Note: To test the commands, the IR port, RS-232 port, or the IP port can be used. This procedure uses the IR port.
6. Power on the controller by plugging the power supply into a 120V AC source.
7. Allow the controller to go through its startup diagnostics. The LED on the front of the controller will continually flash twice. This indicates the controller has acquired an IP Address.
8. **Optional:** If the Savant Application Manager (SAM) is installed on the MacBook, select SAM and from the menu bar, launch the **rpmEMBScanner** utility (**Launch > rpmEMBScanner**). In the list of devices in the scanner, verify the Savant controller has acquired an IP Address.

Load Profile into User Library

The first step is to load a profile into a **User Library** you created. Anytime a profile is going to be modified, it should be copied into the **User Library** and the original file kept separate. In the example below, the profile is copied from the **System Library** directly into the **User Directory**.

1. Create a directory on your MacBook (SDE). This directory will be used to store custom profiles you modify or create. Create the directory in a place that you can access it through the **Profiler** software. For information on creating and maintaining a **User Library**, refer to the Window Menu section above. The Testing a profile - Create User Library section also has information on creating and maintaining libraries.

2. With Profiler Software selected, go to **File > Open from Library**. In the **Open From Library** window, you can copy the profile from the **System Library** directly to the **User Library**. The next few steps describe loading the profile from the **System Library** to the **User Library**:
   - Select the **System Library** and a list of .xml profiles will appear in the **Profiles** window.
   - Search the **Profiles** window and find the .xml profile to be modified.
   - Select and drag the .xml profile from the **System Library** into the **User Library**.
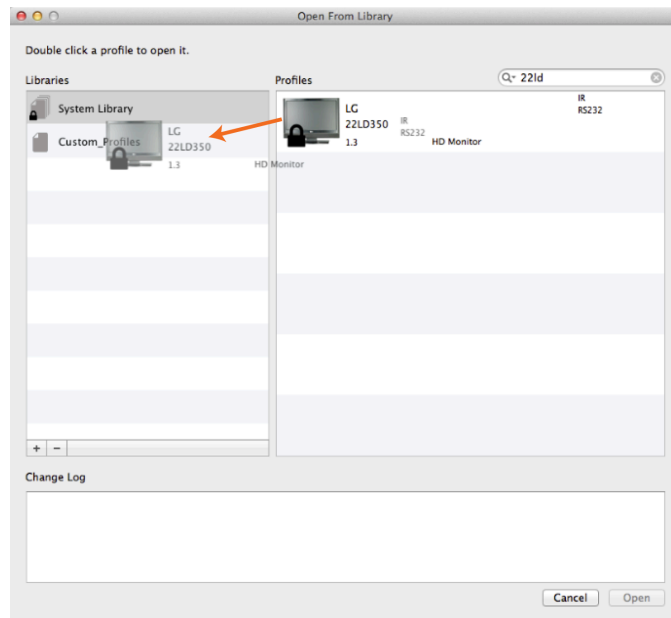
3. With the .xml profile now loaded in the **User Library**, select and highlight the **User Library**. The .xml profile just copied from the **System Library** will be available. Select the .xml profile and select the **Open** button. This will open the profile into a new **Profiler** window.

Configure Resource Actions tab to collect the IR Commands

The next step is to configure the IR Capture device box to accept commands from the IR Learner and input them directly into the **Command String** table.

1. Select the **Resources Actions** tab.
2. From the **Interface** drop-down menu, select **IR**.
3. In the **IR Capture Device:** box is a **Choose Device..** drop-down menu. Select **RPMTerminal** from the list.

4. Once RPMTerminal is selected, press the **Start Capture** button.
5. The **RPMTerminal** will automatically open and attach itself to the docking station on the MacBook. The Profiler will scan the local network and display all the Savant products on the network. Locate the controller through the UID and product name and select it. The **Controller** drop-down menu will automatically populate the Savant controller selected. The image below selects the SSC-0012 controller. However, this could be any of the Supported Savant Controllers in the network.

6. In the **Control Port** drop-down menu, select the IR Port the Repeater/Flasher is plugged into.
7. In the **Control Port:** drop-down menu, select the IR port the Repeater/Flasher is plugged into on the controller.
8. Select **Launch System** button when all settings are configured.
9. The Profiler will now connect to the Global Cache IR Learner (GC-IRL) through the controller. When the system is connected and ready, both the **IR Capture Device** and **RPMTerminal** will display Connected.

Note: Once the Global Cache IR Learner (GC-IRL) is communicating with the Savant controller, the Red LED on the face of the IR Learner will illuminate red.

10. In the Profiler software, select and highlight the command you would like to capture. In this example, the **Power Toggle** command is being added to the profile.

11. In the **IR Capture** box press the **Start Capture** button to start the capture process. The wording on the button will change from **Start Capture** to **Stop.**

12. Point the remote at the front of the Global Cache IR Learner (GC-IRL) device. Press the **Power Toggle** button and the command will populate itself as shown below.

13. To test the command that was just captured, press the **Test** button for the command just captured. The Profiler software will send the command through the IR Repeater/Flasher to the 3rd party device. The 3rd party device should act accordingly. Also, the command is sent to the RPMTerminal where it can be viewed.

14. To save the modified profile, from the menu bar, select **File > Save**.

15. In the dialog box that appears, enter a description of the modifications made and press **Save**. The file gets saved in the **User Library > componentProfiles** directory. This profile is now available in the RacePoint Blueprint application as long as the **User Library** is linked to Blueprint. Refer to the Add User Libraries to RacePoint Blueprint section above for information on this.

Appendix A - RS-232 General Information

The Controller RS-232 connections are used to transmit serial binary data to a device for control and receive serial binary data from devices to display current status on the user interfaces. Each port type can support multiple protocols that are determined by the logical connection within Blueprint.

Note: Savant recommends planning control connections and protocols to be used prior to building any cables and connecting equipment. This will ensure that devices will respond to commands and will not be damaged by an incorrect cable configuration.

RS-232 Pinouts
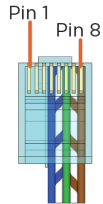
Pin 1:	-------	**Pin 5:**	**RXD (RS-232)**
Pin 2:	-------	**Pin 6:**	**TXD (RS-232)**
Pin 3:	-------	**Pin 7:**	**CTS (RS-232)**
Pin 4:	**GND (RS-232)**	**Pin 8:**	**RTS (RS-232)**

Pin 1
Pin 8

RJ-45 Connector
(Gold Pins Facing Up)

- Pins 7 & 8 are only required for CTS/RTS handshaking.

- Wire coloring is included to identify the pins used for this connection. Colors shown do not represent any wiring standard.

⚠ **IMPORTANT!** When wiring to this port, DO NOT connect any wires within the cable that are not required for communication.

RJ-45 to DB9 Adapters

Savant uses RJ-45 connectors for RS-232/422/485, other manufacturers devices may use the standard DB9. To make connection easy, Savant offers RJ-45 to DB9 adapters in a variety of configurations that can be used for RS-232/422/485 control. Be sure and choose the adapter that provides a proper connection to the devices RS-232/422/485 port. Refer to the manufacturers support for the devices configuration.

For more information on Savant RJ-45 to DB9 adapters, refer to the RS-232 Conversion to DB9 and RS-422/485 Pinout application note located on the Savant Portal.

⚠ **IMPORTANT!** If you are using RJ-45 to DB9 adapters not supplied by Savant:

- Ensure that any wires required for communication/control are terminated within the adapter.
- Ensure that all wires NOT required for communication/control are NOT terminated in the connecter.
- Ensure that the unused wires in the connector are cut to prevent them shorting out, as they are still terminated in the RJ-45 connector on the controller side.

Appendix B - RPMTerminal Basics

The Profiler software calls the RPMTerminal whenever a command is sent from the Profiler software through the controller to a 3rd party device being tested. The fields in RPMTerminal when launched by the Profiler software are automatically populated with the information entered in the **Control Interfaces** tab of the Profiler software. The information below describes the fields in the RPMTerminal when RPMTerminal is launched by the Profiler software.

## Launching RPMTerminal through Profiler

RPMTerminal is launched from within the Profiler software. There is no need to launch RPMTerminal separately. There are a few methods used to launch the RPMTerminal from within the Profiler software. The method used to launch the RPMTerminal determines the functions that are available in the Terminal. Below are the two methods that can be used to launch RPMTerminal from within the Profiler software.

### Method 1: Launch RPMTerminal through Test button
1. After the Profiler software is open and a profile is loaded, select the **Resource Actions** tab.
2. Select the interface from the **Interface** drop-down menu (IR, RS-232, IP).
3. Press the **Test** button to the right of the command that is being tested. The Profiler will locate the Savant controller in the network and display it in a drop-down menu. At this point, the RPMTerminal will open and attach itself to the docking station on the MacBook (SDE).
4. Select the Terminal to open it. The **Message** window is blank at this time.
5. Select **Launch System** button from the Profiler software. The controller will connect to the Terminal and messaging will scroll across the terminal indicating the controller is now connected to the terminal.

Method 2: Launch RPMTerminal through IR Capture Device drop-down menu
1. After the Profiler software is open and a profile is loaded, select the **Resource Actions** tab.
2. Select **IR** from the **Interface** drop-down menu.
3. Select **RPMTerminal** from the drop-down menu in the **IR Capture Device** Box.
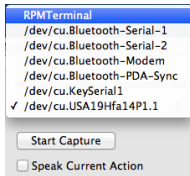
4. Press the **Start Capture** button. The Profiler will locate the Savant controller in the network and display it in a drop-down menu. At this point, the RPMTerminal will open and attach itself to the docking station on the MacBook (SDE).
5. Select the Terminal to open it. The **Message** window is blank at this time.
6. Select **Launch System** button from the Profiler software. The controller will connect to the Terminal and messaging will scroll across the terminal indicating the controller is now connected to the terminal.
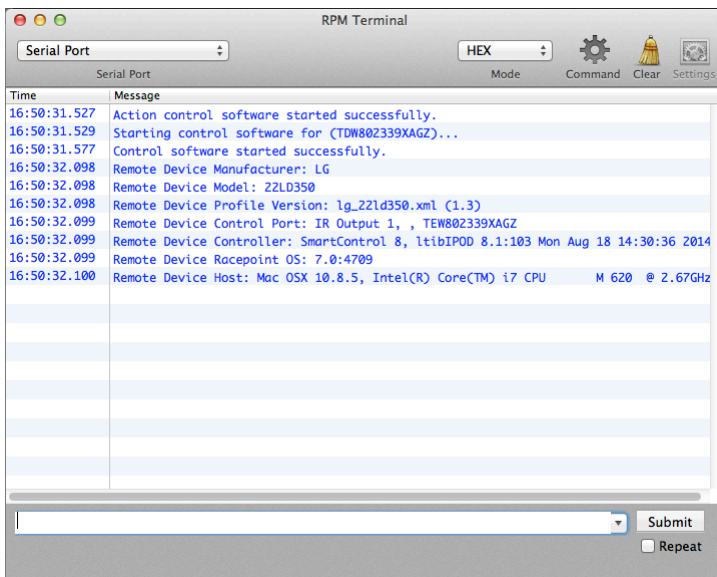
RPMTerminal Command Menus

When the RPMTerminal is launched through the Profiler software, the menus available through the **Command** icon on the toolbar differ. The menus available are decided by what is selected in the **Interface** drop-down menu.

Interface = IR, IP

When IR is selected, the available menus are displayed below. All the information about which equipment is connected is displayed. These menus are for display only. All commands should be sent using the Profiler software
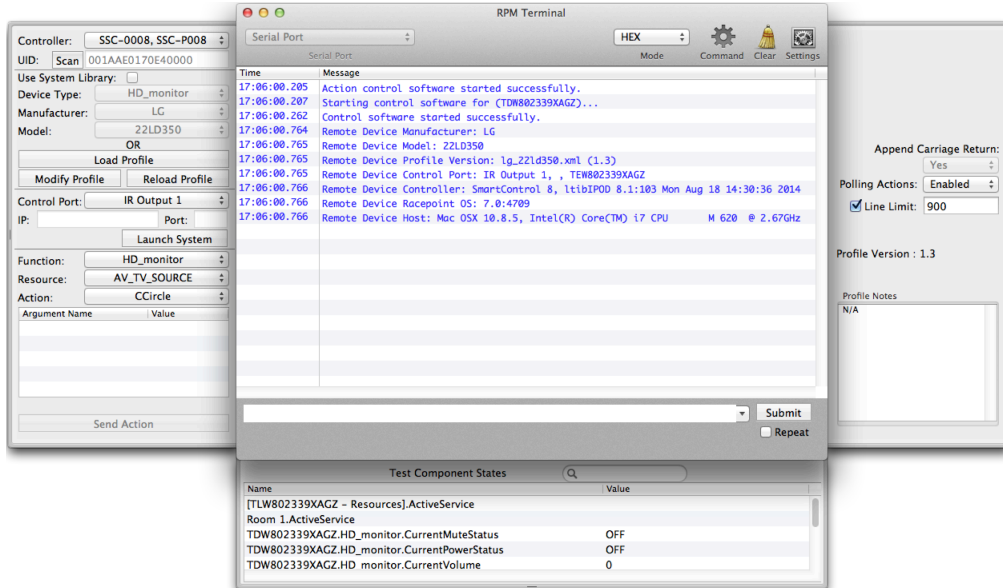
Interface = RS-232

When RS-232 is selected, the available menus are displayed below. All the information about which equipment is connected is displayed. Notice that the RPMTerminal opened for RS-232 includes a panel that is exclusively RS-232. These menus are for display only. All commands should be sent using the Profiler software.
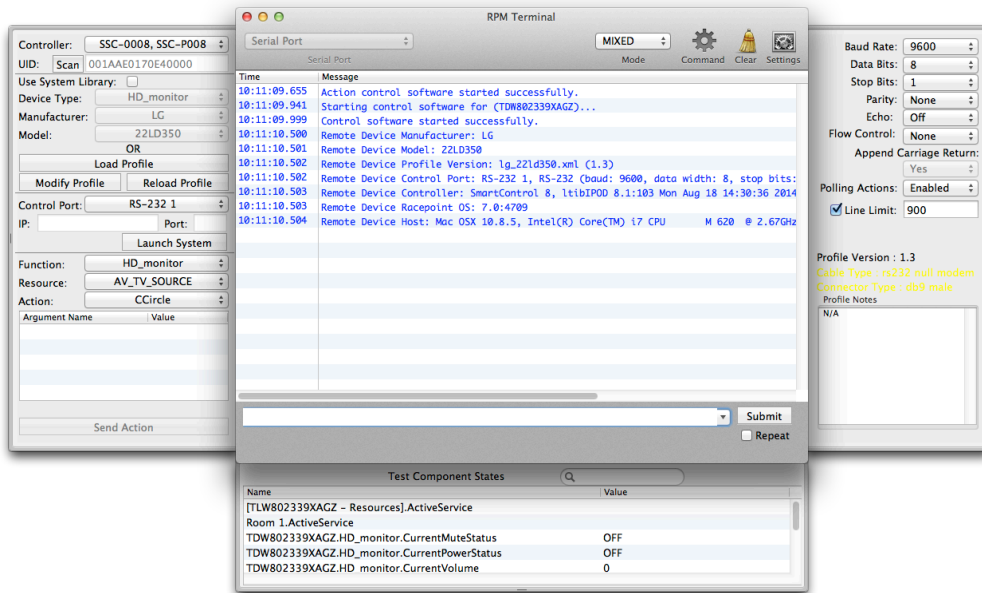
- Note the colored text in the RS-232 panel. This shows the color adapter that is currently connected. For information on each of the adapters available through Savant, refer to the RS-232 information in Appendix A.
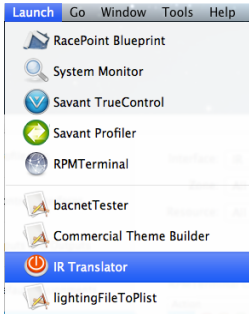
Appendix C: IR Translator

IR Translator Overview

The IR Translator is used to capture and translate IR Codes. When using the IR Translator software, the IR codes from a piece of equipment such as a remote control can be captured into the IR Translator software. The codes collected can then be copied into the Profiler Software where they can be tested and then added into an existing or newly created .xml profile.
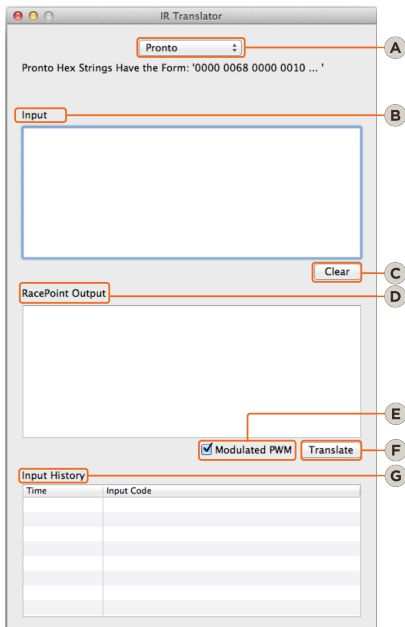
Starting IR Translator Software

The IR Translator software should be started through the Savant Application Manager (SAM). The next few steps describe the recommended ways of starting the IR Translator.

1. Open the Savant Application Manager (SAM).
2. From the menu bar, select **Launch > IR Translator**.

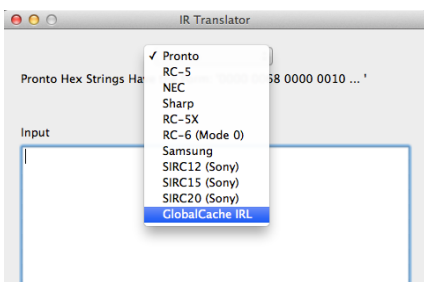3. The IR Translator window opens. Information on each of the fields is described below.

A	The drop-down menu lists all the IR protocols supported. If using the Global Cache IR Learner (GC-IRL), select **GlobalCache IRL** from this menu. Under the drop-down menu is a short description of the format used for the protocol displayed.
B	The IR Code captured by the IR Learner is displayed in this field. Each IR Protocol selected will have a different formatted message. For example, if Global Cache IRL is selected, the IR command captured will have GC-IRL at the beginning of each command: **Example Code captured by Global Cache:** GC-IRL,38000,341,169,22,20B,22,63BBBBBCCBCCCCCCBBBCBBBBCCCBCCC,22,3806
C	The Clear button will clear the the Input field.
D	The RacePoint Output field displays the IR Code translated after the **Translate** button is pressed. Once the code is translated, the code is copied and pasted into the **Command Table** of the **Resource Action** tab in the Profiler.

E	In IR Control, the signal (or carrier) is used for noise rejection like guarding against interference from ambient light. IR Receivers use a band pass filter that is set to the carrier frequency as well as the IR Code fundamental frequency. This waveform is an unmodulated waveform. When the Modulated PWM box is checked, the following waveform is sent When applied to the unmodulated IR Code, the following waveform is sent: If the Modulated PWM box is checked, the waveform below is sent: Your IR code will have the 8th bit set high in Savant format to express unmodulated codes. For example: 00000001000009470015600A9001600150015003F However 99.9% of the time you will not have this bit set. For example: 00000000000009470015600A9001600150015003F This feature exists for wired IR implementations that don't need modulation, or don't accept modulation on the wired port. **NOTE:** Since our PWM ports (IR ports) are capable of sending a large variety of waveforms, you can easily accomplish actuator/servo control. The best solution is to keep the **Modulated PWM** box checked. Set the 8th bit to 0 in the Savant IR format to fix a code if you captured it in the wrong mode.
F	Pressing the **Translate** button will translate the IR Command displayed in the **Input** field to a command that the Profiler software can use.
G	A running log of the commands captured are displayed in the **Input History** field. The log includes a timestamp to distinguish between commands.

Translating an IR command

To translate the format of an IR command retrieved from a 3rd party to a format accepted by the Profiler software, do the following:

1. Open the IR translator through the Savant Application Manager. Go to the menu bar and select **Launch > IR Translator**.
2. The IR command retrieved from the 3rd party is in a specific format. From the drop-down menu, select the format that the IR command is currently in.

3. Copy the IR command to be translated into the **Input** window.

4. To translate, select the **Translate** button. This will translate the code into the format that the Profiler and RacePoint Blueprint applications will accept. The translated code will be displayed in the **RacePoint Output** window.

5. Copy and paste the translated code to the profiler software for testing. In the screen capture below, the code for toggling an HD TV was translated.

6. Once pasted in the Profiler software, select the Test button to verify the command works as expected.

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